

Ash Gear AND Supply

2026 PRODUCT CATALOG



**ASH GEAR
AND SUPPLY**

WORLD'S LARGEST GEAR TOOL INVENTORY



Ash Gear & Supply Inc.

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ashgear.com



To Our Valued Customers,

For over 70 year, Ash Gear & Supply has been serving the gear cutting industry worldwide. Our mission is simple: deliver the highest quality tools with exceptional service.

We maintain the largest inventory of gear cutting tools in the world, offering both new and used tools for purchase or rental.

Our knowledgeable team is ready to meet your most **demanding requirements** with speed, precision, and reliability.

We are pleased to present our **2026 catalog**.

Products In Stock:

- Hobs
- Shaper Cutters
- Broaches
- Milling Cutters
- Inspection Tools
- Machine Parts
- Bevel Gear Cutters
- Shaving Cutters
- Computer Software
- Technical Information

Brand Name Manufacturers:

- Star Cutter
- Gleason
- Dathan Tool & Gauge
- Tru-Volute
- Interstate Tool Company
- Invo Spline

Our Services:

- Special Order
- Rental Cutters
- Engineering
- Same Day Shipment
- Gearing Service Directory



HOW TO ORDER - Tool rentals are available for many of our in-stock items.

We offer several convenient ways to place your order:

Online:

Browse our inventory and submit quote requests at ashgear.com

Phone:

Call us at **248-374-6155**

Our experienced sales representatives are ready to assist you with product selection, availability, and pricing.

Email:

Send your order request to sales@ashgear.com
We'll review your request and respond promptly with confirmation or follow-up details.

Fax:

Fax your order to **248-374-6255**

Orders sent by fax are processed immediately upon receipt.

Mail your purchase order to

Ash Gear & Supply Corporation
42650 W Nine Mile Road
Novi, MI 48375

Orders received by mail are placed immediately and can be acknowledged upon request

New Customers:

All in-stock tools ordered before 3:00 pm EST will be shipped the same day. Ash Gear welcomes new businesses and will open account immediately upon approval of a credit application found on **page 254**. (visit **Credit Section on page 8** for more info). If immediate shipment is necessary before references can be checked, we can ship your order by Credit/Debit Card.

Ash Gear Accepts: Credit Card or Debit Card



Special Orders

Precision Gear tooling made to match your exact requirements including unique profiles, advanced coatings, and specialty materials.

Tailored solutions for every project.
Built to spec and guided by our team.

What's possible:

- Manufactured to your drawings and requirements.
- Compatible with spur, helical, bevel, spline, and specialty gears.
- Advanced options include single/multi-start forms, custom

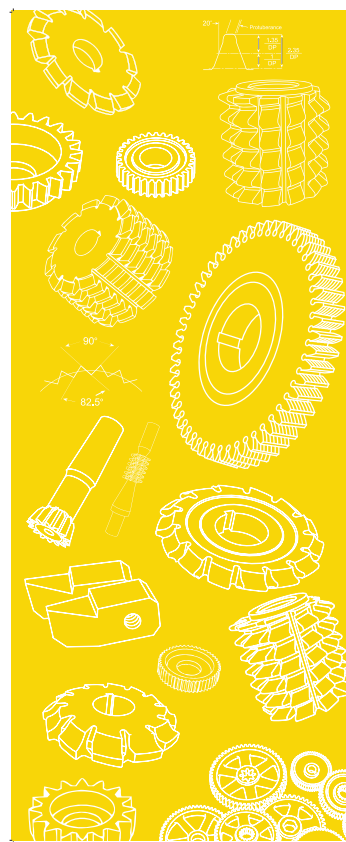
Material: HSS, PM-HSS, or Carbide.

Optional Coatings: TiN, Alcronite, Dyna-Blue, and more.
Suitable for high-performance application and exotic alloys.

Lead Time: Quotes per job, typically 8-10 weeks depending on complexity.

Not sure what you need?

Our experts guide you every step, from concept to final shipment, ensuring your tooling reliability when it matters most.



Please provide the following data for special order inquiries not listed in our stock:

1. Type/Style of tool:

Hob, Shaper, Broach, Single Cutter, etc.

2. Functional Characteristics:

- Pitch (DP, Mod, or CP)
- Pressure Angle ° (PA)
- Accuracy (Class AA, A,B,C, D, etc.)
- Number of Starts & Hand
- Topping/Non-Topping
- Size Preferences
- Pitch Diameter

3. Part Data:

- Major/Minor
- MOW/MBW
- # of Teeth
- Please supply a part print with request.

4. Other data pertinent to your job:

- Special Material
- Coatings

Delivery dates are approximate and will be a product of our best efforts. We will not be responsible for any penalties incurred by the buyer. Cancellation on special orders will be charged our actual cost plus a 15% handling fee. Any material involved will become your property.

When data is not furnished we will design to typical industry standards. Print approval may be requested.

RENTAL POLICY - Rent tools from almost any area in our stock

Customers are responsible for returning the tool within 20 days. Tools held longer than 30 days will result in additional charge of 20% for every 10 day increment, (ie, A \$100 rental held from 31 to 40 days would be \$100 plus \$20 overtime = \$120).

Customers are responsible for excessive use. Rentals are offered for that occasional small job where you only have a few pieces to cut, NOT for production. You may sharpen the tool to finish your job, you are allowed 10% of the original tool life per rental - if you exceed 10% you will be charged accordingly.

Customers are responsible for broken or damaged tools. Any tool that is broken or damaged becomes your tool at current face value.

Customers are responsible for all shipping charges and any applicable taxes.

If you decide that you wish to purchase the rental tool - simply notify our Accounts Receivable department for charges.

If you do not return the tool within 60 days - the tool becomes your property at the Face Value shown on the invoice.

Tools returned unused after 5 days will still incur a rental fee.

THE RENTAL TIME CANNOT EXCEED 60 DAYS.

PREMIUM STEEL & CARBIDE STEEL

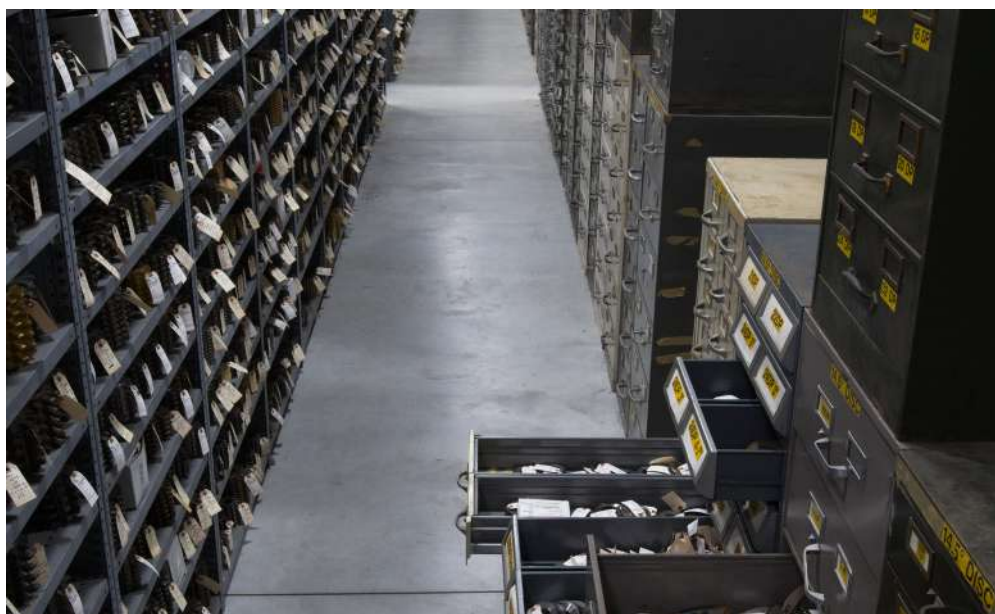
We have many tools on the shelf with premium grade high speed and carbide steel. Don't let rough material stop you from quoting, check with us first.

USED & SURPLUS TOOLS

We have a large stock of surplus and used tools for that small job that won't cover the cost of new tooling. Please ask the salesman to check our used stock. We will be happy to locate a partial life tool at a very low cost to you.

SELL YOUR SURPLUS TOOLS

Have surplus or unused gear tooling? Ash Gear & Supply purchases surplus tools - from individual cutters to complete lots. We make the process simple, fair, and professional.



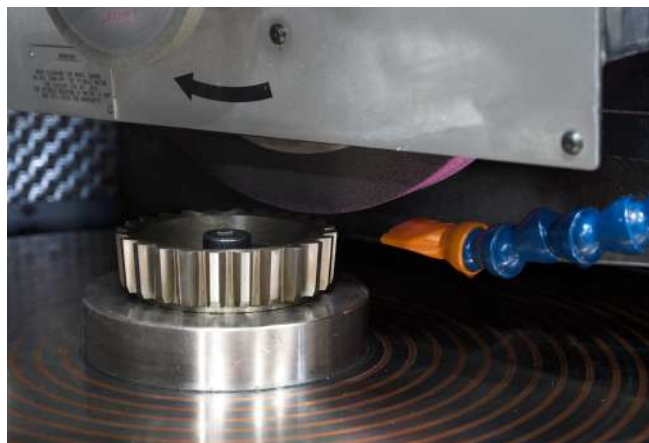
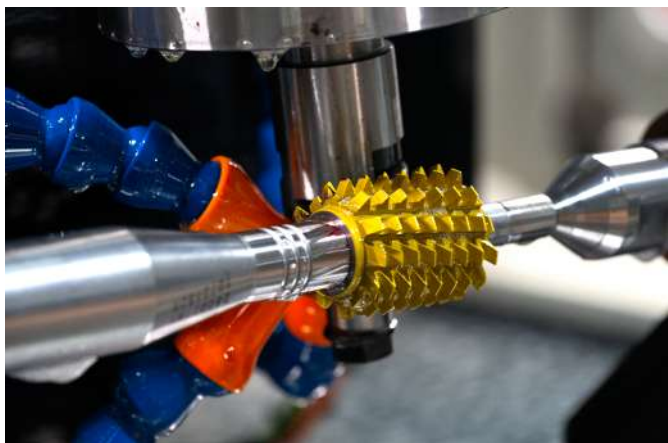
Comprehensive Tool Services

Reconditioning, coating, and modification services designed to help you extend tool life, reduce costs, and keep production running smoothly.

Reconditioning (tools like new)

Our sharpening service puts your worn tools back in top cutting condition. Whether its hobs, milling cutters, shapers, or broaches, we restore accuracy with performance you can trust.

- ISO-compliant accuracy and inspection
- Skilled technicians with decades of experience
- CNC + manual grinding for precise results
- Fast turnaround at competitive prices





Coating (Cut longer. Work smarter)

TiN (Titanium Nitride)

- Classic gold coating for general purpose cutting
- Reduces friction and improves wear resistance
- Cost-effective option for extending tool life



AlCrN (Aluminum Chromium Nitride)

- Premium protection for extreme conditions
- Excellent for abrasive or hardened materials
- Maximum wear resistance and durability



Coating - Continued

Dynablue

- Dark blue finish engineered exclusively for broaching tools
- Exceptional heat resistance for demanding operations
- Cost-effective option for extending tool life



Modifications (built to fit)

Custom Adjustments. Exact Results

Not every job is standard - and your tools shouldn't have to be. Our modification services adapt cutters to your exact requirements, so you get the precision tool you are looking for.

- Addendum clearance adjustment
- Profile and form changes
- Custom adaptations for non-standard applications



TERMS AND CONDITIONS

PRICES - Prices are quoted for acceptance within 30 days.

TERMS - 1 % 10 net 30 days. FOB Our plant, Novi, Michigan

PAYMENT - Account, credit card, or bank transfer.

Credit:

New credit accounts must submit a completed application form. This form is available on our website, <http://www.ashgear.com>, and on page 154 of the catalog. Please provide at least three current supplier references. Applications may be submitted electronically or by email.

Blanket Orders:

We welcome blanket orders to help you manage your inventory and production needs efficiently. With a blanket order, you can:

- **Lock in Pricing:** Secure your pricing for up to 12 months, protecting your costs from market fluctuations.
- **Flexible Delivery:** Schedule split shipments throughout the year to align with your production or inventory requirements.
- **Customizable Terms:** Contract terms can be tailored to fit your specific needs, including delivery schedules, quantities, and payment arrangements.

Damaged Shipments:

We take great care in packaging your order, but occasionally damage may occur during transit. If your shipment arrives damaged, please follow these steps to ensure a prompt resolution.

- **Note the Damage on Delivery Receipt:** When receiving your shipment, inspect the package for visible damage. If damage is present, clearly note "Package received damaged" on the delivery receipt before signing.
- **Retain All Packaging Materials:** Do not dispose of the damaged item or its packaging. Keep all boxes, containers, and packing materials for inspection by the carrier.
- **Inspect Contents:** Carefully inspect the contents of your shipment to identify any damaged items.
- **Report Within 3 Days:** Notify Ash Gear within 3 business days of delivery by calling or emailing. Please provide your order number, photos of the damage, and any relevant details.
- **Follow Instructions:** Our team will guide you through the claims process and advise you on the next steps. If necessary, we will arrange for reshipment or replacement of the damaged merchandise.

Important:

Prompt reporting and retaining all packaging materials are essential for us to process your claim with the carrier.

If you have any questions or need assistance, please contact our customer service team. We're here to help!

Incomplete Shipments:

If your order arrives incomplete, please follow these steps to ensure a swift resolution.

- 1. Verify Contents Carefully:**
Check the contents of your shipment against the packing slip or invoice to identify any backordered or missing items. Please note that some small items may be packed inside the packing materials (such as bubble wrap or filler), so inspect these materials thoroughly before discarding.
- 2. Review Backorder Information:**
Some items may be on backorder and shipped separately. Backordered items are typically noted on the packing slip or your order confirmation.
- 3. Report Discrepancies Promptly:**
If you notice any missing items that are not listed as backordered, please contact our customer service team immediately—preferably within 3 business days of receipt. Provide your order number and details of the missing items.
- 4. Resolution:**
We will investigate the discrepancy and arrange to ship the missing items as quickly as possible or provide an update on their status.

Important:

Timely reporting helps us resolve issues efficiently and ensures you receive your complete order without unnecessary delay.
For assistance, contact us, we're committed to your satisfaction!

Force Majeure (Unforeseeable Events):

Ash Gear shall not be liable for any delay or failure in performance resulting, in whole or in part, from causes beyond its reasonable control. These may include, but are not limited to: natural disasters (such as floods, earthquakes, or severe weather), labor disruptions, shortages, inability to procure products, supplies, or raw materials, acts of government, or any other unforeseen circumstances that prevent normal business operations.

Cancellation Policy:

All cancellation requests are subject to review and require approval from Ash Gear. Depending on the status of your order, cancellations may incur restocking fees and other associated charges.

- **Timing:** Cancellations requested after the order has been processed, shipped, or customized may not be accepted or may result in higher fees.

• **Restocking Fees:** If applicable, restocking fees will be communicated at the time of cancellation approval and will vary based on the type and condition of the product.

• **Non-Cancellable Items:** Certain items, such as custom orders, special purchases, or perishable goods, may be non-cancellable and non-refundable.

• **Notification:** Please contact our customer service team as soon as possible to request a cancellation. We reserve the right to decline cancellation requests that do not comply with these terms.

Warranty – New Tools

Each new tool is guaranteed by the manufacturer to be free from defects in material and workmanship. We will replace or credit (at our option) any tool proven to be defective, provided that Ash Gear is notified within 30 days of receipt. Please note that any modifications or application of coatings to the tool will void the manufacturer's warranty.

Warranty – Used Tools

We describe used tools as carefully as possible, based on the markings on the tool and its general appearance. It is your responsibility to inspect the tool upon receipt and to cut a sample to confirm acceptability before using it in production. We will replace or credit any used tool that is not acceptable, provided that Ash Gear is notified within 30 days of receipt.

Returns:

Returns of unused stock tools will be accepted within 30 days of receipt. Special order or modified tools are not normally returnable. To initiate a return of a stock item, please contact us to obtain a Return Authorization (RA) number. When requesting an RA number, be sure to provide your sales order number, the tool number, and the reason for the return. Returned items must be in their original packaging and in resalable condition. Products that are damaged, used, or missing original packaging may not be accepted or may be subject to restocking fees.

Please note: Returns will not be accepted after 30 days from the date of receipt

Engineering Design:

Ash Gear may provide design or modification data using our engineering tools and software, either as a paid service or complimentary. It is the customer's sole responsibility to verify the accuracy, suitability, and acceptability of all data with respect to their specific requirements before use.

Disclaimer: Ash Gear assumes no liability for any errors, omissions, or outcomes resulting from the use of provided design data. The design information is supplied "as is" without warranties of any kind.

All design data provided is confidential and intended exclusively for the customer's use. Unauthorized disclosure or distribution is prohibited.

Claims:

Ash Gear shall not be liable for the loss or damage of blueprints, drawings, or any customer-supplied materials. Additionally, we disclaim responsibility for any errors in design data or machining beyond the actual cost of the specific service provided.

Patent Rights:

The buyer guarantees that the manufacturing or furnishing of tools in accordance with their design requests does not infringe upon any patent rights or intellectual property of third parties. The buyer agrees to indemnify and hold Ash Gear harmless from any claims, damages, costs, or liabilities arising from such patent infringement.

Information Disclaimer:

Ash Gear strives to provide accurate and up-to-date information in this catalog and on our website; however, we make no warranties or representations regarding the completeness or accuracy of the content. Ash Gear assumes no liability for any loss, damage, or injury resulting from the use of, or reliance on, the information contained herein.

Warning:

You are responsible for the safe and prudent use of all tools supplied by Ash Gear. High-speed cutting tools may contain materials such as chromium, vanadium, molybdenum, iron, nickel, cobalt, manganese, and certain grades may include carbon, silicon, or tungsten.

Many cutting tools are available with specialized coatings—including but not limited to Titanium Nitride (TiN), Aluminum Chromium Nitride (AlCrN), Titanium Carbonitride (TiCN), and various other advanced surface treatments. These coatings can contain additional elements and compounds depending on their formulation.

Please handle all tools in accordance with appropriate safety guidelines and regulations, and consult relevant safety data sheets (SDS) for detailed information regarding tool composition and any associated hazards.

Ash Gear Product Codes: How to read and decipher them

Series Code:
HS20-600

= **HS** + **20** + **600**

Hob
Standard Form

PA
20 Degree

6 Diametral
Pitch

Series Code:
SFF30-B

= **SFF** + **30** + **B**

Shaper
Full Fillet

PA
30 Degree

Button Type

Series Code:
BF30-12-014

= **BF** + **30** + **12** + **014**

Broach
Fillet Root

PA
30 Degree

Diametral Pitch
12/24

Number of Teeth

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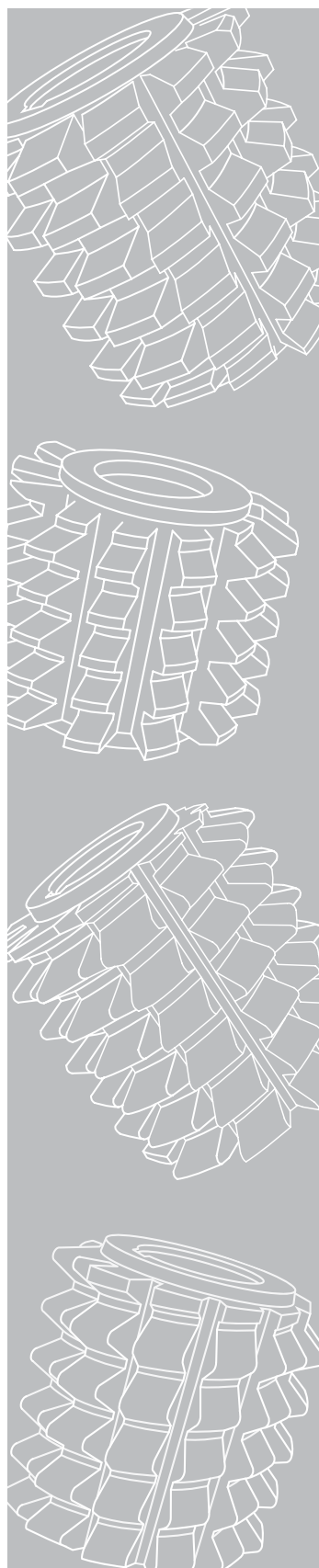
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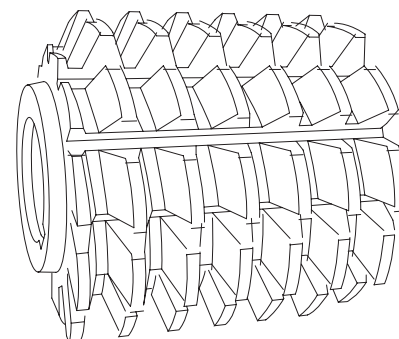


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
3/4	14.5°	12-1/2	6	2-1/2	3.000	1	CHD14-075	
1	14.5°	10	12-1/2	2	2.157	1	CHD14-100	
1	14.5°	10-3/4	15	2-1/2	2.157	1	HS14-100	-
1	14.5°	10	12-1/2	2	2.157	1	CHS14-100	-
1-1/4	14.5°	8-3/4	12	2	1.726	1	HS14-125	-
1-1/4	14.5°	8-1/4	10-1/2	1-1/2	1.726	1	CHS14-125	-
1-1/4	14.5°	9	10-1/2	2	1.800	1	HD14-125	-
1-1/2	14.5°	8	10	2	1.438	1	HS14-150	-
1-1/2	14.5°	7-1/2	7-3/4	1-1/2	1.438	1	CHS14-150	-
1-1/2	14.5°	8	9-1/4	1-1/2	1.500	1	HD14-150	-
1-3/4	14.5°	7-1/4	9	2	1.233	1	HS14-175	-
1-3/4	14.5°	6-3/4	8	1-1/2	1.233	1	CHS14-175	-
2	14.5°	5-3/4	8	1-1/2	1.079	1	HS14-200	-
2	14.5°	5-1/4	6	1-1/4	1.079	1	CHS14-200	-
2	14.5°	6-1/2	8	1-1/2	1.125	1	HD14-200	-
2-1/4	14.5°	5-1/2	7-1/2	1-1/2	.959	1	HS14-225	HL14-225
2-1/4	14.5°	5-1/4	6	1-1/2	.959	1	CHS14-225	-
2-1/2	14.5°	5	7	1-1/2	.863	1	HS14-250	HL14-250
2-1/2	14.5°	4-3/4	5	1-1/4	.863	1	CHS14-250	-
2-1/2	14.5°	6	7	1-1/2	.900	1	HD14-250	-
2-3/4	14.5°	5	5-3/4	1-1/2	.784	1	HS14-275	HL14-275
2-3/4	14.5°	4-3/4	5	1-1/4	.784	1	CHS14-275	-
3	14.5°	4-1/2	5	1-1/4	.719	1	HS14-300	HL14-300
3	14.5°	4-1/4	4-1/4	1-1/4	.719	1	CHS14-300	-
3	14.5°	4-1/2	5	1-1/4	.750	1	HD14-300	-
3-1/2	14.5°	4-1/4	4-3/4	1-1/4	.616	1	HS14-350	HL14-350
4	14.5°	4	4	1-1/4	.539	1	HS14-400	HL14-400
4	14.5°	4-1/2	5	1-1/4	.563	1	HD14-400	-
4-1/2	14.5°	3-1/2	3-1/2	1-1/4	.479	1	HS14-450	HL14-450
5	14.5°	3-1/2	3-1/2	1-1/4	.431	1	HS14-500	HL14-500
5	14.5°	3-1/2	3-1/2	1-1/4	.450	1	HD14-500	-
5-1/2	14.5°	3-1/2	3-1/2	1-1/4	.392	1	HS14-550	HL14-550
6	14.5°	3-1/2	3-1/2	1-1/4	.360	1	HS14-600	HL14-600
6	14.5°	4-1/2	4-1/2	1-1/2	.375	1	HD14-600E	-
6-1/2	14.5°	3-1/2	3-1/2	1-1/4	.332	1	HS14-650	HL14-650
7	14.5°	3-1/2	3-1/2	1-1/4	.308	1	HS14-700	HL14-700
8	14.5°	3	3	1-1/4	.270	1	HS14-800	HL14-800
8	14.5°	3	3	1-1/4	.281	1	HD14-800	-
8	14.5°	3	3	1-1/4	.270	2	HS14-800-2	-
8	14.5°	3	3	1-1/4	.292	1	HR14-800	
8-1/2	14.5°	3	3	1-1/4	.254	1	HS14-850	HL14-850
9	14.5°	3	3	1-1/4	.240	1	HS14-900	HL14-900
10	14.5°	3	3	1-1/4	.216	1	HS14-010	HL14-010
10	14.5°	3	3	1-1/4	.225	1	HD14-010	-
10	14.5°	3	3	1-1/4	.216	2	HS14-010-2	-
8	14.5°	3	3	1-1/4	.292	1	HR14-010	
11	14.5°	2-3/4	2-3/4	1-1/4	.196	1	HS14-011	HL14-011
12	14.5°	2-3/4	2-3/4	1-1/4	.180	1	HS14-012	HL14-012
12	14.5°	2-3/4	2-3/4	1-1/4	.180	2	HS14-012-2	-
12	14.5°	2-3/4	2-3/4	1-1/4	.188	1	HD14-012	-
13	14.5°	2-1/2	2-1/2	1-1/4	.166	1	HS14-013	HL14-013
14	14.5°	2-1/2	2-1/2	1-1/4	.154	1	HS14-014	HL14-014
14	14.5°	2-1/2	2-1/2	1-1/4	.161	1	HD14-014	-
16	14.5°	2-1/2	2-1/2	1-1/4	.135	1	HS14-016	HL14-016
16	14.5°	2-1/2	2-1/2	1-1/4	.141	1	HD14-016	-
18	14.5°	2-1/2	2-1/2	1-1/4	.120	1	HS14-018	HL14-018
20	14.5°	2-1/2	2	1-1/4	.112	1	HS14-020	HL14-020
24	14.5°	2-1/2	2	1-1/4	.094	1	HS14-024	HL14-024
26	14.5°	2-1/2	2	1-1/4	.087	1	HS14-026	-
28	14.5°	2-1/2	2	1-1/4	.081	1	HS14-028	-
30	14.5°	2-1/2	2	1-1/4	.075	1	HS14-030	-
32	14.5°	2-1/2	2	1-1/4	.071	1	HS14-032	-
40	14.5°	2-1/2	2	1-1/4	.057	1	HS14-040	-
48	14.5°	2-1/2	2	1-1/4	.048	1	HS14-048	-

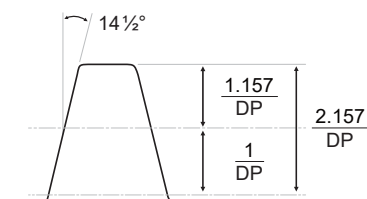
[----> Back to Glossary](#)

HS14, CHS14, HD14, HL14, CHD14, & HR14 Series

DP 14.5° PA° GEAR HOBS
Finishing, Non-Topping

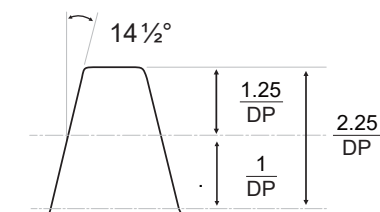


HS14, CHS14, & HL14
Rack Profile



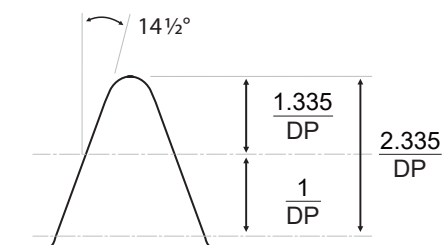
For 20DP and finer,
WD = 2.20/DP + .002

HD14 & CHD14 Rack Profile



For 3/4 bore see series HFS14.
For 1/2 bore see series HFH14.
For 8mm bore see series HM814

HR14
Rack Profile





DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C
3	14.5°	4-1/2	5	1-1/4	.783	.008	.003	1	HP14-300
4	14.5°	4	4	1-1/4	.588	.008	.003	1	HP14-400
5	14.5°	3-1/2	3-1/2	1-1/4	.470	.008	.003	1	HP14-500
6	14.5°	3-1/2	3-1/2	1-1/4	.392	.006	.003	1	HP14-600
8	14.5°	3	3	1-1/4	.294	.005	.003	1	HP14-800
10	14.5°	3	3	1-1/4	.235	.006	.002	1	HP14-010
12	14.5°	2-3/4	2-3/4	1-1/4	.196	.005	.002	1	HP14-012
14	14.5°	2-1/2	2-1/2	1-1/4	.168	.005	.002	1	HP14-014
16	14.5°	1-7/8	1-7/8	3/4	.147	.004	.002	1	HP14-016S
16	14.5°	2-1/2	2-1/2	1-1/4	.147	.004	.002	1	HP14-016
18	14.5°	2-1/2	2	1-1/4	.131	.003	.002	1	HP14-018
20	14.5°	2-1/2	2	1-1/4	.122	.002	.001	1	HP14-020
24	14.5°	1-7/8	1-7/8	3/4	.102	.002	.001	1	HP14-024S
24	14.5°	2-1/2	2	1-1/4	.102	.002	.001	1	HP14-024

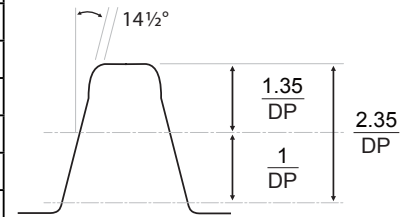
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C
5	14.5°	3-1/2	3-1/2	1-1/4	.470	.024	.007	1	HPG14-500
6	14.5°	3-1/2	3-1/2	1-1/4	.392	.024	.007	1	HPG14-600
8	14.5°	3	3	1-1/4	.294	.022	.006	1	HPG14-800
12	14.5°	2-3/4	2-3/4	1-1/4	.196	.020	.006	1	HPG14-012
16	14.5°	2-7/8	2-1/2	1-1/4	.147	.016	.004	1	HPG14-016
20	14.5°	2-1/2	2	1-1/4	.122	.014	.003	1	HPG14-020
24	14.5°	1-7/8	1-7/8	3/4	.102	.012	.003	1	HPG14-024S
24	14.5°	2-1/2	2	1-1/4	.102	.012	.003	1	HPG14-024

DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
8	14.5°	2	2	3/4	.270	1	HFS14-800	HFSL14-800
10	14.5°	1-7/8	1-7/8	3/4	.216	1	HFS14-010	HFSL14-010
11	14.5°	1-7/8	1-7/8	3/4	.196	1	HFS14-011	-
12	14.5°	1-7/8	1-7/8	3/4	.180	1	HFS14-012	HFSL14-012
13	14.5°	1-7/8	1-7/8	3/4	.166	1	HFS14-013	-
14	14.5°	1-7/8	1-7/8	3/4	.154	1	HFS14-014	HFSL14-014
14	14.5°	1-7/8	1-7/8	#1-Taper	.154	1	HFS1-14-014	-
15	14.5°	1-7/8	1-7/8	3/4	.144	1	HFS14-015	-
16	14.5°	1-7/8	1-7/8	3/4	.135	1	HFS14-016	HFSL14-016
18	14.5°	1-7/8	1-7/8	3/4	.120	1	HFS14-018	HFSL14-018
20	14.5°	1-7/8	1-7/8	3/4	.112	1	HFS14-020	-
22	14.5°	1-7/8	1-7/8	3/4	.102	1	HFS14-022	-
24	14.5°	1-7/8	1-7/8	3/4	.094	1	HFS14-024	HFSL14-024
26	14.5°	1-7/8	1-7/8	3/4	.087	1	HFS14-026	-
28	14.5°	1-7/8	1-7/8	3/4	.081	1	HFS14-028	-
30	14.5°	1-7/8	1-7/8	3/4	.075	1	HFS14-030	-
32	14.5°	1-7/8	1-7/8	3/4	.071	1	HFS14-032	-
34	14.5°	1-7/8	1-7/8	3/4	.067	1	HFS14-034	-
36	14.5°	1-7/8	1-7/8	3/4	.063	1	HFS14-036	-
36	14.5°	1-7/8	1-1/2	#1-Taper	.063	1	HFS1-14-036	-
38	14.5°	1-7/8	1-1/2	3/4	.060	1	HFS14-038	HFSL14-038
38	14.5°	1-7/8	1-1/2	#1-Taper	.060	1	HFS1-14-038	-
40	14.5°	1-7/8	1-7/8	3/4	.057	1	HFS14-040	HFSL14-040
42	14.5°	1-7/8	1-1/2	3/4	.054	1	HFS14-042	-
42	14.5°	1-7/8	1-1/2	#1-Taper	.054	1	HFS1-14-042	-

SERIES CONTINUED ON NEXT PAGE ->

HP14 Series

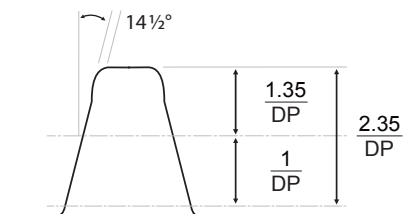
DP 14.5° PA GEAR HOBS
Pre-Shave, Non-Topping, Right Hand



For 20DP and finer,
WD = 2.40/DP + .002

HPG14 Series

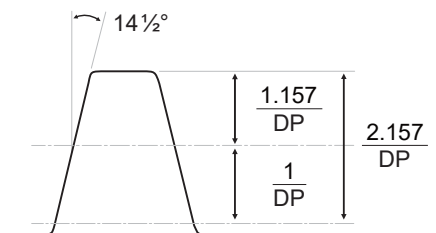
DP 14.5° PA GEAR HOBS
Pre-Grind
Non-Topping, Right Hand
with Protuberance



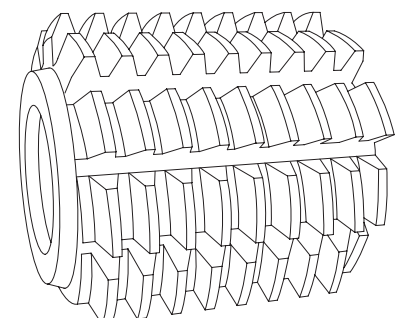
For 20DP and finer,
WD = 2.40/DP + .002

HFS14, HFS1-14 & HFSL14 Series

DP 14.5° PA GEAR HOBS
Finishing, Non-Topping
3/4 Bore & #1-Taper Bore



For 20DP and finer, depth is 2.20/DP + .002





DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
48	14.5°	1-7/8	1-1/2	3/4	.048	1	HFS14-048	HFSL14-048
48	14.5°	1-7/8	1-1/2	#1-Taper	.048	1	HFS1-14-048	-
50	14.5°	1-7/8	1-1/2	#1-Taper	.046	1	HFS1-14-050	-
64	14.5°	1-5/8	1-1/2	3/4	.036	1	HFS14-064	-
64	14.5°	1-5/8	1-1/2	#1-Taper	.036	1	HFS1-14-064	-
72	14.5°	1-5/8	1-1/2	#1-Taper	.033	1	HFS1-14-072	-
96	14.5°	1-5/8	1-1/2	3/4	.025	1	HFS14-096	-
96	14.5°	1-1/2	1	#1-Taper	.025	1	HFS1-14-096	-
120	14.5°	1-1/2	3/4	3/4	.020	1	HFS14-120	-
120	14.5°	1-1/2	1	#1-Taper	.020	1	HFS1-14-120	-
120	14.5°	1-1/2	1	#1-Taper	.020	1	HFS1-14-120	-

<- SERIES CONTINUED FROM PREVIOUS PAGE

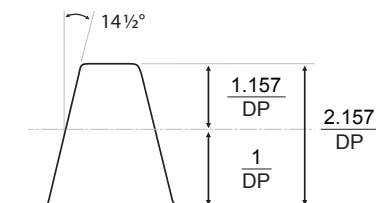
HFS14, HFS1-14 & HFSL14 Series

DP 14.5° PA GEAR HOBS
Finishing, Non-Topping
3/4 Bore & #1-Taper Bore

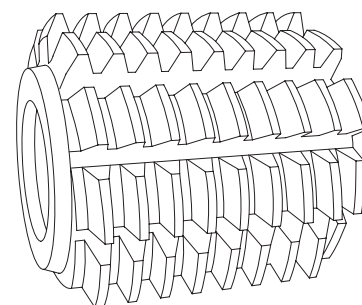
DP	PA	OD	Length	Bore	WD	Specify Class AA,A,B,C		
						1-RH	2-RH	1-LH
3	14.5°	4-1/2	5	1-1/4	.719	HT14-300	-	HTL14-300
3-1/2	14.5°	4-1/4	4-3/4	1-1/4	.616	HT14-350	-	-
4	14.5°	4	4	1-1/4	.539	HT14-400	-	-
5	14.5°	3-1/2	3-1/2	1-1/4	.431	HT14-500	-	-
6	14.5°	3-1/2	3-1/2	1-1/4	.360	HT14-600	-	HTL14-600
8	14.5°	3	3	1-1/4	.270	HT14-800	-	HTL14-800
8	14.5°	3-3/4	3-3/4	1-1/4	.270	-	HT14-800-2	-
10	14.5°	3	3	1-1/4	.216	HT14-010	-	HTL14-010
10	14.5°	3-1/2	3-1/2	1-1/4	.216	-	HT14-010-2	-
10	14.5°	1-7/8	1-7/8	3/4	.216	HFT14-010	-	-
12	14.5°	2-3/4	2-3/4	1-1/4	.180	HT14-012	-	-
12	14.5°	1-7/8	1-7/8	3/4	.180	HFT14-012	-	-
14	14.5°	2-1/2	2-1/2	1-1/4	.154	HT14-014	-	-
16	14.5°	2-1/2	2-1/2	1-1/4	.135	HT14-016	-	-
16	14.5°	1-7/8	1-7/8	3/4	.135	HFT14-016	-	-
18	14.5°	1-7/8	1-7/8	3/4	.124	HFT14-018	-	-
20	14.5°	1-7/8	1-7/8	3/4	.112	HFT14-020	-	-
20	14.5°	2-1/2	2	1-1/4	.112	HT14-020	-	-
24	14.5°	1-7/8	1-7/8	3/4	.094	HFT14-024	-	-
26	14.5°	1-7/8	1-7/8	3/4	.087	HFT14-026	-	HFTL14-026
28	14.5°	1-7/8	1-7/8	3/4	.081	HFT14-028	-	-
30	14.5°	1-7/8	1-7/8	3/4	.075	HFT14-030	-	-
32	14.5°	1-7/8	1-7/8	3/4	.071	HFT14-032	-	-
32	14.5°	1-7/8	1-1/2	#1-Taper	.071	HFT1-14-032	-	-
34	14.5°	1-7/8	1-1/2	3/4	.067	HFT14-034	-	-
36	14.5°	1-7/8	1-7/8	3/4	.063	HFT14-036	-	-
36	14.5°	1-7/8	1-1/2	#1-Taper	.063	HFT1-14-036	-	-
40	14.5°	1-7/8	1-1/2	3/4	.057	HFT14-040	-	-
42	14.5°	1-7/8	1-1/2	3/4	.054	HFT14-042	-	-
42	14.5°	1-7/8	1-1/2	#1-Taper	.054	HFT1-14-042	-	-
44	14.5°	1-7/8	1-1/2	3/4	.052	HFT14-044	-	-
48	14.5°	1-7/8	1-1/2	3/4	.048	HFT14-048	-	-
48	14.5°	1-7/8	1-1/2	#1-Taper	.048	HFT1-14-048	-	-
50	14.5°	1-7/8	1-1/2	3/4	.046	HFT14-050	-	-
56	14.5°	1-7/8	1-1/2	3/4	.041	HFT14-056	-	-

HT14, HFT14, HFT1-14, HTL14 & HFTL14 Series

DP 14.5° PA GEAR HOBS
Finishing, Topping



Root of Hob will form OD of part.
20 DP and finer WD = 2.2/DP + .002



SERIES CONTINUED ON NEXT PAGE ->



DP	PA	OD	Length	Bore	WD	Specify Class AA,A,B,C		
						1-RH	2-RH	1-LH
64	14.5°	1-5/8	1-1/2	3/4	.036	HFT14-064	-	-
64	14.5°	1-5/8	1-1/2	#1-Taper	.036	HFT1-14-064	-	-
72	14.5°	1-5/8	1-1/2	3/4	.033	HFT14-072	-	-
72	14.5°	1-5/8	1-1/2	#1-Taper	.033	HFT1-14-072	-	-
80	14.5°	1-5/8	1-1/8	#1-Taper	.030	HFT1-14-080	-	-
96	14.5°	1-1/2	1	3/4	.025	HFT14-096	-	-
120	14.5°	1-1/2	3/4	3/4	.020	HFT14-120	-	-
120	14.5°	1-1/2	1	#1-Taper	.020	HFT1-14-120	-	-

<- SERIES CONTINUED FROM
PREVIOUS PAGE

HT14, HFT14, HFT1-14, HTL14, HFTL14 & HFT1-14 Series

DP 14.5° PA GEAR HOBS

Finishing, Topping

DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
							Right Hand
5	10°	3-1/2	3-1/2	1-1/4	.431	1	HS10-500

HS10 Series

DP 10° PA GEAR HOBS

Finishing, Non-Topping

Right Hand

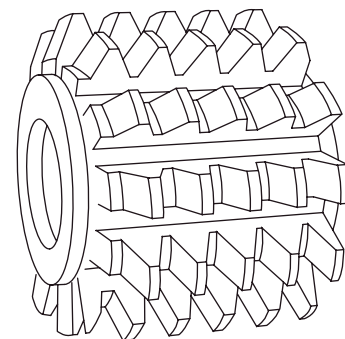
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
16	14.5°	1-1/4	1-1/4	1/2	.135	1	HFH14-016	HTH14-016
20	14.5°	1-1/4	1-1/4	1/2	.112	1	HFH14-020	HTH14-020
22	14.5°	1-1/4	1-1/4	1/2	.102	1	HFH14-022	HTH14-022
24	14.5°	1-1/4	1-1/4	1/2	.094	1	HFH14-024	HTH14-024
26	14.5°	1-1/4	1-1/4	1/2	.087	1	HFH14-026	HTH14-026
28	14.5°	1-1/4	1-1/4	1/2	.081	1	HFH14-028	HTH14-028
30	14.5°	1-1/8	1-1/8	1/2	.075	1	HFH14-030	HTH14-030
32	14.5°	1-1/8	1-1/8	1/2	.071	1	HFH14-032	HTH14-032
34	14.5°	1-1/8	1-1/8	1/2	.067	1	HFH14-034	HTH14-034
36	14.5°	1-1/8	1-1/8	1/2	.063	1	HFH14-036	HTH14-036
40	14.5°	1-1/8	1-1/8	1/2	.057	1	HFH14-040	HTH14-040
42	14.5°	1-1/8	1-1/8	1/2	.054	1	HFH14-042	HTH14-042
44	14.5°	1-1/8	1-1/8	1/2	.052	1	HFH14-044	HTH14-044
46	14.5°	1-1/8	1-1/8	1/2	.050	1	HFH14-046	HTH14-046
48	14.5°	1-1/8	1-1/8	1/2	.048	1	HFH14-048	HTH14-048
50	14.5°	1-1/8	1-1/8	1/2	.046	1	HFH14-050	HTH14-050
52	14.5°	1-1/8	1-1/8	1/2	.044	1	HFH14-052	HTH14-052
54	14.5°	1-1/8	1-1/8	1/2	.043	1	HFH14-054	HTH14-054
56	14.5°	1-1/8	1-1/8	1/2	.041	1	HFH14-056	HTH14-056
60	14.5°	1-1/8	1-1/8	1/2	.039	1	HFH14-060	HTH14-060
62	14.5°	1-1/8	1-1/8	1/2	.038	1	HFH14-062	HTH14-062
64	14.5°	1-1/8	1-1/8	1/2	.036	1	HFH14-064	HTH14-064
66	14.5°	1-1/8	1-1/8	1/2	.035	1	HFH14-066	HTH14-066
70	14.5°	1-1/8	1-1/8	1/2	.033	1	HFH14-070	HTH14-070
72	14.5°	1-1/8	1-1/8	1/2	.033	1	HFH14-072	HTH14-072
80	14.5°	1-1/8	1-1/8	1/2	.030	1	HFH14-080	HTH14-080
96	14.5°	1-7/8	1-7/8	1/2	.025	1	HFH14-096	HTH14-096
100	14.5°	1-7/8	1-7/8	1/2	.024	1	HFH14-100	HTH14-100
120	14.5°	1-7/8	1-7/8	1/2	.020	1	HFH14-120	HTH14-120
160	14.5°	1-1/8	1-1/8	1/2	.016	1	HFH14-160	HTH14-160
180	14.5°	1-1/8	1-1/8	1/2	.014	1	HFH14-180	HTH14-180

HFH14 & HTH14 Series

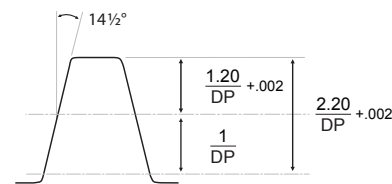
DP 14.5° PA GEAR HOBS

Finishing, Right Hand, 1/2 Bore

For left hand hob - Inquire HFHL14 Series

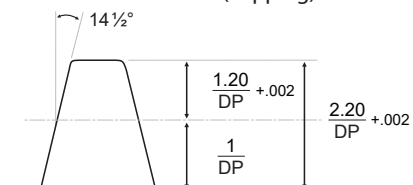


HFH14
Rack Profile (Not Topping)



For 18 DP and coarser, whole depth is 2.157/DP

HTH14
Rack Profile (Topping)



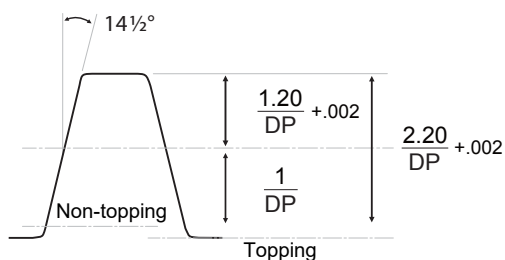
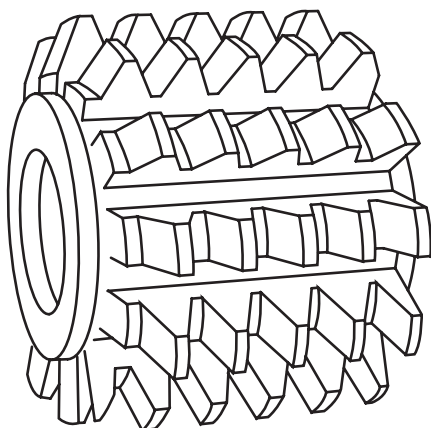
For 18 DP and coarser, whole depth is 2.157/DP



HM814 & HMT814 Series

DP 14.5° PA GEAR HOBS

Finishing,
Right Hand
8mm Bore



DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
24	14.5°	1	3/4	8	.094	1	HM814-24-10	HMT814-24-10
30	14.5°	1	3/4	8	.075	1	-	HMT814-30-93
32	14.5°	1	11/16	8	.071	1	-	-32-10
32	14.5°	3/4	3/4	8	.071	1	HM814-32-75	HMT814-32-75
32	14.5°	1/2	1/2	8	.071	1	-	HMT814-32-87
34	14.5°	5/8	1/2	8	.067	1	HM814-34-62	HMT814-34-62
36	14.5°	5/8	13/32	8	.063	1	HM814-36-62	HMT814-36-62
36	14.5°	3/4	1/2	8	.063	1	HM814-36-75	-
36	14.5°	7/8	1/2	8	.063	1	HM814-36-87	-
38	14.5°	15/16	19/32	8	.060	1	-	HMT814-38-93
40	14.5°	1	3/4	8	.057	1	HM814-40-10	HMT814-40-10
42	14.5°	15/16	19/32	8	.054	1	HM814-42-93	-
42	14.5°	1	1/2	8	.054	1	HM814-42-10	-
44	14.5°	3/4	1/2	8	.052	1	HM814-44-75	-
46	14.5°	15/16	19/32	8	.050	1	HM814-46-93	-
48	14.5°	1	1	8	.048	1	HM814-48-10	HMT814-48-10
48	14.5°	5/8	11/16	8	.048	1	HM814-48-62	HMT814-48-62
48	14.5°	3/4	1/2	8	.048	1	-	HMT814-48-75
48	14.5°	15/16	5/8	8	.048	1	-	HMT814-48-93
50	14.5°	3/4	1/2	8	.046	1	HM814-50-75	HMT814-50-75
52	14.5°	15/16	19/32	8	.044	1	HM814-52-93	HMT814-52-93
54	14.5°	15/16	5/8	8	.043	1	HM814-54-93	-
56	14.5°	3/4	5/8	8	.041	1	HM814-56-75	HMT814-56-75
58	14.5°	15/16	5/8	8	.040	1	HM814-58-93	HMT814-58-93
60	14.5°	15/16	19/32	8	.039	1	-	HMT814-60-93
62	14.5°	15/16	19/32	8	.037	1	HM814-62-93	-
64	14.5°	1	1/2	8	.036	1	HM814-64-10	-
64	14.5°	1	11/16	8	.036	1	-	HMT814-64-10
64	14.5°	3/4	1/2	8	.036	1	HM814-64-75	HMT814-64-75
64	14.5°	15/16	19/32	8	.036	1	HM814-64-93	HMT814-64-93
64	14.5°	5/8	11/16	8	.036	1	HM814-64-62	-
66	14.5°	1	11/16	8	.035	1	-	HMT814-66-10
72	14.5°	3/4	11/16	8	.033	1	HM814-72-75	HMT814-72-75
72	14.5°	5/8	3/4	8	.033	1	HM814-72-62	HMT814-72-62
72	14.5°	15/16	25/64	8	.033	1	-	HMT814-72-93
80	14.5°	1	11/16	8	.030	1	-	HMT814-80-10
80	14.5°	1/2	11/16	8	.030	1	HM814-80-50	-
80	14.5°	5/8	1/2	8	.030	1	HM814-80-62	HMT814-80-62
80	14.5°	3/4	1/2	8	.030	1	HM814-80-75	HMT814-80-75
82	14.5°	15/16	1/2	8	.029	1	HM814-82-93	HMT814-82-93
88	14.5°	15/16	25/64	8	.027	1	HM814-88-93	HMT814-88-93
90	14.5°	15/16	25/64	8	.026	1	HM814-90-93	HMT814-90-93
92	14.5°	15/16	25/64	8	.026	1	HM814-92-93	HMT814-92-93
94	14.5°	15/16	13/32	8	.025	1	HM814-94-93	-
96	14.5°	1/2	43/64	8	.025	1	-	HMT814-96-50
96	14.5°	3/4	1/2	8	.025	1	HM814-96-75	HMT814-96-75
96	14.5°	5/8	13/32	8	.025	1	HM814-96-62	HMT814-96-62
96	14.5°	15/16	1/2	8	.025	1	-	HMT814-96-93
100	14.5°	3/4	11/16	8	.024	1	HM814-100-75	-
100	14.5°	15/16	13/32	8	.024	1	HM814-100-93	HMT814-100-93
120	14.5°	1/2	1/2	8	.020	1	HM814-120-50	-
120	14.5°	5/8	25/64	8	.020	1	-	HMT814-120-62
120	14.5°	3/4	1/2	8	.020	1	HM814-120-75	HMT814-120-75
120	14.5°	1	1/2	8	.020	1	HM814-120-10	-
120	14.5°	15/16	25/64	8	.020	1	HM814-120-93	HMT814-120-93

SERIES CONTINUED ON NEXT PAGE ->



<- SERIES CONTINUED FROM
PREVIOUS PAGE

HM814 & HMT814 Series

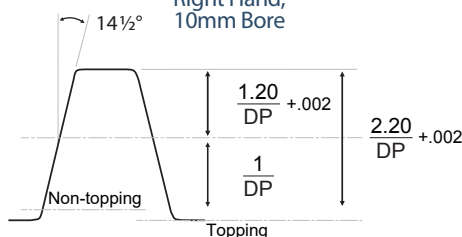
DP 14.5° PA GEAR HOBS
Finishing,
Right Hand
8mm Bore

DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
125	14.5°	15/16	5/16	8	.020	1	HM814-125-93	HMT814-125-93
126	14.5°	5/8	25/64	8	.019	1	-	HMT814-126-62
126	14.5°	5/8	5/8	8	.019	1	HM814-126-75	-
127	14.5°	15/16	5/16	8	.019	1	HM814-127-93	-
132	14.5°	15/16	5/16	8	.019	1	HM814-132-93	HMT814-132-93
134	14.5°	15/16	5/16	8	.018	1	HM814-134-93	-
150	14.5°	15/16	5/16	8	.017	1	HM814-150-93	HMT814-150-93
156	14.5°	15/16	5/16	8	.016	1	HM814-156-93	HMT814-156-93
157	14.5°	15/16	5/16	8	.016	1	HM814-157-93	-
160	14.5°	15/16	5/16	8	.016	1	HM814-160-93	-
175	14.5°	15/16	5/16	8	.015	1	HM814-175-93	HMT814-175-93
176	14.5°	15/16	5/16	8	.015	1	HM814-176-93	HMT814-176-93
180	14.5°	5/8	1/2	8	.014	1	HM814-180-62	-
180	14.5°	3/4	5/8	8	.014	1	HM814-180-75	-
180	14.5°	15/16	5/16	8	.014	1	HM814-180-93	HMT814-180-93
200	14.5°	15/16	5/16	8	.013	1	HM814-200-93	HMT814-200-93

HM114 & HMT114 Series

DP 14.5° PA GEAR HOBS

Finishing
Right Hand,
10mm Bore



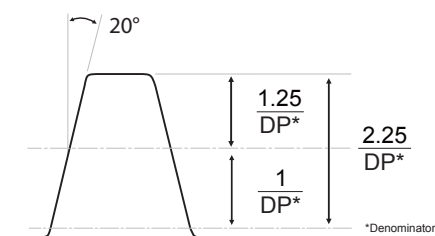
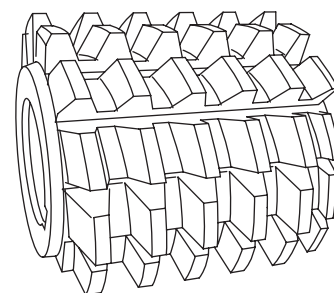
DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
24	14.5°	1-1/4	7/8	10	.094	1	-	HMT114-24-12
36	14.5°	1-1/4	1	10	.063	1	-	HMT114-36-12
40	14.5°	1-1/4	1	10	.057	1	-	HMT114-40-12
48	14.5°	1-1/4	1	10	.048	1	-	HMT114-48-12
50	14.5°	1-1/4	25/32	10	.046	1	-	HMT114-50-12
60	14.5°	1-1/4	11/16	10	.039	1	HM114-60-12	HMT114-60-12
64	14.5°	1-1/4	3/4	10	.036	1	HM114-64-12	-
80	14.5°	1-1/4	3/4	10	.030	1	HM114-80-12	-
96	14.5°	1-1/4	3/4	10	.025	1	HM114-96-12	HMT114-96-12
100	14.5°	1-1/4	25/64	10	.024	1	HM114-100-12	HMT114-100-12
120	14.5°	1-1/4	25/64	10	.020	1	HM114-120-12	HMT114-120-12
126	14.5°	1-1/4	3/4	10	.019	1	HM114-126-12	-
200	14.5°	1-1/4	25/64	10	.013	1	HM114-200-12	HMT114-200-12



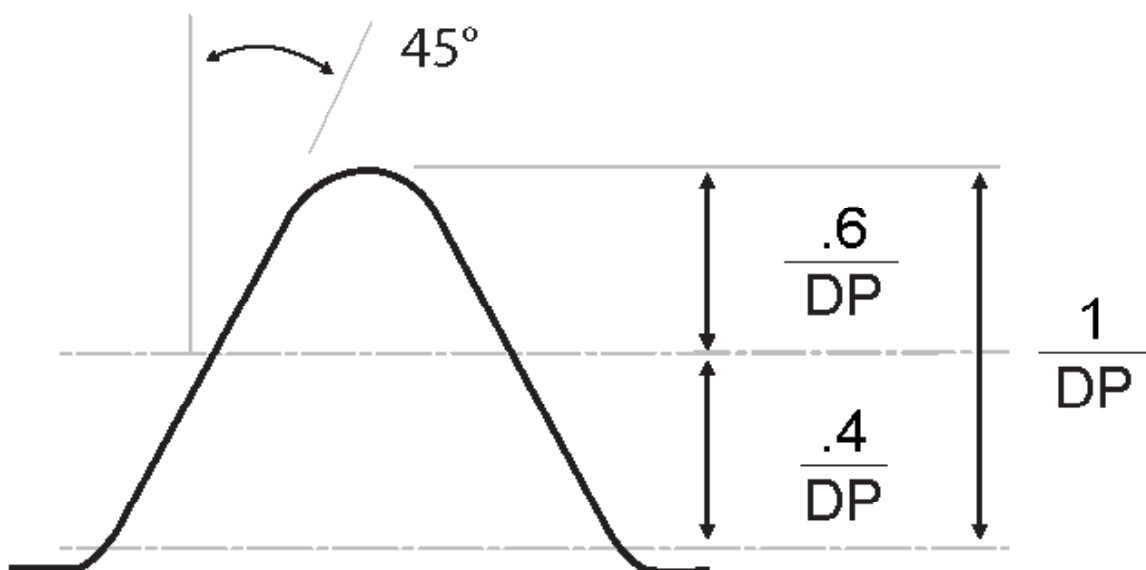
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
2/2.5	20°	5	6	1-1/4	.900	1	HF20-200	-
2.5/3	20°	4-1/2	5	1-1/4	.750	1	HF20-250	-
3/4	20°	4	4	1-1/4	.563	1	HF20-300	HFL20-300
4/5	20°	3-1/2	3-1/2	1-1/4	.450	1	HF20-400	HFL20-400
5/7	20°	3-1/4	3-1/4	1-1/4	.321	1	HF20-500	HFL20-500
6/8	20°	3	3	1-1/4	.281	1	HF20-600	HFL20-600
6/8	20°	3	3	1-1/4	.281	2	HF20-600-2	-
7/9	20°	3	3	1-1/4	.250	1	HF20-700	-
8/10	20°	3	3	1-1/4	.225	3	HF20-800-3	
8/10	20°	2	2	3/4	.225	1	HF20-800S	-
8/10	20°	3	3	1-1/4	.225	1	HF20-800	HFL20-800
9/11	20°	2	2	3/4	.205	1	HF20-900S	-
9/11	20°	2-3/4	2-3/4	1-1/4	.205	1	HF20-900	HFL20-900
10/12	20°	1-7/8	1-7/8	3/4	.188	1	HF20-010S	-
10/12	20°	2-3/4	2-3/4	1-1/4	.188	1	HF20-010	HFL20-010
12/14	20°	1-7/8	1-7/8	3/4	.161	1	HF20-012S	HFL20-012S
12/14	20°	2-1/2	2	1-1/4	.161	1	HF20-012	HFL20-012
12/14	20°	3	3	1-1/4	.161	2	HF20-012-2	-
12/14	20°	3-1/4	3-1/4	1-1/4	.161	3	HF20-012-3	-
14/18	20°	2-1/2	2	1-1/4	.125	1	HF20-014	HFL20-014
16/21	20°	1-7/8	1-7/8	3/4	.107	1	HF20-016S	HFL20-016S
16/21	20°	2-1/2	2-1/2	1-1/4	.107	1	HF20-016	HFL20-016

HF20 & HFL20 Series

DP 20° PA COMBO STUB
Finishing, Non-Topping



The combination pitch (stub tooth) has a shorter addendum and dedendum. The pitch is expressed as a fraction. The numerator of the fraction is used to determine the pitch diameter, circular pitch and the tooth thickness. The denominator determines the addendum, dedendum, clearance and depth of the tooth.

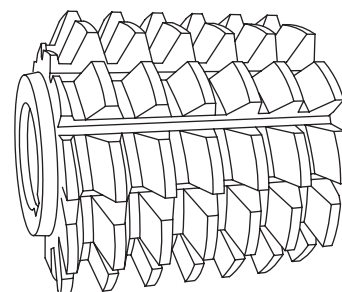




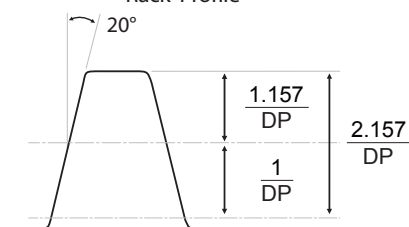
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
3/4	20°	12-1/2	16	2-1/2	3.000	1	HD20-075	-
3/4	20°	12	16	2-1/2	2.876	1	CHS20-075	-
7/8	20°	11-1/2	15	2-1/2	2.571	1	CHD20-087	-
7/8	20°	11-1/2	15	2-1/2	2.571	1	HD20-087	-
1	20°	10-3/4	15	2-1/2	2.157	1	HS20-100	-
1	20°	10	12-1/4	2	2.157	1	CHS20-100	CHLS20-100
1	20°	10-3/4	15	2-1/2	2.250	1	HD20-100	HLD20-100
1	20°	10-1/2	12-1/2	2	2.250	1	CHD20-100	CHLD20-100
1-1/4	20°	8-3/4	12	2	1.726	1	HS20-125	-
1-1/4	20°	8-1/4	10-1/2	1-1/2	1.726	1	CHS20-125	CHLS20-125
1-1/4	20°	8-3/4	12	2	1.800	1	HD20-125	HLD20-125
1-1/4	20°	8-1/2	10-3/4	1-1/2	1.800	1	CHD20-125	-
1-1/2	20°	8	10	2	1.438	1	HS20-150	HLS20-150
1-1/2	20°	7-1/2	7-3/4	1-1/2	1.438	1	CHS20-150	CHLS20-150
1-1/2	20°	8	10	2	1.500	1	HD20-150	HLD20-150
1-1/2	20°	185mm	250mm	40mm	1.500	1	HD20-150F	-
1-1/2	20°	7-1/2	8	1-1/2	1.500	1	CHD20-150	-
1-3/4	20°	7-1/4	9	2	1.233	1	HS20-175	HLS20-175
1-3/4	20°	6-3/4	8	1-1/2	1.233	1	CHS20-175	CHLS20-175
1-3/4	20°	7-1/4	9	2	1.286	1	HD20-175	HLD20-175
1-3/4	20°	7	8	1-1/2	1.286	1	CHD20-175	-
2	20°	5-3/4	8	1-1/2	1.079	1	HS20-200	HLS20-200
2	20°	5-1/4	6	1-1/4	1.079	1	CHS20-200	CHLS20-200
2	20°	5-3/4	8	1-1/2	1.125	1	HD20-200	HLD20-200
2	20°	5-1/2	6	1-1/4	1.125	1	CHD20-200	CHLD20-200
2-1/4	20°	5-1/2	7-1/2	1-1/2	.959	1	HS20-225	-
2-1/4	20°	5-1/4	6	1-1/4	.959	1	CHS20-225	-
2-1/4	20°	5-1/2	7-1/2	1-1/2	1.000	1	HD20-225	HLD20-225
2-1/4	20°	5-1/4	6	1-1/4	1.000	1	CHD20-225	-
2-1/2	20°	5	7	1-1/2	.863	1	HS20-250	HLS20-250
2-1/2	20°	4-3/4	5	1-1/4	.863	1	CHS20-250	CHLS20-250
2-1/2	20°	5	7	1-1/2	.900	1	HD20-250	HLD20-250
2-1/2	20°	4-3/4	5	1-1/4	.900	1	CHD20-250	-
2-3/4	20°	5	6	1-1/2	.784	1	HS20-275	-
2-3/4	20°	4-3/4	5	1-1/4	.784	1	CHS20-275	-
2-3/4	20°	5-1/4	6	1-1/2	.818	1	HD20-275	HLD20-275
2-3/4	20°	4-3/4	5	1-1/4	.818	1	CHD20-275	-
3	20°	4-1/2	5	1-1/4	.719	1	HS20-300	HLS20-300
3	20°	4-1/4	4-1/4	1-1/4	.719	1	CHS20-300	-
3	20°	4-1/2	5	1-1/4	.750	1	HD20-300	HLD20-300
3	20°	4	4	1-1/4	.750	1	CHD20-300	-
3-1/4	20°	4-1/2	4-1/2	1-1/4	.664	1	HD20-325	-
3-1/2	20°	4-1/4	4-3/4	1-1/4	.616	1	HS20-350	HLS20-350
3-1/2	20°	4-1/4	4-3/4	1-1/4	.643	1	HD20-350	HLD20-350
3-3/4	20°	4	4	1-1/4	.575	1	HS20-375	-
4	20°	4	4	1-1/4	.539	1	HS20-400	HLS20-400
4	20°	4	4	1-1/4	.563	1	HD20-400	HLD20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.479	1	HS20-450	-
4-1/2	20°	3-1/2	3-1/2	1-1/4	.500	1	HD20-450	HLD20-450
5	20°	3-1/2	3-1/2	1-1/4	.431	1	HS20-500	HLS20-500
5	20°	3-1/2	3-1/2	1-1/4	.450	1	HD20-500	HLD20-500
5-1/2	20°	3-1/2	3-1/2	1-1/4	.392	1	HS20-550	-
5-1/2	20°	3-1/2	3-1/2	1-1/4	.409	1	HD20-550	HLD20-550
6	20°	3-1/2	3-1/2	1-1/4	.360	1	HS20-600	HLS20-600
6	20°	3-1/2	3-1/2	1-1/4	.375	1	HD20-600	HLD20-600
6	20°	2-1/4	2-3/4	3/4	.375	1	HD20-600S	-
6-1/2	20°	3-1/4	3-1/4	1-1/4	.332	1	HS20-650	-
6-1/2	20°	3-1/4	3-1/4	1-1/4	.346	1	HD20-650	HLD20-650

HS20, CHS20, HD20, CHD20, CHLS20, HLS20, HLD20, & CHLD20 Series

DP 20° PA GEAR HOBS
Finishing
Non-Topping
Full Size & Cut Down

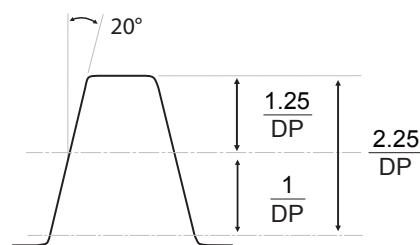


HS20, CHS20, HLS20, & CHLS20 Rack Profile



For 20 DP and finer, depth is $2.20/DP + .002$

HD20, CHD20, HLD20, & CHLD20 Rack Profile



For 20 DP and finer, depth is $2.20/DP + .002$

For 3/4" bore, see HFS20 Series
For 1/2" bore, see HFH20 Series
For topping hob,
inquire on HT20 Series

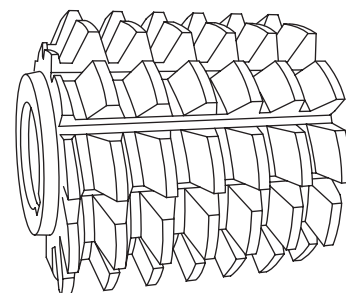
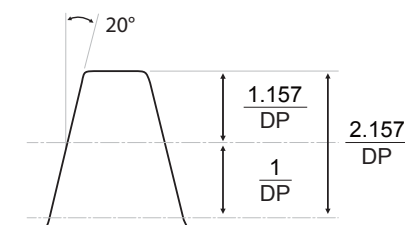
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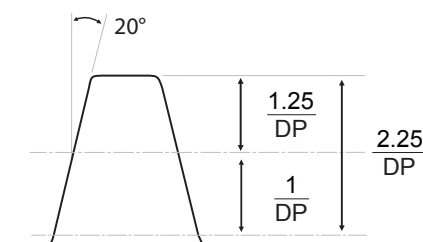


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
7	20°	3-1/4	3-1/4	1-1/4	.308	1	HS20-700	HLS20-700
7	20°	3-1/4	3-1/4	1-1/4	.321	1	HD20-700	HLD20-700
7-1/2	20°	3	3	1-1/4	.288	1	HS20-750	-
7-1/2	20°	3	3	1-1/4	.300	1	HD20-750	HLD20-750
8	20°	3	3	1-1/4	.270	1	HS20-800	HLS20-800
8	20°	3-1/4	3-1/4	1-1/4	.270	2	HS20-800-2	-
8	20°	3	3	1-1/4	.281	1	HD20-800	HLD20-800
8	20°	1-7/8	1-7/8	3/4	.281	1	HD20-800S	-
8-1/2	20°	3	3	1-1/4	.254	1	HS20-850	-
8-1/2	20°	3	3	1-1/4	.265	1	HD20-850	HLD20-850
9	20°	3	3	1-1/4	.240	1	HS20-900	HLS20-900
9	20°	3	3	1-1/4	.250	1	HD20-900	HLD20-900
10	20°	3	3	1-1/4	.216	1	HS20-010	HLS20-010
10	20°	3-1/2	3-1/2	1-1/4	.216	3	HS20-010-3	-
10	20°	3	3	1-1/4	.225	1	HD20-010	HLD20-010
10	20°	1-7/8	1-7/8	3/4	.225	1	HD20-010S	-
10	20°	3	3	1-1/4	.225	2	HD20-010-2	-
11	20°	2-3/4	2-3/4	1-1/4	.196	1	HS20-011	-
11	20°	2-3/4	2-3/4	1-1/4	.205	1	HD20-011	HLD20-011
12	20°	2-3/4	2-3/4	1-1/4	.180	1	HS20-012	HLS20-012
12	20°	2-3/4	2-3/4	1-1/4	.188	1	HD20-012	HLD20-012
12	20°	2-3/4	2-3/4	1-1/4	.180	2	HS20-012-2	-
12	20°	2-3/4	2-3/4	1-1/4	.188	2	HD20-012-2	-
13	20°	2-1/2	2-1/2	1-1/4	.166	1	HS20-013	-
13	20°	2-1/2	2-1/2	1-1/4	.173	1	HD20-013	HLD20-013
14	20°	2-1/2	2-1/2	1-1/4	.154	1	HS20-014	HLS20-014
14	20°	2-1/2	2-1/2	1-1/4	.161	1	HD20-014	HLD20-014
14	20°	1-7/8	1-7/8	3/4	.161	1	HD20-014S	-
15	20°	2-1/2	2-1/2	1-1/4	.144	1	HS20-015	-
15	20°	2-1/2	2-1/2	1-1/4	.150	1	HD20-015	HLD20-015
16	20°	2-1/2	2-1/2	1-1/4	.135	1	HS20-016	HLS20-016
16	20°	2-1/2	2-1/2	1-1/4	.135	3	HS20-016-3	-
16	20°	2-1/2	2-1/2	1-1/4	.141	1	HD20-016	HLD20-016
17	20°	2-1/2	2	1-1/4	.127	1	HS20-017	-
17	20°	2-1/2	2	1-1/4	.132	1	HD20-017	HLD20-017
18	20°	2-1/2	2	1-1/4	.120	1	HS20-018	-
18	20°	2-1/2	2	1-1/4	.125	1	HD20-018	HLD20-018
19	20°	2-1/2	2	1-1/4	.114	1	HS20-019	-
19	20°	2-1/2	2	1-1/4	.118	1	HD20-019	-
20	20°	2-1/2	2	1-1/4	.112	1	HS20-020	HLS20-020
20	20°	2-1/2	2	1-1/4	.113	1	HD20-020	HLD20-020
21	20°	2-1/2	2	1-1/4	.107	1	HS20-021	-
22	20°	2-1/2	2	1-1/4	.102	1	HS20-022	-
24	20°	2-1/2	2	1-1/4	.094	1	HS20-024	-
24	20°	1-7/8	1-7/8	3/4	.094	1	HD20-024S	-
24	20°	2-1/2	2	1-1/4	.094	1	HD20-024	HLD20-024
24	20°	2-1/2	2	1-1/4	.094	2	HD20-024-2	-
26	20°	2-1/2	2	1-1/4	.087	1	HS20-026	-
28	20°	2-1/2	2	1-1/4	.081	1	HS20-028	HLS20-028
30	20°	2-1/2	2	1-1/4	.075	1	HS20-030	-
30	20°	2-1/2	2	1-1/4	.075	1	HD20-030	-
32	20°	2-1/2	2	1-1/4	.071	1	HS20-032	-
34	20°	2-1/2	2	1-1/4	.067	1	HS20-034	-
36	20°	2-1/2	2	1-1/4	.063	1	HS20-036	-
40	20°	2-1/2	2	1-1/4	.057	1	HS20-040	-
42	20°	2-1/2	2	1-1/4	.054	1	HS20-042	-
48	20°	2-1/2	2	1-1/4	.048	1	HS20-048	-
54	20°	2-1/2	2	1-1/4	.043	1	HS20-054	-
64	20°	2-1/2	2	1-1/4	.036	1	HS20-064	-

 <- SERIES CONTINUED FROM
 PREVIOUS PAGE

HS20, CHS20, HD20, CHD20, CHLS20, HLS20, HLD20, & CHLD20 Series

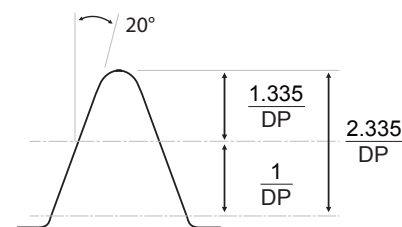
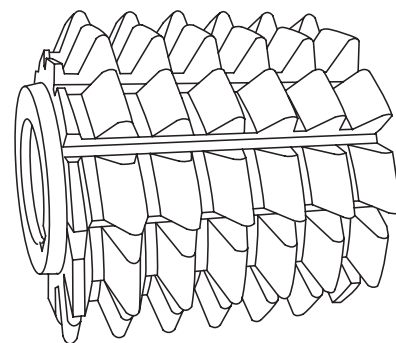
 DP 20° PA GEAR HOBS
 Finishing
 Non-Topping
 Full Size & Cut Down

 HS20, CHS, HLS20, & CHLS20
 Rack Profile

 For 20 DP and finer, depth is $2.20/DP + .002$

 HD20, CHD20, HLD20, & CHLD20
 Rack Profile

 For 20 DP and finer, depth is $2.20/DP + .002$

 For 3/4" bore, see HFS20 Series
 For 1/2" bore, see HFH20 Series
 For topping hob,
 inquire on HT20 Series



**HR20, CHR20
& HLR20 Series**
DP 20° PA GEAR HOBS
Finishing, Non-Topping
Full Fillet



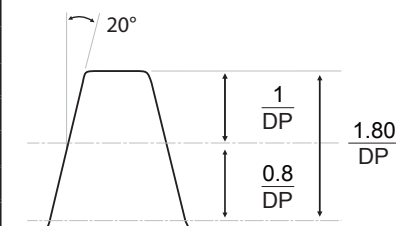
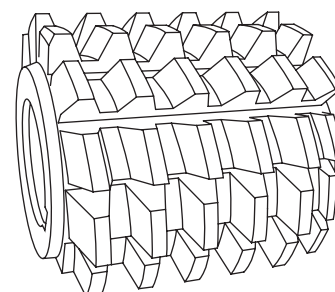
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1	20°	11-1/4	15	2-1/2	2.335	1	HR20-100	-
1	20°	10-1/2	12-1/2	2	2.335	1	CHR20-100	-
1-1/4	20°	9	12	2	1.868	1	HR20-125	-
1-1/4	20°	8-1/2	11	1-1/2	1.868	1	CHR20-125	-
1-1/2	20°	8-1/4	10	2	1.557	1	HR20-150	HLR20-150
1-1/2	20°	7-3/4	8	1-1/2	1.557	1	CHR20-150	-
1-3/4	20°	7-1/2	9	2	1.334	1	HR20-175	HLR20-175
1-3/4	20°	7	8	1-1/2	1.334	1	CHR20-175	-
2	20°	6-1/4	8	1-1/2	1.168	1	HR20-200	HLR20-200
2	20°	6	8	1-1/4	1.168	1	HR20-200E	
2	20°	5-3/4	6	1-1/4	1.168	1	CHR20-200	-
2-1/4	20°	5-3/4	7-1/2	1-1/2	1.038	1	HR20-225	-
2-1/4	20°	5-1/2	6	1-1/4	1.038	1	CHR20-225	-
2-1/2	20°	5-1/4	7	1-1/2	.934	1	HR20-250	HLR20-250
2-1/2	20°	5	6	1-1/4	.934	1	CHR20-250	-
2-3/4	20°	5-1/4	6	1-1/2	.849	1	HR20-275	-
3	20°	4-1/2	5	1-1/4	.778	1	HR20-300	HLR20-300
3-1/2	20°	4-1/2	4-3/4	1-1/4	.667	1	HR20-350	HLR20-350
4	20°	4	4	1-1/4	.584	1	HR20-400	HLR20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.519	1	HR20-450	HLR20-450
5	20°	3-1/2	3-1/2	1-1/4	.467	1	HR20-500	HLR20-500
5-1/2	20°	3-1/2	3-1/2	1-1/4	.425	1	HR20-550	-
6	20°	3-1/2	3-1/2	1-1/4	.389	1	HR20-600	HLR20-600
6-1/2	20°	3-1/4	3-1/4	1-1/4	.359	1	HR20-650	HLR20-650
7	20°	3-1/4	3-1/4	1-1/4	.334	1	HR20-700	HLR20-700
8	20°	2	2	3/4	.292	1	HR20-800S	-
8	20°	3	3	1-1/4	.292	1	HR20-800	HLR20-800
9	20°	2	1-7/8	3/4	.259	1	HR20-900S	-
9	20°	3	3	1-1/4	.259	1	HR20-900	-
10	20°	1-7/8	1-7/8	3/4	.234	1	HR20-010S	HLR20-010S
10	20°	4	4	1-1/4	.234	1	HR20-010XL	
10	20°	3	3	1-1/4	.234	1	HR20-010	HLR20-010
11	20°	2-3/4	2-3/4	1-1/4	.212	1	HR20-011	-
12	20°	1-7/8	1-7/8	3/4	.195	1	HR20-012S	-
12	20°	2-3/4	2-3/4	1-1/4	.195	1	HR20-012	HLR20-012
14	20°	1-7/8	1-7/8	3/4	.167	1	HR20-014S	-
14	20°	2-1/2	2-1/2	1-1/4	.167	1	HR20-014	HLR20-014
16	20°	1-7/8	1-7/8	3/4	.146	1	HR20-016S	-
16	20°	2-1/2	2-1/2	1-1/4	.146	1	HR20-016	HLR20-016
18	20°	1-7/8	1-7/8	3/4	.130	1	HR20-018S	-
18	20°	2-1/2	2	1-1/4	.130	1	HR20-018	-
20	20°	1-7/8	1-7/8	3/4	.117	1	HR20-020S	-
20	20°	2-1/2	2	1-1/4	.117	1	HR20-020	HLR20-020
24	20°	1-7/8	1-7/8	3/4	.097	1	HR20-024S	HLR20-024S
24	20°	2-1/2	2	1-1/4	.097	1	HR20-024	-
32	20°	1-7/8	1-7/8	3/4	.073	1	HR20-032S	-



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1	20°	10-3/4	15	2-1/2	1.800	1	HG20-100	-
1	20°	12	15	2-1/2	1.800	1	HG20-100BE	
1	20°	10	12-1/2	2	1.800	1	CHG20-100	-
1-1/4	20°	8-3/4	12	2	1.440	1	HG20-125	-
1-1/4	20°	7-1/2	10	1-1/2	1.440	1	CHG20-125	-
1-1/2	20°	8	10	2	1.200	1	HG20-150	-
1-1/2	20°	10	10	2-1/2	1.200	1	HG20-150BE	
1-1/2	20°	7	8	1-1/2	1.200	1	CHG20-150	-
1-3/4	20°	7	9	2	1.029	1	HG20-175	-
1-3/4	20°	6-1/2	8	1-1/2	1.029	1	CHG20-175	-
2	20°	5-3/4	8	1-1/2	.900	1	HG20-200	HGL20-200
2	20°	5	6	1-1/4	.900	1	CHG20-200	-
2-1/4	20°	5-1/2	7	1-1/2	.800	1	HG20-225	-
2-1/2	20°	5	7	1-1/2	.720	1	HG20-250	-
2-1/2	20°	4-1/2	5	1-1/4	.720	1	CHG20-250	-
2-3/4	20°	5	7	1-1/2	.655	1	HG20-275	-
3	20°	4-1/2	5	1-1/4	.600	1	HG20-300	HGL20-300
3	20°	4	4	1-1/4	.600	1	CHG20-300	-
3-1/2	20°	4-1/4	4-3/4	1-1/4	.514	1	HG20-350	HGL20-350
4	20°	4	4	1-1/4	.450	1	HG20-400	HGL20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.400	1	HG20-450	-
5	20°	3-1/2	3-1/2	1-1/4	.360	1	HG20-500	HGL20-500
6	20°	3-1/2	3-1/2	1-1/4	.300	1	HG20-600	HGL20-600
7	20°	3-1/4	3-1/4	1-1/4	.257	1	HG20-700	HGL20-700
8	20°	3	3	1-1/4	.225	1	HG20-800	-
8	20°	3-1/2	3-1/2	2-1/2	.225	1	HG20-800BE	-
9	20°	3	3	1-1/4	.200	1	HG20-900	-
10	20°	3	3	1-1/4	.180	1	HG20-010	-
12	20°	1-7/8	1-7/8	3/4	.150	1	HG20-012S	-
12	20°	2-3/4	2-3/4	1-1/4	.150	1	HG20-012	-
14	20°	1-7/8	1-7/8	3/4	.129	1	HG20-014S	-
16	20°	1-7/8	1-7/8	3/4	.113	1	HG20-016S	-
16	20°	2-1/2	2-1/2	1-1/4	.113	1	HG20-016	-
28	20°	2-1/2	2-1/2	1-1/4	.064	1	HG20-028	-

HG20, HGL20 & CHG20 Series

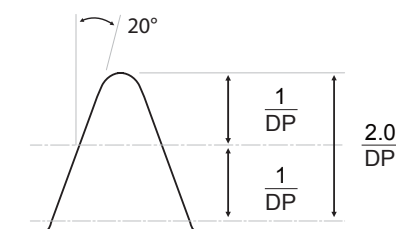
DP 20° PA AGMA STUB
Finishing, Non-Topping



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1	20°	10-3/4	15	2-1/2	2.000	1	HGR20-100
1-1/4	20°	8-3/4	12	2	1.600	1	HGR20-125
1-1/4	20°	8	10-3/4	1-1/2	1.600	1	CHGR20-125
1-1/2	20°	8	9	2	1.333	1	HGR20-150
2	20°	5-3/4	7	1-1/2	1.000	1	HGR20-200
2-1/4	20°	5-3/4	7	1-1/2	.889	1	HGR20-225
2-1/2	20°	5	6	1-1/2	.800	1	HGR20-250
3	20°	4-1/2	5	1-1/4	.667	1	HGR20-300
4	20°	4	4	1-1/4	.500	1	HGR20-400
5	20°	3-1/4	3-1/4	1-1/4	.400	1	HGR20-500
6	20°	3	3	1-1/4	.333	1	HGR20-600
8	20°	3	3	1-1/4	.250	1	HGR20-800
10	20°	3	3	1-1/4	.200	1	HGR20-010
12	20°	2-1/2	2-1/2	1-1/4	.167	1	HGR20-012
16	20°	2-1/2	2	1-1/4	.125	1	HGR20-016

HGR20 & CHGR20 Series

DP 20° PA AGMA Stub
Full Fillet
Right Hand, Finishing, Non-Topping



For left hand inquire on HGL20 Series.

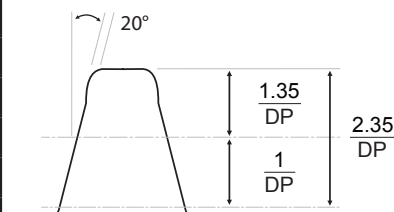


DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
2	20°	6	8	1-1/2	1.175	.006	.005	1	HP20-200	-
2-1/2	20°	5	6	1-1/2	.940	.005	.004	1	HP20-250	HPL20-250
3	20°	4-1/2	5	1-1/4	.783	.004	.003	1	HP20-300	HPL20-300
3	20°	4-1/2	5	1-1/4	.783	.004	No	1	HPN20-300	-
3-1/2	20°	4	5	1-1/4	.671	.004	.003	1	HP20-350	HPL20-350
4	20°	4	4	1-1/4	.588	.004	.003	1	HP20-400	HPL20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.522	.004	.003	1	HP20-450	HPL20-450
5	20°	3-1/2	3-1/2	1-1/4	.470	.004	.003	1	HP20-500	HPL20-500
5	20°	3-1/2	3-1/2	1-1/4	.470	.004	No	1	HPN20-500	-
5-1/2	20°	3-1/2	3-1/2	1-1/4	.427	.003	.002	1	HP20-550	-
6	20°	3-1/2	3-1/2	1-1/4	.392	.003	.002	1	HP20-600	HPL20-600
6	20°	3-1/2	3-1/2	1-1/4	.392	.003	No	1	HPN20-600	HPNL20-600
7	20°	3	3	1-1/4	.336	.003	.002	1	HP20-700	HPL20-700
7	20°	3-1/4	3-1/4	1-1/4	.336	.003	No	1	HPN20-700	-
8	20°	3	3	1-1/4	.294	.003	.002	1	HP20-800	HPL20-800
8	20°	3	3	1-1/4	.294	.003	No	1	HPN20-800	HPNL20-800
9	20°	3	3	1-1/4	.261	.003	.002	1	HP20-900	HPL20-900
10	20°	1-7/8	1-7/8	3/4	.235	.003	.002	1	HP20-010S	HPL20-010S
10	20°	3	3	1-1/4	.235	.003	.002	1	HP20-010	HPL20-010
10	20°	3	3	1-1/4	.240	.003	No	1	HPN20-010E	HPNL20-010E
11	20°	2-3/4	2-3/4	1-1/4	.214	.003	.002	1	HP20-011	HPL20-011
12	20°	1-7/8	1-7/8	3/4	.196	.003	.002	1	HP20-012S	HPL20-012S
12	20°	2	2	3/4	.200	.003	.002	1	HPN20-012SE	-
12	20°	2-3/4	2-3/4	1-1/4	.196	.003	.002	1	HP20-012	HPL20-012
14	20°	3	3	1-1/4	.168	.003	.002	1	HP20-014	HPL20-014
16	20°	1-7/8	1-7/8	3/4	.147	.003	.002	1	HP20-016S	HPL20-016S
16	20°	2-1/2	2-1/2	1-1/4	.147	.003	.002	1	HP20-016	HPL20-016
16	20°	2-1/2	2-1/2	1-1/4	.150	.003	No	1	HPN20-016E	-
18	20°	1-7/8	1-7/8	3/4	.131	.002	.002	1	HP20-018S	HPL20-018S
18	20°	2-1/2	2	1-1/4	.131	.002	.002	1	HP20-018	HPL20-018
20	20°	1-7/8	1-7/8	3/4	.122	.002	.001	1	HP20-020S	HPL20-020S
20	20°	1-7/8	1-7/8	3/4	.125	.002	No	1	HPN20-020SE	-
20	20°	2-1/2	2	1-1/4	.122	.002	.001	1	HP20-020	HPL20-020
22	20°	2-1/2	2	1-1/4	.111	.002	.001	1	HP20-022	HPL20-022
24	20°	1-7/8	1-7/8	3/4	.102	.002	.001	1	HP20-024S	HPL20-024S
24	20°	1-1/2	1-7/8	3/4	.108	.002	No	1	HPN20-024SE	-
32	20°	1-7/8	1-7/8	3/4	.077	.001	No	1	HP20-032S	-

HP20, HPN20, HPL20 & HPNL20 Series

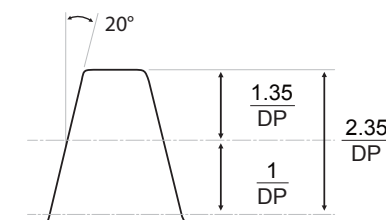
DP 20° PA GEAR HOBS
Pre-Shave
Non-Topping

HP20 & HPL20
Rack Profile (With Protuberance)



For 20 DP and finer, depth is 2.40/DP + .002

HPN20 & HPNL20
Rack Profile (No Protuberance)



Pre-Shave cutters 18DP and coarser have protuberance, cutters 20 DP and finer do not have protuberance.

When designing for 20DP and finer, the PA will be Modified slightly to aid the shaving cutter, rather than incorporating a protuberance feature.

Protuberance is generally required for parts with 16 teeth or more, to produce an undercut for shaving.

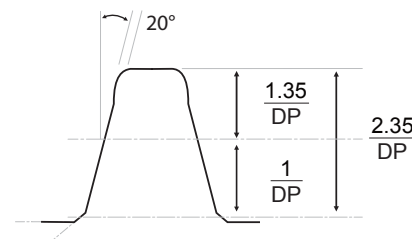
HOB



DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
3	20°	4-1/2	5	1-1/4	.783	.005	.003	1	HPCH20-300	-
4	20°	4	4	1-1/4	.588	.004	.003	1	HPCH20-400	
5	20°	3-1/2	3-1/2	1-1/4	.470	.004	.003	1	HPCH20-500	-
6	20°	3-1/2	3-1/2	1-1/4	.392	.004	.003	1	HPCH20-600	HPCHL20-600
8	20°	3	3	1-1/4	.294	.003	.002	1	HPCH20-800	HPCHL20-800
10	20°	3	3	1-1/4	.235	.003	.002	1	HPCH20-010	HPCHL20-010
12	20°	2-3/4	2-3/4	1-1/4	.196	.003	.002	1	HPCH20-012	HPCHL20-012
16	20°	2-1/2	2-1/2	1-1/4	.147	.003	.002	1	HPCH20-016	-
18	20°	2-1/2	2	1-1/4	.131	.002	.002	1	HPCH20-018	-

HPCH20 & HPCHL20 Series

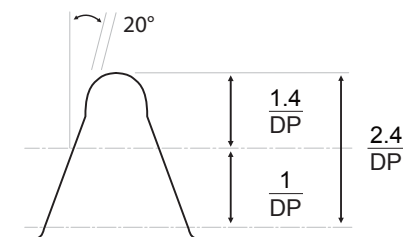
DP 20° PA GEAR HOBS
Pre-Shave Chamfering.
With Protuberance



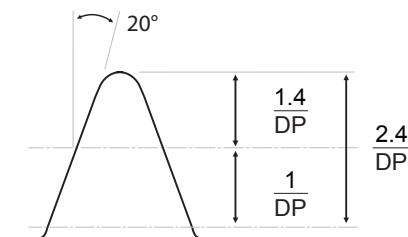
HPR20, HPRN20 & HPRL20 Series

DP 20° PA GEAR HOBS
Pre-Shave Full Fillet
Non-Topping

HPR20 & HPRL20 Rack Profile (With Protuberance)



HPRN20 Rack Profile (No Protuberance)



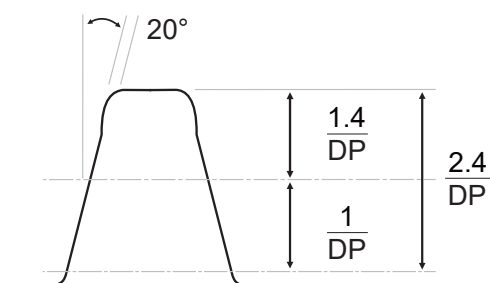
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
4	20°	4	4	1-1/4	.600	.004	.003	1	HPR20-400	-
4-1/2	20°	3-1/2	3-1/2	1-1/4	.533	.004	.003	1	HPR20-450	
5	20°	3-1/2	3-1/2	1-1/4	.480	.004	.003	1	HPR20-500	HPRL20-500
6	20°	3-1/2	3-1/2	1-1/4	.400	.003	.002	1	HPR20-600	HPRL20-600
7	20°	3	3	1-1/4	.343	.003	.002	1	HPR20-700	HPRL20-700
8	20°	3	3	1-1/4	.300	.003	.002	1	HPR20-800	HPRL20-800
9	20°	3	3	1-1/4	.267	.003	.002	1	HPR20-900	-
10	20°	3	3	1-1/4	.240	.003	.002	1	HPR20-010	HPRL20-010
11	20°	2-3/4	2-3/4	1-1/4	.218	.003	.002	1	HPR20-011	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.003	.002	1	HPR20-012	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.003	No	1	HPRN20-012	-
12	20°	1-7/8	1-7/8	3/4	.200	.003	No	1	HPRN20-012S	-
14	20°	2-1/2	2-1/2	1-1/4	.171	.002	.002	1	HPR20-014	-
15	20°	2-1/2	2-1/2	1-1/4	.160	.002	.002	1	HPR20-015	
16	20°	2-1/2	2-1/2	1-1/4	.150	.002	.002	1	HPR20-016	HPRL20-016
18	20°	1-7/8	1-7/8	3/4	.132	.002	No	1	HPRN20-018S	-
20	20°	2-1/2	2-1/2	1-1/4	.124	.002	.002	1	HPR20-020	
20	20°	2-1/2	2-1/2	1-1/4	.124	.002	No	1	HPRN20-020	-
32	20°	2-1/2	2	1-1/4	.080	.001	No	1	HPRN20-032	-
32	20°	1-7/8	1-7/8	3/4	.080	.001	No	1	HPRN20-032S	-



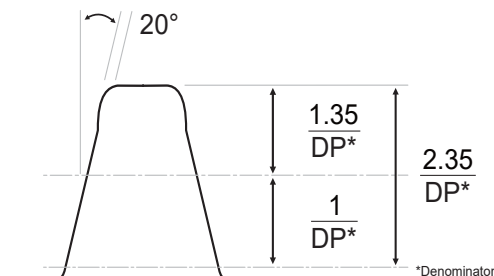
HFP20 & HFIG20 Series

DP 20° PA GEAR HOBS
COMBO Stub
Pre-Grind & Pre-Shave
Non-Topping, Right Hand
(With Protuberance)

HFP20
Rack Profile (With Protuberance)



HFIG20
Rack Profile (With Protuberance)



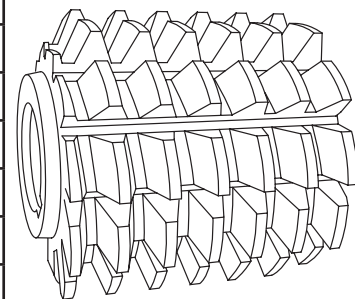
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Pre -Shave	Pre-Grind
4/5	20°	3-1/2	3-1/2	1-1/4	.470	.004	.003	1	HFP20-400	-
4/5	20°	3-1/2	3-1/2	1-1/4	.450	.013	.007	1	-	HFIG20-4000E
5/7	20°	3-1/4	3-1/4	1-1/4	.336	.004	.003	1	HFP20-500	-
5/7	20°	3-1/4	3-1/4	1-1/4	.336	.011	.006	1	-	HFIG20-500
6/8	20°	3	3	1-1/4	.294	.004	.002	1	HFP20-600	-
6/8	20°	3	3	1-1/4	.294	.011	.007	1	-	HFIG20-600
8/10	20°	3	3	1-1/4	.235	.003	.002	1	HFP20-800	-
8/10	20°	3	3	1-1/4	.235	.011	.006	1	-	HFIG20-800
10/12	20°	2-3/4	2-3/4	1-1/4	.196	.003	.002	1	HFP20-010	-



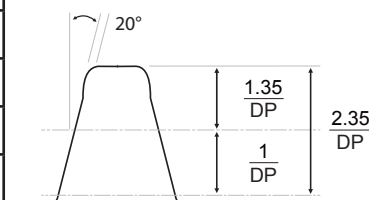
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1	20°	11	15	2-1/2	2.350	.024	.015	1	HPG20-100	-
1-1/4	20°	9	12	2	1.880	.022	.014	1	HPG20-125	-
1-1/2	20°	8	10	2	1.567	.018	.012	1	HPG20-150	-
1-3/4	20°	7-1/4	8-1/2	2	1.343	.018	.012	1	HPG20-175	-
2	20°	6	8	1-1/2	1.175	.017	.010	1	HPG20-200	-
2-1/4	20°	5-1/2	7-1/2	1-1/2	1.044	.016	.010	1	HPG20-225	-
2-1/2	20°	5	6	1-1/2	.940	.014	.010	1	HPG20-250	HPGL20-250
2-3/4	20°	5	6	1-1/2	.855	.015	.009	1	HPG20-275	-
3	20°	4-1/2	5	1-1/4	.783	.013	.007	1	HPG20-300	HPGL20-300
3-1/2	20°	4-1/4	4-3/4	1-1/4	.671	.013	.007	1	HPG20-350	HPGL20-350
4	20°	4	4	1-1/4	.588	.013	.007	1	HPG20-400	HPGL20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.522	.012	.006	1	HPG20-450	-
5	20°	3-1/2	3-1/2	1-1/4	.470	.011	.006	1	HPG20-500	HPGL20-500
6	20°	3-1/2	3-1/2	1-1/4	.392	.011	.006	1	HPG20-600	HPGL20-600
6-1/2	20°	3-1/4	3-1/4	1-1/4	.362	.011	.006	1	HPG20-650	-
7	20°	3	3	1-1/4	.336	.011	.006	1	HPG20-700	HPGL20-700
8	20°	3	3	1-1/4	.294	.011	.006	1	HPG20-800	HPGL20-800
9	20°	3	3	1-1/4	.261	.011	.006	1	HPG20-900	HPGL20-900
10	20°	1-7/8	1-7/8	3/4	.235	.010	.006	1	HPG20-010S	-
10	20°	3	3	1-1/4	.235	.010	.006	1	HPG20-010	HPGL20-010
11	20°	2-3/4	2-3/4	1-1/4	.214	.010	.005	1	HPG20-011	-
12	20°	1-7/8	1-7/8	3/4	.196	.010	.005	1	HPG20-012S	-
12	20°	2-3/4	2-3/4	1-1/4	.196	.010	.005	1	HPG20-012	HPGL20-012
14	20°	1-7/8	1-7/8	3/4	.168	.009	.005	1	HPG20-014S	-
14	20°	2-1/2	2-1/2	1-1/4	.168	.009	.005	1	HPG20-014	HPGL20-014
16	20°	1-7/8	1-7/8	3/4	.147	.008	.005	1	HPG20-016S	HPGL20-016S
16	20°	2-1/2	2-1/2	1-1/4	.147	.008	.005	1	HPG20-016	HPGL20-016
18	20°	1-7/8	1-7/8	3/4	.131	.008	.004	1	HPG20-018S	-
18	20°	2-1/2	2	1-1/4	.131	.008	.004	1	HPG20-018	-
20	20°	1-7/8	1-7/8	3/4	.122	.007	.004	1	HPG20-020S	-
20	20°	2	2	3/4	.122	.007	.004	1	HPG20-020	-
24	20°	1-7/8	1-7/8	3/4	.102	.005	.003	1	HPG20-024S	HPGL20-024S
24	20°	2-1/2	2	1-1/4	.102	.005	.003	1	HPG20-024	-

HPG20 & HPGL20 Series

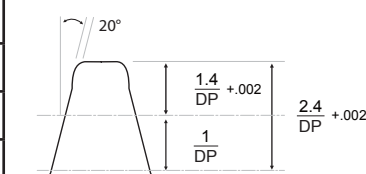
DP 20° PA GEAR HOBS
Pre-Grind
Non-Topping
With Protuberance



Coarser than 20 DP
Rack Profile (With Protuberance)



20 DP and Finer
Rack Profile (With Protuberance)

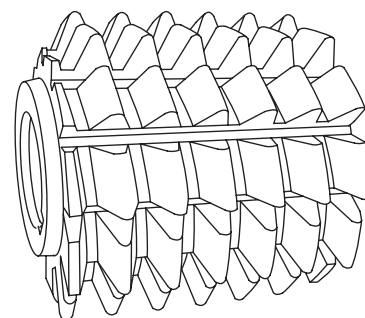




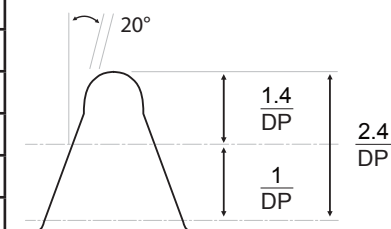
HPGR20, HPGRL20 HPGN20 & HPGNL20 Series

DP 20° PA GEAR HOBS

Pre-Grind
Non-Topping
Full Fillet

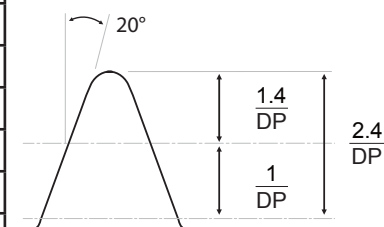


HPGR20 & HPGRL20
Rack Profile (With Protuberance)



20DP and finer WD = $2.4/DP + .002$

HPGN20 & HPGNL20
Rack Profile (No Protuberance)



For 20DP and finer WD = $2.4/DP + .002$

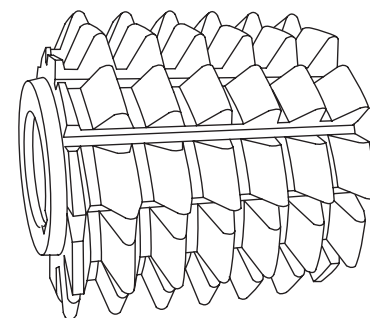
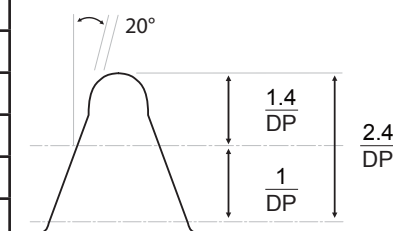
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1	20°	11-1/4	15	2-1/2	2.400	.024	.015	1	HPGR20-100	-
1-1/4	20°	9-1/4	12	2	1.920	.022	.014	1	HPGR20-125	-
1-1/2	20°	8-1/2	10	2	1.600	.018	.011	1	HPGR20-150	-
1-3/4	20°	7-1/2	8-1/2	2	1.371	.018	.011	1	HPGR20-175	-
2	20°	6-1/4	8	1-1/2	1.200	.017	.010	1	HPGR20-200	-
2-1/4	20°	5-1/2	7-1/2	1-1/2	1.067	.016	.010	1	HPGR20-225	-
2-1/2	20°	5-1/4	6	1-1/2	.960	.014	.010	1	HPGR20-250	-
3	20°	4-1/2	5	1-1/4	.800	.013	.009	1	HPGR20-300	-
3	20°	4-1/2	5	1-1/4	.800	.013	None	1	HPGN20-300	HPGNL20-300
3-1/2	20°	4-1/4	4-3/4	1-1/4	.686	.013	.009	1	HPGR20-350	HPGRL20-350
4	20°	4	4	1-1/4	.600	.013	.008	1	HPGR20-400	HPGRL20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.533	.013	.008	1	HPGR20-450	-
5	20°	3-1/2	3-1/2	1-1/4	.480	.011	.006	1	HPGR20-500	HPGRL20-500
5	20°	3-1/2	3-1/2	1-1/4	.480	.011	None	1	HPGN20-500	HPGNL20-500
6	20°	3-1/2	3-1/2	1-1/4	.400	.011	.006	1	HPGR20-600	HPGRL20-600
6	20°	3-1/2	3-1/2	1-1/4	.400	.011	None	1	HPGN20-600	-
7	20°	3	3	1-1/4	.343	.011	.006	1	HPGR20-700	HPGRL20-700
7	20°	3	3	1-1/4	.343	.011	None	1	HPGN20-700	-
8	20°	3	3	1-1/4	.300	.011	.006	1	HPGR20-800	-
8	20°	3	3	1-1/4	.300	.011	None	1	HPGN20-800	-
9	20°	3	3	1-1/4	.267	.011	.006	1	HPGR20-900	-
10	20°	3	3	1-1/4	.240	.010	.006	1	HPGR20-010	-
10	20°	3	3	1-1/4	.240	.010	None	1	HPGN20-010	-
12	20°	2	2	3/4	.200	.010	.005	1	HPGR20-012S	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.010	.005	1	HPGR20-012	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.010	None	1	HPGN20-012	-
14	20°	2-1/2	2-1/2	1-1/4	.171	.010	.006	1	HPGR20-014	-
14	20°	1-7/8	1-7/8	3/4	.171	.010	None	1	HPGN20-014S	-
16	20°	2-1/2	2-1/2	1-1/4	.150	.006	.004	1	HPGR20-016	-
16	20°	2-1/2	2-1/2	1-1/4	.150	.006	None	1	HPGN20-016	-
20	20°	2-1/2	2	1-1/4	.122	.007	.004	1	HPGR20-020	-
20	20°	2-1/2	2	1-1/4	.122	.007	None	1	HPGN20-020	-
24	20°	2-1/2	2	1-1/4	.102	.005	.003	1	HPGR20-024	-
24	20°	211/2	1-7/8	3/4	.102	.005	None	1	HPGN20-024S	-
28	20°	1-7/8	1-7/8	3/4	.088	.005	.003	1	HPGR20-028S	-
28	20°	1-7/8	1-7/8	3/4	.088	.005	None	1	HPGN20-028S	-
30	20°	1-7/8	1-7/8	3/4	.082	.005	None	1	HPGN20-030S	-
32	20°	1-7/8	1-1/2	3/4	.077	.005	None	1	HPGN20-032S	-
48	20°	1-7/8	1-1/2	3/4	.052	.005	.002	1	HPGR20-048S	-
48	20°	1-7/8	1-1/2	3/4	.052	.005	None	1	HPGN20-048S	-

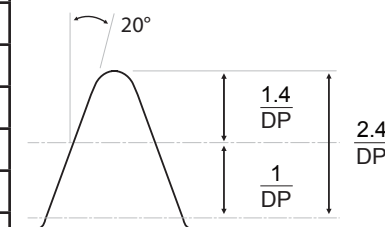


DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1	20°	11-1/4	15	2-1/2	2.400	.024	.015	1	HPGR20-100	-
1-1/4	20°	9-1/4	12	2	1.920	.022	.014	1	HPGR20-125	-
1-1/2	20°	8-1/2	10	2	1.600	.018	.011	1	HPGR20-150	-
1-3/4	20°	7-1/2	8-1/2	2	1.371	.018	.011	1	HPGR20-175	-
2	20°	6-1/4	8	1-1/2	1.200	.017	.010	1	HPGR20-200	-
2-1/4	20°	5-1/2	7-1/2	1-1/2	1.067	.016	.010	1	HPGR20-225	-
2-1/2	20°	5-1/4	6	1-1/2	.960	.014	.010	1	HPGR20-250	-
3	20°	4-1/2	5	1-1/4	.800	.013	.009	1	HPGR20-300	-
3	20°	4-1/2	5	1-1/4	.800	.013	None	1	HPGN20-300	HPGNL20-300
3-1/2	20°	4-1/4	4-3/4	1-1/4	.686	.013	.009	1	HPGR20-350	HPGRL20-350
4	20°	4	4	1-1/4	.600	.013	.008	1	HPGR20-400	HPGRL20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.533	.013	.008	1	HPGR20-450	-
5	20°	3-1/2	3-1/2	1-1/4	.480	.011	.006	1	HPGR20-500	HPGRL20-500
5	20°	3-1/2	3-1/2	1-1/4	.480	.011	None	1	HPGN20-500	HPGNL20-500
6	20°	3-1/2	3-1/2	1-1/4	.400	.011	.006	1	HPGR20-600	HPGRL20-600
6	20°	3-1/2	3-1/2	1-1/4	.400	.011	None	1	HPGN20-600	-
7	20°	3	3	1-1/4	.343	.011	.006	1	HPGR20-700	HPGRL20-700
7	20°	3	3	1-1/4	.343	.011	None	1	HPGN20-700	-
8	20°	3	3	1-1/4	.300	.011	.006	1	HPGR20-800	-
8	20°	3	3	1-1/4	.300	.011	None	1	HPGN20-800	-
9	20°	3	3	1-1/4	.267	.011	.006	1	HPGR20-900	-
10	20°	3	3	1-1/4	.240	.010	.006	1	HPGR20-010	-
10	20°	3	3	1-1/4	.240	.010	None	1	HPGN20-010	-
12	20°	2	2	3/4	.200	.010	.005	1	HPGR20-012S	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.010	.005	1	HPGR20-012	-
12	20°	2-3/4	2-3/4	1-1/4	.200	.010	None	1	HPGN20-012	-
14	20°	2-1/2	2-1/2	1-1/4	.171	.010	.006	1	HPGR20-014	-
14	20°	1-7/8	1-7/8	3/4	.171	.010	None	1	HPGN20-014S	-
16	20°	2-1/2	2-1/2	1-1/4	.150	.006	.004	1	HPGR20-016	-
16	20°	2-1/2	2-1/2	1-1/4	.150	.006	None	1	HPGN20-016	-
20	20°	2-1/2	2	1-1/4	.122	.007	.004	1	HPGR20-020	-
20	20°	2-1/2	2	1-1/4	.122	.007	None	1	HPGN20-020	-
24	20°	2-1/2	2	1-1/4	.102	.005	.003	1	HPGR20-024	-
24	20°	211/2	1-7/8	3/4	.102	.005	None	1	HPGN20-024S	-
28	20°	1-7/8	1-7/8	3/4	.088	.005	.003	1	HPGR20-028S	-
28	20°	1-7/8	1-7/8	3/4	.088	.005	None	1	HPGN20-028S	-
30	20°	1-7/8	1-7/8	3/4	.082	.005	None	1	HPGN20-030S	-
32	20°	1-7/8	1-1/2	3/4	.077	.005	None	1	HPGN20-032S	-
48	20°	1-7/8	1-1/2	3/4	.052	.005	.002	1	HPGR20-048S	-
48	20°	1-7/8	1-1/2	3/4	.052	.005	None	1	HPGN20-048S	-

HPGR20, HPGRL20 HPGN20 & HPGNL20 Series

DP 20° PA GEAR HOBS

 Pre-Grind
Non-Topping
Full Fillet

 HPGR20 & HPGRL20
Rack Profile (With Protuberance)

 $20DP \text{ and finer } WD = 2.4/DP + .002$

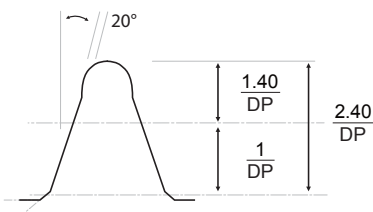
 HPGN20 & HPGNL20
Rack Profile (No Protuberance)

 $20DP \text{ and finer } WD = 2.4/DP + .002$



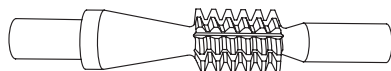
DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1	20°	11-1/4	15	2-1/2	.2400	.024	.015	1	HPGRCH20-100	-
3	20°	4-1/2	5	1-1/4	.800	.013	.009	1	HPGRCH20-300	-
4	20°	4	4	1-1/4	.600	.013	.008	1	HPGRCH20-400	-
5	20°	3-1/2	3-1/2	1-1/4	.480	.011	.006	1	HPGRCH20-500	-
6	20°	3-1/2	3-1/2	1-1/4	.400	.011	.006	1	HPGRCH20-600	-
8	20°	3	3	1-1/4	.300	.011	.006	1	HPGRCH20-800	HPGRCHL20-800
10	20°	3	3	1-1/4	.240	.010	.006	1	HPGRCH20-010	HPGRCHL20-010
12	20°	2-3/4	2-3/4	1-1/4	.200	.010	.005	1	HPGRCH20-012	-
14	20°	2-1/2	2-1/2	1-1/4	.171	.010	.006	1	HPGRCH20-014	-
16	20°	2-1/2	2-1/2	1-1/4	.150	.006	.004	1	HPGRCH20-016	-

HPGRCH20 & HPGRCHL20 Series

DP 20° PA GEAR HOBS
Pre-Grind with Protuberance
Chamfering
Full Fillet



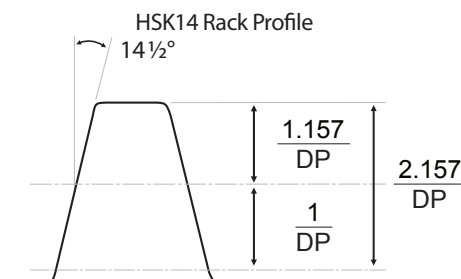
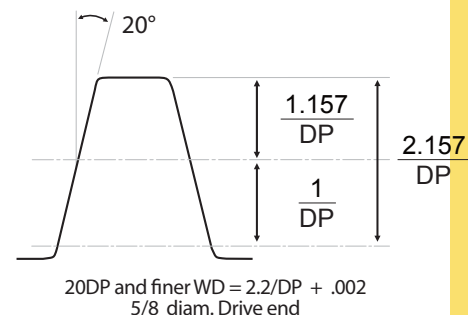
DP	PA	OD	Length	WD	# Threads	Specify Class A,B,C
8	20°	7-7/8	6	.270	1	HSK20-08
10	20°	1-5/8	6	.216	1	HSK20-10
12	20°	1-1/4	6	.180	1	HSK20-12
14	20°	1	6	.154	1	HSK20-14
16	20°	1	6	.135	1	HSK20-16
20	14.5°	1	6	.112	1	HSK14-20
20	20°	7/8	6	.112	1	HSK20-20
24	20°	7/8	6	.094	1	HSK20-24
32	20°	7/8	6	.071	1	HSK20-32
48	20°	3/4	6	.048	1	HSK20-48
64	20°	5/8	6	.036	1	HSK20-64
120	20°	1/2	6	.020	1	HSK20-120



For Left Hand inquire on HSKL20

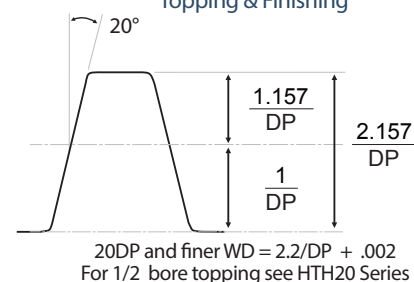
HSK20 & HSK14 Series

DP 20° & 14.5° PA GEAR HOBS
Finishing, Non-Topping
Shank Type
5/8 Straight Shanks
Right Hand
HSK20 Rack Profile



HT20, HFT20 & HFTL20, & HFT1-20 Series

DP 20° PA GEAR HOBS
Topping & Finishing



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
4	20°	4	4	1-1/4	.539	1	HT20-400	-
5	20°	3-1/2	3-1/2	1-1/4	.431	1	HT20-500	-
6	20°	3-1/2	3-1/2	1-1/4	.360	1	HT20-600	-
7	20°	3-1/4	3-1/4	1-1/4	.308	1	HT20-700	-
8	20°	3	3	1-1/4	.270	1	HT20-800	-
10	20°	3	3	1-1/4	.216	1	HT20-010	-
10	20°	1-7/8	1-7/8	3/4	.225	1	HFT20-010	-
12	20°	2-3/4	2-3/4	1-1/4	.180	1	HT20-012	-
12	20°	1-7/8	1-7/8	3/4	.188	1	HFT20-012	-
14	20°	2-1/2	2-1/2	1-1/4	.154	1	HT20-014	-
14	20°	1-7/8	1-7/8	3/4	.161	1	HFT20-014	-
15	20°	2-1/2	2-1/2	1-1/4	.144	1	HT20-015	-

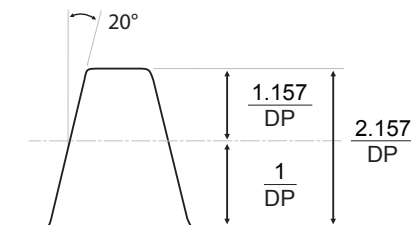
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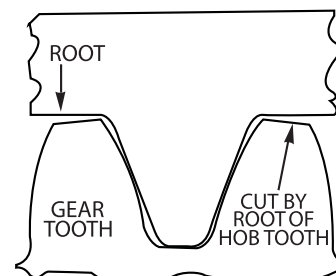
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
16	20°	2-1/2	2-1/2	1-1/4	.135	1	HT20-016	-
16	20°	1-7/8	1-7/8	3/4	.141	1	HFT20-016	HFTL20-016
18	20°	2-1/2	2	1-1/4	.120	1	HT20-018	-
18	20°	1-7/8	1-7/8	3/4	.125	1	HFT20-018	-
20	20°	2-1/2	2	1-1/4	.112	1	HT20-020	-
20	20°	1-7/8	1-7/8	3/4	.113	1	HFT20-020	HFTL20-020
20	20°	1-7/8	1-7/8	#1-Taper	.112	1	HFT1-20-020	-
22	20°	1-7/8	1-7/8	3/4	.102	1	HFT20-022	-
24	20°	2-1/2	2	1-1/4	.094	1	HT20-024	-
24	20°	1-7/8	1-7/8	3/4	.094	1	HFT20-024	-
24	20°	1-7/8	1-7/8	#1-Taper	.094	1	HFT1-20-024	-
26	20°	2-1/2	2	1-1/4	.866	1	HT20-026	-
26	20°	1-7/8	1-7/8	3/4	.087	1	HFT20-026	-
26	20°	1-7/8	1-7/8	3/4	.087	3	HFT20-026-3	-
28	20°	1-7/8	1-7/8	3/4	.080	1	HFT20-028	-
28	20°	1-7/8	1-1/2	#1-Taper	.081	1	HFT1-20-028	-
30	20°	1-7/8	1-1/2	3/4	.075	1	HFT20-030	-
30	20°	1-7/8	1-1/2	#1-Taper	.075	1	HFT1-20-030	-
32	20°	2-1/2	2	1-1/4	.071	1	HT20-032	-
32	20°	1-7/8	1-7/8	3/4	.070	1	HFT20-032	-
32	20°	1-7/8	1-7/8	#1-Taper	.071	1	HFT1-20-032	-
34	20°	1-7/8	1-7/8	3/4	.066	1	HFT20-034	-
36	20°	1-7/8	1-7/8	3/4	.063	1	HFT20-036	-
36	20°	1-3/4	1-3/4	3/4	.063	1	-	HFTL20-036
36	20°	1-7/8	1-1/2	#1-Taper	.063	1	HFT1-20-036	-
38	20°	1-7/8	1-7/8	3/4	.060	1	HFT20-038	-
40	20°	1-7/8	1-7/8	3/4	.056	1	HFT20-040	-
40	20°	1-7/8	1-1/2	3/4	.056	2	HFT20-040-2	-
42	20°	1-7/8	1-7/8	3/4	.054	1	HFT20-042	-
42	20°	1-7/8	1-1/2	#1-Taper	.054	1	HFT1-20-042	-
44	20°	1-7/8	1-7/8	3/4	.052	1	HFT20-044	-
46	20°	1-7/8	1-7/8	3/4	.050	1	HFT20-046	-
48	20°	1-7/8	1-1/2	3/4	.048	1	HFT20-048	-
48	20°	1-7/8	1-7/8	3/4	.048	2	HFT20-048W-2	-
48	20°	1-7/8	1-1/2	#1-Taper	.048	1	HFT1-20-048	-
50	20°	1-7/8	1-1/2	3/4	.046	1	HFT20-050	-
50	20°	1-7/8	1-1/2	#1-Taper	.046	1	HFT1-20-050	-
52	20°	1-7/8	1-1/2	3/4	.044	1	HFT20-052	-
52	20°	1-7/8	1-7/8	3/4	.044	1	HFT20-052W	-
52	20°	1-7/8	1-1/2	#1-Taper	.044	1	HFT1-20-052	-
56	20°	1-7/8	1-7/8	3/4	.041	1	HFT20-056	-
56	20°	1-7/8	1-1/2	#1-Taper	.041	1	HFT1-20-056	-
60	20°	1-7/8	1-1/2	3/4	.039	1	HFT20-060	-
64	20°	1-5/8	1-1/2	3/4	.036	1	HFT20-064	-
64	20°	1-7/8	1-5/8	3/4	.036	1	HFT20-064E	-
64	20°	1-5/8	1-1/2	3/4	.036	3	HFT20-064-3	-
64	20°	1-7/8	1-1/2	#1-Taper	.036	1	HFT1-20-064	-
72	20°	1-7/8	1-1/2	3/4	.033	1	HFT20-072	-
72	20°	1-5/8	1-1/2	#1-Taper	.033	1	HFT1-20-072	-
85	20°	1-5/8	1-1/2	#1-Taper	.028	1	HFT1-20-085	-
96	20°	1-5/8	1-1/2	3/4	.025	1	HFT20-096	-
96	20°	1-1/2	1	#1-Taper	.025	1	HFT1-20-096	-
120	20°	1-1/2	3/4	3/4	.020	1	HFT20-120	-
120	20°	1-1/2	1	#1-Taper	.020	1	HFT1-20-120	-

HT20, HFT20, HFTL20 & HFT1-20 Series

DP 20° PA GEAR HOBS
Topping, Finishing



20DP and finer WD = 2.2/DP + .002
For 1/2 bore topping see HTH20 Series



TOPPING: Hobs with Topping cut the outside diameter of the gear blank at the same time the gear tooth is generated.

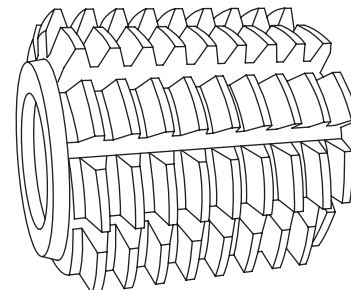


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
8	20°	2	2	3/4	.270	1	HFS20-800	HFSL20-800
8	20°	1-7/8	1-7/8	3/4	.281	1	HD20-800S	-
10	20°	1-7/8	1-7/8	3/4	.216	1	HFS20-010	HFSL20-010
10	20°	1-7/8	1-7/8	3/4	.225	1	HD20-010S	-
11	20°	1-7/8	1-7/8	3/4	.196	1	HFS20-011	-
12	20°	1-7/8	1-7/8	3/4	.180	1	HFS20-012	HFSL20-012
12	20°	2	2	3/4	.188	1	HD20-012S	-
13	20°	1-7/8	1-7/8	3/4	.166	1	HFS20-013	-
14	20°	1-7/8	1-7/8	3/4	.161	1	HFS20-014	HFSL20-014
14	20°	1-7/8	1-7/8	3/4	.161	1	HD20-014S	-
15	20°	1-7/8	1-7/8	3/4	.144	1	HFS20-015	-
16	20°	1-7/8	1-7/8	3/4	.141	1	HFS20-016	-
16	20°	1-7/8	1-7/8	3/4	.135	1	-	HFSL20-016
16	20°	1-7/8	1-7/8	3/4	.141	1	HD20-016S	-
17	20°	1-7/8	1-7/8	3/4	.127	1	HFS20-017	-
18	20°	1-7/8	1-7/8	3/4	.120	1	HFS20-018	HFSL20-018
20	20°	1-7/8	1-7/8	3/4	.112	1	HFS20-020	HFSL20-020
20	20°	1-7/8	1-7/8	3/4	.112	1	HD20-020S	-
22	20°	1-7/8	1-7/8	3/4	.102	1	HFS20-022	-
23	20°	1-7/8	1-7/8	3/4	.098	1	HFS20-023	-
24	20°	1-7/8	1-7/8	3/4	.094	1	HFS20-024	-
24	20°	1-7/8	1-7/8	3/4	.094	2	HFS20-024-2	-
24	20°	1-7/8	1-7/8	3/4	.094	3	HFS20-024-3	-
26	20°	1-7/8	1-7/8	3/4	.087	1	HFS20-026	-
28	20°	1-7/8	1-7/8	3/4	.081	1	HFS20-028	-
30	20°	1-7/8	1-7/8	3/4	.075	1	HFS20-030	-
32	20°	1-7/8	1-7/8	3/4	.071	1	HFS20-032	HFSL20-032
32	20°	1-7/8	1-7/8	3/4	.071	2	HFS20-032-2	-
32	20°	1-7/8	1-7/8	3/4	.071	3	HFS20-032-3	-
32	20°	1-7/8	1-1/2	#1-Taper	.071	1	HFS1-20-032	-
33	20°	1-7/8	1-7/8	3/4	.069	1	HFS20-033	-
34	20°	1-7/8	1-7/8	3/4	.067	1	HFS20-034	-
34	20°	1-7/8	1-1/2	#1-Taper	.067	1	HFS1-20-034	-
36	20°	1-7/8	1-1/2	#1-Taper	.063	1	HFS1-20-036	-
38	20°	1-7/8	1-7/8	3/4	.060	1	HFS20-038	-
40	20°	1-7/8	1-7/8	3/4	.057	1	HFS20-040	HFSL20-040
40	20°	1-7/8	1-1/2	#1-Taper	.057	1	HFS1-20-040	-
42	20°	1-7/8	1-7/8	3/4	.054	1	HFS20-042	-
42	20°	1-7/8	1-1/2	#1-Taper	.054	1	HFS1-20-042	-
44	20°	1-7/8	1-1/2	3/4	.052	1	HFS20-044	-

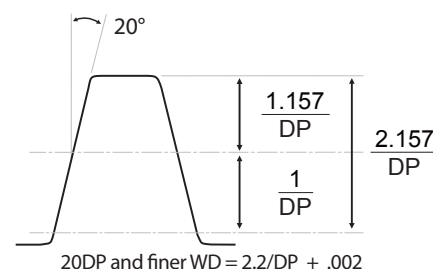
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HFS20, HFSL20, HD20, & HFS1-20 Series

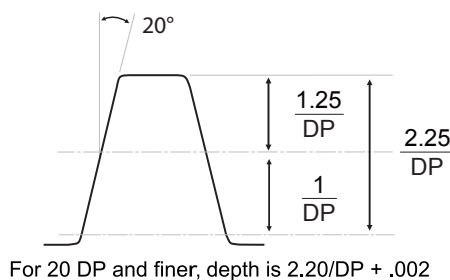
DP 20° PA GEAR HOBS
3/4 Bore & #1-Taper Bore
Finishing, Non-Topping



HFS20, HFSL20, & HFS1-20 Rack Profile



HD20 Rack Profile

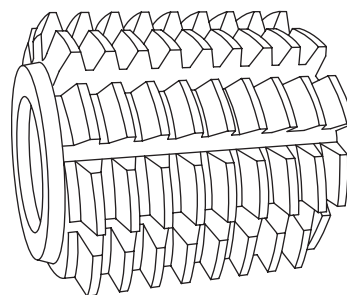




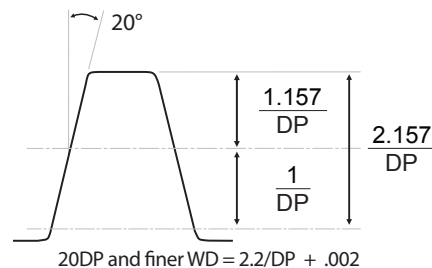
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
46	20°	1-7/8	1-1/2	3/4	.050	1	HFS20-046	-
48	20°	1-7/8	1-1/2	3/4	.048	1	HFS20-048	HFSL20-048
48	20°	1-7/8	1-7/8	3/4	.048	2	HFS20-048-2	-
48	20°	1-7/8	1-7/8	3/4	.048	3	HFS20-048-3	-
48	20°	1-7/8	1-1/2	#1-Taper	.048	1	HFS1-20-048	-
50	20°	1-7/8	1-1/2	3/4	.046	1	HFS20-050	-
50	20°	1-7/8	1-1/2	#1-Taper	.046	1	HFS1-20-050	-
52	20°	1-7/8	1-1/2	3/4	.044	1	HFS20-052	-
52	20°	1-7/8	1-1/2	#1-Taper	.044	1	HFS1-20-052	-
54	20°	1-7/8	1-1/2	3/4	.043	1	HFS20-054	-
56	20°	1-7/8	1-1/2	3/4	.041	1	HFS20-056	-
57	20°	1-7/8	1-1/2	3/4	.039	1	HFS20-057	-
60	20°	1-7/8	1-1/2	3/4	.039	1	HFS20-060	-
60	20°	1-7/8	1-1/2	#1-Taper	.039	1	HFS1-20-060	-
64	20°	1-5/8	1-1/2	3/4	.036	1	HFS20-064	-
64	20°	1-7/8	1-7/8	3/4	.036	3	HFS20-064-3	-
66	20°	1-7/8	1-1/2	3/4	.035	1	HFS20-066	-
66	20°	1-5/8	1-1/2	#1-Taper	.035	1	HFS1-20-066	-
72	20°	1-7/8	1-1/2	3/4	.033	1	HFS20-072	-
72	20°	1-5/8	1-1/2	3/4	.033	2	HFS20-072-2	-
72	20°	1-5/8	1-1/2	3/4	.033	3	HFS20-072-3	-
72	20°	1-5/8	1-1/2	#1-Taper	.033	1	HFS1-20-072	-
80	20°	1-5/8	1-1/2	3/4	.030	1	HFS20-080	-
80	20°	1-5/8	1-1/2	#1-Taper	.030	1	HFS1-20-080	-
82	20°	1-5/8	1-1/2	3/4	.029	1	HFS20-082	-
84	20°	1-5/8	1-1/2	3/4	.028	1	HFS20-084	-
96	20°	1-5/8	1-1/2	3/4	.025	1	HFS20-096	-
96	20°	1-1/2	1	#1-Taper	.025	1	HFS1-20-096	-
100	20°	1-1/2	1	3/4	.024	1	HFS20-100	-
100	20°	1-1/2	1	#1-Taper	.024	1	HFS1-20-100	-
120	20°	1-1/2	3/4	3/4	.020	1	HFS20-120	-
120	20°	1-1/2	1	#1-Taper	.020	1	HFS1-20-120	-
126	20°	1-1/2	3/4	3/4	.019	1	HFS20-126	-
127	20°	1-1/2	3/4	3/4	.019	1	HFS20-127	-
132	20°	1-1/2	3/4	3/4	.019	1	HFS20-132	-
132	20°	1-1/2	1	#1-Taper	.019	1	HFS1-20-132	-
160	20°	1-1/2	3/4	3/4	.016	1	HFS20-160	-
175	20°	1-1/2	3/4	3/4	.015	1	HFS20-175	-
175	20°	1-1/2	3/4	#1-Taper	.015	1	HFS1-20-175	-
180	20°	1-1/2	3/4	3/4	.014	1	HFS20-180	-

HFS20, HFSL20, HFS1-20 & HD20 Series

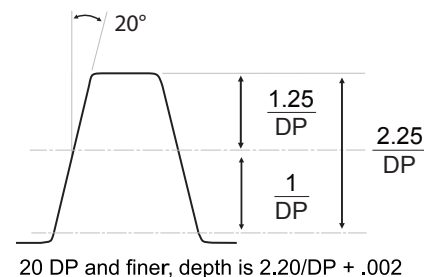
DP 20° PA GEAR HOBS
3/4 Bore & #1-Taper Bore
Finishing
Non-Topping



HFS20, HFSL20, & HFS1-20 Rack Profile



HD20 Rack Profile



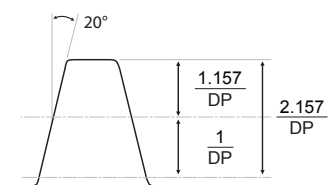


HFH20 & HTH20 Series

DP 20° PA GEAR HOBS
1/2 Bore

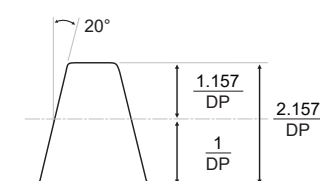
Finishing, Right Hand
For Left Hand Inquire about HTHL20 Series

HFH20 Rack Profile



$$20DP \text{ and finer } WD = 2.2/DP + .002$$

HTH20 Rack Profile



$$20DP \text{ and finer } WD = 2.2/DP + .002$$

DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
16	20°	1-1/4	1-1/4	1/2	.135	1	HFH20-016	HTH20-016
18	20°	1-1/4	1-1/4	1/2	.125	1	HFH20-018	-
20	20°	1-1/4	1-1/4	1/2	.112	1	HFH20-020	HTH20-020
22	20°	1-1/8	1-1/8	1/2	.102	1	HFH20-022	HTH20-022
24	20°	1-1/4	1-1/4	1/2	.094	1	HFH20-024	HTH20-024
26	20°	1-1/4	1-1/4	1/2	.087	1	HFH20-026	HTH20-026
28	20°	1-1/8	1-1/8	1/2	.081	1	HFH20-028	HTH20-028
30	20°	1-1/8	1-1/8	1/2	.075	1	HFH20-030	HTH20-030
32	20°	1-1/8	1-1/8	1/2	.071	1	HFH20-032	HTH20-032
34	20°	1-1/8	1-1/8	1/2	.067	1	HFH20-034	HTH20-034
36	20°	1-1/8	1-1/8	1/2	.063	1	HFH20-036	HTH20-036
38	20°	1-1/8	1-1/8	1/2	.060	1	-	HTH20-038
40	20°	1-1/8	1-1/8	1/2	.057	1	HFH20-040	HTH20-040
41	20°	1-1/8	1-1/8	1/2	.056	1	HFH20-041	-
42	20°	1-1/8	1-1/8	1/2	.054	1	HFH20-042	HTH20-042
44	20°	1-1/8	1-1/8	1/2	.052	1	HFH20-044	HTH20-044
46	20°	1-1/8	1-1/8	1/2	.050	1	HFH20-046	HTH20-046
48	20°	1-1/8	1-1/8	1/2	.048	1	HFH20-048	HTH20-048
50	20°	1-1/8	1-1/8	1/2	.046	1	HFH20-050	HTH20-050
54	20°	1-1/8	1-1/8	1/2	.043	1	HFH20-054	HTH20-054
56	20°	1-1/8	1-1/8	1/2	.041	1	HFH20-056	HTH20-056
57	20°	1-1/8	1-1/8	1/2	.041	1	HFH20-057	-
58	20°	1-1/8	1-1/8	1/2	.040	1	HFH20-058	HTH20-058
64	20°	1-1/8	1-1/8	1/2	.036	1	HFH20-064	HTH20-064
72	20°	1-1/8	1-1/8	1/2	.033	1	HFH20-072	HTH20-072
77	20°	1-1/8	1-1/8	1/2	.031	1	HFH20-077	-
80	20°	1-1/8	1-1/8	1/2	.030	1	HFH20-080	HTH20-080
84	20°	1-1/8	1-1/8	1/2	.028	1	HFH20-084	-
88	20°	1-1/8	1-1/8	1/2	.027	1	HFH20-088	-
92	20°	1-1/8	1-1/8	1/2	.026	1	HFH20-092	-
96	20°	1-1/8	1-1/8	1/2	.025	1	HFH20-096	HTH20-096
100	20°	1-1-8	1-1/8	1/2	.024	1	HFH20-100	HTH20-100
120	20°	1-1/8	1-1/8	1/2	.020	1	HFH20-120	HTH20-120
127	20°	1-1/8	1-1/8	1/2	.019	1	HFH20-127	-
160	20°	1-1/8	1-1/8	1/2	.016	1	HFH20-160	HTH20-160
180	20°	1-1/8	1-7/8	1/2	.014	1	HFH20-180	-



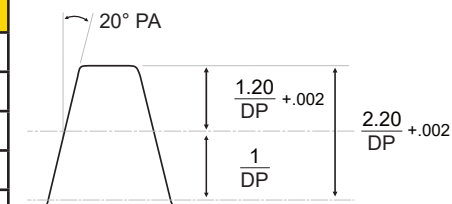
HM820 & HMT820 Series

DP 20° PA GEAR HOBS
8MM Bore, Finishing
Right Hand

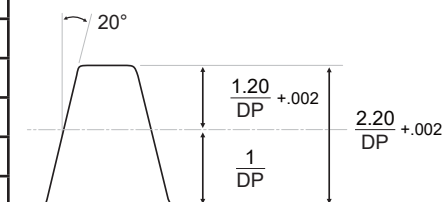
HOB

DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AAA,AA,A,B,C	
							Non-Topping	Topping
20	20°	1	3/4	8	.112	1	HM820-20-10	HMT820-20-10
22	20°	1	3/4	8	.102	1	HM820-22-10	-
24	20°	1	3/4	8	.094	1	HM820-24-10	HMT820-24-10
24	20°	3/4	3/4	8	.094	1	HM820-24-75	HMT820-24-75
26	20°	1	3/4	8	.087	1	-	HMT820-26-10
26	20°	3/4	3/4	8	.087	1	HM820-26-75	-
28	20°	1	3/4	8	.081	1	HM820-28-10	HMT820-28-10
28	20°	3/4	3/4	8	.081	1	HM820-28-75	HMT820-28-75
30	20°	1	3/4	8	.075	1	HM820-30-10	HMT820-30-10
30	20°	3/4	3/4	8	.075	1	HM820-30-75	HMT820-30-75
32	20°	1	3/4	8	.071	1	HM820-32-10	HMT820-32-10
32	20°	5/8	11/16	8	.071	1	HM820-32-62	HMT820-32-62
32	20°	3/4	3/4	8	.071	1	HM820-32-75	HMT820-32-75
34	20°	1	5/8	8	.067	1	HM820-34-10	HMT820-34-10
34	20°	5/8	3/4	8	.067	1	-	HMT820-34-62
34	20°	3/4	3/4	8	.067	1	-	HMT820-34-75
34	20°	15/16	5/8	8	.067	1	HM820-34-93	HMT820-34-93
36	20°	1	3/4	8	.063	1	HM820-36-10	HMT820-36-10
36	20°	5/8	15/32	8	.063	1	-	HMT820-36-62
36	20°	3/4	3/4	8	.063	1	HM820-36-75	HMT820-36-75
36	20°	15/16	1/2	8	.063	1	-	HMT820-36-93
38	20°	3/4	3/4	8	.060	1	-	HMT820-38-75
40	20°	1	3/4	8	.057	1	HM820-40-10	HMT820-40-10
40	20°	3/4	3/4	8	.057	1	HM820-40-75	HMT820-40-75
42	20°	1	3/4	8	.054	1	HM820-42-10	HMT820-42-10
42	20°	3/4	3/4	8	.054	1	HM820-42-75	HMT820-42-75
46	20°	1	11/16	8	.050	1	HM820-46-10	HMT820-46-10
48	20°	1	11/16	8	.048	1	HM820-48-10	HMT820-48-10
48	20°	5/8	11/16	8	.048	1	HM820-48-62	HMT820-48-62
48	20°	3/4	11/16	8	.048	1	HM820-48-75	HMT820-48-75
50	20°	1	11/16	8	.046	1	HM820-50-10	HMT820-50-10
52	20°	1	11/16	8	.044	1	HM820-52-10	HMT820-52-10
52	20°	5/8	43/64	8	.044	1	HM820-52-62	HMT820-52-62
54	20°	15/16	19/32	8	.043	1	HM820-54-93	HMT820-54-93
56	20°	1	43/64	8	.041	1	-	HMT820-56-10
56	20°	3/4	43/64	8	.041	1	HM820-56-75	HMT820-56-75
56	20°	7/8	17/32	8	.041	1	-	HMT820-56-87
58	20°	15/16	19/32	8	.040	1	HM820-58-93	-
60	20°	1	11/16	8	.039	1	-	HMT820-60-10
60	20°	5/8	11/16	8	.039	1	HM820-60-62	HMT820-60-62

HM820 Rack Profile



HMT820 Rack Profile



SERIES CONTINUED ON NEXT PAGE ->

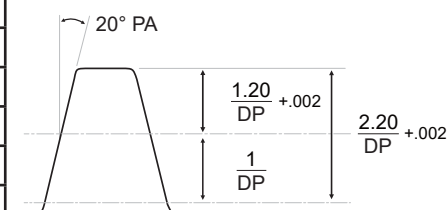


HM820 & HMT820 Series

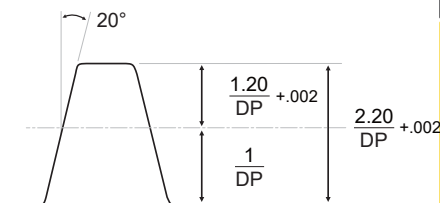
DP 20° PA GEAR HOBS
8MM Bore, Finishing
Right Hand

DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AAA,AA,A,B,C	
							Non-Topping	Topping
64	20°	1	43/64	8	.036	1	HM820-64-10	HMT820-64-10
64	20°	1/2	43/64	8	.036	1	HM820-64-50	HMT820-64-50
64	20°	5/8	43/64	8	.036	1	HM820-64-62	HMT820-64-62
64	20°	3/4	43/64	8	.036	1	HM820-64-75	HMT820-64-75
66	20°	1	43/64	8	.035	1	-	HMT820-66-10
70	20°	1	43/64	8	.033	1	-	HMT820-70-10
72	20°	1	43/64	8	.033	1	HM820-72-10	HMT820-72-10
72	20°	1/2	43/64	8	.033	1	HM820-72-50	-
72	20°	5/8	43/64	8	.033	1	HM820-72-62	HMT820-72-62
72	20°	3/4	43/64	8	.033	1	HM820-72-75	HMT820-72-75
78	20°	1	11/16	8	.030	1	HM820-78-10	HMT820-78-10
80	20°	1	43/64	8	.030	1	HM820-80-10	HMT820-80-10
80	20°	1/2	43/64	8	.030	1	-	HMT820-80-50
80	20°	5/8	43/64	8	.030	1	HM820-80-62	HMT820-80-62
80	20°	3/4	1/2	8	.030	1	HM820-80-75	-
80	20°	15/16	29/64	8	.030	1	HM820-80-93	HMT820-80-93
85	20°	15/16	25/64	8	.028	1	HM820-85-93	HMT820-85-93
92	20°	5/8	4/10	8	.026	1	HM820-92-62	-
96	20°	1	43/64	8	.025	1	HM820-96-10	HMT820-96-10
96	20°	1/2	43/64	8	.025	1	HM820-96-50	HMT820-96-50
96	20°	5/8	43/64	8	.025	1	HM820-96-62	HMT820-96-62
96	20°	3/4	43/64	8	.025	1	HM820-96-75	HMT820-96-75
100	20°	1	6/10	8	.024	1	HM820-100-10	-
100	20°	5/8	25/64	8	.024	1	-	HMT820-100-62
120	20°	1	43/64	8	.020	1	-	HMT820-120-10
120	20°	1/2	43/64	8	.020	1	HM820-120-50	HMT820-120-50
120	20°	5/8	43/64	8	.020	1	HM820-120-62	HMT820-120-62
120	20°	3/4	43/64	8	.020	1	HM820-120-75	HMT820-120-75
120	20°	15/16	25/64	8	.020	1	HM820-120-93	HMT820-120-93
126	20°	15/16	25/64	8	.019	1	-	HMT820-126-93
127	20°	1	3/4	8	.019	1	HM820-127-10	-
127	20°	3/4	43/64	8	.019	1	-	HMT820-127-75
132	20°	5/8	5/8	8	.019	1	HM820-132-62	-
132	20°	3/4	43/64	8	.019	1	-	HMT820-132-75
132	20°	15/16	5/16	8	.019	1	HM820-132-93	-
150	20°	5/8	43/64	8	.017	1	HM820-150-62	HMT820-150-62
150	20°	3/4	43/64	8	.017	1	-	HMT820-150-75
157	20°	15/16	5/16	8	.016	1	HM820-157-93	-
175	20°	5/8	9/32	8	.015	1	HM820-175-62	HMT820-175-62
180	20°	5/8	25/64	8	.014	1	HM820-180-62	HMT820-180-62
200	20°	15/16	5/16	8	.013	1	HM820-200-93	HMT820-200-93

HM820 Rack Profile



HMT820 Rack Profile



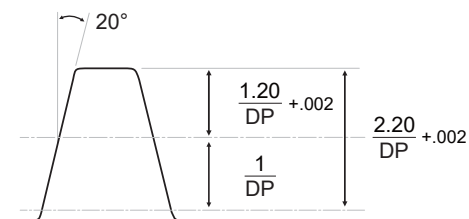
HOB



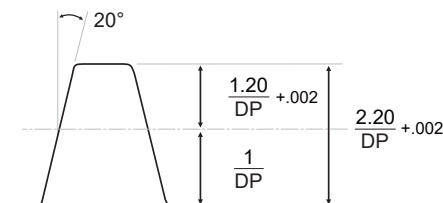
HM120 & HMT120 Series

DP 20° PA GEAR HOBS
Finishing, Right Hand

HM120 Rack Profile



HMT120 Rack Profile



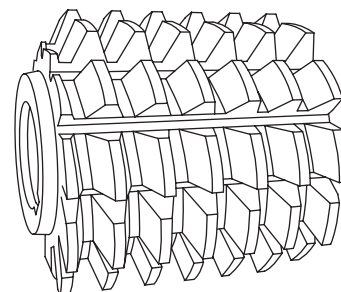
DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AAA,AA,A,B	
							Non-Topping	Topping
20	20°	1-1/4	1-1/4	10	.112	1	HM120-20-12	-
24	20°	1-1/4	1	10	.094	1	-	HMT120-24-12
28	20°	1-1/4	1	10	.081	1	HM120-28-12	HMT120-28-12
32	20°	1-1/4	1-1/4	10	.071	1	HM120-32-12	HMT120-32-12
34	20°	1-1/4	1	10	.067	1	HM120-34-12	HMT120-34-12
36	20°	1-1/4	1-1/8	10	.063	1	HM120-36-12	HMT120-36-12
40	20°	1-1/4	1-1/8	10	.057	1	-	HMT120-40-12
46	20°	1-1/4	1-1/8	10	.050	1	-	HMT120-46-12
48	20°	1-1/4	3/4	10	.048	1	HM120-48-12	HMT120-48-12
50	20°	1-1/4	1	10	.046	1	HM120-50-12	HMT120-50-12
54	20°	1-1/4	4/5	10	.043	1	-	HMT120-54-12
56	20°	1-1/4	4/5	10	.041	1	-	HMT120-56-12
60	20°	1-1/4	4/5	10	.039	1	-	HMT120-60-12
64	20°	1-1/4	3/4	10	.036	1	-	HMT120-64-12
72	20°	1-1/4	3/4	10	.033	1	HM120-72-12	HMT120-72-12
72	20°	1/2	3/4	10	.033	1	HM120-72-50	-
80	20°	1-1/4	3/4	10	.030	1	HM120-80-12	HMT120-80-12
96	20°	1-1/4	3/4	10	.025	1	HM120-96-12	HMT120-96-12
100	20°	1-1/4	3/5	10	.024	1	HM120-100-12	HMT120-100-12
120	20°	1-1/4	3/4	10	.020	1	HM120-120-12	HMT120-120-12
175	20°	1-1/4	5/16	10	.015	1	-	HMT120-175-12
200	20°	1-1/4	5/16	10	.013	1	HM120-200-12	HMT120-200-12



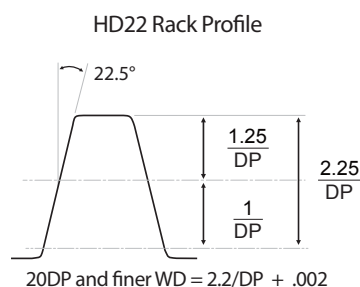
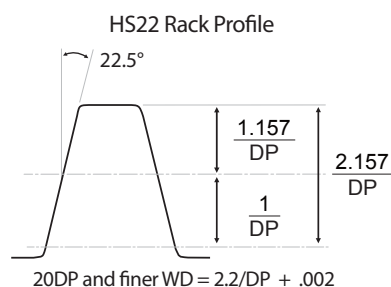
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1	22.5°	10-3/4	15	2-1/2	2.250	1	HD22-100
1-1/4	22.5°	8-3/4	12	2	1.726	1	HS22-125
1-1/2	22.5°	7-1/2	7-1/2	1-1/2	1.438	1	HS22-150
1-3/4	22.5°	7-1/4	9	2	1.233	1	HS22-175
2	22.5°	5-1/4	6	1-1/4	1.079	1	HS22-200
2-1/4	22.5°	5-1/2	7-1/2	1-1/2	.959	1	HS22-225
2-1/4	22.5°	5-1/2	7-1/2	1-1/2	1.000	1	HD22-225
2-1/2	22.5°	4-3/4	5	1-1/4	.863	1	HS22-250
3	22.5°	4-1/2	5	1-1/4	.719	1	HS22-300
4	22.5°	4	4	1-1/4	.539	1	HS22-400
5	22.5°	3-1/2	3-1/2	1-1/4	.431	1	HS22-500
6	22.5°	3-1/2	3-1/2	1-1/4	.360	1	HS22-600
6	22.5°	3-1/2	3-1/2	1-1/4	.380	1	HD22-600E
7	22.5°	3-1/4	3-1/4	1-1/4	.308	1	HS22-700
8	22.5°	3	3	1-1/4	.270	1	HS22-800
10	22.5°	3	3	1-1/4	.216	1	HS22-010
10	22.5°	3	3	1-1/4	.225	1	HD22-010
11	22.5°	2-3/4	2-3/4	1-1/4	.196	1	HS22-011
12	22.5°	2-3/4	2-3/4	1-1/4	.180	1	HS22-012
12	22.5°	2-3/4	2-3/4	1-1/4	.188	1	HD22-012
13	22.5°	2-1/2	2-1/2	1-1/4	.166	1	HS22-013
14	22.5°	2-1/2	2-1/2	1-1/4	.154	1	HS22-014
16	22.5°	2-1/2	2-1/2	1-1/4	.135	1	HS22-016
16	22.5°	2-1/2	2-1/2	1-1/4	.141	1	HD22-016
18	22.5°	2-1/2	2	1-1/4	.120	1	HS22-018
20	22.5°	1-7/8	1-7/8	3/4	.108	1	HS22-020S
22	22.5°	1-7/8	1-7/8	3/4	.102	1	HS22-022S
24	22.5°	1-1/4	1-1/4	1/2	.090	1	HS22-024HE

HS22 & HD22 Series

DP 22.5° PA GEAR HOBS
Finishing, Non-Topping
Right Hand



HOB



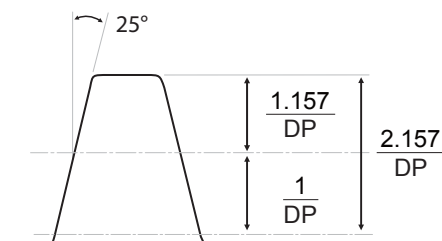


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
3/4	25°	12	15	2-1/2	2.876	1	HS25-075	-
1	25°	10-3/4	15	2-1/2	2.250	1	HD25-100	HLD25-100
1	25°	10-1/4	12-1/2	2	2.250	1	CHD25-100	-
1-1/4	25°	8-3/4	12	2	1.726	1	HS25-125	-
1-1/4	25°	9	12	2	1.800	1	HD25-125	HLD25-125
1-1/4	25°	8-1/4	10-3/4	1-1/2	1.800	1	CHD25-125	-
1-1/2	25°	8	10	2	1.438	1	HS25-150	-
1-1/2	25°	8-1/4	10	2	1.500	1	HD25-150	HLD25-150
1-1/2	25°	7-1/2	7-3/4	1-1/2	1.438	1	CHS25-150	-
1-1/2	25°	7-3/4	8	1-1/2	1.500	1	CHD25-150	-
1-3/4	25°	7-1/4	9	2	1.233	1	HS25-175	-
1-3/4	25°	7-1/4	9	2	1.286	1	HD25-175	HLD25-175
1-3/4	25°	6-3/4	8	1-1/2	1.286	1	CHD25-175	-
2	25°	5-3/4	8	1-1/2	1.079	1	HS25-200	HLS25-200
2	25°	6	8	1-1/2	1.125	1	HD25-200	HLD25-200
2	25°	5-1/4	6	1-1/4	1.079	1	CHS25-200	-
2	25°	5-1/2	6	1-1/4	1.125	1	CHD25-200	-
2-1/4	25°	5-1/2	7-1/2	1-1/2	.959	1	HS25-225	-
2-1/4	25°	6	8	1-1/2	1.000	1	HD25-225	HLD25-225
2-1/4	25°	5-1/4	6	1-1/4	1.000	1	CHD25-225	-
2-1/2	25°	5	7	1-1/2	.863	1	HS25-250	HLS25-250
2-1/2	25°	5-1/4	7	1-1/2	.900	1	HD25-250	HLD25-250
2-1/2	25°	4-3/4	5	1-1/4	.863	1	CHS25-250	-
2-1/2	25°	4-3/4	5	1-1/4	.900	1	CHD25-250	-
2-3/4	25°	5	6	1-1/2	.784	1	HS25-275	-
2-3/4	25°	5-1/4	6	1-1/2	.818	1	HD25-275	HLD25-275
2-3/4	25°	4-3/4	5	1-1/4	.818	1	CHD25-275	-
3	25°	4-1/2	5	1-1/4	.719	1	HS25-300	HLS25-300
3	25°	4-1/2	5	1-1/4	.750	1	HD25-300	HLD25-300
3-1/2	25°	4	4	1-1/4	.616	1	HS25-350	HLS25-350
3-1/2	25°	4-1/4	4-3/4	1-1/4	.643	1	HD25-350	HLD25-350
4	25°	4	4	1-1/4	.539	1	HS25-400	HLS25-400
4	25°	4	4	1-1/4	.563	1	HD25-400	HLD25-400
4-1/2	25°	3-1/2	3-1/2	1-1/4	.479	1	HS25-450	HLS25-450
4-1/2	25°	3-1/2	3-1/2	1-1/4	.500	1	HD25-450	-
5	25°	3-1/2	3-1/2	1-1/4	.431	1	HS25-500	HLS25-500
5	25°	3-1/2	3-1/2	1-1/4	.450	1	HD25-500	HLD25-500
5-1/2	25°	3-1/2	3-1/2	1-1/4	.409	1	HD25-550	-
6	25°	3-1/2	3-1/2	1-1/4	.360	1	HS25-600	-
6	25°	3-1/2	3-1/2	1-1/4	.375	1	HD25-600	HLD25-600
6-1/2	25°	3-1/4	3-1/4	1-1/4	.346	1	HD25-650	HLD25-650
7	25°	3-1/4	3-1/4	1-1/4	.308	1	HS25-700	-
7	25°	3-1/4	3-1/4	1-1/4	.321	1	HD25-700	HLD25-700
8	25°	3	3	1-1/4	.270	1	HS25-800	HLS25-800
8	25°	3	3	1-1/4	.281	1	HD25-800	HLD25-800
9	25°	3	3	1-1/4	.240	1	HS25-900	-
9	25°	3	3	1-1/4	.250	1	HD25-900	HLD25-900
10	25°	3	3	1-1/4	.216	1	HS25-010	HLS25-010
10	25°	3	3	1-1/4	.225	1	HD25-010	HLD25-010
11	25°	2-3/4	2-3/4	1-1/4	.205	1	HD25-011	HLD25-011
12	25°	2-3/4	2-3/4	1-1/4	.180	1	HS25-012	HLS25-012
12	25°	2-3/4	2-3/4	1-1/4	.188	1	HD25-012	HLD25-012
14	25°	2-1/2	2-1/2	1-1/4	.154	1	HS25-014	-
14	25°	2-1/2	2-1/2	1-1/4	.161	1	HD25-014	HLD25-014
16	25°	2-1/2	2-1/2	1-1/4	.135	1	HS25-016	HLS25-016
16	25°	2-1/2	2-1/2	1-1/4	.141	1	HD25-016	HLD25-016

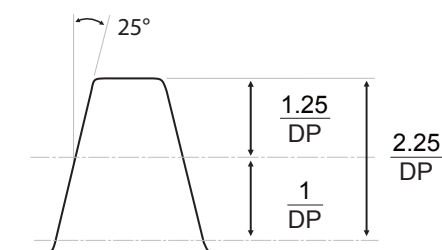
SERIES CONTINUED ON NEXT PAGE ->

HS25, CHS25, HD25,CHD25, HLS25 & HLD25 Series DP 25° PA GEAR HOBS Finishing, Non-Topping

HS25, CHS25, & HLS25 Rack Profile


 For 20DP and finer,
 WD = 2.20/DP + .002

HD25, CHD25, & HLD25 Rack Profile


 For 20DP and finer,
 WD = 2.20/DP + .002

 For smaller Hobs see series HFS25,
 HFH25, HM825

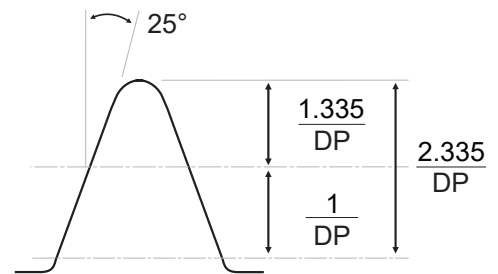


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
17	25°	2-1/2	2	1-1/4	.132	1	HD25-017	-
18	25°	2-1/2	2	1-1/4	.120	1	HS25-018	-
18	25°	2-1/2	2	1-1/4	.125	1	HD25-018	HLD25-018
20	25°	2-1/2	2	1-1/4	.112	1	HS25-020	-
22	25°	2-1/2	2	1-1/4	.102	1	HS25-022	-
24	25°	2-1/2	2-1/2	1-1/4	.094	1	HS25-024	-

HS25, CHS25, HD25,CHD25, HLS25 & HLD25 Series

DP 25° PA GEAR HOBS
Finishing, Non-Topping

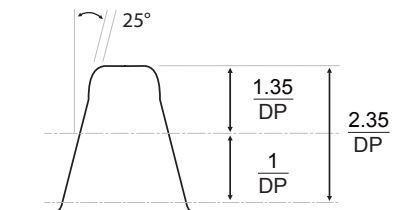
DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1	25°	10-1/4	12-1/2	2	2.335	1	HR25-100	-
1-1/4	25°	8-7/8	11	2	1.868	1	HR25-125	-
1-1/2	25°	8-1/4	10	2	1.557	1	HR25-150	-
1-3/4	25°	6-3/4	8	1-1/2	1.334	1	HR25-175	-
2	25°	5-1/2	6	1-1/4	1.168	1	CHR25-200	-
2	25°	6	7	1-1/2	1.168	1	HR25-200	-
2-1/4	25°	6	7	1-1/2	1.038	1	HR25-225	-
2-1/2	25°	5-1/4	7	1-1/2	.934	1	HR25-250	-
2-3/4	25°	5	6	1-1/2	.849	1	HR25-275	-
3	25°	4-1/2	5	1-1/4	.778	1	HR25-300	HLR25-300
3-1/2	25°	4-1/4	4-1/4	1-1/4	.667	1	HR25-350	-
4	25°	4	4	1-1/4	.584	1	HR25-400	HLR25-400
4-1/2	25°	3-1/2	3-1/2	1-1/4	.519	1	HR25-450	-
5	25°	3-1/2	3-1/2	1-1/4	.467	1	HR25-500	HLR25-500
6	25°	3-1/2	3-1/2	1-1/4	.389	1	HR25-600	HLR25-600
7	25°	3-1/4	3-1/4	1-1/4	.334	1	HR25-700	-
8	25°	3	3	1-1/4	.292	1	HR25-800	HLR25-800
9	25°	3	3	1-1/4	.259	1	HR25-900	-
10	25°	1-7/8	1-7/8	3/4	.234	1	HR25-010S	-
10	25°	3	3	1-1/4	.234	1	HR25-010	HLR25-010
11	25°	2-3/4	2-3/4	1-1/4	.212	1	HR25-011	-
12	25°	1-7/8	1-7/8	3/4	.195	1	HR25-012S	-
12	25°	2-3/4	2-3/4	1-1/4	.195	1	HR25-012	HLR25-012
14	25°	2-1/2	2-1/2	1-1/4	.167	1	HR25-014	-
16	25°	1-7/8	1-7/8	3/4	.146	1	HR25-016S	-
16	25°	2-1/2	2-1/2	1-1/4	.146	1	HR25-016	HLR25-016
20	25°	1-7/8	1-7/8	3/4	.117	1	HR25-020S	-
24	25°	1-7/8	1-7/8	3/4	.097	1	HR25-024S	-
32	25°	1-7/8	1-1/2	3/4	.073	1	HR25-032S	-



DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
3	25°	4-1/2	5	1-1/4	.783	.004	.003	1	HP25-300	-
4	25°	4	4	1-1/4	.588	.004	.003	1	HP25-400	HPL25-400
5	25°	3-1/2	3-1/2	1-1/4	.470	.004	.002	1	HP25-500	-
6	25°	3-1/2	3-1/2	1-1/4	.392	.004	.002	1	HP25-600	HPL25-600
7	25°	3-1/4	3-1/4	1-1/4	.336	.003	.002	1	HP25-700	-
8	25°	3	3	1-1/4	.294	.003	.002	1	HP25-800	-
10	25°	3	3	1-1/4	.235	.003	.002	1	HP25-010	-
12	25°	2-3/4	2-3/4	1-1/4	.196	.003	.002	1	HP25-012	-
14	25°	1-7/8	1-7/8	3/4	.168	.003	.001	1	HP25-014S	-
16	25°	2-1/2	2-1/2	1-1/4	.147	.003	.001	1	HP25-016	-
20	25°	1-7/8	1-7/8	3/4	.122	.002	.001	1	HP25-020S	-
32	25°	1-7/8	1-7/8	3/4	.077	.001	No	1	HP25-032S	-

HP25 & HPL25 Series

DP 25° PA GEAR HOBS
Pre-Shave
Non-Topping
with Protuberance



For 20DP and finer,
WD = 2.40/DP + .002

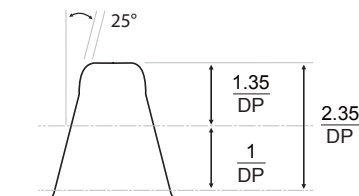


DP	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1-1/4	25°	8-3/4	11	2	1.880	.020	.012	1	HPG25-125	-
1-1/2	25°	8	10	2	1.567	.015	.011	1	HPG25-150	-
1-3/4	25°	7-1/4	8-3/4	2	1.343	.015	.010	1	HPG25-175	-
2	25°	6	8	1-1/2	1.175	.015	.010	1	HPG25-200	HPGL25-200
2-1/4	25°	6	7	1-1/2	1.044	.015	.010	1	HPG25-225	-
2-1/2	25°	5-1/4	7	1-1/2	.940	.015	.009	1	HPG25-250	HPGL25-250
2-3/4	25°	5	6	1-1/4	.855	.014	.008	1	HPG25-275	-
3	25°	4-1/2	5	1-1/4	.783	.012	.008	1	HPG25-300	HPGL25-300
3-1/2	25°	4-1/4	4-1/4	1-1/4	.671	.012	.008	1	HPG25-350	HPGL25-350
4	25°	4	4	1-1/4	.588	.011	.007	1	HPG25-400	HPGL25-400
4-1/2	25°	3-1/2	3-1/2	1-1/4	.522	.011	.007	1	HPG25-450	-
5	25°	3-1/2	3-1/2	1-1/4	.470	.011	.006	1	HPG25-500	HPGL25-500
6	25°	3-1/2	3-1/2	1-1/4	.392	.011	.006	1	HPG25-600	HPGL25-600
7	25°	3-1/4	3-1/4	1-1/4	.336	.011	.006	1	HPG25-700	-
8	25°	3	3	1-1/4	.294	.011	.006	1	HPG25-800	HPGL25-800
9	25°	3	3	1-1/4	.261	.011	.006	1	HPG25-900	-
10	25°	1-7/8	1-7/8	3/4	.235	.011	.006	1	HPG25-010S	-
10	25°	3	3	1-1/4	.235	.011	.006	1	HPG25-010	HPGL25-010
10	25°	3	3	1-1/4	.235	.011	No	1	HPGN25-010	-
11	25°	2-3/4	2-3/4	1-1/4	.214	.010	.005	1	HPG25-011	-
12	25°	1-7/8	1-7/8	3/4	.196	.010	.005	1	HPG25-012S	-
12	25°	2-3/4	2-3/4	1-1/4	.196	.010	.005	1	HPG25-012	-
14	25°	1-7/8	1-7/8	3/4	.168	.010	.005	1	HPG25-014S	-
14	25°	2-1/2	2-1/2	1-1/4	.168	.010	.005	1	HPG25-014	-
16	25°	1-7/8	1-7/8	3/4	.147	.010	.005	1	HPG25-016S	-
16	25°	2-1/2	2-1/2	1-1/4	.147	.010	.005	1	HPG25-016	-
16	25°	2-1/2	2-1/2	1-1/4	.147	.010	No	1	HPGN25-016	-
18	25°	2	2-1/2	1-1/4	.131	.008	.005	1	HPG25-018	-
20	25°	1-7/8	1-7/8	3/4	.122	.006	.004	1	HPG25-020S	-
20	25°	2-1/2	2	1-1/4	.122	.006	.004	1	HPG25-020	-
24	25°	1-7/8	1-7/8	3/4	.102	.005	.004	1	HPG25-024S	-
32	25°	1-7/8	1-7/8	3/4	.077	.005	.003	1	HPG25-032S	-
40	25°	1-7/8	1-1/2	3/4	.062	.004	.003	1	HPG25-040S	-

HPG25, HPGN25 & HPGL25 Series

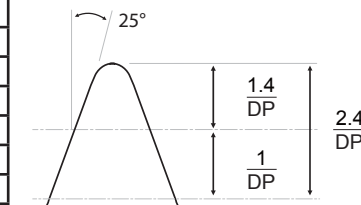
DP 25° PA GEAR HOBS
Pre-Grind
Non-Topping

HPG25 & HPGL25
Rack Profile (With Protuberance)



For 20DP and finer,
WD = 2.40/DP + .002

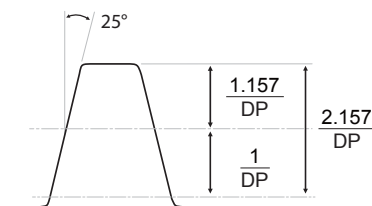
HPGN25 Rack Profile
(No Protuberance) Full Fillet



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA, A,B,C
8	25°	2	2	3/4	.281	1	HD25-800S
10	25°	1-7/8	1-7/8	3/4	.216	1	HFS25-010
10	25°	1-7/8	1-7/8	3/4	.225	1	HD25-010S
12	25°	1-7/8	1-7/8	3/4	.180	1	HFS25-012
12	25°	1-7/8	1-7/8	3/4	.188	1	HD25-012S
14	25°	1-7/8	1-7/8	3/4	.154	1	HFS25-014
14	25°	1-7/8	1-7/8	3/4	.161	1	HD25-014S
16	25°	1-7/8	1-7/8	3/4	.135	1	HFS25-016
16	25°	1-7/8	1-7/8	3/4	.141	1	HD25-016S
18	25°	1-7/8	1-7/8	3/4	.120	1	HFS25-018
20	25°	1-7/8	1-7/8	3/4	.112	1	HFS25-020
20	25°	1-7/8	1-7/8	3/4	.113	1	HD25-020S
22	25°	1-7/8	1-7/8	3/4	.102	1	HFS25-022
24	25°	1-7/8	1-7/8	3/4	.094	1	HFS25-024
28	25°	1-7/8	1-7/8	3/4	.081	1	HFS25-028
32	25°	1-7/8	1-7/8	3/4	.071	1	HFS25-032
34	25°	1-7/8	1-7/8	3/4	.067	1	HFS25-034
36	25°	1-7/8	1-1/2	3/4	.063	1	HFS25-036
40	25°	1-7/8	1-1/2	3/4	.057	1	HFS25-040
44	25°	1-7/8	1-1/2	3/4	.052	1	HFS25-044
48	25°	1-7/8	1-1/2	3/4	.048	1	HFS25-048
64	25°	1-7/8	1-1/2	3/4	.036	1	HFS25-064

HFS25 & HD25 Series

DP 25° PA GEAR HOBS
3/4 Bore, Finishing
Non-Topping, Right Hand



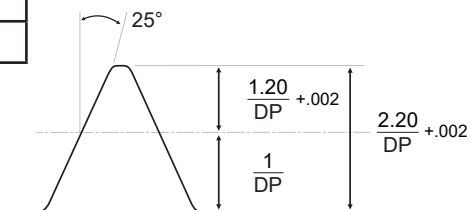
For 20DP and finer,
WD = 2.20/DP + .002



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C
20	25°	1-7/8	1-7/8	3/4	.112	1	HFT25-020
24	25°	1-7/8	1-7/8	3/4	.094	1	HFT25-024
120	25°	1-5/8	1-1/2	3/4	.020	1	HFT25-120

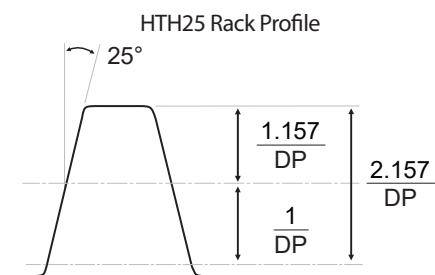
HFT25 Series

DP 25° PA GEAR HOBS
3/4 Bore, Finishing
Right Hand, Topping

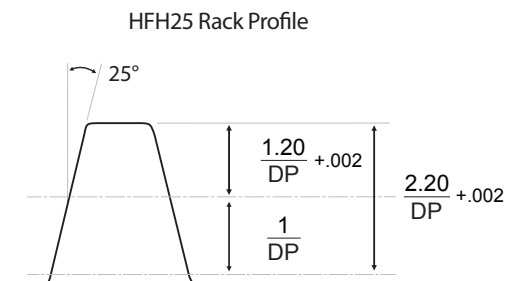


HFH25 & HTH25 Series

DP 25° PA GEAR HOBS
1/2 Bore, Finishing
Right Hand



For 20DP and finer,
WD = 2.20/DP + .002



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Non-Topping	Topping
16	25°	1-1/4	1-1/4	1/2	.135	1	HFH25-016	-
18	25°	1-1/4	1-1/4	1/2	.125	1	HFH25-018	-
20	25°	1-1/4	1-1/4	1/2	.112	1	HFH25-020	-
24	25°	1-1/4	1-1/4	1/2	.094	1	HFH25-024	HTH25-024
32	25°	1-1/8	1-1/8	1/2	.071	1	HFH25-032	-
40	25°	1-1/8	1-1/8	1/2	.057	1	HFH25-040	-
44	25°	1-1/8	1-1/8	1/2	.052	1	HFH25-044	-
48	25°	1-1/8	1-1/8	1/2	.048	1	HFH25-048	-
64	25°	1-1/8	1-1/8	1/2	.036	1	HFH25-064	-
96	25°	1-1/8	1-1/8	1/2	.025	1	HFH25-096	-

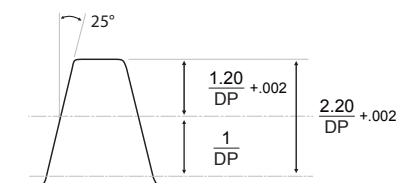


HM825 & HMT825 Series

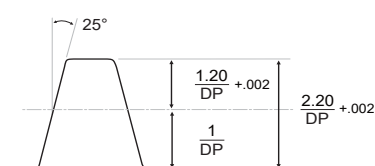
DP 25° PA GEAR HOBS
8mm Bore, Finishing
Right Hand

DP	PA	OD	Length	Bore (mm)	WD	# Threads	Specify Class AAA, AA,A,B,C	
							Non-Topping	Topping
16	25°	1	3/4	8	.135	1	HM825-16-10	-
20	25°	1	3/4	8	.112	1	HM825-20-10	-
24	25°	3/4	3/4	8	.094	1	HM825-24-75	-
24	25°	1	3/4	8	.094	1	HM825-24-10	-
30	25°	3/4	3/4	8	.075	1	HM825-30-75	-
32	25°	3/4	3/4	8	.071	1	HM825-32-75	-
36	25°	3/4	3/4	8	.063	1	HM825-36-75	-
40	25°	3/4	3/4	8	.057	1	HM825-40-75	-
48	25°	3/4	11/16	8	.048	1	HM825-48-75	HMT825-48-75
48	25°	1	11/16	8	.048	1	HM825-48-10	-
64	25°	5/8	11/16	8	.036	1	HM825-64-62	HMT825-64-62
64	25°	3/4	11/16	8	.036	1	HM825-64-75	-
64	25°	1	1/2	8	.036	1	HM825-64-93	-
64	25°	1	1	8	.036	1	HM825-64-10	-
72	25°	5/8	11/16	8	.033	1	HM825-72-62	-
80	25°	3/4	11/16	8	.030	1	HM825-80-75	HMT825-80-75

HM825
Rack Profile (Non-Topping)



HMT825
Rack Profile (Topping)

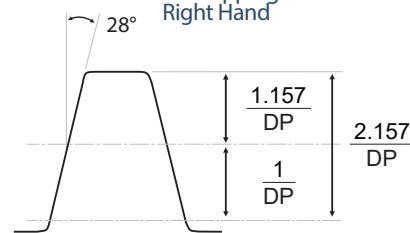


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C
4	28°	4	4	1-1/4	.539	1	HS28-400
5	28°	3-1/2	3-1/2	1-1/4	.431	1	HS28-500
6	28°	3-1/2	3-1/2	1-1/4	.360	1	HS28-600
7	28°	3-1/4	3-1/4	1-1/4	.308	1	HS28-700
8	28°	3	3	1-1/4	.270	1	HS28-800
16	28°	1-7/8	1-7/8	3/4	.140	1	HS28-016S

HS28 Series

DP 28° PA GEAR HOBS

Finishing
Non-Topping
Right Hand

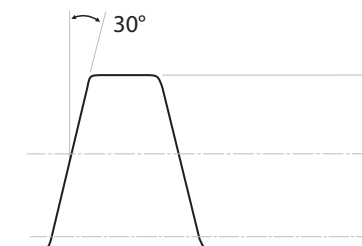
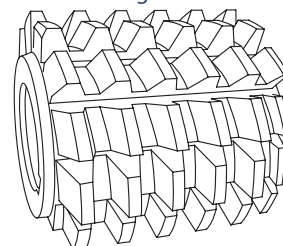


HA30 Series

DP 30° PA GEAR HOBS

Old American Standard

Finishing
Semi Topping
Right Hand



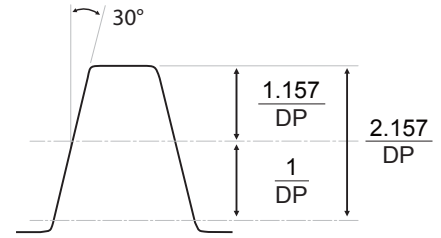
DP	PA	Splines	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
3.556	30°	6	3	3	1-1/4	.088	1	HA30-355X
3.556	30°	6	3	3	1-1/4	.189	1	HA30-355Y
4.064	30°	16	3	3	1-1/4	.206	1	HA30-406X
4.267	30°	16	3	3	1-1/4	.253	1	HA30-426Y
5.333	30°	16	3-1/2	3-1/2	1-1/4	.133	1	HA30-533Y
5.333	30°	10	2-3/4	2-3/4	1-1/4	.148	1	HA30-533Z
5.689	30°	16	2-3/4	2-3/4	1-1/4	.221	1	HA30-568Z
6.095	30°	24	3-1/2	3-1/2	1-1/4	.210	1	HA30-609
6.667	30°	10	3-1/4	3-1/4	1-1/4	.118	1	HA30-666X
8.000	30°	6	2-3/4	2-3/4	1-1/4	.039	1	HA30-800X
8.533	30°	24	3	3	1-1/4	.154	1	HA30-853Z
8.889	30°	10	2-1/4	2-1/4	1-1/4	.072	1	HA30-888
9.482	30°	16	3	3	1-1/4	.132	1	HA30-948Y
10.667	30°	16	2-3/4	2-3/4	1-1/4	.077	1	HA30-162Z
10.667	30°	16	2	2	3/4	.077	1	HA30-1162ZS
14.222	30°	16	3	3	1-1/4	.094	1	HA30-142Y



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2	30°	5-3/4	8	1-1/2	1.079	1	HS30-200
3	30°	4-1/2	4-1/2	1-1/4	.719	1	HS30-300
3.5	30°	4-1/4	4-1/4	1-1/4	.616	1	HS30-350
4	30°	4	4	1-1/4	.539	1	HS30-400
5	30°	3-1/2	3-1/2	1-1/4	.431	1	HS30-500
6	30°	3-1/2	3-1/2	1-1/4	.360	1	HS30-600
7	30°	3-1/4	3-1/4	1-1/4	.308	1	HS30-700
8	30°	3	3	1-1/4	.270	1	HS30-800
10	30°	3	3	1-1/4	.216	1	HS30-010
10	30°	1-7/8	1-7/8	3/4	.216	1	HS30-010S
11	30°	2-3/4	2-3/4	1-1/4	.196	1	HS30-011
12	30°	1-7/8	1-7/8	3/4	.180	1	HS30-012S
12	30°	2-3/4	2-3/4	1-1/4	.180	1	HS30-012
14	30°	1-7/8	1-7/8	3/4	.154	1	HS30-014S
14	30°	2-1/2	2-1/2	1-1/4	.154	1	HS30-014
16	30°	1-7/8	1-7/8	3/4	.135	1	HS30-016S
16	30°	2-1/2	2-1/2	1-1/4	.135	1	HS30-016
20	30°	1-7/8	1-7/8	3/4	.112	1	HS30-020S
24	30°	1-7/8	1-7/8	3/4	.094	1	HS30-024S
32	30°	1-7/8	1-7/8	3/4	.071	1	HS30-032S

HS30 Series

DP 30° PA GEAR HOBS
Full Depth, Finishing
Non-Topping
Right Hand

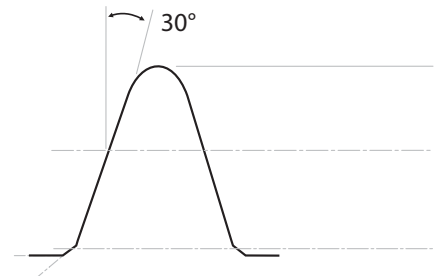


For 20 DP and finer
WD = 2.20/DP + .002.

DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2.5/5	30°	4	4	1-1/4	.560	1	HCF30-250
4/8	30°	3-1/2	3-1/2	1-1/4	.350	1	HCF30-400
5/10	30°	3	3	1-1/4	.280	1	HCF30-500
6/12	30°	3	3	1-1/4	.233	1	HCF30-600
8/16	30°	2-3/4	2-3/4	1-1/4	.175	1	HCF30-800
10/20	30°	1-7/8	1-7/8	3/4	.140	1	HCF30-010S
10/20	30°	2-1/2	2-1/2	1-1/4	.140	1	HCF30-010
12/24	30°	1-7/8	1-7/8	3/4	.117	1	HCF30-012S
12/24	30°	2-1/2	2-1/2	1-1/4	.117	1	HCF30-012
16/32	30°	1-7/8	1-7/8	3/4	.094	1	HCF30-016S
16/32	30°	2-1/2	2	1-1/4	.094	1	HCF30-016
16/32	30°	3-5/32	3-5/32	1-1/4	.094	1	HCF30-016E
20/40	30°	1-7/8	1-7/8	3/4	.075	1	HCF30-020S
24/48	30°	1-1/4	1-1/4	1/2	.063	2	HCF30-024-2H
24/48	30°	1-7/8	1-7/8	3/4	.063	1	HCF30-024S

HCF30 Series

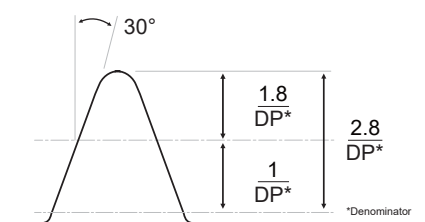
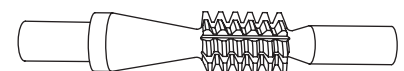
DP 30° PA SPLINE HOBS
Involute Spline
Finishing, Right Hand
Chamfering, Fillet Root



DP	PA	OD	Length	WD	# Threads	Specify Class A,B,C
8/16	30°	7/8	6	.175	1	HFK30-800
10/20	30°	7/8	6	.140	1	HFK30-010
12/24	30°	7/8	6	.117	1	HFK30-012
12/24	30°	1	6	.117	1	HFK30-012E
16/32	30°	3/4	6	.094	1	HFK30-016E
16/32	30°	7/8	6	.094	1	HFK30-016
20/30	30°	3/4	6	.082	1	HFK30-203
20/30	30°	1	6	.088	1	HFK30-203
20/40	30°	3/4	6	.075	1	HFK30-020
20/40	30°	1	6	.075	1	HFK30-020E
24/48	30°	3/4	6	.063	1	HFK30-024
24/48	30°	1	6	.063	1	HFK30-024F
24/48	30°	1-22/25	6	.063	1	HFK30-024E
32/64	30°	1/2	6	.047	1	HFK30-032E
32/64	30°	3/4	6	.047	1	HFK30-032
40/80	30°	3/4	6	.038	1	HFK30-040
48/96	30°	5/8	6	.031	1	HFK30-048
48/96	30°	3/4	6	.031	1	HFK30-048E

HFK30 Series

DP 30° PA SPLINE HOBS
Involute Spline,
Shank Type Finishing,
Right Hand
Non-Chamfering
Fillet Root



For 20DP and finer,
WD = 3/DP

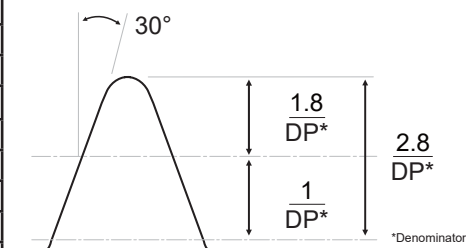
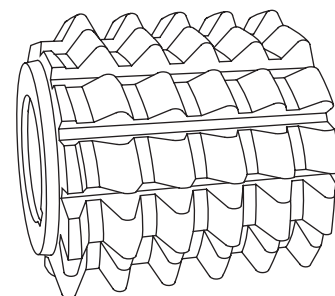


DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2.5/5	30°	4	4	1-1/4	.560	1	H7F30-250
3/6	30°	4	4	1-1/4	.467	1	H7F30-300
4/8	30°	3-1/2	3-1/2	1-1/4	.350	1	H7F30-400
5/10	30°	3	3	1-1/4	.280	1	H7F30-500
6/12	30°	3	3	1-1/4	.233	1	H7F30-600
7/16	30°	1-7/8	1-7/8	3/4	.175	1	H7F30-700S
7/16	30°	2-3/4	2-3/4	1-1/4	.175	1	H7F30-700
8/16	30°	1-7/8	1-7/8	3/4	.175	1	H7F30-800S
8/16	30°	2-3/4	2-3/4	1-1/4	.175	1	H7F30-800
8/16	30°	4	4	1-1/4	.175	1	H7F30-800XL
8/16	30°	2-3/4	2-3/4	1-1/4	.175	2	H7F30-800-2
10/20	30°	1-7/8	1-7/8	3/4	.140	1	H7F30-010S
10/20	30°	2-1/2	2-1/2	1-1/4	.140	1	H7F30-010
10/20	30°	2-1/2	2-1/2	1-1/4	.140	2	H7F30-010-2
12/24	30°	1-1/4	1-1/4	1/2	.117	1	H7F30-012H
12/24	30°	1-7/8	1-7/8	3/4	.117	1	H7F30-012S
12/24	30°	2-1/2	2	1-1/4	.117	1	H7F30-012
12/24	30°	3	3-1/2	1-1/4	.117	1	H7F30-012X
12/24	30°	4	4	1-1/4	.117	2	H7F30-012-2E
16/32	30°	1	3/4	8mm	.094	1	H7F30-016M
16/32	30°	1-1/4	1-1/4	1/2	.094	1	H7F30-016H
16/32	30°	1-1/8	1-1/8	1/2	.094	1	H7F30-016HE
16/32	30°	1-7/8	1-7/8	3/4	.094	1	H7F30-016S
16/32	30°	1-7/8	1-7/8	3/4	.094	2	H7F30-016-2S
16/32	30°	2-1/2	2	1-1/4	.094	1	H7F30-016
16/32	30°	3-1/2	3-2/5	1-1/4	.094	1	H7F30-016E
16/32	30°	2-3/4	2-3/4	1-1/4	.094	3	H7F30-016-3
20/30	30°	3/4	3/4	8mm	.082	1	H7F30-203M
20/30	30°	1-7/8	1-7/8	3/4	.082	1	H7F30-203S
20/30	30°	2-1/2	2	1-1/4	.082	1	H7F30-203
20/40	30°	3/4	3/4	8mm	.075	1	H7F30-020M
20/40	30°	1-1/4	1-1/4	1/2	.075	1	H7F30-020H
20/40	30°	1-7/8	1-7/8	3/4	.075	1	H7F30-020S
20/40	30°	1-7/8	1-7/8	3/4	.075	2	H7F30-020-2S
20/40	30°	2-1/2	2	1-1/4	.075	1	H7F30-020
24/48	30°	3/4	2/3	8mm	.063	1	H7F30-024M
24/48	30°	1-1/4	1-1/4	1/2	.063	1	H7F30-024H
24/48	30°	1-1/8	1-1/8	1/2	.063	1	H7F30-024HE
24/48	30°	1-7/8	1-7/8	3/4	.063	1	H7F30-024S
24/48	30°	1-1/2	1-1/2	3/4	.063	1	H7F30-024SE
24/48	30°	1-7/8	1-7/8	3/4	.063	1	H7F30-024-2S
24/48	30°	2-1/2	2	1-1/4	.063	1	H7F30-024
32/64	30°	3/4	2/3	8mm	.047	1	H7F30-032M
32/64	30°	1-1/8	1-1/8	1/2	.047	1	H7F30-032H
32/64	30°	1-7/8	1-7/8	3/4	.047	1	H7F30-032S
32/64	30°	1-3/8	1-1/2	3/4	.047	1	H7F30-032SE
32/64	30°	1-7/8	1-1/2	3/4	.047	2	H7F30-032-2S
32/64	30°	2-1/2	2	1-1/4	.047	1	H7F30-032
40/80	30°	3/4	2/3	8mm	.038	1	H7F30-040M
40/80	30°	1-1/8	1-1/8	1/2	.038	1	H7F30-040H
40/80	30°	1-7/8	1-7/8	3/4	.038	1	H7F30-040S
40/80	30°	2-1/2	2	1-1/4	.038	1	H7F30-040
48/96	30°	3/4	5/8	8mm	.031	1	H7F30-048M
48/96	30°	1-1/8	1-1/8	1/2	.031	1	H7F30-048H
48/96	30°	1-7/8	1-1/2	3/4	.031	1	H7F30-048S
48/96	30°	2-1/2	2	1-1/4	.031	1	H7F30-048
64/128	30°	3/4	2/3	8mm	.023	1	H7F30-064M
64/128	30°	1-5/8	1-1/2	3/4	.023	1	H7F30-064S

H7F30 Series

DP 30° PA SPLINE HOBS

ANSI Spline
Finishing
Right Hand
Non-Chamfering
Fillet Root

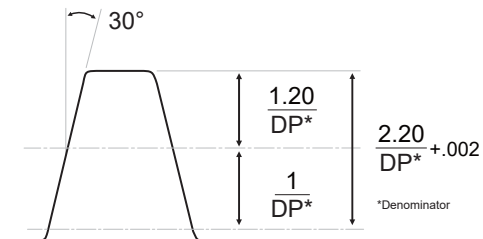




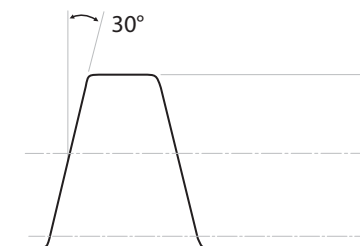
H5K30 & H7K30 Series

DP 30° PA GEAR HOBS
ANSI Spline, Shank Type
Finishing
Non-Chamfering, Flat Root
Right Hand

H5K30
Rack Profile



H7K30
Rack Profile



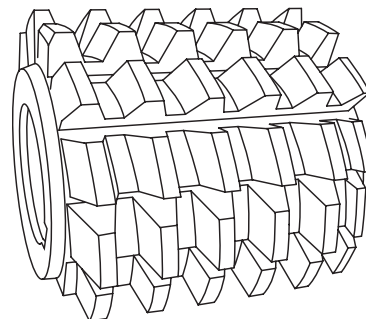
DP	PA	OD	Length	WD	# Threads	Specify Class A,B,C
8/16	30°	7/8	6	.147	1	H7K30-800
10/20	30°	7/8	6	.118	1	H7K30-010
12/24	30°	7/8	6	.098	1	H7K30-012
16/32	30°	3/4	6	.071	1	H5K30-016F
16/32	30°	1	6	.071	1	H5K30-016E
16/32	30°	7/8	6	.073	1	H7K30-016
20/40	30°	7/8	6	.057	1	H5K30-020E
20/40	30°	5/8	6	.059	1	H7K30-020E
20/40	30°	3/4	6	.059	1	H7K30-020
24/48	30°	3/4	6	.048	1	H5K30-024
24/48	30°	1	6	.048	1	H5K30-024E
24/48	30°	3/4	6	.049	1	H7K30-024
32/64	30°	3/4	6	.037	1	H7K30-032
40/80	30°	3/4	6	.030	1	H7K30-040
48/96	30°	5/8	6	.025	1	H7K30-048



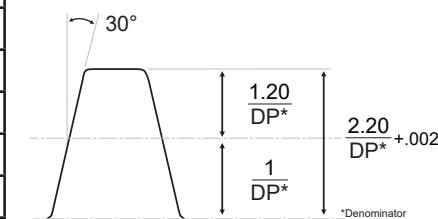
DP	PA	OD	Length	Bore	# Threads	ASA B5.15-1950		ANSI B92.1 1970/6	
						WD	Specify Class A,B,C	WD	Specify Class A,B,C
2.5/5	30°	4	4	1-1/4	1	.422	H5C30-250	.470	H7C30-250
2.5/5	30°	4-1/4	4-3/4	1-1/4	1	.422	H5C30-250E	.470	-
3/6	30°	4	4	1-1/4	1	.369	H5C30-300	.392	H7C30-300
4/8	30°	3-1/2	3-1/2	1-1/4	1	.277	H5C30-400	.294	H7C30-400
5/10	30°	3	3	1-1/4	1	.222	H5C30-500	.235	H7C30-500
6/12	30°	3	3	1-1/4	1	.185	H5C30-600	.196	H7C30-600
6/12	30°	3-1/4	3-1/4	1-1/4	2	.185	H5C30-600-2	.196	-
8/16	30°	1-7/8	1-7/8	3/4	1	.140	H5C30-800S	.147	H7C30-800S
8/16	30°	2-3/4	2-3/4	1-1/4	1	.140	H5C30-800	.147	H7C30-800
8/16	30°	3	3	1-1/4	1	.140	H5C30-800E	.147	H7C30-800E
8/16	30°	2-3/4	4-3/8	1-1/4	1	.140	H5C30-800W	.147	-
8/16	30°	3	3	1-1/4	2	.140	H5C30-800-2	.147	H7C30-800-2
10/20	30°	1-7/8	1-7/8	3/4	1	.112	H5C30-010S	.118	H7C30-010S
10/20	30°	2-1/2	2-1/2	1-1/4	1	.112	H5C30-010	.118	H7C30-010
12/24	30°	1-1/4	1-1/4	1/2	1	.094	H5C30-012H	.098	H7C30-012H
12/24	30°	1-7/8	1-7/8	3/4	1	.094	H5C30-012S	.098	H7C30-012S
12/24	30°	2-1/2	2	1-1/4	1	.094	H5C30-012	.098	H7C30-012
12/24	30°	2-3/4	2-3/4	1-1/4	2	.094	H5C30-012-2	.098	-
16/32	30°	1-1/4	1-1/4	1/2	1	.071	H5C30-016H	.073	H7C30-016H
16/32	30°	1-1/4	1-1/4	1/2	1	.071	H5C30-016HE	.073	-
16/32	30°	1-7/8	1-7/8	3/4	1	.071	H5C30-016S	.073	H7C30-016S
16/32	30°	1-7/8	1-7/8	3/4	2	.071	H5C30-016-2S	.073	-
16/32	30°	2-1/2	2	1-1/4	1	.071	H5C30-016	.073	H7C30-016
16/32	30°	2-1/4	2-3/4	1-1/4	1	.071	H5C30-016E	.073	-
16/32	30°	2-3/4	4	1-1/4	1	.071	H5C30-016X	.073	-
16/32	30°	2-3/4	2-3/4	1-1/4	2	.071	H5C30-016-2	.073	-
20/40	30°	3/4	2/3	8mm	1	.057	H5C30-020M	.059	H7C30-020M
20/40	30°	1-1/4	1-1/4	1/2	1	.057	H5C30-020H	.059	H7C30-020H
20/40	30°	1-7/8	1-7/8	3/4	1	.057	H5C30-020	.059	H7C30-020
20/40	30°	1-7/8	1-7/8	3/4	2	.057	H5C30-020-2S	.059	-
20/40	30°	2-1/2	2	1-1/4	1	.057	H5C30-020	.059	H7C30-020
20/40	30°	3	3	1-1/4	1	.057	H5C30-020E	.059	-
24/48	30°	3/4	5/8	8mm	1	.048	H5C30-024M	.049	H7C30-024M
24/48	30°	1-1/4	1-1/4	1/2	1	.048	H5C30-024H	.049	H7C30-024H
24/48	30°	1-7/8	1-7/8	3/4	1	.048	H5C30-024S	.049	H7C30-024S
24/48	30°	2-1/2	2	1-1/4	1	.048	H5C30-024	.049	H7C30-024
32/64	30°	3/4	2/3	8mm	1	.036	H5C30-032M	.037	H7C30-032M
32/64	30°	1-1/8	1-1/8	1/2	1	.036	H5C30-032H	.037	H7C30-032H
32/64	30°	1-7/8	1-7/8	3/4	1	.036	H5C30-032S	.037	H7C30-032S
32/64	30°	2-1/2	2	1-1/4	1	.036	H5C30-032	.037	H7C30-032
40/80	30°	1-1/8	1-1/8	1/2	1	.0295	H5C30-040H	-	-
48/96	30°	3/4	2/3	8mm	1	.0249	H5C30-048M	-	-

H5C30 & H7C30 Series

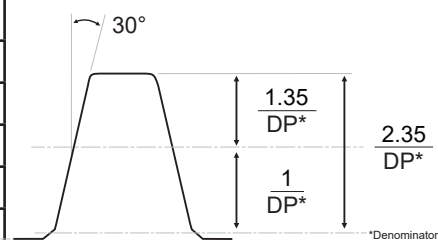
DP 30° PA GEAR HOBS
 Involute Spline
 Finishing
 Right Hand
 Chamfering
 Flat Root



H5C30
Rack Profile



H7C30
Rack Profile

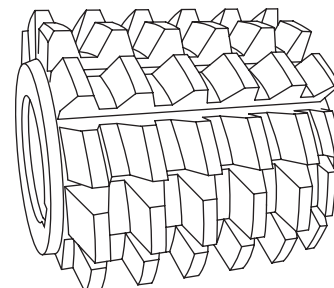




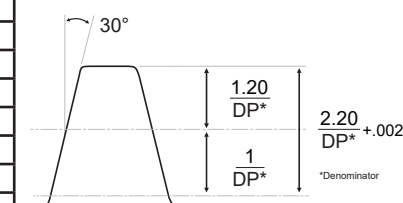
DP	PA	OD	Length	Bore	# Threads	ASA B5.15-1950		ANSI B92.1 1970/6	
						WD	Specify Class A,B,C	WD	Specify Class A,B,C
2.5/5	30°	4	4	1-1/4	1	.442	H5N30-250	.470	H7N30-250
3/6	30°	4	4	1-1/4	1	.369	H5N30-300	.392	H7N30-300
4/8	30°	3-1/2	3-1/2	1-1/4	1	.277	H5N30-400	.294	H7N30-400
4/8	30°	4	4	1-1/4	2	.277	-	.294	H7N30-400-2
5/10	30°	3	3	1-1/4	1	.222	H5N30-500	.235	H7N30-500
5/10	30°	3-1/2	3-1/2	1-1/4	2	.222	-	.235	H7N30-500-2
6/12	30°	2	3-1/2	3/4	1	.185	-	.196	H7N30-600SL
6/12	30°	3	3	1-1/4	1	.185	H5N30-600	.196	H7N30-600
6/12	30°	3-1/4	3-1/4	1-1/4	2	.185	-	.196	H7N30-600-2
8/16	30°	1-7/8	1-7/8	3/4	1	.140	H5N30-800S	.147	H7N30-800S
8/16	30°	2-3/4	2-3/4	1-1/4	1	.140	H5N30-800	.147	H7N30-800
8/16	30°	3	3	1-1/4	2	.140	-	.147	H7N30-800-2
10/20	30°	1-7/8	1-7/8	3/4	1	.112	H5N30-010S	.118	H7N30-010S
10/20	30°	2	2	3/4	2	.112	-	.118	H7N30-010S-2
10/20	30°	2-1/2	2-1/2	1-1/4	1	.112	H5N30-010	.118	H7N30-010
10/20	30°	2-3/4	2-3/4	1-1/4	2	.112	-	.118	H7N30-010-2
10/20	30°	114mm	114mm	40mm	1	.112	-	.118	H7N30-010F
12/24	30°	1-1/4	1-1/4	1/2	1	.094	H5N30-012H	.098	H7N30-012H
12/24	30°	1-1/4	2-1/2	1/2	1	.094	-	.098	H7N30-012HL
12/24	30°	1-7/8	1-7/8	3/4	1	.094	H5N30-012S	.098	H7N30-012S
12/24	30°	2	2	3/4	2	.094	-	.098	H7N30-012S-2
12/24	30°	2-1/2	2	1-1/4	1	.094	H5N30-012	.098	H7N30-012
12/24	30°	3	3	1-1/4	1	.094	-	.098	H7N30-012B
12/24	30°	2-3/4	2-3/4	1-1/4	2	.094	-	.098	H7N30-012-2
12/24	30°	48mm	50mm	22mm	1	.094	-	.098	H7N30-012T
16/32	30°	1-1/4	1-1/4	1/2	1	.071	H5N30-016H	.073	H7N30-016H
16/32	30°	1	1-7/8	1/2	2	.071	-	.073	H7N30-016-2H
16/32	30°	1-7/8	1-7/8	3/4	1	.071	H5N30-016S	.073	H7N30-016S
16/32	30°	1-7/8	1-7/8	3/4	2	.071	-	.073	H7N30-016S-2
16/32	30°	1-7/8	1-7/8	3/4	3	.071	-	.073	H7N30-016S-3
16/32	30°	2-1/2	2	1-1/4	1	.071	H5N30-016	.073	H7N30-016
16/32	30°	2-3/4	2-3/4	1-1/4	2	.071	-	.073	H7N30-016-2
16/32	30°	2-3/4	2-3/4	1-1/4	3	.071	-	.073	H7N30-016-3
16/32	30°	48mm	50mm	22mm	1	.071	-	.073	H7N30-016T
20/40	30°	3/4	3/4	8mm	1	.057	H5N30-020M	.078	H7N30-020M
20/40	30°	1-1/4	1-1/4	1/2	1	.057	H5N30-020H	.059	H7N30-020H
20/40	30°	1-1/4	1-1/4	1/2	2	.057	-	.059	H7N30-020H-2
20/40	30°	1-7/8	1-7/8	3/4	1	.057	H5N30-020S	.059	H7N30-020S
20/40	30°	1-7/8	1-7/8	3/4	2	.057	-	.059	H7N30-020S-2
20/40	30°	1-7/8	1-7/8	3/4	2	.057	-	.059	H7N30-020S-2
20/40	30°	2-1/2	2	1-1/4	1	.057	H5N30-020	.059	H7N30-020
20/40	30°	60mm	80mm	27mm	1	.057	-	.059	H7N30-020T
24/48	30°	3/4	5/8	8mm	1	.048	H5N30-024M	.049	H7N30-024M
24/48	30°	1-1/4	1-1/4	1/2	1	.048	H5N30-024H	.049	H7N30-024H
24/48	30°	1-7/8	1-7/8	3/4	1	.048	H5N30-024S	.049	H7N30-024S
24/48	30°	1-7/8	1-7/8	3/4	2	.048	-	.049	H7N30-024S-2
24/48	30°	2-1/2	2	1-1/4	1	.048	H5N30-024	.049	H7N30-024
24/48	30°	3	4	1-1/4	1	.048	-	.049	H7N30-024L
32/64	30°	3/4	2/3	8mm	1	.036	H5N30-032M	.037	H7N30-032M
32/64	30°	1-1/8	1-1/8	1/2	1	.036	H5N30-032H	.037	H7N30-032H
32/64	30°	1-7/8	1-1/2	3/4	1	.036	H5N30-032S	.037	H7N30-032S
32/64	30°	1-7/8	1-7/8	3/4	2	.036	-	.037	H7N30-032S-2
32/64	30°	2-1/2	2	1-1/4	1	.036	H5N30-032	.037	H7N30-032
40/80	30°	3/4	5/8	8mm	1	.030	H5N30-040M	.030	H7N30-040M
40/80	30°	1-1/8	1-1/8	1/2	1	.030	H5N30-040H	.030	H7N30-040H
40/80	30°	1-7/8	1-7/8	3/4	1	.030	H5N30-040S	.030	H7N30-040S
40/80	30°	2-1/2	2	1-1/4	1	.030	H5N30-040	.030	H7N30-040
48/96	30°	3/4	5/8	8mm	1	.025	H5N30-048M	.025	H7N30-048M
48/96	30°	1-1/8	1-1/8	1/2	1	.025	H5N30-048H	.025	H7N30-048H
48/96	30°	1-7/8	1-1/2	3/4	1	.025	H5N30-048S	.025	H7N30-048S
48/96	30°	2-1/2	2	1-1/4	1	.025	H5N30-048	.025	H7N30-048

H5N30 & H7N30 Series

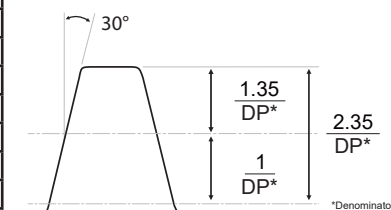
DP 30° PA HOBS
ANSI Spline
Finishing
Right Hand
Non-Chamfering
Flat Root



H5N30 Rack Profile



H7N30 Rack Profile



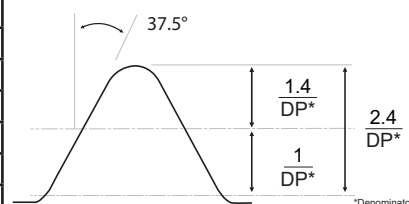
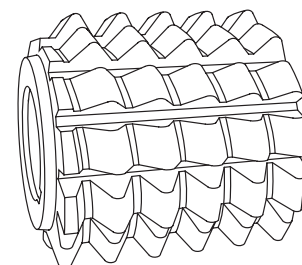
HOB



DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2.5/5	37.5°	4	4	1-1/4	.511	1	HI37-250
3/6	37.5°	3-1/4	3-1/4	1-1/4	.427	1	HI37-300
4/8	37.5°	3-1/2	3-1/2	1-1/4	.231	1	HI37-400
5/10	37.5°	3	3	1-1/4	.258	1	HI37-500
6/12	37.5°	3	3	1-1/4	.216	1	HI37-600
8/16	37.5°	2-3/4	2-3/4	1-1/4	.163	1	HI37-800
10/20	37.5°	1-7/8	1-7/8	3/4	.120	1	HI37-010S
10/20	37.5°	2-1/2	2	1-1/4	.120	1	HI37-010
12/24	37.5°	1-7/8	1-7/8	3/4	.110	1	HI37-012S
16/32	37.5°	1-7/8	1-7/8	3/4	.075	1	HI37-016S
16/32	37.5°	2-1/2	2	1-1/4	.075	1	HI37-016
20/40	37.5°	1-1/4	1-1/4	1/2	.060	1	HI37-020H
20/40	37.5°	1-7/8	1-7/8	3/4	.060	1	HI37-020S
20/40	37.5°	2-1/2	2	1-1/4	.068	1	HI37-020
24/48	37.5°	3/4	5/8	8mm	.058	1	HI37-024M
24/48	37.5°	1-1/4	1-1/4	1/2	.058	1	HI37-024H
24/48	37.5°	1-7/8	1-7/8	3/4	.058	1	HI37-024S
24/48	37.5°	2-1/2	2	1-1/4	.058	1	HI37-024
32/64	37.5°	1-1/8	1-1/8	1/2	.045	1	HI37-032H
32/64	37.5°	1-7/8	1-1/2	3/4	.045	1	HI37-032S
32/64	37.5°	2-1/2	2	1-1/4	.045	1	HI37-032
40/80	37.5°	3/4	5/8	8mm	.037	1	HI37-040M
40/80	37.5°	1-1/8	1-1/8	1/2	.037	1	HI37-040H
40/80	37.5°	1-7/8	1-1/2	3/4	.037	1	HI37-040S
40/80	37.5°	2-1/2	2	1-1/4	.037	1	HI37-040
48/96	37.5°	3/4	5/8	8mm	.026	1	HI37-048M
48/96	37.5°	2-1/2	2	1-1/4	.026	1	HI37-048

HI37 Series

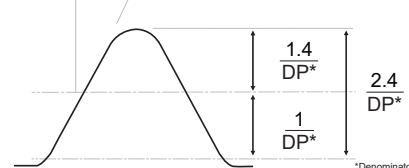
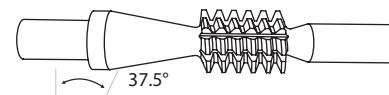
DP 37.5° PA HOBS
 ANSI Spline
 Finishing, Right Hand
 Fillet Root
 Non-Chamfering



DP	PA	OD	Length	WD	# Threads	Specify Class A,B,C
16/32	37.5°	7/8	6	.0750	1	HFK37-016
20/40	37.5°	7/8	6	.0600	1	HFK37-020
24/48	37.5°	3/4	6	.0577	1	HFK37-024
32/64	37.5°	3/4	6	.0445	1	HFK37-032
40/80	37.5°	3/4	6	.0366	1	HFK37-040
48/96	37.5°	5/8	6	.0264	1	HFK37-048

HFK37 Series

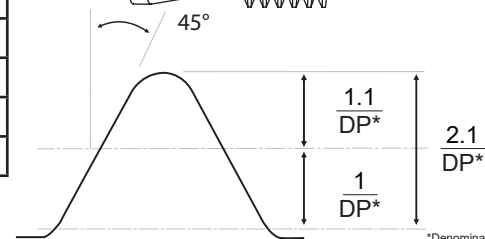
DP 37.5° PA HOBS
 ANSI Spline
 Finishing, Right Hand
 Non Chamfering
 Fillet Root
 5/8 Straight Shanks



DP	PA	OD	Length	WD	# Threads	Specify Class A,B,C
8/16	45°	.7/8	6	.131	1	HFK45-800
10/20	45°	7/8	6	.105	1	HFK45-010
16/32	45°	7/8	6	.066	1	HFK45-016
20/40	45°	7/8	6	.053	1	HFK45-020
24/48	45°	3/4	6	.044	1	HFK45-024
32/64	45°	3/4	6	.033	1	HFK45-032
40/80	45°	3/4	6	.026	1	HFK45-040
48/96	45°	5/8	6	.022	1	HFK45-048
64/128	45°	9/16	6	.016	1	HFK45-064

HFK45 Series

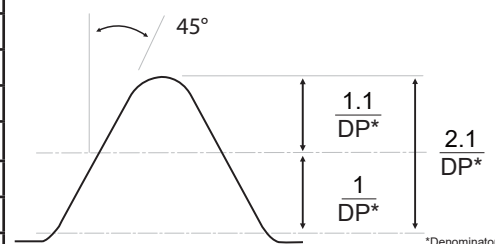
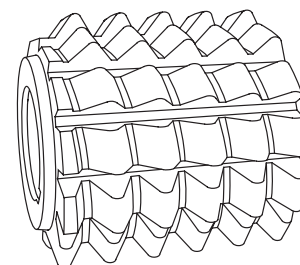
DP 45° PA GEAR HOBS
 ANSI Spline
 Finishing, Right Hand
 Non Chamfering
 Fillet Root
 5/8 Straight Shanks





DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
8/16	45°	2-3/4	2-3/4	1-1/4	.131	1	HI45-800
10/20	45°	1-1/8	1-1/8	1/2	.105	1	HI45-010HE
10/20	45°	1-3/4	1-3/4	3/4	.105	1	HI45-010S
10/20	45°	2-1/2	2-1/2	1-1/4	.105	1	HI45-010
12/24	45°	1-7/8	1-7/8	3/4	.088	1	HI45-012S
12/24	45°	2-1/2	2	1-1/4	.088	1	HI45-012
16/32	45°	1-1/4	1-1/4	1/2	.066	1	HI45-016H
16/32	45°	1-7/8	1-7/8	3/4	.066	1	HI45-016S
16/32	45°	2-1/2	2	1-1/4	.066	1	HI45-016
20/40	45°	1-1/4	1-1/4	1/2	.053	1	HI45-020H
20/40	45°	3/4	3/4	8mm	.053	1	HI45-020M
20/40	45°	1-7/8	1-7/8	3/4	.053	1	HI45-020S
20/40	45°	2-1/2	2	1-1/4	.053	1	HI45-020
24/48	45°	3/4	5/8	8mm	.044	1	HI45-024M
24/48	45°	1-1/4	1-1/4	1/2	.044	1	HI45-024H
24/48	45°	1-7/8	1-7/8	3/4	.044	1	HI45-024S
24/48	45°	1-3/8	1-1/2	3/4	.044	1	HI45-024SE
24/48	45°	2-1/2	2	1-1/4	.044	1	HI45-024
32/64	45°	3/4	5/8	8mm	.033	1	HI45-032M
32/64	45°	1-1/8	1-1/8	1/2	.033	1	HI45-032H
32/64	45°	1-7/8	1-7/8	3/4	.033	1	HI45-032S
32/64	45°	2-1/2	2	1-1/4	.033	1	HI45-032
40/80	45°	3/4	5/8	8mm	.026	1	HI45-040M
40/80	45°	1-1/8	1-1/8	1/2	.026	1	HI45-040H
40/80	45°	1-7/8	1-7/8	3/4	.026	1	HI45-040S
40/80	45°	1-3/8	1-1/2	3/4	.026	1	HI45-040SE
40/80	45°	2-1/2	2	1-1/4	.026	1	HI45-040
48/96	45°	3/4	5/8	8mm	.022	1	HI45-048M
48/96	45°	1-1/8	1-1/8	1/2	.022	1	HI45-048H
48/96	45°	1-7/8	1-7/8	3/4	.022	1	HI45-048S
64/128	45°	3/4	5/8	8mm	.016	1	HI45-064M
64/128	45°	1-1/8	1-1/8	1/2	.016	1	HI45-064H
64/128	45°	1-7/8	1-1/2	3/4	.016	1	HI45-064S
80/160	45°	3/4	1/2	8mm	.013	1	HI45-080M
80/160	45°	1-1/8	1-1/8	1/2	.013	1	HI45-080H
80/160	45°	1-7/8	1-1/2	3/4	.013	1	HI45-080S

HI45 Series
DP 45° PA HOBs
ANSI Spline
Finishing, Right Hand
Non Chamfering
Fillet Root





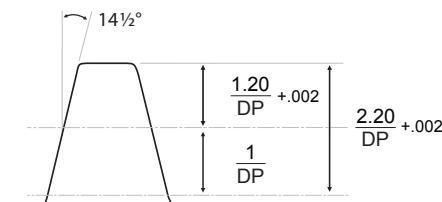
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.5	14.5°	1-1/8	1-1/8	1/2	.045	1	HFM14-050H
.6	14.5°	1-1/8	1-1/8	1/2	.054	1	HFM14-060H
.75	14.5°	1-1/8	1-1/8	1/2	.067	1	HFM14-075H
.8	14.5°	1-1/8	1-1/8	1/2	.071	1	HFM14-080H
.9	14.5°	1-7/8	1-7/8	3/4	.080	1	HFM14-090S
1	14.5°	1-7/8	1-7/8	3/4	.088	1	HM14-100S
1	14.5°	2-1/2	2	1-1/4	.088	1	HM14-100
1-1/4	14.5°	1-7/8	1-7/8	3/4	.111	1	HM14-125S
1-1/4	14.5°	2-1/2	2	1-1/4	.111	1	HM14-125
1-1/2	14.5°	1-7/8	1-7/8	3/4	.133	1	HM14-150S
1-1/2	14.5°	2-1/2	2-1/2	1-1/4	.133	1	HM14-150
1-3/4	14.5°	1-7/8	1-7/8	3/4	.155	1	HM14-175S
1-3/4	14.5°	2-1/2	2-1/2	1-1/4	.155	1	HM14-175
2	14.5°	1-7/8	1-7/8	3/4	.177	1	HM14-200S
2	14.5°	2-3/4	2-3/4	1-1/4	.177	1	HM14-200
2-1/4	14.5°	1-7/8	1-7/8	3/4	.199	1	HM14-225S
2-1/4	14.5°	2-3/4	2-3/4	1-1/4	.199	1	HM14-225
2-1/2	14.5°	1-7/8	1-7/8	3/4	.221	1	HM14-250S
2-1/2	14.5°	2-3/4	2-3/4	1-1/4	.221	1	HM14-250
2-1/2	14.5°	2-3/4	2-3/4	1-1/4	.212	1	HM14-250E
2-3/4	14.5°	3	3	1-1/4	.244	1	HM14-275
3	14.5°	3	3	1-1/4	.266	1	HM14-300
3-1/4	14.5°	3	3	1-1/4	.288	1	HM14-325
3-1/2	14.5°	3	3	1-1/4	.310	1	HM14-350
3-3/4	14.5°	3	3	1-1/4	.332	1	HM14-375
4	14.5°	3-1/2	3-1/2	1-1/4	.354	1	HM14-400
4-1/4	14.5°	3-1/2	3-1/2	1-1/4	.376	1	HM14-425
4-1/2	14.5°	3-1/2	3-1/2	1-1/4	.399	1	HM14-450
4-3/4	14.5°	3-1/2	3-1/2	1-1/4	.421	1	HM14-475
5	14.5°	3-1/2	3-1/2	1-1/4	.443	1	HM14-500
5-1/4	14.5°	3-1/2	3-1/2	1-1/4	.465	1	HM14-525
5-1/2	14.5°	3-1/2	3-1/2	1-1/4	.487	1	HM14-550
5-3/4	14.5°	3-1/2	3-1/2	1-1/4	.509	1	HM14-575
6	14.5°	4	4	1-1/4	.531	1	HM14-600
7	14.5°	4-1/4	4-1/4	1-1/4	.620	1	HM14-700
7-1/2	14.5°	5	5	1-1/2	.664	1	HM14-750
8	14.5°	4-1/2	5	1-1/4	.709	1	HM14-800
9	14.5°	5	6	1-1/4	.797	1	HM14-900
10	14.5°	5	6	1-1/2	.886	1	HM14-010
11	14.5°	5-3/4	6-1/2	1-1/2	.974	1	HM14-011
12	14.5°	5-3/4	8	1-1/2	1.063	1	HM14-012

HFM14 & HM14 Series

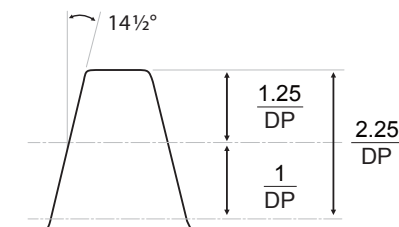
Module 14.5° PA GEAR HOBS

Finishing
Non-Topping
Right hand

HFM14
Rack Profile



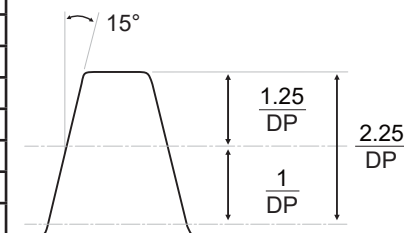
HM14
Rack Profile



HM15 & HML15 Series

Module 15° PA GEAR HOBS

Finishing
Non-Topping
Right Hand



For 20 DP and finer
WD = 2.20/DP + .002

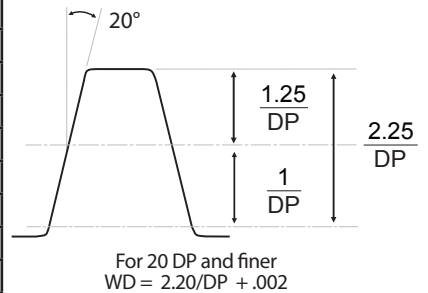
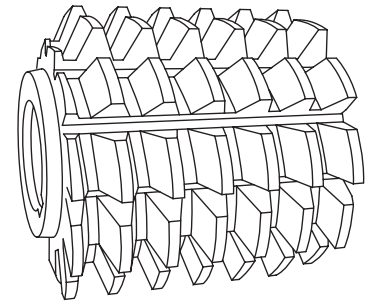
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1	15°	1-7/8	1-7/8	3/4	.089	1	HM15-100S	-
1	15°	2-1/2	2	1-1/4	.089	1	HM15-100	-
1-1/4	15°	2-1/2	2	1-1/4	.111	1	HM15-125	-
1-1/2	15°	2-1/2	2-1/2	1-1/4	.133	1	HM15-150	-
1-3/4	15°	2-1/2	2-1/2	1-1/4	.155	1	HM15-175	-
2	15°	2-3/4	2-3/4	1-1/4	.177	1	HM15-200	HML15-200
2-1/4	15°	2-3/4	2-3/4	1-1/4	.199	1	HM15-225	HML15-225
2-1/2	15°	2-3/4	2-3/4	1-1/4	.221	1	HM15-250	-
2-3/4	15°	3	3	1-1/4	.244	1	HM15-275	-
3	15°	3	3	1-1/4	.266	1	HM15-300	-
3-1/4	15°	3	3	1-1/4	.288	1	HM15-325	-
3-1/2	15°	3	3	1-1/4	.310	1	HM15-350	-
3-3/4	15°	3	3	1-1/4	.332	1	HM15-375	-
4	15°	3-1/2	3-1/2	1-1/4	.354	1	HM15-400	-



Module	PA	OD	Length	Bore	WD	# Threads	Specify Class AA, A,B,C	
							Right Hand	Left Hand
1	20°	1	3/4	8mm	.089	1	HM20-100M	-
1	20°	1-1/4	1-1/4	1/2	.089	1	HM20-100H	-
1	20°	1-7/8	1-7/8	3/4	.089	1	HM20-100S	HML20-100S
1	20°	2-1/2	2	1-1/4	.089	1	HM20-100	HML20-100
1	20°	32mm	75mm	13mm	.089	1	HM20-100R	HML20-100
1	20°	1-7/8	1-7/8	3/4	.089	2	HM20-100S-2	-
1	20°	1-7/8	1-7/8	3/4	.089	3	HM20-100S-3	-
1-1/8	20°	1-7/8	1-7/8	3/4	.100	1	HM20-112S	-
1-1/8	20°	2-1/2	2	1-1/4	.100	1	HM20-112	-
1-1/4	20°	1	3/4	8mm	.111	1	HM20-125M	-
1-1/4	20°	1-1/4	1-1/4	1/2	.111	1	HM20-125H	HML20-125H
1-1/4	20°	1-7/8	1-7/8	3/4	.111	1	HM20-125S	HML20-125S
1-1/4	20°	2-1/2	2	1-1/4	.111	1	HM20-125	HML20-125
1-3/8	20°	1-7/8	1-7/8	3/4	.122	1	HM20-137S	-
1-3/8	20°	2-1/2	2	1-1/4	.122	1	HM20-137	-
1-1/2	20°	1-1/4	1-1/4	1/2	.133	1	HM20-150H	-
1-1/2	20°	1-7/8	1-7/8	3/4	.133	1	HM20-150S	HML20-150S
1-1/2	20°	32mm	75mm	13mm	.133	1	HM20-150R	-
1-1/2	20°	2-1/2	2-1/2	1-1/4	.133	1	HM20-150	HML20-150
1-1/2	20°	36mm	71mm	16mm	.133	1	HM20-150TE	-
1-3/4	20°	1-7/8	1-7/8	3/4	.155	1	HM20-175S	HML20-175S
1-3/4	20°	2-1/2	2-1/2	1-1/4	.155	1	HM20-175	HML20-175
2	20°	1-7/8	1-7/8	3/4	.177	1	HM20-200S	HML20-200S
2	20°	2-3/4	2-3/4	1-1/4	.177	1	HM20-200	HML20-200
2	20°	40mm	71mm	16mm	.177	1	HM20-200X	-
2	20°	50mm	70mm	22mm	.177	1	HM20-200T	-
2	20°	70mm	120mm	27mm	.177	1	HM20-200N	-
2-1/4	20°	1-7/8	1-7/8	3/4	.199	1	HM20-225S	HML20-225S
2-1/4	20°	2-3/4	2-3/4	1-1/4	.199	1	HM20-225	HML20-225
2-1/2	20°	1-7/8	1-7/8	3/4	.221	1	HM20-250S	HML20-250S
2-1/2	20°	2-3/4	2-3/4	1-1/4	.221	1	HM20-250	HML20-250
2-3/4	20°	2	2	3/4	.244	1	HM20-275S	-
2-3/4	20°	3	3	1-1/4	.244	1	HM20-275	HML20-275
3	20°	2	2	3/4	.266	1	HM20-300S	HML20-300S
3	20°	3	3	1-1/4	.266	1	HM20-300	HML20-300
3	20°	65mm	100mm	27mm	.266	1	HM20-300T	-
3	20°	112mm	130mm	40mm	.266	1	HM20-300F	-
3-1/4	20°	3	3	1-1/4	.288	1	HM20-325	-
3-1/2	20°	3	3	1-1/4	.310	1	HM20-350	HML20-350
3-3/4	20°	3	3	1-1/4	.332	1	HM20-375	-
4	20°	3-1/2	3-1/2	1-1/4	.354	1	HM20-400	HML20-400
4	20°	75mm	120mm	27mm	.354	1	HM20-400T	-
4	20°	90mm	120mm	27mm	.354	1	HM20-400TE	-
4	20°	120mm	140mm	40mm	.354	1	HM20-400F	-
4-1/4	20°	3-1/2	3-1/2	1-1/4	.376	1	HM20-425	-
4-1/2	20°	3-1/2	3-1/2	1-1/4	.399	1	HM20-450	HML20-450
4-1/2	20°	76mm	121mm	27mm	.399	1	HM20-450T	-
4-3/4	20°	3-1/2	3-1/2	1-1/4	.421	1	HM20-475	-
5	20°	3-1/2	3-1/2	1-1/4	.443	1	HM20-500	HML20-500
5	20°	5	6	1-1/2	.443	3	HM20-500-3	-
5	20°	90mm	120mm	27mm	.443	1	HM20-500T	-

HM20, HML20, CHM20 & CHML20 Series

Module 20° PA GEAR HOBS
Finishing
Non-Topping



SERIES CONTINUED ON NEXT PAGE ->

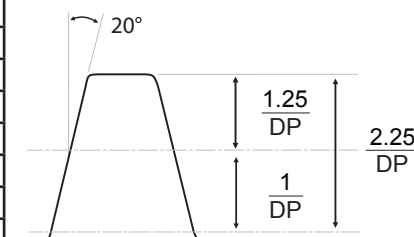
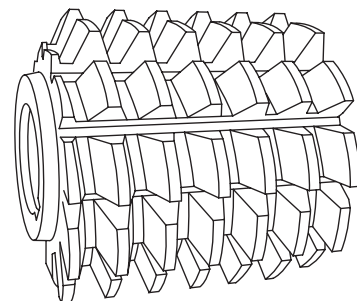


Module	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
5-1/4	20°	3-1/2	3-1/2	1-1/4	.465	1	HM20-525	-
5-1/2	20°	3-1/2	3-1/2	1-1/4	.487	1	HM20-550	-
5-3/4	20°	3-1/2	3-1/2	1-1/4	.509	1	HM20-575	-
6	20°	4	4	1-1/4	.531	1	HM20-600	HML20-600
6	20°	90mm	110mm	27mm	.531	1	HM20-600W	-
6	20°	100mm	120mm	32mm	.531	1	HM20-600T	-
6	20°	120mm	140mm	40mm	.531	1	HM20-600F	-
6-1/4	20°	4	4	1-1/4	.554	1	HM20-625	-
6-1/2	20°	4	4	1-1/4	.576	1	HM20-650	-
7	20°	4-1/4	4-3/4	1-1/4	.620	1	HM20-700	HML20-700
7-1/2	20°	4-1/2	5	1-1/4	.664	1	HM20-750	-
8	20°	4-1/2	5	1-1/4	.709	1	HM20-800	HML20-800
8	20°	119mm	140mm	40mm	.709	1	HM20-800F	-
8-1/2	20°	4-1/2	5	1-1/4	.753	1	HM20-850	-
9	20°	5	6	1-1/2	.797	1	HM20-900	HML20-900
9	20°	4-3/4	5	1-1/4	.797	1	CHM20-900	CHML20-900
10	20°	5	7	1-1/2	.886	1	HM20-010	HML20-010
10	20°	4-3/4	5-1/2	1-1/4	.886	1	CHM20-010	CHML20-010
10	20°	127mm	150mm	40mm	.886	1	HM20-010F	-
11	20°	5-1/2	7-1/2	1-1/2	.974	1	HM20-011	HML20-011
11	20°	5-1/4	6	1-1/4	.974	1	CHM20-011	-
12	20°	5-3/4	8	1-1/2	1.063	1	HM20-012	HML20-012
12	20°	5-1/2	6	1-1/4	1.063	1	CHM20-012	CHML20-012
12	20°	146mm	203mm	50mm	1.063	1	HM20-012F	-
13	20°	6	8	1-1/2	1.152	1	HM20-013	HML20-013
13	20°	5-1/2	6	1-1/4	1.152	1	CHM20-013	-
14	20°	7-1/4	9	2	1.240	1	HM20-014	HML20-014
14	20°	6-1/2	8	1-1/2	1.240	1	CHM20-014	CHML20-014
15	20°	7-1/4	9	2	1.329	1	HM20-015	HML20-015
15	20°	6-1/2	8	1-1/2	1.329	1	CHM20-015	CHML20-015
16	20°	8	10	2	1.417	1	HM20-016	HML20-016
16	20°	7-1/2	8	1-1/2	1.417	1	CHM20-016	CHML20-016
17	20°	8	10	2	1.506	1	HM20-017	-
18	20°	8	10	2	1.594	1	HM20-018	HML20-018
18	20°	7-1/2	8	1-1/2	1.594	1	CHM20-018	CHML20-018
19	20°	8-1/2	11	2	1.683	1	HM20-019	-
20	20°	8-3/4	12	2	1.772	1	HM20-020	HML20-020
20	20°	8-1/4	10-1/2	1-1/2	1.772	1	CHM20-020	CHML20-020
21	20°	8-3/4	12	2	1.860	1	HM20-021	-
22	20°	9-1/2	13	2	1.949	1	HM20-022	-
22	20°	8-3/4	11	1-1/2	1.949	1	CHM20-022	-
24	20°	10-3/4	15	2-1/2	2.126	1	HM20-024	-
24	20°	10-1/4	12-1/2	2	2.126	1	CHM20-024	-
25	20°	10-3/4	15	2-1/2	2.215	1	HM20-025	-
25	20°	10-1/4	12-1/2	2	2.215	1	CHM20-025	-
26	20°	12-1/2	12-1/2	2	2.303	1	CHM20-026	-
28	20°	11-3/4	15	2-1/2	2.480	1	HM20-028	-
30	20°	12-1/2	15-1/2	2-1/2	2.657	1	HM20-030	-
30	20°	11-1/2	13-1/2	2-1/2	2.657	1	CHM20-030	-
32	20°	12-1/2	16	2-1/2	2.835	1	HM20-032	-
32	20°	12	14	2-1/2	2.835	1	CHM20-032	-

<- SERIES CONTINUED FROM
PREVIOUS PAGE

HM20, HML20, CHM20 & CHML20 Series

Module 20° PA GEAR HOBS
Finishing
Non-Topping



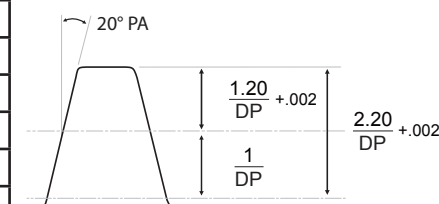
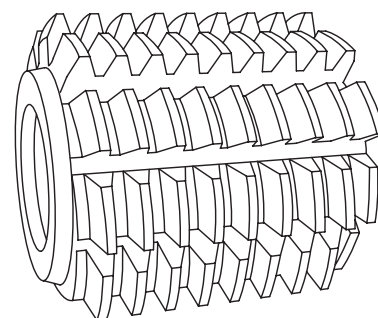
For 20 DP and finer
WD = 2.20/DP + .002



Module	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C	
							Right Hand	Left Hand
.2	20°	3/4	5/8	8mm	.019	1	HFM20-020M	-
.25	20°	5/8	11/16	8mm	.024	1	HFM20-025M	-
.3	20°	3/4	5/7	8mm	.028	1	HFM20-030M	-
.3	20°	1-5/8	1-1/2	3/4	.028	1	HFM20-030S	-
.35	20°	3/4	11/16	8mm	.032	1	HFM20-035M	-
.35	20°	1-1/8	1-1/8	1/2	.032	1	HFM20-035H	-
.4	20°	3/4	2/3	8mm	.037	1	HFM20-040M	-
.4	20°	1-1/8	1-1/8	1/2	.037	1	HFM20-040H	-
.4	20°	1-5/8	1-1/2	3/4	.037	1	HFM20-040S	-
.45	20°	3/4	2/3	8mm	.041	1	HFM20-045M	-
.45	20°	1-5/8	1-1/2	3/4	.041	1	HFM20-045S	-
.5	20°	3/4	11/16	8mm	.045	1	HFM20-050M	-
.5	20°	1-1/8	1-1/8	1/2	.045	1	HFM20-050H	-
.5	20°	1-7/8	1-1/2	3/4	.045	1	HFM20-050S	-
.5	20°	2-1/2	2	1-1/4	.045	1	HFM20-050	-
.55	20°	3/4	3/4	8mm	.050	1	HFM20-055	-
.55	20°	1-7/8	1-1/2	3/4	.050	1	HFM20-055S	-
.6	20°	3/4	3/4	8mm	.054	1	HFM20-060M	-
.6	20°	1-1/8	1-1/8	1/2	.054	1	HFM20-060H	-
.6	20°	1-7/8	1-1/2	3/4	.054	1	HFM20-060S	-
.6	20°	2-1/2	2	1-1/4	.054	1	HFM20-060	-
.65	20°	3/4	2/3	8mm	.058	1	HFM20-065M	-
.65	20°	1-1/8	1-1/8	1/2	.058	1	HFM20-065H	-
.65	20°	1-7/8	1-1/2	3/4	.058	1	HFM20-065S	-
.7	20°	3/4	3/4	8mm	.063	1	HFM20-070M	-
.7	20°	1-1/8	1-1/8	1/2	.063	1	HFM20-070H	-
.7	20°	1-7/8	1-1/2	3/4	.063	1	HFM20-070S	-
.7	20°	2-1/2	2	1-1/4	.063	1	HFM20-070	-
.75	20°	1	3/4	8mm	.067	1	HFM20-075M	-
.75	20°	1-1/8	1-1/8	1/2	.067	1	HFM20-075H	-
.75	20°	1-7/8	1-7/8	3/4	.067	1	HFM20-075S	-
.75	20°	2-1/2	2	1-1/4	.067	1	HFM20-075	HFML20-075
.8	20°	1	3/4	8mm	.071	1	HFM20-080M	-
.8	20°	1-1/8	1-1/8	1/2	.071	1	HFM20-080H	-
.8	20°	1-7/8	1-7/8	3/4	.071	1	HFM20-080S	HFML20-080S
.8	20°	2-1/2	2	1.24	.071	1	HFM20-080	-
.85	20°	1	3/4	8mm	.076	1	HFM20-085M	-
.85	20°	1-1/8	1-1/8	1/2	.076	1	HFM20-085H	-
.85	20°	1-7/8	1-7/8	3/4	.076	1	HFM20-085S	-
.85	20°	2-1/2	2	1-1/4	.076	1	HFM20-085	-
.90	20°	1	3/4	8mm	.080	1	HFM20-090M	-
.90	20°	1-1/4	1-1/4	1/2	.080	1	HFM20-090H	-
.90	20°	1-7/8	1-7/8	3/4	.080	1	HFM20-090S	HFML20-090S
.90	20°	2-1/2	2	1-1/4	.080	1	HFM20-090	HFML20-090
.95	20°	1	3/4	8mm	.084	1	HFM20-095M	-
.95	20°	1-7/8	1-1/2	3/4	.084	1	HFM20-095S	-

HFM20 & HFML20 Series

Module 20° PA GEAR HOBS
Finishing
Non-Topping



HOB



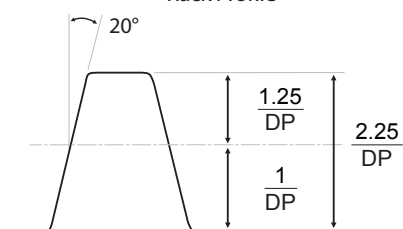
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class AA,A,B,C
.25	20°	1-5/8	1	3/4	.024	1	HFMT20-025S
.3	20°	1	1/2	8mm	.028	1	HFMT20-030M
.35	20°	3/4	1/2	8mm	.032	1	HFMT20-035M
.4	20°	1	2/3	8mm	.037	1	HFMT20-040M
.4	20°	1-5/8	1-1/2	3/4	.037	1	HFMT20-040S
.5	20°	3/4	2/3	8mm	.045	1	HFMT20-050M
.5	20°	1-7/8	1-1/2	3/4	.045	1	HFMT20-050S
.55	20°	11/16	1/2	8mm	.050	1	HFMT20-055M
.6	20°	3/4	3/4	8mm	.054	1	HFMT20-060M
.6	20°	1-1/8	1-1/8	1/2	.054	1	HFMT20-060H
.6	20°	1-7/8	1-1/2	3/4	.054	1	HFMT20-060S
.65	20°	3/4	3/4	8mm	.058	1	HFMT20-065M
.7	20°	1-1/8	1-1/5	1/2	.063	1	HFMT20-070H
.75	20°	1	3/4	8mm	.067	1	HFMT20-075M
.75	20°	1-1/8	1-1/8	1/2	.067	1	HFMT20-075H
.75	20°	1-7/8	1-7/8	3/4	.067	1	HFMT20-075S
.8	20°	1	3/4	8mm	.071	1	HFMT20-080M
.8	20°	1-1/5	1-1/5	1/2	.071	1	HFMT20-080H
.8	20°	1-7/8	1-7/8	3/4	.071	1	HFMT20-080S
.85	20°	3/4	3/4	8mm	.076	1	HFMT20-085M
.9	20°	1-7/8	1-1/2	3/4	.080	1	HFMT20-090S
.9	20°	2-1/2	2	1-1/4	.080	1	HFMT20-090
1	20°	1	3/4	8mm	.089	1	HMT20-100M
1	20°	1-1/4	1-1/4	1/2	.089	1	HMT20-100H
1	20°	1-7/8	1-7/8	3/4	.089	1	HMT20-100S
1-1/4	20°	1-1/4	1-1/4	1/2	.111	1	HMT20-125H
1-1/4	20°	1-7/8	1-7/8	3/4	.111	1	HMT20-125S
1-1/2	20°	1-7/8	1-7/8	3/4	.133	1	HMT20-150S
1-1/2	20°	2-1/2	2-1/2	1-1/4	.133	1	HMT20-150
1-3/4	20°	1-7/8	1-7/8	3/4	.155	1	HMT20-175S
1-3/4	20°	2-1/2	2-1/2	1-1/4	.155	1	HMT20-175
2	20°	2	2	3/4	.177	1	HMT20-200S
2	20°	2-3/4	2-3/4	1-1/4	.177	1	HMT20-200
2-1/4	20°	2-3/4	2-3/4	1-1/4	.199	1	HMT20-225
2-1/2	20°	1-7/8	1-7/8	3/4	.221	1	HMT20-250S
2-1/2	20°	2-3/4	2-3/4	1-1/4	.221	1	HMT20-250
2-3/4	20°	2	2	3/4	.244	1	HMT20-275S
2-3/4	20°	3	3	1-1/4	.244	1	HMT20-275
3	20°	3	3	1-1/4	.266	1	HMT20-300
3-1/2	20°	3	3	1-1/4	.310	1	HMT20-350
6	20°	4	4	1-1/4	.531	1	HMT20-600

HMT20 & HFMT20 Series

Module DP 20° PA GEAR HOBS

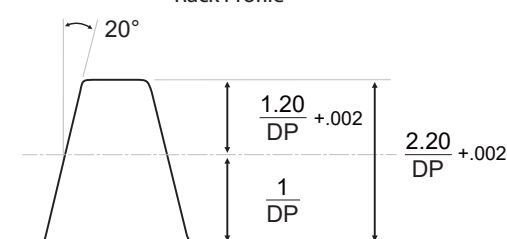
Finishing
Topping

HMT20
Rack Profile



For 20 DP and finer
WD = 2.20/DP + .002

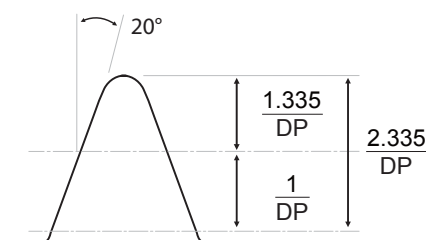
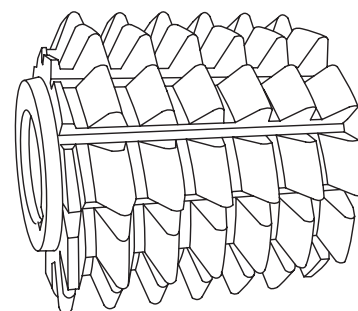
HFMT20
Rack Profile





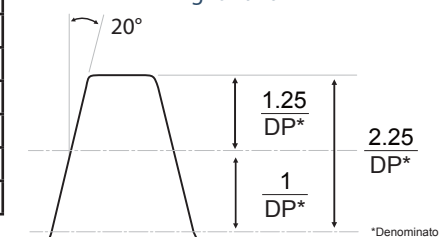
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1	20°	1-7/8	1-7/8	3/4	.092	1	HMR20-100S
1	20°	2-1/2	2	1-1/4	.092	1	HMR20-100
1-1/4	20°	1-7/8	1-7/8	3/4	.115	1	HMR20-125S
1-1/4	20°	2-1/2	2	1-1/4	.115	1	HMR20-125
1-3/8	20°	2-1/2	2	1-1/4	.126	1	HMR20-137
1-1/2	20°	1-7/8	1-7/8	3/4	.138	1	HMR20-150S
1-1/2	20°	2-1/2	2	1-1/4	.138	1	HMR20-150
1-3/4	20°	1-7/8	1-7/8	3/4	.161	1	HMR20-175S
1-3/4	20°	2-1/2	2-1/2	1-1/4	.161	1	HMR20-175
2	20°	1-7/8	1-7/8	3/4	.184	1	HMR20-200S
2	20°	2-3/4	2-3/4	1-1/4	.184	1	HMR20-200
2-1/4	20°	1-7/8	1-7/8	3/4	.207	1	HMR20-225S
2-1/4	20°	2-3/4	2-3/4	1-1/4	.207	1	HMR20-225
2-1/2	20°	1-7/8	1-7/8	3/4	.230	1	HMR20-250S
2-1/2	20°	2-3/4	2-3/4	1-1/4	.230	1	HMR20-250
2-3/4	20°	3	3	1-1/4	.253	1	HMR20-275
3	20°	2	2	3/4	.276	1	HMR20-300S
3	20°	3	3	1-1/4	.276	1	HMR20-300
3-1/4	20°	3-1/4	3-1/4	1-1/4	.299	1	HMR20-325
3-1/2	20°	3	3	1-1/4	.322	1	HMR20-350
3-3/4	20°	3	3	1-1/4	.345	1	HMR20-375
4	20°	3-1/2	3-1/2	1-1/4	.368	1	HMR20-400
4-1/4	20°	3-1/2	3-1/2	1-1/4	.391	1	HMR20-425
4-1/2	20°	3-1/2	3-1/2	1-1/4	.414	1	HMR20-450
4-3/4	20°	3-1/2	3-1/2	1-1/4	.437	1	HMR20-475
5	20°	3-1/2	3-1/2	1-1/4	.460	1	HMR20-500
6	20°	4	4	1-1/4	.552	1	HMR20-600
6-1/2	20°	4	4	1-1/4	.598	1	HMR20-650
7	20°	4-1/4	4-3/4	1-1/4	.644	1	HMR20-700
8	20°	4-1/2	5	1-1/4	.735	1	HMR20-800
9	20°	5	6	1-1/4	.827	1	HMR20-900
10	20°	5	6	1-1/2	.919	1	HMR20-010
11	20°	5-1/2	6-1/2	1-1/2	1.011	1	HMR20-011
12	20°	5-3/4	7	1-1/2	1.103	1	HMR20-012
14	20°	6-1/2	8	1-1/2	1.287	1	HMR20-014
15	20°	6-1/2	8	1-1/2	1.379	1	HMR20-015
16	20°	8	9	2	1.471	1	HMR20-016
18	20°	8-1/4	9	2	1.655	1	HMR20-018
20	20°	8-3/4	11	2	1.839	1	HMR20-020
25	20°	11	15	2-1/2	2.298	1	HMR20-025

HMR20 Series
Module 20° PA GEAR HOBS
Full Fillet
Finishing
Non-Topping, Right Hand



Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1.25/1	20°	2-1/2	2-1/2	1-1/4	.089	1	HMF20-125
1.5/1.25	20°	2-1/2	2-1/2	1-1/4	.111	1	HMF20-150
2/1.75	20°	2-3/4	2-3/4	1-1/4	.155	1	HMF20-200
2.5/2	20°	2-3/4	2-3/4	1-1/4	.177	1	HMF20-250
3/2.25	20°	3	3	1-1/4	.199	1	HMF20-300
3.5/2.5	20°	3	3	1-1/4	.222	1	HMF20-350
4/3	20°	3-1/2	3-1/2	1-1/4	.266	1	HMF20-400
5/3.75	20°	3-1/2	3-1/2	1-1/4	.332	1	HMF20-500

HMF20 Series
Module 20° PA GEAR HOBS
Combination Pitch Stub
Finishing, Non-Topping,
Right Hand

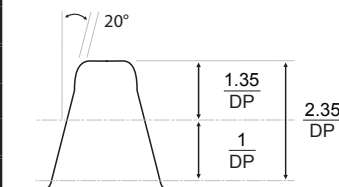
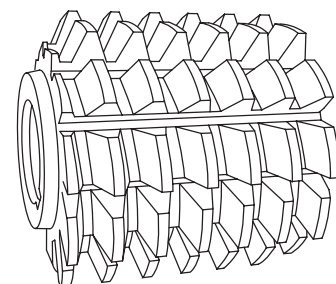




Module	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
.75	20°	1-7/8	1-1/2	3/4	.069	.004	.003	1	HMPG20-075S	-
.8	20°	1-7/8	1-7/8	3/4	.074	.006	.003	1	HMPG20-080S	-
1	20°	1-7/8	1-7/8	3/4	.093	.010	.004	1	HMPG20-100S	-
1	20°	2-1/2	2	1-1/4	.093	.010	.004	1	HMPG20-100	-
1-1/4	20°	1-7/8	1-7/8	3/4	.116	.010	.004	1	HMPG20-125S	-
1-1/4	20°	2-1/2	2-1/2	1-1/4	.116	.010	.004	1	HMPG20-125	-
1-1/2	20°	2-1/2	2-1/2	1-1/4	.139	.010	.007	1	HMPG20-150	-
1-1/2	20°	1-7/8	1-7/8	3/4	.139	.010	.007	1	HMPG20-150S	-
1-1/2	20°	2-1/2	2-1/2	1-1/4	.139	.010	.007	1	HMPG20-150	HMPGL20-150
1-3/4	20°	1-7/8	1-7/8	3/4	.162	.010	.007	1	HMPG20-175S	-
1-3/4	20°	2-1/2	2-1/2	1-1/4	.162	.010	.007	1	HMPG20-175	-
2	20°	2-3/4	2-3/4	1-1/4	.185	.010	.007	1	HMPG20-200	HMPGL20-200
2-1/4	20°	2-3/4	2-3/4	1-1/4	.208	.010	.007	1	HMPG20-225	-
2-1/2	20°	2-3/4	2-3/4	1-1/4	.231	.010	.007	1	HMPG20-250	-
2-3/4	20°	3	3	1-1/4	.254	.010	.007	1	HMPG20-275	HMPGL20-275
3	20°	3	3	1-1/4	.278	.010	.006	1	HMPG20-300	HMPGL20-300
3-1/4	20°	3	3	1-1/4	.301	.011	.006	1	HMPG20-325	-
3-1/2	20°	3	3	1-1/4	.324	.012	.006	1	HMPG20-350	-
3-3/4	20°	3	3	1-1/4	.347	.012	.006	1	HMPG20-375	-
4	20°	3-1/2	3-1/2	1-1/4	.370	.012	.006	1	HMPG20-400	HMPGL20-400
4-1/4	20°	3-1/2	3-1/2	1-1/4	.393	.012	.007	1	HMPG20-425	-
4-1/2	20°	3-1/2	3-1/2	1-1/4	.416	.012	.007	1	HMPG20-450	HMPGL20-450
4-3/4	20°	3-1/2	3-1/2	1-1/4	.439	.012	.007	1	HMPG20-475	-
5	20°	3-1/2	3-1/2	1-1/4	.463	.012	.008	1	HMPG20-500	-
5-1/2	20°	4	4	1-1/4	.509	.012	.008	1	HMPG20-550	-
6	20°	4	4	1-1/4	.555	.012	.008	1	HMPG20-600	HMPGL20-600
6-1/2	20°	4-1/4	4-3/4	1-1/4	.601	.013	.008	1	HMPG20-650	-
7	20°	4-1/4	4-3/4	1-1/4	.648	.013	.008	1	HMPG20-700	-
7-1/2	20°	4-1/2	4-1/2	1-1/4	.694	.013	.008	1	HMPG20-750	-
8	20°	4-1/2	5	1-1/4	.740	.013	.010	1	HMPG20-800	HMPGL20-800
9	20°	5	6	1-1/2	.833	.013	.010	1	HMPG20-900	-
10	20°	5	6	1-1/2	.925	.013	.010	1	HMPG20-010	HMPGL20-010
11	20°	5-1/2	6-1/2	1-1/2	1.018	.016	.010	1	HMPG20-011	-
12	20°	5-3/4	7	1-1/2	1.110	.016	.010	1	HMPG20-012	HMPGL20-012
13	20°	6	7-1/2	1-1/2	1.203	.016	.010	1	HMPG20-013	-
14	20°	6-1/2	8	1-1/2	1.295	.016	.012	1	HMPG20-014	-
15	20°	6-3/4	8	1-1/2	1.388	.016	.012	1	HMPG20-015	-
16	20°	7-1/2	8-1/2	1-1/2	1.480	.018	.012	1	HMPG20-016	-
18	20°	8-1/4	9	2	1.665	.020	.012	1	HMPG20-018	-
20	20°	8-3/4	10	2	1.850	.025	.015	1	HMPG20-020	-
22	20°	9-3/4	13	2	2.035	.026	.015	1	HMPG20-022	-
25	20°	11	15	2-1/2	2.313	.027	.015	1	HMPG20-025	-

HMPG20 & HMPGL20 Series

Module 20° PA GEAR HOBS
Pre-Grind
Non-Topping
with Protuberance

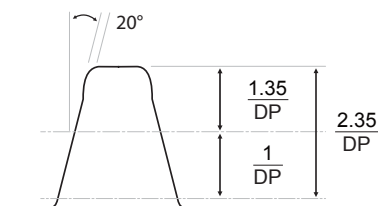




Module	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C
.75	20°	1-7/8	1-1/2	3/4	.069	.001	.001	1	HMP20-075S
.8	20°	1-7/8	1-7/8	3/4	.074	.001	.001	1	HMP20-080S
1	20°	1-7/8	1-7/8	3/4	.093	.002	.001	1	HMP20-100S
1	20°	2-1/2	2	1-1/4	.093	.002	.001	1	HMP20-100
1-1/4	20°	1-7/8	1-7/8	3/4	.116	.002	.002	1	HMP20-125S
1-1/2	20°	1-7/8	1-7/8	3/4	.139	.002	.002	1	HMP20-150S
1-1/2	20°	2-1/2	2-1/2	1-1/4	.139	.002	.002	1	HMP20-150
1-3/4	20°	1-7/8	1-7/8	3/4	.162	.003	.002	1	HMP20-175S
1-3/4	20°	2-1/2	2-1/2	1-1/4	.162	.003	.002	1	HMP20-175
2	20°	2-3/4	2-3/4	1-1/4	.185	.003	.002	1	HMP20-200
2-1/2	20°	2-3/4	2-3/4	1-1/4	.231	.003	.002	1	HMP20-250
2-3/4	20°	3	3	1-1/4	.254	.003	.002	1	HMP20-275
3	20°	3	3	1-1/4	.278	.004	.002	1	HMP20-300
3-1/2	20°	3	3	1-1/4	.324	.004	.002	1	HMP20-350
4	20°	3-1/2	3-1/2	1-1/4	.370	.004	.002	1	HMP20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.416	.004	.003	1	HMP20-450
5	20°	3-1/2	3-1/2	1-1/4	.463	.004	.003	1	HMP20-500
6	20°	4	4	1-1/4	.555	.004	.003	1	HMP20-600
7	20°	4-1/4	4-3/4	1-1/4	.648	.005	.004	1	HMP20-700

HMP20 Series

Module 20° PA GEAR HOBS
Pre-Shave
Non-Topping,
Right Hand
with Protuberance

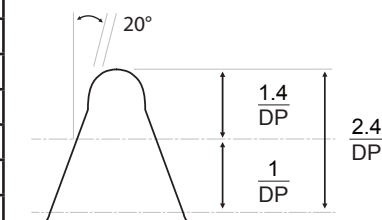


Module	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Non-Chamfering	Chamfering
1-3/4	20°	2-1/2	2-3/4	1-1/4	.165	.010	.007	1	HMPGR20-175	HMPGRC20-175
2	20°	2-3/4	2-3/4	1-1/4	.189	.010	.007	1	HMPGR20-200	HMPGRC20-200
2-1/4	20°	2-3/4	2-3/4	1-1/4	.213	.010	.007	1	HMPGR20-225	-
2-1/2	20°	2-3/4	2-3/4	1-1/4	.236	.010	.007	1	HMPGR20-250	-
2-3/4	20°	3	3	1-1/4	.260	.010	.007	1	HMPGR20-275	HMPGRC20-275
3	20°	3	3	1-1/4	.283	.010	.006	1	HMPGR20-300	HMPGRC20-300
3-1/2	20°	3	3	1-1/4	.331	.010	.006	1	HMPGR20-350	HMPGRC20-350
3-3/4	20°	3	3	1-1/4	.354	.010	.006	1	HMPGR20-375	-
4	20°	3-1/2	3-1/2	1-1/4	.378	.010	.006	1	HMPGR20-400	HMPGRC20-400
4-1/2	20°	3-1/2	3-1/2	1-1/4	.425	.010	.006	1	HMPGR20-450	HMPGRC20-450
5	20°	3-1/2	3-1/2	1-1/4	.472	.010	.006	1	HMPGR20-500	HMPGRC20-500
5-1/2	20°	4	4	1-1/4	.520	.012	.008	1	HMPGR20-550	-
5-3/4	20°	3-1/2	3-1/2	1-1/4	.543	.012	.008	1	HMPGR20-575	-
6	20°	4	4	1-1/4	.567	.012	.008	1	HMPGR20-600	HMPGRC20-600
6-1/2	20°	4	4	1-1/4	.614	.012	.008	1	HMPGR20-650	-
7	20°	4-1/2	5	1-1/4	.661	.012	.008	1	HMPGR20-700	-
8	20°	4-1/2	5	1-1/4	.756	.013	.010	1	HMPGR20-800	HMPGRC20-800
9	20°	5	6	1-1/4	.850	.016	.010	1	HMPGR20-900	HMPGRC20-900
10	20°	5	6	1-1/4	.945	.016	.010	1	HMPGR20-010	HMPGRC20-010
11	20°	5-1/2	5	1-1/4	1.039	.016	.010	1	HMPGR20-011	-
12	20°	5-3/4	7	1-1/4	1.134	.016	.012	1	HMPGR20-012	HMPGRC20-012
14	20°	6-1/2	8	1-1/2	1.323	.018	.012	1	HMPGR20-014	HMPGRC20-014
16	20°	8	9	2	1.512	.018	.012	1	HMPGR20-016	HMPGRC20-016
18	20°	8-1/4	9	2	1.701	.020	.012	1	HMPGR20-018	HMPGRC20-018
20	20°	8-3/4	10	2	1.890	.024	.015	1	HMPGR20-020	HMPGRC20-020
24	20°	11	15	2-1/2	2.268	.026	.015	1	HMPGR20-024	-

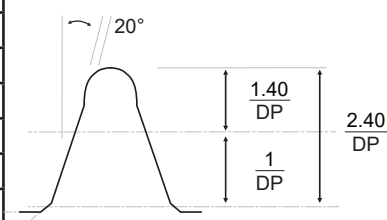
HMPGR20 & HMPGRC20 Series

Module 20° PA GEAR HOBS
Pre-Grind
Fillet Root
Non-Topping & Semi Topping,
Right Hand
with Protuberance

HMPGR20
Rack Profile (Non-Topping)



HMPGRC20
Rack Profile (Semi-Topping)



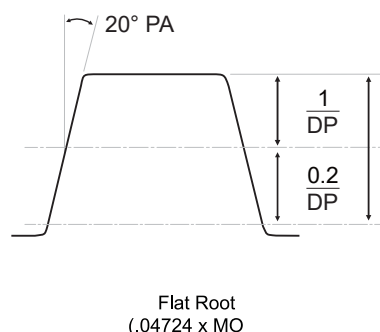
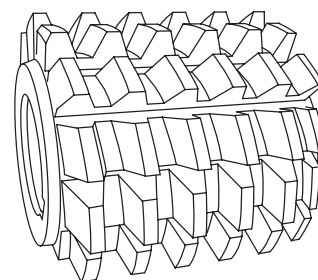


Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.5	20°	1-7/8	1-1/2	3/4	.024	1	HMJ-050S
.75	20°	1-7/8	1-1/2	3/4	.035	1	HMJ-075S
1	20°	1-7/8	1-1/2	3/4	.047	1	HMJ-100S
1	20°	2-1/2	2	1-1/4	.047	1	HMJ-100
1-1/4	20°	1-7/8	1-1/2	3/4	.059	1	HMJ-125S
1-1/4	20°	2-1/2	2	1-1/4	.059	1	HMJ-125
1-1/2	20°	1-7/8	1-7/8	3/4	.071	1	HMJ-150S
1-1/2	20°	2-1/2	2	1-1/4	.071	1	HMJ-150
1-2/3	20°	1-7/8	1-7/8	3/4	.079	1	HMJ-167S
1-2/3	20°	2-1/2	2	1-1/4	.079	1	HMJ-167
1-3/4	20°	1-7/8	1-7/8	3/4	.083	1	HMJ-175S
2	20°	1-7/8	1-7/8	3/4	.094	1	HMJ-200S
2	20°	2-3/4	2-1/2	1-1/4	.094	1	HMJ-200
2-1/2	20°	2-3/4	2-1/2	1-1/4	.118	1	HMJ-250
3	20°	3	3	1-1/4	.142	1	HMJ-300
3-3/4	20°	3	3	1-1/4	.177	1	HMJ-375
4-1/2	20°	3-1/4	3-1/4	1-1/4	.212	1	HMJ-450
5	20°	3-1/4	3-1/4	1-1/4	.236	1	HMJ-500
6	20°	3-1/2	3-1/2	1-1/4	.283	1	HMJ-600
7-1/2	20°	3-1/2	3-1/2	1-1/4	.354	1	HMJ-750
10	20°	4	4	1-1/4	.472	1	HMJ-010

Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1	25°	1-7/8	1-7/8	3/4	.092	1	HMR25-100S
1-1/4	25°	1-7/8	1-7/8	3/4	.115	1	HMR25-125S
1-1/2	25°	1-7/8	1-7/8	3/4	.138	1	HMR25-150S
1-3/4	25°	1-7/8	1-7/8	3/4	.161	1	HMR25-175S
2	25°	1-7/8	1-7/8	3/4	.184	1	HMR25-200S
2-1/4	25°	1-7/8	1-7/8	3/4	.207	1	HMR25-225S
2-1/2	25°	1-7/8	1-7/8	3/4	.230	1	HMR25-250S
2-3/4	25°	3	3	1-1/4	.253	1	HMR25-275
3	25°	3	3	1-1/4	.276	1	HMR25-300
3-3/4	25°	3-1/2	3-1/2	1-1/4	.345	1	HMR25-350
4	25°	3-1/2	3-1/2	1-1/4	.368	1	HMR25-400
4-1/4	25°	3-1/2	3-1/2	1-1/4	.391	1	HMR25-425
4-1/2	25°	3-1/2	3-1/2	1-1/4	.414	1	HMR25-450
4-3/4	25°	3-1/2	3-1/2	1-1/4	.437	1	HMR25-475
5	25°	3-1/2	3-1/2	1-1/4	.460	1	HMR25-500
6	25°	4	4	1-1/4	.552	1	HMR25-600
8	25°	4-1/2	5	1-1/4	.735	1	HMR25-800
9	25°	5	6	1-1/4	.827	1	HMR25-900
10	25°	5	6	1-1/2	.919	1	HMR25-010
12	25°	5-3/4	7	1-1/2	1.103	1	HMR25-012
14	25°	6-1/2	8	1-1/2	1.287	1	HMR25-014

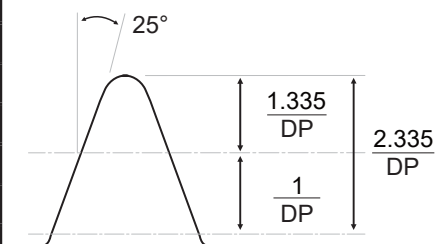
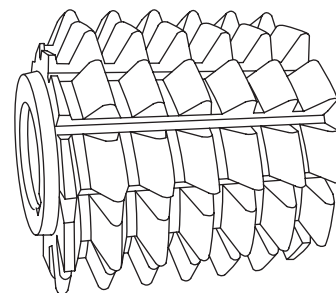
HMJ Series

Module 20° PA GEAR HOBS
JIS Standard / NFE Standard Spline
Finishing ,Non-Topping, Right Hand



HMR25 Series

Module 25° PA GEAR HOBS
Fillet Root
Fishing Non-Topping
Right Hand

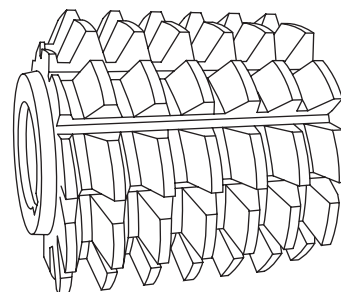




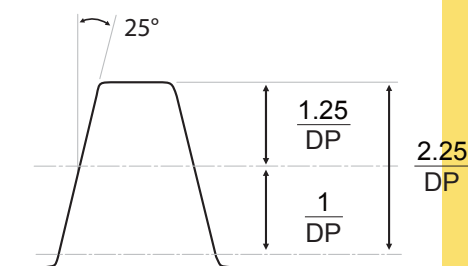
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.25	25°	1-7/8	1-1/2	3/4	.022	1	HFM25-025S
.5	25°	3/4	11/16	8mm	.045	1	HFM25-050M
.6	25°	1-7/8	1-7/8	3/4	.054	1	HFM25-060S
.75	25°	1-7/8	1-1/2	3/4	.067	1	HFM25-075S
.8	25°	1	3/4	8mm	.071	1	HFM25-080M
.8	25°	1-1/8	1-1/8	1/2	.071	1	HFM25-080H
1	25°	1	3/4	8mm	.089	1	HFM25-100M
1	25°	1-1/4	1-1/4	1/2	.089	1	HM25-100H
1	25°	1-7/8	1-7/8	3/4	.089	1	HM25-100S
1	25°	2-1/2	2	1-1/4	.089	1	HM25-100
1-1/4	25°	1-7/8	1-7/8	3/4	.111	1	HM25-125S
1-1/4	25°	2-1/2	2-1/2	1.25	.111	1	HM25-125
1-1/2	25°	1-7/8	1-7/8	3/4	.133	1	HM25-150S
1-1/2	25°	2-1/2	2-1/2	1-1/4	.133	1	HM25-150
1-3/4	25°	1-7/8	1-7/8	3/4	.155	1	HM25-175S
1-3/4	25°	2-1/2	2-1/2	1-1/4	.155	1	HM25-175
2	25°	1-7/8	1-7/8	3/4	.177	1	HM25-200S
2	25°	2-3/4	2-3/4	1-1/4	.177	1	HM25-200
2-1/4	25°	1-7/8	1-7/8	3/4	.199	1	HM25-225S
2-1/4	25°	2-3/4	2-3/4	1-1/4	.199	1	HM25-225
2-1/2	25°	1-7/8	1-7/8	3/4	.221	1	HM25-250S
2-1/2	25°	2-3/4	2-3/4	1-1/4	.221	1	HM25-250
2-3/4	25°	3	3	1-1/4	.244	1	HM25-275
3	25°	3	3	1-1/4	.266	1	HM25-300
3-1/4	25°	3	3	1-1/4	.288	1	HM25-325
3-1/2	25°	3	3	1-1/4	.310	1	HM25-350
3-3/4	25°	3	3	1-1/4	.332	1	HM25-375
4	25°	3-1/2	3-1/2	1-1/4	.354	1	HM25-400
4-1/2	25°	3-1/2	3-1/2	1-1/4	.399	1	HM25-450
5	25°	3-1/2	3-1/2	1-1/4	.443	1	HM25-500
6	25°	4	4	1-1/4	.531	1	HM25-600
7	25°	4-1/4	4-3/4	1-1/4	.620	1	HM25-700
8	25°	4-1/2	5	1-1/4	.709	1	HM25-800
9	25°	5	5	1-1/4	.797	1	HM25-900
10	25°	5-1/2	6	1-1/2	.886	1	HM25-010
12	25°	5-3/4	8	1-1/2	1.063	1	HM25-012
14	25°	7-1/4	9	2	1.240	1	HM25-014
15	25°	7-1/4	9	2	1.329	1	HM25-015
16	25°	8	10	2	1.417	1	HM25-016
18	25°	8	10	2	1.594	1	HM25-018
20	25°	8-3/4	12	2	1.772	1	HM25-020
20	25°	8-1/4	10-3/4	1-1/2	1.772	1	CHM25-020
22	25°	9-1/2	13	2	1.949	1	HM25-022
24	25°	10-3/4	15	2-1/2	2.126	1	HM25-024
25	25°	10-3/4	15	2-1/2	2.215	1	HM25-025

HM25, CHM25, & HFM25 Series

Module 25° PA
GEAR HOBS
Finishing
Non-Topping
Right Hand

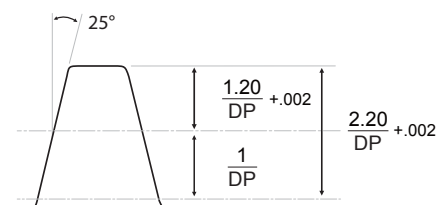


HM15 & HML15
Rack Profile



For 20 DP and finer
WD = 2.20/DP + .002

HFM25 Rack Profile





Module	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C
									Pre-Shave
2	25°	2-3/4	2-3/4	1-1/4	.184	.003	.002	1	HMP25-200
3	25°	3	3	1-1/4	.276	.003	.002	1	HMP25-300
3-1/2	25°	3	3	1-1/4	.322	.003	.002	1	HMP25-350
4	25°	3-1/2	3-1/2	1-1/4	.368	.003	.003	1	HMP25-400

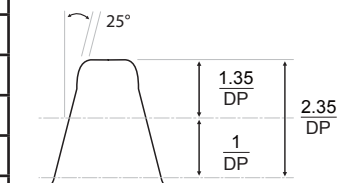
HMP25 Series

Module 25° PA GEAR HOBS
Pre-Shave, Non-Topping
Right Hand

Module	PA	OD	Length	Bore	WD	Thin Approx	Protuberance Approx	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1-1/2	25°	1-7/8	1-7/8	3/4	.139	.008	.005	1	HMPG25-150S	-
2	25°	2-3/4	2-3/4	1-1/4	.185	.009	.006	1	HMPG25-200	-
2-1/4	25°	2-3/4	2-3/4	1-1/4	.208	.009	.006	1	HMPG25-225	-
2-1/2	25°	2-3/4	2-3/4	1-1/4	.231	.009	.006	1	HMPG25-250	-
2-3/4	25°	3	3	1-1/4	.254	.009	.006	1	HMPG25-275	-
3	25°	3	3	1-1/4	.278	.009	.006	1	HMPG25-300	-
3-1/2	25°	3	3	1-1/4	.324	.009	.006	1	HMPG25-350	-
4	25°	3-1/2	3-1/2	1-1/4	.370	.009	.006	1	HMPG25-400	HMPGL25-400
4-1/4	25°	3-1/2	3-1/2	1-1/4	.393	.011	.007	1	HMPG25-425	-
4-1/2	25°	3-1/2	3-1/2	1-1/4	.416	.012	.007	1	HMPG25-450	-
5	25°	3-1/2	3-1/2	1-1/4	.463	.012	.007	1	HMPG25-500	HMPGL25-500
6	25°	4	4	1-1/4	.555	.012	.007	1	HMPG25-600	HMPGL25-600
7	25°	4-1/4	4-3/4	1-1/4	.648	.013	.008	1	HMPG25-700	-
8	25°	4-1/2	5	1-1/4	.740	.014	.008	1	HMPG25-800	HMPGL25-800
9	25°	5	6	1-1/4	.833	.014	.009	1	HMPG25-900	-
10	25°	5	5	1-1/2	.925	.015	.009	1	HMPG25-010	-
12	25°	5-3/4	7	1-1/2	1.110	.016	.010	1	HMPG25-012	-
14	25°	6-1/2	8	1-1/2	1.295	.016	.010	1	HMPG25-014	-
16	25°	7-1/2	8-1/2	1-1/2	1.480	.017	.010	1	HMPG25-016	-
18	25°	8-1/4	9	2	1.665	.020	.012	1	HMPG25-016	-
20	25°	8-3/4	10	2	1.850	.025	.015	1	HMPG25-016	-

HMPG25 & HMPGL25 Series

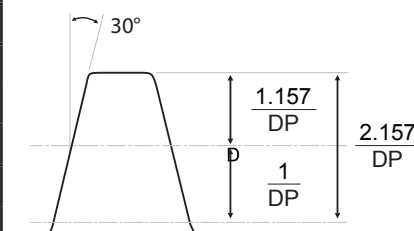
Module 25° PA GEAR HOBS
Pre-Grind
Non-Topping



Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.5	30°	1-1/2	1-1/2	3/4	.044	1	HMS30-050SE
.75	30°	1-7/8	1-1/2	3/4	.064	1	HMS30-075S
.75	30°	1-7/8	1-7/8	3/4	.066	1	HMS30-075SE
1	30°	1-7/8	1-7/8	3/4	.085	1	HMS30-100S
1-1/2	30°	1-7/8	1-7/8	3/4	.133	1	HMS30-150SE
1-1/2	30°	2-1/2	2-1/2	1-1/4	.127	1	HMS30-150
1-3/4	30°	1-7/8	1-7/8	3/4	.155	1	HMS30-175SE
2	30°	2-3/4	2-3/4	1-1/4	.170	1	HMS30-200
2-1/4	30°	2-3/4	2-3/4	1-1/4	.191	1	HMS30-225
2-1/2	30°	2-3/4	2-3/4	1-1/4	.212	1	HMS30-250
3	30°	3	3	1-1/4	.255	1	HMS30-300
4	30°	3-1/4	3-1/4	1-1/4	.340	1	HMS30-400
5	30°	3-1/2	3-1/2	1-1/4	.425	1	HMS30-500
6	30°	3-1/2	3-1/2	1-1/4	.510	1	HMS30-600
8	30°	4	4	1-1/4	.679	1	HMS30-800

HMS30 Series

Module 30° PA GEAR HOBS
Finishing
Non-Topping
Right Hand



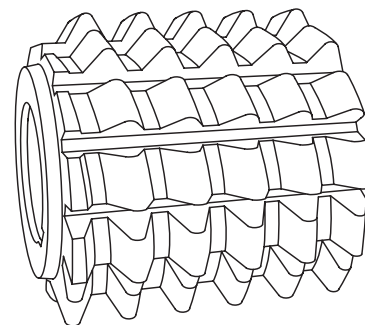
*Some Finer Pitch 2.25/DP



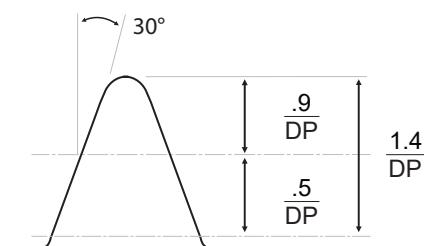
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.3	30°	2-1/2	2	1-1/4	.017	1	HMF30-030
.5	30°	1-7/8	1-7/8	3/4	.028	1	HMF30-050S
.5	30°	1-1/8	1-1/8	1/2	.028	1	HMF30-050H
.75	30°	3/4	11/16	8mm	.041	1	HMF30-075M
.75	30°	1-1/8	1-1/8	1/2	.041	1	HMF30-075H
.75	30°	1-7/8	1-1/2	3/4	.041	1	HMF30-075S
.75	30°	2-1/2	2	1-1/4	.041	1	HMF30-075
.75	30°	2-1/2	2	1-1/4	.041	2	HMF30-075-2
.80	30°	1-1/8	1-1/8	1/2	.044	1	HMF30-080H
.90	30°	1-7/8	1-1/2	3/4	.050	1	HMF30-090S
1	30°	3/4	3/4	8mm	.055	1	HMF30-100M
1	30°	1-1/4	1-1/4	1/2	.055	1	HMF30-100H
1	30°	1-7/8	1-7/8	3/4	.055	1	HMF30-100S
1	30°	2-1/2	2	1-1/4	.055	1	HMF30-100
1-1/4	30°	1-7/8	1-7/8	3/4	.069	1	HMF30-125S
1-1/4	30°	2-1/2	2	1-1/4	.069	1	HMF30-125
1-1/2	30°	1-7/8	1-7/8	3/4	.083	1	HMF30-150S
1-1/2	30°	2-1/2	2-1/2	1-1/4	.083	1	HMF30-150
1-3/4	30°	1-7/8	1-7/8	3/4	.096	1	HMF30-175S
1-3/4	30°	2-1/2	2-1/2	1-1/4	.096	1	HMF30-175
2	30°	1-7/8	1-7/8	3/4	.110	1	HMF30-200S
2	30°	2-3/4	2-3/4	1-1/4	.110	1	HMF30-200
2-1/4	30°	2-3/4	2-3/4	1-1/4	.124	1	HMF30-225
2-1/2	30°	1-7/8	1-7/8	3/4	.138	1	HMF30-250S
2-1/2	30°	2-3/4	2-3/4	1-1/4	.138	1	HMF30-250
2-3/4	30°	2-3/4	2-3/4	1-1/4	.152	1	HMF30-275
3	30°	3	3	1-1/4	.165	1	HMF30-300
4	30°	3-1/4	3-1/4	1-1/4	.220	1	HMF30-400
4	30°	3-1/4	3-1/4	1-1/4	.220	2	HMF30-400-2
5	30°	3-1/2	3-1/2	1-1/4	.276	1	HMF30-500
6	30°	3-1/2	3-1/2	1-1/4	.331	1	HMF30-600
8	30°	3-3/4	3-3/4	1-1/4	.441	1	HMF30-800
10	30°	4	4	1-1/4	.551	1	HMF30-010

HMF30 Series

Module 30° PA GEAR HOBS
Involute Spline
Finishing
Right Hand
Non Chamfering
Fillet Root



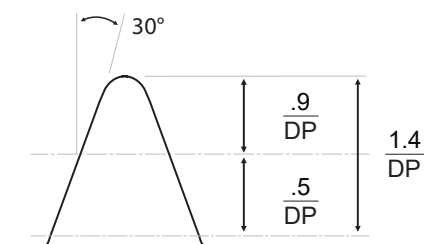
ANSI B92.2M-1980



Module	PA	OD	Length	WD	# Threads	Specify Class A,B,C
.5	30°	5/8	6	.028	1	HMFK30-050
.75	30°	3/4	6	.041	1	HMFK30-075
1	30°	3/4	6	.055	1	HMFK30-100
1-1/4	30°	7/8	6	.069	1	HMFK30-125
1-1/2	30°	7/8	6	.083	1	HMFK30-150
1-3/4	30°	7/8	6	.096	1	HMFK30-175
2	30°	7/8	6	.110	1	HMFK30-200

HMFK30 Series

Module 30° PA GEAR HOBS
Involute Spline Finishing,
Right Hand
Non-Chamfering
Fillet Root Shank Type

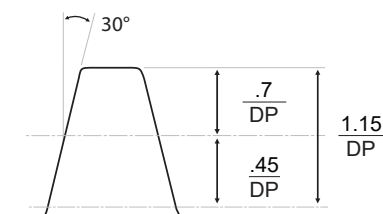




Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
.50	30°	5/8	11/16	8mm	.022	1	HM30-050M	-
.50	30°	1-1/8	1-1/8	1/2	.022	1	HM30-050H	-
.50	30°	1-7/8	1-1/2	3/4	.022	1	HM30-050S	-
.50	30°	2-1/2	2	1-1/4	.022	1	HM30-050	-
.60	30°	1-7/8	1-7/8	3/4	.022	1	HM30-050SX	-
.60	30°	3/4	3/4	8mm	.026	1	HM30-060M	-
.60	30°	1-1/8	1-1/8	1/2	.026	1	HM30-060H	-
.60	30°	1-7/8	1-1/2	3/4	.026	1	HM30-060S	-
.65	30°	1-1/8	1-1/8	1/2	.028	1	HM30-065H	-
.70	30°	1-1/8	1-1/8	1/2	.030	1	HM30-070H	-
.70	30°	1-7/8	1-1/2	3/4	.030	1	HM30-070S	-
.75	30°	3/4	3/4	8mm	.034	1	HM30-075M	-
.75	30°	1-1/8	1-1/8	1/2	.034	1	HM30-075H	-
.75	30°	1-7/8	1-1/2	3/4	.034	1	HM30-075S	-
.75	30°	2-1/2	2	1-1/4	.034	1	HM30-075	-
.80	30°	1-1/8	1-1/8	1/2	.035	1	HM30-080H	-
.80	30°	1-7/8	1-1/2	3/4	.035	1	HM30-080S	-
1	30°	3/4	3/4	8mm	.045	1	HM30-100M	-
1	30°	1-1/4	1-1/4	1/2	.045	1	HM30-100H	-
1	30°	1-7/8	1-7/8	3/4	.045	1	HM30-100S	-
1	30°	2-1/2	2	1-1/4	.045	1	HM30-100	-
1-1/4	30°	1-7/8	1-7/8	3/4	.057	1	HM30-125S	HML30-125S
1-1/4	30°	2-1/2	2	1-1/4	.057	1	HM30-125	-
1-1/4	30°	48mm	70mm	22mm	.054	1	HM30-125T	-
1-1/2	30°	1-7/8	1-7/8	3/4	.068	1	HM30-150S	-
1-1/2	30°	2-1/2	2-1/2	1-1/4	.068	1	HM30-150	-
1-1/2	30°	48mm	48mm	22mm	.068	1	HM30-150T	-
1-3/4	30°	1-7/8	1-7/8	3/4	.079	1	HM30-175S	-
1-3/4	30°	2-1/2	2-1/2	1-1/4	.079	1	HM30-175	-
2	30°	1-7/8	1-7/8	3/4	.091	1	HM30-200S	-
2	30°	2-3/4	2-3/4	1-1/4	.091	1	HM30-200	-
2	30°	70mm	85mm	27 mm	.091	1	HM30-200N	-
2	30°	70mm	70mm	32mm	.091	1	HM30-200T	-
2-1/4	30°	1-7/8	1-7/8	3/4	.097	1	HM30-225S	-
2-1/4	30°	2-3/4	2-3/4	1-1/4	.097	1	HM30-225	-
2-1/2	30°	1-7/8	1-7/8	3/4	.113	1	HM30-250S	-
2-1/2	30°	2-3/4	2-3/4	1-1/4	.113	1	HM30-250	-
3	30°	2	2	3/4	.136	1	HM30-300S	-
3	30°	3	3	1-1/4	.136	1	HM30-300	-
3	30°	3	3	1-1/4	.136	2	HM30-300-2	-
3	30°	76mm	76mm	32mm	.136	1	HM30-300T	-
3-1/2	30°	3	3	1-1/4	.159	1	HM30-350	-
3-3/4	30°	3	3	1-1/4	.162	1	HM30-375	-
4	30°	3-1/4	3-1/4	1-1/4	.181	1	HM30-400	-
4-1/2	30°	3-1/4	3-1/4	1-1/4	.204	1	HM30-450	-
5	30°	3-1/2	3-1/2	1-1/4	.217	1	HM30-500	-
6	30°	3-1/2	3-1/2	1-1/4	.272	1	HM30-600	-
7	30°	3-3/4	3-3/4	1-1/4	.317	1	HM30-700	-
8	30°	3-3/4	3-3/4	1-1/4	.362	1	HM30-800	-
10	30°	4	4	1-1/4	.492	1	HM30-010	HML30-010

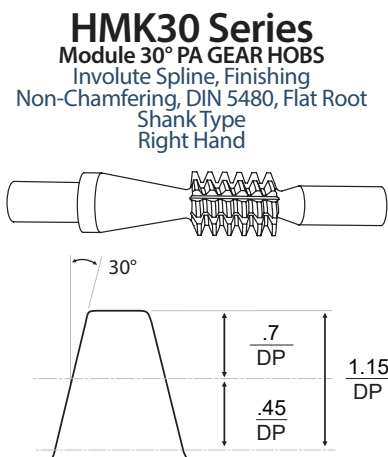
HM30 & HML30 Series

Module 30° PA GEAR HOBS
 Involute Spline
 Finishing
 Non-Chamfering
 Fillet Root
 DIN 5480, Flat Root



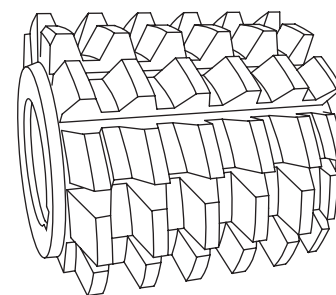


Module	PA	OD	Length	WD	# Threads	Specify Class A,B,C
.50	30°	5/8	6	.022	1	HMK30-050
.75	30°	3/4	6	.034	1	HMK30-075
.80	30°	3/4	6	.036	1	HMK30-080
1	30°	3/4	6	.045	1	HMK30-100
1-1/4	30°	3/4	6	.057	1	HMK30-125
1-1/2	30°	7/8	6	.068	1	HMK30-150
1-3/4	30°	7/8	6	.079	1	HMK30-175
2	30°	7/8	6	.087	1	HMK30-200
2-1/2	30°	7/8	6	.113	1	HMK30-250

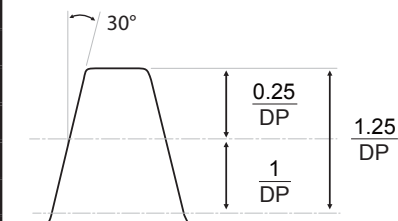


Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
.20	30°	5/8	2/3	8mm	.010	1	HMA30-020M	-
.40	30°	1-1/8	1-1/8	1/2	.020	1	HMA30-040H	-
.50	30°	3/4	3/4	8mm	.025	1	HMA30-050M	-
.50	30°	1-1/8	1-1/8	1/2	.025	1	HMA30-050H	-
.50	30°	1-7/8	1-1/2	3/4	.025	1	HMA30-050S	-
.75	30°	1-7/8	1-1/2	3/4	.030	1	HMA30-060S	-
.75	30°	1-1/8	1-1/8	1/2	.037	1	HMA30-075H	-
.75	30°	1-7/8	1-1/2	3/4	.037	1	HMA30-075S	-
.80	30°	1-7/8	1-1/2	3/4	.039	1	HMA30-080S	-
1	30°	3/4	3/4	8mm	.049	1	HMA30-100M	-
1	30°	1-1/4	1-1/4	1/2	.049	1	HMA30-100H	-
1	30°	1-7/8	1-7/8	3/4	.049	1	HMA30-100S	-
1	30°	2-1/2	2	1-1/4	.049	1	HMA30-100	-
1-1/4	30°	1-7/8	1-7/8	3/4	.062	1	HMA30-125S	HMAL30-125S
1-1/4	30°	2-1/2	2	1-1/4	.062	1	HMA30-125	-
1-1/2	30°	1-7/8	1-7/8	3/4	.074	1	HMA30-150S	-
1-1/2	30°	2-1/2	2-1/2	1-1/4	.074	1	HMA30-150	-
1-3/4	30°	1-7/8	1-7/8	3/4	.086	1	HMA30-175S	-
1-3/4	30°	2-1/2	2-1/2	1-1/4	.086	1	HMA30-175	-
2	30°	1-7/8	1-7/8	3/4	.098	1	HMA30-200S	-
2	30°	2-3/4	2-3/4	1-1/4	.098	1	HMA30-200	HMAL30-200
2-1/4	30°	1-7/8	1-7/8	3/4	.111	1	HMA30-225S	-
2-1/4	30°	2-3/4	2-3/4	1-1/4	.111	1	HMA30-225	-
2-1/2	30°	1-7/8	1-7/8	3/4	.123	1	HMA30-250S	-
2-1/2	30°	2-3/4	2-3/4	1-1/4	.123	1	HMA30-250	-
2-3/4	30°	2-3/4	2-3/4	1-1/4	.135	1	HMA30-275	-
3	30°	2	2	3/4	.148	1	HMA30-300S	-
3	30°	3	3	1-1/4	.148	1	HMA30-300	HMAL30-300
4	30°	3-1/4	3-1/4	1-1/4	.197	1	HMA30-400	-
5	30°	3-1/2	3-1/2	1-1/4	.246	1	HMA30-500	-
6	30°	3-1/2	3-1/2	1-1/4	.295	1	HMA30-600	-
7	30°	3-3/4	3-3/4	1-1/4	.344	1	HMA30-700	-
8	30°	3-3/4	3-3/4	1-1/4	.394	1	HMA30-800	-
10	30°	4	4	1-1/4	.492	1	HMA30-010	-

HMA30 & HMAL30 Series
Module 30° PA GEAR HOBS
Involute Spline
Finishing
Non-Chamfering
ANSI Flat Root



ANSI B92.2M-1980 STD.





Module	PA	OD	Length	WD	# Threads	Specify Class A,B,C
.75	30°	3/4	6	.037	1	HMKA30-075
1	30°	3/4	6	.049	1	HMKA30-100
1-1/4	30°	3/4	6	.062	1	HMKA30-125
1-1/2	30°	7/8	6	.074	1	HMKA30-150
1-3/4	30°	7/8	6	.086	1	HMKA30-175

Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1.6	30°	1-1/2	1-1/2	1/2	.065	1	H2M30-160H
1.6	30°	1-7/8	1-7/8	3/4	.065	1	H2M30-160S
1.6	30°	2-1/2	2-1/2	1-1/4	.065	1	H2M30-160
1.75	30°	1-7/8	1-7/8	3/4	.079	1	H2M30-175S
1.75	30°	2-1/2	2-1/2	1-1/4	.079	1	H2M30-175
1.9	30°	1-7/8	1-7/8	3/4	.079	1	H2M30-190S
1.9	30°	2-3/4	2-3/4	1-1/4	.079	1	H2M30-190
1.9	30°	62mm	80mm	27mm	.079	1	H2M30-190T
2	30°	1-7/8	1-7/8	3/4	.108	1	H2M30-200S
2	30°	2-3/4	2-3/4	1-1/4	.108	1	H2M30-200
2	30°	62mm	80mm	27mm	.108	1	H2M30-200T
2.1	30°	1-7/8	1-7/8	3/4	.114	1	H2M30-210S
2.1	30°	2-3/4	2-3/4	1-1/4	.114	1	H2M30-210
2.1	30°	62mm	80mm	27mm	.114	1	H2M30-210T
2.25	30°	1-7/8	1-7/8	3/4	.114	1	H2M30-225S
2.25	30°	2-3/4	2-3/4	1-1/4	.114	1	H2M30-225

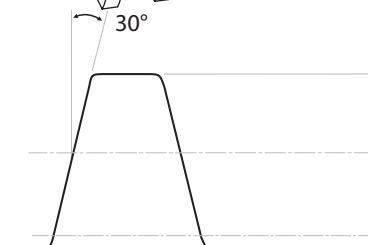
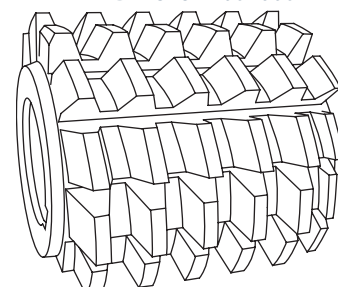
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.5	37.5°	1-1/8	1-1/8	1/2	.023	1	HM37-050H
.5	37.5°	1-7/8	1-1/2	3/4	.023	1	HM37-050S
.75	37.5°	1-1/8	1-1/8	1/2	.034	1	HM37-075H
.75	37.5°	1-1/8	1-1/8	1/2	.034	2	HM37-075H-2
.75	37.5°	1-7/8	1-7/8	3/4	.034	1	HM37-075S
.75	37.5°	2-1/2	2	1-1/4	.034	1	HM37-075
1	37.5°	1-7/8	1-7/8	3/4	.045	1	HM37-100S
1	37.5°	2-1/2	2	1-1/4	.045	1	HM37-100
1-1/4	37.5°	1-1/4	1-1/4	1/2	.057	1	HM37-125H
1-1/4	37.5°	1-7/8	1-7/8	3/4	.057	1	HM37-125S
1-1/4	37.5°	2-1/2	2	1-1/4	.057	1	HM37-125
1-1/2	37.5°	1-7/8	1-7/8	3/4	.068	1	HM37-150S
1-1/2	37.5°	2-1/2	2-1/2	1-1/4	.068	1	HM37-150
1-3/4	37.5°	1-7/8	1-7/8	3/4	.079	1	HM37-175S
1-3/4	37.5°	2-1/2	2-1/2	1-1/4	.079	1	HM37-175
2	37.5°	1-7/8	1-7/8	3/4	.091	1	HM37-200S
2	37.5°	2-3/4	2-3/4	1-1/4	.091	1	HM37-200
2-1/2	37.5°	1-7/8	1-7/8	3/4	.113	1	HM37-250S
3	37.5°	3	3	1-1/4	.136	1	HM37-300
4	37.5°	3-1/4	3-1/4	1-1/4	.181	1	HM37-400
5	37.5°	3-1/2	3-1/2	1-1/4	.226	1	HM37-500
6	37.5°	3-1/2	3-1/2	1-1/4	.272	1	HM37-600
8	37.5°	3-3/4	3-3/4	1-1/4	.362	1	HM37-800

HMKA30 Series

Module 30° PA GEAR HOBS
Involute Spline
Finishing, Non-Chamfering
ANSI Flat Root, Shank Type
Right Hand

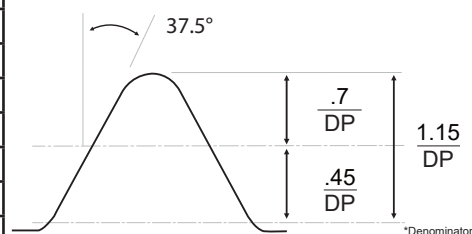
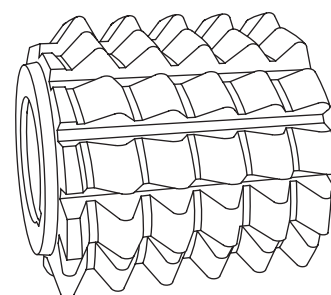
H2M30 Series

Module 30° PA GEAR HOBS
Involute Spline
Finishing, Non-Topping,
Right Hand
DIN 5482 Flat Root



HM37 Series

Module 37.5° PA GEAR HOBS
Involute Spline
Finishing, Non-Topping
Right Hand, ANSI Fillet Root

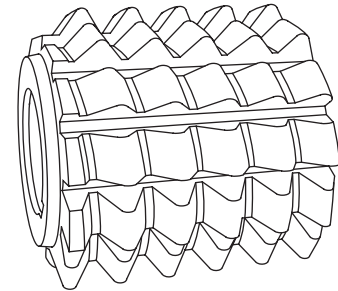




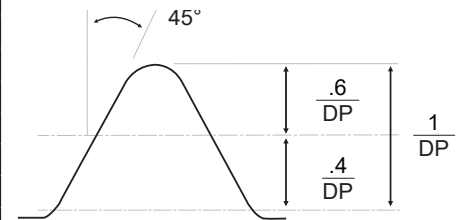
Module	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
.25	45°	1-1/8	1-1/8	1/2	.010	1	HM45-025H
.50	45°	1-1/8	1-1/8	1/2	.020	1	HM45-050H
.50	45°	1-7/8	1-1/2	3/4	.020	1	HM45-050S
.75	45°	3/4	3/4	8mm	.030	1	HM45-075M
.75	45°	1-1/8	1-1/8	1/2	.030	1	HM45-075H
.75	45°	1-7/8	1-1/2	3/4	.030	1	HM45-075S
.75	45°	2-1/2	2	1-1/4	.030	1	HM45-075
1	45°	1	3/4	8mm	.039	1	HM45-100M
1	45°	1-1/4	1-1/4	1/2	.039	1	HM45-100H
1	45°	1-7/8	1-7/8	3/4	.039	1	HM45-100S
1	45°	2-1/2	2	1-1/4	.039	1	HM45-100
1-1/4	45°	1-1/4	1-1/4	1/2	.049	1	HM45-125H
1-1/4	45°	1-7/8	1-7/8	3/4	.049	1	HM45-125S
1-1/4	45°	2-1/2	2	1-1/4	.049	1	HM45-125
1-1/2	45°	1-7/8	1-7/8	3/4	.059	1	HM45-150S
1-1/2	45°	2-1/2	2-1/2	1-1/4	.059	1	HM45-150
1-3/4	45°	1-7/8	1-7/8	3/4	.069	1	HM45-175S
1-3/4	45°	2-1/2	2-3/4	1-1/4	.069	1	HM45-175
2	45°	1-7/8	1-7/8	3/4	.079	1	HM45-200S
2	45°	2-3/4	2-3/4	1-1/4	.079	1	HM45-200
2-1/2	45°	2-3/4	2-3/4	1-1/4	.098	1	HM45-250

HM45 Series

Module 45° PA GEAR HOBS
Involute Spline, Finishing
Non-Topping, Right Hand
ANSI Fillet Root



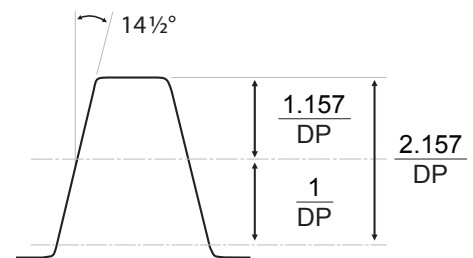
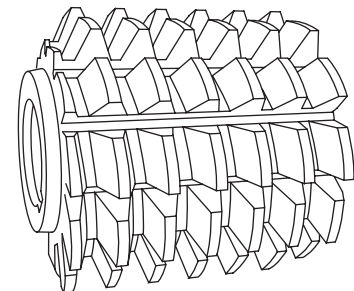
ANSI B92.2M-1980



CP (Fraction)	CP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1/16	.063	14.5°	1-7/8	1-1/2	3/4	.046	1	HC14-006S
1/10	.100	14.5°	1-1/2	1-1/2	3/4	.072	1	HC14-010SE
1/8	.125	14.5°	1-7/8	1-7/8	3/4	.090	1	HC14-012S
1/8	.125	14.5°	2-1/2	2-1/2	1-1/4	.090	1	HC14-012
1/6	.167	14.5°	1-7/8	1-7/8	3/4	.114	1	HC14-016S
3/16	.188	14.5°	1-7/8	1-7/8	3/4	.129	1	HC14-018S
1/5	.200	14.5°	1-7/8	1-7/8	3/4	.137	1	HC14-020S
1/4	.250	14.5°	1-7/8	1-7/8	3/4	.172	1	HC14-025S
1/4	.250	14.5°	2-3/4	2-3/4	1-1/4	.172	1	HC14-025
5/16	.313	14.5°	2	2	3/4	.215	1	HC14-031S
1/3	.333	14.5°	2	2	3/4	.229	1	HC14-033S
1/3	.333	14.5°	2-3/4	2-3/4	1-1/4	.229	1	HC14-033
3/8	.375	14.5°	2	2	3/4	.257	1	HC14-037S
3/8	.375	14.5°	2-3/4	2-3/4	1-1/4	.257	1	HC14-037
7/16	.438	14.5°	3	3	1-1/4	.300	1	HC14-043
1/2	.500	14.5°	3-1/4	3-1/4	1-1/4	.343	1	HC14-050
9/16	.563	14.5°	2-1/2	2-1/2	3/4	.386	1	HC14-056S
9/16	.563	14.5°	3-1/4	3-1/4	1-1/4	.386	1	HC14-056
5/8	.625	14.5°	3-1/2	3-1/2	1-1/4	.429	1	HC14-062
2/3	.667	14.5°	3-3/4	3-3/4	1-1/4	.458	1	HC14-066
11/16	.688	14.5°	3-1/2	3-1/2	1-1/4	.472	1	HC14-068
3/4	.750	14.5°	4	4	1-1/4	.515	1	HC14-075
7/8	.875	14.5°	4	4	1-1/4	.601	1	HC14-087
1	1	14.5°	4-1/2	4-1/2	1-1/4	.687	1	HC14-100
1-1/8	1.125	14.5°	4-1/2	5	1-1/4	.772	1	HC14-112
1-1/4	1.250	14.5°	5-1/4	6	1-1/2	.858	1	HC14-125
1-3/8	1.375	14.5°	5-1/4	6	1-1/2	.944	1	HC14-137
1-1/2	1.500	14.5°	6	7	1-1/2	1.030	1	HC14-150
1-5/8	1.625	14.5°	5-3/4	6	1-1/2	1.116	1	HC14-162
1-3/4	1.750	14.5°	6-1/2	7	1-1/2	1.202	1	HC14-175
1-7/8	1.875	14.5°	7	8	1-1/2	1.287	1	HC14-187
2	2	14.5°	7	9	1-1/2	1.373	1	HC14-200
2-1/4	2.250	14.5°	8-1/4	9	2	1.545	1	HC14-225
2-1/2	2.500	14.5°	9-1/2	11	2	1.716	1	HC14-250
2-3/4	2.750	14.5°	10	12-1/2	2	1.888	1	HC14-275
3	3	14.5°	10-1/2	14	2	2.060	1	HC14-300
3-1/2	3.500	14.5°	11-1/4	15	2-1/2	2.403	1	HC14-350
4	4	14.5°	12	16	2-1/2	2.746	1	HC14-400

HC14 Series

14.5° PA GEAR HOBS
Circular Pitch, Finishing, Non-Topping
Right Hand



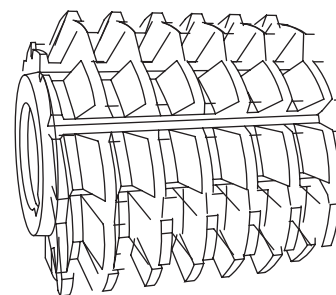
For 1/8 CP & finer, WD = 2.20/DP + .002



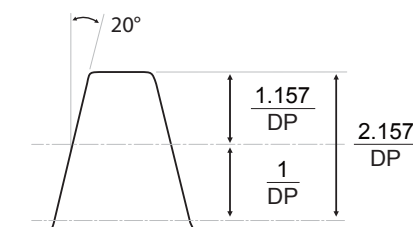
CP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Non-Topping	Topping
.050	20°	3/4	1/2	8mm	.037	1	HC20-005M	-
.050	20°	1-1/8	1-1/8	1/2	.037	1	HC20-005H	-
.063	20°	3/4	1/2	8mm	.046	1	HC20-006M	-
.063	20°	1-7/8	1-1/2	3/4	.046	1	HC20-006S	-
.100	20°	15/16	1/2	8mm	.072	1	HC20-010M	HCT20-010M
.100	20°	1-1/8	1-1/8	1/2	.072	1	HC20-010H	-
.100	20°	1-7/8	1-7/8	3/4	.072	1	HC20-010S	-
.125	20°	1-7/8	1-7/8	3/4	.090	1	HC20-012S	-
.125	20°	1-1/2	1-1/2	3/4	.090	1	HC20-012SE	-
.125	20°	2-1/2	2	1-1/4	.090	1	HC20-012	-
.167	20°	1-7/8	1-7/8	3/4	.114	1	HC20-016S	-
.167	20°	2-1/2	2-1/2	1-1/4	.114	1	HC20-016	-
.188	20°	1-7/8	1-7/8	3/4	.129	1	HC20-018S	-
.200	20°	1-7/8	1-7/8	3/4	.137	1	HC20-020S	-
.250	20°	1-7/5	1-7/8	3/4	.172	1	HC20-025S	-
.250	20°	2-3/4	2-3/4	1-1/4	.172	1	HC20-025	-
.313	20°	2	2	3/4	.215	1	HC20-031S	-
.313	20°	3	3	1-1/4	.215	1	HC20-031	-
.333	20°	2	2	3/4	.229	1	HC20-033S	-
.333	20°	2-3/4	2-3/4	1-1/4	.229	1	HC20-033	-
.375	20°	2	2	3/4	.257	1	HC20-037S	-
.375	20°	2-3/4	2-3/4	1-1/4	.257	1	HC20-037	-
.438	20°	3	3	1-1/4	.300	1	HC20-043	-
.500	20°	2	2	3/4	.343	1	HC20-050S	-
.500	20°	3-1/4	3-1/4	1-1/4	.343	1	HC20-050	-
.563	20°	2-1/2	2-1/2	3/4	.386	1	HC20-056S	-
.563	20°	3-1/4	3-1/4	1-1/4	.386	1	HC20-056	-
.625	20°	3-1/2	3-1/2	1-1/4	.429	1	HC20-062	-
.667	20°	3-3/4	3-3/4	1-1/4	.458	1	HC20-066	-
.688	20°	3-1/2	3-1/2	1-1/4	.472	1	HC20-068	-
.750	20°	4	4	1-1/4	.515	1	HC20-075	-
.875	20°	4-1/4	4-1/4	1-1/4	.601	1	HC20-087	-
1	20°	4-1/2	4-1/2	1-1/4	.687	1	HC20-100	-
1.125	20°	4-1/2	5	1-1/4	.772	1	HC20-112	-
1.250	20°	5-1/4	6	1-1/2	.858	1	HC20-125	-
1.375	20°	5-1/4	6	1-1/2	.944	1	HC20-137	-
1.500	20°	6	7	1-1/2	1.030	1	HC20-150	-
1.625	20°	5-3/4	6	1-1/2	1.116	1	HC20-162	-
1.750	20°	6-1/2	7	1-1/2	1.202	1	HC20-175	-
2	20°	7	9	1-1/2	1.373	1	HC20-200	-
2.250	20°	8-1/4	9	2	1.545	1	HC20-225	-
2.500	20°	9-1/2	11	2	1.716	1	HC20-250	-
2.750	20°	10	12-1/2	2	1.888	1	HC20-275	-
3	20°	10-1/2	14	2	2.060	1	HC20-300	-
3.500	20°	11-1/4	15	2-1/2	2.403	1	HC20-350	-
4	20°	12	16	2-1/2	2.746	1	HC20-400	-

HC20 & HCT20 Series

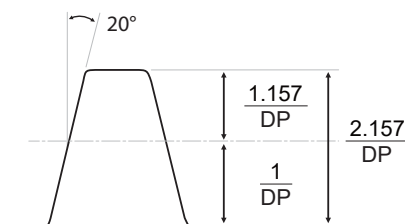
20° PA GEAR HOBS
Circular Pitch, Finishing, Right Hand



HC20
Rack Profile (Non Topping)



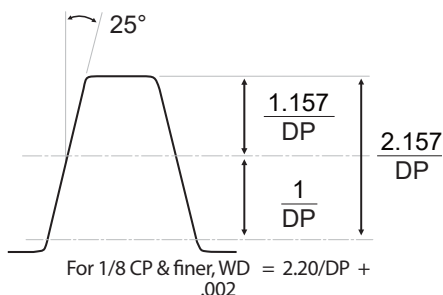
HCT20
Rack Profile (Topping)





HC25 Series

25° PA GEAR HOBS
Circular Pitch, Finishing,
Non-Topping
Right Hand

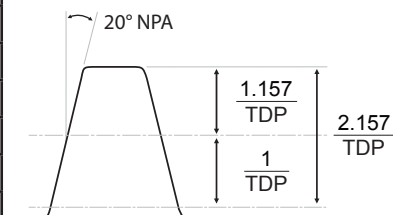


CP (Fraction)	CP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1/8	.125	25°	1-7/8	1-7/8	3/4	.090	1	HC25-012S
1/4	.250	25°	1-7/5	1-7/8	3/4	.172	1	HC25-025S
1/4	.250	25°	2-3/4	2-3/4	1-1/4	.172	1	HC25-025

Transverse DP	Normal DP	Normal PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1	1.009	20°	10-1/4	13-1/2	2	2.157	1	HTD7-100	-
1-1/4	1.261	20°	8-1/4	9	1-1/2	1.726	1	HTD7-125	-
1-1/2	1.513	20°	7	8	1-1/2	1.438	1	HTD7-150	-
1-3/4	1.765	20°	6-1/4	7	1-1/2	1.233	1	HTD7-175	-
2	2.017	20°	5-3/4	6-1/2	1-1/2	1.079	1	HTD7-200	HTDL7-200
2-1/2	2.522	20°	5	6-1/2	1-1/2	.863	1	HTD7-250	HTDL7-250
3	3.026	20°	4-1/2	5	1-1/4	.719	1	HTD7-300	HTDL7-300
3-1/2	3.530	20°	4	4	1-1/4	.616	1	HTD7-350	-
4	4.035	20°	4	4	1-1/4	.539	1	HTD7-400	HTDL7-400
5	5.043	20°	3-1/2	3-1/2	1-1/4	.431	1	HTD7-500	-
6	6.052	20°	3-1/4	3-1/4	1-1/4	.360	1	HTD7-600	HTDL7-600
7	7.060	20°	3	3	1-1/4	.308	1	HTD7-700	HTDL7-700
8	8.069	20°	3	3	1-1/4	.270	1	HTD7-800	-
10	10.086	20°	2-3/4	2-3/4	1-1/4	.216	1	HTD7-010	-
12	12.104	20°	2-1/2	2-1/2	1-1/4	.180	1	HTD7-012	-
16	16.138	20°	1-7/8	1-7/8	3/4	.135	1	HTD7-016S	-
16	16.138	20°	2-1/2	2-1/2	1-1/4	.135	1	HTD7-016	-
20	20.173	20°	1-7/8	1-7/8	3/4	.112	1	HTD7-020S	-
20	20.173	20°	2-1/2	2-1/2	1-1/4	.112	1	HTD7-020	-
24	24.207	20°	2-1/2	2-1/2	1-1/4	.094	1	HTD7-024	-

HTD7 & HTDL7 Series

Transverse Pitch 20° PA
for 7.5° Helix Angle
Finishing, Non-Topping

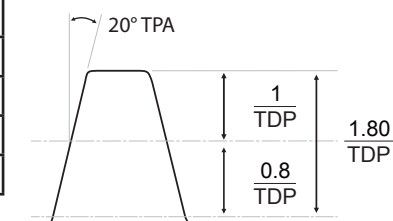


20 DP & finer, WD = 2.20/TDP + .002
20° NPA = 20.1587° TPA = (20° 9'31")

Transverse DP	Normal DP	Transverse PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1-1/4	1.261	20°	8-1/4	9	1-1/2	1.440	1	HTS7-125	HTSL7-125
1-1/2	1.513	20°	7	8	1-1/2	1.200	1	HTS7-150	HTSL7-150
1-3/4	1.765	20°	6-1/4	7-1/4	1-1/4	1.029	1	HTS7-175	HTSL7-175
2	2.017	20°	5	6	1-1/4	.900	1	HTS7-200	-
2-1/2	2.522	20°	4-1/2	5-1/2	1-1/4	.720	1	HTS7-250	-
3	3.026	20°	4-1/4	4-1/4	1-1/4	.600	1	HTS7-300	-
4	4.035	20°	4	4	1-1/4	.450	1	HTS7-400	-

HTS7 & HTSL7 Series

Transverse Pitch 20° PA
for 7.5° Helix Angle
Stub, Finishing
Non-Topping



20° TPA = 19.8423° NPA = (19° 50'32")

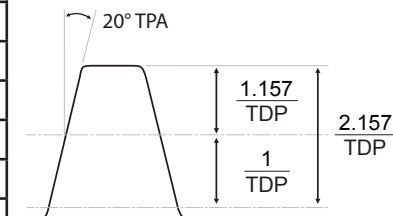


Transverse DP	Normal DP	Transverse PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1-1/2	1.523	20°	7	8	1-1/2	1.200	1	HTS10-150
1-3/4	1.777	20°	6-1/4	7-1/4	1-1/2	1.029	1	HTS10-175
2	2.031	20°	5	6	1-1/4	0.900	1	HTS10-200
2-1/2	2.539	20°	4-1/2	5-1/2	1-1/4	0.720	1	HTS10-250

HTS10 Series
Transverse Pitch 20° PA
for 10° Helix Angle
Stub, Finishing, Non-Topping
Right Hand

Transverse DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2	2.031	20° Normal	5-3/4	6-1/2	1-1/2	1.079	1	HTD10-200
2-1/2	2.539	20° Transverse	5	6	1-1/2	.863	1	HTD10-250
3	3.046	20° Transverse	4-1/2	5	1-1/4	.719	1	HTD10-300
3-1/2	3.554	20° Transverse	4	4	1-1/4	.616	1	HTD10-350
4	4.062	20° Transverse	4	4	1-1/4	.539	1	HTD10-400
5	5.077	20° Transverse	3-1/2	3-1/2	1-1/4	.431	1	HTD10-500
5	5.077	20° Normal	3-1/2	3-1/2	1-1/4	.431	1	HTD10-500E
6	6.093	20° Transverse	3-1/4	3-1/4	1-1/4	.360	1	HTD10-600
7	7.108	20° Transverse	3	3	1-1/4	.308	1	HTD10-700
7	7.108	20° Normal	3	3	1-1/4	.308	1	HTD10-700E
8	8.123	20° Transverse	3	3	1-1/4	.270	1	HTD10-800
9	9.139	20° Transverse	2-3/4	2-3/4	1-1/4	.240	1	HTD10-900
10	10.154	20° Transverse	2-3/4	2-3/4	1-1/4	.216	1	HTD10-010
12	12.185	20° Transverse	2-1/2	2-1/2	1-1/4	.180	1	HTD10-012
14	14.216	20° Transverse	2-1/2	2-1/2	1-1/4	.154	1	HTD10-014
16	16.247	20° Transverse	2-1/2	2-1/2	1-1/4	.135	1	HTD10-016

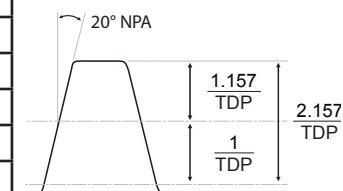
HTD10 Series
Transverse Pitch 20° PA
for 10° Helix Angle
Finishing, Non-Topping
Right Hand



$$20^\circ \text{ TPA} = 19.7197^\circ \text{ NPA} = (19^\circ 43' 11'')$$

Transverse DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1-1/2	1.553	20° Normal	7	8	1-1/2	1.438	1	HTD15-150	-
2	2.071	20° Normal	5-3/4	6-1/2	1-1/2	1.079	1	HTD15-200	-
2	2.071	20° Transverse	5-3/4	6-1/2	1-1/2	1.079	1	HTD15-200E	-
2-1/2	2.588	20° Normal	5	6-1/2	1-1/2	.863	1	HTD15-250	-
3	3.106	20° Normal	4-1/2	5	1-1/4	.719	1	HTD15-300	HTDL15-300
3	3.106	20° Transverse	4-1/2	5	1-1/4	.719	1	HTD15-300E	HTDL15-300E
3-1/2	3.623	20° Normal	4	4	1-1/4	.616	1	HTD15-350	HTDL15-350
4	4.141	20° Normal	4	4	1-1/4	.539	1	HTD15-400	HTDL15-400
5	5.176	20° Normal	3-1/2	3-1/2	1-1/4	.431	1	HTD15-500	HTDL15-500
5	5.176	20° Transverse	3-1/2	3-1/2	1-1/4	.431	1	HTD15-500E	-
6	6.212	20° Normal	3-1/4	3-1/4	1-1/4	.360	1	HTD15-600	HTDL15-600
7	7.247	20° Normal	3	3	1-1/4	.308	1	HTD15-700	HTDL15-700
8	8.282	20° Normal	3	3	1-1/4	.270	1	HTD15-800	HTDL15-800
8	8.282	20° Normal	3	3	1-1/4	.270	1	HTD15-800E	HTDL15-800E
9	9.317	20° Normal	2-3/4	2-3/4	1-1/4	.240	1	HTD15-900	HTDL15-900
10	10.353	20° Normal	2-3/4	2-3/4	1-1/4	.216	1	HTD15-010	HTDL15-010
11	11.388	20° Normal	2-1/2	2-1/2	1-1/4	.196	1	HTD15-011	-
12	12.423	20° Normal	2-1/2	2-1/2	1-1/4	.180	1	HTD15-012	HTDL15-012
14	14.494	20° Normal	2-1/2	2-1/2	1-1/4	.154	1	HTD15-014	HTDL15-014
16	16.564	20° Normal	1-7/8	1-7/8	3/4	.135	1	HTD15-016S	-
16	16.564	20° Normal	2-1/2	2-1/2	1-1/4	.135	1	HTD15-016	-
18	18.635	20° Normal	1-7/8	1-7/8	3/4	.120	1	HTD15-018S	-
20	20.706	20° Normal	1-7/8	1-7/8	3/4	.112	1	HTD15-020S	-
24	24.847	20° Normal	1-7/8	1-7/8	3/4	.094	1	HTD15-024S	HTDL15-024S

HTD15 & HTDL15 Series
Transverse Pitch 20° PA
for 15° Helix Angle
Finishing, Non-Topping



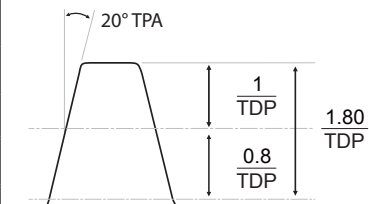
$$20 \text{ DP \& Finer WD} = 2.2/\text{TDP} + .002$$



Trans. DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1-1/2	1.553	20°Transverse	7	8	1-1/2	1.200	1	HTS15-150	-
1-3/4	1.812	20°Transverse	6-1/4	7-1/4	1-1/2	1.029	1	HTS15-175	-
2	2.071	20°Transverse	5	6	1-1/4	.900	1	HTS15-200	HTSL15-200
2-1/2	2.588	20°Transverse	4-1/2	5-1/2	1-1/4	.720	1	HTS15-250	-
3	3.106	20°Transverse	4-1/4	4-1/4	1-1/4	.600	1	HTS15-300	-
4	4.141	20°Transverse	4	4	1-1/4	.450	1	HTS15-400	-
5	5.176	20°Transverse	3-1/2	3-1/2	1-1/4	.360	1	HTS15-500	-
6	6.212	20°Transverse	3-1/4	3-1/4	1-1/4	.300	1	HTS15-600	HTSL15-600
6	6.212	20°Normal	3-1/4	3-1/4	1-1/4	.300	1	HTS15-600E	-
7	7.247	20°Transverse	3	3	1-1/4	.257	1	HTS15-700	-
8	8.282	20°Transverse	3	3	1-1/4	.225	1	HTS15-800	-

HTS15 & HTSL15 Series

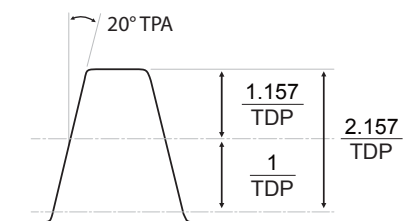
Transverse Pitch 20° PA
for 15° Helix Angle
Stub, Finishing
Non-Topping



Trans. DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2	2.128	20°Transverse	5-3/4	6-1/2	1-1/2	1.079	1	HTD20-200
3	3.193	20°Transverse	4-1/2	5	1-1/4	.719	1	HTD20-300
3-1/2	3.725	20°Transverse	4	4	1-1/4	.616	1	HTD20-350
4	4.257	20°Transverse	4	4	1-1/4	.539	1	HTD20-400
5	5.321	20°Transverse	3-1/2	3-1/2	1-1/4	.431	1	HTD20-500
6	6.385	20°Transverse	3-1/4	3-1/4	1-1/4	.360	1	HTD20-600
6	6.385	20°Normal	3-1/4	3-1/4	1-1/4	.360	1	HTD20-600E
7	7.449	20°Transverse	3	3	1-1/4	.308	1	HTD20-700
8	8.513	20°Transverse	3	3	1-1/4	.270	1	HTD20-800
8	8.513	20°Normal	3	3	1-1/4	.270	1	HTD20-800E
9	9.578	20°Transverse	2-3/4	2-3/4	1-1/4	.240	1	HTD20-900
10	10.642	20°Transverse	1-7/8	1-7/8	3/4	.216	1	HTD20-010S
10	10.642	20°Transverse	2-3/4	2-3/4	1-1/4	.216	1	HTD20-010
10	10.642	20°Normal	2-3/4	2-3/4	1-1/4	.216	1	HTD20-010E
12	12.770	20°Transverse	2-1/2	2-1/2	1-1/4	.180	1	HTD20-012
16	17.027	20°Transverse	1-7/8	1-7/8	3/4	.135	1	HTD20-016S
16	17.027	20°Transverse	2-1/2	2-1/2	1-1/4	.135	1	HTD20-016
20	21.284	20°Transverse	1-7/8	1-7/8	3/4	.112	1	HTD20-020S

HTD20 Series

Transverse Pitch 20° PA
for 20° Helix Angle
Finishing, Non-Topping,
Right Hand



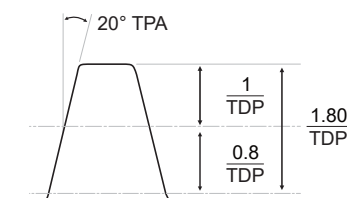
20 DP & finer, WD = 2.2/TDP + .002
20° TPA = 18.8817° NPA = (18° 52' 54")

For left hand hob, inquire on HTDL20

Trans. DP	Normal DP	Transverse PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1-1/2	1.596	20°	7	8	1-1/2	1.200	1	HTS20-150
1-3/4	1.862	20°	6-1/4	7-1/4	1-1/2	1.029	1	HTS20-175
2	2.128	20°	5	6	1-1/4	.900	1	HTS20-200
2-1/2	2.660	20°	4-1/2	5-1/2	1-1/4	.720	1	HTS20-250
3	3.193	20°	4-1/4	4-1/4	1-1/4	.600	1	HTS20-300

HTS20 Series

Transverse Pitch 20° PA
for 20° Helix Angle
Stub, Finishing
Non-Topping

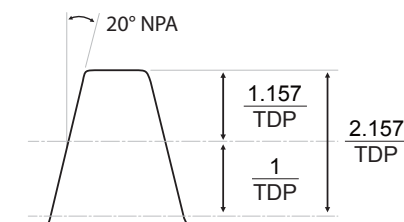
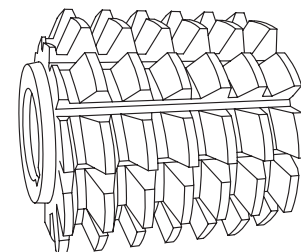




Trans. DP	Normal DP	Normal PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1	1.086	20°	10-1/4	13-1/2	2	2.157	1	HTD23-100	-
1-1/4	1.358	20°	8-1/4	9	1-1/2	1.726	1	HTD23-125	HTDL23-125
1-1/2	1.630	20°	7	8	1-1/2	1.438	1	HTD23-150	-
2	2.173	20°	5-3/4	6-1/2	1-1/2	1.079	1	HTD23-200	HTDL23-200
2-1/2	2.716	20°	5	6-1/2	1-1/2	.863	1	HTD23-250	HTDL23-250
3	3.259	20°	4-1/2	5	1-1/4	.719	1	HTD23-300	HTDL23-300
3-1/2	3.802	20°	4	4	1-1/4	.616	1	HTD23-350	-
4	4.345	20°	4	4	1-1/4	.539	1	HTD23-400	-
5	5.432	20°	3-1/2	3-1/2	1-1/4	.431	1	HTD23-500	HTDL23-500
6	6.518	20°	3-1/4	3-1/4	1-1/4	.360	1	HTD23-600	HTDL23-600
7	7.605	20°	3	3	1-1/4	.308	1	HTD23-700	-
8	8.691	20°	3	3	1-1/4	.270	1	HTD23-800	HTDL23-800
9	9.777	20°	2-3/4	2-3/4	1-1/4	.240	1	HTD23-900	-
10	10.864	20°	2-3/4	2-3/4	1-1/4	.216	1	HTD23-010	HTDL23-010
11	11.950	20°	2-1/2	2-1/2	1-1/4	.196	1	HTD23-011	HTDL23-011
12	13.036	20°	2-1/2	2-1/2	1-1/4	.180	1	HTD23-012	HTDL23-012
14	15.209	20°	2-1/2	2-1/2	1-1/4	.154	1	HTD23-014	HTDL23-014
16	17.382	20°	1-7/8	1-7/8	3/4	.135	1	HTD23-016S	HTDL23-016S
20	21.727	20°	1-7/8	1-7/8	3/4	.112	1	HTD23-020S	-
24	26.073	20°	1-7/8	1-7/8	3/4	.094	1	HTD23-024S	-

HTD23 & HTDL23 Series

Transverse Pitch 20° PA
for 23° Helix Angle
Finishing, Non-Topping

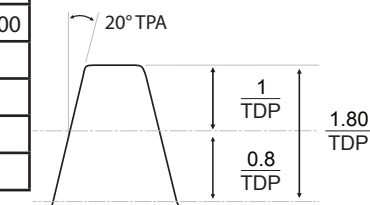
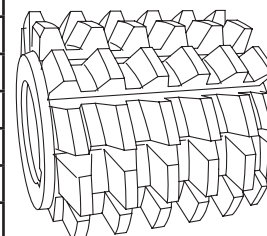


20 DP & Finer, WD = 2.20/TDP + .002
20° NPA = 21.5939° TPA = (21° 34' 26")

Trans. DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1	1.086	20° Transverse	10	12-1/2	2	1.800	1	HTS23-100	-
1-1/4	1.358	20° Transverse	7-1/2	9-1/2	1-1/2	1.440	1	HTS23-125	-
1-1/2	1.630	20° Transverse	7	8	1-1/2	1.200	1	HTS23-150	HTSL23-150
1-3/4	1.901	20° Transverse	6-1/4	7-1/4	1-1/2	1.029	1	HTS23-175	-
2	2.173	20° Transverse	5	6	1-1/4	.900	1	HTS23-200	HTSL23-200
2-1/2	2.716	20° Transverse	4-1/2	5-1/2	1-1/4	.720	1	HTS23-250	-
3	3.259	20° Transverse	4-1/4	4-1/4	1-1/4	.600	1	HTS23-300	HTSL23-300
4	4.345	20° Transverse	4	4	1-1/4	.450	1	HTS23-400	HTSL23-400
5	5.432	20° Transverse	3-1/4	3-1/4	1-1/4	.360	1	HTS23-500	HTSL23-500
5	5.432	20° Normal	3-1/4	3-1/4	1-1/4	.360	1	HTS23-500E	-
6	6.518	20° Transverse	3-1/4	3-1/4	1-1/4	.300	1	HTS23-600	HTSL23-600
8	8.691	20° Transverse	3	3	1-1/4	.225	1	HTS23-800	HTSL23-800
9	9.777	20° Transverse	3	3	1-1/4	.200	1	HTS23-900	-
10	10.864	20° Transverse	3	3	1-1/4	.180	1	HTS23-010	-
10	10.864	20° Normal	3	3	1-1/4	.180	1	HTS23-010E	-
12	13.036	20° Transverse	2-1/2	2-1/2	1-1/4	.150	1	HTS23-012	-

HTS23 & HTSL23 Series

Transverse Pitch 20° PA
for 23° Helix Angle
Stub, Finishing
Non-Topping



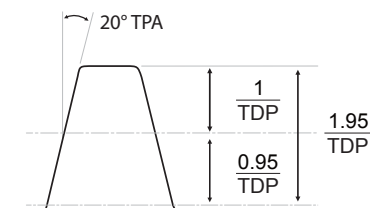
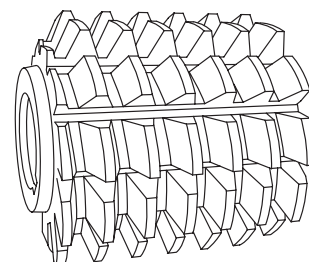
20° TPA = 18.5227° NPA = (18° 31' 22")



Trans. DP	Normal DP	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
1-1/4	1.443	20°Transverse	8-1/4	9	1-1/2	1.560	1	HTD30-125	-
1-1/2	1.732	20°Transverse	7	8	1-1/2	1.300	1	HTD30-150	-
1-3/4	2.021	20°Transverse	6-1/4	7	1-1/2	1.114	1	HTD30-175	-
2	2.309	20°Transverse	5-3/4	6-1/2	1-1/2	.975	1	HTD30-200	HTDL30-200
2-1/2	2.887	20°Transverse	5	6-1/2	1-1/2	.780	1	HTD30-250	HTDL30-250
2-1/2	2.887	20°Normal	5	6-1/2	1-1/2	.780	1	-	HTDL30-250E
2-3/4	3.175	20°Transverse	4-1/2	5	1-1/4	.709	1	HTD30-275	-
3	3.464	20°Transverse	4-1/2	5	1-1/4	.650	1	HTD30-300	HTDL30-300
3-1/2	4.041	20°Transverse	4	4	1-1/4	.557	1	HTD30-350	HTDL30-350
4	4.619	20°Transverse	4	4	1-1/4	.488	1	HTD30-400	HTDL30-400
4	4.619	20°Normal	4	4	1-1/4	.488	1	-	HTDL30-400E
4-1/2	5.196	20°Transverse	3-1/2	3-1/2	1-1/4	.433	1	HTD30-450	-
5	5.774	20°Transverse	3-1/2	3-1/2	1-1/4	.390	1	HTD30-500	HTDL30-500
6	6.928	20°Transverse	3-1/4	3-1/4	1-1/4	.325	1	HTD30-600	HTDL30-600
6-1/2	7.506	20°Transverse	3	3	1-1/4	.300	1	HTD30-650	-
7	8.083	20°Transverse	3	3	1-1/4	.279	1	HTD30-700	HTDL30-700
7	8.083	20°Normal	3	3	1-1/4	.279	1	HTD30-700E	-
8	9.238	20°Transverse	3	3	1-1/4	.244	1	HTD30-800	HTDL30-800
9	10.392	20°Transverse	2-3/4	2-3/4	1-1/4	.217	1	HTD30-900	HTDL30-900
10	11.547	20°Transverse	1-7/8	1-7/8	3/4	.195	1	HTD30-010S	-
10	11.547	20°Transverse	2-3/4	2-3/4	1-1/4	.195	1	HTD30-010	HTDL30-010
11	12.702	20°Transverse	2-1/2	2-1/2	1-1/4	.177	1	HTD30-011	-
12	13.856	20°Transverse	2-1/2	2-1/2	1-1/4	.163	1	HTD30-012	HTDL30-012
12	13.856	20°Normal	2-1/2	2-1/2	1-1/4	.163	1	HTD30-012E	HTDL30-012E
16	18.475	20°Transverse	1-7/8	1-7/8	3/4	.122	1	HTD30-016S	HTDL30-016S
16	18.475	20°Transverse	2-1/2	2-1/2	1-1/4	.122	1	HTD30-016	-
18	20.785	20°Transverse	1-7/8	1-7/8	3/4	.108	1	HTD30-018S	-
20	23.094	20°Transverse	1-7/8	1-7/8	3/4	.112	1	HTD30-020S	-
24	27.713	20°Transverse	1-7/8	1-7/8	3/4	.094	1	HTD30-024S	-

HTD30 & HTDL30 Series

Transverse Pitch 20° PA
for 30° Helix Angle
Finishing, Non-Topping

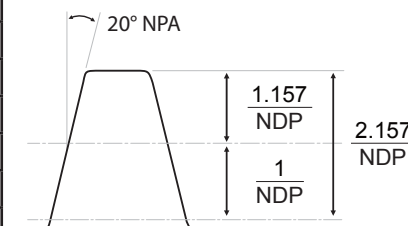


20 DP & finer, WD = 2.20/TDP + .002
20° TPA = 17.4952° NPA = (17° 29'43")

Trans. DP	Normal DP	Normal PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
4	5.657	14.5°	4	4	1-1/4	.381	1	HTD45-14-400	-
5	7.071	14.5°	3-1/2	3-1/2	1-1/4	.305	1	HTD45-14-500	-
6	8.485	14.5°	3	3	1-1/4	.254	1	HTD45-14-600	HTDL45-14-600
7	9.899	14.5°	3	3	1-1/4	.218	1	HTD45-14-700	-
8	11.314	14.5°	1-7/8	1-7/8	3/4	.191	1	HTD45-14-800S	HTDL45-14-800S
8	11.314	14.5°	2-3/4	2-3/4	1-1/4	.191	1	HTD45-14-800	HTDL45-14-800
9	12.728	14.5°	2-3/4	2-3/4	1-1/4	.169	1	HTD45-14-900	-
10	14.142	14.5°	1-7/8	1-7/8	3/4	.153	1	HTD45-14-010S	-
10	14.142	14.5°	2-1/2	2-1/2	1-1/4	.153	1	HTD45-14-010	HTDL45-14-010
12	16.971	14.5°	1-7/8	1-7/8	3/4	.127	1	HTD45-14-012S	HTDL45-14-012S
12	16.971	14.5°	2-1/2	2-1/2	1-1/4	.127	1	HTD45-14-012	HTDL45-14-012
14	19.799	14.5°	2-1/2	2-1/2	1-1/4	.109	1	HTD45-14-014	HTDL45-14-014
16	22.627	14.5°	1-7/8	1-7/8	3/4	.099	1	HTD45-14-016S	HTDL45-14-016S
16	22.627	14.5°	2-1/2	2-1/2	1-1/4	.099	1	HTD45-14-016	HTDL45-14-016
20	28.284	14.5°	1-7/8	1-7/8	3/4	.080	1	HTD45-14-020S	HTDL45-14-020S
24	33.941	14.5°	1-7/8	1-7/8	3/4	.067	1	HTD45-14-024S	HTDL45-14-024S

HTD45-14 & HTDL45-14 Series

Transverse Pitch 14.5° NPA
for 45° Helix Angle
Finishing, Non-Topping,

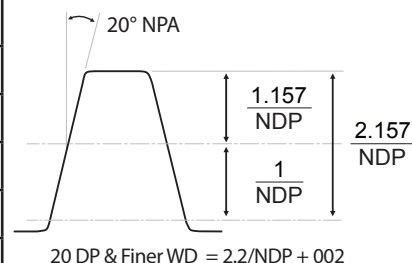




Trans. DP	Normal DP	Normal PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
								Right Hand	Left Hand
3	4.243	20°	4-1/2	5	1-1/4	.508	1	HTD45-20-300	-
4	5.657	20°	4	4	1-1/4	.381	1	HTD45-20-400	-
5	7.071	20°	3-1/2	3-1/2	1-1/4	.305	1	HTD45-20-500	HTDL45-20-500
6	8.485	20°	3	3	1-1/4	.254	1	HTD45-20-600	HTDL45-20-600
8	11.314	20°	2-3/4	2-3/4	1-1/4	.191	1	HTD45-20-800	HTDL45-20-800
8	11.314	20°	1-7/8	1-7/8	3/4	.191	1	-	HTDL45-20-800S
10	14.142	20°	1-7/8	1-7/8	3/4	.153	1	HTD45-20-010S	-
10	14.142	20°	2-1/2	2-1/2	1-1/4	.153	1	HTD45-20-010	HTDL45-20-10
12	16.971	20°	1-7/8	1-7/8	3/4	.127	1	HTD45-20-012S	-
12	16.971	20°	2-1/2	2-1/2	1-1/4	.127	1	HTD45-20-012	HTDL45-20-12
16	22.627	20°	1-7/8	1-7/8	3/4	.099	1	HTD45-20-016S	HTDL45-20-16S
16	22.627	20°	2-1/2	2-1/2	1-1/4	.099	1	HTD45-20-016	HTDL45-20-16
20	28.284	20°	1-7/8	1-7/8	3/4	.080	1	HTD45-20-020S	HTDL45-20-20S
24	33.941	20°	1-7/8	1-7/8	3/4	.067	1	HTD45-20-024S	-

HTD45-20 & HTDL45-20 Series

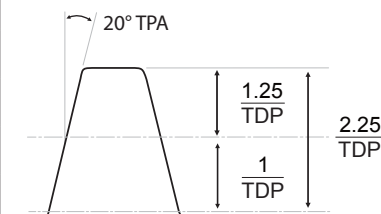
Transverse Pitch 20° NPA
for 45° Helix Angle
Finishing, Non-Topping,



Trans. Module	Normal Module	Helix Angle	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
2-1/2	2.415	15°	20°Transverse	2-3/4	2-3/4	1-1/4	.205	1	HTDM15-250
1-3/4	1.644	20°	20°Transverse	2-1/2	2-1/2	1-1/4	.155	1	HTDM20-175
2	1.879	20°	20°Transverse	2-3/4	2-3/4	1-1/4	.154	1	HTDM20-200
2-1/2	2.415	15°	20°Transverse	2-3/4	2-3/4	1-1/4	.205	1	HTDM15-250
3	2.819	20°	20°Transverse	3	3	1-1/4	.266	1	HTDM20-300
3-3/4	3.524	20°	20°Transverse	3	3	1-1/4	.332	1	HTDM20-375

HTDM15 & HTDM20 Series

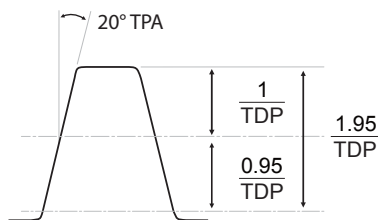
20° PA Transverse DP
for 15 & 20° Helix Angle
Finishing, Non-Topping
Right Hand





HTDM30 & HTDML30 Series

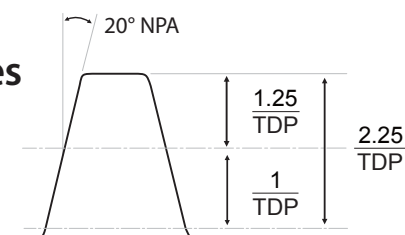
20° PA Transverse DP
for 30° Helix Angle
Finishing, Non-Topping



Trans. Module	Normal Module	Helix Angle	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
									Right Hand	Left Hand
1-1/4	1.083	30°	20°Transverse	1-7/8	1-7/8	3/4	.096	1	HTDM30-125S	-
1-1/2	1.299	30°	20°Transverse	1-7/8	1-7/8	3/4	.115	1	HTDM30-150S	-
2	1.732	30°	20°Transverse	2-3/4	2-3/4	1-1/4	.154	1	HTDM30-200	HTDML30-200
2-1/2	2.165	30°	20°Transverse	2-3/4	2-3/4	1-1/4	.192	1	HTDM30-250	-
3	2.598	30°	20°Transverse	2-3/4	2-3/4	1-1/4	.230	1	HTDM30-300	-
3-1/2	3.031	30°	20°Transverse	3	3	1-1/4	.269	1	HTDM30-350	-
4	3.464	30°	20°Transverse	3-1/4	3-1/4	1-1/4	.307	1	HTDM30-400	-
5	4.330	30°	20°Transverse	3-1/2	3-1/2	1-1/4	.384	1	HTDM30-500	-
5-1/2	4.763	30°	20°Transverse	3-1/2	3-1/2	1-1/4	.422	1	HTDM30-500	HTDML30-500

HTDM45 Series

20° PA Transverse DP
for 45° Helix Angle
Finishing, Non-Topping
Right Hand



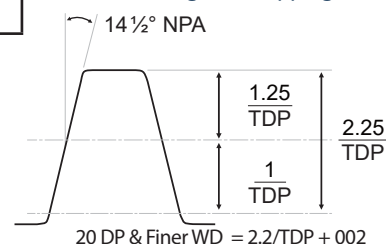
Trans. Module	Normal Module	Helix Angle	PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1-1/4	.884	45°	20°Normal	1-7/8	1-7/8	3/4	.078	1	HTDM45-125S
1-1/2	1.061	45°	20°Normal	1-7/8	1-7/8	3/4	.094	1	HTDM45-150S
1-1/2	1.061	45°	20°Normal	2-1/2	2-1/2	1-1/4	.094	1	HTDM45-150
1-3/4	1.237	45°	20°Normal	1-7/8	1-7/8	3/4	.110	1	HTDM45-175S
2	1.414	45°	20°Normal	2-3/4	2-3/4	1-1/4	.120	1	HTDM45-200
2	1.414	45°	20°Normal	1-7/8	1-7/8	3/4	.120	1	HTDM45-200S
2-1/2	1.768	45°	20°Normal	2-3/4	2-3/4	1-1/4	.150	1	HTDM45-250
3	2.121	45°	20°Normal	2-3/4	2-3/4	1-1/4	.180	1	HTDM45-300
4	2.828	45°	20°Normal	3-1/4	3-1/4	1-1/4	.240	1	HTDM45-400
5	3.536	45°	20°Normal	3-1/2	3-1/2	1-1/4	.300	1	HTDM45-500



Trans. CP	Normal PA	OD	Length	Bore	WD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1/8	14.5°	3	3	1-1/4	.090	1	HTC18-012	-
1/4	14.5°	2-3/4	2-3/4	1-1/4	.179	1	HTC18-025	HTCL18-025

HTC18 & HTCL18 Series

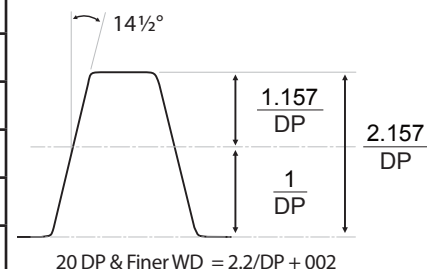
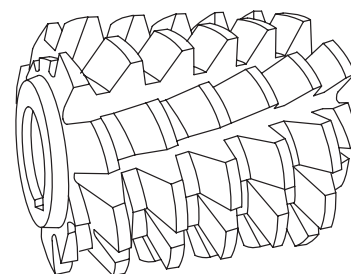
14.5° Normal PA Transverse CP
for 18° Helix Angle
Finishing, Non-Topping



Axial DP	PA	Worm PD	OD	Length	Bore	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
3	14.5°	4.000	4.970	4	1-1/4	1	HWS14-03-1	HWSL14-03-1
3	14.5°	4.000	4.970	4	1-1/4	2	HWS14-03-2	HWSL14-03-2
4	14.5°	3.000	3.731	4-1/2	1-1/4	1	HWS14-04-1	HWSL14-04-1
4	14.5°	3.000	3.731	4-1/2	1-1/4	2	HWS14-04-2	HWSL14-04-2
4	14.5°	3.000	3.731	4-1/2	1-1/4	3	HWS14-04-3	-
4	14.5°	3.000	3.731	4-1/2	1-1/4	4	HWS14-04-4	-
5	14.5°	2.300	2.880	3	1-1/4	1	HWS14-05-1	HWSL14-05-1
5	14.5°	2.300	2.880	3	1-1/4	2	HWS14-05-2	HWSL14-05-2
5	14.5°	2.300	2.880	3	1-1/4	3	HWS14-05-3	HWSL14-05-3
5	14.5°	2.300	2.880	3	1-1/4	4	HWS14-05-4	-
6	14.5°	2.000	2.490	3	3/4	1	HWS14-06-1	HWSL14-06-1
6	14.5°	2.000	2.490	3	3/4	2	HWS14-06-2	HWSL14-06-2
6	14.5°	2.000	2.490	3	3/4	3	HWS14-06-3	HWSL14-06-3
6	14.5°	2.000	2.490	3	3/4	4	HWS14-06-4	HWSL14-06-4
8	14.5°	1.500	1.878	2-1/2	3/4	1	HWS14-08-1	HWSL14-08-1
8	14.5°	1.500	1.878	2-1/2	3/4	2	HWS14-08-2	HWSL14-08-2
8	14.5°	1.500	1.878	2-1/2	3/4	3	HWS14-08-3	HWSL14-08-3
8	14.5°	1.500	1.878	2-1/2	3/4	4	HWS14-08-4	HWSL14-08-4
10	14.5°	1.250	1.555	2	1/2	1	HWS14-10-1	HWSL14-10-1
10	14.5°	1.250	1.555	2	1/2	2	HWS14-10-2	HWSL14-10-2
10	14.5°	1.250	1.555	1-1/4	5/8	2	HWS14-10-2E	
10	14.5°	1.250	1.555	2	1/2	3	HWS14-10-3	HWSL14-10-3
10	14.5°	1.250	1.555	2	5/8	3	HWS14-10-3E	-
10	14.5°	1.250	1.555	2	1/2	4	HWS14-10-4	-
12	14.5°	1.000	1.285	1-3/4	1/2	1	HWS14-12-1	HWSL14-12-1
12	14.5°	1.000	1.285	1-3/4	1/2	2	HWS14-12-2	-
12	14.5°	1.000	1.285	1-3/4	1/2	3	HWS14-12-3	-
12	14.5°	1.000	1.285	1-3/4	1/2	4	HWS14-12-4	-
16	14.5°	1.125	1.355	1-3/4	1/2	1	HWS14-16-1	HWSL14-16-1

HWS14 & HWSL14 Series

Topping Worm Gear
Shell Type
14.5° PA Axial DP

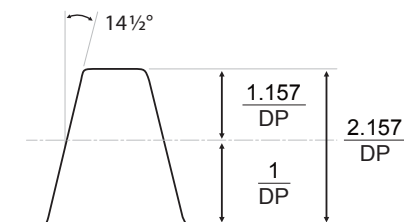
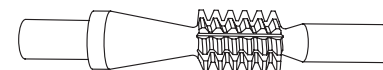




Axial DP	PA	Worm PD	OD	# Threads	Specify Class A,B,C	
					Right Hand	Left Hand
8	14.5°	1.500	1.890	1	HWK14-08-1	HWKL14-08-1
8	14.5°	1.500	1.890	2	HWK14-08-2	HWKL14-08-2
8	14.5°	1.500	1.890	3	HWK14-08-3	-
8	14.5°	1.500	1.890	4	HWK14-08-4	-
10	14.5°	1.250	1.570	1	HWK14-10-1	HWKL14-10-1
10	14.5°	1.250	1.570	2	HWK14-10-2	HWKL14-10-2
10	14.5°	1.250	1.570	3	HWK14-10-3	HWKL14-10-3
10	14.5°	1.250	1.570	4	HWK14-10-4	HWKL14-10-4
12	14.5°	1.000	1.285	1	HWK14-12-1	HWKL14-12-1
12	14.5°	1.000	1.285	2	HWK14-12-2	HWKL14-12-2
12	14.5°	1.000	1.285	3	HWK14-12-3	HWKL14-12-3
12	14.5°	1.000	1.285	4	HWK14-12-4	HWKL14-12-4
16	14.5°	.625	0.855	1	HWK14-16-1	HWKL14-16-1
16	14.5°	1.125	1.355	4	HWK14-16-1E	HWKL14-16-1E
16	14.5°	.625	0.855	2	HWK14-16-2	HWKL14-16-2
16	14.5°	1.125	1.355	2	HWK14-16-2E	HWKL14-16-2E
16	14.5°	.625	0.855	3	HWK14-16-3	-
16	14.5°	.625	0.855	4	HWK14-16-4	-
20	14.5°	.563	0.766	1	HWK14-20-1	-
24	14.5°	.500	0.681	1	HWK14-24-1	HWKL14-24-1
24	14.5°	.500	0.681	2	HWK14-24-2	-
32	14.5°	.438	0.590	1	HWK14-32-1	HWKL14-32-1
48	14.5°	.333	0.457	1	HWK14-48-1	HWKL14-48-1
64	14.5°	.313	0.422	1	HWK14-64-1	-
64	14.5°	.313	0.422	4	HWK14-64-4	-

HWK14 & HWKL14 Series

Topping Worm Gear
Shank Type
14.5° PA Axial DP

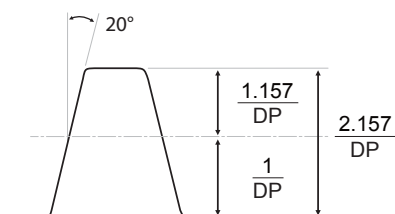
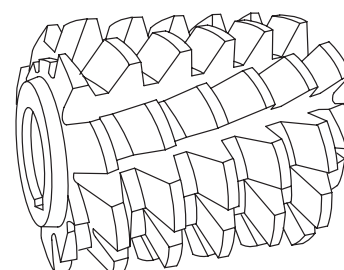


$$20 \text{ DP \& Finer WD} = 2.2/\text{DP} + .002$$

Axial DP	PA	Worm PD	OD	Length	Bore	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
3	20°	4.000	4.970	4	1-1/4	1	HWS20-03-1	-
3	20°	4.000	4.970	4	1-1/4	2	HWS20-03-2	HWSL20-03-2
3	20°	4.000	4.970	4	1-1/4	3	HWS20-03-3	-
4	20°	3.000	3.373	4-1/2	1-1/4	1	HWS20-04-1	HWSL20-04-1
4	20°	3.000	3.373	4-1/2	1-1/4	2	HWS20-04-2	HWSL20-04-2
4	20°	3.000	3.373	4-1/2	1-1/4	3	HWS20-04-3	-
4	20°	3.000	3.373	4-1/2	1-1/4	4	HWS20-04-4	-
5	20°	2.300	2.880	3	1-1/4	1	HWS20-05-1	HWSL20-05-1
5	20°	2.300	2.880	3	1-1/4	2	HWS20-05-2	HWSL20-05-2
5	20°	2.300	2.880	3	1-1/4	3	HWS20-05-3	HWSL20-05-3
5	20°	2.300	2.880	3	1-1/4	4	HWS20-05-4	-
6	20°	2.000	2.490	3	3/4	1	HWS20-06-1	HWSL20-06-1
6	20°	2.000	2.490	3	3/4	2	HWS20-06-2	HWSL20-06-2
6	20°	2.000	2.490	3	3/4	3	HWS20-06-3	-
6	20°	2.000	2.490	3	3/4	4	HWS20-06-4	HWSL20-06-4
8	20°	1.500	1.878	2-1/2	3/4	1	HWS20-08-1	HWSL20-08-1
8	20°	1.750	2.120	2-1/2	3/4	1	HWS20-08-1E	-
8	20°	1.500	1.878	2-1/2	3/4	2	HWS20-08-2	HWSL20-08-2
8	20°	1.500	1.878	2-1/2	3/4	3	HWS20-08-3	HWSL20-08-3
8	20°	1.500	1.878	2-1/2	3/4	4	HWS20-08-4	HWSL20-08-4
10	20°	1.250	1.555	2	1/2	1	HWS20-10-1	HWSL20-10-1
10	20°	1.250	1.555	2	5/8	1	HWS20-10-1E	-
10	20°	1.250	1.555	2	1/2	2	HWS20-10-2	-
10	20°	1.250	1.555	2	1/2	3	HWS20-10-3	-
10	20°	1.250	1.555	2	5/8	3	HWS20-10-3E	-
10	20°	1.250	1.555	2	1/2	4	HWS20-10-4	-
12	20°	1.000	1.285	1-3/4	1/2	1	HWS20-12-1	HWSL20-12-1
12	20°	1.000	1.285	1-3/4	1/2	2	HWS20-12-2	HWSL20-12-2
12	20°	1.000	1.285	1-3/4	1/2	3	HWS20-12-3	-
12	20°	1.000	1.285	1-3/4	1/2	4	HWS20-12-4	-

HWS20 & HWSL20 Series

Topping Worm Gear
Shell Type
20° PA Axial DP



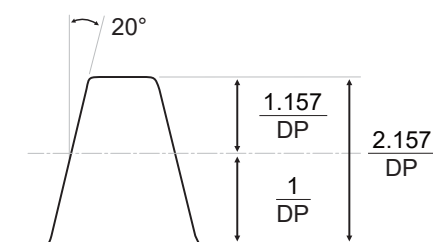
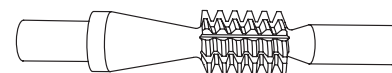
$$20 \text{ DP \& Finer WD} = 2.2/\text{DP} + .002$$



Axial DP	PA	Worm PD	OD	# Threads	Specify Class A,B,C	
					Right Hand	Left Hand
8	20°	1.500	1.890	1	HWK20-08-1	-
8	20°	1.500	1.890	2	HWK20-08-2	-
8	20°	1.500	1.890	4	HWK20-08-4	-
10	20°	1.250	1.570	1	HWK20-10-1	-
10	20°	1.250	1.570	2	HWK20-10-2	HWKL20-10-2
10	20°	1.250	1.570	3	HWK20-10-3	-
10	20°	1.250	1.570	4	HWK20-10-4	HWKL20-10-4
12	20°	1.000	1.285	1	HWK20-12-1	HWKL20-12-1
12	20°	1.000	1.285	2	HWK20-12-2	HWKL20-12-2
12	20°	1.000	1.285	3	HWK20-12-3	-
12	20°	1.000	1.285	4	HWK20-12-4	-
14	20°	.750	.970	1	HWK20-14-1E	-
16	20°	.625	.855	1	HWK20-16-1	HWKL20-16-1
16	20°	.625	.855	2	HWK20-16-2	-
16	20°	.625	.855	3	HWK20-16-3	-
16	20°	.625	.855	4	HWK20-16-4	HWKL20-16-4
20	20°	.563	.766	1	HWK20-20-1	-
20	20°	.563	.766	2	HWK20-20-2	-
20	20°	.563	.766	3	HWK20-20-3	-
20	20°	.563	.766	4	HWK20-20-4	-
24	20°	.500	.681	1	HWK20-24-1	-
24	20°	.500	.681	2	HWK20-24-2	HWKL20-24-2
24	20°	.500	.681	3	HWK20-24-3	-
24	20°	.500	.681	4	HWK20-24-4	-
32	20°	.438	.590	1	HWK20-32-1	-
32	20°	.438	.590	2	HWK20-32-2	HWKL20-32-2
32	20°	.438	.590	4	HWK20-32-4	HWKL20-32-4
48	20°	.333	.457	1	HWK20-48-1	-
48	20°	.333	.457	2	HWK20-48-2	HWKL20-48-2
64	20°	.313	.422	2	HWK20-64-2	-

HWK20 & HWKL20 Series

Topping Worm Gear
Shank Type
20° PA Axial DP

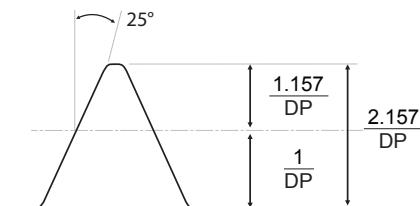
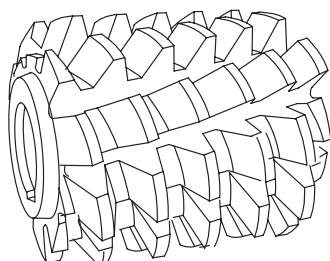


$$20 \text{ DP \& Finer WD} = 2.2/\text{DP} + .002$$



HWS25 & HWSL25 Series

Topping Worm Gear
Shell Type
25° PA Axial DP



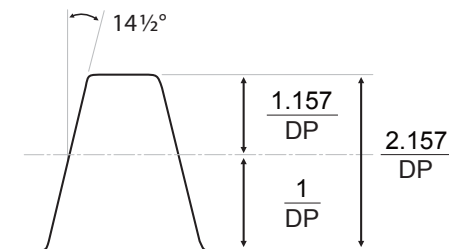
Axial DP	PA	Worm PD	OD	Length	Bore	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
3	25°	4.000	4.970	4	1-1/4	2	HWS25-03-2	-
4	25°	3.000	3.730	4-1/2	1-1/4	1	HWS25-04-1	-
4	25°	3.000	3.730	4-1/2	1-1/4	2	HWS25-04-2	-
4	25°	3.000	3.730	4-1/2	1-1/4	3	HWS25-04-3	-
4	25°	3.000	3.730	4-1/2	1-1/4	4	HWS25-04-4	
4	25°	3.000	3.730	4-1/2	1-1/4	6	HWS25-04-6	
5	25°	2.300	2.880	3	1-1/4	1	HWS25-05-1	-
5	25°	2.300	2.880	3	1-1/4	2	HWS25-05-2	-
5	25°	2.300	2.880	3	1-1/4	3	HWS25-05-3	
5	25°	2.300	2.880	3	1-1/4	4	HWS25-05-4	
6	25°	2.000	2.490	3	3/4	1	HWS25-06-1	HWSL25-06-1
6	25°	2.000	2.490	3	3/4	2	HWS25-06-2	-
6	25°	2.000	2.490	3	3/4	3	HWS25-06-3	-
6	25°	2.000	2.490	3	3/4	4	HWS25-06-4	-
8	25°	1.500	1.878	2-1/2	3/4	1	HWS25-08-1	-
8	25°	1.500	1.878	2-1/2	3/4	2	HWS25-08-2	-
8	25°	1.500	1.878	2-1/2	3/4	3	HWS25-08-3	-
8	25°	1.500	1.878	2-1/2	3/4	4	HWS25-08-4	-
10	25°	1.250	1.555	2	1/2	1	HWS25-10-1	-
10	25°	1.250	1.555	2	1/2	2	HWS25-10-2	-
12	25°	1.000	1.285	1-3/4	1/2	1	HWS25-12-1	-

HOB



HWC14 Series

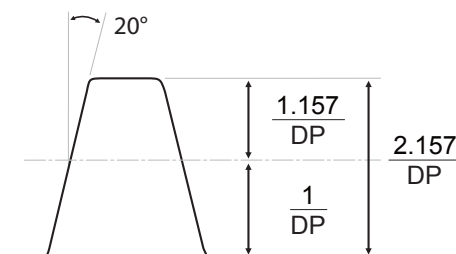
Topping Worm Gear
 Shell Type
 14.5° PA Axial CP



Axial CP	PA	Worm PD	OD	Length	Bore	# Threads	Specify Class A,B,C
.25	14.5°	1.000	1.27	1-3/4	1/2	1	HWC14-025-1
.25	14.5°	1.000	1.27	1-3/4	1/2	2	HWC14-025-2
.375	14.5°	1.500	1.88	2-1/2	3/4	1	HWC14-037-1
.375	14.5°	1.500	1.88	2-1/2	3/4	2	HWC14-037-2
.50	14.5°	1.750	2.24	3	3/4	1	HWC14-050-1
.50	14.5°	1.750	2.24	3	3/4	2	HWC14-050-2
.625	14.5°	2.250	2.83	3	3/4	1	HWC14-062-1
.625	14.5°	2.250	2.83	3	3/4	2	HWC14-062-2
.75	14.5°	2.750	3.45	4	1-1/4	1	HWC14-075-1
.75	14.5°	2.750	3.45	4	1-1/4	2	HWC14-075-2

HWC20 Series

Topping Worm Gear
 Shell Type
 20° PA Axial CP



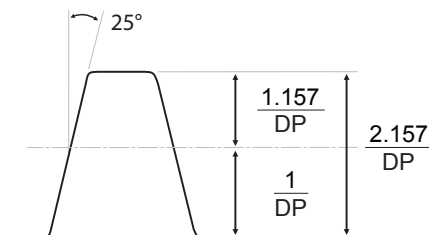
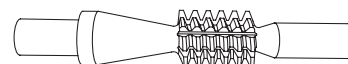
Axial CP	PA	Worm PD	OD	Length	Bore	# Threads	Specify Class A,B,C
.25	20°	1.000	1.27	1-3/4	1/2	1	HWC20-025-1
.25	20°	1.000	1.27	1-3/4	1/2	2	HWC20-025-2
.375	20°	1.500	1.88	2-1/2	3/4	1	HWC20-037-1
.375	20°	1.500	1.88	2-1/2	3/4	2	HWC20-037-2
.375	20°	1.500	1.88	2-1/2	3/4	3	HWC20-037-3
.5	20°	1.750	2.24	3	3/4	1	HWC20-050-1
.5	20°	1.750	2.24	3	3/4	2	HWC20-050-2
.625	20°	2.250	2.83	3	3/4	1	HWC20-062-1
.625	20°	2.250	2.83	3	3/4	2	HWC20-062-2



Axial DP	PA	Worm PD	OD	# Threads	Specify Class A,B,C	
					Right Hand	Left Hand
10	25°	1.250	1.570	4	HWK25-10-4	-
12	25°	1.000	1.285	2	HWK25-12-2	-
16	25°	.625	.855	1	HWK25-16-1	HWKL25-16-1
16	25°	.625	.855	2	HWK25-16-2	-
20	25°	.563	.766	1	HWK25-20-1	-
20	25°	.563	.766	2	HWK25-20-2	-
20	25°	.563	.766	4	HWK25-20-4	-
24	25°	.500	.681	1	HWK25-24-1	-
24	25°	.500	.681	2	HWK25-24-2	-
24	25°	.500	.681	4	HWK25-24-4	HWKL25-24-4
32	25°	.438	.590	1	HWK25-32-1	-
32	25°	.438	.590	2	HWK25-32-2	-
32	25°	.438	.590	4	HWK25-32-4	HWKL25-32-4
48	25°	.333	.457	2	HWK25-48-2	-
48	25°	.333	.457	4	HWK25-48-4	HWKL25-48-4

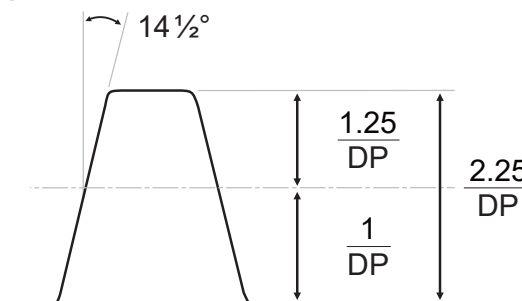
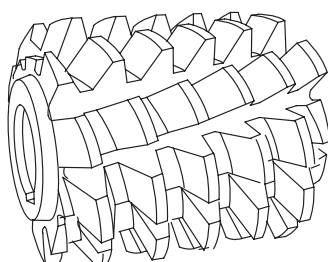
HWK25 & HWKL25 Series

Topping Worm Gear
Shank Type
25° PA Axial DP



HWSM14 & HWSML14 Series

Topping Worm Gear
Shell Type
14.5° PA
Axial Module



Axial Mod	PA	Worm PD (mm)	OD	Length	Bore	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1.75	14.5°	24	1.204	1-1/4	1/2	2	HWSM14-175-2	-
2	14.5°	31	1.500	1-1/2	1/2	1	HWSM14-200-1	HWSML14-200-1
2.25	14.5°	34	1.660	1-3/4	1/2	1	HWSM14-225-1	-
2.5	14.5°	37	1.850	2	3/4	1	HWSM14-250-1	-
2.5	14.5°	37	1.801	2	3/4	2	HWSM14-250-2	-
2.75	14.5°	40.8	1.980	2-1/4	3/4	1	HWSM14-275-1	-
3	14.5°	44	2.140	2-1/4	3/4	1	HWSM14-300-1	-
3	14.5°	44	2.140	2-1/4	3/4	2	HWSM14-300-2	-
3.5	14.5°	52	2.500	2-3/4	3/4	1	HWSM14-350-1	-
4	14.5°	62	2.930	3	1-1/4	1	HWSM14-400-1	-
4	14.5°	62	2.930	3	1-1/4	2	HWSM14-400-2	-
5	14.5°	72	3.450	3-3/4	1-1/4	1	HWSM14-500-1	-
6	14.5°	86	4.100	4-1/2	1-1/4	1	HWSM14-600-1	-



Axial Mod	PA	Worm PD (mm)	OD	# Threads	Specify Class A,B,C
.5	14.5°	9	.420	1	HWKM14-050-1
.6	14.5°	14	.635	1	HWKM14-060-1E
.75	14.5°	11	.600	1	HWKM14-075-1
.8	14.5°	11.4	.610	1	HWKM14-080-1
1	14.5°	12	.640	1	HWKM14-100-1
1.25	14.5°	14	.755	1	HWKM14-125-1
1.5	14.5°	16	.827	1	HWKM14-150-1
1.5	14.5°	16	.827	2	HWKM14-150-2
1.75	14.5°	24	1.150	1	HWKM14-175-1

HWKM14 Series

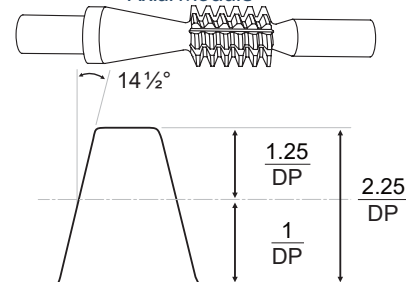
Topping Worm Gear

Shank Type

14.5° PA

Right Hand

Axial Module



Axial Mod	PA	Worm PD (mm)	Length	Bore	OD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
1.6	20°	28	1-1/4	1/2	1.345	1	HWSM20-160-1	-
2	20°	28	1-1/2	1/2	1.375	1	HWSM20-202-1	HWSML20-202-1
2	20°	28	1-1/2	1/2	1.375	2	HWSM20-202-2	HWSML20-202-2
2	20°	28	1-1/2	1/2	1.375	4	HWSM20-202-4	-
2	20°	31	1-3/4	1/2	1.500	1	HWSM20-203-1	HWSML20-203-1
2	20°	31	1-3/4	1/2	1.500	2	HWSM20-203-2	HWSML20-203-2
2	20°	31	1-3/4	1/2	1.500	4	HWSM20-203-4	HWSML20-203-4
2	20°	35.5	1-3/4	1/2	1.700	1	HWSM20-204-1	-
2.25	20°	34	1-3/4	1/2	1.650	1	HWSM20-225-1	-
2.25	20°	34	1-3/4	1/2	1.650	2	HWSM20-225-2	-
2.25	20°	34	1-3/4	1/2	1.650	4	HWSM20-225-4	-
2.5	20°	26.5	2	1/2	1.390	1	HWSM20-251-1	-
2.5	20°	26.5	2	1/2	1.390	2	HWSM20-251-2	-
2.5	20°	26.5	2	1/2	1.390	4	HWSM20-251-4	-
2.5	20°	33.5	2	5/8	1.650	1	HWSM20-252-1	-
2.5	20°	33.5	2	5/8	1.650	2	HWSM20-252-2	-
2.5	20°	33.5	2	5/8	1.650	4	HWSM20-252-4	-
2.5	20°	37	2	3/4	1.800	1	HWSM20-253-1	-
2.5	20°	37	2	3/4	1.800	2	HWSM20-253-2	HWSML20-253-2
2.5	20°	37	2	3/4	1.800	3	HWSM20-253-3	-
2.5	20°	37	2	3/4	1.800	4	HWSM20-253-4	-
2.5	20°	42.5	2	3/4	2.000	1	HWSM20-254-1	-
2.75	20°	40.8	2	3/4	1.970	1	HWSM20-275-1	-
3	20°	44	2-1/4	3/4	2.130	1	HWSM20-300-1	HWSML20-300-1
3	20°	44	2-1/4	3/4	2.130	2	HWSM20-300-2	-
3	20°	44	2-1/4	3/4	2.130	3	HWSM20-300-3	-
3	20°	44	2-1/4	3/4	2.130	4	HWSM20-300-4	-
3.15	20°	33.5	2-1/4	3/4	1.750	1	HWSM20-316-1	-
3.15	20°	42	2-3/8	3/4	2.080	1	HWSM20-317-1	-
3.15	20°	42	2-3/8	3/4	2.080	2	HWSM20-317-2	-
3.15	20°	53	2-1/2	1-1/4	2.500	1	HWSM20-318-1	-
3.5	20°	52	2-1/2	1	2.500	1	HWSM20-350-1	-
3.5	20°	52	2-1/2	1	2.500	2	HWSM20-350-2	-
3.5	20°	52	2-1/2	1	2.500	3	HWSM20-350-3	-
3.5	20°	52	2-1/2	1	2.500	4	HWSM20-350-4	-
4	20°	50	3	3/4	2.475	1	HWSM20-402-1	HWSML20-402-1
4	20°	50	3	3/4	2.475	2	HWSM20-402-2	-
4	20°	50	3	3/4	2.475	4	HWSM20-402-4	-

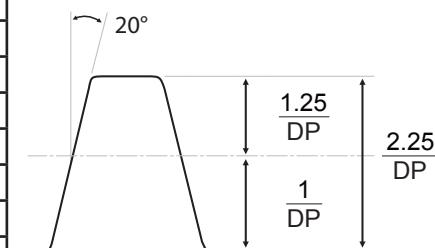
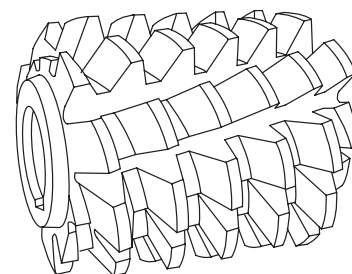
HWSM20 & HWSML20 Series

Topping Worm Gear

Shell Type

20° PA

Axial Module



SERIES CONTINUED
ON NEXT PAGE ->

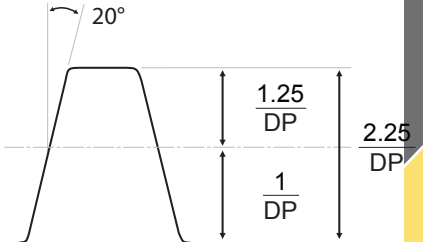
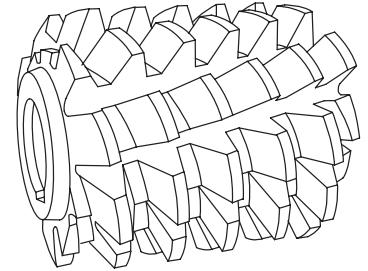


Axial Mod	PA	Worm PD (mm)	Length	Bore	OD	# Threads	Specify Class A,B,C	
							Right Hand	Left Hand
4	20°	62	3	1-1/4	2.975	1	HWSM20-403-1	-
4	20°	62	3	1-1/4	2.975	2	HWSM20-403-2	-
4	20°	62	3	1-1/4	2.975	4	HWSM20-403-4	-
4	20°	67	3	1-1/4	3.160	1	HWSM20-404-1	-
5	20°	63	3-3/4	1-1/4	3.100	1	HWSM20-502-1	HWSML20-502-1
5	20°	63	3-3/4	1-1/4	3.100	2	HWSM20-502-2	HWSML20-502-2
5	20°	63	3-1/2	1-1/4	3.105	4	HWSM20-502-4	-
5	20°	72	3-3/4	1-1/4	3.410	1	HWSM20-503-1	-
5	20°	72	3-3/4	1-1/4	3.410	2	HWSM20-503-2	-
6	20°	86	4-1/4	1-1/4	4.125	1	HWSM20-600-1	-
6	20°	86	4-3/8	1-1/4	4.125	2	HWSM20-600-2	-
6.	20°	86	4-3/8	1-1/4	4.125	4	HWSM20-600-4	-
6.3	20°	63	4-1/2	1-1/4	3.34	1	HWSM20-630-1	-
6.3	20°	63	4-1/2	1-1/4	3.340	2	HWSM20-630-2	-
6.3	20°	63	4-1/2	1-1/4	3.340	4	HWSM20-630-4	-
6.3	20°	80	4-1/2	1-1/4	3.925	1	HWSM20-631-1	-
8	20°	100	5-3/4	1-1/2	4.900	1	HWSM20-800-1	-
8	20°	100	5-3/4	1-1/2	4.900	2	HWSM20-800-2	-

<- SERIES CONTINUED FROM PREVIOUS PAGE

HWSM20 & HWSML20 Series

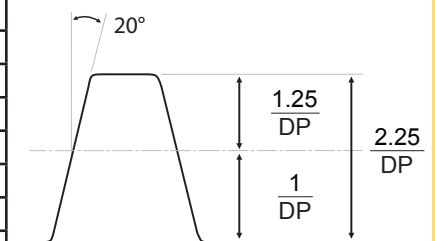
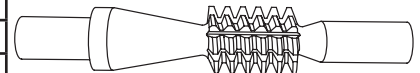
Topping Worm Gear
Shell Type
20° PA
Axial Module



Axial Mod	PA	Worm PD (mm)	OD	# Threads	Specify Class A,B,C	
					Right Hand	Left Hand
.5	20°	9	.450	1	HWKM20-050-1	-
.5	20°	9	.450	2	HWKM20-050-2	-
.7	20°	10.4	.560	2	HWKM20-070-2	-
.75	20°	11	.600	1	HWKM20-075-1	-
.75	20°	11	.600	2	HWKM20-075-2	-
.8	20°	11.4	.610	1	HWKM20-080-1	-
.8	20°	11.4	.610	2	HWKM20-080-2	-
.8	20°	11.4	.610	4	HWKM20-080-4	-
1	20°	12	.640	1	HWKM20-100-1	-
1	20°	12	.640	3	HWKM20-100-3	-
1	20°	12	.640	4	HWKM20-100-4	-
1	20°	17	.850	1	HWKM20-101-1	-
1	20°	17	.850	2	HWKM20-101-2	-
1	20°	17	.860	1	-	HWKML20-101-1
1	20°	14	.750	1	HWKM20-125-1	-
1.25	20°	14	.750	2	HWKM20-125-2	-
1.25	20°	14	.750	4	HWKM20-125-4	-
1.25	20°	22.4	1.100	1	HWKM20-126-1	-
1.5	20°	16	.865	1	HWKM20-150-1	-
1.5	20°	16	.865	2	HWKM20-150-2	-
1.5	20°	16	.865	3	HWKM20-150-3	-
1.5	20°	16	.865	4	HWKM20-150-4	-
1.6	20°	28	1.333	1	HWKM20-160-1	-
1.75	20°	24	1.190	1	HWKM20-175-1	-
1.75	20°	24	1.190	2	HWKM20-175-2	-
2	20°	22.4	1.175	1	HWKM20-200-1	-
2	20°	22.4	1.175	2	HWKM20-200-2	-
2	20°	22.4	1.175	4	HWKM20-200-4	-
2.5	20°	37	1.800	1	HWKM20-250-1	-
2.5	20°	37	1.800	2	HWKM20-250-2	-
3	20°	44	2.130	1	HWKM20-300-1	-

HWKM20 & HWKML20 Series

Topping Worm Gear
Shank Type
20° PA
Axial Module





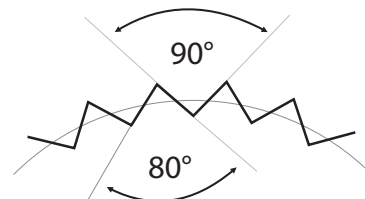
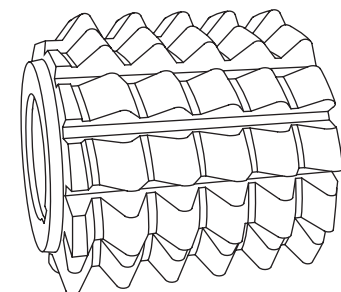
HWKM25 Series

Topping Worm Gear
Shank Type
25° PA Axial Module
Right Hand

Axial Mod	PA	Worm PD (mm)	OD	# Threads	Specify Class A,B,C
.5	25°	9	.423	4	HWKM25-050-4
.8	25°	11.4	.610	2	HWKM25-080-2
.8	25°	11.4	.610	4	HWKM25-080-4
1	25°	12	.645	2	HWKM25-100-2
1	25°	12	.645	4	HWKM25-100-4

HS36 Series

36 Tooth
Straight Sided Serrations
Non-Topping
Right Hand



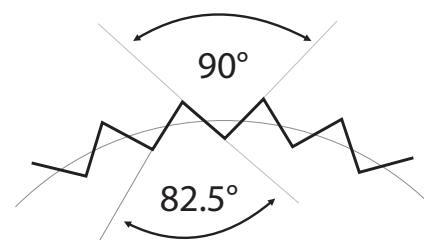
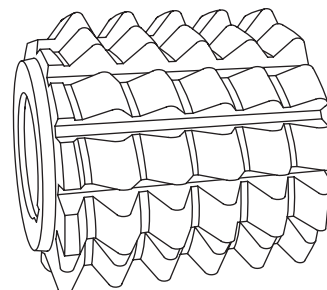
Nom. Diam.	Dec. Equiv.	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1/8	.125	3/4	5/8	8mm	.004	1	HS36-012M
3/16	.188	3/4	3/4	8mm	.006	1	HS36-018M
3/16	.188	1-1/8	1-1/8	1/2	.006	1	HS36-018H
1/4	.250	3/4	2/3	8mm	.008	1	HS36-025M
1/4	.250	1-1/8	1-1/8	1/2	.008	1	HS36-025H
1/4	.250	1-1/8	1-1/8	1/2	.008	2	HS36-025H-2
1/4	.250	1-7/8	1	3/4	.008	1	HS36-025S
5/16	.313	3/4	5/8	8mm	.011	1	HS36-031M
5/16	.313	1-1/8	1-1/8	1/2	.011	1	HS36-031H
5/16	.313	1-5/8	1	3/4	.011	1	HS36-031S
3/8	.375	3/4	3/4	8mm	.013	1	HS36-037M
3/8	.375	1-1/8	1-1/8	1/2	.013	1	HS36-037H
3/8	.375	1-1/8	1-1/8	1/2	.013	2	HS36-037H-2
3/8	.375	1-5/8	1	3/4	.013	1	HS36-037S
1/2	.500	3/4	2/3	8mm	.017	1	HS36-050M
1/2	.500	1-1/4	1-1/4	1/2	.017	1	HS36-050H
1/2	.500	1-7/8	1-1/2	3/4	.017	1	HS36-050S
1/2	.500	1-7/8	1-1/2	3/4	.017	2	HS36-050S-2
9/16	.563	1-7/8	1-1/2	3/4	.018	1	HS36-056S
5/8	.625	3/4	2/3	8mm	.021	1	HS36-062M
5/8	.625	1-1/8	1-1/8	1/2	.021	1	HS36-062H
5/8	.625	1-7/8	1-1/2	3/4	.021	1	HS36-062S
5/8	.625	1-7/8	1-1/2	3/4	.021	2	HS36-062S-2
3/4	.750	1-7/8	1-1/2	3/4	.027	1	HS36-075S
3/4	.750	1-7/8	1-1/2	3/4	.027	2	HS36-075S-2
3/4	.750	2-1/2	2	1-1/4	.027	1	HS36-075
7/8	.875	1-1/4	1-1/4	1/2	.031	1	HS36-087H
7/8	.875	1-7/8	1-1/2	3/4	.031	1	HS36-087S
7/8	.875	2-1/2	2	1-1/4	.030	1	HS36-087
1	1.000	1-7/8	1-1/2	3/4	.034	1	HS36-100S
1	1.000	2-1/2	2	1-1/4	.034	1	HS36-100
1-1/8	1.125	1-7/8	1-1/2	3/4	.038	1	HS36-112S
1-1/8	1.125	2-1/2	2	1-1/4	.038	1	HS36-112
1-1/4	1.250	2-1/2	2	1-1/4	.042	1	HS36-125



Nom. Diam.	Dec. Equiv.	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1/2	.500	1-7/8	1-1/2	3/4	.014	1	HS48-050S
3/4	.750	1-1/4	1-1/4	1/2	.018	1	HS48-075H
3/4	.750	1-7/8	1-1/2	3/4	.018	1	HS48-075S
3/4	.750	1-7/8	1-1/2	3/4	.018	2	HS48-075S-2
3/4	.750	2-1/2	2	1-1/4	.018	1	HS48-075
7/8	.875	1-1/8	1-1/8	1/2	.021	1	HS48-087H
7/8	.875	1-7/8	1-1/2	3/4	.021	1	HS48-087S
7/8	.875	2-1/2	2	1-1/4	.021	1	HS48-087
1	1.000	1-1/4	1-1/4	1/2	.027	1	HS48-100H
1	1.000	1-7/8	1-1/2	3/4	.027	1	HS48-100S
1	1.000	2-1/2	2	1-1/4	.027	1	HS48-100
1-1/8	1.125	1-1/4	1-1/4	1/2	.029	1	HS48-112H
1-1/8	1.125	1-7/8	1-1/2	3/4	.029	1	HS48-112S
1-1/8	1.125	1-7/8	1-1/2	3/4	.029	2	HS48-112S-2
1-1/8	1.125	2-1/2	2	1-1/4	.029	1	HS48-112
1-1/4	1.250	1-1/4	1-1/4	1/2	.033	1	HS48-125H
1-1/4	1.250	1-7/8	1-1/2	3/4	.033	1	HS48-125S
1-1/4	1.250	2-1/2	2	1-1/4	.033	1	HS48-125
1-3/8	1.375	1-1/4	1-1/4	1/2	.035	1	HS48-137H
1-3/8	1.375	2-1/2	2	1-1/4	.035	1	HS48-137
1-1/2	1.500	1-7/8	1-1/2	3/4	.038	1	HS48-150S
1-1/2	1.500	1-7/8	1-1/2	3/4	.038	2	HS48-150S-2
1-1/2	1.500	2-1/2	2	1-1/4	.038	1	HS48-150
1-3/4	1.750	1-7/8	1-1/2	3/4	.044	1	HS48-175S
1-3/4	1.750	2-1/2	2	1-1/4	.044	1	HS48-175
2	2.000	2-1/2	2	1-1/4	.050	1	HS48-200
2-1/4	2.250	2-1/2	2	1-1/4	.056	1	HS48-225
2-1/2	2.500	2-1/2	2	1-1/4	.062	1	HS48-250

HS48 Series

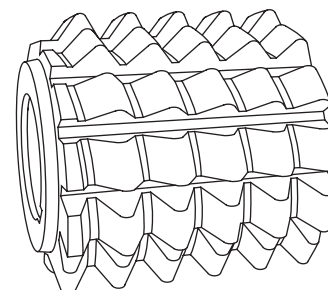
48 Tooth
Straight Sided Serrations
Non-Topping
Right Hand



Nominal Diam.	# Serrations	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
7/16	16	1-7/8	1-1/2	3/4	.033	1	HBS16-043S
1/2	16	1-7/8	1-1/2	3/4	.038	1	HBS16-050S
5/8	20	1-7/8	1-1/2	3/4	.040	1	HBS20-062S
3/4	20	1-7/8	1-1/2	3/4	.047	1	HBS20-075S
1	24	1-7/8	1-1/2	3/4	.054	1	HBS24-100S
1-1/8	24	1-7/8	1-1/2	3/4	.059	1	HBS24-112S
1-1/4	24	1-7/8	1-1/2	3/4	.067	1	HBS24-125S
1-1/2	24	1-7/8	1-1/2	3/4	.080	1	HBS24-150S
1-5/8	36	1-7/8	1-1/2	3/4	.057	1	HBS36-162S
1-3/4	36	1-7/8	1-1/2	3/4	.063	1	HBS36-175S
2	36	1-7/8	1-1/2	3/4	.071	1	HBS36-200S

HBS Series

British Straight Sided Serrations
Non-Topping
Right Hand



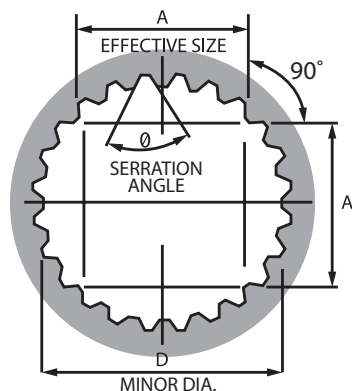
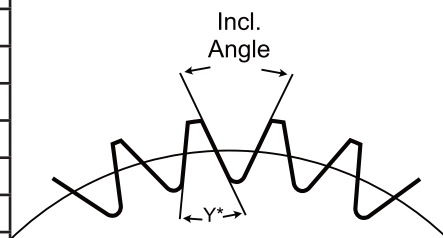
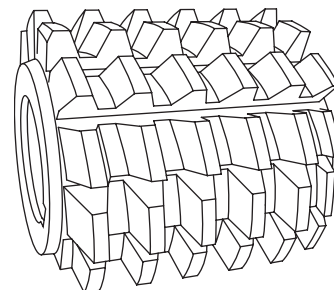
BS 2059 - 1953



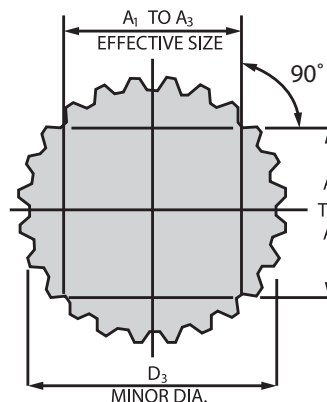
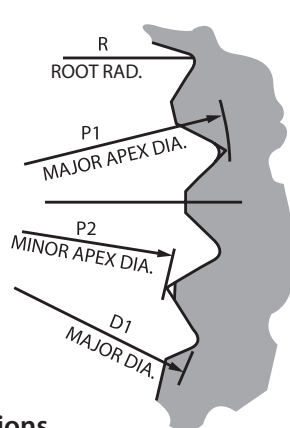
Nom. Diam. in (mm)	# Teeth	Included Angle	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
8 x 7	28	60°	1-1/8	1-1/8	1/2	.018	1	HM81-8-28H
10 x 8	28	60°	1-1/8	1-1/8	1/2	.031	1	HM81-10-28H
12 x 10	30	60°	1-1/8	1-1/8	1/2	.030	1	HM81-12-30H
14 x 12	31	60°	1-1/8	1-1/8	1/2	.036	1	HM81-14-31H
17 x 15	32	60°	1-1/8	1-1/8	1/2	.039	1	HM81-17-32H
20 x 17	33	60°	1-7/8	1-1/2	3/4	.046	1	HM81-20-33S
24 x 21	34	60°	1-7/8	1-1/2	3/4	.052	1	HM81-24-34S
30 x 26	35	60°	1-7/8	1-1/2	3/4	.065	1	HM81-30-35S
34 x 30	36	60°	1-7/8	1-1/2	3/4	.065	1	HM81-34-36S
40 x 36	37	60°	1-7/8	1-7/8	3/4	.072	1	HM81-40-37S
44 x 40	38	60°	2-1/2	2	1-1/4	.078	1	HM81-44-38
50 x 45	39	60°	1-7/8	1-7/8	3/4	.093	1	HM81-50-39S
50 x 45	39	60°	2-1/2	2	1-1/4	.093	1	HM81-50-39
55 x 50	40	60°	1-7/8	1-7/8	3/4	.095	1	HM81-55-40S
55 x 50	40	60°	2-1/2	2	1-1/4	.095	1	HM81-55-40
60 x 55	42	60°	1-7/8	1-7/8	3/4	.097	1	HM81-60-42S
60 x 55	42	60°	2-1/2	2	1-1/4	.097	1	HM81-60-42
65 x 60	41	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
70 x 65	45	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
75 x 70	48	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
80 x 75	51	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
85 x 80	55	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
90 x 85	58	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
95 x 90	61	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
100 x 95	65	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
105 x 100	68	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
110 x 105	71	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
115 x 110	75	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
120 x 115	78	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125
125 x 120	81	55°	2-1/2	2	1-1/4	.099	1	HM81-65-125

HM81 Series

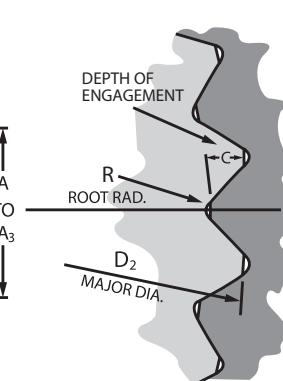
55° & 60° Angle Serrations
Per DIN 5481
Right Hand



Internal Serrations



External Serrations

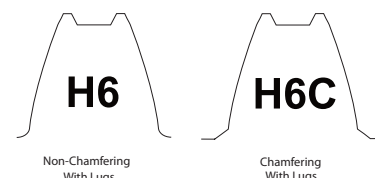
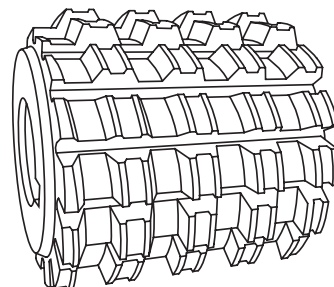




Will Produce				Hob Size				Specify Class A,B,C	
Shaft Diam.	Fit	Root Diam.	Key	OD	Length	Bore	# Threads	Non-Chamfering	Chamfering
.375	B	.319	.092	1	1-1/4	1/2	1	H6-037BH	–
.375	C	.300	.091	1-7/8	1-1/2	3/4	1	H6-037CS	–
.500	A	.450	.125	2-1/4	2	1-1/4	1	–	H6C-050A
.500	B	.423	.121	1-7/8	1-7/8	3/4	1	H6-050BS	–
.500	C	.397	.121	1-7/8	1-7/8	3/4	1	H6-050CS	–
.500	C	.397	.121	2-1/4	2	1-1/4	1	H6-050C	H6C-050C
.625	A	.563	.156	2-1/4	2	1-1/4	1	–	H6C-062A
.625	B	.529	.152	1-7/8	1-7/8	3/4	1	H6-062BS	H6C-062BS
.625	B	.529	.152	2-1/4	2	1-1/4	1	H6-062B	H6C-062B
.625	C	.497	.152	1-7/8	1-7/8	3/4	1	H6-062CS	–
.625	C	.497	.152	2-1/4	2	1-1/4	1	H6-062C	–
.688	A	.614	.168	3	3	1-1/4	1	–	H6C-068A
.750	A	.675	.188	1-7/8	1-7/8	3/4	1	–	H6C-075AS
.750	B	.635	.185	1-7/8	1-7/8	3/4	1	H6-075BS	H6C-075BS
.750	B	.635	.185	2-1/2	2-1/2	1-1/4	1	H6-075B	–
.750	C	.597	.185	1-7/8	1-7/8	3/4	1	H6-075CS	H6C-075CS
.750	C	.597	.185	2-1/2	2-1/2	1-1/4	1	H6-075C	–
.875	A	.788	.219	1-7/8	1-7/8	3/4	1	–	H6C-087AS
.875	A	.788	.219	2-1/2	2-1/2	1-1/4	1	–	H6C-087A
.875	B	.741	.215	1-7/8	1-7/8	3/4	1	H6-087BS	H6C-087BS
.875	B	.741	.215	2-1/2	2-1/2	1-1/4	1	H6-087B	–
.875	C	.696	.215	1-7/8	1-7/8	3/4	1	H6-087CS	H6C-087CS
.875	C	.696	.215	2-1/2	2-1/2	1-1/4	1	H6-087C	H6C-087C
1.000	A	.900	.250	1-7/8	1-7/8	3/4	1	–	H6C-100AS
1.000	A	.900	.250	2-1/2	2-1/2	1-1/4	1	–	H6C-100A
1.000	B	.847	.246	1-7/8	1-7/8	3/4	1	H6-100BS	H6C-100BS
1.000	B	.847	.246	2-1/2	2-1/2	1-1/4	1	H6-100B	H6C-100B
1.000	C	.796	.246	1-7/8	1-7/8	3/4	1	H6-100CS	H6C-100CS
1.000	C	.796	.246	2-1/2	2-1/2	1-1/4	1	H6-100C	H6C-100C
1.125	A	1.013	.281	1-7/8	1-7/8	3/4	1	–	H6C-112AS
1.125	A	1.013	.281	2-1/2	2-1/2	1-1/4	1	–	H6C-112A
1.125	B	.953	.277	1-7/8	1-7/8	3/4	1	H6-112BS	H6C-112BS
1.125	B	.953	.277	2-1/2	2-1/2	1-1/4	1	H6-112B	H6C-112B
1.125	C	.894	.277	1-7/8	1-7/8	3/4	1	H6-112CS	H6C-112CS
1.125	C	.894	.277	2-1/2	2-1/2	1-1/4	1	H6-112C	H6C-112C
1.250	A	1.126	.313	1-7/8	1-7/8	3/4	1	–	H6C-125AS
1.250	A	1.126	.313	2-1/2	2-1/2	1-1/4	1	–	H6C-125A
1.250	B	1.060	.309	1-7/8	1-7/8	3/4	1	H6-125BS	H6C-125BS
1.250	B	1.060	.309	2-1/2	2-1/2	1-1/4	1	H6-125B	H6C-125B
1.250	C	.996	.309	1-7/8	1-7/8	3/4	1	H6-125CS	–
1.250	C	.996	.309	2-1/2	2-1/2	1-1/4	1	H6-125C	H6C-125C
1.375	A	1.239	.345	2-3/4	2-3/4	1-1/4	1	–	H6C-137A
1.375	B	1.165	.340	2	2	3/4	1	H6-137BS	–
1.375	B	1.165	.340	2-3/4	2-3/4	1-1/4	1	H6-137B	H6C-137B
1.375	C	1.096	.340	2	2	3/4	1	H6-137CS	H6C-137CS
1.375	C	1.096	.340	2-3/4	2-3/4	1-1/4	1	H6-137C	H6C-137C

H6 & H6C Series

6 Straight Sided Spline
Right Hand



HOB

SERIES CONTINUED ON NEXT PAGE ->



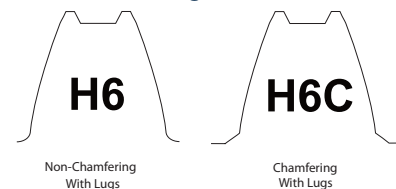
Will Produce				Hob Size				Specify Class A,B,C	
Shaft Diam.	Fit	Root Diam.	Key	OD	Length	Bore	# Threads	Non-Chamfering	Chamfering
1.500	A	1.350	.375	2-3/4	2-3/4	1-1/4	1	-	H6C-150A
1.500	B	1.271	.371	2	2	3/4	1	H6-150BS	-
1.500	B	1.271	.371	2-3/4	2-3/4	1-1/4	1	H6-150B	H6C-150B
1.500	C	1.196	.371	2	2	3/4	1	H6-150CS	H6C-150CS
1.500	C	1.196	.371	2-3/4	2-3/4	1-1/4	1	H6-150C	H6C-150C
1.625	A	1.465	.441	2-3/4	2-3/4	1-1/4	1	-	H6C-162A
1.625	B	1.378	.402	2-3/4	2-3/4	1-1/4	1	H6-162B	H6C-162B
1.625	C	1.296	.402	2-3/4	2-3/4	1-1/4	1	H6-162C	-
1.750	A	1.577	.438	3	3	1-1/4	1	-	H6C-175A
1.750	B	1.485	.434	3	3	1-1/4	1	H6-175B	H6C-175B
1.750	C	1.396	.434	3	3	1-1/4	1	H6-175C	H6C-175C
1.875	A	1.688	.469	3	3	1-1/4	1	-	H6C-187A
1.875	B	1.594	.465	3	3	1-1/4	1	H6-187B	-
1.875	C	1.500	.465	3	3	1-1/4	1	H6-187C	-
2.000	A	1.802	.500	3-1/4	3-1/4	1-1/4	1	-	H6C-200AC
2.000	B	1.696	.495	3-1/4	3-1/4	1-1/4	1	H6-200B	H6C-200B
2.000	C	1.595	.495	3-1/4	3-1/4	1-1/4	1	H6-200C	-
2.250	A	2.027	.563	3-1/4	3-1/4	1-1/4	1	-	H6C-225A
2.250	B	1.908	.558	3-1/4	3-1/4	1-1/4	1	H6-225B	H6C-225B
2.250	C	1.797	.558	3-1/4	3-1/4	1-1/4	1	H6-225C	-
2.500	A	2.252	.625	3-1/2	3-1/2	1-1/4	1	-	H6C-250A
2.500	B	2.120	.620	3-1/2	3-1/2	1-1/4	1	H6-250B	H6C-250B
2.500	C	1.996	.620	3-1/2	3-1/2	1-1/4	1	H6-250C	-
2.750	A	2.447	.688	3-1/2	3-1/2	1-1/4	1	-	H6C-275A
2.750	B	2.333	.683	3-1/2	3-1/2	1-1/4	1	H6-275B	-
2.750	C	2.194	.683	3-1/2	3-1/2	1-1/4	1	H6-275C	-
3.000	A	2.702	.750	3-1/2	3-1/2	1-1/4	1	-	H6C-300A
3.000	B	2.545	.745	3-1/2	3-1/2	1-1/4	1	H6-300B	H6C-300B
3.000	C	2.394	.745	3-1/2	3-1/2	1-1/4	1	H6-300C	-
3.250	B	2.757	.808	3-1/2	3-1/2	1-1/4	1	H6-325B	H6C-325B
3.250	C	2.594	.808	3-1/2	3-1/2	1-1/4	1	H6-325C	-
3.500	B	2.970	.870	3-3/4	3-3/4	1-1/4	1	H6-350B	-
3.500	C	2.793	.870	3-3/4	3-3/4	1-1/4	1	H6-350C	-
3.750	B	3.183	.933	3-3/4	3-3/4	1-1/4	1	H6-375B	-
4.000	B	3.395	.995	4	4	1-1/4	1	H6-400B	-
4.000	C	3.192	.995	4	4	1-1/4	1	H6-400C	H6C-400C

 <- SERIES CONTINUED FROM
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H6 & H6C Series

6 Straight Sided Spline

Right Hand





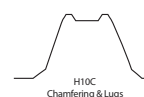
H10 & H10C Series

10 Straight Sided Spline
Right Hand

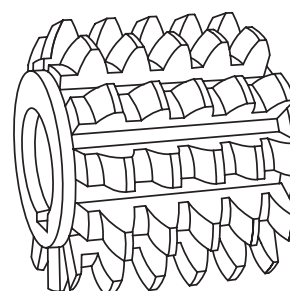
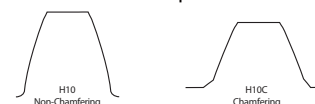
Will Produce					Hob Size				Specify Class A,B,C	
Shaft Diam.	Fit	Root Diam.	Straight Line Diam.	Key	OD	Length	Bore	# Threads	Non-Chamfering	Chamfering
.500	B	.403	.430	.075	1-7/8	1-7/8	3/4	1	H10-050BS	-
.500	C	.368	.405	.075	1-7/8	1-7/8	3/4	1	H10-050CS	-
.625	B	.502	.537	.095	1-7/8	1-7/8	3/4	1	H10-062BS	-
.625	C	.459	.506	.095	1-7/8	1-7/8	3/4	1	H10-062CS	-
.750	A	.683	.683	.117	1-7/8	1-7/8	3/4	1	-	H10C-075AS
.750	A	.683	.683	.117	2-1/2	2-1/2	1-1/4	1	-	-
.750	B	.601	.644	.114	1-7/8	1-7/8	3/4	1	H10-075BS	H10C-075BS
.750	B	.601	.644	.114	2-1/2	2-1/2	1-1/4	1	H10-075B	-
.750	C	.550	.607	.114	1-7/8	1-7/8	3/4	1	H10-075CS	-
.750	C	.550	.607	.114	2-1/2	2-1/2	1-1/4	1	H10-075C	H10C-075C
.750	spec	.629	.652	.114	1-7/8	1-7/8	3/4	1	H10-075XS	-
.875	A	.797	.797	.137	1-7/8	1-7/8	3/4	1	-	H10C-087AS
.875	B	.706	.753	.134	1-7/8	1-7/8	3/4	1	H10-087BS	H10C-087BS
.875	B	.706	.753	.134	2-1/2	2-1/2	1-1/4	1	H10-087B	-
.875	C	.642	.709	.134	1-7/8	1-7/8	3/4	1	H10-087CS	-
.875	C	.642	.709	.134	2-1/2	2-1/2	1-1/4	1	H10-087C	H10C-087C
.875	spec	.735	.775	.134	2-1/2	2-1/2	1-1/4	1	H10-087X	-
1.000	A	.911	.910	.156	1-7/8	1-7/8	3/4	1	-	H10C-100AS
1.000	B	.806	.859	.153	1-7/8	1-7/8	3/4	1	H10-100BS	-
1.000	B	.806	.859	.153	2-1/2	2-1/2	1-1/4	1	H10-100B	-
1.000	C	.734	.810	.153	1-7/8	1-7/8	3/4	1	H10-100CS	-
1.000	C	.734	.810	.153	2-1/2	2-1/2	1-1/4	1	H10-100C	-
1.125	A	1.024	1.023	.176	2-1/2	2-1/2	1-1/4	1	-	H10C-112A
1.125	B	.904	.967	.173	1-7/8	1-7/8	3/4	1	H10-112BS	H10C-112BS
1.125	B	.904	.967	.173	2-1/2	2-1/2	1-1/4	1	H10-112B	H10C-112B
1.125	C	.824	.911	.173	1-7/8	1-7/8	3/4	1	H10-112CS	H10C-112CS
1.125	C	.824	.911	.173	2-1/2	2-1/2	1-1/4	1	-	H10C-112C
1.125	spec	.937	.990	.173	1-7/8	1-7/8	3/4	1	H10-112XS	-
1.250	A	1.138	1.137	.195	1-7/8	1-7/8	3/4	1	-	-
1.250	A	1.138	1.137	.195	2-1/2	2-1/2	1-1/4	1	-	H10C-125A
1.250	B	1.003	1.073	.192	1-7/8	1-7/8	3/4	1	H10-125BS	-
1.250	B	1.003	1.073	.192	2-1/2	2-1/2	1-1/4	1	H10-125B	H10C-125B
1.250	C	.916	1.012	.192	1-7/8	1-7/8	3/4	1	H10-125CS	-
1.250	C	.916	1.012	.192	2-1/2	2-1/2	1-1/4	1	H10-125C	H10C-125C
1.250	spec	1.056	1.088	.192	2-1/2	2-1/2	1-1/4	1	H10-125X	-
1.375	A	1.252	1.251	.215	2-3/4	2-1/2	1-1/4	1	-	H10C-137A
1.375	B	1.107	1.183	.212	2-3/4	2-1/2	1-1/4	1	H10-137B	H10C-137B
1.375	B	1.107	1.183	.212	2	2	3/4	1	H10-137BS	-
1.375	C	1.008	1.113	.212	2-3/4	2-1/2	1-1/4	1	H10-137C	H10C-137C
1.375	spec	1.053	1.146	.212	2-3/4	2-3/4	1-1/4	1	H10-137X	-
1.375	spec	1.165	1.198	.212	2-3/4	2-3/4	1-1/4	1	H10-137Y	-
1.500	A	1.366	1.365	.235	2-3/4	2-1/2	1-1/4	1	-	H10C-150A
1.500	B	1.200	1.288	.231	2-3/4	2-1/2	1-1/4	1	H10-150B	H10C-150B
1.500	B	1.200	1.288	.231	2	2	3/4	1	H10-150BS	-
1.500	C	1.100	1.215	.231	2	2	3/4	1	H10-150CS	-
1.500	C	1.100	1.215	.231	2-3/4	2-1/2	1-1/4	1	H10-150C	HC10C-150C
1.500	spec	1.192	1.279	.231	2-3/4	2-3/4	1-1/4	1	H10-150X	-
1.500	spec	1.260	1.289	.231	2-3/4	2-3/4	1-1/4	1	H10-150Y	-
1.625	A	1.480	1.479	.255	2-1/2	2-1/2	1-1/4	1	-	H10C-162A
1.625	B	1.305	1.369	.251	2-1/2	2-1/2	1-1/4	1	H10-162B	H10C-162B
1.625	C	1.190	1.316	.251	2-1/2	2-1/2	1-1/4	1	H10-162C	H10C-162C
1.625	spec	1.342	1.397	.251	3	3	1-1/4	1	-	H10C-162X
1.625	spec	1.386	1.430	.251	2-1/2	2-1/2	1-1/4	1	H10-162Y	-

Will Produce					Hob Size				Specify Class A,B,C	
Shaft Diam.	Fit	Root Diam.	Straight Line Diam.	Key	OD	Length	Bore	# Threads	Non-Chamfering	Chamfering
1.750	A	1.594	1.593	.274	3	3	1-1/4	1	-	H10C-175A
1.750	B	1.408	1.504	.270	3	3	1-1/4	1	H10-175B	H10C-175B
1.750	C	1.281	1.417	.270	3	3	1-1/4	1	H10-175C	H10C-175C
1.750	spec	1.385	1.488	.270	3	3	1-1/4	1	H10-175X	-
1.750	spec	1.457	1.538	.270	3	3	1-1/4	1	H10-175Y	H10C-175Y
1.750	spec	1.478	1.551	.270	3	3	1-1/4	1	H10-175Z	-
1.875	C	1.372	1.518	.289	3	3	1-1/4	1	H10-187C	-
2.000	A	1.821	1.820	.313	3	3	1-1/4	1	-	H10C-200A
2.000	B	1.608	1.717	.307	3	3	1-1/4	1	H10-200B	H10C-200B
2.000	C	1.461	1.618	.307	3	3	1-1/4	1	H10-200C	H10C-200C
2.000	spec	1.592	1.706	.307	3	3	1-1/4	1	H10-200X	-
2.000	spec	1.694	1.776	.307	3	3	1-1/4	1	H10-200Y	-
2.250	A	2.049	2.048	.352	3	3	1-1/4	1	-	H10C-225A
2.250	B	1.812	1.934	.346	3	3	1-1/4	1	H10-225B	H10C-225B
2.250	C	1.646	1.882	.346	3	3	1-1/4	1	H10-225C	H10C-225C
2.500	A	2.277	2.275	.391	3-1/4	3-1/4	1-1/4	1	-	H10C-250A
2.500	B	2.007	2.148	.385	3-1/4	3-1/4	1-1/4	1	H10-250B	H10C-250B
2.500	C	1.830	2.023	.385	3-1/2	3-1/2	1-1/4	1	H10-250C	H10C-250C
2.500	spec	2.130	2.228	.385	3-1/4	3-1/4	1-1/4	1	H10-250Y	-
2.750	A	2.503	2.501	.430	3-1/4	3-1/4	1-1/4	1	-	H10C-275A
2.750	B	2.210	2.320	.424	3-1/4	3-1/4	1-1/4	1	H10-275B	H10C-275B
2.750	C	2.013	2.227	.424	3-1/4	3-1/4	1-1/4	1	H10-275C	-
3.000	A	2.732	2.730	.469	3-1/4	3-1/4	1-1/4	1	-	H10C-300A
3.000	B	2.412	2.578	.463	3-1/4	3-1/4	1-1/4	1	H10-300B	H10C-300B
3.000	C	2.195	2.428	.463	3-1/2	3-1/2	1-1/4	1	H10-300C	H10C-300C
3.000	spec	2.510	2.644	.463	3-1/4	3-1/4	1-1/4	1	H10-300X	-
3.500	A	3.190	3.188	.546	3-1/2	3-1/2	1-1/4	1	-	H10C-350A
3.500	B	2.814	3.010	.541	3-1/2	3-1/2	1-1/4	1	H10-350B	-
3.500	C	2.562	2.835	.541	3-1/2	3-1/2	1-1/4	1	H10-350C	-
3.500	spec	2.974	3.125	.541	3-1/2	3-1/2	1-1/4	1	H10-350X	H10C-350X
4.000	A	3.640	3.638	.624	3-3/4	3-3/4	1-1/4	1	-	H10C-400A
4.000	B	3.216	3.440	.619	3-3/4	3-3/4	1-1/4	1	H10-400B	-
4.000	C	2.927	3.240	.619	3-3/4	3-3/4	1-1/4	1	H10-400C	H10C-400C

"A" Spline



B & C Spline



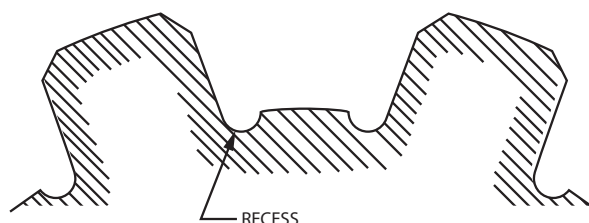
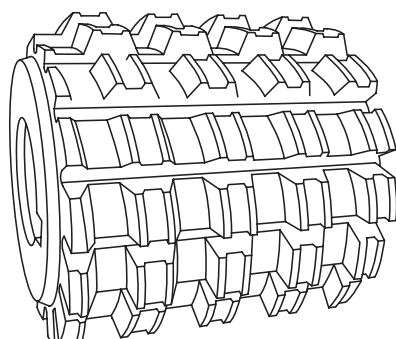


HX4, HX6, HX8, HX10 & HX16 Series

Metric Straight Sided Spline
 DIN 5462/5463 - UNI 220/221 Standard
 Right Hand, With Lugs, Chamfering.

HOB

Will Produce				Hob Size				Specify Class A,B,C
Shaft Diam. (mm)	Root Diam. (mm)	Key (mm)	# Splines	OD	Length	Bore	# Threads	
14	11	4	4	1-7/8	1-7/8	3/4	1	HX4-14-11S
16	13	5	4	64mm	64mm	27mm	1	HX4-16-13T
20	16	6	4	1-7/8	1-7/8	3/4	1	HX4-20-16S
22	18	7	4	2-1/2	2-1/2	1-1/4	1	HX4-22-18
25	21	8	4	2-1/2	2-1/2	1-1/4	1	HX4-25-21
38	32	10	4	2-3/4	2-1/2	1-1/4	1	HX4-38-32
14	11	3	6	1-7/8	1-7/8	3/4	1	HX6-14-11S
14	11	3	6	2-1/4	2	1-1/4	1	HX6-14-11
16	13	3.5	6	1-7/8	1-1/2	3/4	1	HX6-16-13S
20	16	4	6	1-7/8	1-1/2	3/4	1	HX6-20-16S
20	16	4	6	2-1/2	2-1/2	1-1/4	1	HX6-20-16
22	18	5	6	2-1/2	2-1/2	1-1/4	1	HX6-22-18
25	21	5	6	2-1/2	2-1/2	1-1/4	1	HX6-25-21
26	23	6	6	2-3/4	2-1/2	1-1/4	1	HX6-26-23
28	23	6	6	2-3/4	2-1/2	1-1/4	1	HX6-28-23
30	26	6	6	2-3/4	2-1/2	1-1/4	1	HX6-30-26
32	26	6	6	2-3/4	2-1/2	1-1/4	1	HX6-32-26
32	28	7	6	2-3/4	2-1/2	1-1/4	1	HX6-32-28
34	28	7	6	2-3/4	2-1/2	1-1/4	1	HX6-34-28
38	32	8	6	2-3/4	2-1/2	1-1/4	1	HX6-38-32
42	36	8	6	2-3/4	2-1/2	1-1/4	1	HX6-42-36
48	42	10	6	2-3/4	2-1/2	1-1/4	1	HX6-48-42
52	46	12	6	2-3/4	2-1/2	1-1/4	1	HX6-52-46
60	52	14	6	3	3	1-1/4	1	HX6-60-52
65	58	14	6	3	3	1-1/4	1	HX6-65-58
70	62	16	6	3	3	1-1/4	1	HX6-70-62
78	68	16	6	3-1/4	3-1/4	1-1/4	1	HX6-78-68
82	72	16	6	3-1/4	3-1/4	1-1/4	1	HX6-82-72
90	78	16	6	3-1/4	3-1/4	1-1/4	1	HX6-90-78
95	82	16	6	4	4	1-1/4	1	HX6-95-82
100	88	16	6	4	4	1-1/4	1	HX6-100-88
105	92	20	6	4	4	1-1/4	1	HX6-105-92
110	98	20	6	4	4	1-1/4	1	HX6-110-98
120	105	20	6	5	5	1-1/2	1	HX6-120-105
36	32	6	8	2-3/4	2-3/4	1-1/4	1	HX8-36-32
38	32	6	8	2-3/4	2-3/4	1-1/4	1	HX8-38-32
40	36	7	8	2-3/4	2-3/4	1-1/4	1	HX8-40-36
42	36	7	8	2-3/4	2-3/4	1-1/4	1	HX8-42-36
46	42	8	8	3	3	1-1/4	1	HX8-46-42
48	42	8	8	3	3	1-1/4	1	HX8-48-42
50	46	9	8	3	3	1-1/4	1	HX8-50-46
54	46	9	8	3-1/4	3	1-1/4	1	HX8-54-46
58	52	10	8	3-1/4	3	1-1/4	1	HX8-58-52
60	52	10	8	3-1/4	3	1-1/4	1	HX8-60-52
62	56	10	8	3-1/4	3	1-1/4	1	HX8-62-56
65	56	10	8	3-1/2	3-1/2	1-1/4	1	HX8-65-56
68	62	12	8	3-1/2	3-1/2	1-1/4	1	HX8-68-62
72	62	12	8	3-1/2	3-1/2	1-1/4	1	HX8-72-62
20	16	2.5	10	2-1/2	2-1/2	1-1/4	1	HX10-20-16
23	18	3	10	2-1/2	2-1/2	1-1/4	1	HX10-23-18
26	21	3	10	2-3/4	2-3/4	1-1/4	1	HX10-26-21
29	23	4	10	2-3/4	2-3/4	1-1/4	1	HX10-29-23
32	23.65	4	10	2-3/4	2-3/4	1-1/4	1	HX10-32-26
35	25.2	4	10	3	3	1-1/4	1	HX10-35-28
40	32	5	10	3	3	1-1/4	1	HX10-40-32
45	36	5	10	3-1/4	3-1/4	1-1/4	1	HX10-45-36
52	42	6	10	3-1/4	3-1/4	1-1/4	1	HX10-52-42
56	46	7	10	3-1/4	3-1/4	1-1/4	1	HX10-56-46
78	72	12	10	3-1/4	3-1/4	1-1/4	1	HX10-78-72
82	72	12	10	3-1/4	3-1/4	1-1/4	1	HX10-82-72
88	82	12	10	3-1/2	3-1/4	1-1/4	1	HX10-88-82
92	82	12	10	3-1/2	3-1/4	1-1/4	1	HX10-92-82
98	92	14	10	3-1/2	3-1/2	1-1/4	1	HX10-98-92
102	92	14	10	3-1/2	3-1/2	1-1/4	1	HX10-102-92
108	102	16	10	3-3/4	3-1/2	1-1/4	1	HX10-108-102
112	102	16	10	3-3/4	3-1/2	1-1/4	1	HX10-112-102
120	112	18	10	4	3-1/2	1-1/4	1	HX10-120-112
125	112	18	10	4	3-1/2	1-1/4	1	HX10-125-112
60	52	5	16	3	3	1-1/4	1	HX16-60-52
65	56	5	16	3	3	1-1/4	1	HX16-65-56
72	62	6	16	3-1/4	3-1/4	1-1/4	1	HX16-72-62
82	72	7	16	3-1/4	3-1/4	1-1/4	1	HX16-82-72



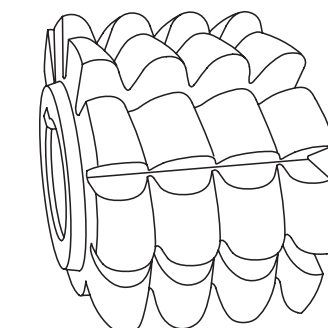
The above drawing shows a spline shaft hobbled with a recess in the root diameter at the sides of the key. In this design it is possible to avoid fillet interference between the shaft and the splined hole.



Chain #	CP	Roller Diam.	OD	Length	Bore	# Threads	Specify Class A,B,C
spec.	.123	.060	1-1/8	1-1/8	1/2	1	HRC-012H
spec.	.148	.090	1	3/4	8mm	1	HRC-014M
spec.	.148	.090	1-1/8	1-1/8	1/2	1	HRC-014H
spec.	.148	.090	1-7/8	1-1/2	3/4	1	HRC-014S
25	1/4	.130	1-7/8	1-7/8	3/4	1	HRC-025S
25	1/4	.130	2-1/2	2-1/2	1-1/4	1	HRC-025
25	1/4	.130	2-3/4	3-1/2	1-1/4	2	HRC2-025
25	1/4	.130	2-3/4	3-1/2	1-1/4	3	HRC3-025
35	3/8	.200	1-7/8	1-7/8	3/4	1	HRC-035S
35	3/8	.200	3	2-1/2	1-1/4	1	HRC-035
35	3/8	.200	4	4	1-1/4	1	HRC-035L
35	3/8	.200	5	4	1-1/2	1	HRC-035X
35	3/8	.200	3-3/8	5	1-1/4	1	HRC-035W
35	3/8	.200	80mm	65mm	40mm	1	HRC-035F
35	3/8	.200	3-1/4	4	1-1/4	3	HRC3-035
40	1/2	.313	2	2	3/4	1	HRC-040S
40	1/2	.313	3-1/8	2-1/2	1-1/4	1	HRC-040
40	1/2	.313	4	4	1-1/4	1	HRC-040L
40	1/2	.313	5	4	1-1/2	1	HRC-040X
40	1/2	.313	3-1/2	5	1-1/4	1	HRC-040W
40	1/2	.313	3-3/8	4	1-1/4	2	HRC2-040
40	1/2	.313	3-3/8	4	1-1/4	3	HRC3-040
41	1/2	.306	3-1/8	2-1/2	1-1/4	1	HRC-041
50	5/8	.400	3-1/2	2-1/2	1-1/4	1	HRC-050
50	5/8	.400	4	4-1/2	1-1/4	1	HRC-050L
50	5/8	.400	5	4-1/2	1-1/2	1	HRC-050X
50	5/8	.400	4	5	1-1/4	1	HRC-050W
50	5/8	.400	70mm	120mm	27mm	1	HRC-050T
50	5/8	.400	3-3/4	4-1/2	1-1/4	2	HRC2-050
50	5/8	.400	3-3/4	4-1/2	1-1/4	3	HRC3-050
60	3/4	.469	3-1/2	2-7/8	1-1/4	1	HRC-060
60	3/4	.469	4	4	1-1/4	1	HRC-060L
60	3/4	.469	5	5	1-1/2	1	HRC-060X
60	3/4	.469	80mm	120mm	27mm	1	HRC-060T
60	3/4	.469	4	4-3/4	1-1/4	2	HRC2-060
80	1	.625	4-1/4	3-1/2	1-1/4	1	HRC-080
80	1	.625	4-1/2	5	1-1/2	1	HRC-080L
80	1	.625	106mm	110m	40mm	1	HRC-080F
80	1	.625	4-1/2	5-1/2	1-1/4	2	HRC2-080
100	1-1/4	.750	4-3/4	4-1/2	1-1/4	1	HRC-100
100	1-1/4	.750	5-1/2	5	1-1/2	1	HRC-100L
100	1-1/4	.750	120mm	120mm	32mm	1	HRC-100T
120	1-1/2	.875	5	4-3/4	1-1/4	1	HRC-120
120	1-1/2	.875	5-1/4	5-1/4	1-1/2	1	HRC-120L
120	1-1/2	.875	127mm	121mm	40mm	1	HRC-120F
140	1-3/4	1.000	5-1/2	5-1/2	1-1/2	1	HRC-140
140	1-3/4	1.000	6-1/4	6	2	1	HRC-140L
160	2	1.125	6-1/4	6	1-1/2	1	HRC-160
160	2	1.125	6-7/8	6-3/4	2	1	HRC-160L
180	2-1/4	1.406	6-3/4	6-3/4	1-1/2	1	HRC-180
180	2-1/4	1.406	8	8	2	1	HRC-180L
200	2-1/2	1.563	7-1/4	7-1/4	1-1/2	1	HRC-200
200	2-1/2	1.563	8-1/2	8-1/2	2	1	HRC-200L
240	3	1.875	9-1/2	11	2	1	HRC-240

HRC, HRC2 & HRC3 Series

Roller Chain
Finishing
Non-Topping
Right Hand

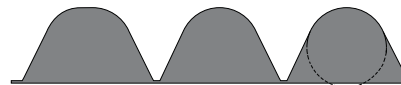
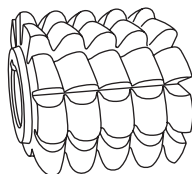


HOB



HTC, HTC2 & HTC3 Series

American Standard Roller Chain
Topping, Right Hand

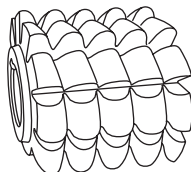


Chain #	CP	Roller Dia.	OD	Length	Bore	# Threads	Specify Class A,B,C					
							14-18 Teeth	19-23 Teeth	24-29 Teeth	30-36 Teeth	37-48 Teeth	49+ Teeth
spec.	1/8	.060	1-1/8	1-1/8	1/2	1	-	-	HTC-012-24H	-	-	-
spec.	9/64	.090	1-7/8	1-1/2	3/4	1	HTC-014-14S	HTC-014-19S	HTC-014-24S	HTC-014-30S	HTC-014-37S	HTC-014-49S
							7-8 Teeth	9-11 Teeth	12-17 Teeth	18-34 Teeth	35 & Over Teeth	
25	1/4	.130	1-7/8	1-7/8	3/4	1	-	-	HTC-025-12S	-	-	-
25	1/4	.130	2-1/2	2-1/2	1-1/4	1	-	HTC-025-9	HTC-025-12	HTC-025-18	HTC-025-35	-
35	3/8	.200	3	2-1/2	1-1/4	1	HTC-035-7	HTC-035-9	HTC-035-12	HTC-035-18	HTC-035-35	-
35	3/8	.200	3-1/4	4	1-1/4	2	-	-	-	HTC2-035-18	HTC2-035-35	-
35	3/8	.200	4	4	1-1/4	1	-	-	-	HTC-035L-18	-	-
35	3/8	.200	5	4	1-1/2	1	-	-	-	HTC-035X-18	-	-
40	1/2	.313	3-1/8	2-1/2	1-1/4	1	HTC-040-7	HTC-040-9	HTC-040-12	HTC-040-18	HTC-040-35	-
40	1/2	.313	3-3/8	4	1-1/4	2	-	-	-	HTC2-040-18	HTC2-040-35	-
40	1/2	.313	4	4	1-1/4	3	-	-	-	-	HTC3-040-35	-
40	1/2	.313	4	4	1-1/4	1	-	-	-	HTC-040L-18	HTC-040L-35	-
40	1/2	.313	5	4	1-1/2	1	-	-	-	HTC-040X-18	-	-
50	5/8	.400	3-1/2	2-1/2	1-1/4	1	HTC-050-7	HTC-050-9	HTC-050-12	HTC-050-18	HTC-050-35	-
50	5/8	.400	3-1/2	2-1/2	1-1/4	2	-	-	HTC2-050-12	HTC2-050-18	-	-
50	5/8	.400	4	4	1-1/4	1	-	-	-	HTC-050L-18	HTC-050L-35	-
50	5/8	.400	5	4-1/2	1-1/2	1	-	-	-	HTC-050X-18	HTC-050X-35	-
60	3/4	.469	3-1/2	2-7/8	1-1/4	1	HTC-060-7	HTC-060-9	HTC-060-12	HTC-060-18	HTC-060-35	-
60	3/4	.469	4	4-3/4	1-1/4	2	-	-	HTC2-060-12	HTC2-060-18	HTC2-060-35	-
60	3/4	.469	4	4-1/2	1-1/4	1	-	-	-	HTC-060L-18	HTC-060L-35	-
60	3/4	.469	5	5	1-1/2	1	-	-	-	HTC-060X-18	-	-
80	1	.625	4-1/4	3-1/2	1-1/4	1	HTC-080-7	HTC-080-9	HTC-080-12	HTC-080-18	HTC-080-35	-
80	1	.625	4-1/2	5	1-1/4	1	-	-	-	HTC-080L-18	HTC-080L-35	-
80	1	.625	5-1/2	5	1-1/2	1	-	-	-	HTC-080X-18	HTC-080X-35	-
80	1	.625	4-1/2	5-1/2	1-1/4	2	-	-	HTC2-080-12	HTC2-080-18	HTC2-080-35	-
100	1-1/4	.750	4-3/4	4-1/2	1-1/4	1	HTC-100-9	HTC-100-9	HTC-100-12	HTC-100-18	HTC-100-35	-
100	1-1/4	.750	5-1/2	5	1-1/2	1	-	-	-	HTC-100L-18	-	-
120	1-1/2	.875	5-1/4	5-1/4	1-1/2	1	-	-	HTC-120-12	-	-	-
140	1-3/4	1.000	5-1/2	6	1-1/2	1	-	-	HTC-140-12	-	HTC-140-35	-

* Parts in inventory may have different tooth counts available than listed above, please call for more specific part information.

HTC0 Series

Roller Chain 0° PA Rack Form Cycloidal
Finishing, Topping
Right Hand



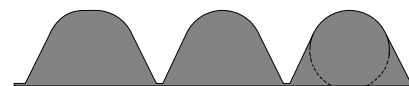
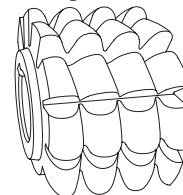
Chain #	CP	Roller Diam.	OD	Length	Bore	# Threads	Specify Class A,B,C	
							12-17 Teeth	18-34 Teeth
40	1/2	.313	3-1/8	2-1/2	1-1/4	1	-	HTC0-040-18
60	3/4	.469	85mm	100mm	27mm	1	-	HTC0-060-18T
100	1-1/4	.750	4-3/4	4-1/2	1-1/4	1	HTC0-100-12	-



Chain #	CP	Roller Diam.	OD	Length	Bore	# Threads	Specify Class A,B,C
36	3/8	.250	1-7/8	1-7/8	3/4	1	HEC-036S
36	3/8	.250	3	2-1/2	1-1/4	1	HEC-036
42	1/2	.335	3-1/8	2-1/2	1-1/4	1	HEC-042
42	1/2	.335	3-1/2	2-1/2	1-1/4	3	HEC-042-3
51	5/8	.400	3-1/2	2-1/2	1-1/4	1	HEC-051
61	3/4	.475	3-1/2	2-7/8	1-1/4	1	HEC-061
61	3/4	.475	90mm	120mm	27mm	1	HEC-061T
spec	1	.625	4-1/4	3-1/2	1-1/4	1	HEC-100
spec	1-1/2	1.000	5	4-3/4	1-1/4	1	HEC-150
spec	1-1/2	1.000	190mm	170mm	40mm	1	HEC-150F

HEC Series

Roller Chain
European Standard
Finishing
Topping
Right Hand



CP (mm)	Roller Diam. (mm)	OD	Length	Bore	# Threads	Specify Class A,B,C
6	4	1-7/8	1-7/8	3/4	1	HRCM-6S
6	4	2-1/2	2-1/2	1-1/4	1	HRCM-6
6	4	64mm	64mm	32 mm	1	HRCM-6T
8	5	1-7/8	1-7/8	3/4	1	HRCM-8S
8	5	2-1/2	2-1/2	1-1/4	1	HRCM-8

HRCM Series

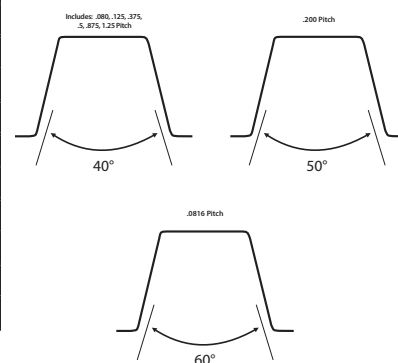
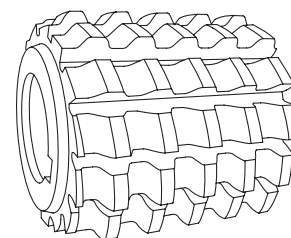
Metric Roller Chain
Finishing
Non-Topping
Right Hand



Belt	CP	Tooth Range	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
XXL	40 DP	10-23	1	3/4	8mm	.021	1	HTB-040-10M
XXL	40 DP	10-23	1-7/8	1-1/2	3/4	.021	1	HTB-040-10S
XXL	40 DP	24+	1	3/4	8mm	.021	1	HTB-040-24M
XXL	40 DP	24+	1-7/8	1-1/2	3/4	.021	1	HTB-040-24S
MXL	1/12.5	10-23	1	3/4	8mm	.026	1	HTB-080-10M
MXL	1/12.5	24+	1	3/4	8mm	.026	1	HTB-080-24M
MXL	1/12.5	10-23	1-1/8	1-1/8	1/2	.026	1	HTB-080-10H
MXL	1/12.5	24+	1-1/8	1-1/8	1/2	.026	1	HTB-080-24H
MXL	1/12.5	10-23	1-7/8	1-1/2	3/4	.026	1	HTB-080-10S
MXL	1/12.5	24+	1-7/8	1-1/2	3/4	.026	1	HTB-080-24S
MXL	1/12.5	24+	2-1/2	2	1-1/4	.026	1	HTB-080-24
-	1/8	10+	1-7/8	1-7/8	3/4	.035	1	HTB-012-10S
XL	1/5	12+	1-1/4	1-1/4	1/2	.056	1	HTB-200-12H
XL	1/5	10+	1-7/8	1-7/8	3/4	.056	1	HTB-200-10S
XL	1/5	10+	2-1/4	2	1-1/4	.056	1	HTB-200-10
XL	1/5	10+	2-1/4	2	1-1/4	.056	2	HTB-200-10-2
L	3/8	10+	1-7/8	1-7/8	3/4	.085	1	HTB-375-10S
L	3/8	10+	1-7/8	1-7/8	3/4	.085	2	HTB-375-10-2S
L	3/8	10+	2-1/2	2-1/2	1-1/4	.085	1	HTB-375-10
H	1/2	12-19	2	2	3/4	.103	1	HTB-500-12S
H	1/2	20+	2	2	3/4	.103	1	HTB-500-20S
H	1/2	12-19	2-3/4	2-3/4	1-1/4	.103	1	HTB-500-12
H	1/2	20+	2-3/4	2-3/4	1-1/4	.103	1	HTB-500-20
XH	7/8	18+	3-1/2	3-1/2	1-1/4	.272	1	HTB-875-18
XH	7/8	18+	112mm	100mm	40mm	.272	1	HTB-875-18F
XXH	1-1/4	18+	4-1/2	5	1-1/2	.405	1	HTB-125-18

HTB Series

Timing Belt
ANSI + British
Standard
Finishing
Topping
Right Hand

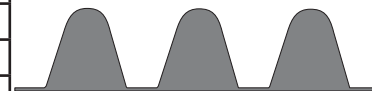




Belt	CP	Tooth Range	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
MXL	3/16	10+	1-7/8	1-7/8	3/4	.060	1	HTBY-018-10S
XL	1/5	10-23	1-7/8	1-7/8	3/4	.064	1	HTBY-020-10S
XL	1/5	24+	1-7/8	1-7/8	3/4	.065	1	HTBY-020-24S
-	15/64	10+	1-7/8	1-7/8	3/4	.073	1	HTBY-023-10S
L	3/8	10-23	1-7/8	1-7/8	3/4	.103	1	HTBY-037-10S
L	3/8	24+	1-7/8	1-7/8	3/4	.103	1	HTBY-037-24S
L	3/8	10-23	2-1/2	2-1/2	1-1/4	.103	1	HTBY-037-10
L	3/8	24+	2-1/2	2-1/2	1-1/4	.103	1	HTBY-037-24
H	1/2	10-23	2-3/4	2-3/4	1-1/4	.118	1	HTBY-050-10
H	1/2	24+	2-3/4	2-3/4	1-1/4	.118	1	HTBY-050-24
XH	7/8	20+	3-1/2	3-1/2	1-1/4	.281	1	HTBY-087-20
XXH	1-1/4	18+	4-1/2	5	1-1/4	.406	1	HTBY-125

HTBY Series

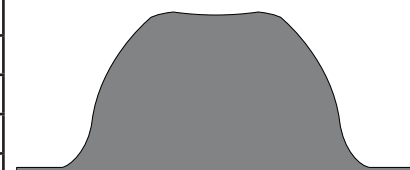
Timing Belt
Goodyear Pd®
Finishing, Topping
Right Hand



CP (mm)	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
2	10+	1-1/4	1-1/4	1/2	1	HTMY-020H
2	10+	1-1/4	1-1/4	3/4	1	HTMY-020SE
2.5	10+	1-7/8	1-7/8	3/4	1	HTMY-025S
3	10+	1-7/8	1-7/8	3/4	1	HTMY-030S
3	10+	2-1/2	2-1/2	1-1/4	1	HTMY-030
4.5	12+	2-1/2	2-1/2	1-1/4	1	HTMY-045
5	12+	1-7/8	1-7/8	3/4	1	HTMY-050S
5	12+	2-1/2	2-1/2	1-1/4	1	HTMY-050
6	16+	1-7/8	1-7/8	3/4	1	HTMY-060S
6	16+	2-3/4	2-3/4	1-1/4	1	HTMY-060
8	20+	2-3/4	2-3/4	1-1/4	1	HTMY-080
14	28+	3	3	1-1/4	1	HTMY-1400

HTMY Series

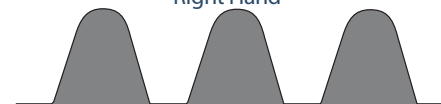
Timing Belt
Goodyear Super Torque Pd®
Finishing, Topping
Right Hand



CP	OD	Length	Bore	# Threads	Specify Class A,B,C
0.100	1-7/8	1-1/2	3/4	1	HTBG-010S

HTBG Series

Timing Belt
Berg Micro
Topping
Right Hand



CP	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
3/8	20+	2-3/4	2-3/4	1-1/4	1	HTHN-375

HTHN Series

Timing Belt
Honda
Topping,
Right Hand

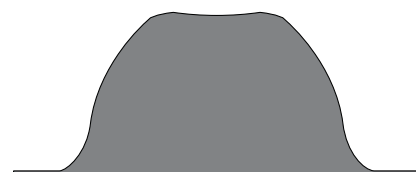
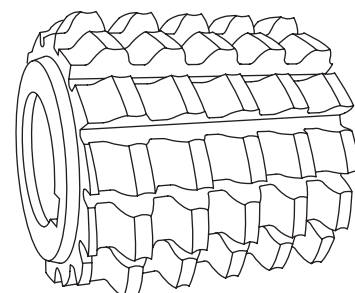




CP (mm)	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
2	10-12	1-7/8	1-1/2	3/4	1	HTGT-02-10S
2	13-18	1-7/8	1-1/2	3/4	1	HTGT-02-13S
2	19-35	1-7/8	1-1/2	3/4	1	HTGT-02-19S
2	36-60	1-7/8	1-1/2	3/4	1	HTGT-02-36S
2	36-60	1-7/8	1-1/2	3/4	2	HTGT-02-36S-2
2	61-200	1-1/4	1-1/4	1/2	1	HTGT-02-61H
2	61-200	1-7/8	1-1/2	3/4	1	HTGT-02-61S
3	15-27	1-1/8	1-1/8	1/2	1	HTGT-03-15H
3	15-27	1-7/8	1-7/8	3/4	1	HTGT-03-15S
3	15-27	50mm	50mm	22mm	1	HTGT-03-15T
3	9-14	1-7/8	1-7/8	3/4	1	HTGT-03-9S
3	15-27	2-1/2	2	1-1/4	1	HTGT-03-15
3	28-56	1-1/4	1-1/4	1/2	1	HTGT-03-28H
3	28-56	1-7/8	1-7/8	3/4	1	HTGT-03-28S
3	28-56	2-1/2	2	1-1/4	1	HTGT-03-28
3	28-56	50mm	50mm	22mm	1	HTGT-03-28T
3	57-140	1-1/4	1-1/4	1/2	1	HTGT-03-57H
3	57-140	1-7/8	1-7/8	3/4	1	HTGT-03-57S
3	57-140	2-1/2	2-1/2	1-1/4	1	HTGT-03-57
3	57-140	50mm	50mm	22mm	1	HTGT-03-57T
3	141-200	2-1/2	2-1/2	1-1/4	1	HTGT-03-141
5	12-15	1-7/8	1-7/8	3/4	1	HTGT-05-12S
5	12-15	2-1/2	2-1/2	1-1/4	1	HTGT-05-12
5	16-32	1-7/8	1-7/8	3/4	1	HTGT-05-16S
5	16-32	2-1/2	2	1-1/4	1	HTGT-05-16
5	16-32	1-7/8	1-7/8	3/4	2	HTGT-05-16-2S
5	33-60	1-7/8	1-7/8	3/4	1	HTGT-05-33S
5	33-60	2-1/2	2-1/2	1-1/4	1	HTGT-05-33
5	61-140	1-7/8	1-7/8	3/4	1	HTGT-05-61S
5	61-140	2-1/2	2-1/2	1-1/4	1	HTGT-05-61
5	141-200	2-1/2	2	1-1/4	1	HTGT-05-141
8	22-29	2-3/4	2-3/4	1-1/4	1	HTGT-08-22
8	30-50	2-3/4	2-3/4	1-1/4	1	HTGT-08-30
8	51-119	2-3/4	2-3/4	1-1/4	1	HTGT-08-51
8	120-220	2-3/4	2-3/4	1-1/4	1	HTGT-08-120
14	25-29	2-3/4	2-3/4	1-1/4	1	HTGT-14-25
14	30-35	3	3	1-1/4	1	HTGT-14-30
14	36-45	3	3	1-1/4	1	HTGT-14-36
14	46-60	3	3	1-1/4	1	HTGT-14-46
14	61-90	3	3	1-1/4	1	HTGT-14-61
14	91-149	3	3	1-1/4	1	HTGT-14-91
14	150-250	3	3	1-1/4	1	HTGT-14-150

HTGT Series

Timing Belt
Gates Power Grip GT (PGGT)
Finishing
Topping
Right Hand



CP	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
15/64	14+	1-7/8	1-7/8	3/4	1	HGI-023-14S
3/8	25-39	2-3/4	2-3/4	1-1/4	1	HGI-037-25
1/2	17-24	2-3/4	2-3/4	1-1/4	1	HGI-050-17
1/2	40+	2-3/4	2-3/4	1-1/4	1	HGI-050-40

HGI Series

Timing Belt
Gilmer
Topping, Right Hand

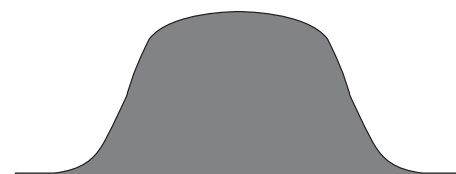
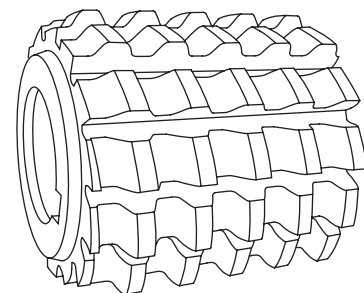




CP (mm)	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
3	9-13	3/4	1/2	8mm	1	HTMU-03-9M
3	9-13	1-7/8	1-7/8	3/4	1	HTMU-03-9S
3	14-25	1-1/4	1	1/2	1	HTMU-03-14H
3	14-25	1-7/8	1-7/8	3/4	1	HTMU-03-14S
3	14-25	2-1/2	2-1/2	1-1/4	1	HTMU-03-14
3	14-25	50mm	60mm	22mm	1	HTMU-03-14T
3	26-80	1-1/4	1	1/2	1	HTMU-03-26H
3	26-80	1-7/8	1-7/8	3/4	1	HTMU-03-26S
3	26-80	2-1/2	2	1-1/4	1	HTMU-03-26
3	26-80	50mm	60mm	22mm	1	HTMU-03-26T
3	81-200	1-7/8	1-7/8	3/4	1	HTMU-03-81S
3	81-200	2-1/2	2	1-1/4	1	HTMU-03-81
3	81-200	50mm	60mm	22mm	1	HTMU-03-81T
5	12-16	1-1/4	1	1/2	1	HTMU-05-12H
5	12-16	1-7/8	1-7/8	3/4	1	HTMU-05-12S
5	12-16	2-3/4	2-3/4	1-1/4	1	HTMU-05-12
5	12-16	50mm	60mm	22mm	1	HTMU-05-12T
5	17-31	1-1/4	1	1/2	1	HTMU-05-17H
5	17-31	1-7/8	1-7/8	3/4	1	HTMU-05-17S
5	17-31	2-3/4	2-3/4	1-1/4	1	HTMU-05-17
5	17-31	50mm	60mm	22mm	1	HTMU-05-17T
5	32-79	1-7/8	1-7/8	3/4	1	HTMU-05-32S
5	32-79	2-3/4	2-3/4	1-1/4	1	HTMU-05-32
5	32-79	2-3/4	2-3/4	1-1/4	2	HTMU-05-32-2
5	32-79	50mm	60mm	22mm	1	HTMU-05-32T
5	80-200	1-7/8	1-7/8	3/4	1	HTMU-05-80S
5	80-200	2-3/4	2-3/4	1-1/4	1	HTMU-05-80
5	80-200	50mm	60mm	22mm	1	HTMU-05-80T
8	19-27	1-7/8	1-7/8	3/4	1	HTMU-08-19S
8	19-27	2-3/4	2-3/4	1-1/4	1	HTMU-08-19
8	28-89	1-7/8	1-7/8	3/4	1	HTMU-08-28S
8	28-89	2-3/4	2-3/4	1-1/4	1	HTMU-08-28
8	90-200	1-7/8	1-7/8	3/4	1	HTMU-08-90S
8	90-200	2-3/4	2-3/4	1-1/4	1	HTMU-08-90
14	28-36	3	3	1-1/4	1	HTMU-14-28
14	37-89	3	3	1-1/4	1	HTMU-14-37
14	90+	3	3	1-1/4	1	HTMU-14-90
14	90+	3	3	1-1/4	2	HTMU-14-90-2
20	32-45	3-1/2	3-1/2	1-1/4	1	HTMU-20-32
20	46-100	3-1/2	3-1/2	1-1/4	1	HTMU-20-46
20	101-200	3-1/2	3-1/2	1-1/4	1	HTMU-20-101

HTMU Series

Timing Belt
Gates High Torque Drive (HTD)
Finishing, Topping
Right Hand

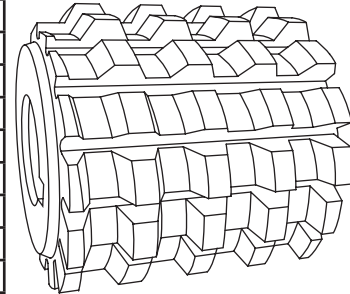




CP (mm)	Tooth Range	OD	Length	Bore	Backlash	# Threads	Specify Class A,B,C
2	12-20	1-7/8	1-7/8	3/4	-	1	-
2	21+	1-7/8	1-7/8	3/4	-	1	-
2.5	12-20	1-7/8	1-7/8	3/4	-	1	HTX-025-12S
2.5	21+	1-7/8	1-7/8	3/4	-	1	HTX-025-21S
5	12-20	1-7/8	1-7/8	3/4	-	1	HTX-05-12S
5	12-20	2-1/2	2-1/2	1-1/4	-	1	HTX-05-12
5	21+	1-7/8	1-7/8	3/4	-	1	HTX-05-21S
5	21+	2-1/2	2-1/2	1-1/4	-	1	HTX-05-21
5	21+	50mm	60mm	22mm	-	1	HTX-05-21T
5	12-20	1-7/8	1-7/8	3/4	zero	1	HTXN-05-12S
5	12-20	2-1/2	2-1/2	1-1/4	zero	1	HTXN-05-12
5	21+	1-7/8	1-7/8	3/4	zero	1	HTXN-05-21S
5	21+	2-1/2	2-1/2	1-1/4	zero	1	HTXN-05-21
10	14-20	1-7/8	1-7/8	3/4	-	1	HTX-10-14S
10	14-20	2-3/4	2-3/4	1-1/4	-	1	HTX-10-14
10	21+	1-7/8	1-7/8	3/4	-	1	HTX-10-21S
10	21+	2-3/4	2-3/4	1-1/4	-	1	HTX-10-21
10	21+	70mm	70mm	27mm	-	1	HTX-10-21T
10	14-20	2-3/4	2-3/4	1-1/4	zero	1	HTXN-10-14
10	21+	2-3/4	2-3/4	1-1/4	zero	1	HTXN-10-21
20	15-20	3-1/2	3-1/2	1-1/4	-	1	HTX-20-15
20	21-34	3-1/2	3-1/2	1-1/4	-	1	HTX-20-21
20	35-80	3-1/2	3-1/2	1-1/4	-	1	HTX-20-35
20	21+	3-1/2	3-1/2	1-1/4	zero	1	HTXN-20-21

HTX & HTXN Series

Timing Belt
Synchroflex - T Style
Topping, Right Hand

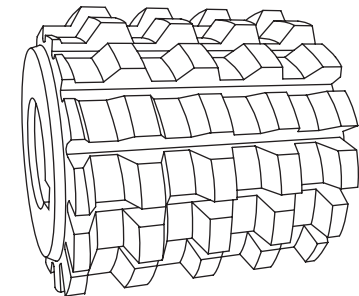


DIN 7721

CP (mm)	Tooth Range	OD	Length	Bore	Backlash	# Threads	Specify Class A,B,C
3	21+	1-7/8	1-7/8	3/4	zero	1	HTXAN-03-21S
3	21+	1-7/8	1-7/8	3/4	-	1	HTXA-03-21S
5	12-20	1-7/8	1-7/8	3/4	-	1	HTXA-05-12S
5	12-20	2-1/2	2-1/2	1-1/4	-	1	HTXA-05-12
5	21+	1-7/8	1-7/8	3/4	-	1	HTXA-05-21S
5	21+	2-1/2	2-1/2	1-1/4	-	1	HTXA-05-21
5	12-20	1-7/8	1-7/8	3/4	zero	1	HTXAN-05-12S
5	12-20	2-1/2	2-1/2	1-1/4	zero	1	HTXAN-05-12
5	21+	1-7/8	1-7/8	3/4	zero	1	HTXAN-05-21S
5	21+	2-1/2	2-1/2	1-1/4	zero	1	HTXAN-05-21
5	21+	50mm	60mm	22mm	-	1	HTXA-05-21T
10	14-20	1-7/8	1-7/8	3/4	-	1	HTXA-10-14S
10	14-20	2-3/4	2-3/4	1-1/4	-	1	HTXA-10-14
10	21+	1-7/8	1-7/8	3/4	-	1	HTXA-10-21S
10	21+	2-3/4	2-3/4	1-1/4	-	1	HTXA-10-21
10	21+	65mm	70mm	27mm	-	1	HTXA-10-21T
10	14-20	1-7/8	1-7/8	3/4	-	1	HTXA-10-14S
10	14-20	2-3/4	2-3/4	1-1/4	-	1	HTXA-10-14
10	21+	2-3/4	2-3/4	1-1/4	-	1	HTXA-10-21
10	21+	60mm	80mm	27mm	-	1	HTXA-10-21T
20	15-20	3-1/2	3-1/2	1-1/4	-	1	HTXA-20-15
20	21+	3-1/2	3-1/2	1-1/4	-	1	HTXA-20-21
20	14-20	3-1/2	3-1/2	1-1/4	zero	1	HTXAN-20-14
20	21+	3-1/2	3-1/2	1-1/4	zero	1	HTXAN-20-21

HTXA & HTXAN Series

Timing Belt
Synchroflex - AT Style
Topping, Right Hand



DIN 7721

CP (mm)	Tooth Range	OD	Length	Bore	Backlash	# Threads	Specify Class A,B,C
10	21+	70mm	70mm	27mm	zero	1	HTXAP-10TA

HTXAP Series

Synchroflex Timing Belt
ATP Style
Topping, Right Hand



DIN 7721



Chain #	CP	OD	Length	Bore	Tooth Range	# Threads	Specify Class A,B,C
SC-1	3/16	2	2	3/4	17-23	1	HSC-018-17S
SC-1	3/16	1-7/8	1-7/8	3/4	22-30	1	HSC-018-22S
SC-1	3/16	2	2	3/4	33-43	1	HSC-018-33S
SC-1	3/16	2	2	3/4	44-58	1	HSC-018-44S
SC-1	3/16	1-7/8	1-7/8	3/4	46-100	1	HSC-018-46SE
SC-1	3/16	2	2	3/4	59-79	1	HSC-018-59S
SC-3	3/8	3	3	1-1/4	12-16	1	HSC-037-12
SC-3	3/8	3	3	1-1/4	17-23	1	HSC-037-17
SC-3	3/8	3	3	1-1/4	24-32	1	HSC-037-24
SC-3	3/8	3	3	1-1/4	33-43	1	HSC-037-33
SC-3	3/8	3	3	1-1/4	44-58	1	HSC-037-44
SC-3	3/8	3	3	1-1/4	59-79	1	HSC-037-59
SC-3	3/8	3	3	1-1/4	80-110	1	HSC-037-80
SC-3	3/8	3	3	1-1/4	111+	1	HSC-037-111
SC-4	1/2	3	3	1-1/4	12-16	1	HSC-050-12
SC-4	1/2	3	3	1-1/4	17-23	1	HSC-050-17
SC-4	1/2	3	3	1-1/4	24-32	1	HSC-050-24
SC-4	1/2	3	3	1-1/4	33-43	1	HSC-050-33
SC-4	1/2	3	3	1-1/4	44-58	1	HSC-050-44
SC-4	1/2	3	3	1-1/4	59-79	1	HSC-050-59
SC-4	1/2	3	3	1-1/4	80-110	1	HSC-050-80
SC-4	1/2	3	3	1-1/4	111-150	1	HSC-050-111
SC-5	5/8	3-1/2	3-1/2	1-1/4	12-16	1	HSC-062-12
SC-5	5/8	3-1/2	3-1/2	1-1/4	17-23	1	HSC-062-17
SC-5	5/8	3-1/2	3-1/2	1-1/4	24-32	1	HSC-062-24
SC-5	5/8	3-1/2	3-1/2	1-1/4	33-43	1	HSC-062-33
SC-5	5/8	3-1/2	3-1/2	1-1/4	44-58	1	HSC-062-44
SC-5	5/8	3-1/2	3-1/2	1-1/4	80-110	1	HSC-062-80
SC-5	5/8	3-1/2	3-1/2	1-1/4	111-150	1	HSC-062-111
SC-6	3/4	3-1/2	3-1/2	1-1/4	12-16	1	HSC-075-12
SC-6	3/4	3-1/2	3-1/2	1-1/4	17-23	1	HSC-075-17
SC-6	3/4	3-1/2	3-1/2	1-1/4	24-32	1	HSC-075-24
SC-6	3/4	3-1/2	3-1/2	1-1/4	33-43	1	HSC-075-33
SC-6	3/4	3-1/2	3-1/2	1-1/4	44-58	1	HSC-075-44
SC-6	3/4	3-1/2	3-1/2	1-1/4	59-79	1	HSC-075-59
SC-6	3/4	3-1/2	3-1/2	1-1/4	80-110	1	HSC-075-80
SC-6	3/4	3-1/2	3-1/2	1-1/4	111-150	1	HSC-075-111
SC-8	1	4-1/2	4-1/2	1-1/4	17-23	1	HSC-100-17
SC-8	1	4-1/2	4-1/2	1-1/4	24-32	1	HSC-100-24
SC-8	1	4-1/2	4-1/2	1-1/4	33-43	1	HSC-100-33
SC-8	1	4-1/2	4-1/2	1-1/4	44-58	1	HSC-100-44
SC-8	1	4-1/2	4-1/2	1-1/4	59-79	1	HSC-100-59
SC-8	1	4-1/2	4-1/2	1-1/4	80-110	1	HSC-100-80
SC-8	1	4-1/2	4-1/2	1-1/4	111+	1	HSC-100-111
SC-10	1-1/4	5	5-1/2	1-1/2	17-23	1	HSC-125-17
SC-10	1-1/4	5	5-1/2	1-1/2	24-32	1	HSC-125-24
SC-10	1-1/4	5	5-1/2	1-1/2	33-43	1	HSC-125-33
SC-10	1-1/4	5	5-1/2	1-1/2	44-58	1	HSC-125-44
SC-10	1-1/4	5	5-1/2	1-1/2	59-79	1	HSC-125-59
SC-10	1-1/4	5	5-1/2	1-1/2	80-110	1	HSC-125-80
SC-12	1-1/2	5-1/4	5-1/2	1-1/2	24-32	1	HSC-150-24
SC-12	1-1/2	5-1/4	5-1/2	1-1/2	33-43	1	HSC-150-33

HSC Series

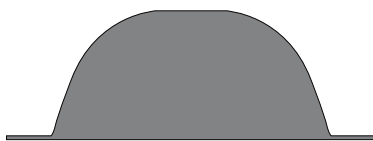
Silent Chain
Topping
Right Hand





HCN Series

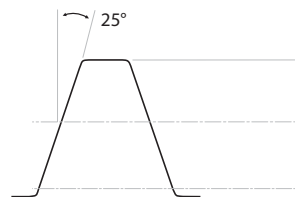
Conveyor Chain
Topping
Right Hand



CP	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
3/4	15-25	3-3/4	3-3/4	1-1/4	1	HCN-075

HDD Series

Ladder Chain
Right Hand



CP	PA	OD	Length	Bore	# Threads	Specify Class B,C
3/16	25	1-7/8	1-7/8	3/4	1	HDD-185S
9/32	25	1-7/8	1-7/8	3/4	1	HDD-286S

HBK Series

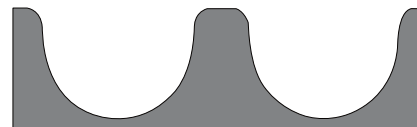
Block Chain
Right Hand
Non-Topping



CP	Block Diam.	Roller Diam.	OD	Length	Bore	# Threads	Specify Class B,C
1	.325	.3125	3	3	1-1/4	1	HBK-100

HSS Series

Sawmill Splines
Topping
Right Hand

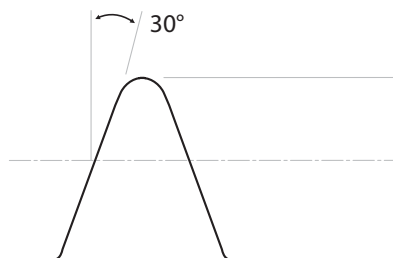


Lobes	OD	Length	Bore	# Threads	Specify Class A,B,C
25	4	4	1-1/4	1	HSS-500

CP	Style #	Tooth Range	OD	Length	Bore	WD	# Threads	Specify Class A,B,C
1/4	?	18-25	3	3-1/2	1-1/4	?	1	HVO-025-18
1/4	?	26+	3	3-1/2	1-1/4	?	1	HVO-025-26
1/4	?	26+	3	3-1/2	1-1/4	?	1	HVO-25-26X
3/8	147	26+	3	3-1/2	1-1/4	.210	1	HVO-037-26
3/8	139	25+	3-1/2	3-1/2	1-1/4	.213	1	HVO-037-26X
1/2	139	18-25	3-1/2	3-1/2	1-1/4	.284	1	HVO-050-18
1/2	147	20+	3	3-1/2	1-1/4	.280	1	HVO-050-20
1/2	139	25+	3-1/2	3-1/2	1-1/4	.284	1	HVO-050-25X
3/4	115	17+	4	4	1-1/4	.471	1	HVO-075-17
1	115	18+	4-1/4	4-1/4	1-1/4	.628	1	HVO-100-18
1	139	26+	5	4	1-1/4	.568	1	HVO-100-26X
1-1/2	115	10+	5-1/2	6-1/2	1-1/4	.941	1	HVO-150-10

HVO Series

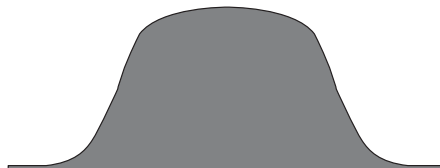
Hy-Vo Silent Chain
Topping
Right Hand





HTP Series

Poly Chain GT®(PCGT)
Topping
Right Hand



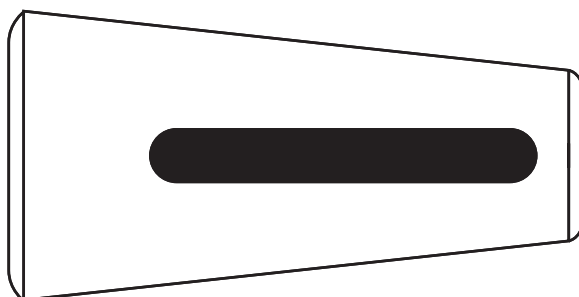
CP (mm)	Tooth Range	OD	Length	Bore	# Threads	Specify Class A,B,C
8	22-27	2-35/64	2-35/64	1-1/16	1	HTP-08-22TB
8	20-27	3	3	1-1/4	1	HTP-08-22
8	28-37	2-35/64	2-35/64	1-1/16	1	HTP-08-28TB
8	28-37	3	3	1-1/4	1	HTP-08-28
8	38-58	2-35/64	2-35/64	1-1/16	1	HTP-08-38TB
8	38-58	3	3	1-1/4	1	HTP-08-38
8	59-89	2-35/64	2-35/64	1-1/16	1	HTP-08-59TB
8	59-89	3	3	1-1/4	1	HTP-08-59
8	90-250	2-35/64	2-35/64	1-1/16	1	HTP-08-90TB
8	90-224	3	3	1-1/4	1	HTP-08-90
11	25-29	3-1/2	3-1/2	1-1/4	1	HTP-11-25TB
11	30-35	3-1/2	3-1/2	1-1/4	1	HTP-11-30TB
11	61-90	3-1/2	3-1/2	1-1/4	1	HTP-11-61TB
14	25-29	3	3	1-1/4	1	HTP-014-25
14	30-35	3	3	1-1/4	1	HTP-014-30
14	36-45	3	3	1-1/4	1	HTP-014-36
14	46-60	3	3	1-1/4	1	HTP-014-46
14	61-90	3	3	1-1/4	1	HTP-014-61
14	91-149	3	3	1-1/4	1	HTP-014-91
14	150-250	3	3	1-1/4	1	HTP-014-150



AHS Series

Hob Reduction Sleeves

Hob ID	Sleeve ID	Approximate OD	Overall Length	Series
#5 BC-Taper	1-1/4	1.947	4-1/8	AHS-105

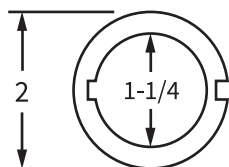


AS Series

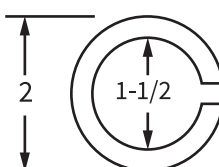
Straight Hob Sleeve

Style	Hob ID	Sleeve ID	External (internal) key	Overall Length	Series
A	2	1-1/4	.512 x .280	4	AS-2-125
B	2	1-1/2	.512 thru	4.4	AS-2-150
C	1-1/2	1-1/4	.266 thru	4.4	AS-150-125

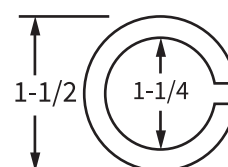
A Style



B Style



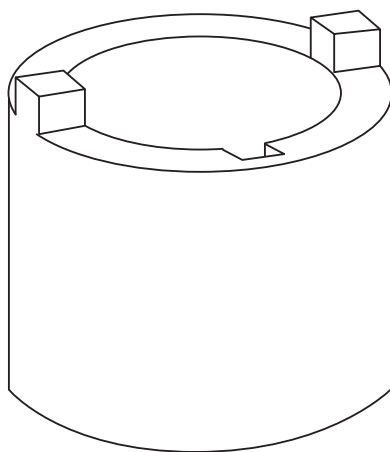
C Style





AEK Series End Key Drive Bushing

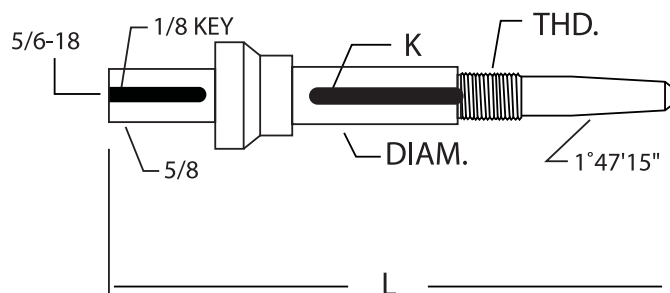
Hob ID	Sleeve ID	Approximate OD	Overall Length	Drive Slot Width	Series
1/2	1/2	.750	.625	.127	AEK-500
5/8	5/8	.875	.750	.129	AEK-625
3/4	3/4	1.050	.750	.125	AEK-750
1-1/4	1-1/4	1.875	1	.250	AEK-125



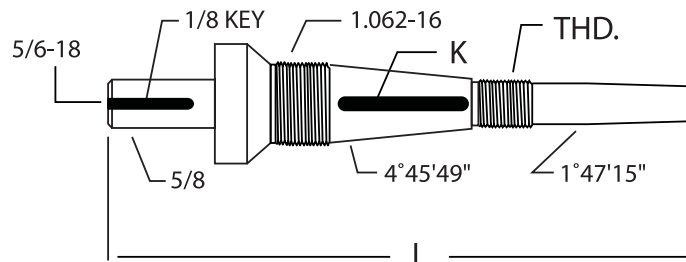
AH Series Hob Arbors

Style	Hob Mounting (Diam.)	Bushings	Key (K)	Thread (THD)	Overall Length	Series
A	1/2	1	.126	1/2-20	7-1/4	AH-500
A	5/8	1	.138	5/8-18	7-3/4	AH-625
A	3/4	1	.138	5/8-18	7-3/4	AH-750
A	1	1	.157	7/8-16	7-3/4	AH-100
B	#1-Taper	-	.157	5/8-16	7-3/4	AH-T100

A Style



B Style



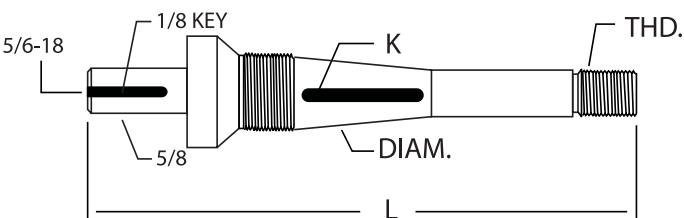
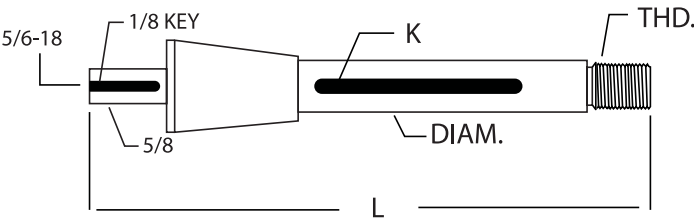
AR & ARM Series

Hob Arbors

Style	Hob Mounting (Diam.)	Bushings	Key (K)	Thread (THD)	Overall Length	Series
A	8mm	3	.126	5/16-24	6-1/8	ARM-314
A	1/2	1	.126	3/8-24	8-3/4	AR-500
A	5/8	3	.138	5/8-18	8-3/4	AR-625
A	3/4	3	.138	5/8-18	8-3/4	AR-750
B	#1-Taper	-	.157	7/8-18	8-3/4	AR-T100

A Style

B Style



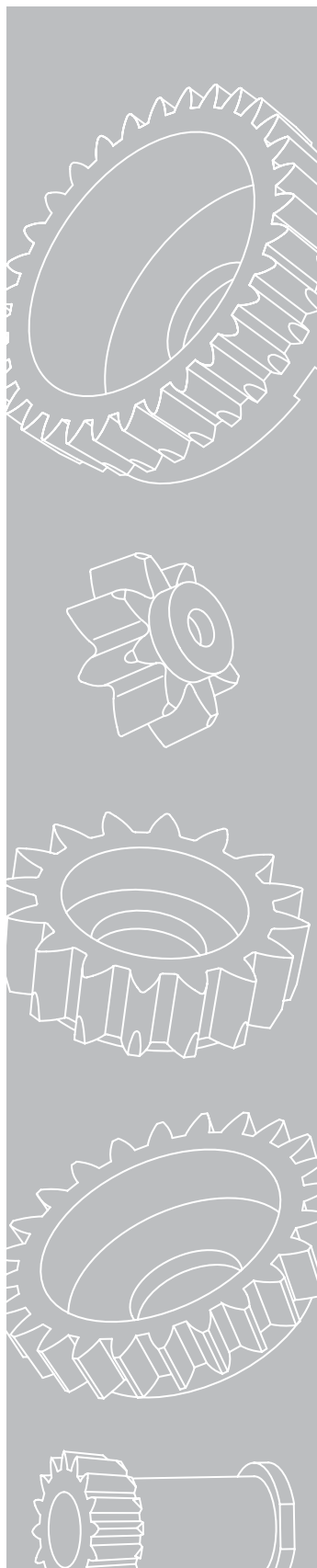
Hob ID	Overall Length	Series
3/4	1.5	ARB-750
8mm	2	ARB-314

ARB Series

Hob Arbor Bushings



Disc Shaper Sort Index



Normal Diametral Pitch

14.5°	106
20°	109
22.5°	118
25°	119
15.3°	122
28°	122
30°	123
37.5°	130
45°	130

Normal Module Pitch

14.5°	131
15°	131
20°	132
25°	135
30°	137
37.5°	141
45°	141

Normal Circular Pitch

14.5°	142
20°	142

Transverse Pitch	143
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Serrations

36	144
48	144
British	144
DIN	145

Parallel Splines	146
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Roller Chain & Silent Chain	147
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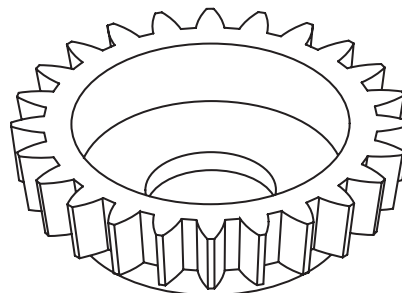
Timing Belts	148
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Shaper Adapters	152
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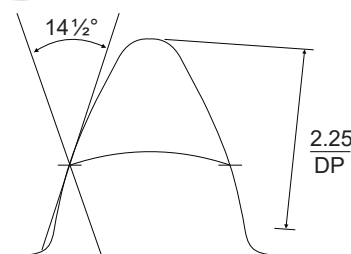


DP	PA	PD	Bore	# Teeth	WD	Series
2	14.5°	4.5	1-1/4	9	1.125	S14-200-4
2	14.5°	6	1-3/4	12	1.125	S14-200-6
2-1/2	14.5°	4	1-1/4	10	.900	S14-250-4
2-1/2	14.5°	5.2	1-3/4	13	.900	S14-250-5
3	14.5°	4	1-1/4	12	.750	S14-300-4
3	14.5°	5	1-3/4	16	.750	S14-300-5E
3	14.5°	6	1-3/4	18	.750	S14-300-6
3	14.5°	6.7	1-3/4	20	.750	S14-300-7
3	14.5°	8	4	24	.750	S84-14-300
3-1/2	14.5°	4	1-1/4	14	.643	S14-350-4
4	14.5°	2.3	3/4	9	.563	S14-400-S
4	14.5°	3	1-1/4	12	.563	S14-400-3
4	14.5°	4	1-1/4	16	.563	S14-400-4
4	14.5°	5	1-3/4	20	.563	S14-400-5
4	14.5°	6	1-3/4	24	.563	S14-400-6
4-1/2	14.5°	4	1-1/4	18	.500	S14-450-4
5	14.5°	2	3/4	10	.450	S14-500-S
5	14.5°	3	1-1/4	15	.450	S14-500-3
5	14.5°	4	1-1/4	20	.450	S14-500-4
5	14.5°	5	1-3/4	25	.450	S14-500-5
6	14.5°	2	1/2	12	.375	S14-600-H
6	14.5°	3	1-1/4	18	.375	S14-600-3
6	14.5°	4	1-1/4	24	.375	S14-600-4
6	14.5°	4	1-3/4	24	.375	S14-600-4L
6	14.5°	5	1-3/4	30	.375	S14-600-5
6	14.5°	6	1-3/4	36	.375	S14-600-6
6	14.5°	8	4	48	.375	S84-14-600
7	14.5°	3	1-1/4	21	.321	S14-700-3
7	14.5°	4	1-1/4	28	.321	S14-700-4
7	14.5°	5	1-3/4	35	.321	S14-700-5
8	14.5°	1.8	1/2	14	.281	S14-800-H
8	14.5°	2	3/4	18	.281	S14-800-S
8	14.5°	2	1-1/4	24	.281	S14-800-3
8	14.5°	4	1-1/4	32	.281	S14-800-4
8	14.5°	4	1-3/4	32	.281	S14-800-4L
8	14.5°	5	1-3/4	40	.281	S14-800-5
8	14.5°	6	1-3/4	48	.281	S14-800-6
9	14.5°	3	1-1/4	27	.250	S14-900-3
9	14.5°	4	1-1/4	36	.250	S14-900-4
9	14.5°	4	1-3/4	36	.250	S14-900-4L
9	14.5°	5	1-3/4	45	.250	S14-900-5
10	14.5°	1.5	1/2	15	.225	S14-010-H

S14 Series
DP 14.5° PA Disc Shaper
Finishing
Non-Topping
Disc Type



S14, SDC14 & SHB14
Rack Profile



20DP and finer - depth is 2.20/DP + .002

DP	PA	PD	Bore	# Teeth	WD	Series
10	14.5°	2	3/4	20	.225	S14-010-S
10	14.5°	3	1-1/4	30	.225	S14-010-3
10	14.5°	4	1-1/4	40	.225	S14-010-4
10	14.5°	4	1-3/4	40	.225	S14-010-4L
10	14.5°	5	1-3/4	50	.225	S14-010-5
10	14.5°	6	1-3/4	60	.225	S14-010-6
11	14.5°	3	1-1/4	33	.205	S14-011-3
11	14.5°	4	1-1/4	44	.205	S14-011-4
11	14.5°	4	1-3/4	44	.205	S14-011-4L
11	14.5°	5	1-3/4	55	.205	S14-011-5
12	14.5°	1.5	1/2	18	.188	S14-012-H
12	14.5°	2	3/4	24	.188	S14-012-S
12	14.5°	3	1-1/4	36	.188	S14-012-3
12	14.5°	4	1-1/4	48	.188	S14-012-4
12	14.5°	4	1-3/4	48	.188	S14-012-4L
12	14.5°	5	1-3/4	60	.188	S14-012-5
12	14.5°	6	1-3/4	72	.188	S14-012-6
14	14.5°	3	1-1/4	42	.161	S14-014-3
14	14.5°	4	1-1/4	56	.161	S14-014-4
14	14.5°	4	1-3/4	56	.161	S14-014-4L
14	14.5°	5	1-3/4	70	.161	S14-014-5
15	14.5°	3	1-1/4	45	.150	S14-015-3
16	14.5°	1.5	1/2	24	.141	S14-016-H
16	14.5°	3	1-1/4	48	.141	S14-016-3

SERIES CONTINUED ON NEXT PAGE ->

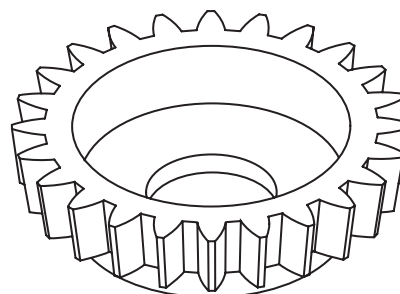
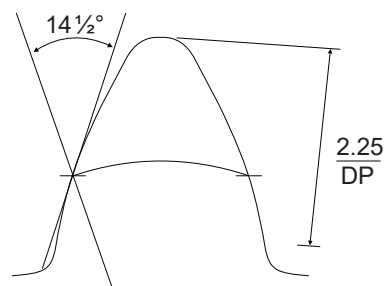


DP	PA	PD	Bore	# Teeth	WD	Series
16	14.5°	4	1-1/4	64	.141	S14-016-4
16	14.5°	4	1-3/4	64	.141	S14-016-4L
16	14.5°	5	1-3/4	80	.141	S14-016-5
17	14.5°	4	1-1/4	68	.132	S14-017-4
18	14.5°	3	1-1/4	54	.125	S14-018-3
18	14.5°	4	1-1/4	72	.125	S14-018-4
18	14.5°	4	1-3/4	72	.125	S14-018-4L
18	14.5°	5	1-3/4	90	.125	S14-018-5
19	14.5°	3	1-1/4	57	.118	S14-019-3
19	14.5°	4	1-1/4	76	.118	S14-019-4
20	14.5°	1.5	1/2	30	.112	S14-020-H
20	14.5°	3	1-1/4	60	.112	S14-020-3
20	14.5°	4	1-1/4	80	.112	S14-020-4
20	14.5°	4	1-3/4	80	.112	S14-020-4L
20	14.5°	5	1-3/4	100	.112	S14-020-5
22	14.5°	3	1-1/4	66	.102	S14-022-3
24	14.5°	1.5	1/2	36	.094	S14-024-H
24	14.5°	3	1-1/4	72	.094	S14-024-3
24	14.5°	4	1-1/4	96	.094	S14-024-4
24	14.5°	4	1-3/4	96	.094	S14-024-4L
24	14.5°	5	1-3/4	120	.094	S14-024-5
26	14.5°	3	1-1/4	78	.087	S14-026-3
28	14.5°	3	1-1/4	84	.081	S14-028-3
29	14.5°	3	1-1/4	87	.078	S14-029-3
30	14.5°	3	1-1/4	90	.075	S14-030-3
32	14.5°	1.5	1/2	48	.071	S14-032-H
32	14.5°	3	1-1/4	96	.071	S14-032-3
32	14.5°	4	1-1/4	128	.071	S14-032-4
32	14.5°	5	1-3/4	160	.071	S14-032-5
36	14.5°	3	1-1/4	108	.063	S14-036-3
36	14.5°	1.5	1/2	54	.063	S14-036-H
40	14.5°	3	1-1/4	120	.057	S14-040-3
48	14.5°	1.5	1/2	72	.048	S14-048-H
48	14.5°	3	1-1/4	144	.048	S14-048-3
64	14.5°	1.5	1/2	96	.036	S14-064-H
64	14.5°	3	1-1/4	192	.036	S14-064-3
64	14.5°	4	1-1/4	256	.036	S14-064-4
72	14.5°	1.5	1/2	108	.033	S14-072-H
72	14.5°	2.5	1-1/4	180	.033	S14-072-2
80	14.5°	1.5	1/2	120	.030	S14-080-H
96	14.5°	1.5	1/2	144	.025	S14-096-H
100	14.5°	1.5	1/2	150	.024	S14-100-H
120	14.5°	1.5	1/2	180	.020	S14-120-H

 <- SERIES CONTINUED FROM
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S14 Series

DP 14.5° PA Disc Shaper
 Finishing
 Non-Topping
 Disc Type


 S14 .SDC14, & SHB14
 Rack Profile


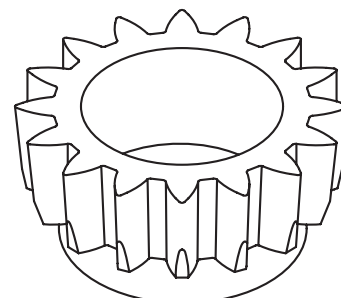
$$20DP \text{ and finer } WD = 2.20/DP + .002$$



DP	PA	PD	Bore	# Teeth	WD	Series
3	14.5°	4	1-1/4	12	.750	SDC14-300-4
3	14.5°	5	1-3/4	15	.750	SDC14-300-5
4	14.5°	4	1-1/4	16	.563	SDC14-400-4
5	14.5°	4	1-1/4	20	.450	SDC14-500-4
6	14.5°	4	1-1/4	24	.375	SDC14-600-4
8	14.5°	2	3/4	18	.281	SDC14-800-5
8	14.5°	3	1-1/4	24	.281	SDC14-800-3
8	14.5°	4	1-1/4	32	.281	SDC14-800-4
9	14.5°	3	1-1/4	27	.250	SDC14-900-3
9	14.5°	4	1-1/4	36	.250	SDC14-900-4
10	14.5°	4	1-1/4	40	.225	SDC14-010-4
12	14.5°	3	1-1/4	36	.188	SDC14-012-3
12	14.5°	4	1-1/4	48	.188	SDC14-012-4
16	14.5°	4	1-1/4	64	.141	SDC14-016-4
20	14.5°	3	1-1/4	60	.112	SDC14-020-3
24	14.5°	3	1-1/4	72	.094	SDC14-024-3
32	14.5°	3	1-1/4	96	.071	SDC14-032-3
48	14.5°	3	1-1/4	144	.048	SDC14-048-3

SDC14 Series

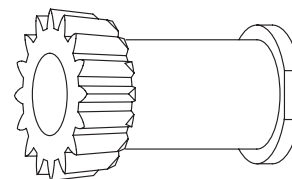
DP 14.5° PA
Finishing
Non-Topping
Deep Counter Bore
Disc Type



DP	PA	PD	Teeth	Approx Height	WD	Series
6	14.5°	2	12	3	.375	SHB14-06-2
8	14.5°	2	16	3	.281	SHB14-08-2
10	14.5°	2	20	3	.225	SHB14-10-2

SHB14 Series

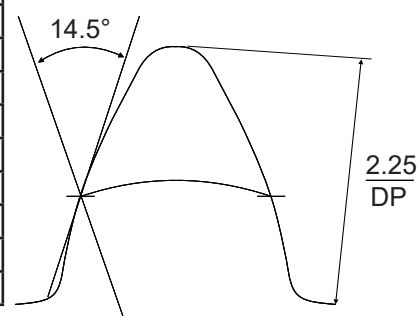
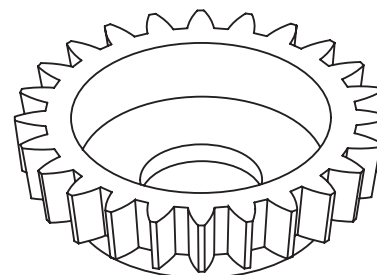
DP 14.5° PA
Finishing, Non-Topping
Hub Type



DP	PA	PD	Bore	# Teeth	WD	Series
5	14.5°	4	1-1/4	20	.450	STP14-500-4
6	14.5°	4	1-1/4	24	.375	STP14-600-4
6	14.5°	5	1-1/4	30	.375	STP14-600-5
8	14.5°	4	1-1/4	32	.281	STP14-800-4
9	14.5°	4	1-1/4	36	.250	STP14-900-4
10	14.5°	4	1-1/4	40	.225	STP14-010-4
12	14.5°	4	1-1/4	48	.188	STP14-012-4
16	14.5°	4	1-1/4	64	.141	STP14-016-4
20	14.5°	4	1-1/4	80	.112	STP14-020-4
24	14.5°	3	1-1/4	72	.094	STP14-024-3
24	14.5°	4	1-1/4	96	.094	STP14-024-4
32	14.5°	1.5	1/2	48	.071	STP14-032-H
32	14.5°	3	1-1/4	96	.071	STP14-032-3
32	14.5°	4	1-1/4	128	.071	STP14-032-4
48	14.5°	1.5	1/2	72	.048	STP14-048-H
48	14.5°	3	1-1/4	144	.048	STP14-048-3
64	14.5°	1.5	1/2	96	.036	STP14-064-H
64	14.5°	3	1-1/4	192	.036	STP14-064-3
72	14.5°	1.5	1/2	108	.033	STP14-072-H
80	14.5°	1.5	1/2	120	.028	STP14-080-H
96	14.5°	1.5	1/2	144	.023	STP14-096-H
120	14.5°	1.5	1/2	180	.020	STP14-120-H

STP14 Series

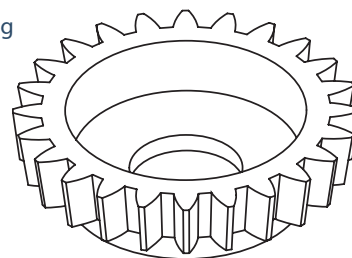
DP 14.5° PA
Finishing
Topping
Disc Type





DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
1-1/4	20°	8	4	11	1.800	Normal	S84-125
1-1/2	20°	6.7	1-3/4	10	1.500	Normal	S20-150-7
1-1/2	20°	8	4	13	1.500	Normal	S84-150
1-3/4	20°	6.9	1-3/4	12	1.286	Normal	S20-175-7
1-3/4	20°	8	4	14	1.286	Normal	S84-175
2	20°	4.5	1-1/4	9	1.125	Normal	S20-200-4
2	20°	6	1-3/4	12	1.125	Normal	S20-200-6
2	20°	7.5	1-3/4	15	1.125	Normal	S20-200-7
2	20°	8	4	16	1.125	Normal	S84-200
2-1/4	20°	4	1-1/4	9	1.000	Normal	S20-225-4
2-1/4	20°	5	1-3/4	11	1.000	Normal	S20-225-5
2-1/4	20°	8	4	18	1.000	Normal	S84-225
2-1/2	20°	4	1-1/4	10	.900	Normal	S20-250-4
2-1/2	20°	5	1-3/4	13	.900	Normal	S20-250-5
2-1/2	20°	6	1-3/4	15	.900	Normal	S20-250-6
2-1/2	20°	6.8	1-3/4	17	.900	Normal	S20-250-7E
2-1/2	20°	8	4	20	.900	Normal	S84-250
2-3/4	20°	4	1-1/4	11	.818	Normal	S20-275-4
2-3/4	20°	8	4	22	.818	Normal	S84-275
3	20°	2.7	1/2	8	.750	Normal	S20-300-H
3	20°	2.7	3/4	8	.750	Normal	S20-300-S
3	20°	3.3	1-1/4	10	.750	Normal	S20-300-3
3	20°	4	1-1/4	12	.750	Normal	S20-300-4
3	20°	4	1-3/4	12	.750	Normal	S20-300-4L
3	20°	5	1-3/4	15	.750	Normal	S20-300-5
3	20°	6	1-3/4	18	.750	Normal	S20-300-6
3	20°	6.6	1-3/4	20	.750	Normal	S20-300-7
3	20°	8	4	24	.750	Normal	S84-300
3-1/4	20°	4	1-1/4	13	.692	Normal	S20-325-4
3-1/2	20°	3	1-1/4	11	.643	Normal	S20-350-3
3-1/2	20°	4	1-1/4	14	.643	Normal	S20-350-4
3-1/2	20°	5.1	1-3/4	18	.643	Normal	S20-350-5
3-1/2	20°	6	1-3/4	21	.643	Normal	S20-350-6
3-1/2	20°	8	4	18	.643	Normal	S84-350
4	20°	2.3	3/4	9	.563	Normal	S20-400-S
4	20°	3	1-1/4	12	.563	Normal	S20-400-3
4	20°	4	1-1/4	16	.563	Normal	S20-400-4
4	20°	4	1-3/4	16	.563	Normal	S20-400-4L
4	20°	5	1-3/4	20	.563	Normal	S20-400-5
4	20°	5	1-1/4	20	.563	Normal	S20-400-5E
4	20°	6	1-3/4	24	.563	Normal	S20-400-6
4	20°	8	4	32	.563	Normal	S84-400
4-1/2	20°	4	1-1/4	18	.500	Normal	S20-450-4
4-1/2	20°	5	1-3/4	23	.500	Normal	S20-450-5

S20 & S84 Series

 DP 20° PA
 Finishing
 Non-Topping
 Disc Type


DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
5	20°	2	3/4	10	.450	Normal	S20-500-S
5	20°	2.4	3/4	12	.450	Normal	S20-500-SA
5	20°	3	1-1/4	15	.450	Normal	S20-500-3
5	20°	4	1-1/4	20	.450	Normal	S20-500-4
5	20°	5	1-3/4	25	.450	Normal	S20-500-5
5	20°	6	1-3/4	30	.450	Normal	S20-500-6
5	20°	8	4	40	.450	Normal	S84-500
5-1/2	20°	3	1-1/4	17	.409	Normal	S20-550-3
5-1/2	20°	4	1-1/4	22	.409	Normal	S20-550-4
6	20°	1.7	1/2	10	.375	Normal	S20-600-H
6	20°	2	3/4	12	.375	Normal	S20-600-S
6	20°	3	1-1/4	18	.375	Normal	S20-600-3
6	20°	4	1-1/4	24	.375	Normal	S20-600-4
6	20°	4	1-3/4	24	.375	Normal	S20-600-4L
6	20°	5	1-3/4	30	.375	Normal	S20-600-5
6	20°	6	1-3/4	36	.375	Normal	S20-600-6
6	20°	8	4	48	.375	Normal	S84-600
6-1/2	20°	4	1-1/4	26	.346	Normal	S20-650-4
7	20°	2	3/4	14	.321	Normal	S20-700-S
7	20°	3	1-1/4	21	.321	Normal	S20-700-3
7	20°	4	1-1/4	28	.321	Normal	S20-700-4
7	20°	4	1-3/4	28	.321	Normal	S20-700-4L
7	20°	5	1-3/4	35	.321	Normal	S20-700-5
7	20°	6	1-3/4	42	.321	Normal	S20-700-6
7-1/2	20°	4	1-1/4	30	.300	Normal	S20-750-4
8	20°	1.8	1/2	14	.281	Normal	S20-800-H
8	20°	1.9	3/4	15	.281	Normal	S20-800-S
8	20°	3	1-1/4	24	.281	Normal	S20-800-3
8	20°	3	1-1/4	24	.281	Precision	S20-800-3P
8	20°	4	1-1/4	32	.281	Normal	S20-800-4
8	20°	4	1-3/4	32	.281	Normal	S20-800-4L
8	20°	5	1-3/4	40	.281	Normal	S20-800-5
8	20°	6	1-3/4	48	.281	Normal	S20-800-6
8	20°	8	4	64	.281	Normal	S84-800

SERIES CONTINUED ON NEXT PAGE ->



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S20 & S84 Series

DP 20° PA
Finishing
Non-Topping , Disc Type

DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
9	20°	3	1-1/4	27	.250	Normal	S20-900-3
9	20°	4	1-1/4	36	.250	Normal	S20-900-4
9	20°	4	1-3/4	36	.250	Normal	S20-900-4L
9	20°	5	1-3/4	45	.250	Normal	S20-900-5
9	20°	6	1-3/4	54	.250	Normal	S20-900-6
10	20°	1.6	1/2	16	.225	Normal	S20-010-H
10	20°	1.8	3/4	18	.225	Normal	S20-010-S
10	20°	3	1-1/4	30	.225	Normal	S20-010-3
10	20°	3	1-1/4	30	.225	Precision	S20-010-3P
10	20°	4	1-1/4	40	.225	Normal	S20-010-4
10	20°	4	1-1/4	40	.225	Precision	S20-010-4P
10	20°	4	1-3/4	40	.225	Normal	S20-010-4L
10	20°	5	1-3/4	50	.225	Normal	S20-010-5
10	20°	6	1-3/4	60	.225	Normal	S20-010-6
11	20°	1.5	1/2	16	.205	Normal	S20-011-H
11	20°	3	1-1/4	33	.205	Normal	S20-011-3
11	20°	4	1-1/4	44	.205	Normal	S20-011-4
11	20°	5	1-3/4	55	.205	Normal	S20-011-5
12	20°	1.5	1/2	18	.188	Normal	S20-012-H
12	20°	1.6	3/4	21	.188	Normal	S20-012-S
12	20°	2	3/4	24	.188	Normal	S20-012-SE
12	20°	3	1-1/4	36	.188	Normal	S20-012-3
12	20°	3	1-1/4	36	.188	Precision	S20-012-3P
12	20°	4	1-1/4	48	.188	Normal	S20-012-4
12	20°	4	1-1/4	48	.188	Precision	S20-012-4P
12	20°	4	1-3/4	48	.188	Normal	S20-012-4L
12	20°	5	1-3/4	60	.188	Normal	S20-012-5
12	20°	6	1-3/4	72	.188	Normal	S20-012-6
13	20°	3	1-1/4	39	.173	Normal	S20-013-3
13	20°	4	1-1/4	52	.173	Normal	S20-013-4
14	20°	1.7	1/2	24	.161	Normal	S20-014-H
14	20°	3	1-1/4	42	.161	Normal	S20-014-3
14	20°	3	1-1/4	42	.161	Precision	S20-014-3P
14	20°	4	1-1/4	56	.161	Normal	S20-014-4
14	20°	4	1-3/4	56	.161	Normal	S20-014-4L
14	20°	5	1-3/4	70	.161	Normal	S20-014-5
14	20°	6	1-3/4	84	.161	Normal	S20-014-6
15	20°	3	1-1/4	45	.150	Normal	S20-015-3
15	20°	4	1-1/4	60	.150	Normal	S20-015-4
16	20°	1.5	1/2	24	.141	Normal	S20-016-H
16	20°	1.5	1/2	24	.141	Precision	S20-016-HP
16	20°	1.75	1/2	28	.141	Normal	S20-016-HE

DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
16	20°	2	3/4	32	.141	Normal	S20-016-S
16	20°	3	1-1/4	48	.141	Normal	S20-016-3
16	20°	3	1-1/4	48	.141	Precision	S20-016-3P
16	20°	4	1-1/4	64	.141	Normal	S20-016-4
16	20°	5	1-3/4	80	.141	Normal	S20-016-5
16	20°	6	1-3/4	96	.141	Normal	S20-016-6
17	20°	3	1-1/4	51	.132	Normal	S20-017-3
17	20°	4	1-1/4	68	.132	Normal	S20-017-4
18	20°	1.5	1/2	26	.125	Normal	S20-018-H
18	20°	2	3/4	36	.125	Normal	S20-018-S
18	20°	3	1-1/4	54	.125	Normal	S20-018-3
18	20°	3	1-1/4	54	.125	Precision	S20-018-3P
18	20°	4	1-1/4	72	.125	Normal	S20-018-4
19	20°	3	1-1/4	57	.118	Normal	S20-019-3
19	20°	4	1-1/4	76	.118	Normal	S20-019-4
20	20°	1.5	1/2	30	.112	Normal	S20-020-H
20	20°	1.5	1/2	30	.112	Precision	S20-020-HP
20	20°	2	3/4	40	.112	Normal	S20-020-S
20	20°	3	1-1/4	60	.112	Normal	S20-020-3
20	20°	3	1-1/4	60	.112	Precision	S20-020-3P
20	20°	4	1-1/4	80	.112	Normal	S20-020-4
20	20°	4	1-3/4	80	.112	Normal	S20-020-4L
20	20°	5	1-3/4	100	.112	Normal	S20-020-5
20	20°	6	1-3/4	120	.112	Normal	S20-020-6
21	20°	3	1-1/4	63	.107	Normal	S20-021-3
21	20°	4	1-1/4	84	.107	Normal	S20-021-4
22	20°	1.5	1/2	33	.102	Normal	S20-022-H
22	20°	3	1-1/4	66	.102	Normal	S20-022-3
22	20°	4	1-1/4	88	.102	Normal	S20-022-4
24	20°	1.3	1/2	32	.094	Normal	S20-024-H
24	20°	1.5	1/2	36	.094	Normal	S20-024-HA
24	20°	3	1-1/4	72	.094	Normal	S20-024-3
24	20°	3	1-1/4	72	.094	Precision	S20-024-3P
24	20°	4	1-1/4	96	.094	Normal	S20-024-4
24	20°	5	1-3/4	120	.094	Normal	S20-024-5
24	20°	6	1-3/4	144	.094	Normal	S20-024-6
25	20°	3	1-1/4	75	.090	Normal	S20-025-3
26	20°	1.5	1/2	39	.087	Normal	S20-026-H
26	20°	3	1-1/4	78	.087	Normal	S20-026-3
26	20°	4	1-1/4	104	.087	Normal	S20-026-4
27	20°	3	1-1/4	80	.084	Normal	S20-027-3
28	20°	1.5	1/2	42	.081	Normal	S20-028-H

SERIES CONTINUED ON NEXT PAGE ->

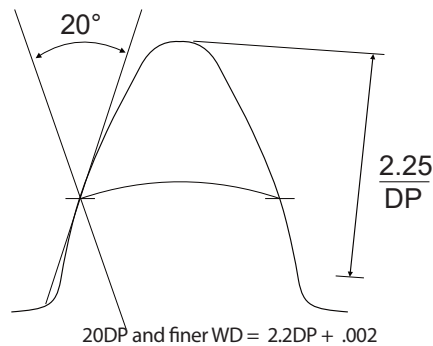


DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
28	20°	3	1-1/4	84	.081	Normal	S20-028-3
28	20°	3	1-1/4	84	.081	Precision	S20-028-3P
28	20°	4	1-1/4	112	.081	Normal	S20-028-4
29	20°	3	1-1/4	87	.078	Normal	S20-029-3
30	20°	1.5	1/2	45	.075	Normal	S20-030-H
30	20°	3	1-1/4	90	.075	Normal	S20-030-3
30	20°	4	1-1/4	120	.075	Normal	S20-030-4
32	20°	1.25	1/2	40	.071	Normal	S20-032-H
32	20°	1.5	1/2	48	.071	Normal	S20-032-HA
32	20°	1.5	1/2	48	.071	Precision	S20-032-HAP
32	20°	3	1-1/4	96	.071	Normal	S20-032-3
32	20°	3	1-1/4	96	.071	Precision	S20-032-3P
32	20°	4	1-1/4	128	.071	Normal	S20-032-4
32	20°	5	1-3/4	160	.071	Normal	S20-032-5
36	20°	1.5	1/2	54	.063	Normal	S20-036-H
36	20°	1.5	1/2	54	.063	Precision	S20-036-HP
36	20°	3	1-1/4	108	.063	Normal	S20-036-3
36	20°	4	1-1/4	144	.063	Normal	S20-036-4
38	20°	3	1-1/4	112	.060	Normal	S20-038-3
40	20°	1.5	1/2	60	.057	Normal	S20-040-H
40	20°	3	1-1/4	120	.057	Normal	S20-040-3
40	20°	3	1-1/4	120	.057	Precision	S20-040-3P
42	20°	1.5	1/2	63	.054	Normal	S20-042-H
42	20°	3	1-1/4	126	.054	Normal	S20-042-3
48	20°	1.5	1/2	72	.048	Normal	S20-048-H
48	20°	1.5	1/2	72	.048	Precision	S20-048-HP
48	20°	3	1-1/4	144	.048	Normal	S20-048-3
48	20°	3	1-1/4	144	.048	Precision	S20-048-3P
48	20°	4	1-1/4	192	.048	Normal	S20-048-4
50	20°	1.5	1/2	75	.046	Normal	S20-050-H
56	20°	1.5	1/2	84	.041	Normal	S20-056-H
56	20°	3	1-1/4	168	.041	Normal	S20-056-3
64	20°	1.5	1/2	96	.036	Normal	S20-064-H
64	20°	1.5	1/2	96	.036	Precision	S20-064-HP
64	20°	3	1-1/4	192	.036	Normal	S20-064-3
64	20°	3	1-1/4	192	.036	Precision	S20-064-3P
64	20°	4	1-1/4	256	.036	Normal	S20-064-4
64	20°	4	1-1/4	256	.036	Precision	S20-064-4P
72	20°	1.5	1/2	108	.033	Normal	S20-072-H
72	20°	1.5	1/2	108	.033	Precision	S20-072-HP
72	20°	2.5	1-1/4	180	.033	Normal	S20-072-2
72	20°	3	1-1/4	216	.033	Normal	S20-072-3

<- SERIES CONTINUED FROM
PREVIOUS PAGE

S20 & S84 Series

DP 20° PA
Finishing
Non-Topping
Disc Type



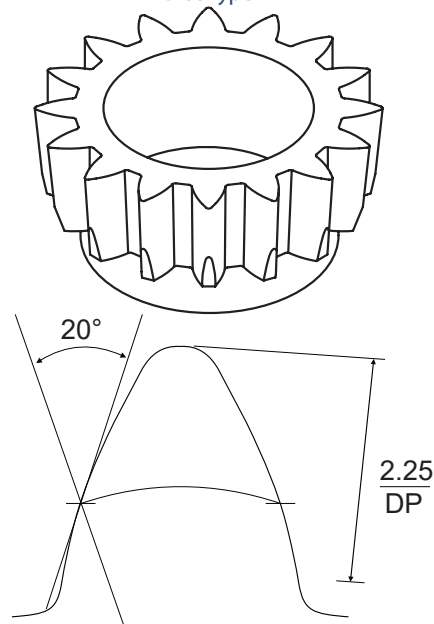
DP	PA	PD	Bore	# Teeth	WD	Tolerance	Series
72	20°	3	1-1/4	216	.033	Precision	S20-072-3P
72	20°	4	1-1/4	288	.033	Normal	S20-072-4
80	20°	1.5	1/2	120	.030	Normal	S20-080-H
80	20°	1.5	1/2	120	.030	Precision	S20-080-HP
80	20°	2.6	1-1/4	208	.030	Normal	S20-080-2
80	20°	3	1-1/4	240	.030	Normal	S20-080-3
96	20°	1	1/2	96	.025	Normal	S20-096-HA
96	20°	1.5	1/2	144	.025	Normal	S20-096-H
96	20°	1.5	1/2	144	.025	Precision	S20-096-HP
96	20°	2.5	1-1/4	240	.025	Normal	S20-096-2
96	20°	3	1-1/4	288	.025	Normal	S20-096-3
96	20°	4	1-1/4	384	.025	Normal	S20-096-4
100	20°	1.5	1/2	150	.024	Normal	S20-0100-H
120	20°	1.5	1/2	180	.020	Normal	S20-0120-H
120	20°	1.5	1/2	180	.020	Precision	S20-0120-HP
120	20°	3	1-1/4	360	.020	Normal	S20-0120-3
180	20°	1.5	1/2	270	.014	Precision	S20-0180-HP
200	20°	1.5	1/2	300	.013	Precision	S20-200-HP



DP	PA	PD	Bore	# Teeth	WD	Series
3	20°	4	1-1/4	12	.750	SDC20-300-4
3	20°	5	1-3/4	15	.750	SDC20-300-5
3-1/2	20°	4	1-1/4	14	.643	SDC20-350-4
3-1/2	20°	5.1	1-3/4	18	.643	SDC20-350-5
4	20°	3	1-1/4	12	.563	SDC20-400-3
4	20°	4	1-1/4	16	.563	SDC20-400-4
4	20°	5	1-3/4	20	.563	SDC20-400-5
4	20°	6	1-3/4	24	.563	SDC20-400-6
5	20°	2.4	3/4	12	.450	SDC20-500-5
5	20°	3	1-1/4	15	.450	SDC20-500-3
5	20°	4	1-1/4	20	.450	SDC20-500-4
5	20°	5	1-3/4	25	.450	SDC20-500-5
5	20°	6	1-3/4	30	.450	SDC20-500-6
6	20°	2	3/4	12	.375	SDC20-600-5
6	20°	3	1-1/4	18	.375	SDC20-600-3
6	20°	4	1-1/4	24	.375	SDC20-600-4
6	20°	5	1-3/4	30	.375	SDC20-600-5
7	20°	2	3/4	14	.321	SDC20-700-5
7	20°	3	1-1/4	21	.321	SDC20-700-3
7	20°	4	1-1/4	28	.321	SDC20-700-4
7	20°	5	1-3/4	35	.321	SDC20-700-5
8	20°	3	1-1/4	24	.281	SDC20-800-3
8	20°	4	1-1/4	32	.281	SDC20-800-4
8	20°	5	1-3/4	40	.281	SDC20-800-5
8	20°	6	1-3/4	48	.281	SDC20-800-6
9	20°	3	1-1/4	27	.250	SDC20-900-3
9	20°	4	1-1/4	36	.250	SDC20-900-4
10	20°	2	3/4	20	.225	SDC20-010-5
10	20°	3	1-1/4	30	.225	SDC20-010-3
10	20°	4	1-1/4	40	.225	SDC20-010-4
10	20°	5	1-3/4	50	.225	SDC20-010-5
11	20°	3	1-1/4	33	.205	SDC20-011-3
12	20°	1.8	3/4	21	.188	SDC20-012-5
12	20°	3	1-1/4	36	.188	SDC20-012-3
12	20°	4	1-1/4	48	.188	SDC20-012-4
12	20°	5	1-3/4	60	.188	SDC20-012-5
12	20°	6	1-3/4	72	.188	SDC20-012-6
14	20°	1.7	1/2	24	.161	SDC20-014-H
14	20°	3	1-1/4	42	.161	SDC20-014-3
16	20°	2	3/4	32	.141	SDC20-016-5
16	20°	3	1-1/4	48	.141	SDC20-016-3
16	20°	4	1-1/4	64	.141	SDC20-016-4
16	20°	5	1-3/4	80	.141	SDC20-016-5
20	20°	2	1/2	30	.113	SDC20-020-H
20	20°	1.5	3/4	30	.113	SDC20-020-5

SDC20 Series

DP 20° PA
Finishing
Non-Topping
Deep Counter Bore
Disc Type



20DP and finer WD = $2.20/DP + .002$

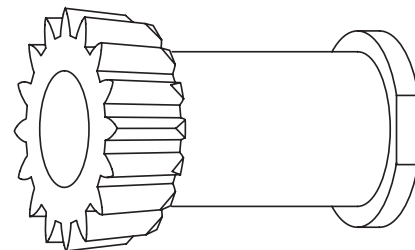
DP	PA	PD	Bore	# Teeth	WD	Series
20	20°	3	1-1/4	60	.113	SDC20-020-3
20	20°	4	1-1/4	80	.113	SDC20-020-4
24	20°	2	3/4	48	.094	SDC20-024-5
24	20°	3	1-1/4	72	.094	SDC20-024-3
24	20°	4	1-1/4	96	.094	SDC20-024-4
30	20°	2	1/2	45	.075	SDC20-030-H
30	20°	3	1-1/4	90	.075	SDC20-030-3
32	20°	2	1/2	64	.071	SDC20-032-H
32	20°	3	1-1/4	96	.071	SDC20-032-3
32	20°	4	1-1/4	128	.071	SDC20-032-4
36	20°	2	1/2	54	.063	SDC20-036-H
48	20°	1.5	1/2	72	.048	SDC20-048-H
48	20°	3	1-1/4	144	.048	SDC20-048-3
48	20°	4	1-1/4	192	.048	SDC20-048-4
56	20°	1.5	1/2	84	.041	SDC20-056-H
64	20°	2.5	1-1/4	160	.036	SDC20-064-3
72	20°	2.5	1-1/4	180	.033	SDC20-072-3



DP	PA	PD	# Teeth	Approx Height	WD	Series
6	20°	2	12	3	.375	SHB20-06-2
7	20°	2	14	3	.321	SHB20-07-2
8	20°	2	16	3	.281	SHB20-08-2
9	20°	2	18	3	.250	SHB20-09-2
10	20°	2	20	3	.225	SHB20-10-2
11	20°	2	22	3	.205	SHB20-11-2
12	20°	2	24	3	.188	SHB20-12-2
14	20°	2	28	3	.161	SHB20-14-2
16	20°	2	32	3	.141	SHB20-16-2
18	20°	2	36	3	.125	SHB20-18-2
20	20°	2	40	3	.112	SHB20-20-2
24	20°	2	48	3	.094	SHB20-24-2

SHB20 Series

DP 20° PA
Finishing
Non-Topping
Hub Type

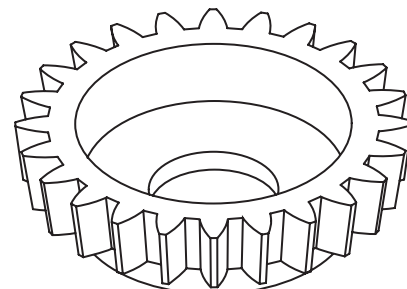


WD = 2.25/DP
20DP and finer WD= 2.2/DP + .002

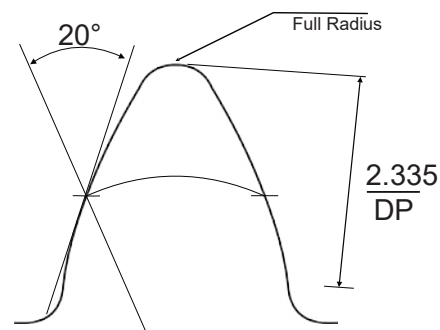
DP	PA	PD	Bore	# Teeth	WD	Series
2	20°	6	1-3/4	12	1.168	SR20-200-6
2-1/2	20°	5	1-3/4	13	.934	SR20-250-5
3	20°	4	1-1/4	12	.778	SR20-300-4
3	20°	5	1-3/4	15	.778	SR20-300-5
3	20°	6	1-3/4	18	.778	SR20-300-6
3-1/2	20°	4	1-1/4	14	.667	SR20-350-4
4	20°	3	1-1/4	12	.584	SR20-400-3
4	20°	4	1-1/4	16	.584	SR20-400-4
4-1/2	20°	4	1-1/4	18	.519	SR20-450-4
5	20°	3	1-1/4	15	.467	SR20-500-3
5	20°	4	1-1/4	20	.467	SR20-500-4
6	20°	3	1-1/4	18	.389	SR20-600-3
6	20°	4	1-1/4	24	.389	SR20-600-4
6	20°	5	1-3/4	30	.389	SR20-600-5
7	20°	5	1-3/4	35	.334	SR20-700-5
8	20°	3	1-1/4	24	.292	SR20-800-3
8	20°	4	1-1/4	32	.292	SR20-800-4
8	20°	5	1-3/4	40	.292	SR20-800-5
9	20°	3	1-1/4	27	.259	SR20-900-3
10	20°	3	1-1/4	30	.234	SR20-010-3
10	20°	4	1-1/4	40	.234	SR20-010-4
10	20°	5	1-3/4	50	.234	SR20-010-5
12	20°	3	1-1/4	36	.195	SR20-012-3
12	20°	4	1-1/4	48	.195	SR20-012-4
12	20°	5	1-3/4	60	.195	SR20-012-5
14	20°	3	1-1/4	42	.167	SR20-014-3
16	20°	3	1-1/4	48	.146	SR20-016-3
16	20°	4	1-1/4	64	.146	SR20-016-4
18	20°	3	1-1/4	54	.130	SR20-018-3
20	20°	3	1-1/4	60	.117	SR20-020-3
20	20°	4	1-1/4	80	.117	SR20-020-4
24	20°	3	1-1/4	72	.097	SR20-024-3
32	20°	3	1-1/4	96	.073	SR20-032-3

SR20 Series

Full Fillet 20° PA
Finishing
Non-Topping
Disc Type



2.335/DP = WD



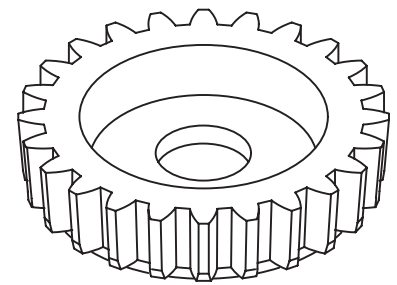


STBR20 Series

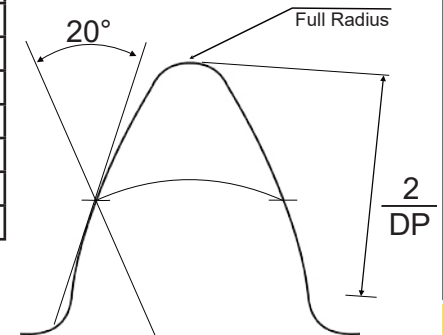
AGMA Stub 20° PA
Full Fillet, Finishing
Non-Topping, Disc Type

DP	PA	PD	Bore	# Teeth	WD	Series
2-1/2	20°	5	1-3/4	13	.800	STBR20-250-5
3	20°	4	1-1/4	12	.667	STBR20-300-4
4	20°	4	1-1/4	16	.500	STBR20-400-4
5	20°	4	1-1/4	20	.400	STBR20-500-4
6	20°	4	1-1/4	24	.333	STBR20-600-4
8	20°	3	1-1/4	24	.250	STBR20-800-3
8	20°	4	1-1/4	32	.250	STBR20-800-4
9	20°	4	1-1/4	36	.222	STBR20-900-4
10	20°	3	1-1/4	30	.200	STBR20-010-3
10	20°	4	1-1/4	40	.200	STBR20-010-4
12	20°	3	1-1/4	36	.167	STBR20-012-3
12	20°	4	1-1/4	48	.167	STBR20-012-4
16	20°	3	1-1/4	48	.125	STBR20-016-3

DP	PA	PD	Bore	# Teeth	WD	Series
5	20°	4	1-1/4	20	.450	STP20-500-4
6	20°	3	1-1/4	18	.375	STP20-600-3
6	20°	4	1-1/4	24	.375	STP20-600-4
6	20°	5	1-3/4	30	.375	STP20-600-5
7	20°	4	1-1/4	28	.321	STP20-700-4
8	20°	3	1-1/4	24	.281	STP20-800-3
8	20°	4	1-1/4	32	.281	STP20-800-4
9	20°	4	1-1/4	36	.250	STP20-900-4
10	20°	3	1-1/4	30	.225	STP20-010-3
10	20°	4	1-1/4	40	.225	STP20-010-4
10	20°	5	1-3/4	50	.225	STP20-010-5
12	20°	4	1-1/4	48	.188	STP20-012-4
14	20°	4	1-1/4	56	.161	STP20-014-4
16	20°	3	1-1/4	48	.141	STP20-016-3
16	20°	4	1-1/4	64	.141	STP20-016-4
20	20°	3	1-1/4	60	.112	STP20-020-3
20	20°	4	1-1/4	80	.112	STP20-020-4
20	20°	5	1-3/4	100	.112	STP20-020-5
24	20°	1.5	1/2	36	.094	STP20-024-H
24	20°	3	1-1/4	72	.094	STP20-024-3
26	20°	3	1-1/4	78	.087	STP20-026-3
30	20°	1.5	1/2	45	.075	STP20-030-H
30	20°	3	1-1/4	90	.075	STP20-030-3
32	20°	1.5	1/2	48	.071	STP20-032-H
32	20°	3	1-1/4	96	.071	STP20-032-3
36	20°	1.5	1/2	54	.063	STP20-036-H
40	20°	1.5	1/2	60	.057	STP20-040-H
48	20°	1.5	1/2	72	.048	STP20-048-H
48	20°	3	1-1/4	144	.048	STP20-048-3
64	20°	1.5	1/2	96	.036	STP20-064-H
64	20°	3	1-1/4	192	.036	STP20-064-3
72	20°	2.9	1-1/4	208	.033	STP20-072-3
80	20°	1.5	1/2	120	.030	STP20-080-H
96	20°	1.5	1/2	144	.025	STP20-096-H
96	20°	2.5	1-1/4	240	.025	STP20-096-2

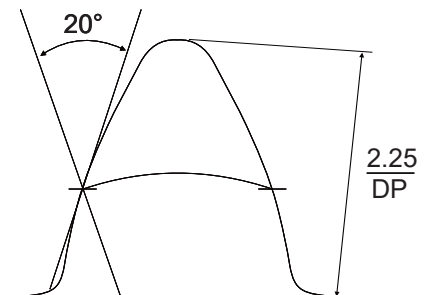
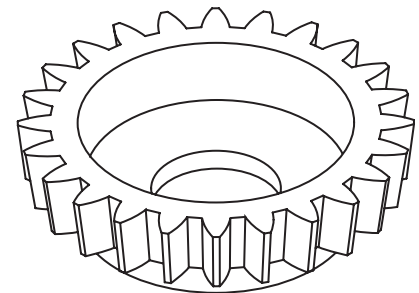


Addendum of the shaper tooth is 1.2/DP,
the dedendum is 0.8/DP



STP20 Series

DP 20° PA
Finishing
Topping
Disc Type



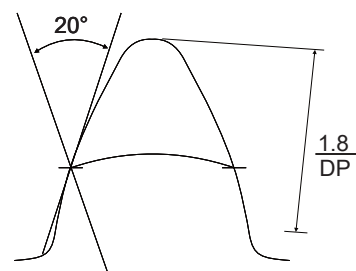
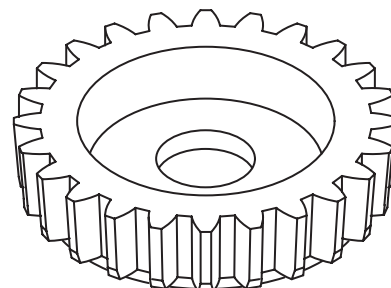
20DP and finer WD = 2.2/DP + .002



DP	PA	PD	Bore	# Teeth	WD	Series
1-1/4	20°	8.0	4	12	1.440	SG84-125
1-1/2	20°	8.0	4	13	1.200	SG84-150
1-3/4	20°	8.0	4	14	1.028	SG84-175
2	20°	4.5	1-1/4	9	.900	STB20-200-4
2	20°	5	1-3/4	10	.900	STB20-200-5
2	20°	6	1-3/4	12	.900	STB20-200-6
2	20°	8	4	16	.900	SG84-200
2-1/2	20°	4	1-1/4	10	.720	STB20-250-4
2-1/2	20°	5	1-3/4	13	.720	STB20-250-5
2-1/2	20°	6	1-3/4	15	.720	STB20-250-6
2-1/2	20°	8	4	20	.720	SG84-250
3	20°	4	1-1/4	12	.600	STB20-300-4
3	20°	5	1-3/4	15	.600	STB20-300-5
3	20°	6	1-3/4	18	.600	STB20-300-6
3	20°	8	4	24	.600	SG84-300
3-1/2	20°	4	1-1/4	14	.514	STB20-350-4
3-1/2	20°	5.1	1-3/4	18	.514	STB20-350-5
3-1/2	20°	6	1-3/4	21	.514	STB20-350-6
3-1/2	20°	8	4	28	.514	SG84-350
4	20°	3	1-1/4	12	.450	STB20-400-3
4	20°	4	1-1/4	16	.450	STB20-400-4
4	20°	5	1-3/4	20	.450	STB20-400-5
4	20°	8	4	32	.450	SG84-400
5	20°	4	1-1/4	20	.360	STB20-500-4
5	20°	5	1-3/4	25	.360	STB20-500-5
5	20°	8	4	40	.360	SG84-500
6	20°	3	1-1/4	18	.300	STB20-600-3
6	20°	4	1-1/4	24	.300	STB20-600-4
6	20°	5	1-3/4	30	.300	STB20-600-5
7	20°	3	1-1/4	21	.257	STB20-700-3
7	20°	4	1-1/4	28	.257	STB20-700-4
7	20°	5	1-3/4	35	.257	STB20-700-5
8	20°	3	1-1/4	24	.225	STB20-800-3
8	20°	4	1-1/4	32	.225	STB20-800-4
8	20°	5	1-3/4	40	.225	STB20-800-5
8	20°	6	1-3/4	48	.225	STB20-800-6
9	20°	4	1-1/4	36	.200	STB20-900-4
10	20°	4	1-1/4	40	.180	STB20-010-4
12	20°	2	3/4	21	.150	STB20-012-5
12	20°	3	1-1/4	36	.150	STB20-012-3
14	20°	3	1-1/4	42	.129	STB20-014-3
16	20°	3	1-1/4	48	.113	STB20-016-3

STB20 & SG84 Series

AGMA STUB DP 20° PA
 Finishing
 Non-Topping
 Disc Type



Finer pitch AGMA stubs can be furnished by topping stock cutters.

The AGMA stub tooth has a 20° PA with an addendum & dedendum shorter than the conventional full depth tooth.

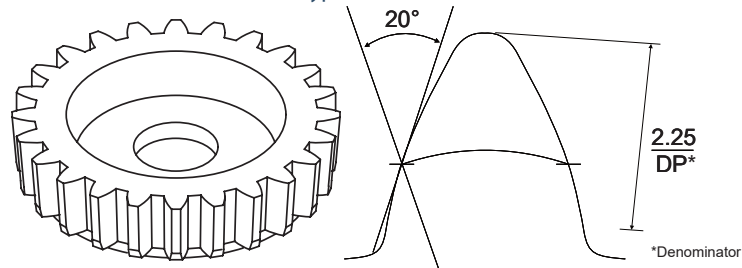
The addendum is .8/DP & the dedendum is 1/DP Thus the tooth is shorter & stronger.



DP	PA	PD	Bore	# Teeth	WD	Type	Series
3/4	20°	2.3	3/4	7	.563	Disc	STF20-300-S
3/4	20°	4	1-1/4	12	.563	Disc	STF20-300-4
3/4	20°	5	1-3/4	15	.563	Disc	STF20-300-5
3/4	20°	6	1-3/4	18	.563	Disc	STF20-300-6
3/4	20°	6.7	1-3/4	20	.563	Disc	STF20-300-6E
4/5	20°	2	3/4	8	.450	Disc	STF20-400-S
4/5	20°	3	3/4	10	.450	Disc	STF20-400-SE
4/5	20°	3	1-1/4	12	.450	Disc	STF20-400-3
4/5	20°	3	1-1/4	12	.450	Deep C Bore	SDF20-400-3
4/5	20°	4	1-1/4	16	.450	Disc	STF20-400-4
4/5	20°	4	1-1/4	16	.450	Deep C Bore	SDF20-400-4
4/5	20°	4	1-3/4	16	.450	Disc	STF20-400-4L
4/5	20°	5	1-1/4	18	.450	Deep C Bore	SDF20-400-4E
4/5	20°	5	1-3/4	20	.450	Disc	STF20-400-5
4/5	20°	5	1-3/4	20	.450	Deep C Bore	SDF20-400-5
4/5	20°	6	1-3/4	24	.450	Disc	STF20-400-6
4/5	20°	6	1-3/4	24	.450	Deep C Bore	SDF20-400-6
5/7	20°	2	3/4	10	.321	Disc	STF20-500-S
5/7	20°	3	1-1/4	15	.321	Disc	STF20-500-3
5/7	20°	4	1-1/4	20	.321	Disc	STF20-500-4
5/7	20°	4	1-1/4	20	.321	Deep C Bore	SDF20-500-4
5/7	20°	4	1-3/4	20	.321	Disc	STF20-500-4L
5/7	20°	5	1-3/4	25	.321	Disc	STF20-500-5
5/7	20°	6	1-3/4	30	.321	Disc	STF20-500-6
6/8	20°	1.7	1/2	10	.281	Disc	STF20-600-H
6/8	20°	2	3/4	12	.281	Disc	STF20-600-S
6/8	20°	3	1-1/4	18	.281	Disc	STF20-600-3
6/8	20°	3	1-1/4	18	.281	Deep C Bore	SDF20-600-3
6/8	20°	4	1-1/4	24	.281	Disc	STF20-600-4
6/8	20°	4	1-1/4	24	.281	Deep C Bore	SDF20-600-4
6/8	20°	4	1-3/4	24	.281	Disc	STF20-600-4L
6/8	20°	5	1-3/4	30	.281	Disc	STF20-600-5
6/8	20°	5	1-3/4	30	.281	Deep C Bore	SDF20-600-5
6/8	20°	6	1-3/4	36	.281	Disc	STF20-600-6
6/8	20°	6	1-3/4	36	.281	Deep C Bore	SDF20-600-6
7/9	20°	2	1/2	14	.250	Disc	STF20-700-H
7/9	20°	3	1-1/4	21	.250	Disc	STF20-700-3
7/9	20°	3	1-1/4	21	.250	Deep C Bore	SDF20-700-3
7/9	20°	4	1-1/4	28	.250	Disc	STF20-700-4
7/9	20°	4	1-1/4	28	.250	Deep C Bore	SDF20-700-4
7/9	20°	5	1-3/4	35	.250	Disc	STF20-700-5
8/10	20°	1.8	1/2	14	.225	Disc	STF20-800-H
8/10	20°	1.8	3/4	14	.225	Disc	STF20-800-S
8/10	20°	3	1-1/4	24	.225	Disc	STF20-800-3
8/10	20°	3	1-1/4	24	.225	Deep C Bore	SDF20-800-3
8/10	20°	4	1-1/4	32	.225	Disc	STF20-800-4
8/10	20°	4	1-1/4	32	.225	Deep C Bore	SDF20-800-4
8/10	20°	5	1-3/4	40	.225	Disc	STF20-800-5
8/10	20°	5	1-3/4	40	.225	Deep C Bore	SDF20-800-5
8/10	20°	6	1-3/4	48	.225	Disc	STF20-800-6

STF20 & SDF20 Series

Combination Pitch
Stub 20° PA
Finishing
Non-Topping
Disc Type



DP	PA	PD	Bore	# Teeth	WD	Type	Series
8/10	20°	6	1-3/4	48	.225	Deep C Bore	SDF20-800-6
9/11	20°	1.8	1/2	16	.205	Disc	STF20-900-H
9/11	20°	3	1-1/4	27	.205	Disc	STF20-900-3
9/11	20°	4	1-1/4	36	.205	Disc	STF20-900-4
10/12	20°	1.8	1/2	18	.188	Disc	STF20-010-H
10/12	20°	2	3/4	20	.188	Disc	STF20-010-S
10/12	20°	3	1-1/4	30	.188	Disc	STF20-010-3
10/12	20°	3	1-1/4	30	.188	Deep C Bore	SDF20-010-3
10/12	20°	4	1-1/4	40	.188	Disc	STF20-010-4
10/12	20°	4	1-1/4	40	.188	Deep C Bore	SDF20-010-4
10/12	20°	4	1-3/4	40	.188	Disc	STF20-010-4L
10/12	20°	5	1-3/4	50	.188	Disc	STF20-010-5
10/12	20°	5	1-3/4	50	.188	Deep C Bore	SDF20-010-5
12/14	20°	1.7	1/2	20	.161	Disc	STF20-012-H
12/14	20°	1.8	3/4	21	.161	Disc	STF20-012-S
12/14	20°	2	3/4	24	.161	Disc	STF20-012-SE
12/14	20°	2	3/4	24	.161	Deep C Bore	SDF20-012-SE
12/14	20°	3	1-1/4	36	.161	Disc	STF20-012-3
12/14	20°	3	1-1/4	36	.161	Deep C Bore	SDF20-012-3
12/14	20°	4	1-1/4	48	.161	Disc	STF20-012-4
12/14	20°	5	1-3/4	60	.161	Disc	STF20-012-5
14/18	20°	1.5	1/2	21	.125	Disc	STF20-014-H
14/18	20°	3	1-1/4	42	.125	Disc	STF20-014-3
14/18	20°	3	1-1/4	42	.125	Deep C Bore	SDF20-014-3
14/18	20°	4	1-1/4	56	.125	Disc	STF20-014-4
16/21	20°	1.4	1/2	22	.107	Disc	STF20-016-H
16/21	20°	2	3/4	32	.107	Disc	STF20-016-S
16/21	20°	2	3/4	32	.107	Deep C Bore	SDF20-016-S
16/21	20°	3	1-1/4	48	.107	Disc	STF20-016-3
16/21	20°	3	1-1/4	48	.107	Deep C Bore	SDF20-016-3
16/21	20°	4	1-1/4	64	.107	Disc	STF20-016-4
20/26	20°	2	3/4	40	.087	Deep C Bore	SDF20-020-S
20/26	20°	4	1-1/4	80	.087	Disc	STF20-020-4

*DENOMINATOR OF SPLIT PITCH

The combination pitch (stub tooth) has a 20° PA with a shorter addendum & dedendum. The stub tooth is expressed as a fraction. The numerator of the fraction is used to determine the pitch diameter, circular pitch and the tooth thickness. The denominator determines the addendum, dedendum, clearance and the depth of the tooth. Other sizes and finer pitch cutters can be furnished by topping standard stock cutters.

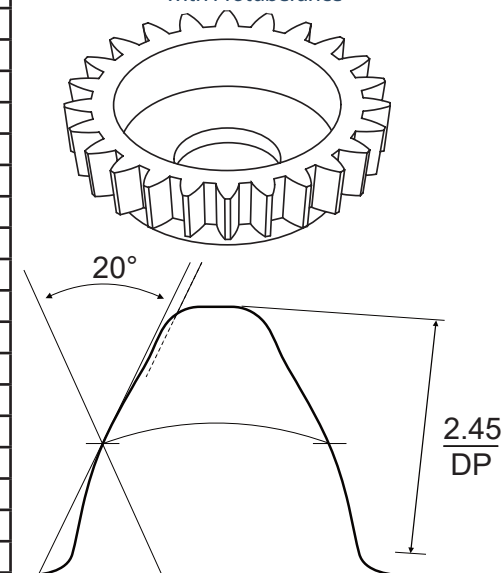


DP	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
4	20°	4	1-1/4	16	.588	.004	.002	SPS20-400-4
5	20°	4	1-1/4	20	.490	.003	.002	SPS20-500-4
5	20°	5	1-3/4	25	.490	.003	.002	SPS20-500-5
6	20°	3	1-1/4	18	.408	.003	.002	SPS20-600-3
6	20°	4	1-1/4	24	.408	.003	.002	SPS20-600-4
6	20°	5	1-3/4	30	.408	.003	.002	SPS20-600-5
7	20°	4	1-1/4	28	.350	.003	.002	SPS20-700-4
8	20°	4	1-1/4	32	.306	.003	.001	SPS20-800-4
9	20°	4	1-1/4	36	.272	.003	.001	SPS20-900-4
10	20°	4	1-1/4	40	.245	.003	.001	SPS20-010-4
12	20°	3	1-1/4	36	.204	.003	.001	SPS20-012-3
12	20°	4	1-1/4	48	.204	.003	.001	SPS20-012-4
14	20°	3	1-1/4	42	.175	.003	.001	SPS20-014-3
16	20°	3	1-1/4	48	.153	.002	.001	SPS20-016-3
16	20°	4	1-1/4	64	.153	.002	.001	SPS20-016-4
18	20°	3	1-1/4	54	.133	.002	.001	SPS20-018-3E
20	20°	4	1-1/4	80	.122	.002	.000	SPS20-020-4
24	20°	3	1-1/4	72	.102	.002	.000	SPS20-024-3
32	20°	3	1-1/4	96	.077	.001	.000	SPS20-032-3
48	20°	3	1-1/4	144	.052	.001	.000	SPS20-048-3

DP	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
3	20°	6	1-3/4	18	.783	.010	.006	SPG20-300-6
4	20°	4	1-1/4	16	.588	.010	.008	SPG20-400-4
4	20°	4	1-1/4	16	.588	.010	.000	SPGN20-400-4
4	20°	5	1-3/4	20	.588	.010	.008	SPG20-400-5
5	20°	4	1-1/4	20	.470	.011	.006	SPG20-500-4
5	20°	5	1-3/4	25	.470	.011	.006	SPG20-500-5
6	20°	4	1-1/4	24	.392	.011	.006	SPG20-600-4
8	20°	4	1-1/4	32	.294	.011	.006	SPG20-800-4
9	20°	4	1-1/4	36	.261	.011	.006	SPG20-900-4
10	20°	4	1-1/4	40	.235	.011	.006	SPG20-010-4
10	20°	4	1-1/4	40	.235	.010	.000	SPGN20-010-4
12	20°	4	1-1/4	48	.196	.010	.007	SPG20-012-4
14	20°	4	1-1/4	56	.168	.010	.005	SPG20-014-4
14	20°	4	1-1/4	56	.168	.010	.000	SPGN20-014-4
16	20°	3	1-1/4	48	.147	.007	.005	SPG20-016-3
16	20°	4	1-1/4	64	.147	.007	.005	SPG20-016-4
16	20°	4	1-1/4	64	.147	.007	.000	SPGN20-016-4
20	20°	3	1-1/4	60	.122	.007	.000	SPG20-020-3
20	20°	4	1-1/4	80	.122	.007	.000	SPG20-020-4
24	20°	3	1-1/4	72	.102	.005	.000	SPG20-024-3
32	20°	3	1-1/4	96	.077	.005	.000	SPG20-032-3

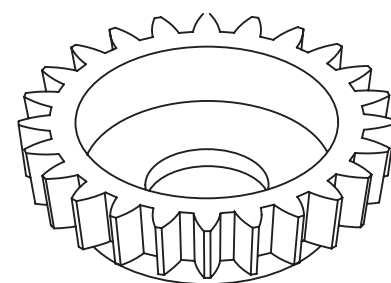
SPS20 Series

DP 20° PA Pre-Shave
Non-Topping
Disc Type
with Protuberance

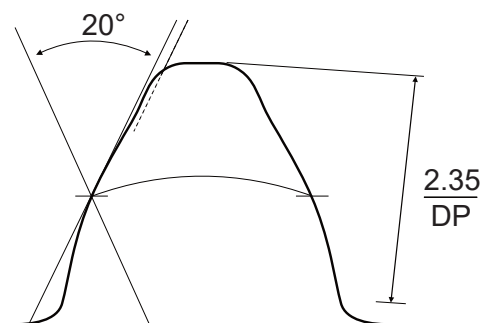


SPG20 & SPGN20 Series

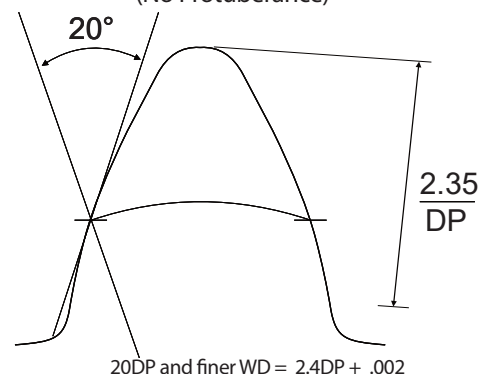
DP 20° PA Pre-Grind
Non-Topping
Disc Type



SPG Rack Profile
(With Protuberance)



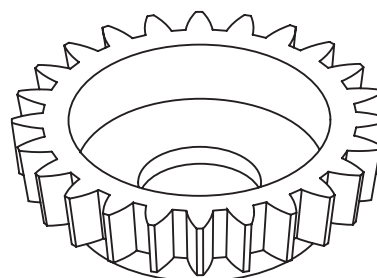
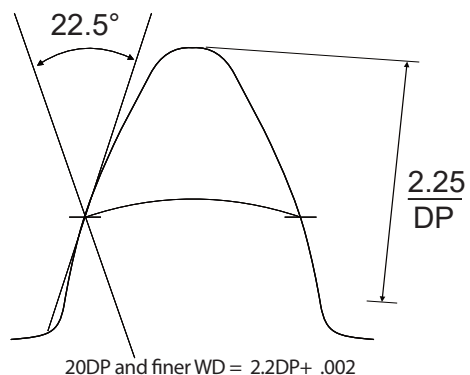
SPGN Rack Profile
(No Protuberance)





S22 Series

DP 22.5° PA
Finishing, Non-Topping
Disc Type



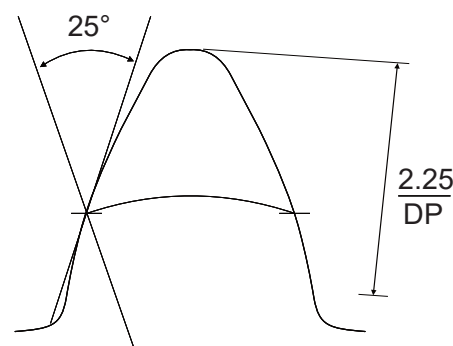
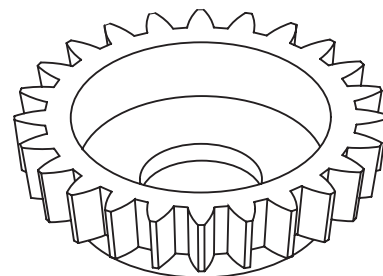
DP	PA	PD	Bore	# Teeth	WD	Series
4	22.5°	4	1-1/4	16	.563	S22-400-4
5	22.5°	4	1-1/4	20	.450	S22-500-4
6	22.5°	4	1-1/4	24	.375	S22-600-4
7	22.5°	3	1-1/4	21	.321	S22-700-3
8	22.5°	4	1-1/4	32	.281	S22-800-4
9	22.5°	3	1-1/4	28	.250	S22-900-3
10	22.5°	3	1-1/4	30	.225	S22-010-3
11	22.5°	3	1-1/4	33	.205	S22-011-3
12	22.5°	3	1-1/4	36	.188	S22-012-3
13	22.5°	3	1-1/4	39	.173	S22-013-3
20	22.5°	3	1-1/4	60	.112	S22-020-3



DP	PA	PD	Bore	# Teeth	WD	Type	Series
1-1/2	25°	7.3	1-3/4	11	1.500	Disc	S25-150-7
2	25°	4.5	1-1/4	9	1.125	Disc	S25-200-4
2	25°	6	1-3/4	12	1.125	Disc	S25-200-6
2	25°	7.5	1-3/4	15	1.125	Disc	S25-200-7
2-1/2	25°	5	1-3/4	13	.900	Disc	S25-250-5
2-1/2	25°	6	1-3/4	15	.900	Disc	S25-250-6
3	25°	4	1-1/4	12	.750	Disc	S25-300-4
3	25°	5	1-3/4	15	.750	Disc	S25-300-5
3	25°	6	1-3/4	18	.750	Disc	S25-300-6
3-1/2	25°	4	1-1/4	14	.643	Disc	S25-350-4
3-1/2	25°	5.1	1-3/4	18	.643	Disc	S25-350-5
3-1/2	25°	6	1-3/4	21	.643	Disc	S25-350-6
4	25°	2.3	3/4	9	.563	Disc	S25-400-5
4	25°	3	1-1/4	12	.563	Disc	S25-400-3
4	25°	4	1-1/4	16	.563	Disc	S25-400-4
4	25°	4	1-1/4	16	.563	Deep C Bore	SDC25-400-4
4	25°	5	1-3/4	20	.563	Disc	S25-400-5
4	25°	6	1-3/4	24	.563	Disc	S25-400-6
4-1/2	25°	4	1-1/4	18	.500	Disc	S25-450-4
4-1/2	25°	5.1	1-3/4	23	.500	Disc	S25-450-5
5	25°	2	3/4	10	.450	Disc	S25-500-5
5	25°	3	1-1/4	15	.450	Disc	S25-500-3
5	25°	4	1-1/4	20	.450	Disc	S25-500-4
5	25°	4	1-1/4	20	.450	Deep C Bore	SDC25-500-4
5	25°	5	1-3/4	25	.450	Disc	S25-500-5
5	25°	6	1-3/4	30	.450	Disc	S25-500-6
5-1/2	25°	4	1-1/4	22	.409	Disc	S25-550-4
6	25°	2	3/4	12	.375	Disc	S25-600-5
6	25°	3	1-1/4	18	.375	Disc	S25-600-3
6	25°	4	1-1/4	24	.375	Disc	S25-600-4
6	25°	4	1-1/4	24	.375	Deep C Bore	SDC25-600-4
6	25°	5	1-3/4	30	.375	Disc	S25-600-5
6-1/2	25°	4	1-1/4	26	.346	Disc	S25-650-4
7	25°	4	1-1/4	28	.321	Disc	S25-700-4
7	25°	5	1-3/4	35	.321	Disc	S25-700-5
8	25°	1.8	1/2	14	.281	Disc	S25-800-H
8	25°	1.9	3/4	15	.281	Disc	S25-800-S
8	25°	3	1-1/4	24	.281	Disc	S25-800-3
8	25°	3	1-1/4	24	.281	Deep C Bore	SDC25-800-3
8	25°	4	1-1/4	32	.281	Disc	S25-800-4
8	25°	4	1-1/4	32	.281	Deep C Bore	SDC25-800-4
8	25°	5	1-3/4	40	.281	Disc	S25-800-5
9	25°	3	1-1/4	27	.250	Disc	S25-900-3
9	25°	3	1-1/4	27	.250	Deep C Bore	SDC25-900-3
9	25°	4	1-1/4	36	.250	Disc	S25-900-4
10	25°	1.6	1/2	16	.225	Disc	S25-010-H
10	25°	2	3/4	20	.225	Disc	S25-010-S
10	25°	3	1-1/4	30	.225	Disc	S25-010-3
10	25°	3	1-1/4	30	.225	Deep C Bore	SDC25-010-3
10	25°	4	1-1/4	40	.225	Disc	S25-010-4
10	25°	4	1-1/4	40	.225	Deep C Bore	SDC25-010-4
10	25°	5	1-3/4	50	.225	Disc	S25-010-5
10	25°	6	1-3/4	60	.225	Disc	S25-010-6

S25 & SDC25 Series

DP 25° PA
Finishing
Non-Topping
Disc Type



20DP and finer WD = 2.2DP + .002

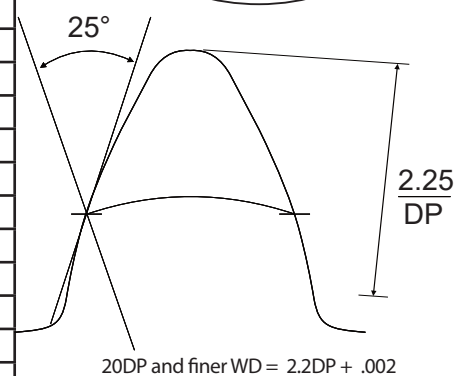
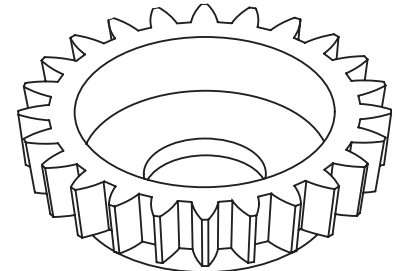
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S25 & SDC25 Series

DP 25° PA
Finishing
Non-Topping
Disc Type

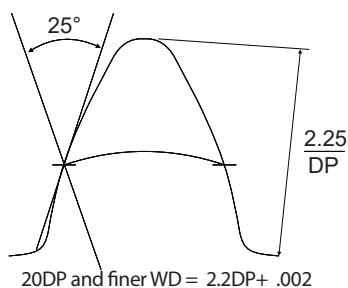


DP	PA	PD	Bore	# Teeth	WD	Type	Series
11	25°	3	1-1/4	33	.205	Disc	S25-011-3
12	25°	1.5	1/2	18	.188	Disc	S25-012-H
12	25°	3	1-1/4	36	.188	Disc	S25-012-3
12	25°	3	1-1/4	36	.188	Deep C Bore	SDC25-012-3
12	25°	4	1-1/4	48	.188	Disc	S25-012-4
12	25°	5	1-3/4	60	.188	Disc	S25-012-5
12	25°	6	1-3/4	72	.188	Disc	S25-012-6
13	25°	3	1-1/4	39	.173	Disc	S25-013-3
14	25°	1.7	1/2	24	.161	Disc	S25-014-H
14	25°	3	1-1/4	42	.161	Disc	S25-014-3
14	25°	3	1-1/4	42	.161	Deep C Bore	SDC25-014-3
14	25°	4	1-1/4	56	.161	Disc	S25-014-4
14	25°	5	1-3/4	70	.161	Disc	S25-014-5
16	25°	1.5	1/2	24	.141	Disc	S25-016-H
16	25°	2	3/4	32	.141	Disc	S25-016-S
16	25°	3	1-1/4	48	.141	Disc	S25-016-3
16	25°	3	1-1/4	48	.141	Deep C Bore	SDC25-016-3
16	25°	4	1-1/4	64	.141	Disc	S25-016-4
18	25°	1.4	1/2	26	.125	Disc	S25-018-H
18	25°	3	1-1/4	54	.125	Disc	S25-018-3
18	25°	3	1-1/4	54	.125	Deep C Bore	SDC25-018-3
18	25°	4	1-1/4	72	.125	Disc	S25-018-4
20	25°	1.5	1/2	30	.112	Disc	S25-020-H
20	25°	1.5	1/2	30	.112	Deep C Bore	SDC25-020-H
20	25°	3	1-1/4	60	.112	Disc	S25-020-3
20	25°	3	1-1/4	60	.112	Deep C Bore	SDC25-020-3
22	25°	3	1-1/4	66	.102	Disc	S25-022-3
24	25°	1.5	1/2	36	.094	Disc	S25-024-HA
24	25°	3	1-1/4	72	.094	Disc	S25-024-3
24	25°	3	1-1/4	72	.094	Deep C Bore	SDC25-024-3
24	25°	4	1-1/4	96	.094	Disc	S25-024-4
26	25°	3	1-1/4	78	.087	Disc	S25-026-3
28	25°	1.5	1/2	42	.084	Disc	S25-028-H
28	25°	3	1-1/4	84	.084	Disc	S25-028-3
30	25°	1.5	1/2	45	.075	Deep C Bore	SDC25-030-H
30	25°	3	1-1/4	90	.075	Disc	S25-030-3
32	25°	1.5	1/2	48	.071	Disc	S25-032-HA
32	25°	3	1-1/4	96	.071	Deep C Bore	SDC25-032-3
32	25°	3	1-1/4	96	.071	Disc	S25-032-3
32	25°	4	1-1/4	128	.071	Disc	S25-032-4
36	25°	1.5	1/2	54	.063	Disc	S25-036-H
36	25°	2	3/4	72	.063	Disc	S25-036-2
40	25°	1.5	1/2	60	.057	Disc	S25-040-H
40	25°	1.7	1/2	68	.057	Deep C Bore	SDC25-040H
40	25°	3	1-1/4	120	.057	Disc	S25-040-3
44	25°	1.5	1/2	66	.051	Disc	S25-044-H
48	25°	1.5	1/2	72	.048	Disc	S25-048-H
48	25°	3	1-1/4	120	.047	Disc	S25-048-2E
48	25°	3	1-1/4	144	.048	Disc	S25-048-3
64	25°	1.5	1/2	96	.036	Disc	S25-064-H



STP25 Series

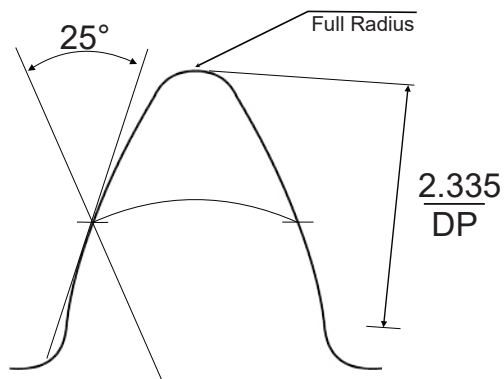
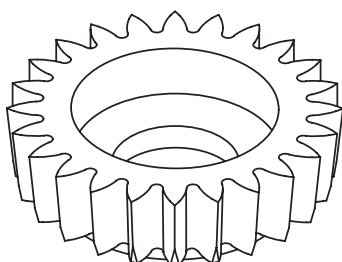
DP 25° PA
Finishing, Topping
Disc Type



DP	PA	PD	Bore	# Teeth	WD	Series
6	25°	5	1-3/4	30	.375	STP25-600-5

SR25 Series

Full Fillet DP 25° PA
Finishing
Non-Topping
Disc Type



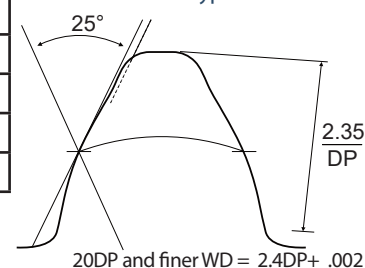
DP	PA	PD	Bore	# Teeth	WD	Series
2	25°	6	1-3/4	12	1.168	SR25-200-6
2-1/4	25°	6	1-3/4	12	1.038	SR25-225-6
2-1/2	25°	5	1-3/4	13	.934	SR25-250-5
3	25°	4	1-1/4	12	.778	SR25-300-4
3-1/2	25°	4.8	1-3/4	17	.667	SR25-350-5E
3-1/2	25°	5	1-3/4	18	.667	SR25-350-5
4	25°	4	1-1/4	16	.584	SR25-400-4
4	25°	5	1-3/4	20	.584	SR25-400-5
4-1/2	25°	4	1-1/4	18	.519	SR25-450-4
5	25°	4	1-1/4	20	.467	SR25-500-4
6	25°	4	1-1/4	24	.389	SR25-600-4
7	25°	4	1-1/4	28	.334	SR25-700-4
8	25°	4	1-1/4	32	.292	SR25-800-4
8	25°	5	1-3/4	40	.292	SR25-800-5
10	25°	3	1-1/4	30	.234	SR25-010-3
10	25°	4	1-1/4	40	.234	SR25-010-4
12	25°	3	1-1/4	36	.195	SR25-012-3
16	25°	3	1-1/4	48	.146	SR25-016-3
16	25°	4	1-1/4	64	.146	SR25-016-4
20	25°	4	1-1/4	80	.117	SR25-020-4



DP	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
4	25°	4	1-1/4	16	.575	.004	.002	SPS25-400-4
5	25°	4	1-1/4	20	.460	.003	.002	SPS25-500-4
10	25°	4	1-1/4	40	.240	.003	.001	SPS25-010-4
16	25°	3	1-1/4	48	.150	.002	.001	SPS25-016-3
20	25°	3	1-1/4	60	.122	.002	.000	SPS25-020-3
24	25°	3	1-1/4	72	.102	.002	.000	SPS25-024-3

SPS25 Series

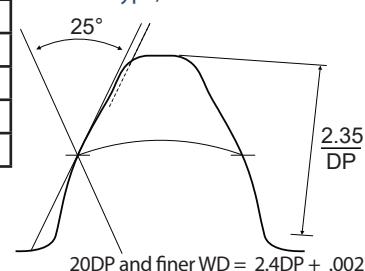
DP 25° PA
Pre-Shave, Non-Topping
Disc Type



DP	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
1-1/2	25°	7.3	1-3/4	11	1.500	.018	.011	SPG25-150-7
4	25°	4	1-1/4	16	.588	.010	.008	SPG25-400-4
6	25°	4	1-1/4	24	.383	.011	.006	SPG25-600-4E
6	25°	6	1-3/4	36	.392	.011	.006	SPG25-600-6
8	25°	4	1-1/4	32	.306	.011	.006	SPG25-800-4E
12	25°	4	1-1/4	48	.196	.010	.006	SPG25-012-4
16	25°	3	1-1/4	48	.156	.007	.005	SPG25-016-3

SPG25 Series

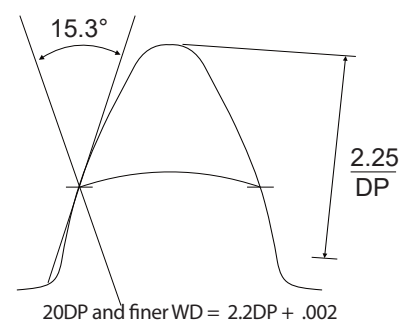
DP 25° PA
Pre-Grind
Non-Topping
Disc Type, with Protuberance



DP	PA	PD	Bore	# Teeth	WD	Series
16	15.3°	4	1-1/4	64	.141	SFC15-016-4

SFC15 Series

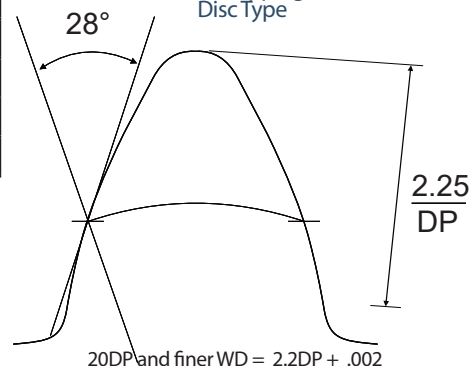
DP 15.3° PA
Fellows Tri-Lobe Gear Cutters
Finishing
Non-Topping
Disc Type

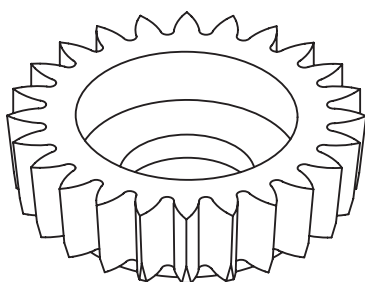


DP	PA	PD	Bore	# Teeth	WD	Series
4	28°	4	1-1/4	16	.563	S28-400-4
5	28°	4	1-1/4	20	.450	S28-500-4
6	28°	4	1-1/4	24	.375	S28-600-4
7	28°	3	1-1/4	21	.296	S28-700-3
8	28°	3	1-1/4	24	.281	S28-800-3
10	28°	3	1-1/4	30	.225	S28-010-3E

S28 Series

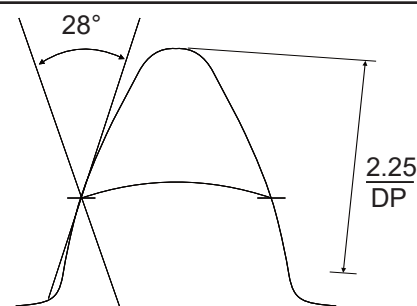
DP 28° PA
Finishing
Non-Topping
Disc Type





S30 Series

DP 30° PA
Finishing
Non-Topping
Disc Type

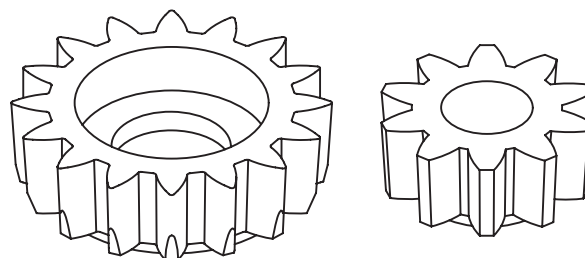


DP	PA	PD	Bore	# Teeth	WD	Series
4	30°	4	1-1/4	16	.539	S30-400-4
5	30°	3	1-1/4	15	.431	S30-500-3
5	30°	4	1-1/4	20	.431	S30-500-4
6	30°	3	1-1/4	18	.360	S30-600-3
6	30°	4	1-1/4	24	.360	S30-600-4
7	30°	3	1-1/4	21	.308	S30-700-3
8	30°	3	1-1/4	24	.270	S30-800-3
8	30°	4	1-1/4	32	.270	S30-800-4
10	30°	3	1-1/4	30	.216	S30-010-3
10	30°	4	1-1/4	40	.216	S30-010-4
12	30°	3	1-1/4	36	.180	S30-012-3
12	30°	4	1-1/4	48	.180	S30-012-4
16	25°	3	1-1/4	48	.135	S30-016-3

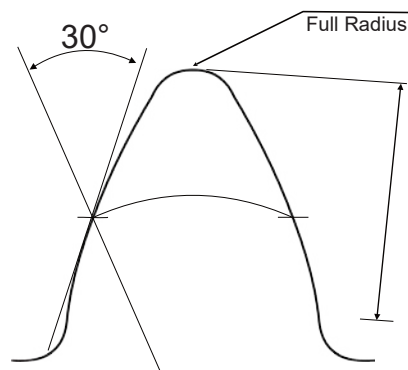
DP	PA	PD	Bore	# Teeth	WD	Type	Series
2.5/5	30°	5	1-3/4	13	.560	Disc	SFF30-250-5
2.5/5	30°	6	1-3/4	15	.560	Disc	SFF30-250-6
2.5/5	30°	2.5	4	20	.560	Disc	SFF30-250-8
3/6	30°	3	3/4	9	.467	Disc	SFF30B-03-9S
3/6	30°	3	1-1/4	9	.467	Disc	SFF30-300-3
3/6	30°	4	1-1/4	12	.467	Disc	SFF30-300-4
3/6	30°	4	1-1/4	12	.467	Deep C Bore	SDF30-300-4
3/6	30°	5	1-3/4	15	.467	Disc	SFF30-300-5
3/6	30°	6	1-3/4	18	.467	Disc	SFF30-300-6
4/8	30°	1.5	1/2	6	.350	Disc	SFF30B-04-6H
4/8	30°	2	1/2	8	.350	Disc	SFF30B-04-8H
4/8	30°	2	3/4	8	.350	Deep C Bore	SDF30B-04-8S
4/8	30°	2.3	3/4	9	.350	Disc	SFF30B-04-9S
4/8	30°	3	1-1/4	12	.350	Disc	SFF30-400-3
4/8	30°	3	1-1/4	12	.350	Deep C Bore	SDF30-400-3
4/8	30°	4	1-1/4	16	.350	Disc	SFF30-400-4
4/8	30°	4	1-1/4	16	.350	Deep C Bore	SDF30-400-4
4/8	30°	5	1-3/4	20	.350	Disc	SFF30-400-5
4/8	30°	6	1-3/4	24	.350	Disc	SFF30-400-6
5/10	30°	1.6	1/2	8	.280	Disc	SFF30B-05-8H
5/10	30°	1.8	3/4	9	.280	Disc	SFF30B-05-9S
5/10	30°	2	3/4	10	.280	Disc	SFF30B-05-10S

SFF30, SFF30B SDF30 & SDF30B Series

Full Fillet DP 30° PA
Involute Spline
Non-Chamfering
Disc & Button Type



ANSI B92.1-1970/6
For chamfering full fillet inquire on SCF30 series.



SERIES CONTINUED ON NEXT PAGE ->



<- SERIES CONTINUED FROM
PREVIOUS PAGE

DP	PA	PD	Bore	# Teeth	WD	Type	Series
5/10	30°	3	1-1/4	15	.280	Disc	SFF30-500-3
5/10	30°	3	1-1/4	15	.280	Deep C Bore	SDF30-500-3
5/10	30°	4	1-1/4	20	.280	Disc	SFF30-500-4
5/10	30°	5	1-3/4	25	.280	Disc	SFF30-500-5
5/10	30°	6	1-3/4	30	.280	Disc	SFF30-500-6
6/12	30°	1.5	1/2	9	.233	Disc	SFF30B-06-9H
6/12	30°	2	3/4	12	.233	Disc	SFF30B-06-12S
6/12	30°	3	1-1/4	18	.233	Disc	SFF30-600-3
6/12	30°	3	1-1/4	18	.233	Deep C Bore	SDF30-600-3
6/12	30°	4	1-1/4	24	.233	Disc	SFF30-600-4
6/12	30°	4	1-1/4	24	.233	Deep C Bore	SDF30-600-4
6/12	30°	5	1-3/4	30	.233	Disc	SFF30-600-5
6/12	30°	6	1-3/4	36	.233	Disc	SFF30-600-6
7/16	30°	4	1-1/4	28	.175	Disc	SFF30-700-4
8/16	30°	1.5	1/2	12	.175	Disc	SFF30B-08-12H
8/16	30°	1.8	3/4	14	.175	Disc	SFF30B-08-14S
8/16	30°	2	3/4	16	.175	Disc	SFF30B-08-16S
8/16	30°	3	1-1/4	24	.175	Disc	SFF30-800-3
8/16	30°	3	1-1/4	24	.175	Deep C Bore	SDF30-800-3
8/16	30°	4	1-1/4	32	.175	Disc	SFF30-800-4
8/16	30°	4	1-1/4	32	.175	Deep C Bore	SDF30-800-4
8/16	30°	5	1-3/4	40	.175	Disc	SFF30-800-5
8/16	30°	5	1-3/4	40	.175	Deep C Bore	SDF30-800-5
8/16	30°	6	1-3/4	48	.175	Disc	SFF30-800-6
10/20	30°	1.4	1/2	14	.140	Disc	SFF30B-10-14H
10/20	30°	1.5	3/4	15	.140	Disc	SFF30B-10-15S
10/20	30°	1.8	3/4	18	.140	Disc	SFF30B-10-18S
10/20	30°	1.8	3/4	18	.140	Deep C Bore	SDF30B-10-18S
10/20	30°	2.4	3/4	24	.140	Disc	SFF30B-10-24S
10/20	30°	3	1-1/4	30	.140	Disc	SFF30-010-3
10/20	30°	3	1-1/4	30	.140	Deep C Bore	SDF30-010-3
10/20	30°	4	1-1/4	40	.140	Disc	SFF30-010-4
10/20	30°	4	1-1/4	40	.140	Deep C Bore	SDF30-010-4
10/20	30°	5	1-3/4	50	.140	Disc	SFF30-010-5
10/20	30°	5	1-3/4	50	.140	Deep C Bore	SDF30-010-5
12/24	30°	1.25	1/2	15	.117	Disc	SFF30B-12-15H
12/24	30°	1.25	1/2	15	.117	Deep C Bore	SDF30B-12-15H
12/24	30°	1.25	1/2	15	.120	Deep C Bore	SDF30B-12-15HE
12/24	30°	1.5	1/2	18	.117	Disc	SFF30B-12-18H
12/24	30°	1.5	3/4	18	.117	Disc	SFF30B-12-18S
12/24	30°	1.5	3/4	18	.125	Disc	SFF30B-12-18SE
12/24	30°	1.8	3/4	21	.117	Disc	SFF30B-12-21S
12/24	30°	2	3/4	24	.117	Disc	SFF30B-12-24S
12/24	30°	2.5	1-1/4	30	.117	Deep C Bore	SDF30-012-2E

SFF30, SFF30B, SDF30 & SDF30B Series

Full Fillet DP 30° PA
Involute Spline, Non-Chamfering
Disc & Button Type, ANSI B92.1-1970/6

DP	PA	PD	Bore	# Teeth	WD	Type	Series
12/24	30°	3	1-1/4	36	.117	Disc	SFF30-012-3
12/24	30°	3	1-1/4	36	.117	Deep C Bore	SDF30-012-3
12/24	30°	4	1-1/4	48	.117	Disc	SFF30-012-4
12/24	30°	4	1-1/4	48	.117	Deep C Bore	SDF30-012-4
12/24	30°	5	1-3/4	60	.117	Disc	SFF30-012-5
12/24	30°	5	1-3/4	60	.117	Deep C Bore	SDF30-012-5
12/24	30°	1.5	3/4	18	.117	Deep C Bore	SDF30B-012-18S
14/28	30°	1.5	1/2	21	.107	Disc	SFF30B-14-21H
16/32	30°	1.3	1/2	20	.094	Deep C Bore	SDF30B-16-20H
16/32	30°	1.5	1/2	24	.094	Disc	SFF30B-16-24H
16/32	30°	1.8	3/4	30	.094	Disc	SFF30B-16-30S
16/32	30°	1.8	3/4	30	.094	Deep C Bore	SDF30B-16-30S
16/32	30°	2	3/4	32	.094	Disc	SFF30B-16-32S
16/32	30°	2	3/4	32	.094	Deep C Bore	SDF30B-16-32S
16/32	30°	3	1-1/4	48	.094	Disc	SFF30-016-3
16/32	30°	3	1-1/4	48	.094	Deep C Bore	SDF30-016-3
16/32	30°	4	1-1/4	64	.094	Disc	SFF30-016-4
16/32	30°	4	1-1/4	64	.094	Deep C Bore	SDF30-016-4
16/32	30°	5	1-3/4	80	.094	Disc	SFF30-016-5
16/32	30°	5	1-3/4	80	.094	Deep C Bore	SDF30-016-5
16/32	30°	6	1-3/4	96	.094	Disc	SFF30-016-6
20/30	30°	1.5	1/2	30	.087	Disc	SFF30B-23-30H
20/30	30°	1.8	3/4	36	.087	Disc	SFF30B-23-36S
20/30	30°	3	1-1/4	60	.087	Disc	SFF30-023-3
20/30	30°	3	1-1/4	60	.087	Deep C Bore	SDF30-023-3
20/30	30°	4	1-1/4	80	.087	Disc	SFF30-023-4
24/48	30°	4	1-1/4	96	.063	Disc	SFF30-024-4
20/40	30°	1.4	1/2	28	.075	Disc	SFF30B-20-28H
20/40	30°	1.5	1/2	30	.075	Deep C Bore	SDF30B-20-30H
20/40	30°	2	3/4	40	.075	Disc	SFF30B-20-40S
20/40	30°	3	1-1/4	60	.075	Disc	SFF30-020-3
20/40	30°	3	1-1/4	60	.075	Deep C Bore	SDF30-020-3
20/40	30°	4	1-1/4	80	.075	Disc	SFF30-020-4
20/40	30°	4	1-1/4	80	.075	Deep C Bore	SDF30-020-4
20/40	30°	5	1-3/4	100	.075	Disc	SFF30-020-5
20/40	30°	6	1-3/4	120	.075	Disc	SFF30-020-6
24/48	30°	1.3	1/2	32	.063	Disc	SFF30B-24-32H
24/48	30°	1.3	1/2	32	.063	Deep C Bore	SDF30B-24-32H
24/48	30°	1.5	1/2	36	.063	Disc	SFF30B-24-36H
24/48	30°	3	1-1/4	72	.063	Disc	SFF30-024-3

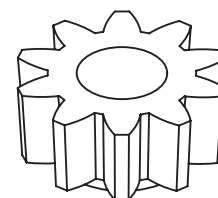
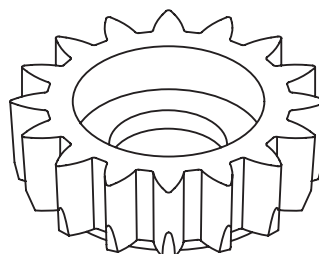
SERIES CONTINUED ON NEXT PAGE ->



SFF30, SFF30B, SDF30 & SDF30B Series

Full Fillet DP 30° PA
Involute Spline, Non-Chamfering
Disc & Button Type
ANSI B92.1-1970/6

DP	PA	PD	Bore	# Teeth	WD	Type	Series
8/16	30°	1.5	3/4	12	.175	Disc	SFF30B-08-12S
24/48	30°	4	1-1/4	96	.063	Disc	SFF30-024-4
24/48	30°	6	1-3/4	144	.063	Disc	SFF30-024-6
32/64	30°	1.25	1/2	40	.047	Disc	SFF30B-32-40H
32/64	30°	1.25	1/2	40	.047	Deep C Bore	SDF30B-32-40H
32/64	30°	1.5	1/2	48	.047	Disc	SFF30B-32-48H
32/64	30°	3	1-1/4	96	.047	Disc	SFF30-032-3
32/64	30°	3	1-1/4	96	.047	Deep C Bore	SDF30-032-3
32/64	30°	4	1-1/4	128	.047	Disc	SFF30-032-4
32/64	30°	5	1-3/4	160	.047	Disc	SFF30-032-5
40/80	30°	1.25	1/2	50	.038	Disc	SFF30B-40-50H
40/80	30°	1.5	1/2	60	.038	Disc	SFF30B-40-60H
40/80	30°	3	1-1/4	120	.038	Disc	SFF30-040-3

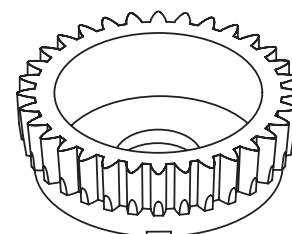
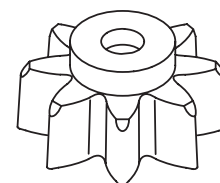


DP	PA	PD	Bore	# Teeth	WD	Type	Series
40/80	30°	4	1-1/4	160	.038	Disc	SFF30-040-4
40/80	30°	5	1-3/4	200	.038	Disc	SFF30-040-5
48/96	30°	1.5	1/2	72	.031	Disc	SFF30B-48-72H
48/96	30°	3	1-1/4	144	.031	Disc	SFF30-048-3
48/96	30°	3	1-1/4	144	.031	Deep C Bore	SDF30-048-3
48/96	30°	4	1-1/4	192	.031	Disc	SFF30-048-4

DP	PA	PD	Bore	# Teeth	Type	ASA B5.15-1950	Series	ANSI B92.1-1970	Series
						WD		WD	
2.5/5	30°	3	1-1/4	8	Disc	-	-	.470	S7N30-250-3
2.5/5	30°	4	1-1/4	10	Disc	.442	S5N30-250-4	.470	S7N30-250-4
2.5/5	30°	5	1-3/4	13	Disc	.442	S5N30-250-5	.470	S7N30-250-5
2.5/5	30°	6	1-3/4	15	Disc	.442	S5N30-250-6	.470	S7N30-250-6
2.5/5	30°	8	4	20	Disc	.442	S5N30-250-8	.470	S7N30-250-8
3/6	30°	2.7	3/4	8	Disc	.369	S5N30B-3-8S	.392	S7N30B-3-8S
3/6	30°	2.7	3/4	8	Deep C Bore	.369	SDL30B-3-8SE	-	-
3/6	30°	3	1-1/4	9	Disc	.369	S5N30-300-3	.392	S7N30-300-3
3/6	30°	4	1-1/4	12	Disc	-	-	.392	S7N30-300-4
3/6	30°	5	1-3/4	15	Disc	.369	S5N30-300-5	.392	S7N30-300-5
3/6	30°	5	1-3/4	15	Deep C Bore	-	-	.392	SDL30-03-5
3/6	30°	6	1-3/4	18	Disc	.369	S5N30-300-6	.392	S7N30-300-6
3/6	30°	8	4	24	Disc	-	-	.392	S7N30-300-8
3/6	30°	2.66	3/4	8	Deep C Bore	-	-	.369	SDL30B-3-8SE
4/8	30°	2	1/2	8	Disc	.277	S5N30B-4-8H	.294	S7N30B-4-8H
4/8	30°	2	3/4	8	Disc	.277	S5N30B-4-8S	.294	S7N30B-4-8S
4/8	30°	2.25	3/4	9	Disc	.277	S5N30B-4-9S	.294	S7N30B-4-9S
4/8	30°	3	1-1/4	12	Disc	.277	S5N30-400-3	.294	S7N30-400-3
4/8	30°	4	1-1/4	16	Disc	.277	S5N30-400-4	.294	S7N30-400-4
4/8	30°	4	1-1/4	16	Deep C Bore	-	-	.294	SDL30-04-4
4/8	30°	5	1-3/4	20	Disc	-	-	.294	S7N30-400-5
4/8	30°	5	1-3/4	20	Deep C Bore	-	-	.294	SDL30-04-5
4/8	30°	6	1-3/4	24	Disc	-	-	.294	S7N30-400-6
4/8	30°	8	4	32	Disc	-	-	.294	S7N30-400-8
5/10	30°	1.8	1/2	9	Disc	.222	S5N30B-5-9H	.235	S7N30B-5-9H
5/10	30°	1.8	3/4	9	Disc	.222	S5N30B-5-9S	.235	S7N30B-5-9S

S7N30, S5N30, S7N30B, S5N30B, SDL30, & SDL30B

Series
DP 30° Flat Root
Involute Spline
Non-Chamfering



SERIES CONTINUED ON NEXT PAGE ->

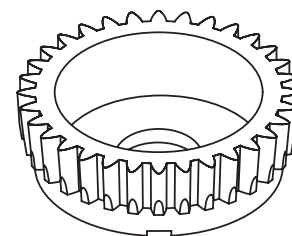
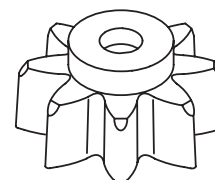


DP	PA	PD	Bore	# Teeth	Type	ASA B5.15-1950	Series	ANSI B92.1-1970	Series
						WD		WD	
5/10	30°	2	3/4	10	Disc	-	-	.235	S7N30B-5-10S
5/10	30°	2	3/4	10	Deep C Bore	-	-	.235	SDL30B-5-10S
5/10	30°	3	1-1/4	15	Disc	.222	S5N30-500-3	.235	S7N30-500-3
5/10	30°	3	1-1/4	15	Deep C Bore	-	-	.235	SDL30-05-3
5/10	30°	4	1-1/4	20	Disc	.222	S5N30-500-4	.235	S7N30-500-4
5/10	30°	4	1-1/4	20	Deep C Bore	-	-	.235	SDL30-05-4
5/10	30°	5	1-3/4	25	Disc	-	-	.235	S7N30-500-5
5/10	30°	6	1-3/4	30	Disc	.222	S5N30-500-6	.235	S7N30-500-6
6/12	30°	1.7	1/2	10	Disc	.185	S5N30B-6-10H	.196	S7N30B-6-10H
6/12	30°	2	3/4	12	Disc	.185	S5N30B-6-12S	.196	S7N30B-6-12S
6/12	30°	3	1-1/4	18	Disc	-	-	.196	S7N30-600-3
6/12	30°	3	1-1/4	18	Deep C Bore	-	-	.196	SDL30-06-3
6/12	30°	6	3/4	12	Deep C Bore	-	-	.196	SDL30B-06-12S
6/12	30°	4	1-1/4	24	Disc	.185	S5N30-600-4	.196	S7N30-600-4
6/12	30°	4	1-1/4	24	Deep C Bore	-	-	.196	SDL30-06-4
6/12	30°	5	1-3/4	30	Disc	-	-	.196	S7N30-600-5
6/12	30°	5	1-3/4	30	Deep C Bore	-	-	.196	SDL30-06-5
6/12	30°	6	1-3/4	36	Disc	-	-	.196	S7N30-600-6
7/16	30°	3	1-1/4	21	Disc	.140	S5N30-700-3	.147	S7N30-700-3
7/16	30°	4	1-1/4	28	Disc	.140	S5N30-700-4	.147	S7N30-700-4
8/16	30°	1.5	1/2	12	Disc	.140	S5N30B-8-12H	.147	S7N30B-8-12H
8/16	30°	1.75	1/2	14	Disc	-	-	.147	S7N30B-8-14H
8/16	30°	1.8	3/4	14	Disc	-	-	.147	S7N30B-8-14S
8/16	30°	2	3/4	16	Disc	.140	S5N30B-8-16S	.147	S7N30B-8-16S
8/16	30°	2.5	3/4	20	Disc	.140	S5N30B-8-20S	.147	S7N30B-8-20S
8/16	30°	3	1-1/4	24	Disc	.140	S5N30-800-3	.147	S7N30-800-3
8/16	30°	3	1-1/4	24	Deep C Bore	-	-	.147	SDL30-08-3
8/16	30°	4	1-1/4	32	Disc	.140	S5N30-800-4	.147	S7N30-800-4
8/16	30°	4	1-1/4	32	Deep C Bore	.140	SDL30-08-4E	.147	SDL30-08-4
8/16	30°	6	3/4	40	Deep C Bore	-	-	.147	SDL30-08-5
8/16	30°	5	1-3/4	40	Disc	.140	S5N30-800-5	.147	S7N30-800-5
8/16	30°	6	1-3/4	48	Disc	.140	S5N30-800-6	.147	S7N30-800-6
10/20	30°	1.4	1/2	14	Disc	-	-	.118	S7N30B-10-14H
10/20	30°	1.4	1/2	15	Disc	.112	S5N30B-10-15H	-	-
10/20	30°	1.6	3/4	16	Disc	.112	S5N30B-10-16S	.118	S7N30B-10-16S
10/20	30°	1.8	3/4	18	Disc	-	-	.118	S7N30B-10-18S
10/20	30°	1.8	3/4	18	Deep C Bore	-	-	.118	SDL30B-10-18S
10/20	30°	2.4	3/4	25	Disc	-	-	.118	S7N30B-10-24S
10/20	30°	2.4	3/4	24	Deep C Bore	-	-	.118	SDL30B-10-24S
10/20	30°	3	1-1/4	30	Disc	.112	S5N30-010-3	.118	S7N30-010-3
10/20	30°	3	1-1/4	30	Deep C Bore	-	-	.118	SDL30-10-3
10/20	30°	4	1-1/4	40	Disc	.112	S5N30-010-4	.118	S7N30-010-4
10/20	30°	4	1-1/4	40	Deep C Bore	-	-	.118	SDL30-10-4
10/20	30°	5	1-3/4	50	Disc	-	-	.118	S7N30-010-5
10/20	30°	6	1-3/4	60	Disc	-	-	.118	S7N30-010-6
12/24	30°	1.4	1/2	17	Disc	.094	S5N30B-12-17H	.098	S7N30B-12-17H
12/24	30°	1.5	3/4	18	Disc	-	-	.098	S7N30B-12-18S
12/24	30°	1.8	3/4	21	Disc	.094	S5N30B-12-21S	.098	S7N30B-12-21S
12/24	30°	1.8	3/4	21	Deep C Bore	-	-	.098	SDL30B-12-21S
12/24	30°	3	1-1/4	36	Disc	.094	S5N30-012-3	.098	S7N30-012-3

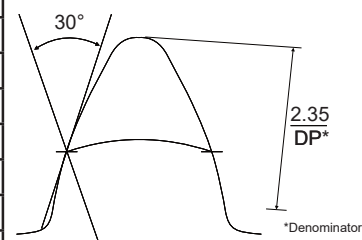
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**S7N30, S5N30,
S7N30B, S5N30B,
SDL30, & SDL30B**

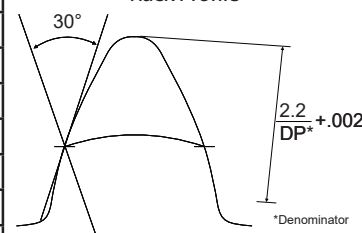
Series
DP 30° Flat Root
Involute Spline
Non-Chamfering



S7N30, S7N30B, SDL30, & SDL30B
Rack Profile



S5N30 & S5N30B
Rack Profile



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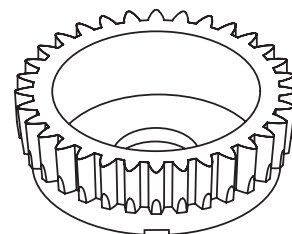
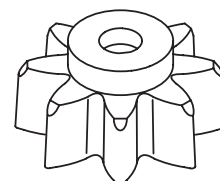


DP	PA	PD	Bore	# Teeth	Type	ASA B5.15-1950	Series	ANSI B92.1-1970	Series
						WD		WD	
12/24	30°	3	1-1/4	36	Deep C Bore	-	-	.098	SDL30-12-3
12/24	30°	4	1-1/4	48	Disc	-	-	.098	S7N30-012-4
12/24	30°	4	1-1/4	48	Deep C Bore	-	-	.098	SDL30-12-4
12/24	30°	5	1-3/4	60	Disc	-	-	.098	S7N30-012-5
12/24	30°	6	1-3/4	72	Disc	-	-	.098	S7N30-012-6
16/32	30°	1.5	1/2	24	Disc	.071	S5N30B-16-24H	.073	S7N30B-16-24H
16/32	30°	2	3/4	32	Disc	.071	S5N30B-16-32S	.073	S7N30B-16-32S
16/32	30°	2	3/4	32	Deep C Bore	-	-	.073	SDL30B-16-32S
16/32	30°	3	1-1/4	48	Disc	.071	S5N30-016-3	.073	S7N30-016-3
16/32	30°	3	1-1/4	48	Deep C Bore	-	-	.073	SDL30-16-3
16/32	30°	4	1-1/4	64	Disc	.071	S5N30-016-4	.073	S7N30-016-4
16/32	30°	4	1-1/4	64	Deep C Bore	-	-	.073	SDL30-16-4
16/32	30°	5	1-3/4	80	Disc	-	-	.073	S7N30-016-5
16/32	30°	5	1-3/4	80	Deep C Bore	-	-	.073	SDL30-16-5
16/32	30°	6	1-3/4	96	Disc	.071	S5N30-016-6	.073	S7N30-016-6
20/30	30°	3	1-1/4	60	Disc	.061	S5N30-023-3	.064	S7N30-023-3
20/30	30°	4	1-1/4	80	Disc	.061	S5N30-023-4	.064	S7N30-023-4
20/40	30°	1.4	1/2	28	Disc	.057	S5N30B-20-28H	.059	S7N30B-20-28H
20/40	30°	1.4	1/2	28	Deep C Bore	.057	SDL30-20-28HE	-	-
20/40	30°	1.5	1/2	30	Disc	.057	S5N30B-20-30H	.059	S7N30B-20-30H
20/40	30°	1.5	3/4	30	Deep C Bore	-	-	.059	SDL30B-20-30S
20/40	30°	3	1-1/4	60	Disc	.057	S5N30-020-3	.059	S7N30-020-3
20/40	30°	3	1-1/4	60	Deep C Bore	-	-	.059	SDL30-20-3
20/40	30°	4	1-1/4	80	Disc	.057	S5N30-020-4	.059	S7N30-020-4
20/40	30°	5	1-3/4	100	Disc	.057	S5N30-020-5	.059	S7N30-020-5
20/40	30°	6	1-3/4	120	Disc	.057	S5N30-020-6	.059	S7N30-020-6
24/48	30°	1.5	1/2	36	Disc	.048	S5N30B-24-36H	.049	S7N30B-24-36H
24/48	30°	3	1-1/4	72	Disc	.048	S5N30-024-3	.049	S7N30-024-3
24/48	30°	3	1-1/4	72	Deep C Bore	-	-	.049	SDL30-24-3
24/48	30°	4	1-1/4	96	Disc	.048	S5N30-024-4	.049	S7N30-024-4
24/48	30°	4	1-1/4	96	Deep C Bore	-	-	.049	SDL30-24-4
24/48	30°	1.5	3/4	36	Deep C Bore	-	-	.049	SDL30B-24-36S
32/64	30°	1.3	1/2	40	Disc	.036	S5N30B-32-40H	.037	S7N30B-32-40H
32/64	30°	1.25	1/2	48	Disc	.036	S5N30B-32-48H	.037	S7N30B-32-48H
32/64	30°	3	1-1/4	96	Disc	.036	S5N30-032-3	.037	S7N30-032-3
32/64	30°	3	1-1/4	96	Deep C Bore	-	-	.037	SDL30-32-3
32/64	30°	4	1-1/4	128	Disc	.036	S5N30-032-4	.037	S7N30-032-4
40/80	30°	1.5	1/2	60	Disc	.030	S5N30B-40-60H	.030	S7N30B-40-60H
48/96	30°	1.5	1/2	72	Disc	.025	S5N30B-48-72H	-	-
40/80	30°	3	1-1/4	120	Disc	.030	S5N30-040-3	.030	S7N30-040-3
40/80	30°	3	1-1/4	120	Deep C Bore	-	-	.030	SDL30-40-3
48/96	30°	3	1-1/4	144	Disc	.025	S5N30-048-3	.025	S7N30-048-3
48/96	30°	3	1-1/4	144	Deep C Bore	-	-	.025	SDL30-48-3
48/96	30°	4	1-1/4	192	Disc	.025	S5N30-048-4	.025	S7N30-048-4

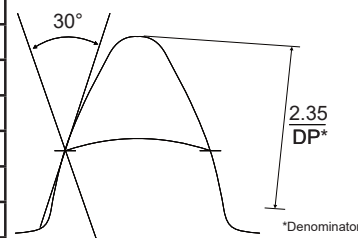
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S7N30, S5N30, S7N30B, S5N30B, SDL30, & SDL30B

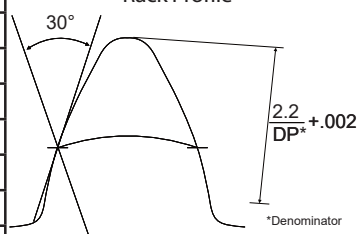
Series
DP 30° Flat Root
Involute Spline
Non-Chamfering



S7N30, S7N30B, SDL30, & SDL30B
Rack Profile



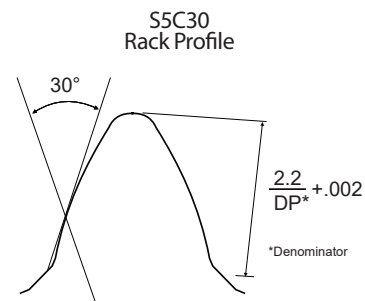
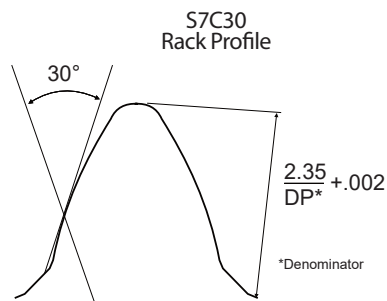
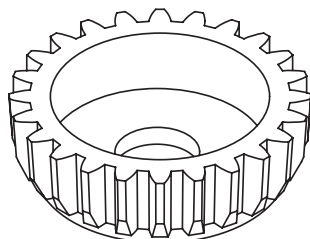
S5N30 & S5N30B
Rack Profile





S7C30 & S5C30 Series

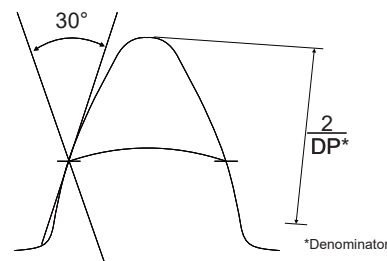
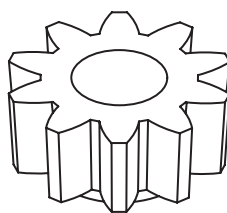
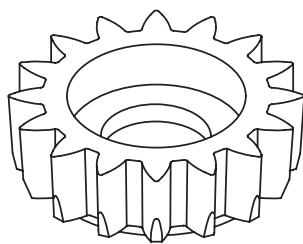
DP 30° Flat Root
Involute Spline
Chamfering



DP	PA	PD	Bore	# Teeth	ASA B5.15-1950		ANSI B92.1-1970	
					WD	Series	WD	Series
2.5/5	30°	4	1-1/4	10	.442	S5C30-250-4	.470	-
2.5/5	30°	5	1-3/4	13	.442	S5C30-250-5	.470	-
3/6	30°	4	1-1/4	12	.369	S5C30-300-4	.392	-
3/6	30°	5	1-3/4	15	.369	S5C30-300-5	.392	-
3/6	30°	6	1-3/4	18	.369	S5C30-300-6	.392	-
4/8	30°	3	1-1/4	12	.277	-	.294	S7C30-400-3
4/8	30°	4	1-1/4	16	.277	S5C30-400-4	.294	S7C30-400-4
5/10	30°	3	1-1/4	15	.222	S5C30-500-3	.235	-
5/10	30°	4	1-1/4	20	.222	S5C30-500-4	.235	-
5/10	30°	5	1-3/4	25	.222	S5C30-500-5	.235	-
6/12	30°	3	1-1/4	18	.185	S5C30-600-3	.196	-
6/12	30°	4	1-1/4	24	.185	S5C30-600-4	.196	S7C30-600-4
6/12	30°	5	1-3/4	30	.185	S5C30-600-5	.196	-
7/16	30°	4	1-1/4	28	.140	S5C30-700-4	.147	-
8/16	30°	3	1-1/4	24	.140	-	.147	S7C30-800-3
8/16	30°	4	1-1/4	32	.140	-	.147	S7C30-800-4
8/16	30°	5	1-3/4	40	.140	-	.147	S7C30-800-5
10/20	30°	4	1-1/4	40	.112	S5C30-010-4	.118	S7C30-010-4
10/20	30°	5	1-3/4	50	.112	S5C30-010-5	.118	-
12/24	30°	3	1-1/4	36	.094	S5C30-012-3	.098	S7C30-012-3
12/24	30°	4	1-1/4	48	.094	S5C30-012-4	.098	S7C30-012-4
16/32	30°	3	1-1/4	48	.071	S5C30-016-3	.073	S7C30-016-3
16/32	30°	4	1-1/4	64	.071	S5C30-016-4	.073	S7C30-016-4
16/32	30°	5	1-3/4	80	.071	S5C30-016-5	.073	S7C30-016-5
20/40	30°	3	1-1/4	60	.057	S5C30-020-3	.059	-
20/40	30°	4	1-1/4	80	.057	S5C30-020-4	.059	S7C30-020-4
20/40	30°	5	1-3/4	100	.057	S5C30-020-5	.059	-
20/40	30°	6	1-3/4	120	.057	S5C30-020-6	.059	-
24/48	30°	4	1-1/4	96	.048	-	.049	S7C30-024-4
24/48	30°	7	1-3/4	160	.048	S5C30-024-7	.049	-
32/64	30°	4	1-1/4	128	.036	S5C30-032-4	.037	S7C30-032-4
40/80	30°	3	1-1/4	120	.030	S5C30-040-3	-	-
48/96	30°	3	1-1/4	144	.025	S5C30-048-3	-	-



SJI30 Series
DP 30° Flat Root
Major Diameter
Involute Spline
Non-Chamfering

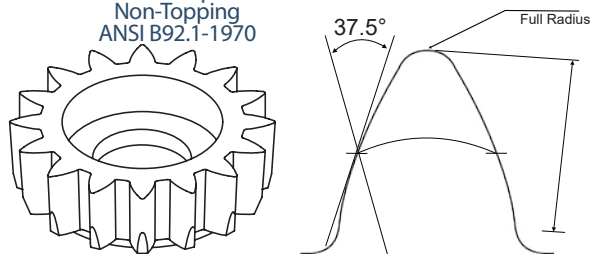


DP	PA	PD	Bore	# Teeth	WD	Series
3/6	30°	2.6	3/4	8	.333	SJI30-300-S
3/6	30°	3	1-1/4	9	.333	SJI30-300-3
3/6	30°	4	1-1/4	12	.333	SJI30-300-4
3/6	30°	5	1-3/4	15	.333	SJI30-300-5
4/8	30°	2.3	3/4	9	.250	SJI30-400-S
4/8	30°	3	1-1/4	12	.250	SJI30-400-3
4/8	30°	4	1-1/4	16	.250	SJI30-400-4
4/8	30°	6	1-3/4	24	.250	SJI30-400-6
5/10	30°	1.8	3/4	9	.200	SJI30-500-S
5/10	30°	3	1-1/4	15	.200	SJI30-500-3
5/10	30°	4	1-1/4	20	.200	SJI30-500-4
6/12	30°	1.5	1/2	9	.167	SJI30-600-H
6/12	30°	2	3/4	12	.167	SJI30-600-S
6/12	30°	3	1-1/4	18	.167	SJI30-600-3
6/12	30°	4	1-1/4	24	.167	SJI30-600-4
6/12	30°	6	1-3/4	36	.167	SJI30-600-6
8/16	30°	1.5	1/2	12	.125	SJI30-800-H
8/16	30°	2	3/4	16	.125	SJI30-800-S
8/16	30°	3	1-1/4	24	.125	SJI30-800-3
8/16	30°	4	1-1/4	32	.125	SJI30-800-4
8/16	30°	5	1-3/4	40	.125	SJI30-800-5
10/20	30°	1.5	1/2	15	.100	SJI30-010-H
10/20	30°	1.8	3/4	18	.100	SJI30-010-S
10/20	30°	3	1-1/4	30	.100	SJI30-010-3
10/20	30°	4	1-1/4	40	.100	SJI30-010-4
12/24	30°	1.3	1/2	15	.083	SJI30-012-H
12/24	30°	1.5	1/2	18	.083	SJI30-012-HE
12/24	30°	1.8	3/4	21	.083	SJI30-012-S
12/24	30°	3	1-1/4	36	.083	SJI30-012-3
12/24	30°	4	1-1/4	48	.083	SJI30-012-4
14/28	30°	3	1-1/4	42	.071	SJI30-014-3
16/32	30°	1.5	1/2	24	.063	SJI30-016-H
16/32	30°	1.8	3/4	32	.063	SJI30-016-S
16/32	30°	3	1-1/4	48	.063	SJI30-016-3
20/40	30°	1.5	1/2	30	.050	SJI30-020-H
20/40	30°	3	1-1/4	60	.050	SJI30-020-3



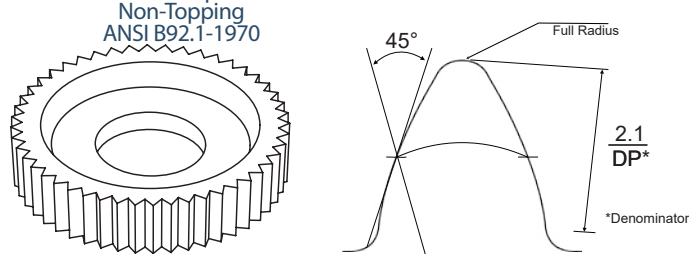
SI37 Series

DP 37° PA Full Fillet
Involute Spline
Non-Topping
ANSI B92.1-1970



SI45 Series

DP 45° PA Full Fillet
Involute Spline
Non-Topping
ANSI B92.1-1970



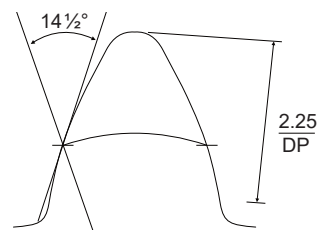
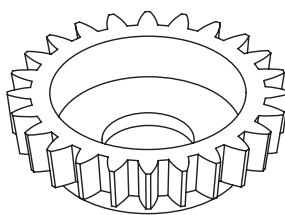
DP	PA	PD	Bore	# Teeth	WD	Series
4/8	37.5°	3	1-1/4	12	.316	SI37-400-3
5/10	37.5°	3	1-1/4	15	.253	SI37-500-3
6/12	37.5°	3	1-1/4	18	.211	SI37-600-3
8/16	37.5°	1.5	1/2	12	.158	SI37-800-H
8/16	37.5°	3	1-1/4	24	.158	SI37-800-3
10/20	37.5°	1.5	1/2	15	.125	SI37-010-H
10/20	37.5°	3	1-1/4	30	.120	SI37-010-3
10/20	37.5°	4	1-1/4	40	.120	SI37-010-4
12/24	37.5°	1.5	1/2	18	.104	SI37-012-H
12/24	37.5°	3	1-1/4	36	.104	SI37-012-3
16/32	37.5°	1.5	1/2	24	.079	SI37-016-H
16/32	37.5°	3	1-1/4	48	.079	SI37-016-3
16/32	37.5°	4	1-1/4	64	.079	SI37-016-4
20/40	37.5°	1.5	1/2	30	.068	SI37-020-H
20/40	37.5°	3	1-1/4	60	.068	SI37-020-3
20/40	37.5°	4	1-1/4	80	.068	SI37-020-4
24/48	37.5°	1.5	1/2	36	.051	SI37-024-H
24/48	37.5°	3	1-1/4	72	.051	SI37-024-3
24/48	37.5°	4	1-1/4	96	.051	SI37-024-4
32/64	37.5°	1.5	1/2	48	.039	SI37-032-H
32/64	37.5°	3	1-1/4	96	.039	SI37-032-3
32/64	37.5°	4	1-1/4	128	.039	SI37-032-4
40/80	37.5°	1.5	1/2	60	.032	SI37-040-H
40/80	37.5°	2.5	1-1/4	100	.032	SI37-040-2
48/96	37.5°	1.5	1/2	72	.023	SI37-048-H
48/96	37.5°	2.5	1-1/4	120	.023	SI37-048-2

DP	PA	PD	Bore	# Teeth	WD	Series
10/20	45°	1.5	1/2	15	.105	SI45-010-H
10/20	45°	3	1-1/4	30	.105	SI45-010-3
10/20	45°	4	1-1/4	40	.105	SI45-010-4
10/20	45°	5	1-3/4	50	.105	SI45-010-5
12/24	45°	2	3/4	24	.090	SI45-012-S
12/24	45°	3	1-1/4	36	.090	SI45-012-3
12/24	45°	4	1-1/4	48	.090	SI45-012-4
16/32	45°	1.5	1/2	24	.066	SI45-016-H
16/32	45°	3	1-1/4	48	.066	SI45-016-3
16/32	45°	4	1-1/4	64	.066	SI45-016-4
16/32	45°	5	1-3/4	80	.066	SI45-016-5
20/40	45°	1.5	1/2	30	.053	SI45-020-H
20/40	45°	3	1-1/4	60	.053	SI45-020-3
20/40	45°	4	1-1/4	80	.053	SI45-020-4
24/48	45°	1.5	1/2	36	.044	SI45-024-H
24/48	45°	3	1-1/4	72	.044	SI45-024-3
24/48	45°	4	1-1/4	96	.044	SI45-024-4
24/48	45°	5	1-3/4	120	.044	SI45-024-5
32/64	45°	1.5	1/2	48	.033	SI45-032-H
32/64	45°	3	1-1/4	96	.033	SI45-032-3
32/64	45°	4	1-1/4	128	.033	SI45-032-4
32/64	45°	6	1-3/4	192	.033	SI45-032-6
40/80	45°	1.5	1/2	60	.027	SI45-040-H
40/80	45°	3	1-1/4	120	.027	SI45-040-3
40/80	45°	4	1-1/4	160	.027	SI45-040-4
48/96	45°	1.5	1/2	72	.023	SI45-048-H
48/96	45°	3	1-1/4	144	.023	SI45-048-3
48/96	45°	4	1-1/4	192	.023	SI45-048-4
64/128	45°	1.5	1/2	96	.017	SI45-064-H
64/128	45°	3.0	1-1/4	192	.017	SI45-064-3
64/128	45°	4	1-1/4	256	.017	SI45-064-4
80/160	45°	1.5	1/2	120	.014	SI45-080-H
80/160	45°	2-1/2	1-1/4	200	.014	SI45-080-2
80/160	45°	3	1-1/4	240	.014	SI45-080-3
96/192	45°	1.5	1/2	144	.011	SI45-096-H



SM14 Series

Module 14.5° PA
Finishing
Non-Topping
Disc Type



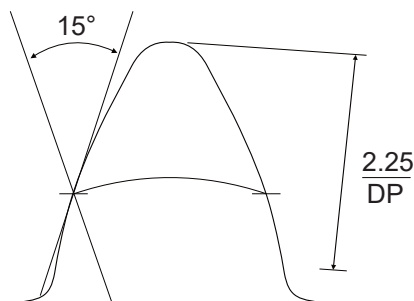
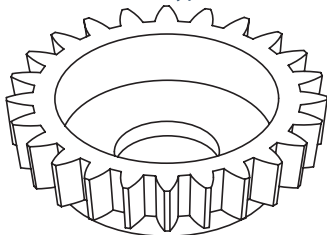
20DP and finer WD = 2.2DP + .002

Module	PA	PD	Bore	# Teeth	WD	Series
.75	14.5°	1.5	1/2	48	.066	SM14-075-H
1	14.5°	3	1-1/4	76	.089	SM14-100-3
1.25	14.5°	3	1-1/4	60	.111	SM14-125-3
1.25	14.5°	4	1-1/4	80	.111	SM14-125-4
1.5	14.5°	1.5	1/2	25	.133	SM14-150-H
1.5	14.5°	3	1-1/4	51	.133	SM14-150-3
1.5	14.5°	4	1-1/4	68	.133	SM14-150-4
1.75	14.5°	3	1-1/4	44	.155	SM14-175-3
1.75	14.5°	4	1-1/4	58	.155	SM14-175-4
2	14.5°	1.5	1/2	19	.177	SM14-200-H
2	14.5°	3	1-1/4	38	.177	SM14-200-3
2	14.5°	4	1-1/4	50	.177	SM14-200-4
2.25	14.5°	3	1-1/4	34	.199	SM14-225-3
2.5	14.5°	1.5	1/2	15	.222	SM14-250-H
2.5	14.5°	3	1-1/4	30	.222	SM14-250-3
2.5	14.5°	4	1-1/4	40	.222	SM14-250-4
2.75	14.5°	3	1-1/4	28	.244	SM14-275-3
2.75	14.5°	4	1-1/4	36	.244	SM14-275-4
3	14.5°	1.5	1/2	13	.266	SM14-300-H
3	14.5°	3	1-1/4	25	.266	SM14-300-3
3	14.5°	4	1-1/4	34	.266	SM14-300-4

Module	PA	PD	Bore	# Teeth	WD	Series
3.5	14.5°	3	1-1/4	22	.310	SM14-350-3
3.5	14.5°	4	1-1/4	29	.310	SM14-350-4
4	14.5°	2	3/4	11	.354	SM14-400-5
4	14.5°	3	1-1/4	19	.354	SM14-400-3
4	14.5°	4	1-1/4	26	.354	SM14-400-4
4	14.5°	5	1-3/4	32	.354	SM14-400-5
4.25	14.5°	4	1-1/4	24	.377	SM14-425-4
4.5	14.5°	4	1-1/4	22	.399	SM14-450-4
4.75	14.5°	4	1-1/4	21	.421	SM14-475-4
5	14.5°	2	3/4	10	.443	SM14-500-5
5	14.5°	3	1-1/4	15	.443	SM14-500-3
5	14.5°	4	1-1/4	20	.443	SM14-500-4
5	14.5°	5	1-3/4	25	.443	SM14-500-5
5.5	14.5°	4	1-1/4	18	.487	SM14-550-4
6	14.5°	2.4	3/4	10	.532	SM14-600-5
6	14.5°	4	1-1/4	17	.532	SM14-600-4
8	14.5°	2.5	3/4	8	.709	SM14-800-5
8	14.5°	4	1-1/4	13	.709	SM14-800-4
9	14.5°	4	1-1/4	11	.797	SM14-900-4
10	14.5°	4	1-1/4	10	.886	SM14-1000-4

SM15 Series

Module 15° PA
Finishing
Non-Topping
Disc Type



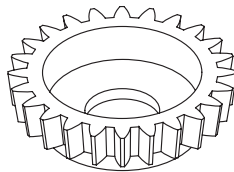
20DP and finer WD = 2.2DP + .002

Module	PA	PD	Bore	# Teeth	WD	Series
1	15°	3	1-1/4	76	.089	SM15-100-3
1	15°	4	1-1/4	102	.089	SM15-100-4
1.25	15°	3	1-1/4	61	.111	SM15-125-3
1.25	15°	4	1-1/4	80	.111	SM15-125-4
1.5	15°	3	1-1/4	51	.133	SM15-150-3
1.5	15°	4	1-1/4	68	.133	SM15-150-4
1.75	15°	4	1-1/4	58	.155	SM15-175-4
2	15°	3	1-1/4	38	.177	SM15-200-3
2.5	15°	3	1-1/4	30	.222	SM15-250-3
3	15°	3	1-1/4	26	.266	SM15-300-3
3	15°	4	1-1/4	34	.266	SM15-300-4
3.5	15°	3	1-1/4	22	.310	SM15-350-3
3.5	15°	4	1-1/4	29	.310	SM15-350-4
4	15°	4	1-1/4	25	.354	SM15-400-4
6	15°	4	1-1/4	17	.532	SM15-600-4



SM20 & SM84 Series

Module 20° PA
Finishing
Non-Topping
Disc Type



Module	PA	PD	Bore	# Teeth	WD	Series
.25	20°	1.5	1/2	152	.024	SM20-025-H
.3	20°	1.5	1/2	128	.028	SM20-030-H
.35	20°	1.5	1/2	108	.032	SM20-035-H
.4	20°	1.5	1/2	96	.037	SM20-040-H
.4	20°	2.5	1-1/4	160	.037	SM20-040-2
.4	20°	3	1-1/4	180	.037	SM20-040-3
.45	20°	1.5	1/2	84	.041	SM20-045-H
.5	20°	1.5	1/2	80	.045	SM20-050-H
.5	20°	3	1-1/4	150	.045	SM20-050-3
.5	20°	4	1-1/4	200	.045	SM20-050-4
.5	20°	5	1-3/4	254	.045	SM20-050-5
.55	20°	1.5	1/2	70	.050	SM20-055-H
.6	20°	1.5	1/2	62	.054	SM20-060-H
.6	20°	3	1-1/4	128	.054	SM20-060-3
.65	20°	1.5	1/2	60	.058	SM20-065-H
.7	20°	1.3	1/2	45	.063	SM20-070-HA
.7	20°	1.5	1/2	54	.063	SM20-070-H
.7	20°	3	1-1/4	108	.063	SM20-070-3
.75	20°	1.5	1/2	50	.067	SM20-075-H
.75	20°	3	1-1/4	100	.067	SM20-075-3
.75	20°	4	1-1/4	128	.067	SM20-075-4
.8	20°	1.5	1/2	46	.071	SM20-080-H
.8	20°	2	3/4	64	.071	SM20-080-S
.8	20°	3	1-1/4	96	.071	SM20-080-3
.85	20°	1.5	1/2	45	.076	SM20-085-H
.9	20°	1.5	1/2	42	.080	SM20-090-H
.9	20°	3	1-1/4	84	.080	SM20-090-3
1	20°	1.5	1/2	38	.089	SM20-100-H
1	20°	3	1-1/4	76	.089	SM20-100-3
1	20°	4	1-1/4	100	.089	SM20-100-4
1	20°	4	1-3/4	100	.089	SM20-100-4L
1	20°	5	1-3/4	128	.089	SM20-100-5
1.125	20°	3	1-1/4	76	.100	SM20-112-3
1.125	20°	4	1-1/4	90	.100	SM20-112-4L
1.25	20°	1.5	1/2	30	.111	SM20-125-H
1.25	20°	3	1-1/4	60	.111	SM20-125-3
1.25	20°	4	1-1/4	80	.111	SM20-125-4
1.25	20°	4	1-3/4	80	.111	SM20-125-4L
1.375	20°	3	1-1/4	54	.122	SM20-137-3
1.375	20°	4	1-3/4	74	.122	SM20-137-4L
1.5	20°	1.5	1/2	26	.133	SM20-150-H
1.5	20°	3	1-1/4	51	.133	SM20-150-3
1.5	20°	4	1-1/4	68	.133	SM20-150-4
1.5	20°	4	1-3/4	68	.133	SM20-150-4L
1.5	20°	5	1-3/4	84	.133	SM20-150-5
1.75	20°	1.5	1/2	22	.155	SM20-175-H
1.75	20°	3	1-1/4	44	.155	SM20-175-3
1.75	20°	4	1-1/4	58	.155	SM20-175-4
1.75	20°	4	1-3/4	58	.155	SM20-175-4L
2	20°	1.5	1/2	19	.177	SM20-200-H
2	20°	3	1-1/4	38	.177	SM20-200-3
2	20°	4	1-1/4	50	.177	SM20-200-4

Module	PA	PD	Bore	# Teeth	WD	Series
2	20°	4	1-3/4	50	.177	SM20-200-4L
2	20°	5	1-3/4	64	.177	SM20-200-5
2.25	20°	1.5	1/2	17	.199	SM20-225-H
2.25	20°	3	1-1/4	34	.199	SM20-225-3
2.25	20°	4	1-1/4	45	.199	SM20-225-4
2.25	20°	4	1-3/4	45	.199	SM20-225-4L
2.5	20°	1.5	1/2	15	.221	SM20-250-H
2.5	20°	3	1-1/4	30	.221	SM20-250-3
2.5	20°	4	1-1/4	40	.221	SM20-250-4
2.5	20°	5	1-3/4	50	.221	SM20-250-5
2.75	20°	1.5	1/2	14	.244	SM20-275-H
2.75	20°	3	1-1/4	28	.244	SM20-275-3
2.75	20°	4	1-1/4	36	.244	SM20-275-4
2.75	20°	4	1-3/4	36	.244	SM20-275-4L
2.75	20°	5	1-3/4	46	.244	SM20-275-5
3	20°	1.5	1/2	13	.266	SM20-300-HE
3	20°	1.5	1/2	14	.266	SM20-300-H
3	20°	3	1-1/4	25	.266	SM20-300-3
3	20°	4	1-1/4	34	.266	SM20-300-4
3	20°	4	1-3/4	34	.266	SM20-300-4L
3	20°	5	1-3/4	42	.266	SM20-300-5
3.25	20°	1.5	1/2	12	.288	SM20-325-H
3.25	20°	3	1-1/4	24	.288	SM20-325-3
3.25	20°	4	1-1/4	32	.288	SM20-325-4
3.25	20°	4	1-3/4	32	.288	SM20-325-4L
3.5	20°	1.75	1/2	13	.310	SM20-350-H
3.5	20°	2	1/2	14	.310	SM20-350-HE
3.5	20°	3	1-1/4	22	.310	SM20-350-3
3.5	20°	4	1-1/4	29	.310	SM20-350-4
3.5	20°	4	1-3/4	29	.310	SM20-350-4L
3.5	20°	5	1-3/4	36	.310	SM20-350-5
3.75	20°	2	3/4	14	.332	SM20-375-S
3.75	20°	3	1-1/4	20	.332	SM20-375-3
3.75	20°	4	1-1/4	27	.332	SM20-375-4
3.75	20°	4	1-3/4	27	.332	SM20-375-4L
4	20°	1.6	1/2	10	.354	SM20-400-H
4	20°	2.2	3/4	14	.354	SM20-400-S
4	20°	3	1-1/4	19	.354	SM20-400-3
4	20°	4	1-1/4	25	.354	SM20-400-4
4	20°	5	1-3/4	32	.354	SM20-400-5
4	20°	6	1-3/4	38	.354	SM20-400-6
4	20°	8	4	51	.354	SM84-400
4.25	20°	3	1-1/4	18	.377	SM20-425-3
4.25	20°	4	1-1/4	24	.377	SM20-425-4
4.25	20°	4	1-3/4	24	.377	SM20-425-4L
4.5	20°	2	3/4	11	.399	SM20-450-S
4.5	20°	3	1-1/4	18	.399	SM20-450-3
4.5	20°	4	1-1/4	22	.399	SM20-450-4
4.5	20°	4	1-3/4	22	.399	SM20-450-4L
4.5	20°	5	1-3/4	28	.399	SM20-450-5
4.75	20°	3	1-1/4	16	.421	SM20-475-3
4.75	20°	4	1-1/4	21	.421	SM20-475-4
5	20°	2	3/4	10	.443	SM20-500-S
5	20°	3	1-1/4	15	.443	SM20-500-3
5	20°	4	1-1/4	20	.443	SM20-500-4
5	20°	5	1-3/4	25	.443	SM20-500-5
5	20°	6	1-3/4	30	.443	SM20-500-6
5	20°	8	4	40	.443	SM84-500

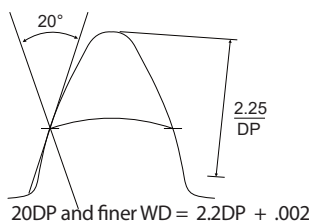
SERIES CONTINUED ON NEXT PAGE ->



<- SERIES CONTINUED FROM
PREVIOUS PAGE

SM20 & SM84 Series

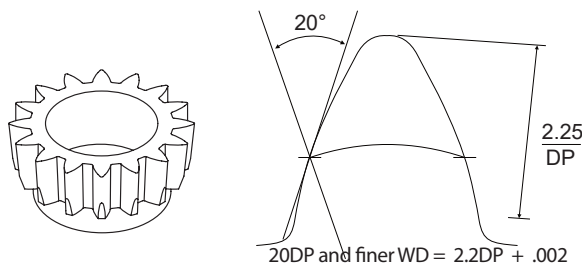
Module 20° PA
Finishing
Non-Topping
Disc Type



Module	PA	PD	Bore	# Teeth	WD	Series
5.25	20°	4	1-1/4	20	.465	SM20-525-4
5.25	20°	4	1-3/4	19	.465	SM20-525-4L
5.5	20°	2.2	3/4	10	.487	SM20-550-S
5.5	20°	3	1-1/4	14	.487	SM20-550-3
5.5	20°	4	1-1/4	18	.487	SM20-550-4
5.5	20°	4	1-3/4	18	.487	SM20-550-4L
5.5	20°	5	1-3/4	23	.487	SM20-550-5
5.75	20°	3	1-1/4	13	.509	SM20-575-3
5.75	20°	4	1-1/4	17	.509	SM20-575-4
6	20°	2.4	3/4	10	.532	SM20-600-S
6	20°	4	1-1/4	17	.532	SM20-600-4
6	20°	5	1-3/4	22	.532	SM20-600-5
6	20°	6	1-3/4	25	.532	SM20-600-6
6	20°	8	4	34	.532	SM84-600
6.5	20°	2.3	3/4	8	.576	SM20-650-S
6.5	20°	4	1-1/4	16	.576	SM20-650-4
6.5	20°	4	1-3/4	16	.576	SM20-650-4L
6.5	20°	5	1-3/4	20	.576	SM20-650-5
6.5	20°	6	1-3/4	24	.576	SM20-650-6
7	20°	2.75	3/4	10	.620	SM20-700-S
7	20°	4	1-1/4	15	.620	SM20-700-4
7	20°	5	1-3/4	18	.620	SM20-700-5
7	20°	6	1-3/4	22	.620	SM20-700-6
7	20°	8	4	29	.620	SM84-700
7.5	20°	4	1-1/4	14	.664	SM20-750-4
8	20°	2.6	3/4	8	.709	SM20-800-S
8	20°	4	1-1/4	13	.709	SM20-800-4
8	20°	4	1-3/4	13	.709	SM20-800-4L
8	20°	5	1-3/4	16	.709	SM20-800-5
8	20°	6	1-3/4	19	.709	SM20-800-6
8	20°	8	4	25	.709	SM84-800
9	20°	2.6	3/4	7	.797	SM20-900-S
9	20°	4	1-1/4	12	.797	SM20-900-4
9	20°	5	1-3/4	14	.797	SM20-900-5
9	20°	8	4	23	.797	SM84-900
10	20°	4	1-1/4	10	.886	SM20-1000-4
10	20°	5	1-3/4	13	.886	SM20-1000-5
10	20°	6	1-3/4	15	.886	SM20-1000-6
10	20°	7.9	4	20	.886	SM84-010
11	20°	4	1-1/4	9	.974	SM20-1100-4
11	20°	5	1-3/4	12	.974	SM20-1100-5
12	20°	5	1-3/4	11	1.063	SM20-1200-5
12	20°	6	1-3/4	13	1.063	SM20-1200-6
12	20°	8	4	17	1.063	SM84-012
13	20°	6	1-3/4	12	1.152	SM20-1300-6
14	20°	6.6	1-3/4	12	1.240	SM20-1400-6
14	20°	8.2	4	15	1.240	SM84-014
16	20°	7	1-3/4	12	1.417	SM20-1600-7
16	20°	8.2	4	13	1.417	SM84-016
18	20°	8.5	4	12	1.595	SM84-018
20	20°	8.7	4	11	1.771	SM84-020
22	20°	8.7	4	10	1.949	SM84-022

SMD20 Series

Module 20° PA
Finishing
Non-Topping
Deep Counter Bore Type



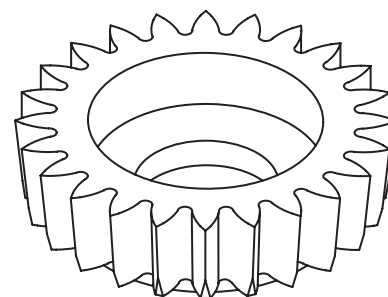
Module	PA	PD	Bore	# Teeth	WD	Series
.75	20°	3	1-1/4	100	.067	SMD20-075-3
1	20°	1.5	1/2	38	.089	SMD20-100-H
1	20°	3	1-1/4	76	.089	SMD20-100-3
1.25	20°	3	1-1/4	60	.111	SMD20-125-3
1.5	20°	1.5	1/2	26	.133	SMD20-150-H
1.5	20°	4	1-3/4	68	.133	SMD20-150-4L
1.75	20°	3	1-1/4	44	.155	SMD20-175-3
2	20°	1.5	1/2	19	.177	SMD20-200-H
2	20°	1.9	3/4	24	.177	SMD20-200-S
2	20°	3	1-1/4	38	.177	SMD20-200-3
2	20°	4	1-1/4	50	.177	SMD20-200-4
2.25	20°	3	1-1/4	34	.199	SMD20-225-3
2.5	20°	1.5	1/2	15	.221	SMD20-250-H
2.5	20°	3	1-1/4	30	.221	SMD20-250-3
2.75	20°	1.5	1/2	14	.244	SMD20-275-H
3	20°	1.5	1/2	14	.266	SMD20-300-H
3	20°	4	1-1/4	34	.266	SMD20-300-4
3.25	20°	3	1-1/4	24	.288	SMD20-325-3
3.5	20°	2	3/4	13	.310	SMD20-350-S
3.5	20°	3	1-1/4	22	.310	SMD20-350-3
3.5	20°	4	1-1/4	29	.310	SMD20-350-4
3.75	20°	3	1-1/4	20	.332	SMD20-375-3
4	20°	2	3/4	12	.354	SMD20-400-S
4	20°	3	1-1/4	19	.354	SMD20-400-3
4	20°	4	1-1/4	25	.354	SMD20-400-4
4	20°	6.3	1-3/4	40	.354	SMD20-400-6E
4.5	20°	4	1-1/4	22	.399	SMD20-450-4
4.75	20°	4	1-1/4	21	.421	SMD20-475-4
5	20°	2	3/4	10	.443	SMD20-500-S
5	20°	4	1-1/4	20	.443	SMD20-500-4
5.5	20°	4	1-1/4	18	.487	SMD20-550-4
6	20°	4	1-1/4	17	.532	SMD20-600-4
6.5	20°	4	1-1/4	16	.576	SMD20-650-4
7	20°	4	1-1/4	15	.620	SMD20-700-4
8	20°	5	1-3/4	16	.709	SMD20-800-5
9	20°	4	1-1/4	12	.797	SMD20-900-4
10	20°	5	1-3/4	13	.886	SMD20-1000-5



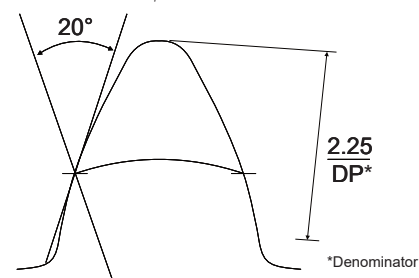
Module	PA	PD	Bore	# Teeth	WD	Series
1/1.75	20°	3	1-1/4	76	.067	SMF20-100-3
1.25/1	20°	3	1-1/4	60	.089	SMF20-125-3
1.5/1.25	20°	3	1-1/4	51	.107	SMF20-150-3
1.5/1.25	20°	4	1-1/4	68	.107	SMF20-150-4
1.75/1.5	20°	3	1-1/4	43	.133	SMF20-175-3
1.75/1.5	20°	4	1-1/4	58	.133	SMF20-175-4
2/1.75	20°	3	1-1/4	38	.155	SMF20-200-3
2/1.75	20°	4	1-1/4	50	.155	SMF20-200-4
2.5/2	20°	3	1-1/4	30	.177	SMF20-250-3
3/2.25	20°	3	1-1/4	25	.199	SMF20-300-3
3/2.25	20°	4	1-1/4	34	.199	SMF20-300-4
3.25/2.5	20°	3	1-1/4	24	.221	SMF20-325-3
3.5/2.5	20°	4	1-1/4	29	.222	SMF20-350-4
3.75/2.75	20°	4	1-1/4	27	.244	SMF20-375-4
4/3	20°	4	1-1/4	25	.266	SMF20-400-4
5/3.75	20°	4	1-1/4	20	.331	SMF20-500-4
5.25/4	20°	4	1-3/4	19	.354	SMF20-525-4L
6/4.5	20°	4	1-1/4	17	.399	SMF20-600-4
7/5.25	20°	4	1-1/4	15	.465	SMF20-700-4
8/6	20°	4	1-1/4	13	.532	SMF20-800-4

SMF20 Series

Module 20° PA Stub
Combination Pitch
Finishing, Non-Topping
Disc Type



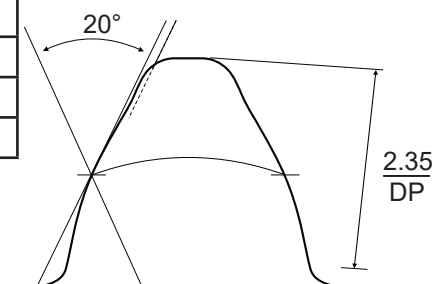
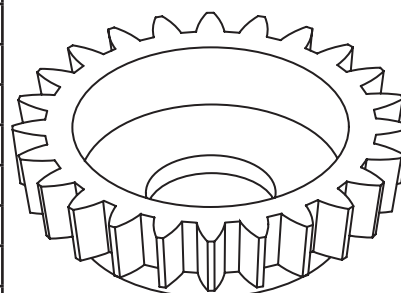
**Denominator*
The combination pitch (stub tooth) has a 20° PA with a shorter addendum & dedendum. The stub tooth is expressed as a fraction. The numerator of the fraction is used to determine the pitch diameter, circular pitch and the tooth thickness. The denominator determines the addendum, dedendum, clearance and the depth of the tooth.



Module	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
1	20°	3	1-1/4	76	.097	.006	.000	SMG20-100-3
1.25	20°	3	1-1/4	60	.116	.006	.000	SMG20-125-3
1.5	20°	3	1-1/4	51	.139	.006	.005	SMG20-150-3
2	20°	4	1-1/4	50	.185	.008	.000	SMG20-200-4
2.25	20°	3	1-1/4	34	.208	.008	.006	SMG20-225-3
2.5	20°	3	1-1/4	30	.231	.008	.006	SMG20-250-3
2.5	20°	4	1-1/4	40	.231	.010	.006	SMG20-250-4
3	20°	4	1-1/4	34	.278	.012	.006	SMG20-300-4
3.5	20°	4	1-1/4	29	.324	.012	.006	SMG20-350-4
4	20°	4	1-1/4	25	.370	.012	.006	SMG20-400-4
4.25	20°	4	1-1/4	24	.393	.012	.006	SMG20-425-4
4.5	20°	4	1-1/4	22	.416	.012	.006	SMG20-450-4
5	20°	4	1-1/4	20	.463	.012	.006	SMG20-500-4
6	20°	4	1-1/4	17	.555	.014	.007	SMG20-600-4
8	20°	5	1-3/4	16	.740	.015	.008	SMG20-800-5

SMG20 Series

Module 20° PA Pre-Grind
Non-Topping
Disc Type
with Protuberance

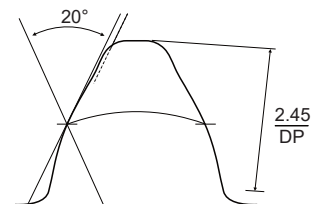




Module	PA	PD	Bore	# Teeth	WD	Thin Approx	Protuberance Approx	Series
1	20°	3	1-1/4	76	.097	.002	.000	SMS20-100-3
1.5	20°	3	1-1/4	51	.145	.002	.001	SMS20-150-3
2	20°	4	1-1/4	50	.193	.002	.001	SMS20-200-4
2.5	20°	4	1-1/4	40	.241	.002	.002	SMS20-250-4
3	20°	4	1-1/4	34	.289	.003	.002	SMS20-300-4
4	20°	4	1-1/4	25	.386	.003	.002	SMS20-400-4

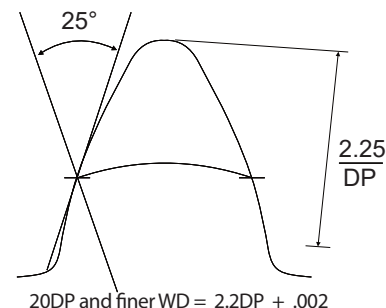
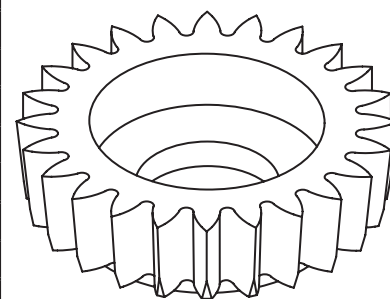
SMS20 Series

Module 20° PA Pre-Shave
Non-Topping
Disc Type
with Protuberance



SM25 Series

Module 25° PA
Finishing
Non-Topping
Disc Type



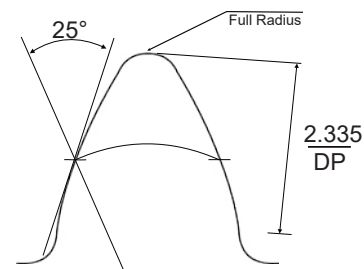
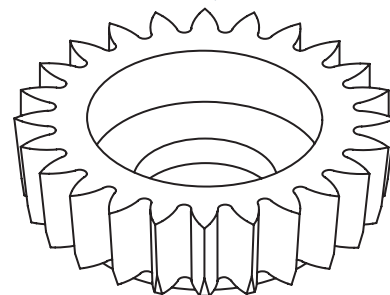
Module	PA	PD	Bore	# Teeth	WD	Series
.6	25°	1.5	1/2	64	.054	SM25-060-H
.75	25°	3	1-1/4	100	.067	SM25-075-3
1	25°	1.5	1/2	38	.089	SM25-100-H
1	25°	3	1-1/4	76	.089	SM25-100-3
1.25	25°	3	1-1/4	60	.111	SM25-125-3
1.5	25°	1.5	1/2	25	.133	SM25-150-H
1.5	25°	4	1-1/4	68	.133	SM25-150-4
1.75	25°	1.5	1/2	22	.155	SM25-175-H
1.75	25°	3	1-1/4	44	.155	SM25-175-3
2	25°	1.5	1/2	19	.177	SM25-200-H
2	25°	3	1-1/4	38	.177	SM25-200-3
2	25°	4	1-1/4	50	.177	SM25-200-4
2.25	25°	1.5	1/2	17	.199	SM25-225-H
2.25	25°	3	1-1/4	34	.199	SM25-225-3
2.5	25°	1.5	1/2	15	.222	SM25-250-H
2.5	25°	3	1-1/4	30	.222	SM25-250-3
2.5	25°	4	1-1/4	40	.222	SM25-250-4
3	25°	1.65	1/2	14	.266	SM25-300-H
3	25°	3	1-1/4	25	.266	SM25-300-3
3	25°	4	1-1/4	34	.266	SM25-300-4
3.5	25°	3	1-1/4	22	.310	SM25-350-3
3.5	25°	4	1-1/4	29	.310	SM25-350-4
4	25°	2.5	3/4	14	.354	SM25-400-5
4	25°	3	1-1/4	19	.354	SM25-400-3
4	25°	4	1-1/4	25	.354	SM25-400-4
4	25°	5	1-3/4	32	.354	SM25-400-5
4.5	25°	3	1-1/4	17	.398	SM25-450-3
5	25°	3	1-1/4	15	.443	SM25-500-3
5	25°	4	1-1/4	20	.443	SM25-500-4
5.75	25°	4	1-1/4	18	.491	SM25-575-4
6	25°	4	1-1/4	17	.532	SM25-600-4
6	25°	5	1-3/4	21	.532	SM25-600-5
8	25°	4	1-1/4	13	.709	SM25-800-4
8	25°	5	1-3/4	16	.709	SM25-800-5
10	25°	5	1-3/4	13	.886	SM25-1000-5
11	25°	6	1-3/4	14	.974	SM25-1100-6
12	25°	6	1-3/4	13	1.063	SM25-1200-6



Module	PA	PD	Bore	# Teeth	WD	Series
1.5	25°	3	1-1/4	51	.138	SMR25-150-3
1.5	25°	4	1-1/4	68	.138	SMR25-150-4
1.75	25°	3	1-1/4	44	.161	SMR25-175-3
2	25°	3	1-1/4	38	.184	SMR25-200-3
2.5	25°	3	1-1/4	30	.230	SMR25-250-3
3	25°	4	1-1/4	34	.276	SMR25-300-4
3.5	25°	4	1-1/4	29	.322	SMR25-350-4
4	25°	5	1-3/4	32	.368	SMR25-400-5
4.25	25°	4	1-1/4	24	.391	SMR25-425-4
5	25°	4	1-1/4	20	.460	SMR25-500-4
6	25°	4	1-1/4	17	.552	SMR25-600-4
8	25°	4	1-1/4	13	.735	SMR25-800-4

SMR25 Series

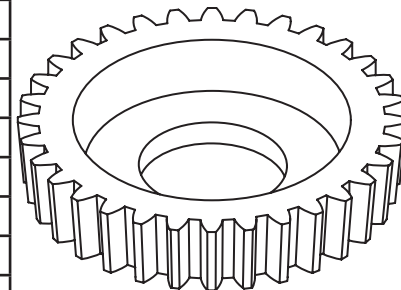
Module DP 25° PA
Full Fillet
Finishing
Non-Topping
Disc Type



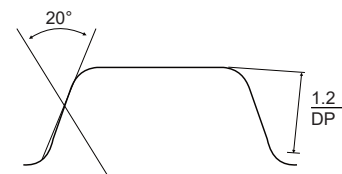
Module	PA	PD	Bore	# Teeth	WD	Spline Type	Series
1	20°	3	1-1/4	76	.047	External	SMJA-100-3
1	20°	4	1-1/4	102	.047	External	SMJA-100-4
1.25	20°	3	1-1/4	61	.059	External	SMJA-125-3
1.25	20°	4	1-1/4	81	.059	External	SMJA-125-4
1.5	20°	3	1-1/4	51	.071	External	SMJA-150-3
1.5	20°	4	1-1/4	68	.071	External	SMJA-150-4
1.66	20°	3	1-1/4	46	.079	External	SMJA-166-3
1.66	20°	4	1-1/4	62	.079	External	SMJA-166-4
2	20°	3	1-1/4	39	.095	External	SMJA-200-3
2	20°	4	1-1/4	51	.095	External	SMJA-200-4
2.5	20°	3	1-1/4	31	.118	External	SMJA-250-3
2.5	20°	4	1-1/4	41	.118	External	SMJA-250-4
3	20°	3	1-1/4	26	.142	External	SMJA-300-3
3.75	20°	3	1-1/4	21	.177	External	SMJA-375-3
3.75	20°	4	1-1/4	27	.177	External	SMJA-375-4
4.5	20°	3	1-1/4	17	.213	External	SMJA-450-3
4.5	20°	4	1-1/4	23	.213	External	SMJA-450-4
5	20°	2	3/4	10	.236	External	SMJA-500-5
5	20°	2	3/4	10	.226	Internal	SMJI-500-5
5	20°	4	1-1/4	21	.236	External	SMJA-500-4
5	20°	4	1-1/4	20	.223	Internal	SMJI-500-4

SMJA & SMJI Series

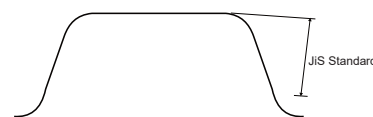
Module Japanese/French
Industrial Standard
Involute Spline
Disc Type



SMJA
Rack Profile



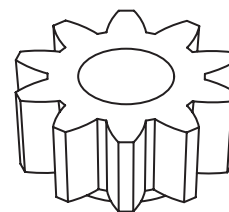
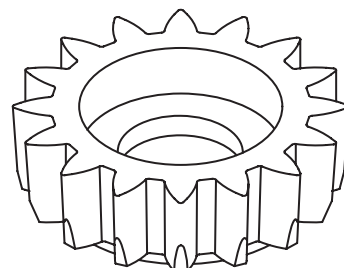
SMJI
Rack Profile



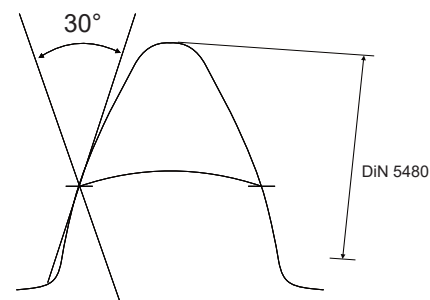


Module	PA	PD	Bore	# Teeth	WD	Series
.5	30°	1.5	1/2	75	.0216	SM30-050-H
.6	30°	1.5	1/2	64	.027	SM30-060-H
.75	30°	1.5	1/2	50	.034	SM30-075-H
.8	30°	1.5	1/2	46	.036	SM30-080-H
.8	30°	3	1-1/4	96	.036	SM30-080-3
1	30°	1.5	1/2	38	.045	SM30-100-H
1	30°	3	1-1/4	76	.045	SM30-100-3
1	30°	4	1-1/4	100	.045	SM30-100-4
1.25	30°	1.5	1/2	30	.057	SM30-125-H
1.25	30°	3	1-1/4	60	.057	SM30-125-3
1.25	30°	4	1-1/4	80	.057	SM30-125-4
1.5	30°	1.5	1/2	26	.068	SM30-150-H
1.5	30°	3	1-1/4	51	.068	SM30-150-3
1.5	30°	4	1-1/4	68	.068	SM30-150-4
1.75	30°	1.5	1/2	22	.079	SM30-175-H
1.75	30°	3	1-1/4	44	.079	SM30-175-3
2	30°	1.5	1/2	20	.091	SM30-200-H
2	30°	3	1-1/4	38	.091	SM30-200-3
2	30°	4	1-1/4	50	.091	SM30-200-4
2	30°	5	1-3/4	64	.091	SM30-200-5
2.25	30°	3	1-1/4	34	.102	SM30-225-3
2.5	30°	1.5	1/2	15	.113	SM30-250-H
2.5	30°	3	1-1/4	30	.113	SM30-250-3
2.5	30°	4	1-1/4	40	.113	SM30-250-4
2.75	30°	1.5	1/2	14	.126	SM30-275-H
2.75	30°	3	1-1/4	28	.125	SM30-275-3
3	30°	1.5	1/2	14	.136	SM30-300-H
3	30°	3	1-1/4	25	.136	SM30-300-3
3	30°	4	1-1/4	34	.136	SM30-300-4
3.5	30°	3	1-1/4	22	.159	SM30-350-3
4	30°	2	3/4	12	.1732	SM30-400-S
4	30°	3	1-1/4	19	.1732	SM30-400-3
4	30°	4	1-1/4	25	.1732	SM30-400-4
5	30°	2	3/4	10	.2165	SM30-500-S
5	30°	3	1-1/4	15	.2165	SM30-500-3
5	30°	4	1-1/4	20	.2165	SM30-500-4
5	30°	5	1-3/4	25	.226	SM30-500-5
6	30°	2	3/4	9	.272	SM30-600-S
6	30°	3	1-1/4	13	.272	SM30-600-3
6	30°	4	1-1/4	17	.272	SM30-600-4
6	30°	5	1-3/4	21	.272	SM30-600-5
8	30°	2.5	3/4	8	.362	SM30-800-S
8	30°	4	1-1/4	13	.362	SM30-800-4
8	30°	5	1-3/4	16	.362	SM30-800-5
10	30°	4	1-1/4	10	.453	SM30-1000-4
10	30°	5	1-3/4	13	.453	SM30-1000-5

SM30 Series
Module DIN 5480
Flat Root
Involute Spline
Disc Type



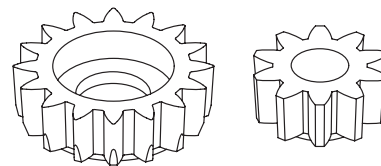
1.1/DP = WD
.45/DP = Addendum of part
.65/DP = Dedendum of part



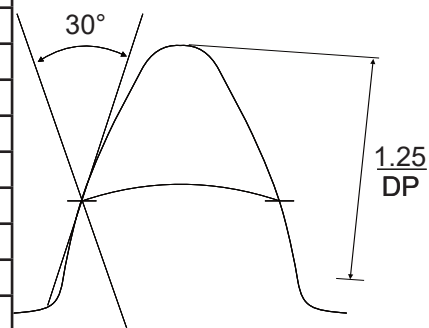


Module	PA	PD	Bore	# Teeth	WD	Series
.4	30°	1.5	1/2	96	.020	SMA30-040-H
.5	30°	1.5	1/2	75	.025	SMA30-050-H
.7	30°	1.5	1/2	54	.034	SMA30-070-H
.75	30°	1.5	1/2	50	.037	SMA30-075-H
.75	30°	3	1-1/4	102	.037	SMA30-075-3
1	30°	1.5	1/2	38	.049	SMA30-100-H
1	30°	3	1-1/4	76	.049	SMA30-100-3
1	30°	4	1-1/4	100	.049	SMA30-100-4
1.25	30°	1.5	1/2	30	.062	SMA30-125-H
1.25	30°	3	1-1/4	60	.062	SMA30-125-3
1.25	30°	4	1-1/4	80	.062	SMA30-125-4
1.5	30°	1.5	1/2	26	.074	SMA30-150-H
1.5	30°	3	1-1/4	51	.074	SMA30-150-3
1.5	30°	4	1-1/4	68	.074	SMA30-150-4
1.75	30°	1.5	1/2	22	.086	SMA30-175-H
1.75	30°	3	1-1/4	44	.086	SMA30-175-3
1.75	30°	4	1-1/4	58	.086	SMA30-175-4
2	30°	1.5	1/2	20	.098	SMA30-200-H
2	30°	3	1-1/4	38	.098	SMA30-200-3
2	30°	4	1-1/4	50	.098	SMA30-200-4
2	30°	5	1-3/4	64	.098	SMA30-200-5
2.25	30°	1.5	1/2	17	.111	SMA30-225-H
2.25	30°	3	1-1/4	34	.111	SMA30-225-3
2.5	30°	1.5	1/2	15	.123	SMA30-250-H
2.5	30°	3	1-1/4	30	.123	SMA30-250-3
2.5	30°	4	1-1/4	40	.123	SMA30-250-4
2.5	30°	5	1-3/4	50	.123	SMA30-250-5
3	30°	1.5	1/2	14	.148	SMA30-300-H
3	30°	3	1-1/4	25	.148	SMA30-300-3
3	30°	4	1-1/4	34	.148	SMA30-300-4
3	30°	5	1-3/4	42	.148	SMA30-300-5
3.5	30°	3	1-1/4	22	.172	SMA30-350-3
4	30°	2	3/4	12	.197	SMA30-400-S
4	30°	3	1-1/4	19	.197	SMA30-400-3
4	30°	4	1-1/4	25	.197	SMA30-400-4
4	30°	5	1-3/4	32	.197	SMA30-400-5
5	30°	2	3/4	10	.246	SMA30-500-S
5	30°	3	1-1/4	15	.246	SMA30-500-3
5	30°	4	1-1/4	20	.246	SMA30-500-4
5	30°	5	1-3/4	25	.246	SMA30-500-5
6	30°	3	1-1/4	13	.295	SMA30-600-3
6	30°	4	1-1/4	17	.295	SMA30-600-4
8	30°	2.5	3/4	8	.394	SMA30-800-S
8	30°	4	1-1/4	13	.394	SMA30-800-4
10	30°	4	1-1/4	10	.492	SMA30-1000-4
10	30°	5	1-3/4	13	.492	SMA30-1000-5

SMA30 Series
Module ANSI B92.2M-1980
Flat Root
Involute Spline
Disc Type



ANSI B92.2M-1980





Module	PA	# Teeth	PD	Bore	# Teeth	WD	Series
1.6	30°	8-14	1.5	1/2	24	.059	S2ME30-160-H
1.6	30°	8-14	3	1-1/4	48	.065	S2ME30-160-3
1.75	30°	15-18	1.5	1/2	22	.079	S2ME30-175-H
1.75	30°	15-18	3	1-1/4	44	.079	S2ME30-175-3
1.90	30°	19-21	1.5	1/2	20	.079	S2ME30-190-H
1.90	30°	19-21	3	1-1/4	40	.079	S2ME30-190-3
1.90	30°	19-21	5	1-3/4	66	.079	S2ME30-190-5
2	30°	22-28	1.5	1/2	19	.108	S2ME30-200-H
2	30°	22-28	3	1-1/4	38	.108	S2ME30-200-3
2	30°	22-28	5	1-3/4	63	.108	S2ME30-200-5
2.1	30°	29-36	1.5	1/2	20	.114	S2ME30-210-H
2.1	30°	29-36	3	1-1/4	36	.114	S2ME30-210-3
2.1	30°	29-36	5	1-3/4	60	.114	S2ME30-210-5
2.25	30°	37-44	1.5	1/2	18	.114	S2ME30-225-H
2.25	30°	37-44	3	1-1/4	34	.114	S2ME30-225-3
2.25	30°	37-44	4	1-1/4	45	.114	S2ME30-225-4
2.25	30°	37-44	5	1-3/4	56	.114	S2ME30-225-5

S2ME30 Series

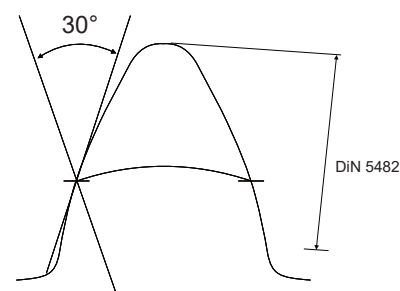
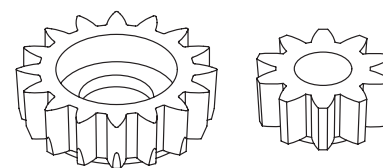
Module DIN 5482

Flat Root

Involute Spline

Disc Type

Non-Chamfering for External



Module	PA	# Teeth	PD	Bore	# Teeth	WD	Series
1.6	30°						
1.75	30°						
1.90	30°						
2	30°	24-25	1.5	1/2	19	.098	S2MI30-200-24H
2	30°	25	1.5	1/2	19	.093	S2MI30-200-25HE
2	30°	26-28	1.5	1/2	19	.093	S2MI30-200-26H
2.1	30°	29-30	1.8	3/4	22	.098	S2MI30-210-S
2.1	30°	31-36	2	3/4	24	.121	S2MI30-210-SE
2.25	30°	37-44	1.5	1/2	18	.118	S2MI30-225-H
2.25	30°	37-44	2	3/4	24	.120	S2MI30-225-S

use shank shaper

S2MI30 Series

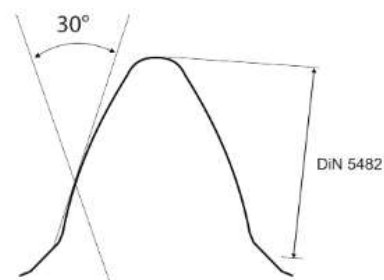
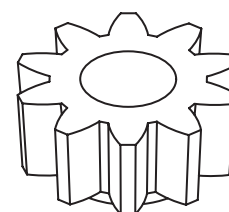
Module DIN 5482

Flat Root

Involute Spline

Disc Type

Chamfering for Internal

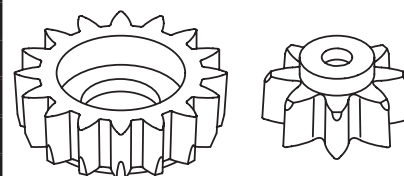




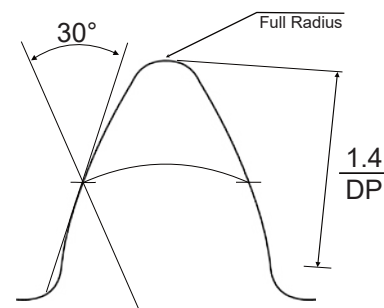
Module	PA	PD	Bore	# Teeth	WD	Series
.4	30°	1.5	1/2	96	.022	SMF30-040-H
.5	30°	1.5	1/2	75	.028	SMF30-050-H
.6	30°	1.5	1/2	64	.033	SMF30-060-H
.7	30°	1.5	1/2	54	.039	SMF30-070-H
.75	30°	1.5	1/2	50	.041	SMF30-075-H
.75	30°	3	1-1/4	102	.041	SMF30-075-3
.75	30°	4	1-1/4	150	.041	SMF30-075-4
.8	30°	1.5	1/2	46	.044	SMF30-080-H
.9	30°	1.5	1/2	42	.050	SMF30-090-H
1	30°	1.5	1/2	38	.055	SMF30-100-H
1	30°	3	1-1/4	76	.055	SMF30-100-3
1	30°	4	1-1/4	100	.055	SMF30-100-4
1.25	30°	1.5	1/2	30	.069	SMF30-125-H
1.25	30°	3	1-1/4	60	.069	SMF30-125-3
1.25	30°	4	1-1/4	80	.069	SMF30-125-4
1.5	30°	1.5	1/2	26	.083	SMF30-150-H
1.5	30°	3	1-1/4	51	.083	SMF30-150-3
1.5	30°	4	1-1/4	68	.083	SMF30-150-4
1.75	30°	1.5	1/2	22	.097	SMF30-175-H
1.75	30°	3	1-1/4	44	.097	SMF30-175-3
1.75	30°	4	1-1/4	58	.097	SMF30-175-4
2	30°	1.5	1/2	19	.110	SMF30-200-H
2	30°	3	1-1/4	38	.110	SMF30-200-3
2	30°	4	1-1/4	50	.110	SMF30-200-4
2	30°	5	1-3/4	64	.110	SMF30-200-5
2.25	30°	3	1-1/4	34	.124	SMF30-225-3
2.25	30°	4	1-1/4	45	.124	SMF30-225-4
2.5	30°	3	1-1/4	30	.138	SMF30-250-3
2.5	30°	4	1-1/4	40	.138	SMF30-250-4
3	30°	1.5	1/2	14	.165	SMF30-300-H
3	30°	3	1-1/4	25	.165	SMF30-300-3
3	30°	4	1-1/4	34	.165	SMF30-300-4
3	30°	5	1-3/4	42	.165	SMF30-300-5
4	30°	3	1-1/4	19	.221	SMF30-400-3
4	30°	4	1-1/4	25	.221	SMF30-400-4
5	30°	1.5	1/2	8	.276	SMF30-500-H
5	30°	4	1-1/4	20	.276	SMF30-500-4
6	30°	4	1-1/4	17	.331	SMF30-600-4
8	30°	2.5	3/4	8	.441	SMF30-800-S
8	30°	4	1-1/4	13	.441	SMF30-800-4
10	30°	5	1-3/4	13	.551	SMF30-1000-5

SMF30 Series

Module 30° PA
ANSI B92.2m-1980
Fillet Root
Involute Spline
Disc Type



ANSI B92.2M-1980

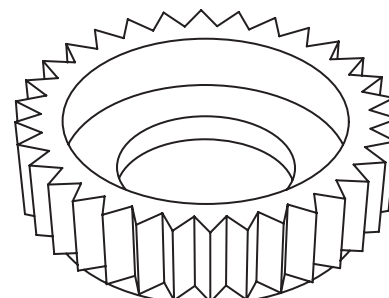




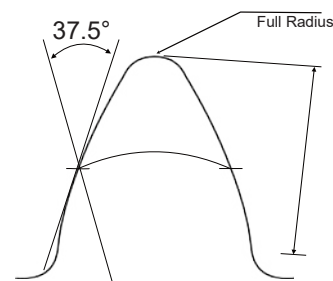
Module	PA	PD	Bore	# Teeth	WD	Series
.5	37.5°	1.5	1/2	75	.023	SM37-050-H
.75	37.5°	1.5	1/2	48	.034	SM37-075-H
.75	37.5°	3	1-1/4	100	.034	SM37-075-3
.75	37.5°	4	1-1/4	135	.034	SM37-075-4
1	37.5°	1.5	1/2	38	.045	SM37-100-H
1	37.5°	3	1-1/4	76	.045	SM37-100-3
1.25	37.5°	1.5	1/2	30	.057	SM37-125-H
1.25	37.5°	3	1-1/4	60	.057	SM37-125-3
1.5	37.5°	1.5	1/2	25	.068	SM37-150-H
1.5	37.5°	3	1-1/4	50	.068	SM37-150-3
2	37.5°	1.5	1/2	19	.091	SM37-200-H
2	37.5°	3	1-1/4	38	.091	SM37-200-3
2	37.5°	4	1-1/4	50	.091	SM37-200-4
2.5	37.5°	3	1-1/4	30	.113	SM37-250-3
3	37.5°	3	1-1/4	25	.136	SM37-300-3
4	37.5°	3	1-1/4	19	.181	SM37-400-3
4	37.5°	4	1-1/4	25	.181	SM37-400-4
5	37.5°	4	1-1/4	20	.226	SM37-500-4
6	37.5°	4	1-1/4	16	.272	SM37-600-4

SM37 Series

Module 37.5° PA
 ANSI B92.2m-1980
 Fillet Root
 Involute Spline
 Disc Type



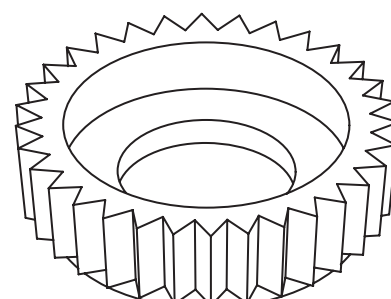
ANSI B92.2M-1980
 $1.15/DP = WD$



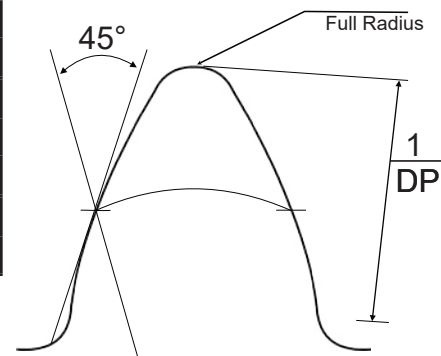
Module	PA	PD	Bore	# Teeth	WD	Series
.4	45°	1.5	1/2	96	.016	SM45-040-H
.5	45°	1.5	1/2	75	.020	SM45-050-H
.6	45°	1.5	1/2	62	.025	SM45-060-H
.6	45°	3	1-1/4	127	.025	SM45-060-3
.7	45°	1.5	1/2	54	.028	SM45-070-H
.75	45°	1.5	1/2	48	.030	SM45-075-H
.75	45°	3	1-1/4	102	.030	SM45-075-3
.8	45°	1.5	1/2	46	.032	SM45-080-H
1	45°	1.5	1/2	38	.039	SM45-100-H
1	45°	2.5	1-1/4	64	.039	SM45-100-3
1	45°	4.0	1-1/4	100	.039	SM45-100-4
1.25	45°	1.5	1/2	30	.049	SM45-125-H
1.25	45°	2.5	1-1/4	51	.049	SM45-125-3
1.5	45°	1.5	1/2	25	.059	SM45-150-H
1.5	45°	3	1-1/4	51	.059	SM45-150-3
1.75	45°	1.5	1/2	22	.069	SM45-175-H
1.75	45°	3	1-1/4	44	.069	SM45-175-3
2	45°	1.5	1/2	19	.079	SM45-200-H
2	45°	3	1-1/4	38	.079	SM45-200-3
2.25	45°	3	1-1/4	34	.089	SM45-225-3
2.5	45°	3	1-1/4	30	.098	SM45-250-3

SM45 Series

Module 45° PA
 ANSI B92.2m-1980
 Fillet Root
 Involute Spline
 Disc Type

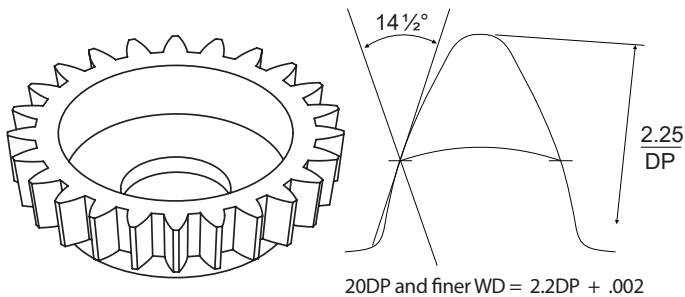


ANSI B92.2M-1980



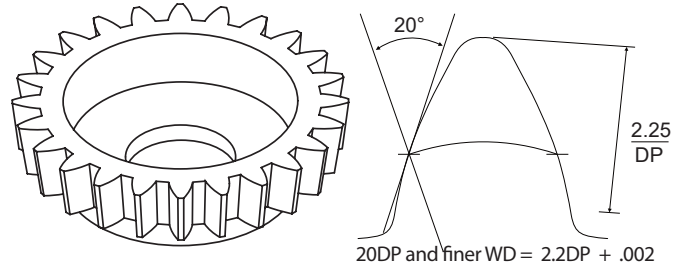


SC14 Series
Circular Pitch 14.5° PA
Finishing
Non-Topping
Disc Type



$$20DP \text{ and finer } WD = 2.2DP + .002$$

SC20 Series
Circular Pitch 20° PA
Finishing
Non-Topping
Disc Type



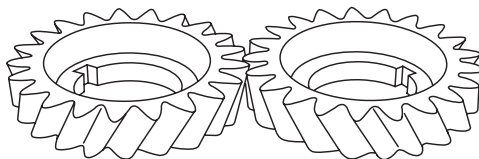
$$20DP \text{ and finer } WD = 2.2DP + .002$$

CP (Fraction)	PA	PD	Bore	# Teeth	WD	Series
1/16	14.5°	3	1-1/4	150	.046	SC14-006-3
1/10	14.5°	1.5	1/2	47	.072	SC14-010-H
1/10	14.5°	3	1-1/4	94	.072	SC14-010-3
1/10	14.5°	4	1-1/4	126	.072	SC14-010-4
1/8	14.5°	1.5	1/2	38	.090	SC14-012-H
1/8	14.5°	3	1-1/4	76	.090	SC14-012-3
1/8	14.5°	4	1-1/4	100	.090	SC14-012-4
1/8	14.5°	5	1-3/4	125	.090	SC14-012-5
1/6	14.5°	3	1-1/4	56	.119	SC14-016-3
3/16	14.5°	3	1-1/4	50	.134	SC14-018-3
1/5	14.5°	3	1-1/4	47	.143	SC14-020-3
1/4	14.5°	3	1-1/4	38	.179	SC14-025-3
1/4	14.5°	4	1-1/4	50	.179	SC14-025-4
1/4	14.5°	5	1-3/4	64	.179	SC14-025-5
5/16	14.5°	3	1-1/4	30	.224	SC14-031-3
1/3	14.5°	3	1-1/4	28	.239	SC14-033-3
1/3	14.5°	4	1-1/4	38	.239	SC14-033-4
3/8	14.5°	4	1-1/4	34	.269	SC14-037-4
7/16	14.5°	3	1-1/4	21	.313	SC14-043-3
7/16	14.5°	4	1-1/4	29	.313	SC14-043-4
1/2	14.5°	3	1-1/4	19	.358	SC14-050-3
1/2	14.5°	4	1-1/4	25	.358	SC14-050-4
1/2	14.5°	5	1-3/4	31	.358	SC14-050-5
9/16	14.5°	4	1-1/4	22	.403	SC14-056-4
5/8	14.5°	3	1-1/4	15	.448	SC14-062-3
5/8	14.5°	4	1-1/4	20	.448	SC14-062-4
3/4	14.5°	4	1-1/4	17	.537	SC14-075-4
3/4	14.5°	5	1-3/4	21	.537	SC14-075-5
7/8	14.5°	4	1-1/4	14	.627	SC14-087-4
1	14.5°	4	1-1/4	13	.716	SC14-100-4
1-1/8	14.5°	4	1-1/4	11	.806	SC14-112-4
1-1/4	14.5°	4	1-1/4	10	.895	SC14-125-4
1-3/8	14.5°	5	1-3/4	11	.985	SC14-137-5
1-1/2	14.5°	5	1-3/4	11	1.074	SC14-150-5
1-1/2	14.5°	6	1-3/4	13	1.074	SC14-150-6
1-3/4	14.5°	7	1-3/4	12	1.253	SC14-175-7
2	14.5°	7	1-3/4	11	1.426	SC14-200-7

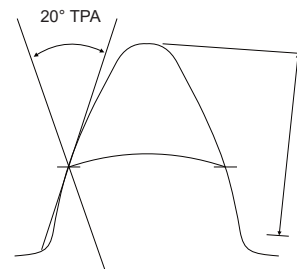
CP (Fraction)	PA	PD	Bore	# Teeth	WD	Series
1/20	20°	1.5	1/2	96	.037	SC20-005-H
1/16	20°	3	1-1/4	150	.046	SC20-006-3
1/10	20°	1.5	1/2	47	.072	SC20-010-H
1/10	20°	3	1-1/4	94	.072	SC20-010-3
1/8	20°	1.5	1/2	38	.090	SC20-012-H
1/8	20°	3	1-1/4	76	.090	SC20-012-3
1/8	20°	4	1-1/4	100	.090	SC20-012-4
1/8	20°	5	1-3/4	125	.090	SC20-012-5
1/6	20°	3	1-1/4	56	.119	SC20-016-3
3/16	20°	3	1-1/4	50	.134	SC20-018-3
1/5	20°	1.5	1/2	24	.143	SC20-020-H
1/5	20°	3	1-1/4	47	.143	SC20-020-3
1/5	20°	3	1-1/4	48	.143	SC20-020-3E
1/5	20°	4	1-1/4	64	.143	SC20-020-4
1/4	20°	3	1-1/4	38	.179	SC20-025-3
1/4	20°	4	1-1/4	50	.179	SC20-025-4
1/4	20°	5	1-3/4	64	.179	SC20-025-5
5/16	20°	3	1-1/4	30	.224	SC20-031-3
1/3	20°	3	1-1/4	28	.239	SC20-033-3
1/3	20°	4	1-1/4	38	.239	SC20-033-4
3/8	20°	3	1-1/4	25	.269	SC20-037-3
3/8	20°	4	1-1/4	34	.269	SC20-037-4
7/16	20°	3	1-1/4	21	.313	SC20-043-3
7/16	20°	4	1-1/4	29	.313	SC20-043-4
1/2	20°	4	1-1/4	25	.358	SC20-050-4
1/2	20°	5	1-3/4	31	.358	SC20-050-5
9/16	20°	3	1-1/4	17	.403	SC20-056-3
5/8	20°	4	1-1/4	20	.448	SC20-062-4
3/4	20°	4	1-1/4	17	.537	SC20-075-4
7/8	20°	4	1-1/4	14	.627	SC20-087-4
1	20°	4	1-1/4	13	.716	SC20-100-4
1	20°	5	1-3/4	16	.716	SC20-100-5
1-1/8	20°	4	1-1/4	11	.806	SC20-112-4
1-1/4	20°	4	1-1/4	10	.895	SC20-125-4
1-1/4	20°	5	1-3/4	13	.895	SC20-125-5
1-1/2	20°	5	1-3/4	11	1.074	SC20-150-5
1-3/4	20°	7	1-3/4	12	1.254	SC20-175-7
2	20°	7	1-3/4	11	1.425	SC20-200-7



RR30 Series
DP 20° TPA 30° Helix Angle
Herringbone Disc Type Cutters
Finishing, Non-Topping
Right and Left Hand Per Set



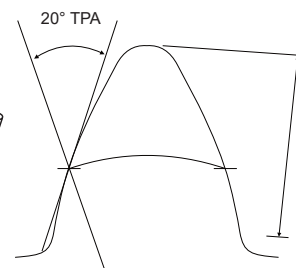
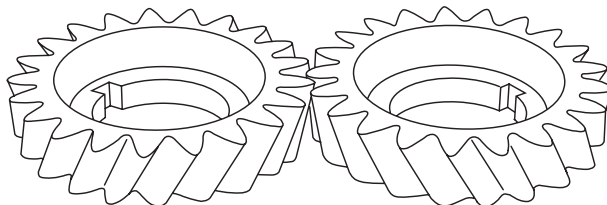
$$1.95/TDP = WD$$



Transverse DP	TPA	PD	# Teeth	Bore	WD	Series
1-1/2	20°	6	9	3	1.300	RR30-150-6
1-1/2	20°	6	9	3-1/2	1.300	RR30-150-6L
2	20°	6	12	3	.975	RR30-200-6
2	20°	6	12	3-1/2	.975	RR30-200-6L
2-1/2	20°	6	15	3	.780	RR30-250-6
2-1/2	20°	6	15	3-1/2	.780	RR30-250-6L
3	20°	4	12	2-5/16	.650	RR30-300-4
3	20°	6	18	3	.650	RR30-300-6
3	20°	6	18	3-1/2	.650	RR30-300-6L
3-1/2	20°	4	14	2-5/16	.557	RR30-350-4
3-1/2	20°	6	21	3	.557	RR30-350-6
4	20°	4	16	2-5/16	.488	RR30-400-4
4	20°	6	24	3	.488	RR30-400-6
4	20°	6	24	3-1/2	.488	RR30-400-6L
4-1/2	20°	4	18	2-5/16	.433	RR30-450-4
5	20°	4	20	2-5/16	.390	RR30-500-4
5	20°	6	30	3	.390	RR30-500-6
5	20°	6	30	3-1/2	.390	RR30-500-6L
5-1/2	20°	6	33	3-1/2	.354	RR30-550-6L
6	20°	4	24	2-5/16	.325	RR30-600-4
6	20°	6	36	3	.325	RR30-600-6
6	20°	6	36	3-1/2	.325	RR30-600-6L

Transverse DP	TPA	PD	# Teeth	Bore	WD	Series
7	20°	4	28	2-5/16	.279	RR30-700-4
7	20°	6	42	3	.279	RR30-700-6
7-1/2	20°	4	30	2-5/16	.260	RR30-750-4
8	20°	4	32	2-5/16	.244	RR30-800-4
8	20°	6	48	3	.244	RR30-800-6
8	20°	6	48	3-1/2	.244	RR30-800-6L
9	20°	4	36	2-5/16	.217	RR30-900-4
9	20°	6	54	3	.217	RR30-900-6
10	20°	4	40	2-5/16	.195	RR30-010-4
10	20°	6	60	3	.195	RR30-010-6
11	20°	4	44	2-5/16	.177	RR30-011-4
12	20°	4	48	2-5/16	.163	RR30-012-4
12	20°	6	72	3	.163	RR30-012-6
14	20°	4	56	2-5/16	.139	RR30-014-4
14	20°	6	84	3	.139	RR30-014-6
16	20°	4	64	2-5/16	.122	RR30-016-4
16	20°	6	96	3	.122	RR30-016-6
17	20°	4	68	2-5/16	.115	RR30-017-4
18	20°	4	72	2-5/16	.108	RR30-018-4
20	20°	4	80	2-5/16	.098	RR30-020-4
24	20°	4	96	2-5/16	.079	RR30-024-4

RRM30 Series
Module 20° TPA 30° Helix Angle
Herringbone Disc Type Cutters
Finishing, Non-Topping
Right and Left Hand Per Set

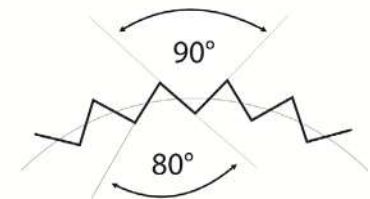
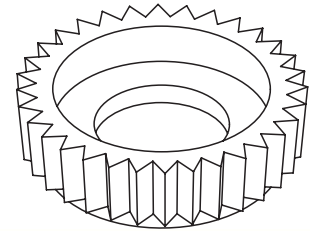


Trans. Mod Pitch	TPA	Approx PD	# Teeth	Bore	WD	Series
5	20°	6	30	3	.384	RRM30-500-6
6	20°	6	25	3	.461	RRM30-600-6
8	20°	6	19	3	.614	RRM30-800-6
10	20°	6	15	3	.768	RRM30-010-6
12	20°	6	13	3	.921	RRM30-012-6

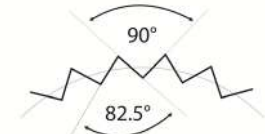
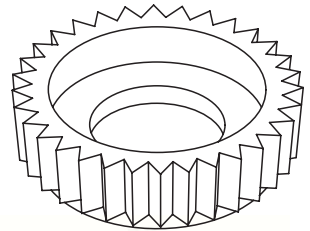


Nom. Diam.	PD	Bore	# Teeth	WD	Series
3/16	1.5	1/2	288	.006	SS36-187-H
1/4	1.5	1/2	216	.008	SS36-250-H
1/4	3	1-1/4	432	.008	SS36-250-3
5/16	1.5	1/2	180	.010	SS36-312-H
5/16	2.25	1-1/4	260	.010	SS36-312-2
3/8	1.5	1/2	144	.013	SS36-375-H
3/8	2.25	1-1/4	228	.013	SS36-375-2
3/8	3	1-1/4	300	.013	SS36-375-3
1/2	1.5	1/2	108	.016	SS36-500-H
1/2	3	1-1/4	225	.016	SS36-500-3
9/16	1.5	1/2	96	.019	SS36-563-H
5/8	1.5	1/2	93	.022	SS36-625-H
5/8	3	1-1/4	180	.022	SS36-625-3
3/4	1.5	1/2	72	.024	SS36-750-H
3/4	3	1-1/4	144	.024	SS36-750-3
7/8	1.5	1/2	64	.036	SS36-875-H
7/8	3	1-1/4	128	.036	SS36-875-3
1	1.5	1/2	54	.035	SS36-010-H
1	3	1-1/4	108	.035	SS36-010-3

SS36 Series
36 Tooth SAE 45°
Straight Sided Serrations
Finishing
Non-Topping
Disc Type

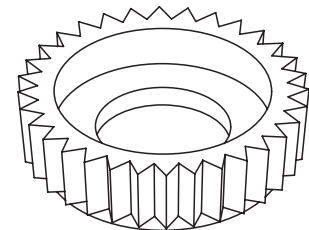


SS48 Series
48 Tooth SAE 45°
Straight Sided Serrations
Finishing
Non-Topping
Disc Type



Nom. Diam.	PD	Bore	# Teeth	WD	Series
1/2	1.5	1/2	150	.013	SS48-500-H
3/4	1.5	1/2	90	.019	SS48-750-H
3/4	3	1-1/4	192	.019	SS48-750-3
7/8	1.5	1/2	80	.023	SS48-875-H
7/8	3	1-1/4	160	.023	SS48-875-3
1	3	1-1/4	150	.026	SS48-010-3
1-1/8	3	1-1/4	144	.029	SS48-011-3
1-1/4	3	1-1/4	120	.035	SS48-012-3
1-1/2	3	1-1/4	96	.037	SS48-015-3
1-3/4	4	1-1/4	112	.051	SS48-017-4

SBS Series
British (BS 2059-1953)
Straight Sided Serrations
Finishing
Non-Topping
Disc Type



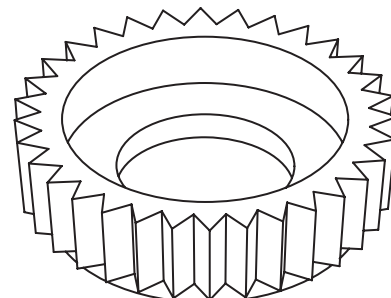
Part		Cutter			WD	Series
Nominal Diam.	# Serrations	PD	Bore	# Teeth		
3/8	16	3	1-1/4	136	.028	SBS16-037-3
1/2	16	3	1-1/4	96	.037	SBS16-050-3
5/8	20	3	1-1/4	100	.039	SBS20-062-3
3/4	20	3	1-1/4	85	.048	SBS20-075-3
7/8	20	3	1-1/4	72	.054	SBS20-087-3
1	24	3	1-1/4	80	.052	SBS24-100-3
1-1/8	24	3	1-1/4	68	.059	SBS24-112-3
1-1/4	24	3	1-1/4	60	.065	SBS24-125-3
1-3/8	24	3	1-1/4	54	.072	SBS24-137-3
1-1/2	24	3	1-1/4	50	.078	SBS24-150-3
2	36	3	1-1/4	56	.070	SBS36-200-3



Nom. Diam. (mm)	# Teeth in Part	Included Angle	PD	Bore	# Teeth	WD	Series
8x7	28	60°	1.5	1/2	144	.018	SME81-8-7H
10x8	28	60°	1.5	1/2	120	.029	SME81-10-8H
12x10	30	60°	1.5	1/2	104	.029	SME81-12-10H
14x12	31	60°	3	1-1/4	180	.036	SME81-14-12-3
17x15	32	60°	3	1-1/4	152	.039	SME81-17-15-3
20x17	33	60°	3	1-1/4	136	.046	SME81-20-17-3
24x21	34	60°	3	1-1/4	116	.056	SME81-24-21-3
30x26	35	60°	3	1-1/4	96	.065	SME81-30-26-3
34x30	36	60°	3	1-1/4	84	.065	SME81-34-30-3
40x36	37	60°	3	1-1/4	74	.072	SME81-40-36-3
44x40	38	60°	3	1-1/4	68	.078	SME81-44-40-3
50x45	39	60°	3	1-1/4	62	.093	SME81-50-45-3
55x50	40	60°	3	1-1/4	58	.095	SME81-55-50-3
60x55	42	60°	3	1-1/4	55	.097	SME81-60-55-3
65x60 - 125x120	41-81	55°	3	1-1/4	51	.099	SME81-65-60-3

SME81 Series

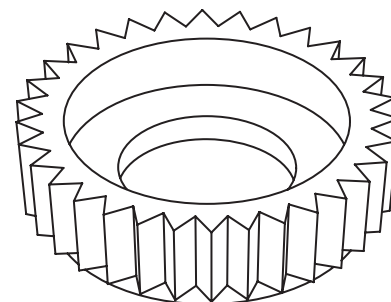
DIN5481
Straight Sided
External Serrations
Finishing
Non-Topping
Disc Type



Nom. Diam. (mm)	# Teeth in Part	Included Angle	PD	Bore	# Teeth	WD	Series
44x40	38	60°	1.2	1/2	26	.081	SMI81-44-40H
50x45	39	60°	1.87	1/2	27	.096	SMI81-50-45H
55x50	40	60°	1.5	1/2	28	.097	SMI81-55-50H
60x55	42	60°	1.7	1/2	30	.099	SMI81-60-55H
65x60 - 80x75	41-54	55°	1.5	1/2	26	.100	SMI81-65-60H
70x65	45	55°	1.5	1/2	26	.100	SMI81-70-65HE
75x70	48	55°	1.5	1/2	26	.100	SMI81-75-70HE
80x75	51	55°	1.5	1/2	55-67	.099	SMI81-80-75H
105x100 - 105x100	68	55°	3	1-1/4	68-81	.098	SMI81-105-100

SMI81 Series

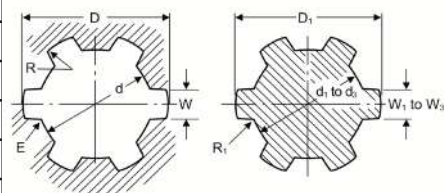
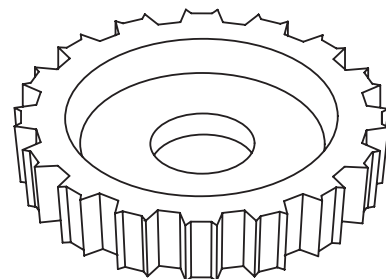
DIN5481
Straight Sided
Internal Serrations
Finishing
Non-Topping
Disc Type





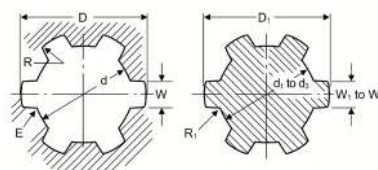
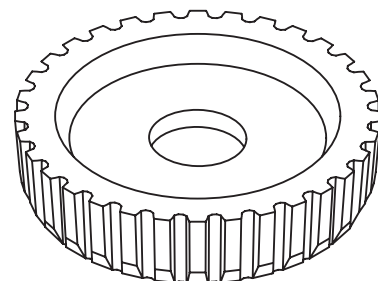
Major Diam.	Fit	Minor Diam.	Key	PD	Bore	# Teeth	Series
.625	B	.529	.152	3	1-1/4	28	S6-062B-3
.625	C	.497	.152	3	1-1/4	28	S6-062C-3
.750	B	.635	.185	3	1-1/4	24	S6-075B-3
.750	C	.597	.185	3	1-1/4	24	S6-075C-3
.875	C	.696	.215	3	1-1/4	20	S6-087C-3
1.000	B	.847	.246	3	1-1/4	18	S6-100B-3
1.000	C	.796	.246	3	1-1/4	18	S6-100C-3
1.125	B	.953	.277	4	1-1/4	21	S6-112B-4
1.250	A	1.126	.313	4	1-1/4	19	S6-125A-4
1.250	B	1.060	.309	4	1-1/4	19	S6-125B-4
1.250	C	.996	.309	4	1-1/4	19	S6-125C-4
1.375	B	1.165	.340	4	1-1/4	17	S6-137B-4
1.375	C	1.096	.340	4	1-1/4	17	S6-137C-4
1.500	A	1.350	.375	4	1-1/4	16	S6-150A-4
1.500	B	1.271	.371	4	1-1/4	16	S6-150B-4
1.500	C	1.196	.371	4	1-1/4	16	S6-150C-4
1.625	B	1.378	.402	4	1-1/4	15	S6-162B-4
1.750	A	1.577	.438	4	1-1/4	14	S6-175A-4
1.750	B	1.485	.434	4	1-1/4	14	S6-175B-4
1.750	C	1.396	.434	4	1-1/4	14	S6-175C-4
2.000	B	1.696	.495	4	1-1/4	12	S6-200B-4

S6 Series
6 Parallel Sided Splines
Finishing
Chamfering with Lugs
Disc Type



Major Diam.	Fit	Minor Diam.	Straight Line Diam.	Key	PD	Bore	# Teeth	Series
.750	B	.601	.644	.114	3	1-1/4	40	S10-750B-3
.750	C	.550	.607	.114	3	1-1/4	40	S10-750C-3
.875	B	.706	.753	.134	3	1-1/4	34	S10-087B-3
1.000	C	.734	.809	.153	3	1-1/4	30	S10-100C-3
1.125	B	.904	.967	.173	4	1-1/4	35	S10-112B-4
1.125	C	.824	.911	.173	3	1-1/4	27	S10-112C-3
1.250	A	1.139	1.137	.195	4	1-1/4	32	S10-125A-4
1.250	B	1.002	1.074	.192	4	1-1/4	32	S10-125B-4
1.250	C	.916	1.012	.192	3	1-1/4	24	S10-125C-3
1.375	B	1.107	1.182	.212	4	1-1/4	28	S10-137B-4
1.375	C	1.008	1.113	.212	4	1-1/4	21	S10-137C-3
1.500	A	1.366	1.364	.235	4	1-1/4	26	S10-150A-4
1.500	B	1.200	1.289	.231	3	1-1/4	20	S10-150B-3
1.500	C	1.100	1.214	.231	3	1-1/4	20	S10-150C-3
1.625	B	1.305	1.397	.251	4	1-1/4	24	S10-162B-4
1.750	B	1.408	1.504	.270	4	1-1/4	22	S10-175B-4
1.750	C	1.282	1.417	.270	4	1-1/4	22	S10-175C-4
2.000	A	1.821	1.818	.313	4	1-1/4	20	S10-200A-4
2.000	B	1.608	1.718	.307	4	1-1/4	20	S10-200B-4
2.000	C	1.461	1.618	.307	4	1-1/4	20	S10-200C-4

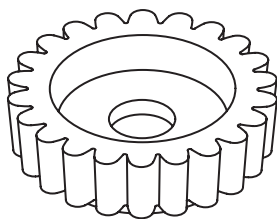
S10 Series
10 Parallel Sided Splines
Finishing
Chamfering
Disc Type





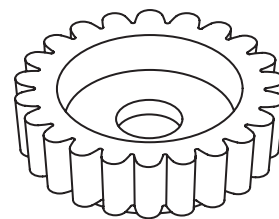
SRC & SRCT Series

Roller Chain
 American Standard Sprockets
 Finishing for 12 teeth & over
 Disc Type



SEC Series

Roller Chain
 English Standard Sprockets
 Finishing for 12 teeth & over
 Disc Type

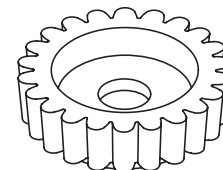


Chain #	CP	Roller Diam.	PD	Bore	# Teeth	Type	Series
11SS	.148	.090	3	1-1/4	64	Non-Topping	SRC-1475-3
25	1/4	.130	3	1-1/4	36	Non-Topping	SRC-25-3
25	1/4	.130	4	1-1/4	50	Non-Topping	SRC-25-4
special	1/4	.134	3	1-1/4	38	Non-Topping	SRC-26-3
special	1/4	.134	4	1-1/4	50	Non-Topping	SRC-26-4
35	3/8	.200	3	1-1/4	25	Non-Topping	SRC-35-3
35	3/8	.200	4	1-1/4	32	Non-Topping	SRC-35-4
40	1/2	.312	3	1-1/4	19	Non-Topping	SRC-40-3
40	1/2	.312	4	1-1/4	24	Non-Topping	SRC-40-4
40	1/2	.312	4	1-1/4	24	Topping	SRCT-40-4
40	1/2	.312	5	1-3/4	32	Non-Topping	SRC-40-5
40	1/2	.312	5	1-3/4	32	Topping	SRCT-40-5
41	1/2	.306	3	1-1/4	19	Non-Topping	SRC-41-3
41	1/2	.306	4	1-1/4	24	Non-Topping	SRC-41-4
41	1/2	.306	4	1-3/4	25	Non-Topping	SRC-41-4L
41	1/2	.306	4	1-3/4	25	Topping	SRCT-41-4L
50	5/8	.400	3	1-1/4	16	Non-Topping	SRC-50-3
50	5/8	.400	4	1-1/4	20	Non-Topping	SRC-50-4
50	5/8	.400	5	1-3/4	25	Non-Topping	SRC-50-5
50	5/8	.400	5	1-3/4	25	Topping	SRCT-50-5
60	3/4	.469	4	1-1/4	16	Non-Topping	SRC-60-4
60	3/4	.469	4	1-1/4	17	Non-Topping	SRC-60-4E
60	3/4	.469	5	1-3/4	21	Non-Topping	SRC-60-5
80	1	.625	4	1-1/4	12	Non-Topping	SRC-80-4
80	1	.625	5	1-3/4	15	Non-Topping	SRC-80-5
80	1	.625	6	1-3/4	18	Non-Topping	SRC-80-6
80	1	.625	8	4	24	Non-Topping	SRC-80-8
100	1-1/4	.750	4	1-1/4	10	Non-Topping	SRC-100-4
100	1-1/4	.750	5	1-3/4	13	Non-Topping	SRC-100-5
100	1-1/4	.750	6	1-3/4	15	Non-Topping	SRC-100-6
120	1-1/2	.875	4	1-1/4	9	Non-Topping	SRC-120-4
120	1-1/2	.875	5	1-3/4	11	Non-Topping	SRC-120-5
120	1-1/2	.875	6	1-3/4	13	Non-Topping	SRC-120-6
120	1-1/2	.875	7	1-3/4	14	Non-Topping	SRC-120-7
140	1-3/4	1.000	5	1-3/4	9	Non-Topping	SRC-140-5
140	1-3/4	1.000	7	1-3/4	12	Non-Topping	SRC-140-8
160	2	1.125	7	1-3/4	11	Non-Topping	SRC-160-8
200	2-1/2	1.563	7	1-3/4	9	Non-Topping	SRC-200-9

Chain #	CP	Roller Diam.	PD	Bore	# Teeth	Series
36	3/8	.250	3	1-1/4	25	SEC-36-3
36	3/8	.250	4	1-1/4	34	SEC-36-4
42	1/2	.335	3	1-1/4	19	SEC-42-3
42	1/2	.335	4	1-1/4	25	SEC-42-4
51	5/8	.400	4	1-1/4	20	SEC-51-4
61	3/4	.475	4	1-1/4	16	SEC-61-4
61	3/4	.475	4	1-3/4	17	SEC-61-4L
61	3/4	.475	5	1-3/4	21	SEC-61-5

SRCM Series

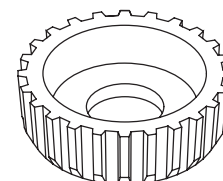
Roller Chain
 Metric Standard Sprockets
 Finishing for 12 teeth & over, Disc Type



CP (mm)	Roller Diam (mm)	PD	Bore	# Teeth	Series
6	4	3	1-1/4	40	SRCM-06-3
6	4	4	1-1/4	52	SRCM-06-4
8	5	3	1-1/4	30	SRCM-08-3
8	5	4	1-1/4	40	SRCM-08-4

SSC Series

Silent Chain
 Standard Sprockets
 Finishing, Topping, Disc Type

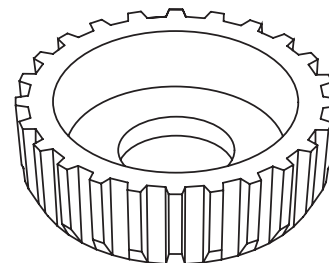


CP	Tooth Range	PD	Bore	# Teeth	Approx Depth	Series
3/16	20-50	3	1-1/4	54	.112	SSC-1-19-3
3/8	20-50	3	1-1/4	25	.255	SSC-3-20-3
3/8	20-50	4	1-1/4	34	.258	SSC-3-20-4
3/8	51-150	4	1-1/4	34	.250	SSC-3-51-4
1/2	20-50	3	1-1/4	20	.344	SSC-4-20-3
1/2	20-50	4	1-1/4	26	.344	SSC-4-20-4
1/2	50-150	3	1-1/4	19	.344	SSC-4-51-3
1/2	51-150	4	1-1/4	26	.344	SSC-4-51-4
5/8	20-50	4	1-1/4	20	.425	SSC-5-20-4
5/8	51-100	4	1-1/4	20	.425	SSC-5-51-4
3/4	20-50	4	1-1/4	17	.516	SSC-6-20-4
3/4	51-150	4	1-1/4	17	.516	SSC-6-51-4
1	20-50	4	1-1/4	13	.688	SSC-8-20-4
1	51-150	4	1-1/4	13	.687	SSC-8-51-4



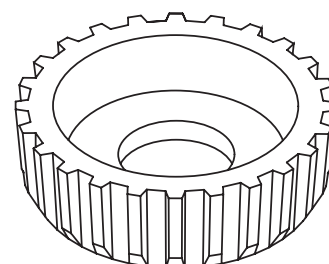
CP	Tooth Range	Approx PD	Bore	# Teeth	Approx Depth	Series
3/16	10+	3	1-1/4	50	.060	STGY-188-3
1/5	10+	3	1-1/4	47	.064	STGY-200-3
3/8	10+	3	1-1/4	25	.103	STGY-375-3
3/8	10-19	4	1-1/4	34	.105	STGY-375-4-10
1/2	17-19	3	1-1/4	19	.118	STGY-500-3-17
1/2	20-50	3	1-1/4	19	.118	STGY-500-3-20
1/2	51+	3	1-1/4	19	.118	STGY-500-3-51
7/8	18+	4	1-1/4	14	.281	STGY-875-4

STGY Series
Goodyear Timing Belt
Finishing
Topping
Disc Type



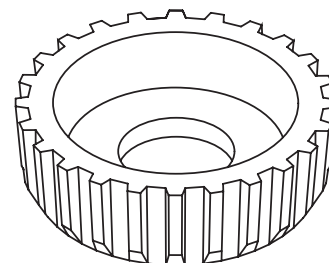
CP (mm)	Tooth Range	Approx PD	Bore	# Teeth	Approx Depth	Series
2.5	10+	3	1-1/4	96	.036	STMY-025-3
3	10+	3	1-1/4	80	.042	STMY-030-3
4.5	12+	3	1-1/4	54	.063	STMY-045-3
5	12+	3	1-1/4	48	.070	STMY-050-3
5	12+	4	1-1/4	64	.070	STMY-050-4
6	16+	3	1-1/4	40	.084	STMY-060-3
8	20+	4	1-1/4	40	.111	STMY-080-4
14	28+	3	1-1/4	17	.195	STMY-140-3

STMY Series
Metric Goodyear Timing Belt
Finishing
Topping
Disc Type



Belt	CP	Tooth Range	Approx PD	Bore	# Teeth	Approx Depth	Series
MXL	.080	12-23	1.5	1/2	60	.026	STM-080-H-12
MXL	.080	12-23	3	1-1/4	116	.026	STM-080-3-12
MXL	.080	24+	1.5	1/2	60	.026	STM-080-H-24
MXL	.080	24+	3	1-1/4	116	.026	STM-080-3-24
XL	1/5	10+	3	1-1/4	48	.056	STM-200-3
XL	1/5	10+	4	1-1/4	64	.056	STM-200-4
L	3/8	10+	3	1-1/4	25	.085	STM-375-3
L	3/8	10+	4	1-1/4	34	.085	STM-375-4
H	1/2	14-19	3	1-1/4	20	.103	STM-500-3-14
H	1/2	14-19	4	1-1/4	26	.103	STM-500-4-14
H	1/2	14-19	5	1-3/4	32	.103	STM-500-5-14
H	1/2	20+	3	1-1/4	19	.103	STM-500-3-20
H	1/2	20+	4	1-1/4	26	.103	STM-500-4-20
H	1/2	20+	5	1-3/4	32	.103	STM-500-5-20
XH	7/8	18+	4	1-1/4	14	.287	STM-875-4
XH	7/8	18+	5	1-3/4	18	.287	STM-875-5
XH	7/8	18+	6	1-3/4	22	.272	STM-875-6
XXH	1-1/4	18+	5	1-3/4	13	.435	STM-1250-5
XXH	1-1/4	18+	6	1-3/4	15	.435	STM-1250-6

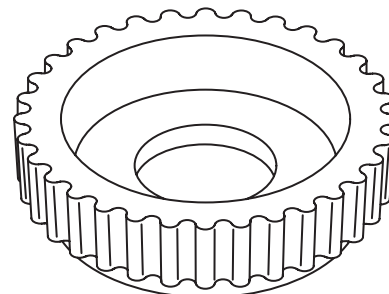
STM Series
Timing Belt
American Standard
Finishing
Topping
Disc Type





CP (mm)	Tooth Range	Approx PD	Bore	# Teeth	Approx Depth	Series
3	9-13	3	1-1/4	80	.047	STMU-030-3-9
3	14 - 25	3	1-1/4	80	.046	STMU-030-3-14
3	26-80	3	1-1/4	80	.048	STMU-030-3-26
3	81+	3	1-1/4	80	.049	STMU-030-3-81
3	81+	4	1-1/4	108	.049	STMU-030-4-81
5	12-16	3	1-1/4	48	.080	STMU-050-3-12
5	17-31	3	1-1/4	48	.080	STMU-050-3-17
5	32-79	3	1-1/4	48	.080	STMU-050-3-32
5	80+	3	1-1/4	48	.081	STMU-050-3-80
5	12-16	3	1-1/4	64	.080	STMU-050-4-12
5	17-31	4	1-1/4	64	.080	STMU-050-4-17
5	32-79	4	1-1/4	64	.080	STMU-050-4-32
5	80+	4	1-1/4	64	.081	STMU-050-4-80
8	19-27	3	1-1/4	30	.130	STMU-080-3-19
8	28-89	3	1-1/4	30	.142	STMU-080-3-28
8	90+	3	1-1/4	30	.143	STMU-080-3-90
8	18-27	4	1-1/4	40	.130	STMU-080-4-18
8	28-36	4	1-1/4	40	.143	STMU-080-4-28
8	37-80	4	1-1/4	40	.144	STMU-080-4-37
8	81+	4	1-1/4	40	.143	STMU-080-4-81
14	19-27	4	1-1/4	24	.249	STMU-014-4-19
14	28-36	4	1-1/4	24	.249	STMU-014-4-28
14	37-89	4	1-1/4	24	.244	STMU-014-4-37
14	90+	4	1-1/4	24	.250	STMU-014-4-90
14	28-36	5	1-3/4	30	.249	STMU-014-5-28
14	37-89	5	1-3/4	24	.244	STMU-014-5-37
14	90+	5	1-3/4	30	.244	STMU-014-5-90
20	32 - 45	4	1-1/4	16	.340	STMU-020-4-32
20	46-100	4	1-1/4	16	.338	STMU-020-4-46
20	101+	4	1-1/4	16	.342	STMU-020-4-101

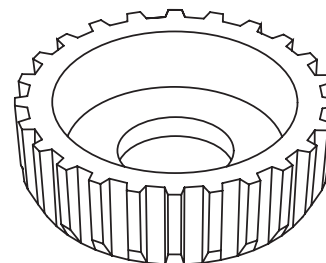
STMU Series
 Timing Belt
 Gates High Torque Drive (HTD)
 Finishing
 Topping
 Disc Type





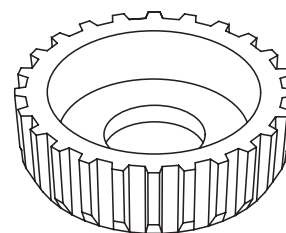
CP (mm)	Tooth Range	PD	Bore	# Teeth	Approx Depth	Series
2	10-12	3	1-1/4	120	.030	STGT-02-3-10
2	13-18	3	1-1/4	120	.030	STGT-02-3-13
2	19-35	3	1-1/4	120	.030	STGT-02-3-19
2	36-60	3	1-1/4	120	.030	STGT-02-3-36
2	61+	3	1-1/4	120	.030	STGT-02-3-61
3	15-27	3	1-1/4	82	.045	STGT-03-3-15
3	28-56	3	1-1/4	80	.046	STGT-03-3-28
3	57-140	3	1-1/4	80	.047	STGT-03-3-57
3	141+	3	1-1/4	80	.047	STGT-03-3-141
3	15-27	4	1-1/4	106	.045	STGT-03-4-15
3	28-56	4	1-1/4	106	.046	STGT-03-4-37
5	12-15	3	1-1/4	50	.074	STGT-05-3-12
5	16-32	3	1-1/4	50	.076	STGT-05-3-16
5	33-60	3	1-1/4	48	.077	STGT-05-3-33
5	16-32	4	1-1/4	64	.076	STGT-05-4-16
5	33-60	4	1-1/4	64	.077	STGT-05-4-33
5	61-140	4	1-1/4	64	.078	STGT-05-4-61
8	16-19	3	1-1/4	30	.142	STGT-08-3-16
8	20-27	3	1-1/4	30	.140	STGT-08-3-20
8	28-37	3	1-1/4	30	.139	STGT-08-3-28
8	51-119	3	1-1/4	30	.137	STGT-08-3-51

STGT Series
Timing Belt
Gates Power Grip GT (PGGT)
Finishing
Topping
Disc Type



CP (mm)	Tooth Range	Approx PD	Bore	# Teeth	Approx Depth	Series
8	20-27	4	1-1/4	40	.140	STPY-08M-4-20
8	28-37	4	1-1/4	40	.139	STPY-08M-4-28
8	38-58	4	1-1/4	40	.137	STPY-08M-4-38
8	59-89	4	1-1/4	40	.137	STPY-08M-4-59
8	90-140	4	1-1/4	40	.136	STPY-08M-4-90
14	28-38	4	1-1/4	23	.242	STPY-14M-4-28
14	39-60	4	1-1/4	23	.240	STPY-14M-4-39
14	61-89	4	1-1/4	23	.239	STPY-14M-4-61
14	90-140	4	1-1/4	23	.239	STPY-14M-4-90

STPY Series
Poly Chain GT (PCGT)
Finishing
Topping
Disc Type

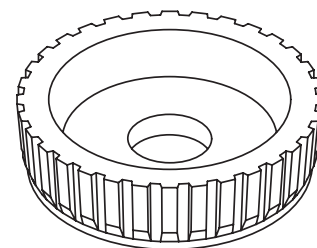




CP (mm)	Tooth Range	PD	# Teeth	Approx Depth	Type	Series	Series
2	10-20	3	120	.026	T-Backlash	STX-020-3-10	-
2	21+	3	120	.031	T-Backlash	STX-020-3-21	-
2.5	≤ 20	3	96	.031	T-Backlash	STX-025-3-20	-
2.5	21+	3	96	.040	T-Backlash	STX-025-3-21	-
2.5	21+	4	126	.040	T-Backlash	STX-025-4-21	-
5	≤ 20	3	50	.050	T-Backlash	STX-050-3-20	-
5	≤ 20	4	64	.050	T-Backlash	STX-050-4-20	-
5	≤ 20	4	70	.050	No Backlash	-	STXN-050-4-20
5	21+	3	50	.078	T-Backlash	STX-050-3-21	-
5	21+	4	64	.078	T-Backlash	STX-050-4-21	-
5	21+	4	70	.048	No Backlash	-	STXN-050-4-21
10	≤ 20	3	26	.104	T-Backlash	STX-100-3-20	-
10	≤ 20	4	32	.104	T-Backlash	STX-100-4-20	-
10	≤ 20	4	32	.099	No Backlash	-	STXN-100-4-20
10	21+	3	25	.136	T-Backlash	STX-100-3-21	-
10	21+	4	32	.136	T-Backlash	STX-100-4-21	-
10	21+	4	32	.099	No Backlash	-	STXN-100-4-21
20	≤ 20	4	16	.207	T-Backlash	STX-200-4-20	-
20	21+	4	16	.247	T-Backlash	STX-200-4-21	-

STX & STXN Series

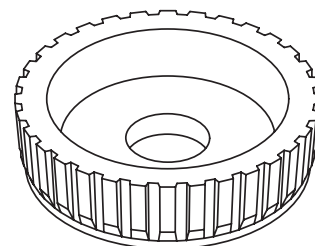
Timing Belt
 Synchroflex T & T-0 DIN7721
 Finishing
 Topping
 Disc Type



CP (mm)	Tooth Range	PD	# Teeth	Approx Depth	Type	Series	Series
3	15-25	3	82	.038	AT	STXA-030-3-15	-
3	26+	3	82	.039	AT	STXA-030-3-26	-
3	26+	3	82	.039	AT-0	-	STXAN-030-3-26
5	≤ 20	3	50	.042	AT	STXA-050-3-20	-
5	≤ 20	3	50	.042	AT-0	-	STXAN-5-3-20
5	≤ 20	4	64	.042	AT	STXA-050-4-20	-
5	≤ 20	4	64	.042	AT-0	-	STXAN-5-4-20
5	21+	3	50	.042	AT	STXA-050-3-21	-
5	21+	4	64	.042	AT	STXA-050-4-21	-
5	21+	4	64	.044	AT-0	-	STXAN-5-4-21
10	≤ 20	4	32	.092	AT	STXA-100-4-20	-
10	15-20	4	32	.092	AT-0	-	STXAN-100-4-20
10	21+	4	32	.092	AT	STXA-100-4-21	-
10	21+	4	32	.092	AT-0	-	STXAN-100-4-21
20	20+	4	16	.182	AT	STXA-200-4-20	-
20	≤ 20	4	16	.182	AT-0	-	STXAN-200-4-20
20	21+	4	16	.182	AT	STXA-200-4-21	-
20	21+	4	16	.182	AT-0	-	STXAN-200-4-21

STXA & STXAN Series

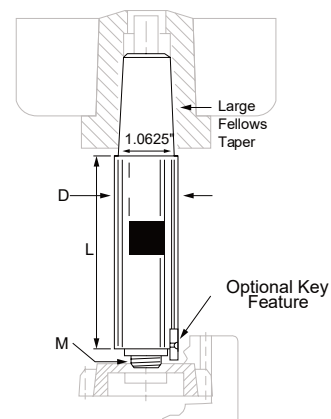
Timing Belt
 Synchroflex AT style
 Standard & No Backlash
 DIN 7721
 Finishing
 Topping
 Disc Type





Diam. (M)	Length (L)	Body Diam. (D)	Series
1/2	1/2	1-1/16	ADH-050
1/2	1	1-1/16	ADH-100
1/2	1-1/2	1-1/16	ADH-150
1/2	1-3/4	1-1/8	ADH-175E
1/2	2	1-1/16	ADH-200
1/2	2-1/4	1-1/16	ADH-225
1/2	2-1/2	1-1/16	ADH-250
1/2	2-3/4	1-1/16	ADH-275
1/2	3-1/4	1-1/16	ADH-325
1/2	3-1/2	1-1/16	ADH-350
1/2	3-3/4	1-1/16	ADH-375
1/2	4	1-1/16	ADH-400
1/2	5	1-1/16	ADH-500
1/2	6	1-1/16	ADH-600

ADH Series 1/2 Bore Button Shapers

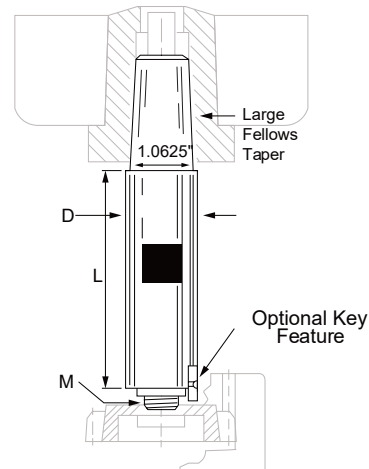


1/2 X 13 Threads mounting Diam. ID/taper ID
Standard Fellows-Taper (.6235/Ft.)
1.062 Diam.-Taper (large end).

Diam. (M)	Length (L)	Body Diam. (D)	Series
3/4	3/4	1-1/4	ADS-075
3/4	1-1/2	1-1/4	ADS-150
3/4	2	1-1/4	ADS-200
3/4	2-1/2	1-1/4	ADS-250E
3/4	2-3/4	1-1/4	ADS-275
3/4	3-1/2	1-1/4	ADS-350
3/4	4	1-5/16	ADS-400
3/4	4-1/2	1-3/8	ADS-450
3/4	5-1/2	1-1/2	ADS-550
3/4	6-1/2	1-1/2	ADS-650

1/2 X 13 Threads mounting Diam. ID/taper ID Standard Fellows-Taper (.6255/Ft.) 1.062 Diam.-Taper (large end).

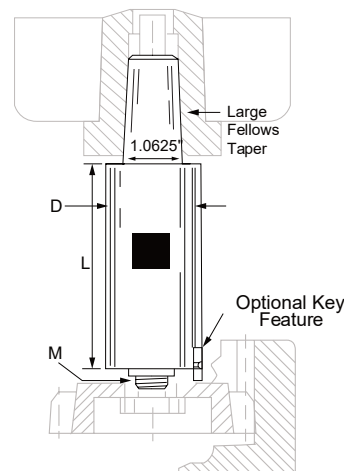
ADS Series 3/4 Bore Button Shapers



Diam. (M)	Length (L)	Body Diam. (D)	Series
1-3/4	1/2	2-1/4	ADL-050
1-3/4	1/2	3-1/4	ADL-050B
1-3/4	1	2-1/4	ADL-100
1-3/4	1	3-1/4	ADL-100B
1-3/4	2	2-1/4	ADL-200
1-3/4	2	3-1/4	ADL-200B
1-3/4	3	2-1/4	ADL-300
1-3/4	3	3-1/4	ADL-300B
1-3/4	4	2-1/4	ADL-400
1-3/4	4	3-1/4	ADL-400B
1-3/4	5	2-1/4	ADL-500
1-3/4	5	3-1/4	ADL-500B

Standard Large Fellows-Taper - (.6255/FT). 1.062 large end.
1/2 - 13 thread - draw bar (ID). 5/8 - 11 thread - cutter end (ID).

ADL Series 1-3/4 Bore Shapers



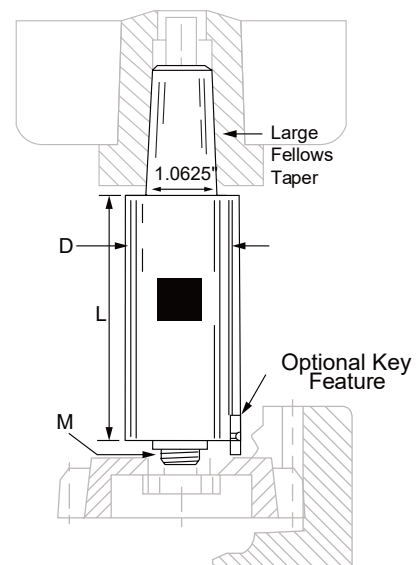


Diam. (M)	Length (L)	Body Diam. (D)	Series
1-1/4	1/2	2-1/4	AD-050
1-1/4	1/2	3	AD-050B
1-1/4	1	2-1/4	AD-100
1-1/4	1	3	AD-100B
1-1/4	2	2-1/4	AD-200
1-1/4	2	3	AD-200B
1-1/4	3	2-1/4	AD-300
1-1/4	3	3	AD-300B
1-1/4	4	2-1/4	AD-400
1-1/4	4	3	AD-400B
1-1/4	5	2-1/4	AD-500
1-1/4	5	3	AD-500B
1-1/4	6	2-1/4	AD-600
1-1/4	6	3	AD-600B

Standard Large Fellows-Taper - (.6255/FT). 1.062 large end.

1/2 - 13 thread - draw bar (ID). 5/8 - 11thread - cutter end (ID).

The 2-1/4is standard. The large 3 diameter should be used with coarse pitch large 3 diameter cutters.



Diam. (M)	Length (L)	Body Diam. (D)	Series
1-1/4	2-1/4	2-1/4	ADE-200
1-3/4	2-1/4	3	ADE-200L
1-1/4	3	2-1/4	ADE-300
1-3/4	3	3	ADE-300L
1-1/4	4	2-1/4	ADE-400
1-3/4	4	3	ADE-400L
1-1/4	5	2-1/4	ADE-500
1-3/4	5	3	ADE-500L
1-1/4	6	2-1/4	ADE-600
1-3/4	6	3	ADE-600L

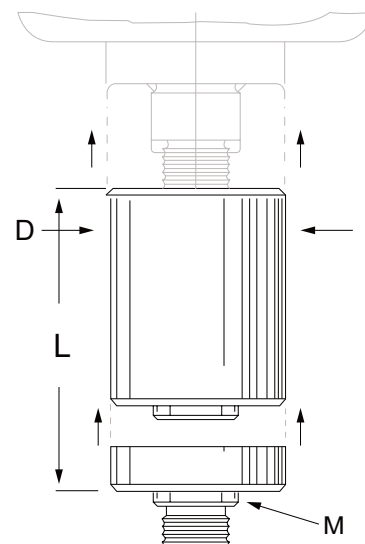
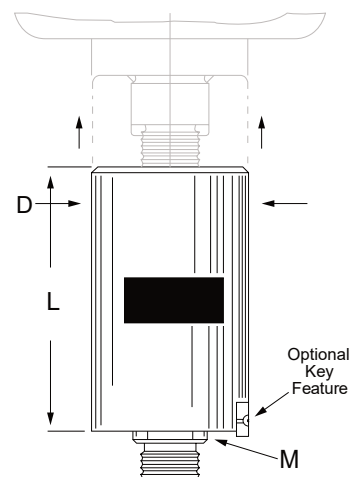
Fits standard 1-1/4 Solid spindle with 1 -10 thread.

ADEP Series

Precision Spindle Extension

Diam. (M)	Length (L)	Body Diam. (D)	Series
1-1/4	2	2-1/2	ADEP-200
1-1/4	3	2-1/2	ADEP-300
1-1/4	4	2-1/2	ADEP-400
1-1/4	5	2-1/2	ADEP-500

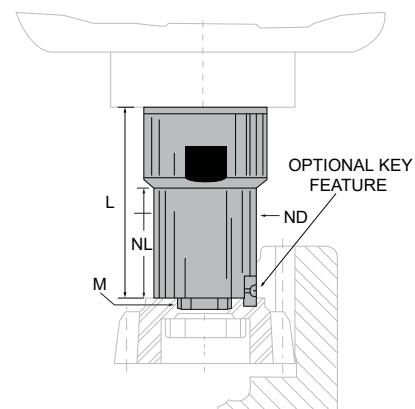
Fits standard 1-1/4 Solid spindle with 1 -10 thread.





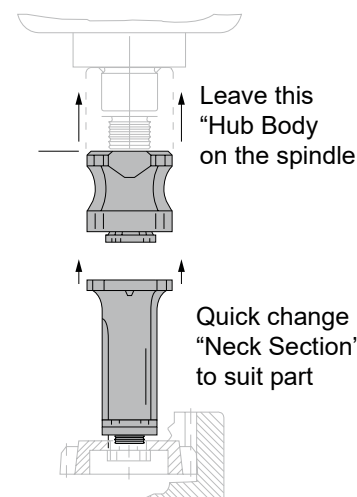
Mounting Diam. (M)	Neck Length (NL)	Neck Diam. (ND)	Overall Length (L)	Series
1/2	1	1.35	2.75	ADB-501
1/2	2-1/4	1.25	3.80	ADB-502
1/2	3-1/4	1.25	5.48	ADB-503
1/2	4	1.25	5.56	ADB-504
1/2	5	1.25	6.75	ADB-505
3/4	1	1.35	2.56	ADB-751
3/4	2	1.35	4.25	ADB-752
3/4	3	1.35	4.75	ADB-753
3/4	4	1.35	5.55	ADB-754
3/4	5	1.35	6.50	ADB-755
3/4	6	1.35	7.50	ADB-756

ADB Series Solid Spindle Adapter for Button Shaper Cutters



Mounting Diam. (M)	Neck Length (NL)	Overall Length (L)	Series
1/2	1	3-1/2	APD-100H
3/4	1	3-1/2	APD-100S
1/2	2	4-1/2	APD-200H
3/4	2	4-1/2	APD-200S
1/2	3	5-1/2	APD-300H
3/4	4	6-1/2	APD-400S
1/2	5	7-1/2	APD-500H
HUB			HUB

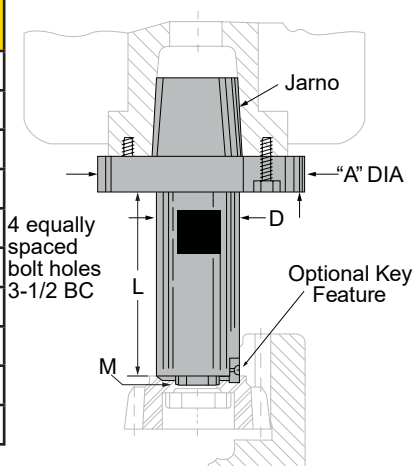
APD Series Solid Spindle Adapter to Hold Button Type Shapers



Hub bodies are 1-3/4 O.A.L and are interchangeable with all the neck sections. Hub and extensions sold separately. Washer and screw come with extension.

ADH36 & ADS36 Series Hollow Spindle Adapters for Button Shaper Cutters

Shaper Hole (M)	Jarno	Flange Diam. (A)	Length (L)	Body Diam. (D)	Series
1/2	16	4	2-1/2	1-1/4	ADH36A-250
1/2	16	4	4-1/2	1-1/4	ADH36A-450
1/2	18	5	1-1/2	1-1/4	ADH36-150
1/2	18	5	2-1/2	1-1/4	ADH36-250
1/2	18	5	4-1/2	1-1/4	ADH36-450
3/4	16	4	2-1/2	1-1/4	ADS36A-250
3/4	16	4	4-1/2	1-3/8	ADS36A-450
3/4	18	5	1-1/2	1-1/4	ADS36-150
3/4	18	5	2-1/2	1-1/4	ADS36-250
3/4	18	5	4-1/2	1-3/8	ADS36-450

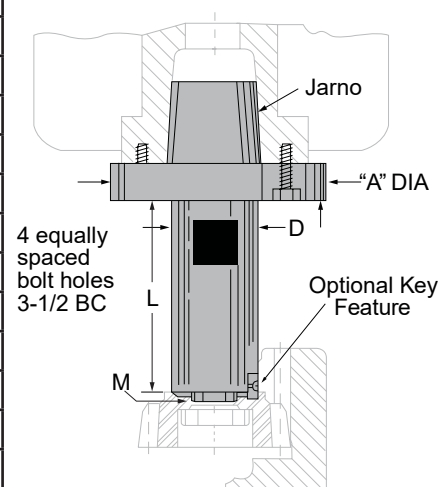




Shaper Hole (M)	Jarno	Flange Diam. (A)	Length (L)	Body Diam. (D)	Series
1-1/4	16	4	1-1/2	2-1/4	AD36A-150
1-1/4	16	4	1-1/2	3	AD36A-150B
1-1/4	16	4	2-1/2	2-1/4	AD36A-250
1-1/4	16	4	2-1/2	3	AD36A-250B
1-1/4	16	4	3-1/2	2-1/4	AD36A-350
1-1/4	16	4	4-1/2	2-1/4	AD36A-450
1-1/4	18	5	1	2-1/4	AD36-150
1-1/4	18	5	1-1/2	3	AD36-150B
1-1/4	18	5	2-1/2	2-1/4	AD36-250
1-1/4	18	5	2-1/2	3	AD36-250B
1-1/4	18	5	3-1/2	2-1/4	AD36-350
1-1/4	18	5	6	2-1/4	AD36-600
1-1/4	18	5	8	2-1/4	AD36-800
1-3/4	16	4	1-1/2	3-1/4	ADL36A-150
1-3/4	16	4	3-1/2	3-1/4	ADL36A-350
1-3/4	18	5	3/4	3-1/4	ADL36-075
1-3/4	18	5	1-1/2	3-1/4	ADL36-150
1-3/4	18	5	2-1/2	3-1/4	ADL36-250
1-3/4	18	5	3-1/2	3-1/4	ADL36-350

AD36 Series

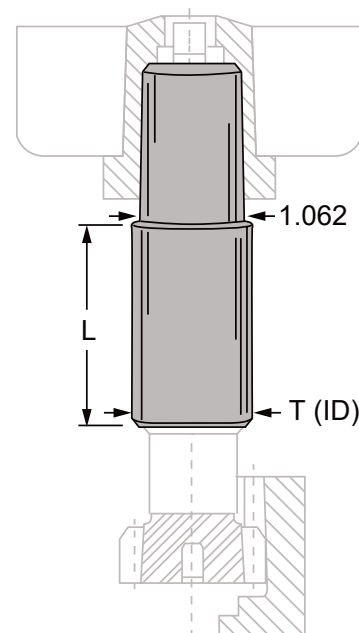
Hollow Spindle Adapters for Disc Shaper Cutters



Internal-Taper (T)	Extension Length (L)	Series
#1 Morse	1/4	ADR-012
#1 Morse	3/4	ADR-075
#1 Morse	1-1/2	ADR-150
#2 Jarno	3/4	ADR-007
#2 Morse	1/4	ADR-125
#2 Morse	3/4	ADR-750
#2 Morse	1-1/4	ADR-225
#2 Morse	2	ADR-235
#2 Morse	3	ADR-245
Fellows	2	ADT-200
Fellows	3	ADT-300
Fellows	4	ADT-400

ADR & ADT Series

Large Fellows Taper Reduction & Spindle Extension





ADJ Series Solid Spindle Adapter to Hold Shank Shapers

Internal-Taper (T)	Neck Length (NL)	Neck Diam. (ND)	Overall Length (L)	Threads	Series
Fellows 1.062 major diameter	1-1/4	1-3/4	3-7/8	1-10	ADJ-225
Fellows 1.062 major diameter	1-1/4	1-3/4	3-7/8	1-10	ADJ-225P
Fellows 1.062 major diameter	1-1/4	1-3/4	3-7/8	M24x3	ADJ-225M
#2 Morse .700 major diameter	1-1/4	1-3/4	3-1/2	1-10	ADJ-750

Fits standard 1-1/4 solid spindle

ADE36 Series Conversion Adapter for #36 Fellows

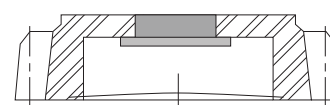
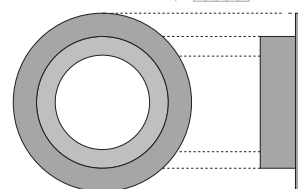
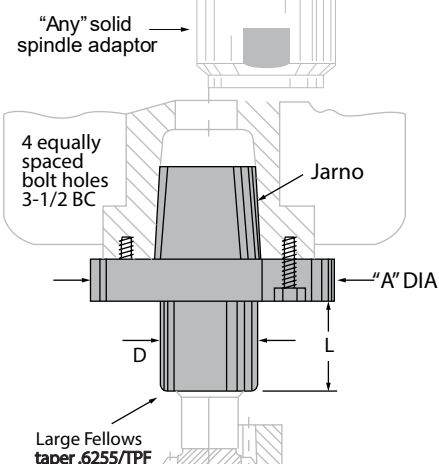
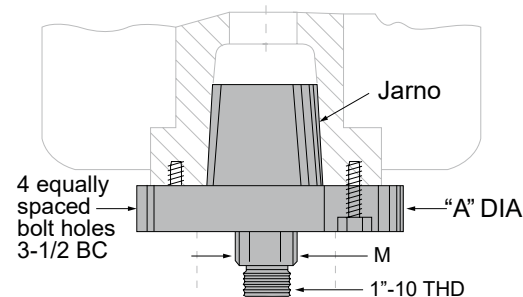
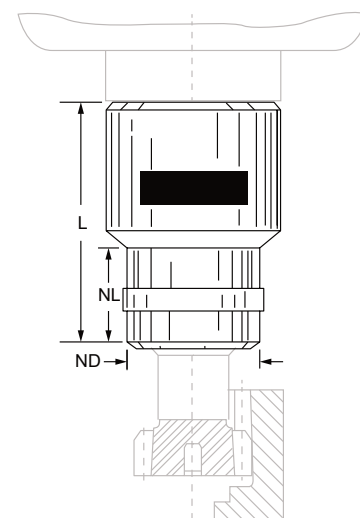
Mounting Diam. (M)	Bolt Hole	Flange A	Jarno	Series
1-1/4	3-1/2	5	18	ADE36-125
1-1/4	3	4	16	ADE36A-125

ADR36 Series Adapter for #36 Fellows to hold Shank Shapers

A Flange	Bolt Hole	Length (L)	Body Diam. (D)	Jarno	Series
5	3-1/2	3/4	1-1/2	18	ADR36-075
4	3	3/4	1-1/2	16	ADR36A-075
5	3-1/2	2-1/2	1-9/16	18	ADR36-250
4	3	2-1/2	1-9/16	16	ADR36A-250
5	3-1/2	4	1-5/8	18	ADR36-450

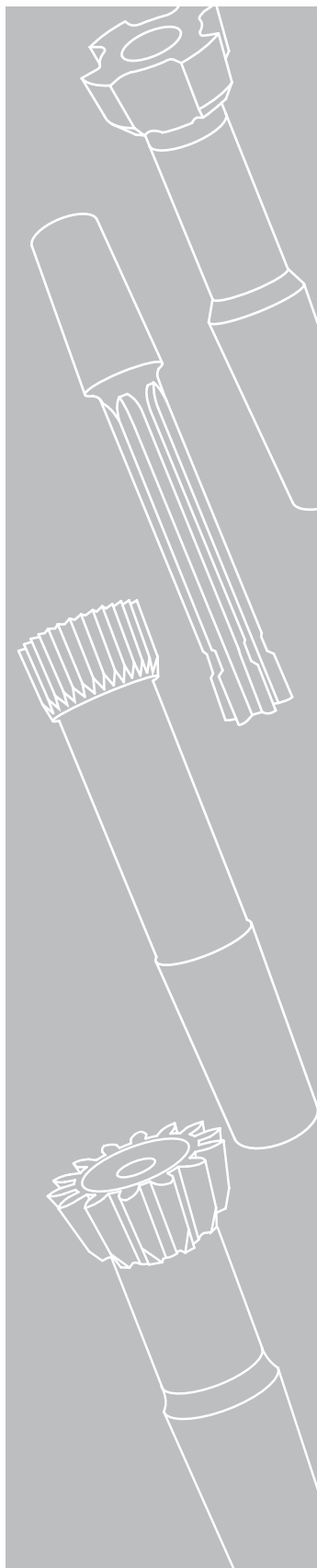
ASR Series Disc Shaper Bore Reduction Ring

Exter. Diam.	Inter. Diam.	Type	Series
1-3/4	1-1/4	Flange	ASR-175
1-3/4	1-1/4	No Flange	ASR-175N





Shank Shaper Sort Index



Normal Diametral Pitch

14.5°	158
20°	159
25°	161
Full Fillet 30°	162
Flat Root 30°	165
37.5°	169
45°	169

Normal Module Pitch

20°	170
Flat Root 30°	171
Full Fillet 30°	173
37.5°	174
45°	174

Parallel Splines

6 Spline	175
10 Spline	175

Metric Splines

6 Spline	175
8 Spline	176
10 Spline	176

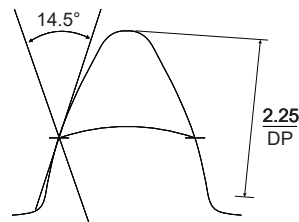
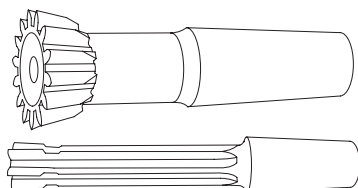
Serrations

36	177
48	177
DIN 5481	176
British	177



KDP14 Series

DP 14.5° PA
Finishing
Non-Topping
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
4	14.5°	6	2-1/2	.563	KDP14-04-6
5	14.5°	8	3-1/4	.450	KDP14-05-8
6	14.5°	8	2	.375	KDP14-06-8S
6	14.5°	8	3-1/2	.375	KDP14-06-8
8	14.5°	8	1-3/4	.281	KDP14-08-8S
8	14.5°	8	2-1/2	.281	KDP14-08-8
8	14.5°	10	1-3/4	.281	KDP14-08-10S
10	14.5°	8	1-1/8	.225	KDP14-10-8
10	14.5°	10	1-3/4	.225	KDP14-10-10S
12	14.5°	8	2-1/2	.188	KDP14-12-8
14	14.5°	14	1-1/4	.161	KDP14-14-14
16	14.5°	12	2-1/2	.141	KDP14-16-12
16	14.5°	16	1-5/8	.141	KDP14-16-16S
16	14.5°	16	3-1/4	.141	KDP14-16-16
20	14.5°	10	1-3/4	.112	KDP14-20-10
20	14.5°	16	1-1/4	.112	KDP14-20-16S
24	14.5°	14	1-3/4	.094	KDP14-24-14
32	14.5°	16	1-3/8	.071	KDP14-32-16
32	14.5°	40	2-1/2	.071	KDP14-32-40
48	14.5°	16	1	.048	KDP14-48-16
64	14.5°	48	3/4	.036	KDP14-64-48

Stem design and stroke length vary

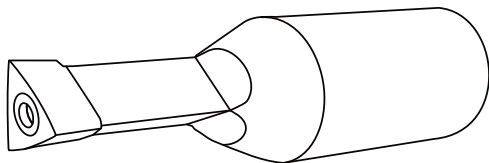
Internal Trimming Chart 14.5° PA

Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
18	4	34	12
19	4	35	12
20	5	36	13
21	5	37	13
22	6	38	14
23	6	39	15
24	7	40	15
25	7	41	16
26	8	42	16
27	8	43	17
28	9	44	18
29	9	45	18
30	10	46	19
31	10	47	20
32	11	48	20
33	11		



KSQ Series

Square Hole Generating
Shank Type



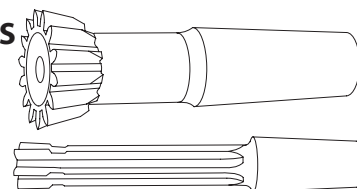
Major (Square)	Approx Stroke	Series
.250	3/4	KSQ-250
.500	1	KSQ-500

Internal Trimming Chart
20° PA

Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
13	4	36	18	59	41
14	4	37	19	60	42
15	5	38	20	61	43
16	5	39	21	62	44
17	6	40	22	63	45
18	6	41	23	64	46
19	7	42	24	65	47
20	7	43	25	66	48
21	8	44	26	67	49
22	8	45	27	68	50
23	9	46	28	69	51
24	10	47	29	70	52
25	10	48	30	71	53
26	11	49	31	72	54
27	12	50	32	73	55
28	12	51	33	74	56
29	13	52	34	75	57
30	13	53	35	76	58
31	14	54	36	77	59
32	14	55	37	78	60
33	15	56	38	79	61
34	16	57	39	80	62
35	17	58	40	81	63
				82	64

KDP20 Series

DP 20° PA
Finishing
Non-Topping
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
3	20°	6	3-1/4	.750	KDP20-03-6
4	20°	6	3-1/4	.563	KDP20-04-6
4	20°	8	2-3/4	.563	KDP20-04-8
5	20°	7	3	.450	KDP20-05-7
5	20°	8	2-5/8	.450	KDP20-05-8
5	20°	8	3-1/2	.450	KDP20-05-8L
6	20°	6	3	.375	KDP20-06-6
6	20°	8	1-7/8	.375	KDP20-06-8S
6	20°	8	3-3/4	.375	KDP20-06-8
6	20°	9	4	.375	KDP20-06-9
6	20°	10	2	.375	KDP20-06-10S
6	20°	10	3	.375	KDP20-06-10
7	20°	8	2-3/8	.321	KDP20-07-8
8	20°	6	2	.281	KDP20-08-6
8	20°	8	3-3/4	.281	KDP20-08-8L
8	20°	9	2-1/8	.281	KDP20-08-9
8	20°	10	3	.281	KDP20-08-10
8	20°	12	3	.281	KDP20-08-12
9	20°	7	2	.250	KDP20-09-7
9	20°	10	2-1/2	.250	KDP20-09-10
9	20°	12	1	.250	KDP20-09-12
10	20°	6	2-1/8	.225	KDP20-10-6
10	20°	7	1-3/4	.225	KDP20-10-7
10	20°	8	2	.225	KDP20-10-8S
10	20°	8	3-1/4	.225	KDP20-10-8
10	20°	10	2-1/2	.225	KDP20-10-10
10	20°	12	1	.225	KDP20-10-12S
10	20°	12	2-5/8	.225	KDP20-10-12
11	20°	8	1-1/2	.205	KDP20-11-8
12	20°	8	2-5/8	.188	KDP20-12-8
12	20°	9	2-5/8	.188	KDP20-12-9
12	20°	9	3-1/8	.188	KDP20-12-9L
12	20°	10	1-3/4	.188	KDP20-12-10
12	20°	12	2	.188	KDP20-12-12S
12	20°	12	2-5/8	.188	KDP20-12-12R
12	20°	18	1-1/4	.188	KDP20-12-18S
12	20°	18	2-1/2	.188	KDP20-12-18
14	20°	10	2-7/8	.161	KDP20-14-10
14	20°	12	1-7/8	.161	KDP20-14-12
16	20°	8	1-3/8	.141	KDP20-16-8S
16	20°	8	2	.141	KDP20-16-8
16	20°	8	2-3/4	.141	KDP20-16-8L
16	20°	10	1-3/8	.141	KDP20-16-10S
16	20°	10	2-1/4	.141	KDP20-16-10
16	20°	10	3	.141	KDP20-16-10L

Stem design and stroke length vary

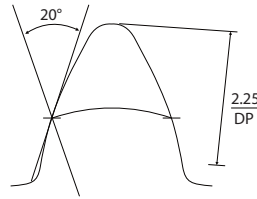
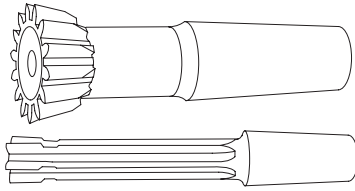
SERIES CONTINUED ON NEXT PAGE ->



<- SERIES CONTINUED FROM
PREVIOUS PAGE

KDP20 Series

DP 20° PA
Finishing
Non-Topping
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
16	20°	12	1-3/4	.141	KDP20-16-12S
16	20°	12	2-3/4	.141	KDP20-16-12
16	20°	12	3-1/2	.141	KDP20-16-12L
16	20°	16	1-5/8	.141	KDP20-16-16S
16	20°	16	2-1/4	.141	KDP20-16-16
16	20°	24	2	.141	KDP20-16-24
16	20°	30	2	.141	KDP20-16-30
18	20°	8	2	.125	KDP20-18-8
18	20°	16	1-3/8	.125	KDP20-18-16
20	20°	8	1-1/2	.112	KDP20-20-8
20	20°	10	1-3/8	.113	KDP20-20-10S
20	20°	12	2	.113	KDP20-20-12
20	20°	16	1-1/2	.113	KDP20-20-16
20	20°	20	1-1/2	.113	KDP20-20-20
20	20°	24	1-3/4	.113	KDP20-20-24
24	20°	8	1-1/8	.094	KDP20-24-8
24	20°	12	1-1/2	.094	KDP20-24-12
24	20°	12	1-7/8	.094	KDP20-24-12L
24	20°	16	2-1/2	.094	KDP20-24-16
24	20°	24	1-3/4	.094	KDP20-24-24
28	20°	18	1-3/4	.081	KDP20-28-18
28	20°	24	1-1/2	.081	KDP20-28-24
30	20°	12	1-3/8	.075	KDP20-30-12
30	20°	16	1-1/4	.075	KDP20-30-16
32	20°	12	1-3/4	.071	KDP20-32-12
32	20°	16	1-3/4	.071	KDP20-32-16
32	20°	20	2-1/8	.071	KDP20-32-20
32	20°	24	1-1/8	.071	KDP20-32-24S
32	20°	24	2	.071	KDP20-32-24
32	20°	28	1-1/2	.071	KDP20-32-28
32	20°	32	1-5/8	.071	KDP20-32-32
36	20°	20	1-3/8	.063	KDP20-36-20
36	20°	30	2	.063	KDP20-36-30
40	20°	16	1-5/8	.057	KDP20-40-16
40	20°	20	1-1/4	.057	KDP20-40-20S
40	20°	20	1-3/4	.057	KDP20-40-20
40	20°	20	2-3/4	.057	KDP20-40-20L
40	20°	40	1-1/4	.057	KDP20-40-40
42	20°	18	1-1/2	.054	KDP20-42-18
48	20°	16	1-1/4	.048	KDP20-48-16
48	20°	18	1-1/8	.048	KDP20-48-18
48	20°	20	1-1/2	.048	KDP20-48-20
48	20°	24	1-3/8	.048	KDP20-48-24
48	20°	36	1-1/4	.048	KDP20-48-36S
48	20°	36	1-1/2	.048	KDP20-48-36
48	20°	36	3	.048	KDP20-48-36L
48	20°	48	1-3/8	.048	KDP20-48-48
56	20°	24	1-1/2	.041	KDP20-56-24

DP	PA	# Teeth	Approx Stroke	WD	Series
60	20°	36	1	.040	KDP20-60-36
64	20°	16	1-1/8	.036	KDP20-64-16
64	20°	24	1-1/4	.036	KDP20-64-24
64	20°	30	1-1/2	.036	KDP20-64-30
64	20°	30	2	.036	KDP20-64-30L
64	20°	32	1-1/4	.036	KDP20-64-32
64	20°	38	1-1/2	.036	KDP20-64-38
64	20°	48	1-3/4	.036	KDP20-64-48
72	20°	22	1-1/8	.033	KDP20-72-22
72	20°	36	1-1/8	.033	KDP20-72-36
80	20°	34	1-1/2	.030	KDP20-80-34
80	20°	46	7/8	.030	KDP20-80-46
80	20°	72	2	.030	KDP20-80-72
96	20°	32	1/2	.025	KDP20-96-32S
96	20°	32	1-3/4	.025	KDP20-96-32
96	20°	48	1	.025	KDP20-96-48
120	20°	32	5/8	.020	KDP20-120-32
120	20°	48	1-1/2	.020	KDP20-120-48
120	20°	70	7/8	.020	KDP20-120-70

Stem design and stroke length vary

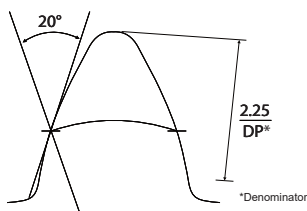
Internal Trimming Chart 20° PA

Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
13	4	36	18	59	41
14	4	37	19	60	42
15	5	38	20	61	43
16	5	39	21	62	44
17	6	40	22	63	45
18	6	41	23	64	46
19	7	42	24	65	47
20	7	43	25	66	48
21	8	44	26	67	49
22	8	45	27	68	50
23	9	46	28	69	51
24	10	47	29	70	52
25	10	48	30	71	53
26	11	49	31	72	54
27	12	50	32	73	55
28	12	51	33	74	56
29	13	52	34	75	57
30	13	53	35	76	58
31	14	54	36	77	59
32	14	55	37	78	60
33	15	56	38	79	61
34	16	57	39	80	62
35	17	58	40	81	63
				82	64



KCB20 Series

DP 20° PA
COMBO Stub
Finishing, Non-Topping
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
3/4	20°	6	3-3/4	.563	KCB20-03-6
4/5	20°	6	3	.450	KCB20-04-6
5/7	20°	7	2-3/4	.321	KCB20-05-7
5/7	20°	8	3-1/4	.321	KCB20-05-8
6/8	20°	6	1-3/4	.281	KCB20-06-6S
6/8	20°	6	3	.281	KCB20-06-6
6/8	20°	8	2-1/8	.281	KCB20-06-8
6/8	20°	10	3-7/8	.281	KCB20-06-10
7/9	20°	7	2-1/4	.250	KCB20-07-7
7/9	20°	8	1-3/4	.250	KCB20-07-8
8/10	20°	6	1-7/8	.225	KCB20-08-6
8/10	20°	7	2-1/4	.225	KCB20-08-7
8/10	20°	8	1-1/2	.225	KCB20-08-8S
8/10	20°	8	3	.225	KCB20-08-8
8/10	20°	8	3-1/2	.225	KCB20-08-8L
8/10	20°	10	3-1/4	.225	KCB20-08-10
8/10	20°	12	1-7/8	.225	KCB20-08-12S
8/10	20°	12	3	.225	KCB20-08-12
9/11	20°	7	1-1/4	.205	KCB20-09-7
10/12	20°	6	1-3/4	.188	KCB20-10-6S
10/12	20°	7	2	.188	KCB20-10-7
10/12	20°	8	2	.188	KCB20-10-8S
10/12	20°	9	2-1/8	.188	KCB20-10-9
10/12	20°	10	3	.188	KCB20-10-10
12/14	20°	4	2	.161	KCB20-12-4
12/14	20°	4	1-1/2	.161	KCB20-12-4S
12/14	20°	6	1-1/4	.161	KCB20-12-6
12/14	20°	8	2-1/2	.161	KCB20-12-8
12/14	20°	10	1-3/4	.161	KCB20-12-10
12/14	20°	11	2-1/4	.161	KCB20-12-11
12/14	20°	12	1-3/4	.161	KCB20-12-12S
12/14	20°	12	4	.161	KCB20-12-12L
14/16	20°	8	1-1/2	.141	KCB20-14-8
14/16	20°	12	2-7/8	.141	KCB20-14-12
16/21	20°	8	1-5/8	.107	KCB20-16-8

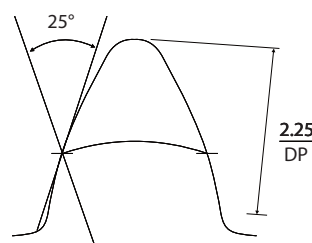
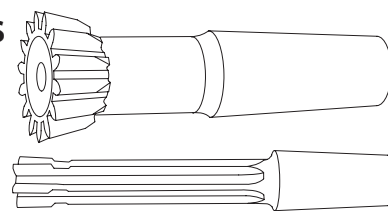
Maximum Tooth Chart
25° PA

Teeth in Part	Max in Cutter
12	4
13	4
14	5
15	6
16	6
17	7
18	7
19	8

Teeth in Part	Max in Cutter
20	8
21	9
22	10
23	11
24	12
25	13
26	14
27	15

K25 Series

DP 25° PA
Finishing
Non-Topping
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
6	25°	8	2-1/4	.375	K25-06-8
7	25°	8	2-1/4	.321	K25-07-8
8	25°	6	2-1/8	.281	K25-08-6
8	25°	9	2-3/8	.281	K25-08-9
8	25°	14	2	.281	K25-08-14
10	25°	8	1-7/8	.225	K25-10-8
10	25°	9	2	.225	K25-10-9
10	25°	14	2-1/2	.225	K25-10-14
10	25°	16	2-1/2	.225	K25-10-16
12	25°	8	2	.188	K25-12-8
12	25°	12	3	.188	K25-12-12
12	25°	18	2	.188	K25-12-18
14	25°	10	2	.161	K25-14-10
16	25°	12	2-1/4	.141	K25-16-12
16	25°	16	1-3/8	.141	K25-16-16S
20	25°	14	2	.112	K25-20-14
24	25°	16	1-3/4	.094	K25-24-16
32	25°	24	2-1/2	.071	K25-32-24
32	25°	40	5/8	.071	K25-32-40
36	25°	36	1-5/8	.063	K25-36-36
48	25°	18	1-1/2	.048	K25-48-18

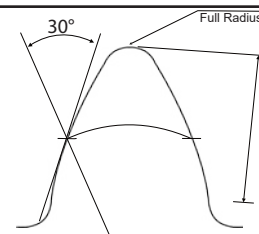
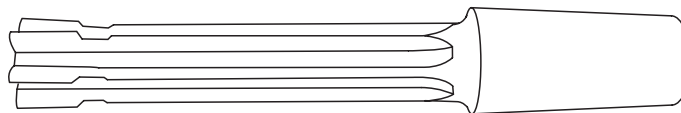
Stem design and stroke length vary

Teeth in Part	Max in Cutter
28	16
29	17
30	18
31	19
32	20
33	21
34	22
35	23
36	24



KFF30 Series

DP 30° PA
Fillet Root, Involute Spline
Shank Type



SHANK SHAPER

DP	PA	# Teeth	Approx Stroke	WD	Series
4/8	30°	4	3-1/2	.350	KFF30-04-4L
4/8	30°	6	5	.350	KFF30-04-6L
5/10	30°	6	3	.280	KFF30-05-6
5/10	30°	8	3-1/2	.280	KFF30-05-8
5/10	30°	8	4	.280	KFF30-05-8L
6/12	30°	4	1	.233	KFF30-06-4S
6/12	30°	6	3-1/2	.233	KFF30-06-6L
6/12	30°	7	2	.233	KFF30-06-7
6/12	30°	8	4-1/8	.233	KFF30-06-8
6/12	30°	9	2-1/2	.233	KFF30-06-9
6/12	30°	10	5-1/4	.233	KFF30-06-10
8/16	30°	4	1-1/2	.175	KFF30-08-4
8/16	30°	4	2-5/8	.175	KFF30-08-4L
8/16	30°	5	2-1/2	.175	KFF30-08-5
8/16	30°	6	2	.175	KFF30-08-6
8/16	30°	6	3-3/8	.175	KFF30-08-6L
8/16	30°	7	2	.175	KFF30-08-7
8/16	30°	8	1-7/8	.175	KFF30-08-8S
8/16	30°	8	3	.175	KFF30-08-8
8/16	30°	8	4-3/8	.175	KFF30-08-8L
8/16	30°	9	1-3/4	.175	KFF30-08-9
8/16	30°	10	1-1/4	.175	KFF30-08-10S
8/16	30°	10	2-3/4	.175	KFF30-08-10
8/16	30°	10	4-1/2	.175	KFF30-08-10L
8/16	30°	11	2-1/4	.175	KFF30-08-11
8/16	30°	12	1-3/4	.175	KFF30-08-12S
8/16	30°	12	3-3/4	.175	KFF30-08-12
8/16	30°	12	4-3/4	.175	KFF30-08-12L
10/20	30°	4	1-3/4	.140	KFF30-10-4
10/20	30°	4	2-1/4	.140	KFF30-10-4L
10/20	30°	5	1-1/2	.140	KFF30-10-5
10/20	30°	5	2-1/2	.140	KFF30-10-5L
10/20	30°	6	4	.140	KFF30-10-6L
10/20	30°	7	2	.140	KFF30-10-7
10/20	30°	8	2-1/2	.140	KFF30-10-8S
10/20	30°	8	4-1/2	.140	KFF30-10-8L
10/20	30°	9	3	.140	KFF30-10-9
10/20	30°	10	2	.140	KFF30-10-10S
10/20	30°	10	4-1/2	.140	KFF30-10-10L
10/20	30°	11	3	.140	KFF30-10-11
10/20	30°	12	5	.140	KFF30-10-12L
10/20	30°	14	2	.140	KFF30-10-14S
10/20	30°	14	3-3/4	.140	KFF30-10-14
10/20	30°	16	2-1/2	.140	KFF30-10-16
12/24	30°	4	2-1/2	.117	KFF30-12-4L
12/24	30°	5	2-1/8	.117	KFF30-12-5
12/24	30°	5	1	.120	KFF30-12-5SE

DP	PA	# Teeth	Approx Stroke	WD	Series
12/24	30°	6	2	.117	KFF30-12-6S
12/24	30°	6	2-1/2	.117	KFF30-12-6
12/24	30°	6	3-1/2	.117	KFF30-12-6L
12/24	30°	7	2	.117	KFF30-12-7
12/24	30°	8	1-3/8	.117	KFF30-12-8S
12/24	30°	8	2-1/2	.117	KFF30-12-8LE
12/24	30°	8	2-7/8	.117	KFF30-12-8L
12/24	30°	9	1-1/4	.117	KFF30-12-9
12/24	30°	10	2-1/2	.117	KFF30-12-10
12/24	30°	10	3-3/4	.117	KFF30-12-10L
12/24	30°	11	1-3/4	.117	KFF30-12-11
12/24	30°	12	2-3/4	.117	KFF30-12-12
12/24	30°	12	4	.117	KFF30-12-12L
12/24	30°	12	5	.117	KFF30-12-12XL
12/24	30°	14	3	.117	KFF30-12-14
12/24	30°	16	2-1/2	.120	KFF30-12-16E
12/24	30°	16	4	.120	KFF30-12-16LE

SERIES CONTINUED ON NEXT PAGE ->

Maximum Tooth Chart
30° PA Fillet Root

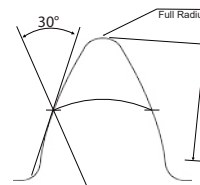
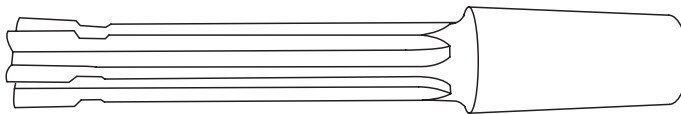
Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
12	4	40	31
13	5	41	32
14	6	42	33
15	6	43	34
16	7	45	36
17	8	47	38
18	9	49	40
19	10	51	42
20	11	53	44
21	12	55	46
22	13	57	48
23	14	59	50
24	15	61	52
25	16	63	54
26	17	65	56
27	18	67	58
28	19	69	60
29	20	71	62
30	21	73	64
31	22	75	66
32	23	77	68
33	24	79	70
34	25	81	72
35	26	83	74
36	27	85	76
37	28	87	78
38	29	89	80
39	30		



<- SERIES CONTINUED FROM
PREVIOUS PAGE

KFF30 Series

DP 30° PA
Fillet Root, Involute Spline
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
12/24	30°	18	4	.120	KFF30-12-18
16/32	30°	4	3/4	.094	KFF30-16-4
16/32	30°	4	1-1/4	.094	KFF30-16-4L
16/32	30°	5	1-1/4	.094	KFF30-16-5
16/32	30°	5	2	.094	KFF30-16-5L
16/32	30°	6	1-1/4	.094	KFF30-16-6S
16/32	30°	6	2	.094	KFF30-16-6
16/32	30°	6	2-1/2	.094	KFF30-16-6L
16/32	30°	7	1-1/4	.094	KFF30-16-7
16/32	30°	8	1-1/2	.094	KFF30-16-8S
16/32	30°	8	2-1/4	.094	KFF30-16-8
16/32	30°	8	2-3/4	.094	KFF30-16-8L
16/32	30°	9	2	.094	KFF30-16-9
16/32	30°	10	1-1/2	.094	KFF30-16-10S
16/32	30°	10	2-1/2	.094	KFF30-16-10
16/32	30°	10	3-1/4	.094	KFF30-16-10L
16/32	30°	11	2-1/4	.094	KFF30-16-11
16/32	30°	12	1-3/4	.094	KFF30-16-12S
16/32	30°	12	3	.094	KFF30-16-12
16/32	30°	12	4	.094	KFF30-16-12L
16/32	30°	13	2-1/2	.094	KFF30-16-13
16/32	30°	14	2-1/4	.094	KFF30-16-14
16/32	30°	14	3-3/4	.094	KFF30-16-14L
16/32	30°	15	2	.094	KFF30-16-15
16/32	30°	16	3	.094	KFF30-16-16S
16/32	30°	16	4	.094	KFF30-16-16
16/32	30°	16	4-1/2	.094	KFF30-16-16L
16/32	30°	18	3-1/4	.094	KFF30-16-18
16/32	30°	20	2-3/4	.094	KFF30-16-20
16/32	30°	20	5	.094	KFF30-16-20L
16/32	30°	27	3	.094	KFF30-16-27
20/30	30°	4	1-1/4	.082	KFF30-23-4
20/30	30°	6	1-1/2	.087	KFF30-23-6
20/30	30°	6	2-1/2	.087	KFF30-23-6L
20/30	30°	8	2-1/2	.087	KFF30-23-8
20/30	30°	8	2-3/4	.087	KFF30-23-8L
20/30	30°	9	1-3/4	.087	KFF30-23-9
20/30	30°	10	1-5/8	.087	KFF30-23-10S
20/30	30°	10	2-3/8	.087	KFF30-23-10
20/30	30°	12	2-3/4	.087	KFF30-23-12
20/30	30°	14	1-7/8	.087	KFF30-23-14
20/30	30°	20	2	.087	KFF30-23-20
20/30	30°	24	2	.087	KFF30-23-24
20/40	30°	4	1	.075	KFF30-20-4
20/40	30°	5	1-1/8	.075	KFF30-20-5
20/40	30°	5	1-5/8	.075	KFF30-20-5L

DP	PA	# Teeth	Approx Stroke	WD	Series
20/40	30°	6	1-1/4	.075	KFF30-20-6
20/40	30°	6	1-3/4	.075	KFF30-20-6L
20/40	30°	7	1-1/4	.075	KFF30-20-7
20/40	30°	7	1-3/4	.075	KFF30-20-7L
20/40	30°	8	1-3/8	.075	KFF30-20-8
20/40	30°	8	2-5/8	.075	KFF30-20-8L
20/40	30°	9	1-1/4	.075	KFF30-20-9
20/40	30°	10	1-1/2	.075	KFF30-20-10
20/40	30°	10	2-5/8	.075	KFF30-20-10L
20/40	30°	11	2-1/2	.075	KFF30-20-11
20/40	30°	12	2-1/4	.075	KFF30-20-12
20/40	30°	12	3	.075	KFF30-20-12L
20/40	30°	14	3	.075	KFF30-20-14
20/40	30°	16	2-1/4	.075	KFF30-20-16
20/40	30°	16	3	.075	KFF30-20-16L
20/40	30°	18	1-7/8	.075	KFF30-20-18
20/40	30°	18	3	.075	KFF30-20-18L
20/40	30°	20	2-1/2	.075	KFF30-20-20
20/40	30°	24	2-1/4	.075	KFF30-20-24
20/40	30°	26	1-5/8	.075	KFF30-20-26
24/48	30°	5	3/4	.058	KFF30-24-5
24/48	30°	6	3/4	.063	KFF30-24-6
24/48	30°	6	1-1/4	.063	KFF30-24-6L
24/48	30°	7	1-1/4	.063	KFF30-24-7
24/48	30°	8	1-1/4	.063	KFF30-24-8S
24/48	30°	8	2-1/4	.063	KFF30-24-8
24/48	30°	9	1-1/2	.063	KFF30-24-9
24/48	30°	10	2-1/4	.063	KFF30-24-10
24/48	30°	10	3-1/4	.063	KFF30-24-10L
24/48	30°	11	2	.063	KFF30-24-11
24/48	30°	12	2-1/8	.063	KFF30-24-12
24/48	30°	12	2-3/4	.063	KFF30-24-12L
24/48	30°	14	1-1/2	.063	KFF30-24-14
24/48	30°	15	2-1/2	.063	KFF30-24-15
24/48	30°	16	2-1/4	.063	KFF30-24-16
24/48	30°	16	3-1/4	.063	KFF30-24-16L
24/48	30°	18	2-5/8	.063	KFF30-24-18
24/48	30°	18	3-1/2	.063	KFF30-24-18L
24/48	30°	20	2-1/2	.063	KFF30-24-20
24/48	30°	20	4-1/8	.063	KFF30-24-20L
24/48	30°	22	1-1/2	.063	KFF30-24-22S
24/48	30°	22	2-1/2	.063	KFF30-24-22
24/48	30°	22	3-1/2	.063	KFF30-24-22L
24/48	30°	24	2-1/2	.063	KFF30-24-24
32/64	30°	5	1/2	.044	KFF30-32-5
32/64	30°	6	1	.047	KFF30-32-6

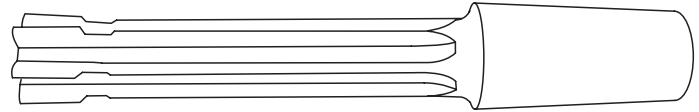
SERIES CONTINUED ON NEXT PAGE ->



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PREVIOUS PAGE

KFF30 Series

DP 30° PA
Fillet Root, Involute Spline
Shank Type



Maximum Tooth Chart
30° PA Fillet Root

DP	PA	# Teeth	Approx Stroke	WD	Series
32/64	30°	6	1-1/4	.047	KFF30-32-6L
32/64	30°	7	1	.047	KFF30-32-7
32/64	30°	8	1-1/4	.047	KFF30-32-8
32/64	30°	8	2	.047	KFF30-32-8L
32/64	30°	9	1-1/2	.047	KFF30-32-9
32/64	30°	10	1-1/4	.047	KFF30-32-10
32/64	30°	10	2-1/4	.047	KFF30-32-10L
32/64	30°	12	1-3/4	.047	KFF30-32-12
32/64	30°	14	1-3/4	.047	KFF30-32-14
32/64	30°	16	1-3/8	.047	KFF30-32-16
32/64	30°	16	2-1/4	.047	KFF30-32-16L
32/64	30°	18	2-1/2	.047	KFF30-32-18
32/64	30°	20	1-3/4	.047	KFF30-32-20
32/64	30°	20	3	.047	KFF30-32-20L
32/64	30°	24	2	.047	KFF30-32-24
32/64	30°	24	2-3/4	.047	KFF30-32-24L
32/64	30°	26	1-7/8	.047	KFF30-32-26
32/64	30°	32	2	.047	KFF30-32-32
40/80	30°	6	7/8	.035	KFF30-40-6
40/80	30°	7	3/4	.038	KFF30-40-7
40/80	30°	8	1	.038	KFF30-40-8
40/80	30°	10	7/8	.038	KFF30-40-10
40/80	30°	10	1-5/8	.038	KFF30-40-10L
40/80	30°	12	1-1/8	.038	KFF30-40-12
40/80	30°	18	1-3/4	.038	KFF30-40-18
40/80	30°	22	1-3/4	.038	KFF30-40-22
40/80	30°	26	1-1/2	.038	KFF30-40-26
48/96	30°	8	3/4	.031	KFF30-48-8
48/96	30°	8	1-1/8	.031	KFF30-48-8L
48/96	30°	10	7/8	.031	KFF30-48-10
48/96	30°	12	1-1/8	.031	KFF30-48-12
48/96	30°	16	1-1/2	.031	KFF30-48-16
48/96	30°	20	1	.031	KFF30-48-20
48/96	30°	32	1-5/8	.031	KFF30-48-32
80/160	30°	14	3/4	.015	KFF30-80-14
80/160	30°	80	1-1/8	.015	KFF30-80-80

Teeth in Part	Max in Cutter
12	4
13	5
14	6
15	6
16	7
17	8
18	9
19	10
20	11
21	12
22	13
23	14
24	15
25	16
26	17
27	18
28	19
29	20
30	21
31	22
32	23
33	24
34	25
35	26
36	27
37	28
38	29
39	30
40	31

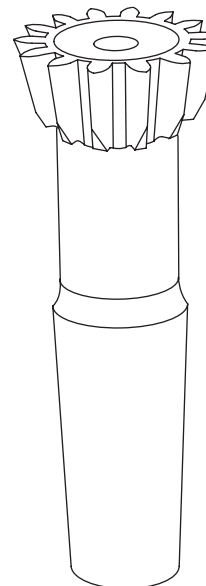
Teeth in Part	Max in Cutter
41	32
42	33
43	34
45	36
47	38
49	40
51	42
53	44
55	46
57	48
59	50
61	52
63	54
65	56
67	58
69	60
71	62
73	64
75	66
77	68
79	70
81	72
83	74
85	76
87	78
89	80



DP	PA	# Teeth	Approx Stroke	ASA B5.15-1950		ANSI B92.1-1970	
				WD	Series	WD	Series
4/8	30°	6	2-1/4	.277	K5L30-04-6	.294	K7L30-04-6
4/8	30°	6	4-1/2	.277	K5L30-04-6L	.294	K7L30-04-6L
5/10	30°	6	2-3/4	.222	-	.235	K7L30-05-6S
5/10	30°	6	3-1/2	.222	-	.235	K7L30-05-6
5/10	30°	6	4	.222	K5L30-05-6L	.235	K7L30-05-6L
5/10	30°	8	2	.222	-	.235	K7L30-05-8S
5/10	30°	8	3-1/4	.222	-	.235	K7L30-05-8
5/10	30°	8	4-3/4	.222	K5L30-05-8L	.235	K7L30-05-8L
6/12	30°	4	2-3/4	.185	-	.196	K7L30-06-4
6/12	30°	5	1-1/4	.185	-	.196	K7L30-06-5S
6/12	30°	5	2-1/2	.185	-	.196	K7L30-06-5
6/12	30°	6	3-1/2	.185	-	.196	K7L30-06-6L
6/12	30°	8	2	.185	-	.196	K7L30-06-8S
6/12	30°	8	4-1/2	.185	-	.196	K7L30-06-8
6/12	30°	8	5-1/2	.185	-	.196	K7L30-06-8L
6/12	30°	9	2-5/8	.185	K5L30-06-9	.196	K7L30-06-9
6/12	30°	10	3-1/2	.185	-	.196	K7L30-06-10
6/12	30°	10	5	.185	-	.196	K7L30-06-10L
8/16	30°	4	1-1/2	.140	-	.147	K7L30-08-4
8/16	30°	4	2-1/4	.140	-	.147	K7L30-08-4L
8/16	30°	5	1-1/4	.140	-	.147	K7L30-08-5
8/16	30°	5	3	.140	-	.147	K7L30-08-5L
8/16	30°	6	1-1/2	.140	K5L30-08-6	.147	K7L30-08-6
8/16	30°	6	3	.140	K5L30-08-6L	.147	K7L30-08-6L
8/16	30°	6	4	.140	-	.147	K7L30-08-6XL
8/16	30°	7	1	.140	-	.147	K7L30-08-7S
8/16	30°	7	1-1/2	.140	-	.147	K7L30-08-7
8/16	30°	7	3-3/4	.140	-	.147	K7L30-08-7L
8/16	30°	8	2-1/4	.140	K5L30-08-8S	.147	-
8/16	30°	8	2-7/8	.140	K5L30-08-8	.147	K7L30-08-8
8/16	30°	8	4-5/8	.140	K5L30-08-8L	.147	K7L30-08-8L
8/16	30°	9	1-1/2	.140	-	.147	K7L30-08-9S
8/16	30°	9	2-7/8	.140	-	.147	K7L30-08-9
8/16	30°	9	3-1/4	.140	-	.147	K7L30-08-9L
8/16	30°	10	1-1/4	.140	-	.147	K7L30-08-10S
8/16	30°	10	3-1/4	.140	-	.147	K7L30-08-10
8/16	30°	10	5	.140	-	.147	K7L30-08-10L
8/16	30°	12	4	.140	-	.147	K7L30-08-12
8/16	30°	12	4-3/4	.140	-	.147	K7L30-08-12L
8/16	30°	14	3	.140	-	.147	K7L30-08-14
10/20	30°	4	2	.112	-	.118	K7L30-10-4
10/20	30°	5	2-3/8	.112	-	.118	K7L30-10-5
10/20	30°	6	2-1/2	.112	-	.118	K7L30-10-6
10/20	30°	6	3-1/2	.112	-	.118	K7L30-10-6L
10/20	30°	7	2-1/4	.112	-	.118	K7L30-10-7
10/20	30°	8	2-1/2	.112	-	.118	K7L30-10-8
10/20	30°	8	3-3/4	.112	-	.118	K7L30-10-8L
10/20	30°	9	2-3/4	.112	-	.118	K7L30-10-9
10/20	30°	10	1-1/2	.112	-	.118	K7L30-10-10S
10/20	30°	10	4-3/4	.112	-	.118	K7L30-10-10L

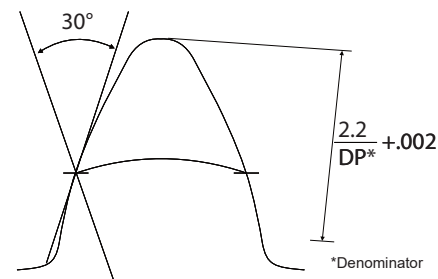
K5L30 & K7L30 Series

DP 30° PA
Flat Root Side Fit
Involute Spline
Shank Type

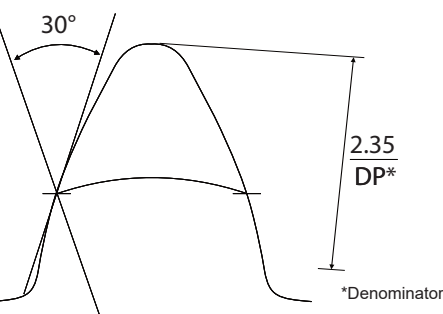


Stem design and stroke length vary

K5L30 Rack Profile



K7L30 Rack Profile



SERIES CONTINUED
ON NEXT PAGE ->



DP	PA	# Teeth	Approx Stroke	ASA B5.15-1950		ANSI B92.1-1970	
				WD	Series	WD	Series
10/20	30°	12	2	.112	-	.118	K7L30-10-12S
10/20	30°	12	3-1/4	.112	-	.118	K7L30-10-12
10/20	30°	12	5	.112	-	.118	K7L30-10-12L
10/20	30°	14	2	.112	-	.118	K7L30-10-14S
10/20	30°	14	3	.112	-	.118	K7L30-10-14
10/20	30°	16	3	.112	-	.118	K7L30-10-16
12/24	30°	4	1-1/4	.094	-	.098	K7L30-12-4
12/24	30°	4	1-5/8	.094	-	.098	K7L30-12-4L
12/24	30°	5	7/8	.094	-	.098	K7L30-12-5
12/24	30°	6	3/4	.094	-	.098	K7L30-12-6S
12/24	30°	6	1-3/8	.094	-	.098	K7L30-12-6
12/24	30°	6	2-5/8	.094	-	.098	K7L30-12-6L
12/24	30°	7	2	.094	K5L30-12-7	.098	K7L30-12-7
12/24	30°	8	2-1/4	.094	K5L30-12-8	.098	K7L30-12-8
12/24	30°	8	3-1/4	.094	K5L30-12-8L	.098	K7L30-12-8L
12/24	30°	9	1-1/2	.094	-	.098	K7L30-12-9
12/24	30°	10	1-3/4	.094	-	.098	K7L30-12-10S
12/24	30°	10	2-1/2	.094	-	.098	K7L30-12-10
12/24	30°	10	3-1/4	.094	-	.098	K7L30-12-10L
12/24	30°	11	1-3/4	.094	-	.098	K7L30-12-11
12/24	30°	12	2	.094	-	.098	K7L30-12-12S
12/24	30°	12	3	.094	-	.098	K7L30-12-12
12/24	30°	12	4	.094	-	.098	K7L30-12-12L
12/24	30°	14	3-1/2	.094	-	.098	K7L30-12-14
12/24	30°	16	2-1/2	.094	-	.098	K7L30-12-16
16/32	30°	4	1-1/4	.071	-	.073	K7L30-16-4
16/32	30°	5	1-1/4	.071	-	.073	K7L30-16-5S
16/32	30°	5	1-3/4	.071	-	.073	K7L30-16-5
16/32	30°	5	2-1/8	.071	-	.073	K7L30-16-5L
16/32	30°	6	1-1/4	.071	K5L30-16-6	.073	K7L30-16-6
16/32	30°	6	2-1/2	.071	K5L30-16-6L	.073	K7L30-16-6L
16/32	30°	7	1-1/2	.071	-	.073	K7L30-16-7
16/32	30°	8	1-1/2	.071	K5L30-16-8S	.073	K7L30-16-8S
16/32	30°	8	2	.071	K5L30-16-8	.073	K7L30-16-8
16/32	30°	8	2-3/4	.071	K5L30-16-8L	.073	K7L30-16-8L
16/32	30°	9	1-1/2	.071	-	.073	K7L30-16-9
16/32	30°	10	2	.071	-	.073	K7L30-16-10
16/32	30°	10	2-3/4	.071	-	.073	K7L30-16-10L
16/32	30°	11	2-1/4	.071	-	.073	K7L30-16-11
16/32	30°	12	2-1/2	.071	K5L30-16-12	.073	K7L30-16-12
16/32	30°	12	3-3/4	.071	-	.073	K7L30-16-12L
16/32	30°	14	1-1/2	.071	-	.073	K7L30-16-14
16/32	30°	14	2-3/4	.071	-	.073	K7L30-16-14L
16/32	30°	15	1-1/2	.071	K5L30-16-15	.073	K7L30-16-15
16/32	30°	15	3-3/4	.071	-	.073	K7L30-16-15L
16/32	30°	16	1-3/4	.071	-	.073	K7L30-16-16S
16/32	30°	16	3	.071	-	.073	K7L30-16-16
16/32	30°	16	4-1/4	.071	-	.073	K7L30-16-16L
16/32	30°	16	4-1/2	.071	-	.073	K7L30-16-16LL
16/32	30°	18	3-1/4	.071	-	.073	K7L30-16-18

<- SERIES CONTINUED FROM
PREVIOUS PAGE

K5L30 & K7L30 Series

DP 30° PA
Flat Root Side Fit
Involute Spline
Shank Type

Maximum Tooth Chart
30° PA Flat Root

Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
10	4	26	20
11	5	27	21
12	6	28	22
13	7	29	23
14	8	30	24
15	9	31	25
16	10	32	26
17	11	33	27
18	12	34	28
19	13	35	29
20	14	36	30
21	15	37	31
22	16	38	32
23	17	39	33
24	18	40	34
25	19	41	35

SERIES CONTINUED
ON NEXT PAGE ->

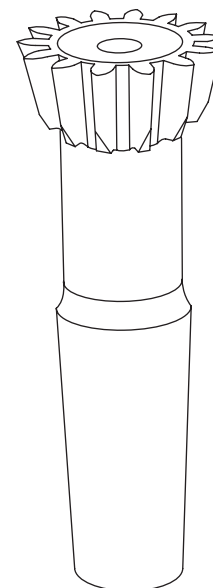


DP	PA	# Teeth	Approx Stroke	ASA B5.15-1950		ANSI B92.1-1970	
				WD	Series	WD	Series
16/32	30°	20	2-3/4	.071	-	.073	K7L30-16-20
16/32	30°	20	5	.071	-	.073	K7L30-16-20L
16/32	30°	24	1-1/2	.071	-	.073	K7L30-16-24
20/40	30°	4	1-1/4	.057	-	.059	K7L30-20-4
20/40	30°	5	7/8	.057	-	.059	K7L30-20-5
20/40	30°	6	1	.057	-	.059	K7L30-20-6
20/40	30°	6	1-5/8	.057	-	.059	K7L30-20-6L
20/40	30°	7	1-3/8	.057	K5L30-20-7	.059	K7L30-20-7
20/40	30°	8	2-1/4	.057	-	.059	K7L30-20-8
20/40	30°	10	1-3/8	.057	K5L30-20-10	.059	K7L30-20-10
20/40	30°	12	2-1/2	.057	-	.059	K7L30-20-12
20/40	30°	14	1-3/4	.057	-	.059	K7L30-20-14S
20/40	30°	14	2-1/2	.057	-	.059	K7L30-20-14
20/40	30°	14	3-1/4	.057	-	.059	K7L30-20-14L
20/40	30°	16	2-1/4	.057	-	.059	K7L30-20-16
20/40	30°	18	2-1/2	.057	-	.059	K7L30-20-18
24/48	30°	5	1-1/8	.048	-	.049	K7L30-24-5
24/48	30°	6	1-1/4	.048	-	.049	K7L30-24-6
24/48	30°	8	1-1/2	.048	-	.049	K7L30-24-8
24/48	30°	8	1-7/8	.048	K5L30-24-8L	.049	K7L30-24-8L
24/48	30°	10	2-1/4	.048	-	.049	K7L30-24-10
24/48	30°	10	3-1/4	.048	-	.049	K7L30-24-10L
24/48	30°	11	2	.048	-	.049	K7L30-24-11
24/48	30°	12	2-1/2	.048	K5L30-24-12	.049	K7L30-24-12
24/48	30°	14	1-5/8	.048	-	.049	K7L30-24-14
24/48	30°	16	2-3/8	.048	-	.049	K7L30-24-16
24/48	30°	18	2-1/4	.048	K5L30-24-18	.049	K7L30-24-18
24/48	30°	22	3-1/4	.048	-	.049	K7L30-24-22
32/64	30°	6	1-1/4	.036	-	.037	K7L30-32-6
32/64	30°	8	1-1/8	.036	-	.037	K7L30-32-8
32/64	30°	8	1-3/4	.036	-	.037	K7L30-32-8L
32/64	30°	10	1-5/8	.036	-	.037	K7L30-32-10
32/64	30°	12	1-5/8	.036	-	.037	K7L30-32-12
32/64	30°	14	1-3/4	.036	-	.037	K7L30-32-14
32/64	30°	16	1-3/8	.036	-	.037	K7L30-32-16
32/64	30°	20	1-3/4	.036	-	.037	K7L30-32-20
32/64	30°	24	1-1/2	.036	-	.037	K7L30-32-24
32/64	30°	24	2-5/8	.036	-	.037	K7L30-32-24L
40/80	30°	7	1-3/8	.030	-	.030	K7L30-40-7
40/80	30°	10	1-3/4	.030	-	.030	K7L30-40-10
40/80	30°	12	1-3/4	.030	-	.030	K7L30-40-12
40/80	30°	18	1-3/4	.030	-	.030	K7L30-40-18
40/80	30°	22	1-3/4	.030	-	.030	K7L30-40-22
48/96	30°	8	1	.025	-	.025	K7L30-48-8
48/96	30°	10	1-1/8	.025	-	.025	K7L30-48-10
48/96	30°	12	1-1/4	.025	-	.025	K7L30-48-12
48/96	30°	16	1-1/4	.025	-	.025	K7L30-48-16
48/96	30°	20	1-3/8	.025	-	.025	K7L30-48-20
48/96	30°	32	1-5/8	.025	-	.025	K7L30-48-32

<- SERIES CONTINUED FROM PREVIOUS PAGE

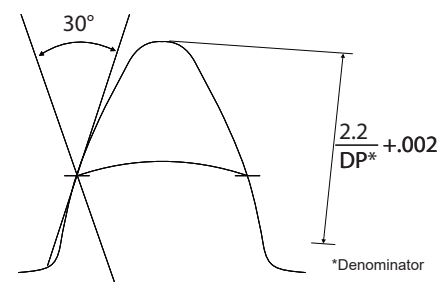
K5L30 & K7L30 Series

DP 30° PA
Flat Root Side Fit
Involute Spline
Shank Type

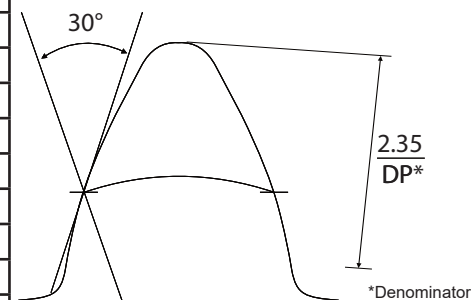


Stem design and stroke length vary

K5L30 Rack Profile



K7L30 Rack Profile

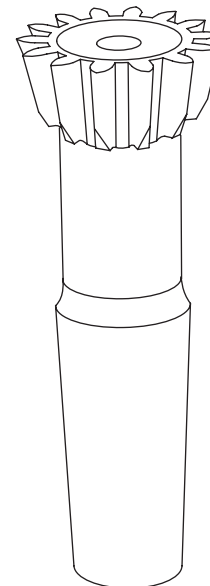




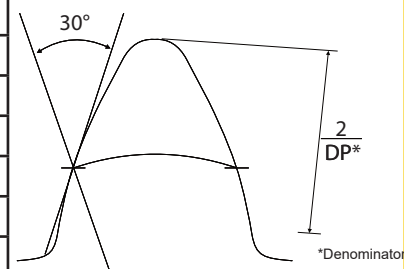
DP	PA	# Teeth	Approx Stroke	WD	Series
5/10	30°	6	2-1/2	.200	KJI30-05-6
5/10	30°	7	2-3/4	.200	KJI30-05-7
5/10	30°	8	4-3/4	.200	KJI30-05-8
6/12	30°	6	3-1/4	.167	KJI30-06-6
6/12	30°	8	3	.167	KJI30-06-8
6/12	30°	10	3-3/8	.167	KJI30-06-10
8/16	30°	6	2-7/8	.125	KJI30-08-6
8/16	30°	8	2-3/4	.125	KJI30-08-8
8/16	30°	12	4	.125	KJI30-08-12
8/16	30°	14	5	.125	KJI30-08-14
10/20	30°	6	2-1/2	.100	KJI30-10-6
10/20	30°	8	3	.100	KJI30-10-8
10/20	30°	9	2-3/4	.100	KJI30-10-9
10/20	30°	10	3	.100	KJI30-10-10
10/20	30°	12	3	.100	KJI30-10-12
12/24	30°	7	2-1/2	.083	KJI30-12-7
12/24	30°	8	2	.083	KJI30-12-8S
12/24	30°	8	2-3/4	.083	KJI30-12-8
12/24	30°	8	3-1/4	.083	KJI30-12-8L
12/24	30°	10	3-1/2	.083	KJI30-12-10
12/24	30°	12	3-1/4	.083	KJI30-12-12
12/24	30°	12	4-1/2	.083	KJI30-12-12L
16/32	30°	4	1-1/4	.063	KJI30-16-4
16/32	30°	6	1-1/4	.063	KJI30-16-6
16/32	30°	9	1-1/2	.063	KJI30-16-9
16/32	30°	10	2-1/2	.063	KJI30-16-10
16/32	30°	12	2-1/8	.063	KJI30-16-12
16/32	30°	12	3-3/4	.063	KJI30-16-12L
16/32	30°	14	1-3/4	.063	KJI30-16-14
16/32	30°	16	3-3/4	.063	KJI30-16-16L
16/32	30°	18	3-1/2	.063	KJI30-16-18
16/32	30°	22	2-7/8	.063	KJI30-16-22L
20/40	30°	8	1-7/8	.050	KJI30-20-8
20/40	30°	10	2-1/4	.050	KJI30-20-10
20/40	30°	12	2-3/4	.050	KJI30-20-12
24/48	30°	6	1-1/4	.042	KJI30-24-6
24/48	30°	8	1-1/2	.042	KJI30-24-8
24/48	30°	10	3-1/4	.042	KJI30-24-10L
24/48	30°	12	2-1/2	.042	KJI30-24-12
24/48	30°	16	2-1/2	.042	KJI30-24-16
32/64	30°	8	1-1/4	.031	KJI30-32-8
32/64	30°	10	1-5/8	.031	KJI30-32-10
32/64	30°	16	1-3/8	.031	KJI30-32-16

KJI30 Series

DP 30° PA
Flat Root Major Diameter Fit
Involute Spline
Shank Type



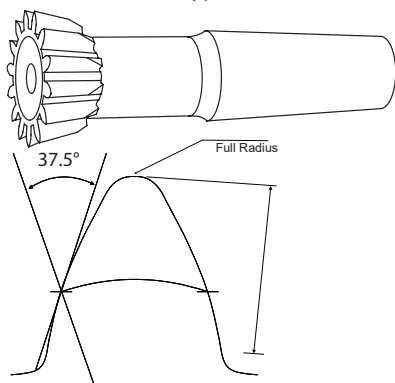
Stem design and stroke length vary





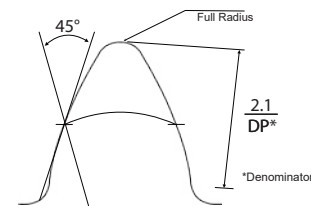
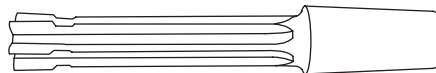
KFF37 Series

DP 37.5° PA
Full Fillet
Involute Spline
Shank Type



K45 Series

DP 45° PA
Full Fillet
Involute Spline
Shank Type



DP	PA	# Teeth	Approx Stroke	WD	Series
10/20	37.5°	8	2-1/4	.132	KFF37-10-8
12/24	37.5°	10	2-1/2	.110	KFF37-12-10
16/32	37.5°	4	1-1/4	.079	KFF37-16-4
16/32	37.5°	10	2-1/8	.079	KFF37-16-10
16/32	37.5°	14	2-1/2	.079	KFF37-16-14
20/40	37.5°	5	1-1/2	.064	KFF37-20-5
20/40	37.5°	10	1-1/2s	.064	KFF37-20-10
20/40	37.5°	14	2	.064	KFF37-20-14
20/40	37.5°	16	2-3/8	.065	KFF37-20-16
20/40	37.5°	24	3-3/8	.065	KFF37-20-24L
24/48	37.5°	8	1-1/2	.055	KFF37-24-8
24/48	37.5°	12	2-1/2	.055	KFF37-24-12
24/48	37.5°	18	2-1/4	.055	KFF37-24-18
32/64	37.5°	7	1-1/4	.041	KFF37-32-7
32/64	37.5°	10	1-1/4	.041	KFF37-32-10
32/64	37.5°	20	2-5/8	.041	KFF37-32-20
40/80	37.5°	7	1	.034	KFF37-40-7
40/80	37.5°	10	1-1/4	.034	KFF37-40-10
40/80	37.5°	22	1-1/4	.034	KFF37-40-22
48/96	37.5°	10	7/8	.029	KFF37-48-10

Maximum Tooth Chart 45° PA

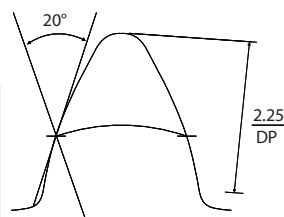
Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
10	6	18	14	26	22	34	30
11	7	19	15	27	23	35	31
12	8	20	16	28	24	36	32
13	9	21	17	29	25	37	33
14	10	22	18	30	26	38	34
15	11	23	19	31	27		
16	12	24	20	32	28		
17	13	25	21	33	29		

*Stem design and stroke length vary

DP	PA	# Teeth	Approx Stroke	WD	Series
10/20	45°	6	2	.104	K45-10-6
10/20	45°	8	2-1/2	.104	K45-10-8
12/24	45°	8	1-3/4	.086	K45-12-8
12/24	45°	12	1-1/2	.086	K45-12-12
16/32	45°	6	1-1/2	.066	K45-16-6
16/32	45°	8	1-3/4	.066	K45-16-8
16/32	45°	10	2	.066	K45-16-10
16/32	45°	10	2-1/8	.063	K45-16-10E
16/32	45°	14	2-1/2	.066	K45-16-14
20/40	45°	8	1-5/8	.054	K45-20-8
20/40	45°	12	1-1/2	.054	K45-20-12
20/40	45°	16	2-1/2	.054	K45-20-16
20/40	45°	20	3-3/4	.054	K45-20-20
24/48	45°	8	1-5/8	.045	K45-24-8
24/48	45°	10	1	.045	K45-24-10E
24/48	45°	12	1-1/2	.045	K45-24-12
24/48	45°	12	2-1/8	.045	K45-24-12L
24/48	45°	14	2	.045	K45-24-14
24/48	45°	18	2-3/4	.045	K45-24-18
24/48	45°	22	2-3/8	.045	K45-24-22S
24/48	45°	24	2-3/4	.045	K45-24-24
32/64	45°	9	1-1/4	.033	K45-32-9
32/64	45°	12	1-3/8	.033	K45-32-12
32/64	45°	16	1-3/4	.033	K45-32-16
32/64	45°	20	2-3/4	.033	K45-32-20L
32/64	45°	30	2-1/2	.033	K45-32-30
40/80	45°	10	3/4	.028	K45-40-10
40/80	45°	15	1-1/4	.030	K45-40-15E
40/80	45°	16	1-3/4	.028	K45-40-16
40/80	45°	20	1-3/4	.030	K45-40-20L
40/80	45°	22	1-3/4	.028	K45-40-22
40/80	45°	30	1-1/2	.028	K45-40-30
48/96	45°	8	3/4	.023	K45-48-8
48/96	45°	12	3/4	.023	K45-48-12
48/96	45°	12	5/8	.022	K45-48-12E
48/96	45°	18	1-1/4	.023	K45-48-18
48/96	45°	24	2-1/8	.023	K45-48-24
48/96	45°	32	1-3/4	.023	K45-48-32
48/96	45°	40	1-1/4	.023	K45-48-40S
64/128	45°	20	1-1/2	.016	K45-64-20
64/128	45°	28	1-3/4	.016	K45-64-28
80/160	45°	24	1	.014	K45-80-24
80/160	45°	38	1-1/4	.014	K45-80-38



Module	PA	# Teeth	Approx Stroke	WD	Series
.2	20°	28	7/8	.019	KM20-020-28
.25	20°	120	1-1/8	.024	KM20-025-120
.3	20°	20	3/4	.027	KM20-030-20
.3	20°	36	1	.027	KM20-030-36
.4	20°	32	1-1/2	.035	KM20-040-32
.5	20°	16	1-1/8	.044	KM20-050-16
.5	20°	28	1-3/8	.044	KM20-050-28
.6	20°	22	1-1/2	.053	KM20-060-22
.7	20°	14	1-1/4	.062	KM20-070-14
.7	20°	22	1-1/2	.062	KM20-070-22
.75	20°	10	1-1/4	.066	KM20-075-10
.75	20°	14	1-1/2	.066	KM20-075-14
.8	20°	12	1-1/2	.071	KM20-080-12
.8	20°	18	1-3/4	.071	KM20-080-18
.8	20°	26	2-1/8	.071	KM20-080-26
.9	20°	16	1-3/4	.080	KM20-090-16
1	20°	8	1-1/4	.089	KM20-100-8
1	20°	14	4	.089	KM20-100-14XL
1	20°	16	2	.089	KM20-100-16
1	20°	16	2-1/2	.089	KM20-100-16L
1.25	20°	6	1	.111	KM20-125-6
1.25	20°	8	2-1/8	.111	KM20-125-8L
1.25	20°	12	1-5/8	.111	KM20-125-12
1.25	20°	16	1-5/8	.111	KM20-125-16
1.25	20°	20	1-7/8	.111	KM20-125-20
1.5	20°	6	1-1/8	.127	KM20-150-6
1.5	20°	6	2-1/4	.127	KM20-150-6L
1.5	20°	8	1-3/8	.133	KM20-150-8
1.5	20°	12	2-1/2	.133	KM20-150-12
1.5	20°	16	2-3/4	.133	KM20-150-16
1.75	20°	6	1	.155	KM20-175-6
1.75	20°	12	2	.155	KM20-175-12
1.75	20°	16	2-1/4	.155	KM20-175-16

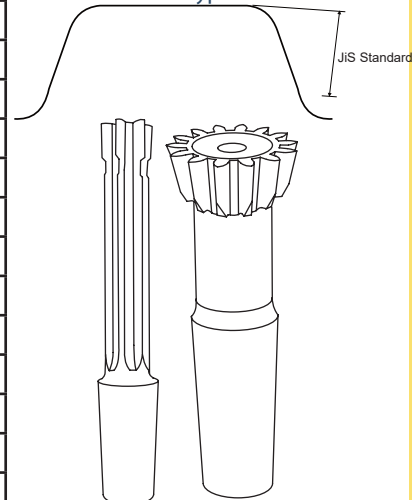


KM20 Series
Module 20° PA
Finishing, Non-Topping, Shank Type

Module	PA	# Teeth	Approx Stroke	WD	Series
2	20°	6	1-3/8	.177	KM20-200-6
2	20°	8	1-1/8	.177	KM20-200-8
2	20°	8	2-3/4	.177	KM20-200-8L
2	20°	10	1-3/4	.177	KM20-200-10
2	20°	11	1-7/8	.177	KM20-200-11
2	20°	15	2-3/4	.177	KM20-200-15
2.25	20°	10	2-1/4	.199	KM20-225-10
2.5	20°	6	1-1/2	.221	KM20-250-6
2.5	20°	8	3-1/2	.221	KM20-250-8
2.5	20°	8	3-3/4	.221	KM20-250-8L
2.5	20°	10	2-3/8	.221	KM20-250-10S
2.5	20°	10	2-3/4	.221	KM20-250-10
2.5	20°	12	3-3/8	.221	KM20-250-12L
2.5	20°	16	2-5/8	.221	KM20-250-16
2.75	20°	10	1-1/8	.195	KM20-275-10E
3	20°	6	2	.266	KM20-300-6
3	20°	8	1-7/8	.266	KM20-300-8S
3	20°	8	2-1/2	.266	KM20-300-8
3	20°	9	2-1/2	.266	KM20-300-9
3	20°	10	2-3/4	.266	KM20-300-10
3.5	20°	10	3	.310	KM20-350-10
3.5	20°	12	3	.310	KM20-350-12
3.75	20°	8	3-1/8	.332	KM20-375-8
3.75	20°	12	3	.332	KM20-375-12
4	20°	8	3	.354	KM20-400-8
4.5	20°	8	3-1/2	.399	KM20-450-8
5	20°	6	1-5/8	.443	KM20-500-6
5	20°	8	2-1/4	.443	KM20-500-8
6	20°	6	3-1/2	.532	KM20-600-6

Module	PA	# Teeth	Approx Stroke	WD	Series
1	20°	8	1-5/8	.048	KMJA-100-8
1.25	20°	8	2	.059	KMJA-125-8L
1.25	20°	12	2	.060	KMJA-125-12
1.5	20°	10	2-3/8	.070	KMJA-150-10
1.5	20°	16	2-7/8	.070	KMJA-150-16
1.667	20°	8	2	.077	KMJA-167-8
1.667	20°	11	1-7/8	.077	KMJA-167-11
1.667	20°	11	3-1/8	.079	KMJA-167-11L
2	20°	11	2	.090	KMJA-200-11
2.5	20°	6	2-3/4	.113	KMJA-250-6
2.5	20°	10	2-3/4	.113	KMJA-250-10
3	20°	6	2-3/4	.138	KMJA-300-6
3	20°	10	2-3/4	.138	KMJA-300-10
3.75	20°	11	3-1/8	.172	KMJA-375-11
3.75	20°	12	3	.172	KMJA-375-12

KMJA Series
Module 20° PA JIS Spline
Finishing
Non-Topping
Shank Type

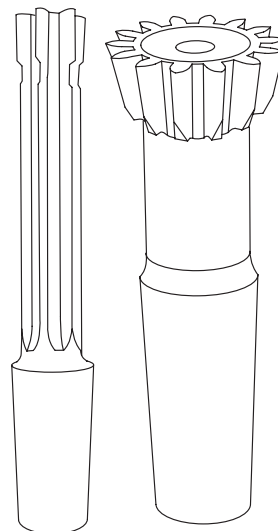




Module	PA	# Teeth	Approx Stroke	DIN 5480		ANSI B92.M-1980	
				WD	Series	WD	Series
.3	30°	18	3/4	.0129	KM30-030-18	-	-
.4	30°	16	1-1/4	.0173	KM30-040-16	-	-
.5	30°	9	1	.0216	KM30-050-9	-	-
.5	30°	10	7/8	-	-	.025	KMA30-050-10
.5	30°	12	1-1/8	.0216	KM30-050-12	.025	KMA30-050-12
.5	30°	18	1-1/4	.0216	KM30-050-18	.025	KMA30-050-18
.5	30°	26	1-5/8	-	-	.025	KMA30-050-26
.6	30°	14	1-1/4	.027	KM30-060-14	-	-
.7	30°	10	1-1/8	.032	KM30-070-10	-	-
.7	30°	12	1-1/4	.032	KM30-070-12	-	-
.7	30°	18	1-1/2	.032	KM30-070-18	-	-
.75	30°	6	1	.034	KM30-075-6	.037	KMA30-075-6
.75	30°	8	1-1/4	.034	KM30-075-8	.037	KMA30-075-8
.75	30°	12	1-5/8	.034	KM30-075-12	.037	KMA30-075-12
.75	30°	22	1-3/4	.034	KM30-075-22	.037	KMA30-075-22
.8	30°	6	1	.036	KM30-080-6	-	-
.8	30°	8	1	-	-	.039	KMA30-080-8
.8	30°	12	1-1/2	.036	KM30-080-12	-	-
.8	30°	18	1-3/4	.036	KM30-080-18	-	-
.9	30°	8	1-1/4	.041	KM30-090-8	-	-
1.0	30°	4	1	.045	KM30-100-4	.049	KMA30-100-4
1.0	30°	5	1	-	-	.049	KMA30-100-5
1.0	30°	6	1-1/4	.045	KM30-100-6	.049	KMA30-100-6
1.0	30°	8	1-3/8	.045	KM30-100-8	.049	KMA30-100-8
1.0	30°	10	1-5/8	.045	KM30-100-10	.049	KMA30-100-10
1.0	30°	10	2-1/4	-	-	.049	KMA30-100-10L
1.0	30°	10	3	-	-	.049	KMA30-100-14L
1.0	30°	14	1-3/4	.045	KM30-100-14	.049	KMA30-100-14
1.0	30°	16	1-7/8	.045	KM30-100-16	-	-
1.0	30°	20	2-1/2	.045	KM30-100-20	.049	KMA30-100-20
1.25	30°	5	1	.057	KM30-125-5	.062	KMA30-125-5
1.25	30°	6	1	.057	KM30-125-6	.062	KMA30-125-6
1.25	30°	8	1-1/2	.057	KM30-125-8	.062	KMA30-125-8
1.25	30°	10	1-1/2	.057	KM30-125-10	.062	KMA30-125-10
1.25	30°	12	2	.057	KM30-125-12	.062	KMA30-125-12
1.25	30°	18	2-1/4	.057	KM30-125-18	.062	KMA30-125-18
1.25	30°	18	1-1/2	-	-	.062	KMA30-125-18S
1.5	30°	4	1	.068	KM30-150-4	.074	KMA30-150-4
1.5	30°	6	1-1/4	.068	KM30-150-6	.074	KMA30-150-6
1.5	30°	8	1-3/4	.068	KM30-150-8	-	-
1.5	30°	10	2	.068	KM30-150-10	.074	KMA30-150-10
1.5	30°	16	1-1/4	.068	KM30-150-16S	.074	KMA30-150-16S
1.5	30°	16	2	.068	KM30-150-16	.074	KMA30-150-16
1.5	30°	16	3-1/2	.068	KM30-150-16L	.074	KMA30-150-16L
1.5	30°	20	3	.068	KM30-150-20	.074	KMA30-150-20
1.75	30°	4	1-1/8	.079	KM30-175-4	.086	KMA30-175-4
1.75	30°	6	1-1/2	.079	KM30-175-6	.086	KMA30-175-6
1.75	30°	8	1-3/4	.079	KM30-175-8	.086	KMA30-175-8
1.75	30°	12	2-1/2	.079	KM30-175-12	.086	KMA30-175-12
1.75	30°	12	3-1/2	.079	KM30-175-12L	.086	KMA30-175-12L
2	30°	5	1	.091	KM30-200-5	.098	KMA30-200-5

KM30 & KMA30 Series

Module 30° PA
 DIN and ANSI Spline
 Finishing
 Non-Topping
 Shank Type



Maximum Tooth Chart 30° PA

Teeth in Part	Max in Cutter	Teeth in Part	Max in Cutter
10	4	27	21
11	5	28	22
12	6	29	23
13	7	30	24
14	8	31	25
15	9	32	26
16	10	33	27
17	11	34	28
18	12	35	29
19	13	36	30
20	14	37	31
21	15	38	32
22	16	39	33
23	17	40	34
24	18	41	35
25	19	42	36
26	20		

SERIES CONTINUED
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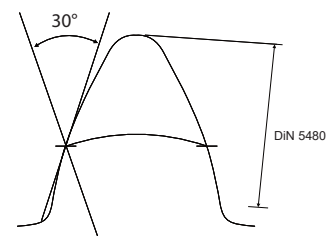


<- SERIES CONTINUED FROM
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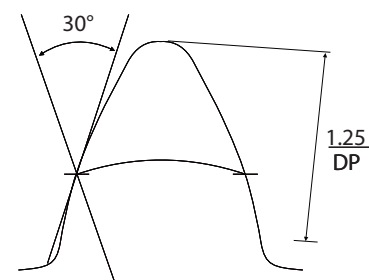
KM30 & KMA30 Series

Module 30° PA
DIN and ANSI Spline
Finishing
Non-Topping
Shank Type

KM30 Rack Profile



KMA30 Rack Profile

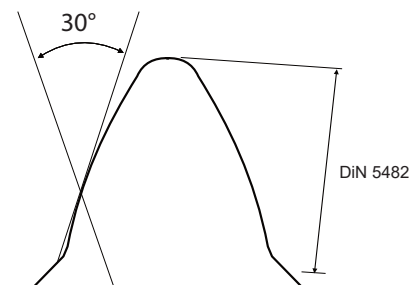


Module	PA	# Teeth	Approx Stroke	DIN 5480		ANSI B92.M-1980	
				WD	Series	WD	Series
2	30°	5	1-3/4	.091	KM30-200-5L	-	-
2	30°	6	1	.091	KM30-200-6	.098	KMA30-200-6
2	30°	8	1-3/4	.091	KM30-200-8	.098	KMA30-200-8
2	30°	8	2-1/4	.087	KM30-200-8L	-	-
2	30°	8	1-1/4	.089	KM30-200-8S	-	-
2	30°	10	1-3/4	.091	KM30-200-10	.098	KMA30-200-10
2	30°	10	2-5/8	.091	KM30-200-10L	.098	KMA30-200-10L
2	30°	11	2-1/2	.091	KM30-200-11	.098	KMA30-200-11
2	30°	12	3-1/2	.091	KM30-200-12	.098	KMA30-200-12
2	30°	15	1-1/2	.091	KM30-200-15S	.098	KMA30-200-15S
2	30°	15	3-1/2	.091	KM30-200-15	.098	KMA30-200-15
2	30°	15	4	.091	KM30-200-15L	-	-
2.25	30°	10	2-1/4	.102	KM30-225-10	-	-
2.5	30°	6	2-1/2	.113	KM30-250-6	.123	KMA30-250-6
2.5	30°	8	2-5/8	.113	KM30-250-8S	.123	KMA30-250-8S
2.5	30°	8	2-7/8	.113	KM30-250-8	.123	KMA30-250-8
2.5	30°	10	2-1/4	.113	KM30-250-10	.123	KMA30-250-10
2.5	30°	10	3-1/2	.113	KM30-250-10L	.123	KMA30-250-10L
2.5	30°	12	2-7/8	.113	KM30-250-12	.123	KMA30-250-12
2.5	30°	14	3-1/8	.113	KM30-250-14	.123	KMA30-250-14
2.75	30°	10	2-5/8	.125	KM30-275-10	-	-
2.75	30°	15	3	.125	KM30-275-15	-	-
3.0	30°	6	2-1/2	.136	KM30-300-6	.148	KMA30-300-6
3.0	30°	8	2-1/4	.136	KM30-300-8	.148	KMA30-300-8
3.0	30°	10	2-1/4	.136	KM30-300-10	.148	KMA30-300-10
3.0	30°	10	2	.136	KM30-300-10S	-	-
3.0	30°	10	3-1/2	.136	KM30-300-10L	.148	KMA30-300-10L
3.5	30°	10	3	.159	KM30-350-10	.172	KMA30-350-10
4.0	30°	8	3	.181	KM30-400-8	.197	KMA30-400-8
4.0	30°	10	3-1/4	.181	KM30-400-10	.197	KMA30-400-10
5.0	30°	7	3-1/2	.226	KM30-500-7	.246	KMA30-500-7
6.0	30°	6	3-1/2	.272	KM30-600-6	.295	KMA30-600-6

Module	PA	# Teeth	Internal Splines in Part	Approx Stroke	WD	Series
1.6	30°	4	8-10	1	.065	K2M30-160-4
1.6	30°	5	9-10	1-1/8	.065	K2M30-160-5
1.6	30°	6	12-13	1-5/8	.062	K2M30-160-6
1.6	30°	8	14	1-1/2	.065	K2M30-160-8
1.6	30°	9	14	1-3/4	.061	K2M30-160-9
1.75	30°	10	15-16	1-1/2	.079	K2M30-175-10
1.75	30°	10	15-16	2	.079	K2M30-175-10L
1.75	30°	12	17-18	1-3/4	.079	K2M30-175-12
1.75	30°	12	17-18	2-1/4	.080	K2M30-175-12L
1.9	30°	14	19-21	2-1/8	.079	K2M30-190-14
2	30°	16	22-23	2-1/2	.081	K2M30-200-16
2	30°	12	24	1-3/4	.102	K2M30-200-12
2	30°	17	24-25	2-1/2	.108	K2M30-200-17
2	30°	18	26-28	2-1/2	.099	K2M30-200-18
2	30°	20	29	3	.108	K2M30-200-20
2.1	30°	10	30	2-1/4	.110	K2M30-210-10
2.1	30°	22	31-36	1-1/2	.121	K2M30-210-22
2.1	30°	22	31-36	2-1/2	.121	K2M30-210-22L
2.25	30°	18	37-44	2-1/2	.122	K2M30-225-18

K2M30 Series

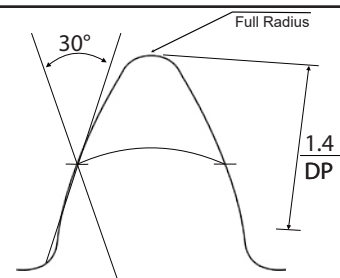
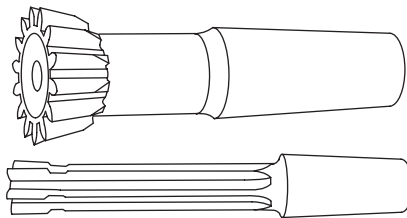
Module 30° PA
DIN 5482 Spline
Finishing
Chamfering
Shank Type





KMF30 Series

Module 30° PA
ANSI Full Fillet Spline
Finishing
Non-Topping
Shank Type



Module	PA	# Teeth	Approx Stroke	WD	Series
.3	30°	18	7/8	.017	KMF30-030-18
.4	30°	16	7/8	.017	KMF30-040-16
.5	30°	10	1	.028	KMF30-050-10
.5	30°	18	1-1/8	.028	KMF30-050-18E
.5	30°	18	1-1/4	.028	KMF30-050-18
.5	30°	26	1-1/2	.028	KMF30-050-26
.5	30°	50	1-1/4	.028	KMF30-050-50
.6	30°	14	1-3/8	.033	KMF30-060-14
.7	30°	10	1-1/8	.039	KMF30-070-10
.75	30°	6	1	.041	KMF30-075-6
.75	30°	8	3/4	.041	KMF30-075-8
.75	30°	10	1-1/4	.041	KMF30-075-10
.75	30°	12	1-1/2	.041	KMF30-075-12
.75	30°	16	2	.041	KMF30-075-16
.75	30°	22	1-7/8	.041	KMF30-075-22
.75	30°	24	2-7/8	.041	KMF30-075-24
.8	30°	6	1	.044	KMF30-080-6
1	30°	4	1	.055	KMF30-100-4
1	30°	5	3/4	.055	KMF30-100-5
1	30°	6	1-1/4	.055	KMF30-100-6
1	30°	8	1-1/4	.055	KMF30-100-8
1	30°	8	1	.055	KMF30-100-8S
1	30°	10	1-3/4	.055	KMF30-100-10
1	30°	14	1-7/8	.055	KMF30-100-14
1	30°	20	2-1/2	.055	KMF30-100-20
1.25	30°	6	1-1/4	.069	KMF30-125-6
1.25	30°	8	1-1/2	.069	KMF30-125-8
1.25	30°	10	1-1/2	.069	KMF30-125-10
1.25	30°	12	2	.069	KMF30-125-12S
1.25	30°	12	2-1/2	.069	KMF30-125-12

Module	PA	# Teeth	Approx Stroke	WD	Series
1.25	30°	18	2-1/4	.069	KMF30-125-18
1.5	30°	4	1	.083	KMF30-150-4
1.5	30°	6	1-1/4	.083	KMF30-150-6
1.5	30°	8	1-3/8	.083	KMF30-150-8
1.5	30°	10	1-7/8	.083	KMF30-150-10
1.5	30°	16	2	.083	KMF30-150-16
1.75	30°	4	1	.097	KMF30-175-4
1.75	30°	6	1-1/4	.097	KMF30-175-6
1.75	30°	8	1-3/4	.097	KMF30-175-8
1.75	30°	12	2-1/2	.097	KMF30-175-12
2	30°	5	1-1/4	.110	KMF30-200-5
2	30°	6	1-1/2	.110	KMF30-200-6
2	30°	8	1-1/2	.110	KMF30-200-8S
2	30°	8	2-1/2	.110	KMF30-200-8
2	30°	11	2-3/4	.110	KMF30-200-11
2	30°	10	2-1/4	.124	KMF30-225-10
2.5	30°	6	2-1/2	.138	KMF30-250-6
2.5	30°	14	3-1/8	.138	KMF30-250-14
3	30°	8	2	.165	KMF30-300-8
3	30°	10	2-1/4	.165	KMF30-300-10
3.5	30°	10	3	.193	KMF30-350-10
4	30°	8	3	.221	KMF30-400-8
5	30°	7	3-1/2	.276	KMF30-500-7
6	30°	6	3-1/2	.331	KMF30-600-6

Maximum Tooth Chart
30° PA Full Fillet

Teeth in Part	Max in Cutter
12	4
13	5
14	6
15	6
16	7
17	8
18	9
19	10
20	11
21	12
22	13
23	14
24	15
25	16
26	17
27	18

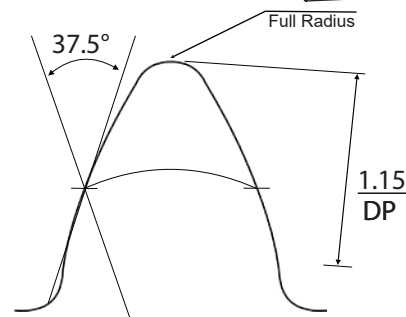
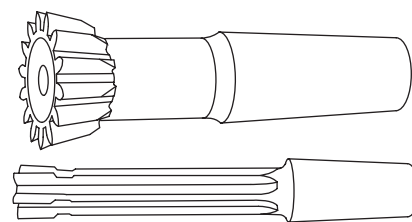
Teeth in Part	Max in Cutter
28	19
29	20
30	21
31	22
32	23
33	24
34	25
35	26
36	27
37	28
38	29
39	30
40	31
41	32
42	33



Module	PA	# Teeth	Approx Stroke	WD	Series
.5	37.5°	32	1-5/8	.023	KM37-050-32
.7	37.5°	20	1-1/2	.032	KM37-070-20
.75	37.5°	10	1-1/8	.034	KM37-075-10
.75	37.5°	18	1-1/2	.034	KM37-075-18
1	37.5°	8	1-1/4	.045	KM37-100-8
1	37.5°	14	1-1/2	.045	KM37-100-14
1	37.5°	24	3	.045	KM37-100-24
1.25	37.5°	12	1-1/4	.057	KM37-125-12
1.25	37.5°	12	2-1/2	.057	KM37-125-12L
1.5	37.5°	12	1-1/4	.068	KM37-150-12
1.75	37.5°	8	1-1/4	.079	KM37-175-8
2	37.5°	8	1-7/8	.091	KM37-200-8

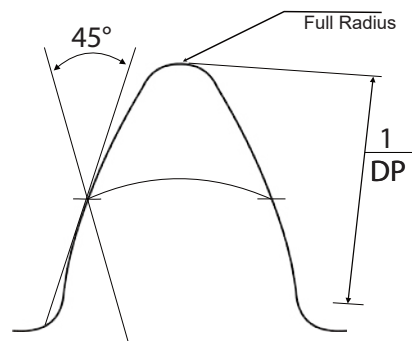
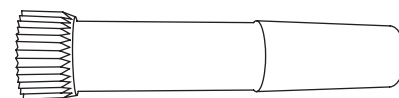
KM37 Series

Module 37.5° PA
ANSI Full Fillet Spline
Finishing
Non-Topping
Shank Type



KM45 Series

Module 45° PA
ANSI Full Fillet Spline
Finishing
Non-Topping
Shank Type



Module	PA	# Teeth	Approx Stroke	WD	Series
.5	45°	20	1-1/4	.020	KM45-050-20
.75	45°	10	3/4	.030	KM45-075-10
.75	45°	18	1-1/2	.030	KM45-075-18
1	45°	8	1	.039	KM45-100-8
1	45°	10	1-5/8	.039	KM45-100-10
1	45°	14	1-1/2	.039	KM45-100-14
1	45°	20	1-5/8	.039	KM45-100-20
1	45°	20	2-1/2	.039	KM45-100-20L
1	45°	32	1-3/8	.039	KM45-100-32
1.25	45°	8	1-3/8	.049	KM45-125-8
1.25	45°	14	2-3/8	.049	KM45-125-14L
1.25	45°	18	2-1/2	.049	KM45-125-18L
1.5	45°	12	1-1/4	.059	KM45-150-12S
1.5	45°	12	2-1/2	.059	KM45-150-12
1.75	45°	8	1-1/4	.069	KM45-175-8
1.75	45°	10	1-1/4	.069	KM45-175-10S
1.75	45°	10	1-1/2	.069	KM45-175-10
2	45°	8	1-3/4	.079	KM45-200-8

Maximum Tooth Chart 45° PA

Teeth in Part	Max in Cutter
10	6
11	7
12	8
13	9
14	10
15	11
16	12
17	13
18	14
19	15

Teeth in Part	Max in Cutter
20	16
21	17
22	18
23	19
24	20
25	21
26	22
27	23
28	24
29	25

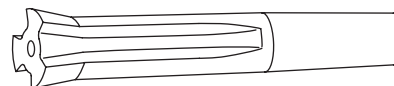
Teeth in Part	Max in Cutter
30	26
31	27
32	28
33	29
34	30
35	31
36	32
37	33
38	34



Major Diam.	Key Width	Approx Stroke	Series
.750	.187	1-1/2	K6-075CBA
.875	.219	1-3/8	K6-875CBA
1.000	.250	2	K6-100CBA
1.000	.250	4	K6-100CBAL
1.125	.281	1-5/8	K6-112CBA-S
1.125	.281	2	K6-112CBA
1.250	.313	2	K6-125CBA
1.375	.344	2	K6-137CBA
1.500	.375	2	K6-150CBA
1.625	.406	1-3/4	K6-162CBA
1.750	.438	2-1/2	K6-175CBA
2.000	.500	2-1/2	K6-200CBA
2.250	.563	2-7/8	K6-225CBA

K6 Series

6 Spline Internal Parallel Sides
3 Tooth Generating
Shank Shaper Cutters

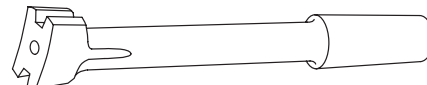


Generating Cutter

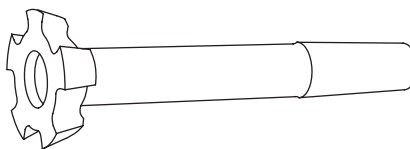
Major Diam.	Key Width	Approx Stroke	Fit To Cut	Cutter Type	Series
.750	.117	1-5/8	A,B,or C	2 Tooth Slotting	K10-750CBA
.875	.137	1-5/8	A,B,or C	2 Tooth Slotting	K10-875CBA
1.000	.156	1-3/4	A,B,or C	2 Tooth Slotting	K10-100CBA
1.125	.176	1-1/2	A,B,or C	2 Tooth Slotting	K10-112CBA
1.250	.195	1-1/2	A,B,or C	2 Tooth Slotting	K10-125CBA
1.375	.215	3	A,B,or C	2 Tooth Slotting	K10-137CBA
1.500	.234	1-1/4	B	5 Tooth Generating	K10-150B
1.500	.234	1-5/8	B	5 Tooth Generating	K10-150BL
1.500	.234	1-1/2	A,B,or C	2 Tooth Slotting	K10-150CBA
1.625	.254	1-1/2	A,B,or C	2 Tooth Slotting	K10-162CBA
1.750	.273	2-1/2	A,B,or C	2 Tooth Slotting	K10-175CBA
2.000	.312	2-1/2	A,B,or C	2 Tooth Slotting	K10-200CBA
2.250	.351	2-1/2	A,B,or C	2 Tooth Slotting	K10-225CBA
2.500	.390	2-1/2	A,B,or C	2 Tooth Slotting	K10-250CBA
3.000	.467	6-1/2	B	5 Tooth Generating	K10-300BL

K10 Series

10 Spline Internal Parallel Sides
Shaper Cutters



Slotting Cutter

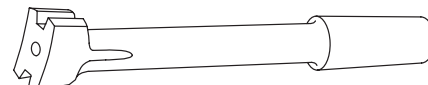


Generating Cutter

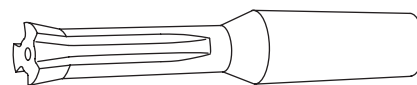
Will Produce			Cutter Data		Series
Major Diam. (mm)	Minor Diam.* (mm)	Key (mm)	Approx Stroke	Style	
14	11	3	1	Slotting	KSM6-14-11
16	13	3.5	1-1/4	Slotting	KSM6-16-13
20	16	4	1-1/4	Slotting	KSM6-20-16
22	18	5	1-1/8	Generating	KSM6-22-18
25	21	5	1-1/2	Generating	KSM6-25-21
26	23	6	1-3/8	Generating	KSM6-26-23
28	23	6	1-1/4	Generating	KSM6-28-23
30	26	6	1-3/4	Generating	KSM6-30-26
32	26	6	1-3/4	Generating	KSM6-32-26
32	28	7	1-1/4	Generating	KSM6-32-28
34	28	7	1-3/4	Generating	KSM6-34-28

KSM6 Series

6 Spline Metric
Internal Parallel Sides
DIN5462/5463
Shank Shaper Cutters



Slotting Cutter

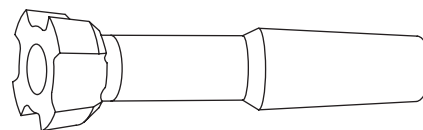


Generating Cutter



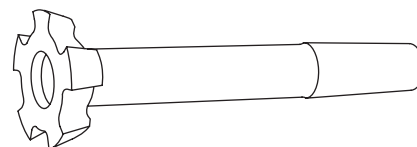
Will Produce			Cutter Data	Series
Major Diam. (mm)	Minor Diam.* (mm)	Key (mm)	Approx Stroke	
36	32	6	2	KSM8-36-32L
38	32	6	1-1/2	KSM8-38-32
40	36	7	1-5/8	KSM8-40-36
42	36	7	1-3/4	KSM8-42-36
42	36	7	3	KSM8-42-36L
46	42	8	1-5/8	KSM8-46-42
48	42	8	1-3/4	KSM8-48-42
50	46	9	1-1/2	KSM8-50-46
50	46	9	1-5/8	KSM8-50-46A
50	46	9	3	KSM8-50-46L
54	46	9	1-3/4	KSM8-54-46
58	52	10	2-1/4	KSM8-58-52
60	52	10	1-5/8	KSM8-60-52
62	56	10	1-5/8	KSM8-62-56
65	56	10	2-1/8	KSM8-65-56
72	62	12	1-7/8	KSM8-72-62

KSM8 Series
8 Spline Metric
Internal Parallel Sides
DIN 5462/5463
4 Tooth Generating
Shank Shaper Cutters



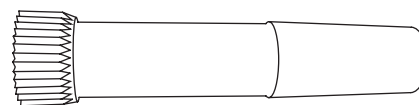
Will Produce			Cutter Data	Series
Major Diam. (mm)	Minor Diam.* (mm)	Key (mm)	Length	
78	72	12	3-1/8	KSM10-78-72
82	72	12	3-1/8	KSM10-82-72
92	82	12	3-1/8	KSM10-92-82
98	92	14	4	KSM10-98-92
102	92	14	4	KSM10-102-92
112	102	16	4-3/8	KSM10-112-102
125	112	18	4-1/2	KSM10-125-112

KSM10 Series
10 Spline Metric
Internal Parallel Sides
DIN 5462/5463
5 Tooth Generating
Shank Shaper Cutters



Nominal Diam. (mm)	# Teeth in Part	# Teeth	Approx Stroke	WD	Series
8 X 7	28	15	3/4	.020	KM81-8-7
10 X 8	28	18	1	.030	KM81-10-8
12 X 10	30	18	7/8	.032	KM81-12-10
14 X 12	31	18	1	.037	KM81-14-12
17 X 15	32	18	3/4	.041	KM81-17-15
20 X 17	33	20	1-1/2	.047	KM81-20-17L
24 X 21	34	21	1-1/8	.052	KM81-24-21
30 X 26	35	22	1-1/4	.064	KM81-30-26
34 X 30	36	24	1-3/8	.066	KM81-34-30
40 X 36	37	26	1-1/2	.076	KM81-40-36

KM81 Series
DIN 5481
60° Included Angle Serrations
Internal Shank Type





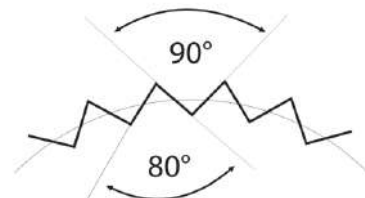
Nominal Diam.	Cutter		WD	Series
	# Teeth	Stroke		
1/4	27	1/2	.009	K36-250-27
5/16	28	5/8	.011	K36-312-28S
5/16	28	1	.011	K36-312-28
3/8	28	1-1/4	.012	K36-375-28
7/16	30	5/8	.014	K36-437-30
1/2	24	7/8	.018	K36-500-24S
1/2	28	3/4	.018	K36-500-28S
1/2	28	1-3/8	.018	K36-500-28
5/8	27	1-1/2	.023	K36-625-27
3/4	25	1-1/2	.021	K36-750-25
1	27	1-1/2	.027	K36-100-27

Nominal Diam.	Cutter		WD	Series
	# Teeth	Stroke		
1/2	32	1-1/3	.016	K48-500-32
3/4	36	1-1/2	.020	K48-750-36
7/8	36	1-3/8	.023	K48-875-36
1	36	2-1/2	.025	K48-010-36
1-1/8	36	1-3/4	.030	K48-011-36
1-1/4	38	2	.034	K48-012-38
1-1/2	32	1-3/4	.041	K48-015-32
2	36	1-3/4	.054	K48-020-36

Part		Cutter		WD	Series
Nominal Diam.	# Serrations	# Teeth	Stroke		
1/2	16	11	7/8	.037	KBS16-500-11
5/8	20	14	1-1/2	.040	KBS20-625-14
3/4	20	14	1-5/8	.048	KBS20-750-14
7/8	20	15	1-5/8	.056	KBS20-875-15
1	24	18	1-5/8	.057	KBS24-010-18
1-1/8	24	18	1-5/8	.060	KBS24-011-18
1-1/4	24	18	1-3/4	.066	KBS24-012-18
1-3/8	24	18	1-7/8	.074	KBS24-013-18
1-1/2	24	16	2-1/8	.081	KBS24-015-16
2	36	24	2-1/4	.070	KBS36-020-24

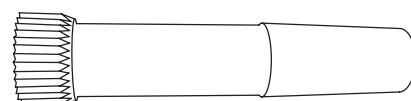
K36 Series

36 SAE
45° Serrations
Internal Shank Type



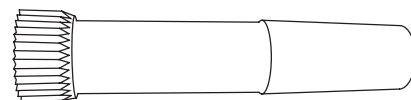
K48 Series

48 SAE
45° Serrations
Internal Shank Type



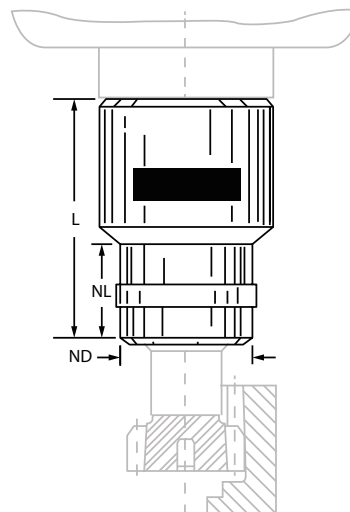
KBS Series

British (BS 2059-1953)
Straight Sided Internal Serration
Shank Type





Need an Adaptor for your cutter?
Pages 155-156 offer multiple types
of adaptors for your gear tooling needs.





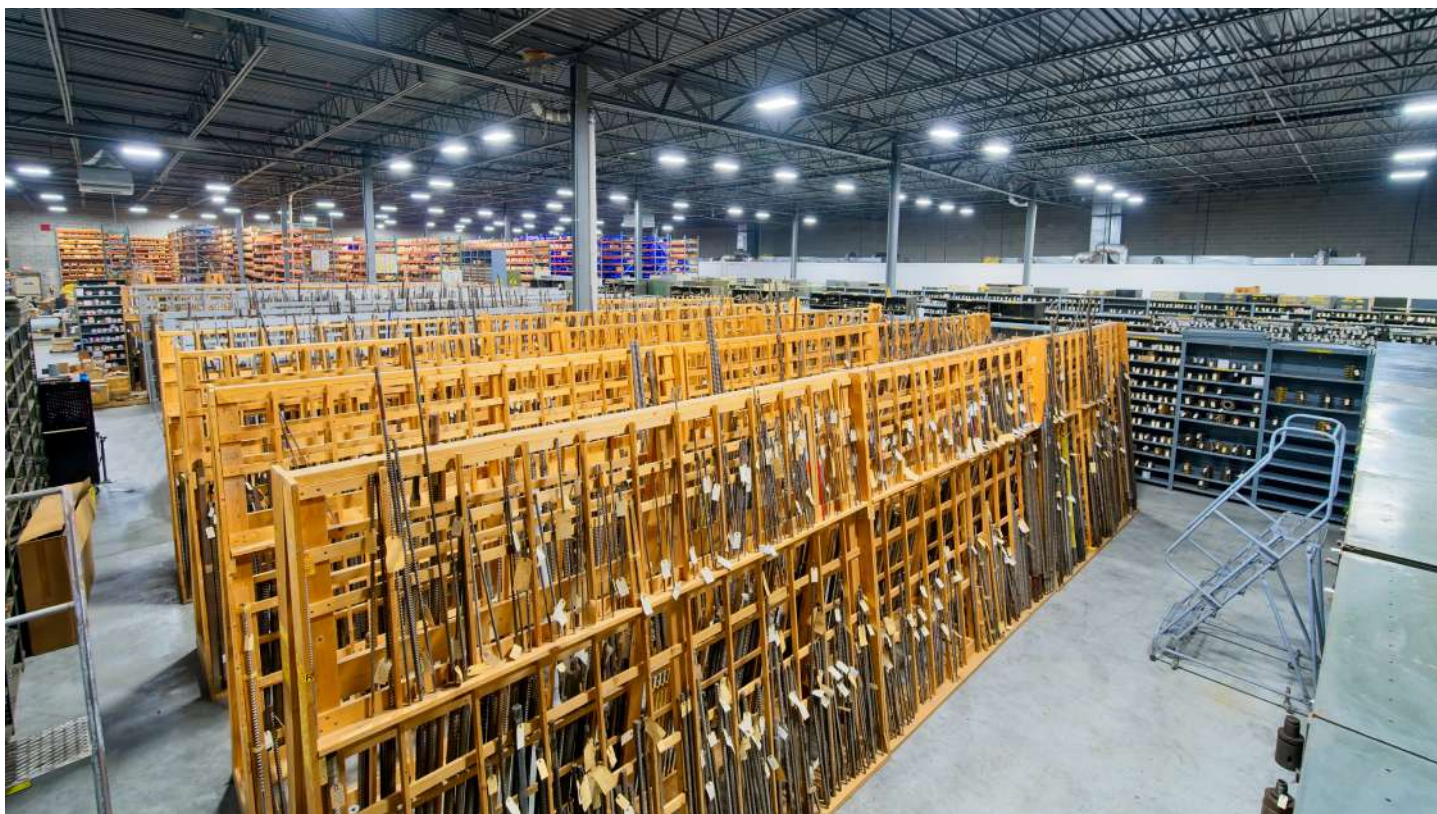
INTERNAL TRIMMING CHART

Maximum number of teeth recommended in gear shaper cutter for internal gears/splines - to avoid trimming of teeth

# of Teeth in gear	14½° PA	17½° PA	20° PA	22½° PA	20° Stub & 25° PA	27°½ PA	30° Full Fillet	30° Flat Root	45° PA
8									4
9									5
10								4	6
11							4	5	7
12					4	4	4	6	8
13			4	4	4	4	5	7	9
14			4	4	5	5	6	8	10
15			5	5	6	6	6	9	11
16			5	5	6	6	7	10	12
17		4	6	6	7	7	8	11	13
18	4	4	6	6	7	8	9	12	14
19	4	4	7	7	8	9	10	13	15
20	5	5	7	7	8	10	11	14	16
21	5	5	8	8	9	11	12	15	17
22	6	6	8	8	10	12	13	16	18
23	6	6	9	9	11	13	14	17	19
24	7	7	10	10	12	14	15	18	20
25	7	7	10	11	13	15	16	19	21
26	8	8	11	12	14	16	17	20	22
27	8	8	12	13	15	17	18	21	23
28	9	9	12	14	16	18	19	22	24
29	9	9	13	15	17	19	20	23	25
30	10	10	13	16	18	20	21	24	26
31	10	10	14	17	19	21	22	25	27
32	11	11	14	18	20	22	23	26	28
33	11	11	15	19	21	23	24	27	29
34	12	12	16	20	22	24	25	28	30
35	12	12	17	21	23	25	26	29	31
36	13	13	18	22	24	26	27	30	32
37	13	14	19	23	25	27	28	31	33
38	14	15	20	24	26	28	29	32	34
39	15	16	21	25	27	29	30	33	35
40	15	17	22	26	28	30	31	34	36
41	16	18	23	27	29	31	32	35	37
42	16	19	24	28	30	32	33	36	38
43	17	20	25	29	31	33	34	37	39
44	18	21	26	30	32	34	35	38	40
45	18	22	27	31	33	35	36	39	41
46	19	23	28	32	34	36	37	40	42
47	20	24	29	33	35	37	38	41	43
48	20	25	30	34	36	38	39	42	44
49	21	26	31	35	37	39	40	43	45
50	22	27	32	36	38	40	41	44	46
51	22	28	33	37	39	41	42	45	47
52	23	29	34	38	40	42	43	46	48
53	23	30	35	39	41	43	44	47	49
54	24	31	36	40	42	44	45	48	50
55	25	32	37	41	43	45	46	49	51

# of Teeth in gear	14½° PA	17½° PA	20° PA	22½° PA	20° Stub & 25° PA	27°½ PA	30° Full Fillet	30° Flat Root	45° PA
56	25	33	38	42	44	46	47	50	52
57	26	34	39	43	45	47	48	51	53
58	27	35	40	44	46	48	49	52	54
59	28	36	41	45	47	49	50	53	55
60	28	37	42	46	48	50	51	54	56
61	29	38	43	47	49	51	52	55	57
62	30	39	44	48	50	52	53	56	58
63	31	40	45	49	51	53	54	57	59
64	32	41	46	50	52	54	55	58	60
65	33	42	47	51	53	55	56	59	61
66	34	43	48	52	54	56	57	60	62
67	35	44	49	53	55	57	58	61	63
68	36	45	50	54	56	58	59	62	64
69	37	46	51	55	57	59	60	63	65
70	38	47	52	56	58	60	61	64	66
71	39	48	53	57	59	61	62	65	67
72	40	49	54	58	60	62	63	66	68
73	41	50	55	59	61	63	64	67	69
74	42	51	56	60	62	64	65	68	70
75	43	52	57	61	63	65	66	69	71
76	44	53	58	62	64	66	67	70	72
77	45	54	59	63	65	67	68	71	73
78	46	55	60	64	66	68	69	72	74
79	47	56	61	65	67	69	70	73	75
80	48	57	62	66	68	70	71	74	76
81	49	58	63	67	69	71	72	75	77
82	50	59	64	68	70	72	73	76	78
83	51	60	65	69	71	73	74	77	79
84	52	61	66	70	72	74	75	78	80
85	53	62	67	71	73	75	76	79	81
86	54	63	68	72	74	76	77	80	82
87	55	64	69	73	75	77	78	81	83
88	56	65	70	74	76	78	79	82	84
89	57	66	71	75	77	79	80	83	85
90	58	67	72	76	78	80	81	84	86
91	59	68	73	77	79	81	82	85	87
92	60	69	74	78	80	82	83	86	88
93	61	70	75	79	81	83	84	87	89
94	62	71	76	80	82	84	85	88	90
95	63	72	77	81	83	85	86	89	91
96	64	73	78	82	84	86	87	90	92
97	65	74	79	83	85	87	88	91	93
98	66	75	80	84	86	88	89	92	94
99	67	76	81	85	87	89	90	93	95
100	68	77	82	86	88	90	91	94	96
101	69	78	83	87	89	91	92	95	97
102	70	79	84	88	90	92	93	96	98
103	71	80	85	89	91	93	94	97	99

Since each job may have its own unique characteristics always cut a sample to prove acceptability.
Shallow depth gears will generally allow using a shaper cutter with more teeth.





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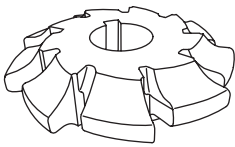
6 Spline	197
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F14 Series
DP 14.5° PA
Single Milling Cutter



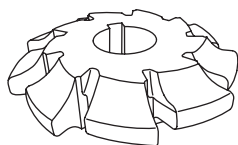
Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
1	8-1/2	2	F14-100-1	F14-100-2	F14-100-3	F14-100-4	F14-100-5	F14-100-6	F14-100-7	F14-100-8
1-1/4	7-3/4	2	F14-125-1	F14-125-2	F14-125-3	F14-125-4	F14-125-5	F14-125-6	F14-125-7	F14-125-8
1-1/2	7	1-3/4	F14-150-1	F14-150-2	F14-150-3	F14-150-4	F14-150-5	F14-150-6	F14-150-7	F14-150-8
1-3/4	6-1/2	1-3/4	F14-175-1	F14-175-2	F14-175-3	F14-175-4	F14-175-5	F14-175-6	F14-175-7	F14-175-8
2	5-3/4	1-1/2	F14-200-1	F14-200-2	F14-200-3	F14-200-4	F14-200-5	F14-200-6	F14-200-7	F14-200-8
2-1/4	5-3/4	1-1/2	F14-225-1	F14-225-2	F14-225-3	F14-225-4	F14-225-5	F14-225-6	F14-225-7	F14-225-8
2-1/2	5-3/4	1-1/2	F14-250-1	F14-250-2	F14-250-3	F14-250-4	F14-250-5	F14-250-6	F14-250-7	F14-250-8
2-3/4	4-3/4	1-1/4	F14-275-1	F14-275-2	F14-275-3	F14-275-4	F14-275-5	F14-275-6	F14-275-7	F14-275-8
3	4-3/4	1-1/4	F14-300-1	F14-300-2	F14-300-3	F14-300-4	F14-300-5	F14-300-6	F14-300-7	F14-300-8
4	4-1/4	1-1/4	F14-400-1	F14-400-2	F14-400-3	F14-400-4	F14-400-5	F14-400-6	F14-400-7	F14-400-8
4	3-1/2	1	F14-401-1	F14-401-2	F14-401-3	F14-401-4	F14-401-5	F14-401-6	F14-401-7	F14-401-8
5	3-3/4	1-1/4	F14-500-1	F14-500-2	F14-500-3	F14-500-4	F14-500-5	F14-500-6	F14-500-7	F14-500-8
5	3-3/8	1	F14-501-1	F14-501-2	F14-501-3	F14-501-4	F14-501-5	F14-501-6	F14-501-7	F14-501-8
6	3-1/2	1-1/4	F14-600-1	F14-600-2	F14-600-3	F14-600-4	F14-600-5	F14-600-6	F14-600-7	F14-600-8
6	3-1/8	1	F14-601-1	F14-601-2	F14-601-3	F14-601-4	F14-601-5	F14-601-6	F14-601-7	F14-601-8
7	2-7/8	1	F14-701-1	F14-701-2	F14-701-3	F14-701-4	F14-701-5	F14-701-6	F14-701-7	F14-701-8
8	3-1/4	1-1/4	F14-800-1	F14-800-2	F14-800-3	F14-800-4	F14-800-5	F14-800-6	F14-800-7	F14-800-8
8	2-7/8	1	F14-801-1	F14-801-2	F14-801-3	F14-801-4	F14-801-5	F14-801-6	F14-801-7	F14-801-8
10	2-3/4	1	F14-0101-1	F14-0101-2	F14-0101-3	F14-0101-4	F14-0101-5	F14-0101-6	F14-0101-7	F14-0101-8
10	2-3/8	7/8	F14-0107-1	F14-0107-2	F14-0107-3	F14-0107-4	F14-0107-5	F14-0107-6	F14-0107-7	F14-0107-8
12	2-5/8	1	F14-0121-1	F14-0121-2	F14-0121-3	F14-0121-4	F14-0121-5	F14-0121-6	F14-0121-7	F14-0121-8
12	2-1/4	7/8	F14-0127-1	F14-0127-2	F14-0127-3	F14-0127-4	F14-0127-5	F14-0127-6	F14-0127-7	F14-0127-8
14	2-1/2	1	F14-0141-1	F14-0141-2	F14-0141-3	F14-0141-4	F14-0141-5	F14-0141-6	F14-0141-7	F14-0141-8
16	2-3/8	1	F14-0161-1	F14-0161-2	F14-0161-3	F14-0161-4	F14-0161-5	F14-0161-6	F14-0161-7	F14-0161-8
18	2-3/8	1	F14-0181-1	F14-0181-2	F14-0181-3	F14-0181-4	F14-0181-5	F14-0181-6	F14-0181-7	F14-0181-8
20	2-3/8	1	F14-0201-1	F14-0201-2	F14-0201-3	F14-0201-4	F14-0201-5	F14-0201-6	F14-0201-7	F14-0201-8
20	1-7/8	7/8	F14-0207-1	F14-0207-2	F14-0207-3	F14-0207-4	F14-0207-5	F14-0207-6	F14-0207-7	F14-0207-8
22	2-1/2	1	F14-0221-1	F14-0221-2	F14-0221-3	F14-0221-4	F14-0221-5	F14-0221-6	F14-0221-7	F14-0221-8
24	2-1/4	1	F14-0241-1	F14-0241-2	F14-0241-3	F14-0241-4	F14-0241-5	F14-0241-6	F14-0241-7	F14-0241-8
24	1-3/4	7/8	F14-0247-1	F14-0247-2	F14-0247-3	F14-0247-4	F14-0247-5	F14-0247-6	F14-0247-7	F14-0247-8
26	2-1/4	1	F14-0261-1	F14-0261-2	F14-0261-3	F14-0261-4	F14-0261-5	F14-0261-6	F14-0261-7	F14-0261-8
26	1-3/4	7/8	F14-0267-1	F14-0267-2	F14-0267-3	F14-0267-4	F14-0267-5	F14-0267-6	F14-0267-7	F14-0267-8
28	2-1/4	1	F14-0281-1	F14-0281-2	F14-0281-3	F14-0281-4	F14-0281-5	F14-0281-6	F14-0281-7	F14-0281-8
28	1-3/4	7/8	F14-0287-1	F14-0287-2	F14-0287-3	F14-0287-4	F14-0287-5	F14-0287-6	F14-0287-7	F14-0287-8
30	2-1/4	1	F14-0301-1	F14-0301-2	F14-0301-3	F14-0301-4	F14-0301-5	F14-0301-6	F14-0301-7	F14-0301-8
30	1-3/4	7/8	F14-0307-1	F14-0307-2	F14-0307-3	F14-0307-4	F14-0307-5	F14-0307-6	F14-0307-7	F14-0307-8
32	2-1/4	1	F14-0321-1	F14-0321-2	F14-0321-3	F14-0321-4	F14-0321-5	F14-0321-6	F14-0321-7	F14-0321-8
32	1-3/4	7/8	F14-0327-1	F14-0327-2	F14-0327-3	F14-0327-4	F14-0327-5	F14-0327-6	F14-0327-7	F14-0327-8
40	1-3/4	7/8	F14-0407-1	F14-0407-2	F14-0407-3	F14-0407-4	F14-0407-5	F14-0407-6	F14-0407-7	F14-0407-8
48	2-1/4	1	F14-0481-1	F14-0481-2	F14-0481-3	F14-0481-4	F14-0481-5	F14-0481-6	F14-0481-7	F14-0481-8
48	1-3/4	7/8	F14-0487-1	F14-0487-2	F14-0487-3	F14-0487-4	F14-0487-5	F14-0487-6	F14-0487-7	F14-0487-8



F20 Series

DP 20° PA
Single Milling Cutter

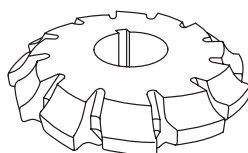


Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
1	8-1/2	2	F20-100-1	F20-100-2	F20-100-3	F20-100-4	F20-100-5	F20-100-6	F20-100-7	F20-100-8
1-1/4	7-3/4	2	F20-125-1	F20-125-2	F20-125-3	F20-125-4	F20-125-5	F20-125-6	F20-125-7	F20-125-8
1-1/2	7	1-3/4	F20-150-1	F20-150-2	F20-150-3	F20-150-4	F20-150-5	F20-150-6	F20-150-7	F20-150-8
1-3/4	6-1/2	1-3/4	F20-175-1	F20-175-2	F20-175-3	F20-175-4	F20-175-5	F20-175-6	F20-175-7	F20-175-8
2	5-3/4	1-1/2	F20-200-1	F20-200-2	F20-200-3	F20-200-4	F20-200-5	F20-200-6	F20-200-7	F20-200-8
2-1/4	5-3/4	1-1/2	F20-225-1	F20-225-2	F20-225-3	F20-225-4	F20-225-5	F20-225-6	F20-225-7	F20-225-8
2-1/2	5-3/4	1-1/2	F20-250-1	F20-250-2	F20-250-3	F20-250-4	F20-250-5	F20-250-6	F20-250-7	F20-250-8
2-3/4	4-3/4	1-1/4	F20-275-1	F20-275-2	F20-275-3	F20-275-4	F20-275-5	F20-275-6	F20-275-7	F20-275-8
3	4-3/4	1-1/4	F20-300-1	F20-300-2	F20-300-3	F20-300-4	F20-300-5	F20-300-6	F20-300-7	F20-300-8
3-1/2	4-1/2	1-1/4	F20-350-1	F20-350-2	F20-350-3	F20-350-4	F20-350-5	F20-350-6	F20-350-7	F20-350-8
4	4-1/4	1-1/4	F20-400-1	F20-400-2	F20-400-3	F20-400-4	F20-400-5	F20-400-6	F20-400-7	F20-400-8
4	3-1/2	1	F20-401-1	F20-401-2	F20-401-3	F20-401-4	F20-401-5	F20-401-6	F20-401-7	F20-401-8
4-1/2	3-1/2	1	F20-451-1	F20-451-2	F20-451-3	F20-451-4	F20-451-5	F20-451-6	F20-451-7	F20-451-8
5	3-3/4	1-1/4	F20-500-1	F20-500-2	F20-500-3	F20-500-4	F20-500-5	F20-500-6	F20-500-7	F20-500-8
5	3-3/8	1	F20-501-1	F20-501-2	F20-501-3	F20-501-4	F20-501-5	F20-501-6	F20-501-7	F20-501-8
5-1/2	3-3/8	1	F20-551-1	F20-551-2	F20-551-3	F20-551-4	F20-551-5	F20-551-6	F20-551-7	F20-551-8
6	3-1/2	1-1/4	F20-600-1	F20-600-2	F20-600-3	F20-600-4	F20-600-5	F20-600-6	F20-600-7	F20-600-8
6	3-1/8	1	F20-601-1	F20-601-2	F20-601-3	F20-601-4	F20-601-5	F20-601-6	F20-601-7	F20-601-8
7	2-7/8	1	F20-701-1	F20-701-2	F20-701-3	F20-701-4	F20-701-5	F20-701-6	F20-701-7	F20-701-8
8	3-1/4	1-1/4	F20-800-1	F20-800-2	F20-800-3	F20-800-4	F20-800-5	F20-800-6	F20-800-7	F20-800-8
8	2-7/8	1	F20-801-1	F20-801-2	F20-801-3	F20-801-4	F20-801-5	F20-801-6	F20-801-7	F20-801-8
9	2-3/4	1	F20-901-1	F20-901-2	F20-901-3	F20-901-4	F20-901-5	F20-901-6	F20-901-7	F20-901-8
10	2-3/4	1	F20-0101-1	F20-0101-2	F20-0101-3	F20-0101-4	F20-0101-5	F20-0101-6	F20-0101-7	F20-0101-8
10	2-3/8	7/8	F20-0107-1	F20-0107-2	F20-0107-3	F20-0107-4	F20-0107-5	F20-0107-6	F20-0107-7	F20-0107-8
11	2-5/8	1	F20-0111-1	F20-0111-2	F20-0111-3	F20-0111-4	F20-0111-5	F20-0111-6	F20-0111-7	F20-0111-8
12	2-5/8	1	F20-0121-1	F20-0121-2	F20-0121-3	F20-0121-4	F20-0121-5	F20-0121-6	F20-0121-7	F20-0121-8
12	2-1/4	7/8	F20-0127-1	F20-0127-2	F20-0127-3	F20-0127-4	F20-0127-5	F20-0127-6	F20-0127-7	F20-0127-8
14	2-1/2	1	F20-0141-1	F20-0141-2	F20-0141-3	F20-0141-4	F20-0141-5	F20-0141-6	F20-0141-7	F20-0141-8
14	2-1/8	7/8	F20-0147-1	F20-0147-2	F20-0147-3	F20-0147-4	F20-0147-5	F20-0147-6	F20-0147-7	F20-0147-8
16	2-3/8	1	F20-0161-1	F20-0161-2	F20-0161-3	F20-0161-4	F20-0161-5	F20-0161-6	F20-0161-7	F20-0161-8
16	2-1/8	7/8	F20-0167-1	F20-0167-2	F20-0167-3	F20-0167-4	F20-0167-5	F20-0167-6	F20-0167-7	F20-0167-8
18	2-3/8	1	F20-0181-1	F20-0181-2	F20-0181-3	F20-0181-4	F20-0181-5	F20-0181-6	F20-0181-7	F20-0181-8
18	2	7/8	F20-0187-1	F20-0187-2	F20-0187-3	F20-0187-4	F20-0187-5	F20-0187-6	F20-0187-7	F20-0187-8
20	2-3/8	1	F20-0201-1	F20-0201-2	F20-0201-3	F20-0201-4	F20-0201-5	F20-0201-6	F20-0201-7	F20-0201-8
20	2	7/8	F20-0207-1	F20-0207-2	F20-0207-3	F20-0207-4	F20-0207-5	F20-0207-6	F20-0207-7	F20-0207-8
22	1-7/8	7/8	F20-0227-1	F20-0227-2	F20-0227-3	F20-0227-4	F20-0227-5	F20-0227-6	F20-0227-7	F20-0227-8
24	2-1/4	1	F20-0241-1	F20-0241-2	F20-0241-3	F20-0241-4	F20-0241-5	F20-0241-6	F20-0241-7	F20-0241-8
24	1-3/4	7/8	F20-0247-1	F20-0247-2	F20-0247-3	F20-0247-4	F20-0247-5	F20-0247-6	F20-0247-7	F20-0247-8
26	1-7/8	7/8	F20-0267-1	F20-0267-2	F20-0267-3	F20-0267-4	F20-0267-5	F20-0267-6	F20-0267-7	F20-0267-8
28	2-1/4	1	F20-0281-1	F20-0281-2	F20-0281-3	F20-0281-4	F20-0281-5	F20-0281-6	F20-0281-7	F20-0281-8
32	2-1/4	1	F20-0321-1	F20-0321-2	F20-0321-3	F20-0321-4	F20-0321-5	F20-0321-6	F20-0321-7	F20-0321-8
32	1-3/4	7/8	F20-0327-1	F20-0327-2	F20-0327-3	F20-0327-4	F20-0327-5	F20-0327-6	F20-0327-7	F20-0327-8
36	2-1/4	1	F20-0361-1	F20-0361-2	F20-0361-3	F20-0361-4	F20-0361-5	F20-0361-6	F20-0361-7	F20-0361-8
40	1-3/4	7/8	F20-0407-1	F20-0407-2	F20-0407-3	F20-0407-4	F20-0407-5	F20-0407-6	F20-0407-7	F20-0407-8
48	2-1/4	1	F20-0481-1	F20-0481-2	F20-0481-3	F20-0481-4	F20-0481-5	F20-0481-6	F20-0481-7	F20-0481-8
48	1-3/4	7/8	F20-0487-1	F20-0487-2	F20-0487-3	F20-0487-4	F20-0487-5	F20-0487-6	F20-0487-7	F20-0487-8
64	1-3/4	7/8	F20-0647-1	F20-0647-2	F20-0647-3	F20-0647-4	F20-0647-5	F20-0647-6	F20-0647-7	F20-0647-8



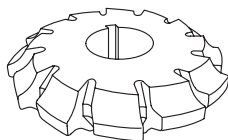
Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth



FST20 Series
DP 20° PA
AGMA Stub
Single Milling Cutter

DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
1	8-1/2	2	FST20-100-1	FST20-100-2	FST20-100-3	FST20-100-4	FST20-100-5	FST20-100-6	FST20-100-7	FST20-100-8
1-1/4	7-3/4	2	FST20-125-1	FST20-125-2	FST20-125-3	FST20-125-4	FST20-125-5	FST20-125-6	FST20-125-7	FST20-125-8
1-1/2	7	1-3/4	FST20-150-1	FST20-150-2	FST20-150-3	FST20-150-4	FST20-150-5	FST20-150-6	FST20-150-7	FST20-150-8
1-3/4	6-1/2	1-3/4	FST20-175-1	FST20-175-2	FST20-175-3	FST20-175-4	FST20-175-5	FST20-175-6	FST20-175-7	FST20-175-8
2	5-3/4	1-1/2	FST20-200-1	FST20-200-2	FST20-200-3	FST20-200-4	FST20-200-5	FST20-200-6	FST20-200-7	FST20-200-8
2-1/2	5-1/2	1-1/2	FST20-250-1	FST20-250-2	FST20-250-3	FST20-250-4	FST20-250-5	FST20-250-6	FST20-250-7	FST20-250-8
3	4-3/4	1-1/4	FST20-300-1	FST20-300-2	FST20-300-3	FST20-300-4	FST20-300-5	FST20-300-6	FST20-300-7	FST20-300-8
4	4-1/4	1-1/4	FST20-400-1	FST20-400-2	FST20-400-3	FST20-400-4	FST20-400-5	FST20-400-6	FST20-400-7	FST20-400-8
5	3-3/4	1-1/4	FST20-500-1	FST20-500-2	FST20-500-3	FST20-500-4	FST20-500-5	FST20-500-6	FST20-500-7	FST20-500-8
6	3-1/2	1-1/4	FST20-600-1	FST20-600-2	FST20-600-3	FST20-600-4	FST20-600-5	FST20-600-6	FST20-600-7	FST20-600-8
8	2-7/8	1	FST20-801-1	FST20-801-2	FST20-801-3	FST20-801-4	FST20-801-5	FST20-801-6	FST20-801-7	FST20-801-8
10	2-3/4	1	FST20-0101-1	FST20-0101-2	FST20-0101-3	FST20-0101-4	FST20-0101-5	FST20-0101-6	FST20-0101-7	FST20-0101-8

FFS20 Series
DP 20° PA
COMBO Stub
Single Milling Cutter



DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
4/5	4	1-1/4	FFS20-400-1	FFS20-400-2	FFS20-400-3	FFS20-400-4	FFS20-400-5	FFS20-400-6	FFS20-400-7	FFS20-400-8
5/7	3-1/4	1	FFS20-501-1	FFS20-501-2	FFS20-501-3	FFS20-501-4	FFS20-501-5	FFS20-501-6	FFS20-501-7	FFS20-501-8
6/8	2-7/8	1	FFS20-601-1	FFS20-601-2	FFS20-601-3	FFS20-601-4	FFS20-601-5	FFS20-601-6	FFS20-601-7	FFS20-601-8
8/10	2-3/4	1	FFS20-801-1	FFS20-801-2	FFS20-801-3	FFS20-801-4	FFS20-801-5	FFS20-801-6	FFS20-801-7	FFS20-801-8
10/12	2-1/4	7/8	FFS20-0107-1	FFS20-0107-2	FFS20-0107-3	FFS20-0107-4	FFS20-0107-5	FFS20-0107-6	FFS20-0107-7	FFS20-0107-8
12/14	2-1/4	7/8	FFS20-0127-1	FFS20-0127-2	FFS20-0127-3	FFS20-0127-4	FFS20-0127-5	FFS20-0127-6	FFS20-0127-7	FFS20-0127-8
16/21	2-1/4	7/8	FFS20-0167-1	FFS20-0167-2	FFS20-0167-3	FFS20-0167-4	FFS20-0167-5	FFS20-0167-6	FFS20-0167-7	FFS20-0167-8

FM14 Series
Module DP 14.5° PA
Single Milling Cutter

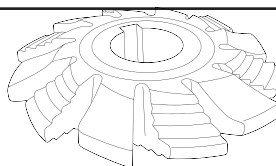


Module	OD	Size Hole	#1	#2	#3	#4	#5	#6	#7	#8
1	2	7/8	FM14-100-1	FM14-100-2	FM14-100-3	FM14-100-4	FM14-100-5	FM14-100-6	FM14-100-7	FM14-100-8
1-1/2	2-1/4	1	FM14-150-1	FM14-150-2	FM14-150-3	FM14-150-4	FM14-150-5	FM14-150-6	FM14-150-7	FM14-150-8
1-3/4	2-1/4	1	FM14-175-1	FM14-175-2	FM14-175-3	FM14-175-4	FM14-175-5	FM14-175-6	FM14-175-7	FM14-175-8
2	2-1/2	1	FM14-200-1	FM14-200-2	FM14-200-3	FM14-200-4	FM14-200-5	FM14-200-6	FM14-200-7	FM14-200-8
2-1/4	2-5/8	1	FM14-225-1	FM14-225-2	FM14-225-3	FM14-225-4	FM14-225-5	FM14-225-6	FM14-225-7	FM14-225-8
2-1/2	2-3/4	1	FM14-250-1	FM14-250-2	FM14-250-3	FM14-250-4	FM14-250-5	FM14-250-6	FM14-250-7	FM14-250-8
3	2-7/8	1	FM14-300-1	FM14-300-2	FM14-300-3	FM14-300-4	FM14-300-5	FM14-300-6	FM14-300-7	FM14-300-8
3-1/2	3	1	FM14-350-1	FM14-350-2	FM14-350-3	FM14-350-4	FM14-350-5	FM14-350-6	FM14-350-7	FM14-350-8
4	3-1/4	1	FM14-400-1	FM14-400-2	FM14-400-3	FM14-400-4	FM14-400-5	FM14-400-6	FM14-400-7	FM14-400-8
5	4	1	FM14-500-1	FM14-500-2	FM14-500-3	FM14-500-4	FM14-500-5	FM14-500-6	FM14-500-7	FM14-500-8
5-1/2	4	1	FM14-550-1	FM14-550-2	FM14-550-3	FM14-550-4	FM14-550-5	FM14-550-6	FM14-550-7	FM14-550-8
6	4	1	FM14-600-1	FM14-600-2	FM14-600-3	FM14-600-4	FM14-600-5	FM14-600-6	FM14-600-7	FM14-600-8

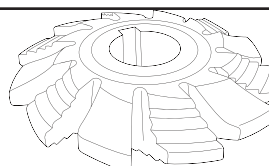


FRG20 Series

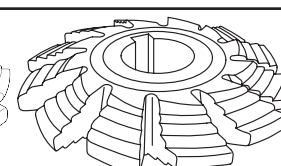
DP 20° PA
Roughing
Single Milling Cutter



Roughing Single Cutter "A" Style



Roughing Single Cutter "B" Style

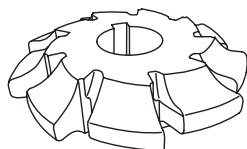


Roughing Single Cutter "D" Style

DP	OD	Bore	Type	Series
1	8-1/2	2	D	FRG20-100D
1	9	2	B	FRG20-100B
1-1/4	8	2	D	FRG20-125D
1-1/4	8-1/4	2	B	FRG20-125B
1-1/2	7	1-3/4	D	FRG20-150D
1-1/2	7	1-3/4	B	FRG20-150B
1-1/2	7	50mm	B	FRG20-150B5
1-3/4	6-1/4	1-3/4	B	FRG20-175B
2	5-3/4	1-1/2	D	FRG20-200D
2	5-3/4	1-1/2	B	FRG20-200B
2	5-3/4	1-1/2	A	FRG20-200A
2	6-1/2	1-3/4	A	FRG20-200AE
2-1/2	5-1/2	1-1/2	B	FRG20-250B
2-1/2	5-3/4	1-1/2	A	FRG20-250AE
3	4-3/4	1-1/4	B	FRG20-301B
4	4-1/4	1-1/4	B	FRG20-401B
5	3-3/4	1-1/4	B	FRG20-501B

FM20 Series

Module DP 20° PA
Single Milling Cutter



Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

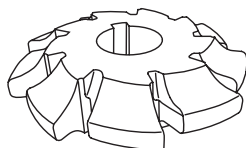
Module	OD	Size Hole	#1	#2	#3	#4	#5	#6	#7	#8
0.5	1-3/4	7/8	FM20-050-1	FM20-050-2	FM20-050-3	FM20-050-4	FM20-050-5	FM20-050-6	FM20-050-7	FM20-050-8
0.75	1-3/4	7/8	FM20-075-1	FM20-075-2	FM20-075-3	FM20-075-4	FM20-075-5	FM20-075-6	FM20-075-7	FM20-075-8
0.8	1-3/4	7/8	FM20-080-1	FM20-080-2	FM20-080-3	FM20-080-4	FM20-080-5	FM20-080-6	FM20-080-7	FM20-080-8
1	2	7/8	FM20-100-1	FM20-100-2	FM20-100-3	FM20-100-4	FM20-100-5	FM20-100-6	FM20-100-7	FM20-100-8
1-1/4	2	7/8	FM20-125-1	FM20-125-2	FM20-125-3	FM20-125-4	FM20-125-5	FM20-125-6	FM20-125-7	FM20-125-8
1-1/2	2-1/4	1	FM20-150-1	FM20-150-2	FM20-150-3	FM20-150-4	FM20-150-5	FM20-150-6	FM20-150-7	FM20-150-8
1-1/2	2-1/4	7/8	FM20-1507-1	FM20-1507-2	FM20-1507-3	FM20-1507-4	FM20-1507-5	FM20-1507-6	FM20-1507-7	FM20-1507-8
1-3/4	2-1/4	1	FM20-175-1	FM20-175-2	FM20-175-3	FM20-175-4	FM20-175-5	FM20-175-6	FM20-175-7	FM20-175-8
2	2-1/4	7/8	FM20-2007-1	FM20-2007-2	FM20-2007-3	FM20-2007-4	FM20-2007-5	FM20-2007-6	FM20-2007-7	FM20-2007-8
2	2-1/2	1	FM20-200-1	FM20-200-2	FM20-200-3	FM20-200-4	FM20-200-5	FM20-200-6	FM20-200-7	FM20-200-8
2-1/2	2-1/4	7/8	FM20-2507-1	FM20-2507-2	FM20-2507-3	FM20-2507-4	FM20-2507-5	FM20-2507-6	FM20-2507-7	FM20-2507-8
2-1/4	2-5/8	1	FM20-225-1	FM20-225-2	FM20-225-3	FM20-225-4	FM20-225-5	FM20-225-6	FM20-225-7	FM20-225-8
2-1/2	2-3/4	1	FM20-250-1	FM20-250-2	FM20-250-3	FM20-250-4	FM20-250-5	FM20-250-6	FM20-250-7	FM20-250-8
2-1/2	2-1/2	7/8	FM20-2507-1	FM20-2507-2	FM20-2507-3	FM20-2507-4	FM20-2507-5	FM20-2507-6	FM20-2507-7	FM20-2507-8
2-3/4	2-7/8	1	FM20-275-1	FM20-275-2	FM20-275-3	FM20-275-4	FM20-275-5	FM20-275-6	FM20-275-7	FM20-275-8
3	2-7/8	1	FM20-300-1	FM20-300-2	FM20-300-3	FM20-300-4	FM20-300-5	FM20-300-6	FM20-300-7	FM20-300-8

SERIES CONTINUED ON NEXT PAGE ->



<- SERIES CONTINUED FROM
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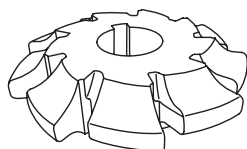
FM20 Series
Module DP 20° PA
Single Milling Cutter



Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

Module	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
3-1/4	3	1	FM20-325-1	FM20-325-2	FM20-325-3	FM20-325-4	FM20-325-5	FM20-325-6	FM20-325-7	FM20-325-8
3-1/2	3	1	FM20-350-1	FM20-350-2	FM20-350-3	FM20-350-4	FM20-350-5	FM20-350-6	FM20-350-7	FM20-350-8
4	3-1/4	1	FM20-400-1	FM20-400-2	FM20-400-3	FM20-400-4	FM20-400-5	FM20-400-6	FM20-400-7	FM20-400-8
4-1/4	4	1	FM20-425-1	FM20-425-2	FM20-425-3	FM20-425-4	FM20-425-5	FM20-425-6	FM20-425-7	FM20-425-8
4-1/2	4	1	FM20-450-1	FM20-450-2	FM20-450-3	FM20-450-4	FM20-450-5	FM20-450-6	FM20-450-7	FM20-450-8
5	4	1	FM20-500-1	FM20-500-2	FM20-500-3	FM20-500-4	FM20-500-5	FM20-500-6	FM20-500-7	FM20-500-8
5-1/2	4	1	FM20-550-1	FM20-550-2	FM20-550-3	FM20-550-4	FM20-550-5	FM20-550-6	FM20-550-7	FM20-550-8
6	4	1	FM20-600-1	FM20-600-2	FM20-600-3	FM20-600-4	FM20-600-5	FM20-600-6	FM20-600-7	FM20-600-8
7	4-3/4	1-1/4	FM20-700-1	FM20-700-2	FM20-700-3	FM20-700-4	FM20-700-5	FM20-700-6	FM20-700-7	FM20-700-8
8	4-3/4	1-1/4	FM20-800-1	FM20-800-2	FM20-800-3	FM20-800-4	FM20-800-5	FM20-800-6	FM20-800-7	FM20-800-8
9	5-1/4	1-1/2	FM20-900-1	FM20-900-2	FM20-900-3	FM20-900-4	FM20-900-5	FM20-900-6	FM20-900-7	FM20-900-8
10	5-1/2	1-1/2	FM20-010-1	FM20-010-2	FM20-010-3	FM20-010-4	FM20-010-5	FM20-010-6	FM20-010-7	FM20-010-8
12	5-3/4	1-1/2	FM20-012-1	FM20-012-2	FM20-012-3	FM20-012-4	FM20-012-5	FM20-012-6	FM20-012-7	FM20-012-8
13	6	1-1/2	FM20-013-1	FM20-013-2	FM20-013-3	FM20-013-4	FM20-013-5	FM20-013-6	FM20-013-7	FM20-013-8
14	6-1/2	1-3/4	FM20-014-1	FM20-014-2	FM20-014-3	FM20-014-4	FM20-014-5	FM20-014-6	FM20-014-7	FM20-014-8
16	7	1-3/4	FM20-016-1	FM20-016-2	FM20-016-3	FM20-016-4	FM20-016-5	FM20-016-6	FM20-016-7	FM20-016-8
18	7-1/4	1-3/4	FM20-018-1	FM20-018-2	FM20-018-3	FM20-018-4	FM20-018-5	FM20-018-6	FM20-018-7	FM20-018-8
20	7-3/4	2	FM20-020-1	FM20-020-2	FM20-020-3	FM20-020-4	FM20-020-5	FM20-020-6	FM20-020-7	FM20-020-8

FCP14 Series
Circular Pitch 14.5° PA
Single Milling Cutter



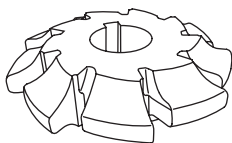
Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

CP	Cutter Diam.	Bore	#1	#2	#3	#4	#5	#6	#7	#8
4	11	2	FCP14-400-1	FCP14-400-2	FCP14-400-3	FCP14-400-4	FCP14-400-5	FCP14-400-6	FCP14-400-7	FCP14-400-8
3-1/2	9-1/2	2	FCP14-350-1	FCP14-350-2	FCP14-350-3	FCP14-350-4	FCP14-350-5	FCP14-350-6	FCP14-350-7	FCP14-350-8
3	8-1/2	1-3/4	FCP14-300-1	FCP14-300-2	FCP14-300-3	FCP14-300-4	FCP14-300-5	FCP14-300-6	FCP14-300-7	FCP14-300-8
2-1/2	7-1/4	1-3/4	FCP14-250-1	FCP14-250-2	FCP14-250-3	FCP14-250-4	FCP14-250-5	FCP14-250-6	FCP14-250-7	FCP14-250-8
2	7	1-3/4	FCP14-200-1	FCP14-200-2	FCP14-200-3	FCP14-200-4	FCP14-200-5	FCP14-200-6	FCP14-200-7	FCP14-200-8
1-3/4	6-1/2	1-3/4	FCP14-175-1	FCP14-175-2	FCP14-175-3	FCP14-175-4	FCP14-175-5	FCP14-175-6	FCP14-175-7	FCP14-175-8
1-1/2	5-3/4	1-1/2	FCP14-150-1	FCP14-150-2	FCP14-150-3	FCP14-150-4	FCP14-150-5	FCP14-150-6	FCP14-150-7	FCP14-150-8
1-1/4	5-3/4	1-1/2	FCP14-125-1	FCP14-125-2	FCP14-125-3	FCP14-125-4	FCP14-125-5	FCP14-125-6	FCP14-125-7	FCP14-125-8
1	4-3/4	1-1/4	FCP14-100-1	FCP14-100-2	FCP14-100-3	FCP14-100-4	FCP14-100-5	FCP14-100-6	FCP14-100-7	FCP14-100-8
3/4	3-3/4	1	FCP14-075-1	FCP14-075-2	FCP14-075-3	FCP14-075-4	FCP14-075-5	FCP14-075-6	FCP14-075-7	FCP14-075-8
1/2	3-1/8	1	FCP14-050-1	FCP14-050-2	FCP14-050-3	FCP14-050-4	FCP14-050-5	FCP14-050-6	FCP14-050-7	FCP14-050-8
1/4	2-3/4	1	FCP14-025-1	FCP14-025-2	FCP14-025-3	FCP14-025-4	FCP14-025-5	FCP14-025-6	FCP14-025-7	FCP14-025-8
1/8	2-1/4	1	FCP14-012-1	FCP14-012-2	FCP14-012-3	FCP14-012-4	FCP14-012-5	FCP14-012-6	FCP14-012-7	FCP14-012-8



FCP20 Series

Circular Pitch 20° PA
Single Milling Cutter

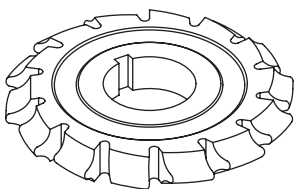


Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

CP	Cutter Diam.	Bore	#1	#2	#3	#4	#5	#6	#7	#8
4	11	2	FCP20-400-1	FCP20-400-2	FCP20-400-3	FCP20-400-4	FCP20-400-5	FCP20-400-6	FCP20-400-7	FCP20-400-8
3-1/2	9-1/2	2	FCP20-350-1	FCP20-350-2	FCP20-350-3	FCP20-350-4	FCP20-350-5	FCP20-350-6	FCP20-350-7	FCP20-350-8
3	8-1/2	1-3/4	FCP20-300-1	FCP20-300-2	FCP20-300-3	FCP20-300-4	FCP20-300-5	FCP20-300-6	FCP20-300-7	FCP20-300-8
2-1/2	7-1/4	1-3/4	FCP20-250-1	FCP20-250-2	FCP20-250-3	FCP20-250-4	FCP20-250-5	FCP20-250-6	FCP20-250-7	FCP20-250-8
2-1/4	7-1/4	1-3/4	FCP20-225-1	FCP20-225-2	FCP20-225-3	FCP20-225-4	FCP20-225-5	FCP20-225-6	FCP20-225-7	FCP20-225-8
2	7	1-3/4	FCP20-200-1	FCP20-200-2	FCP20-200-3	FCP20-200-4	FCP20-200-5	FCP20-200-6	FCP20-200-7	FCP20-200-8
1-3/4	6-1/2	1-3/4	FCP20-175-1	FCP20-175-2	FCP20-175-3	FCP20-175-4	FCP20-175-5	FCP20-175-6	FCP20-175-7	FCP20-175-8
1-1/2	5-3/4	1-1/4	FCP20-150-1	FCP20-150-2	FCP20-150-3	FCP20-150-4	FCP20-150-5	FCP20-150-6	FCP20-150-7	FCP20-150-8
1-1/4	5-3/4	1-1/2	FCP20-125-1	FCP20-125-2	FCP20-125-3	FCP20-125-4	FCP20-125-5	FCP20-125-6	FCP20-125-7	FCP20-125-8
1	4-3/4	1-1/4	FCP20-100-1	FCP20-100-2	FCP20-100-3	FCP20-100-4	FCP20-100-5	FCP20-100-6	FCP20-100-7	FCP20-100-8
3/4	3-3/4	1	FCP20-075-1	FCP20-075-2	FCP20-075-3	FCP20-075-4	FCP20-075-5	FCP20-075-6	FCP20-075-7	FCP20-075-8
1/2	3-1/8	1	FCP20-050-1	FCP20-050-2	FCP20-050-3	FCP20-050-4	FCP20-050-5	FCP20-050-6	FCP20-050-7	FCP20-050-8
1/4	2-3/4	1	FCP20-025-1	FCP20-025-2	FCP20-025-3	FCP20-025-4	FCP20-025-5	FCP20-025-6	FCP20-025-7	FCP20-025-8
1/8	2-1/4	1	FCP20-012-1	FCP20-012-2	FCP20-012-3	FCP20-012-4	FCP20-012-5	FCP20-012-6	FCP20-012-7	FCP20-012-8

FF30 Series

DP 30° PA
ANSI Fillet Root
Single Milling Cutter



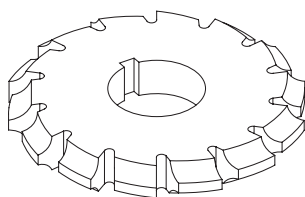
Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
4/8	3-3/4	1-1/4	FF30-400-1	FF30-400-2	FF30-400-3	FF30-400-4	FF30-400-5	FF30-400-6	FF30-400-7	FF30-400-8
5/10	3-1/2	1-1/4	FF30-500-1	FF30-500-2	FF30-500-3	FF30-500-4	FF30-500-5	FF30-500-6	FF30-500-7	FF30-500-8
6/12	3-1/2	1-1/4	FF30-600-1	FF30-600-2	FF30-600-3	FF30-600-4	FF30-600-5	FF30-600-6	FF30-600-7	FF30-600-8
8/16	3-1/2	1	FF30-800-1	FF30-800-2	FF30-800-3	FF30-800-4	FF30-800-5	FF30-800-6	FF30-800-7	FF30-800-8
10/20	3	1	FF30-010-1	FF30-010-2	FF30-010-3	FF30-010-4	FF30-010-5	FF30-010-6	FF30-010-7	FF30-010-8
12/24	3	1	FF30-012-1	FF30-012-2	FF30-012-3	FF30-012-4	FF30-012-5	FF30-012-6	FF30-012-7	FF30-012-8
16/32	3	1	FF30-016-1	FF30-016-2	FF30-016-3	FF30-016-4	FF30-016-5	FF30-016-6	FF30-016-7	FF30-016-8
20/40	3	1	FF30-020-1	FF30-020-2	FF30-020-3	FF30-020-4	FF30-020-5	FF30-020-6	FF30-020-7	FF30-020-8
24/48	3	1	FF30-024-1	FF30-024-2	FF30-024-3	FF30-024-4	FF30-024-5	FF30-024-6	FF30-024-7	FF30-024-8
32/64	2-3/4	1	FF30-032-1	FF30-032-2	FF30-032-3	FF30-032-4	FF30-032-5	FF30-032-6	FF30-032-7	FF30-032-8
48/96	2-1/2	1	FF30-048-1	FF30-048-2	FF30-048-3	FF30-048-4	FF30-048-5	FF30-048-6	FF30-048-7	FF30-048-8



FL30 Series

DP 30° PA
ANSI Flat Root
Single Milling Cutter

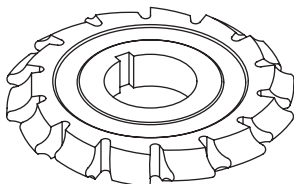


Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

DP	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
2.5/5	4	1-1/4	FL30-250-1	FL30-250-2	FL30-250-3	FL30-250-4	FL30-250-5	FL30-250-6	FL30-250-7	FL30-250-8
3/6	3-3/4	1-1/4	FL30-300-1	FL30-300-2	FL30-300-3	FL30-300-4	FL30-300-5	FL30-300-6	FL30-300-7	FL30-300-8
4/8	3-3/4	1-1/4	FL30-400-1	FL30-400-2	FL30-400-3	FL30-400-4	FL30-400-5	FL30-400-6	FL30-400-7	FL30-400-8
5/10	3-1/2	1-1/4	FL30-500-1	FL30-500-2	FL30-500-3	FL30-500-4	FL30-500-5	FL30-500-6	FL30-500-7	FL30-500-8
6/12	3-1/2	1-1/4	FL30-600-1	FL30-600-2	FL30-600-3	FL30-600-4	FL30-600-5	FL30-600-6	FL30-600-7	FL30-600-8
8/16	3-1/2	1	FL30-800-1	FL30-800-2	FL30-800-3	FL30-800-4	FL30-800-5	FL30-800-6	FL30-800-7	FL30-800-8
10/20	3	1	FL30-010-1	FL30-010-2	FL30-010-3	FL30-010-4	FL30-010-5	FL30-010-6	FL30-010-7	FL30-010-8
12/24	3	1	FL30-012-1	FL30-012-2	FL30-012-3	FL30-012-4	FL30-012-5	FL30-012-6	FL30-012-7	FL30-012-8
16/32	3	1	FL30-016-1	FL30-016-2	FL30-016-3	FL30-016-4	FL30-016-5	FL30-016-6	FL30-016-7	FL30-016-8
20/40	3	1	FL30-020-1	FL30-020-2	FL30-020-3	FL30-020-4	FL30-020-5	FL30-020-6	FL30-020-7	FL30-020-8
24/48	3	1	FL30-024-1	FL30-024-2	FL30-024-3	FL30-024-4	FL30-024-5	FL30-024-6	FL30-024-7	FL30-024-8
32/64	2-3/4	1	FL30-032-1	FL30-032-2	FL30-032-3	FL30-032-4	FL30-032-5	FL30-032-6	FL30-032-7	FL30-032-8

FMF30 Series

Module 30° PA
ANSI Fillet Root
Single Milling Cutter



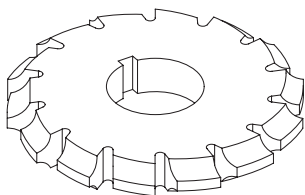
Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

Module	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
.75	2-3/4	1	FMF30-075-1	FMF30-075-2	FMF30-075-3	FMF30-075-4	FMF30-075-5	FMF30-075-6	FMF30-075-7	FMF30-075-8
1	3	1	FMF30-100-1	FMF30-100-2	FMF30-100-3	FMF30-100-4	FMF30-100-5	FMF30-100-6	FMF30-100-7	FMF30-100-8
1-1/4	3	1	FMF30-125-1	FMF30-125-2	FMF30-125-3	FMF30-125-4	FMF30-125-5	FMF30-125-6	FMF30-125-7	FMF30-125-8
1-1/2	3	1	FMF30-150-1	FMF30-150-2	FMF30-150-3	FMF30-150-4	FMF30-150-5	FMF30-150-6	FMF30-150-7	FMF30-150-8
1-3/4	3	1	FMF30-175-1	FMF30-175-2	FMF30-175-3	FMF30-175-4	FMF30-175-5	FMF30-175-6	FMF30-175-7	FMF30-175-8
2	3	1	FMF30-200-1	FMF30-200-2	FMF30-200-3	FMF30-200-4	FMF30-200-5	FMF30-200-6	FMF30-200-7	FMF30-200-8
2-1/2	3	1	FMF30-250-1	FMF30-250-2	FMF30-250-3	FMF30-250-4	FMF30-250-5	FMF30-250-6	FMF30-250-7	FMF30-250-8
3	3-1/2	1	FMF30-300-1	FMF30-300-2	FMF30-300-3	FMF30-300-4	FMF30-300-5	FMF30-300-6	FMF30-300-7	FMF30-300-8
4	3-1/2	1	FMF30-400-1	FMF30-400-2	FMF30-400-3	FMF30-400-4	FMF30-400-5	FMF30-400-6	FMF30-400-7	FMF30-400-8
5	3-1/2	1	FMF30-500-1	FMF30-500-2	FMF30-500-3	FMF30-500-4	FMF30-500-5	FMF30-500-6	FMF30-500-7	FMF30-500-8
6	3-3/4	1-1/4	FMF30-600-1	FMF30-600-2	FMF30-600-3	FMF30-600-4	FMF30-600-5	FMF30-600-6	FMF30-600-7	FMF30-600-8



FML30 Series

Module 30° PA
ANSI Flat Root
Single Milling Cutter

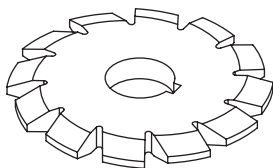


Cutter #	Range	Cutter #	Range
1	135 to a rack	5	21 to 25 teeth
2	55 to 134 teeth	6	17 to 20 teeth
3	35 to 54 teeth	7	14 to 16 teeth
4	26 to 34 teeth	8	12 to 13 teeth

Module	OD	Bore	#1	#2	#3	#4	#5	#6	#7	#8
1	3	1	FML30-100-1	FML30-100-2	FML30-100-3	FML30-100-4	FML30-100-5	FML30-100-6	FML30-100-7	FML30-100-8
1-1/4	3	1	FML30-125-1	FML30-125-2	FML30-125-3	FML30-125-4	FML30-125-5	FML30-125-6	FML30-125-7	FML30-125-8
1-1/2	3	1	FML30-150-1	FML30-150-2	FML30-150-3	FML30-150-4	FML30-150-5	FML30-150-6	FML30-150-7	FML30-150-8
2	3	1	FML30-200-1	FML30-200-2	FML30-200-3	FML30-200-4	FML30-200-5	FML30-200-6	FML30-200-7	FML30-200-8
2-1/2	3	1	FML30-250-1	FML30-250-2	FML30-250-3	FML30-250-4	FML30-250-5	FML30-250-6	FML30-250-7	FML30-250-8
3	3-1/2	1	FML30-300-1	FML30-300-2	FML30-300-3	FML30-300-4	FML30-300-5	FML30-300-6	FML30-300-7	FML30-300-8
4	3-1/2	1	FML30-400-1	FML30-400-2	FML30-400-3	FML30-400-4	FML30-400-5	FML30-400-6	FML30-400-7	FML30-400-8
5	3-1/2	1	FML30-500-1	FML30-500-2	FML30-500-3	FML30-500-4	FML30-500-5	FML30-500-6	FML30-500-7	FML30-500-8
6	3-3/4	1-1/4	FML30-600-1	FML30-600-2	FML30-600-3	FML30-600-4	FML30-600-5	FML30-600-6	FML30-600-7	FML30-600-8
8	4	1-1/4	FML30-800-1	FML30-800-2	FML30-800-3	FML30-800-4	FML30-800-5	FML30-800-6	FML30-800-7	FML30-800-8

FRW14 Series

14.5° PA
Rack & Worm
Single Milling Cutter



Axial DP	Cutter Diam.	Bore	Point Width	Series
1-1/4	8	2	.778	FRW14-125-8
1-1/2	7	1-3/4	.648	FRW14-150-7
1-3/4	7	1-3/4	.556	FRW14-175-7
2	5-1/4	1-1/2	.486	FRW14-200-5
2	6	1-1/2	.486	FRW14-200-6
2	7	1-3/4	.486	FRW14-200-7
2-1/2	6	1-3/4	.389	FRW14-250-6
3	4	1-1/4	.324	FRW14-300-4
3	4-1/2	1-1/4	.324	FRW14-300-4L
3	5	1-1/2	.324	FRW14-300-5
3	6	1-3/4	.324	FRW14-300-6
3	7	1-3/4	.324	FRW14-300-7
3-1/2	4	1-1/4	.278	FRW14-350-4
4	3-3/4	1-1/4	.243	FRW14-400-3L
4	4	1-1/4	.243	FRW14-400-4
4	5	1-1/2	.243	FRW14-400-5
4	5-1/2	1-1/2	.243	FRW14-400-5L
4	6	1-3/4	.243	FRW14-400-6
4-1/2	4	1-1/4	.216	FRW14-450-4
5	3-3/4	1-1/4	.194	FRW14-500-3L
5	4	1-1/4	.194	FRW14-500-4
5	5	1-1/2	.194	FRW14-500-5
5	5-1/2	1-1/2	.194	FRW14-500-5L

Axial DP	Cutter Diam.	Bore	Point Width	Series
6	3-1/4	1	.162	FRW14-600-3A
6	3-1/2	1	.162	FRW14-600-3AE
6	4	1-1/4	.162	FRW14-600-4
6	4	1	.162	FRW14-600-4A
6	5	1-1/2	.162	FRW14-600-5
6	6	1-3/4	.162	FRW14-600-6
7	4	1-1/4	.139	FRW14-700-4
7	4	1	.139	FRW14-700-4A
7	5	1-1/2	.139	FRW14-700-5
8	3	1	.122	FRW14-800-3A
8	3-1/4	1	.122	FRW14-800-3AE2
8	3-3/8	1	.122	FRW14-800-3AE
8	4	1-1/4	.122	FRW14-800-4
8	4	1	.122	FRW14-800-4A
8	4-1/2	1	.125	FRW14-800-4AL
8	5	1-1/2	.122	FRW14-800-5
8	6	1-1/4	.122	FRW14-800-6S
8	6	1-3/4	.122	FRW14-800-6
9	4	1-1/4	.108	FRW14-900-4
10	3	1	.097	FRW14-010-3A
10	3-1/4	1	.097	FRW14-010-3L
10	3-1/2	1	.097	FRW14-010-3AE
10	4	1-1/4	.097	FRW14-010-4
10	4-1/2	1	.097	FRW14-010-4L
10	5	1-1/2	.097	FRW14-010-5
10	6	1-1/4	.097	FRW14-010-6S
10	6	1-3/4	.097	FRW14-010-6
10	4	1-1/4	.088	FRW14-010-4F-PG
12	2-1/2	1-1/4	.081	FRW14-012-2
12	3	1	.081	FRW14-012-3A

SERIES CONTINUED ON NEXT PAGE ->



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PREVIOUS PAGE

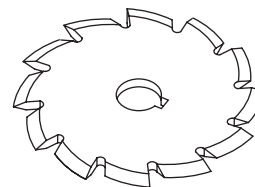
FRW14 Series

DP 14.5° PA, Rack & Worm Single Milling Cutter

Axial DP	OD	Bore	Point Width	Series
12	4	1	.081	FRW14-012-4A
12	4-1/2	1-1/4	.081	FRW14-012-4L
12	4-1/8	1-1/4	.081	FRW14-012-4
12	5	1-1/2	.081	FRW14-012-5
12	6	1-3/4	.081	FRW14-012-6
14	2-1/2	1-1/4	.069	FRW14-014-2
14	3	1	.069	FRW14-014-3A
14	4	1-1/4	.069	FRW14-014-4
16	4-1/2	1	.063	FRW14-016-4AF
16	2-1/2	1-1/4	.061	FRW14-016-2
16	3	1	.061	FRW14-016-3A
16	3-1/2	1	.061	FRW14-016-3AE
16	4	1-1/4	.061	FRW14-016-4
16	4	1	.061	FRW14-016-4A
16	5	1-1/4	.061	FRW14-016-5E
16	5	1-1/2	.061	FRW14-016-5
16	6	1-3/4	.061	FRW14-016-6
18	3	1	.054	FRW14-018-3A
18	4	1-1/4	.054	FRW14-018-4
20	4	1	.050	FRW14-020-4AE
20	3	1	.049	FRW14-020-3A
20	4	1-1/4	.049	FRW14-020-4
20	4	1	.049	FRW14-020-4A
20	3-1/2	1	.046	FRW14-020-3AE
20	6-1/2	1-3/4	.049	FRW14-020-6
22	3	1	.044	FRW14-022-3A
24	2	1/2	.041	FRW14-024-2H
24	2-1/2	1-1/4	.041	FRW14-024-2
24	3	1	.041	FRW14-024-3A
24	4	1-1/4	.041	FRW14-024-4
32	2-1/2	1-1/4	.030	FRW14-032-2
48	2-1/2	1-1/4	.020	FRW14-048-2
64	4	1-1/4	.015	FRW14-064-4
96	2-1/2	1-1/4	.010	FRW14-096-2

FX14 Series

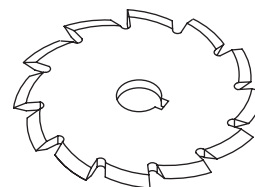
Blank 14.5° PA
Rack & Worm
Single Milling Cutter



OD	Bore	Point Width	DP Range	Series
4-1/4	1	.015	12-64	FX14-425-0152
5-1/4	1-1/4	.015	12-64	FX14-525-0152
6-1/4	1-1/2	.015	3-64	FX14-625-0152
7-1/4	1-3/4	.243	2-4	FX14-725-2431

FX20 Series

Blank 20° PA
Rack & Worm
Single Milling Cutter



OD	Bore	Point Width	DP Range	Series
2-1/2	1-1/4	.006	16-126	FX20-250-0057
3-1/2	1	.020	13-32	FX20-350-0200
3-1/4	1	.040	8-18	FX20-325-0400
4	1-1/4	.020	10-32	FX20-400-0200
4-1/4	1	.015	16-48	FX20-425-0152
4-3/4	1-1/4	.015	3-48	FX20-475L-0152
5-1/4	1-1/4	.011	13-64	FX20-525-0114
6-1/4	1-3/4	.015	3-48	FX20-625-0152

SERIES CONTINUED ON NEXT PAGE ->



FRW20 Series

DP 20° PA
Rack & Worm
Single Milling Cutter

Axial DP	OD	Bore	Point Width	Series
1	10	2	.728	FRW20-100-10
1-1/4	8	2	.583	FRW20-125-8
1-1/2	7	1-3/4	.486	FRW20-150-7
1-3/4	7	1-3/4	.416	FRW20-175-7
2	5-3/4	1-1/2	.364	FRW20-200-5
2	6	1-3/4	.364	FRW20-200-6
2	7	1-3/4	.364	FRW20-200-7
2-1/2	6	1-3/4	.291	FRW20-250-6
3	4	1-1/4	.243	FRW20-300-4
3	4-1/2	1-1/4	.243	FRW20-300-4E
3	5	1-1/2	.243	FRW20-300-5
3	6	1-3/4	.243	FRW20-300-6
3	4-1/2	1-1/4	.228	FRW20-300-4F
3-1/2	4	1-1/4	.208	FRW20-350-4
4	3-3/4	1-1/4	.182	FRW20-400-3L
4	4	1-1/4	.182	FRW20-400-4
4	5	1-1/2	.182	FRW20-400-5
4	6	1-3/4	.182	FRW20-400-6
4	6	1-1/2	.182	FRW20-400-6E
4	7	1-3/4	.182	FRW20-400-7
4-1/2	4	1-1/4	.162	FRW20-450-4
5	3-3/4	1-1/4	.146	FRW20-500-4E
5	4	1-1/4	.146	FRW20-500-4
5	4	1	.146	FRW20-500-4A
5	5	1-1/2	.146	FRW20-500-5
5	6	1-3/4	.146	FRW20-500-6
5	6	1-1/2	.146	FRW20-500-6E
6	3-1/4	1	.121	FRW20-600-3A
6	3-1/2	1	.121	FRW20-600-3AE
6	4	1-1/4	.121	FRW20-600-4
6	4	1	.121	FRW20-600-4A
6	5	1-1/2	.121	FRW20-600-5
6	6	1-3/4	.121	FRW20-600-6
6	6-1/2	1-1/2	.121	FRW20-600-6E
6	7	1-3/4	.121	FRW20-600-7
6	4	1-1/4	.106	FRW20-600-4F
7	4	1-1/4	.104	FRW20-700-4
7	4	1	.104	FRW20-700-4A
7	5	1-1/2	.104	FRW20-700-5
7	6	1-3/4	.104	FRW20-700-6
8	3-1/4	1	.091	FRW20-800-3A
8	3-1/4	1-1/4	.091	FRW20-800-3L
8	4	1-1/4	.091	FRW20-800-4
8	4	1	.091	FRW20-800-4A
8	5	1-1/2	.091	FRW20-800-5
8	5	1-1/4	.091	FRW20-800-5E

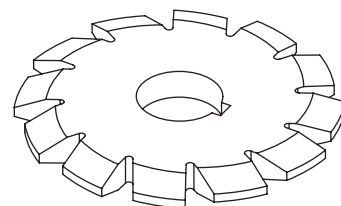
Axial DP	OD	Bore	Point Width	Series
8	6	1-3/4	.091	FRW20-800-6
9	4	1-1/4	.081	FRW20-900-4
10	3	1	.073	FRW20-010-3A
10	3-1/4	1-1/4	.073	FRW20-010-3L
10	4	1-1/4	.073	FRW20-010-4
10	4	1	.073	FRW20-010-4A
10	4-1/2	1-1/4	.073	FRW20-010-4L
10	5	1-1/2	.073	FRW20-010-5
10	5	1-1/4	.073	FRW20-010-5E
10	6	1-3/4	.073	FRW20-010-6
10	6	1-1/4	.073	FRW20-010-6E
12	2-1/2	1-1/4	.061	FRW20-012-2
12	3	1	.061	FRW20-012-3A
12	4	1-1/4	.061	FRW20-012-4
12	4	1	.061	FRW20-012-4A
12	4-1/2	1-1/4	.061	FRW20-012-4L
12	5	1-1/2	.061	FRW20-012-5
12	5	1-1/4	.061	FRW20-012-5E
12	6	1-3/4	.061	FRW20-012-6
14	4	1-1/4	.052	FRW20-014-4
14	4	1	.052	FRW20-014-4A
14	5	1-1/2	.052	FRW20-014-5
16	2-1/2	1-1/4	.046	FRW20-016-2
16	3	1	.046	FRW20-016-3A
16	3-1/2	1	.046	FRW20-016-3AE
16	4	1-1/4	.046	FRW20-016-4
16	4	1	.046	FRW20-016-4A
16	4-1/2	1-1/4	.046	FRW20-016-4L
16	5	1-1/2	.046	FRW20-016-5
16	5	1-1/4	.046	FRW20-016-5E
16	6	1-3/4	.046	FRW20-016-6
18	3	1	.041	FRW20-018-3A
18	4	1-1/4	.041	FRW20-018-4
18	4-1/2	1-1/4	.041	FRW20-018-4L
20	4	1-1/4	.033	FRW20-020-4E
20	3	1	.036	FRW20-020-3A
20	4	1-1/4	.036	FRW20-020-4
20	4	1	.036	FRW20-020-4A
22	3	1	.033	FRW20-022-3A
22	4	1-1/4	.033	FRW20-022-4
24	2-1/2	1-1/4	.030	FRW20-024-2
24	3	1	.030	FRW20-024-3A
24	4	1-1/4	.030	FRW20-024-4
32	2-1/2	1-1/4	.023	FRW20-032-2
32	3-1/2	1	.023	FRW20-032-3A
48	2-1/2	1-1/4	.015	FRW20-048-2
48	3-1/4	1	.013	FRW20-048-3AE
64	2-1/2	1-1/4	.011	FRW20-064-2
96	2-1/2	3/4	.005	FRW20-096-3E



Axial DP	OD	Bore	Point Width	Series
2	6	1-1/2	.246	FRW25-200-6
2-1/2	6	1-3/4	.197	FRW25-250-6
3	4	1-1/4	.164	FRW25-300-4
3	5	1-1/2	.164	FRW25-300-5
3	6	1-3/4	.164	FRW25-300-6
3-1/2	4	1-1/4	.141	FRW25-350-4
4	4	1-1/4	.123	FRW25-400-4
4	6	1-3/4	.123	FRW25-400-6
5	4	1-1/4	.098	FRW25-500-4
5	4	1	.098	FRW25-500-4A
5	5	1-1/2	.098	FRW25-500-5
5	6	1-3/4	.098	FRW25-500-6
6	3-1/4	1-1/4	.082	FRW25-600-3L
6	4	1	.082	FRW25-600-4A
6	5	1-1/2	.082	FRW25-600-5
6	6	1-3/4	.082	FRW25-600-6
7	4	1-1/4	.070	FRW25-700-4
7	5	1-1/2	.070	FRW25-700-5
8	3	1	.062	FRW25-800-3A
8	3-1/4	1-1/4	.062	FRW25-800-3L
8	3-3/8	1	.062	FRW25-800-3AE
8	4	1-1/4	.062	FRW25-800-4
8	5	1-1/2	.062	FRW25-800-5
8	6	1-3/4	.062	FRW25-800-6
10	3	1	.049	FRW25-010-3A
10	4	1-1/4	.049	FRW25-010-4
12	3	1	.041	FRW25-012-3A
12	4	1-1/4	.041	FRW25-012-4
12	3-1/2	1	.039	FRW25-012-3AE
16	3	1	.031	FRW25-016-3A
20	3	1	.025	FRW25-020-3A
24	3	1	.021	FRW25-024-3A
24	2-1/2	1-1/4	.017	FRW25-024-2E
48	2-1/2	1-1/4	.008	FRW25-048-2

FRW25 Series

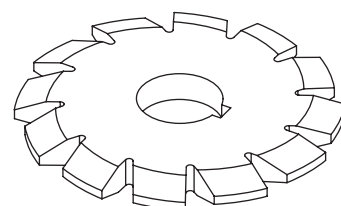
DP 25° PA
Rack & Worm
Single Milling Cutter



OD	PA	Bore	Point Width	DP Range	Series
3-3/4	25	1	.021	8-24	FX25-350-0205
4	25	1	.0002	10-32	FX25-400-0020
4	45	1-1/4	.001	5/10-48/96	FX45-400-010
4-1/4	25	1	.001	26-48	FX25-425-0102
4-1/4	30	1	.001	12-23	FX30-425-0102
4-3/4	25	1-1/4	.120	2.75- 4	FX25-450-120
5-1/4	25	1-1/4	.240	13-48	FX25-525-0102
5-1/4	30	1-1/4	.0004	13 -64	FX30-525-0102
6-1/4	25	1-1/2	.001	7-48	FX25-625-0102
6-1/4	30	1-1/2	.001	2.5-48	FX30-625-0102

FX25, FX30, FX45 Series

DP
Rack & Worm
Single Milling Cutter

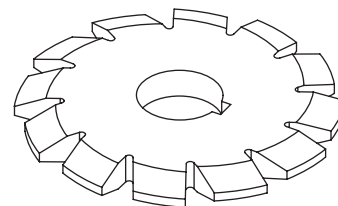




CP		OD	Bore	Point Width	Series
1/10	.100	2-1/2	1	.0232	FWC14-010
1/8	.125	2-3/4	1	.039	FWC14-012
3/16	.188	2-3/4	1	.058	FWC14-018
1/5	.200	2-3/4	1	.062	FWC14-020
1/4	.250	2-3/4	1	.078	FWC14-025
1/4	.250	2-1/2	1-1/4	.077	FWC14-025E
5/16	.313	3-1/4	1	.097	FWC14-031
1/3	.333	3-1/4	1	.103	FWC14-033
3/8	.375	3-1/4	1	.116	FWC14-037
2/5	.400	3-1/4	1	.124	FWC14-040
7/16	.438	3-1/4	1	.135	FWC14-043
1/2	.500	3-1/4	1	.155	FWC14-050
9/16	.563	3-3/4	1-1/4	.174	FWC14-056
5/8	.625	3-3/4	1-1/4	.193	FWC14-062
2/3	.666	3-3/4	1-1/4	.206	FWC14-066
3/4	.750	3-3/4	1-1/4	.232	FWC14-075
7/8	.875	4-3/4	1-1/4	.271	FWC14-087
1	1.000	4-3/4	1-1/4	.310	FWC14-100
1-1/8	1.125	4-3/4	1-1/4	.261	FWC14-112
1-1/4	1.250	5-3/4	1-1/2	.386	FWC14-125
1-1/4	1.250	5	1-1/4	.382	FWC14-125E
1-1/2	1.500	5-3/4	1-1/2	.464	FWC14-150
1-1/2	1.500	6	1-3/4	.464	FWC14-150E

FWC14 Series

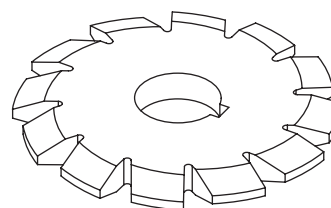
CP 14.5° PA
 Rack & Worm
 Single Milling Cutter



CP		OD	Bore	Point Width	Series
1/10	.100	2-1/2	1	.023	FWC20-010
1/8	.125	2-3/4	1	.029	FWC20-012
1/6	.166	2-3/4	1	.039	FWC20-016
3/16	.188	2-3/4	1	.044	FWC20-018
1/5	.200	2-3/4	1	.046	FWC20-020
1/4	.250	2-3/4	1	.058	FWC20-025
5/16	.313	3-1/4	1	.073	FWC20-031
1/3	.333	3-1/4	1	.077	FWC20-033
3/8	.375	3-1/4	1	.087	FWC20-037
2/5	.400	3-1/4	1	.093	FWC20-040
7/16	.438	3-1/4	1	.102	FWC20-043
1/2	.500	3-1/4	1	.116	FWC20-050
9/16	.563	3-3/4	1-1/4	.130	FWC20-056
5/8	.625	3-3/4	1-1/4	.145	FWC20-062
3/4	.750	3-3/4	1-1/4	.174	FWC20-075
7/8	.875	4-3/4	1-1/4	.203	FWC20-087
1	1.000	4-3/4	1-1/4	.232	FWC20-100
1-1/4	1.250	5-3/4	1-1/2	.290	FWC20-125
1-1/2	1.500	5-3/4	1-1/2	.348	FWC20-150

FWC20 Series

CP 20° PA
 Rack & Worm
 Single Milling Cutter

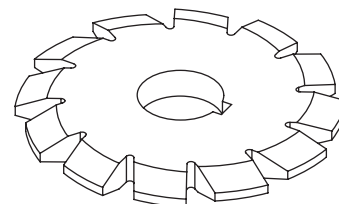




Module	OD	Bore	Point Width	Series
0.50	3	1	.013	FMR20-050-3
0.75	3	1	.022	FMR20-075-3
1	3	1	.029	FMR20-100-3
1-1/4	3	1	.036	FMR20-125-3
1-1/4	4	1	.036	FMR20-125-4
1-1/2	3	1	.043	FMR20-150-3
1-1/2	4	1	.043	FMR20-150-4A
1-1/2	4	1-1/4	.043	FMR20-150-4
1-3/4	3	1	.050	FMR20-175-3
1-3/4	4	1	.050	FMR20-175-4A
1-3/4	4	1-1/4	.050	FMR20-175-4
1-3/4	5	1-1/4	.050	FMR20-175-5
2	3	1	.057	FMR20-200-3A
2	3-1/2	1	.057	FMR20-200-3E
2	4	1	.057	FMR20-200-4A
2	4	1-1/4	.057	FMR20-200-4
2	5	1-1/4	.057	FMR20-200-5
2	5	1-1/2	.057	FMR20-200-5L
2-1/4	3	1	.065	FMR20-225-3A
2-1/4	4	1	.065	FMR20-225-4A
2-1/2	3-1/2	1	.072	FMR20-250-4A
2-1/2	4	1-1/4	.072	FMR20-250-4
2-1/2	5	1-1/2	.072	FMR20-250-5
2-1/2	5	1-1/4	.072	FMR20-250-5A
3	4-1/8	1-1/4	.086	FMR20-300-4
3	5	1-1/4	.086	FMR20-300-5
3	5	1-1/2	.086	FMR20-300-5L
3-1/2	4	1-1/4	.100	FMR20-350-4
3-1/2	5	1-1/2	.100	FMR20-350-5
4	3-1/2	1	.104	FMW20-400-4AE
4	4	1-1/4	.104	FWM20-400-4
4	6	1-1/4	.104	FMW20-400-6E
4	4	1-1/4	.115	FMR20-400-4
4	5	1-1/4	.115	FMR20-400-5
4-1/2	4	1-1/4	.129	FMR20-450-4
5	4	1-1/4	.143	FMR20-500-4
5	5	1-1/4	.143	FMR20-500-5A
5	5	1-1/2	.143	FMR20-500-5L
6	4-1/2	1-1/4	.172	FMR20-600-4
6	5	1-1/2	.172	FMR20-600-5
6	6	1-3/4	.172	FMR20-600-6
7	5	1-1/2	.201	FMR20-700-5
7	5	1-1/2	.230	FMR20-800-5
8	6	1-3/4	.230	FMR20-800-6
10	6	1-3/4	.287	FMR20-010-6
12	6-3/4	1-3/4	.344	FMR20-012-7
14	7	1-3/4	.402	FMR20-014-7
16	7	1-3/4	.459	FMR20-016-7

FMR20 & FMW20 Series

Module 20° PA
Rack & Worm
Single Milling Cutter



SINGLE CUTTER

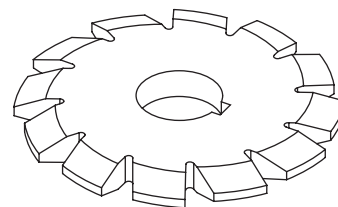




TPI	OD	Bore	Point Width	Series
1-1/3	4	1	.273	FCM-133-4A
2	4	1	.180	FCM-200-4A
2	4	1-1/4	.180	FCM-200-4L
3	3-1/2	1	.118	FCM-300-3
3	4	1	.118	FCM-300-4
3	5	1-1/4	.118	FCM-300-5
3-1/2	3-1/2	1	.101	FCM-350-4
4	2-5/8	3/4	.088	FCM-400-3
4	3-1/2	1	.088	FCM-400-3E
4	4	1	.088	FCM-400-4A
4	4	1-1/4	.088	FCM-400-4L
4	5	1-1/4	.088	FCM-400-5
4	6	1-1/4	.088	FCM-400-6
5	2-5/8	3/4	.069	FCM-500-3
5	4	1	.069	FCM-500-4A
5	5	1-1/4	.069	FCM-500-5
6	2-5/8	3/4	.057	FCM-600-3
6	4	1	.057	FCM-600-4A
6	4	1-1/4	.057	FCM-600-4L
6	5	1-1/4	.057	FCM-600-5L
8	4	1	.041	FCM-800-4A
8	4	1-1/4	.041	FCM-800-4L
10	2-5/8	3/4	.032	FCM-010-3
12	2-5/8	3/4	.026	FCM-012-3
12	4	1	.026	FCM-012-4A

FCM Series

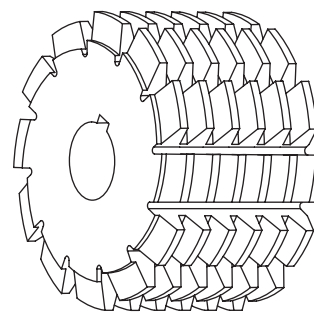
29 Included Angle
Acme Thread
Single Milling Cutter



DP	OD	Length	Bore	# Teeth (in cutter)	WD	Series
4	4-1/2	4	1-1/4	5	.539	RAK14-04-5
5	4	3-3/4	1-1/4	6	.431	RAK14-05-6
6	3-3/4	3-7/8	1-1/4	7	.360	RAK14-06-7E
6	4	4-1/4	1-1/4	8	.360	RAK14-06-8
8	2-1/2	2-3/8	1	6	.270	RAK14-08-6
8	4	3-1/8	1-1/4	8	.270	RAK14-08-8
8	4	4-3/8	1-1/4	11	.270	RAK14-08-11
10	2-3/8	1-7/8	1	6	.216	RAK14-10-6
10	4	3-1/8	1-1/4	10	.216	RAK14-10-10
12	2-5/8	1-5/8	1	6	.180	RAK14-12-6
12	4-1/2	1-1/2	1-1/4	6	.180	RAK14-12-6E
12	3-1/2	2-5/8	1-1/4	10	.180	RAK14-12-10
12	3	3-1/8	1-1/4	13	.180	RAK14-12-13E
12	3-1/2	3-1/2	1-1/4	13	.180	RAK14-12-13
16	2-3/8	1-3/8	1	7	.135	RAK14-16-7
16	3	2	1-1/4	10	.135	RAK14-16-10
16	3-1/2	2-1/2	1-1/4	13	.135	RAK14-16-13
18	2-1/2	1-1/2	1	9	.120	RAK14-18-9
20	2-1/2	1-1/2	1	10	.112	RAK14-20-10
20	2-1/2	1-7/8	1	12	.112	RAK14-20-12
24	2-1/2	1-1/2	1	12	.094	RAK14-24-12
32	2-1/2	1-5/8	1	17	.071	RAK14-32-17
32	2-1/2	2	1	21	.071	RAK14-32-21
36	2-1/4	1-1/4	1	14	.063	RAK14-36-14

RAK14 Series

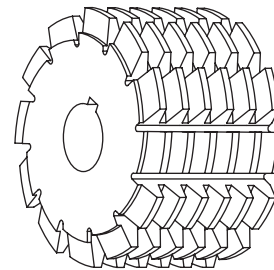
DP 14.5° PA
Multiple Rack Milling Cutter





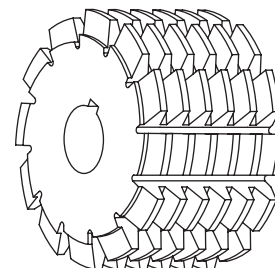
DP	OD	Length	Bore	# Teeth (in cutter)	WD	Series
4	4-1/2	4	1-1/4	5	.539	RAK20-04-5
5	4	3-3/4	1-1/4	6	.431	RAK20-05-6
6	4	3-3/4	1-1/4	7	.360	RAK20-06-7
8	2-1/2	2-3/8	1	6	.270	RAK20-08-6
8	4	3-1/8	1-1/4	8	.270	RAK20-08-8
8	3-1/2	4-3/8	1-1/4	11	.270	RAK20-08-11
10	2-3/8	1-7/8	1	6	.216	RAK20-10-6
10	4	3-1/8	1-1/4	10	.216	RAK20-10-10
10	3-1/4	4	1-1/4	13	.216	RAK20-10-13
12	2-3/8	1-5/8	1	6	.180	RAK20-12-6
12	3-1/2	2-5/8	1-1/4	10	.180	RAK20-12-10
12	3-1/4	3-1/2	1-1/4	13	.180	RAK20-12-13
16	2-3/8	1-3/8	1	7	.135	RAK20-16-7
16	3	2	1-1/4	10	.135	RAK20-16-10
16	3-1/2	2-3/16	1-1/4	11	.135	RAK20-16-11
16	3	3-1/8	1-1/4	15	.135	RAK20-16-15
18	2-1/2	1-1/2	1	9	.120	RAK20-18-9
20	2-1/2	1-1/2	1	10	.112	RAK20-20-10
20	2-1/2	1-7/8	1	12	.112	RAK20-20-12
20	3	3-1/4	1-1/4	21	.112	RAK20-20-21E
24	2-1/2	1-1/2	1	12	.094	RAK20-24-12
28	3	2	1-1/4	26	.081	RAK20-28-26
32	2-1/2	1-5/8	1	17	.071	RAK20-32-17
36	2-1/4	1-3/8	1	14	.063	RAK20-36-14
48	2-1/4	2-1/8	1	30	.048	RAK20-48-30

RAK20 Series
DP 20° PA
Multiple Rack Milling Cutter



Module	OD	Length	Bore	# Teeth (in cutter)	WD	Series
1	2-1/2	1-1/2	1-1/4	12	.089	RMK20-100-12
1	3	2-1/4	1-1/4	18	.089	RMK20-100-18
1-1/4	2-1/2	1-7/8	1	12	.111	RMK20-125-12
1-1/4	2-1/2	1-1/2	1	8	.133	RMK20-125-8
1-1/2	3	2-1/4	1-1/4	12	.133	RMK20-150-12
1-3/4	2-3/8	1-1/2	1	7	.155	RMK20-175-7
2	2-3/8	1-1/2	1	6	.177	RMK20-200-6
2	3-1/2	2-1/2	1-1/4	10	.177	RMK20-200-10
2-1/2	2-3/8	1-7/8	1	6	.222	RMK20-250-6
2-1/2	3-1/2	3-1/8	1-1/4	10	.222	RMK20-250-10
3	3-1/2	3	1-1/4	8	.266	RMK20-300-8
3-1/2	4	3	1-1/4	7	.310	RMK20-350-7
4	4	3-1/2	1-1/4	7	.354	RMK20-400-7
5	4	4-1/2	1-1/4	7	.443	RMK20-500-7
12	8-1/4	3-3/8	50mm	2	1.063	RMK20-012-2F

RMK20 Series
Module 20° PA
Multiple Rack Milling Cutter



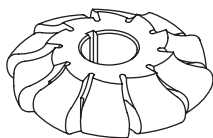
CP	OD	Approx Length	Bore	# Teeth (in cutter)	WD	Series
1.5 mm	3	1-1/2	1-1/4	28	.041	RMK60-150-28

RMK60 Series
Metric 60° Included Angle
Multiple Rack Milling Cutter



FRC Series

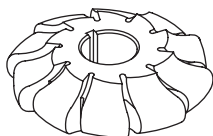
Roller Chain Sprocket
American Standard



Chain #	CP	Roller	OD	Bore	Tooth Range					
					6	7-8	9-11	12-17	18-34	35 +
35	3/8	.200	2-3/4	1	FRC-35-6	FRC-35-7	FRC-35-9	FRC-35-12	FRC-35-18	FRC-35-35
40	1/2	.313	3-1/8	1	FRC-40-6	FRC-40-7	FRC-40-9	FRC-40-12	FRC-40-18	FRC-40-35
41	1/2	.306	3-1/8	1	FRC-41-6	FRC-41-7	FRC-41-9	FRC-41-12	FRC-41-18	FRC-41-35
50	5/8	.400	3-1/8	1	FRC-50-6	FRC-50-7	FRC-50-9	FRC-50-12	FRC-50-18	FRC-50-35
60	3/4	.469	3-3/8	1	FRC-60-6	FRC-60-7	FRC-60-9	FRC-60-12	FRC-60-18	FRC-60-35
80	1	.625	4-1/4	1-1/4	FRC-80-6	FRC-80-7	FRC-80-9	FRC-80-12	FRC-80-18	FRC-80-35
(Spec.)	1	.563	4-1/4	1-1/4	FRC-81-6	FRC-81-7	FRC-81-9	FRC-81-12	FRC-81-18	FRC-81-35
100	1-1/4	.750	4-5/8	1-1/4	FRC-100-6	FRC-100-7	FRC-100-9	FRC-100-12	FRC-100-18	FRC-100-35
120	1-1/2	.875	4-3/4	1-1/4	FRC-120-6	FRC-120-7	FRC-120-9	FRC-120-12	FRC-120-18	FRC-120-35
140	1-3/4	1.000	5-3/8	1-1/2	FRC-140-6	FRC-140-7	FRC-140-9	FRC-140-12	FRC-140-18	FRC-140-35
160	2	1.125	5-3/4	1-1/2	FRC-160-6	FRC-160-7	FRC-160-9	FRC-160-12	FRC-160-18	FRC-160-35
180	2-1/4	1.406	6-1/2	1-1/2	FRC-180-6	FRC-180-7	FRC-180-9	FRC-180-12	FRC-180-18	FRC-180-35
200	2-1/2	1.563	6-7/8	1-3/4	FRC-200-6	FRC-200-7	FRC-200-9	FRC-200-12	FRC-200-18	FRC-200-35
240	3	1.875	8	2	FRC-240-6	FRC-240-7	FRC-240-9	FRC-240-12	FRC-240-18	FRC-240-35

FRB Series

Roller Chain Sprocket
British Standard

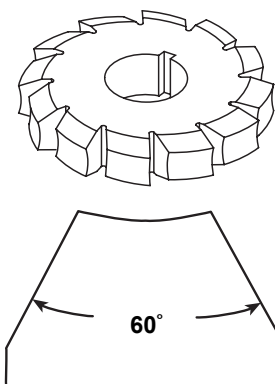


Chain #	CP	Roller	OD	Bore	Tooth Range				
					6	7-8	9-11	13-19	20 +
36	3/8	.250	2-3/4	1	FRB-36-6	FRB-36-7	FRB-36-9	FRB-36-13	FRB-36-20
42	1/2	.335	3-1/8	1	FRB-42-6	FRB-42-7	FRB-42-9	FRB-42-13	FRB-42-20
51	5/8	.400	3-1/8	1	FRB-51-6	FRB-51-7	FRB-51-9	FRB-51-13	FRB-51-20
61	3/4	.475	3-3/8	1	FRB-61-6	FRB-61-7	FRB-61-9	FRB-61-13	FRB-61-20

Will Produce			OD	Bore	Point Width	Series
Major Diam.	Minor Diam.	Key				
0.750	0.675	.188	3	1	.161	F6-075A
0.750	0.635	.185	3	1	.144	F6-075B
0.750	0.597	.185	3	1	.125	F6-075C
0.875	0.788	.219	3	1	.189	F6-087A
0.875	0.741	.215	3	1	.168	F6-087B
0.875	0.696	.215	3	1	.145	F6-087C
1.000	0.900	.250	3	1	.216	F6-100A
1.000	0.847	.246	3	1	.192	F6-100B
1.000	0.796	.246	3	1	.165	F6-100C
1.125	1.014	.281	3	1	.244	F6-112A
1.125	0.953	.277	3	1	.216	F6-112B
1.125	0.894	.277	3	1	.185	F6-112C

F6 Series

6 Parallel Spline Milling Cutters
No Lugs, Non-Chamfering



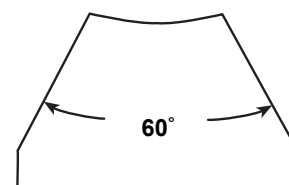
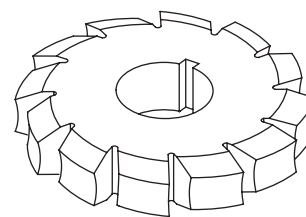
SERIES CONTINUED ON NEXT PAGE ->



Will Produce			OD	Bore	Point Width	Series
Major Dia.	Minor Dia.	Key				
1.250	1.126	.313	3	1	.270	F6-125A
1.250	1.060	.309	3	1	.239	F6-125B
1.250	0.996	.309	3	1	.206	F6-125C
1.375	1.239	.345	3	1	.296	F6-137A
1.375	1.165	.340	3	1	.263	F6-137B
1.375	1.096	.340	3	1	.227	F6-137C
1.500	1.350	.375	3	1	.324	F6-150A
1.500	1.271	.371	3	1	.287	F6-150B
1.500	1.196	.371	3	1	.247	F6-150C
1.625	1.465	.406	3	1	.352	F6-162A
1.625	1.378	.402	3	1	.311	F6-162B
1.625	1.296	.402	3	1	.268	F6-162C
1.750	1.577	.438	3	1	.378	F6-175A
1.750	1.485	.434	3	1	.334	F6-175B
1.750	1.396	.434	3	1	.288	F6-175C
2.000	1.802	.500	3	1	.433	F6-200A
2.000	1.696	.495	3	1	.382	F6-200B
2.000	1.595	.495	3	1	.329	F6-200C
2.250	2.027	.563	3	1	.486	F6-225A
2.250	1.908	.558	3	1	.429	F6-225B
2.250	1.795	.558	3	1	.370	F6-225C
2.500	2.252	.625	3	1	.541	F6-250A
2.500	2.120	.620	3	1	.477	F6-250B
2.500	1.996	.620	3	1	.412	F6-250C
3.000	2.702	.750	3	1	.648	F6-300A
3.000	2.545	.745	3	1	.572	F6-300B
3.000	2.394	.745	3	1	.492	F6-300C
3.500	3.152	.875	3	1	.756	F6-350A
3.500	2.970	.870	3	1	.666	F6-350B
3.500	2.794	.870	3	1	.574	F6-350C

F6 Series

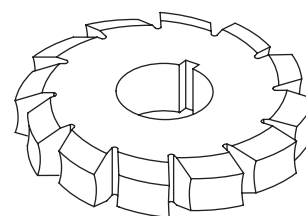
6 Parallel Spline Milling Cutters
No Lugs, Non-Chamfering



Will Produce			OD	Bore	Point Width	Series
Major Dia.	Minor Dia.	Key				
0.750	.642	.114	3	1	.087	F10-075B
0.750	.605	.114	3	1	.075	F10-075C
0.875	.794	.137	3	1	.111	F10-087A
0.875	.751	.134	3	1	.101	F10-087B
0.875	.706	.134	3	1	.087	F10-087C
1.000	.907	.156	3	1	.128	F10-100A
1.000	.857	.153	3	1	.115	F10-100B
1.000	.807	.153	3	1	.099	F10-100C

F10 Series

10 Parallel Spline Milling Cutters
No Lugs, Non-Chamfering



SERIES CONTINUED ON NEXT PAGE -->

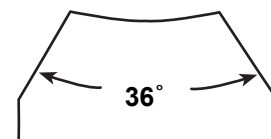
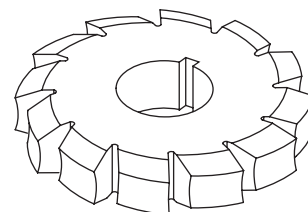


Will Produce			OD	Bore	Point Width	Series
Major Dia.	Minor Dia.	Key				
1.125	1.020	.176	3	1	.143	F10-112A
1.125	0.965	.173	3	1	.129	F10-112B
1.125	0.908	.173	3	1	.111	F10-112C
1.250	1.134	.195	3	1	.160	F10-125A
1.250	1.072	.192	3	1	.143	F10-125B
1.250	1.010	.192	3	1	.124	F10-125C
1.375	1.248	.215	3	1	.175	F10-137A
1.375	1.180	.212	3	1	.157	F10-137B
1.375	1.111	.212	3	1	.135	F10-137C
1.500	1.362	.235	3	1	.192	F10-150A
1.500	1.286	.231	3	1	.172	F10-150B
1.500	1.211	.231	3	1	.148	F10-150C
1.625	1.394	.251	3	1	.186	F10-162B
1.625	1.311	.251	3	1	.159	F10-162C
1.750	1.590	.274	3	1	.224	F10-175A
1.750	1.501	.270	3	1	.200	F10-175B
1.750	1.414	.270	3	1	.173	F10-175C
2.000	1.817	.313	3	1	.256	F10-200A
2.000	1.715	.307	3	1	.229	F10-200B
2.000	1.615	.307	3	1	.198	F10-200C
2.250	2.045	.352	3	1	.288	F10-225A
2.250	1.930	.346	3	1	.258	F10-225B
2.250	1.818	.346	3	1	.222	F10-225C
2.500	2.272	.391	3	1	.320	F10-250A
2.500	2.145	.385	3	1	.286	F10-250B
2.500	2.020	.385	3	1	.247	F10-250C
3.000	2.727	.469	3	1	.385	F10-300A
3.000	2.574	.463	3	1	.342	F10-300B
3.000	2.424	.463	3	1	.295	F10-300C
3.500	3.182	.547	3	1	.449	F10-350A
3.500	3.004	.541	3	1	.399	F10-350B
3.500	2.829	.541	3	1	.344	F10-350C

F10 Series

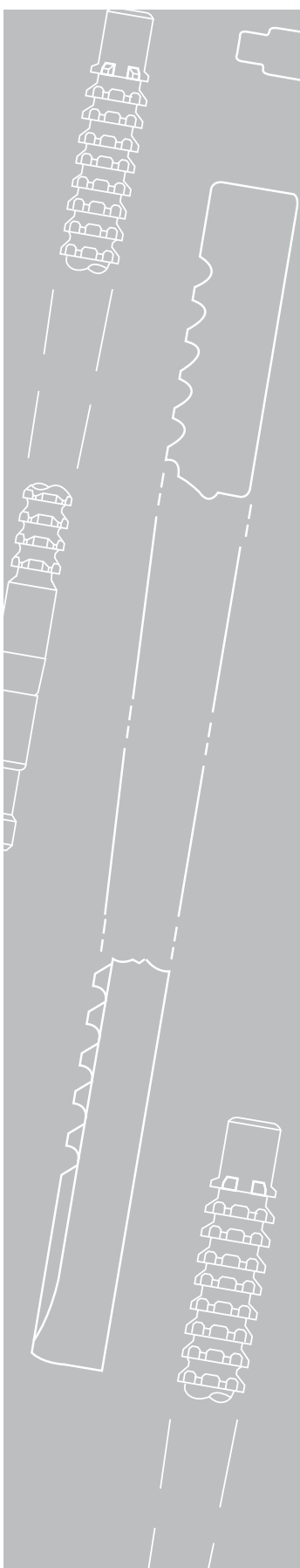
10 Parallel Spline Milling Cutters

No Lugs, Non-Chamfering





Broach Sort Index



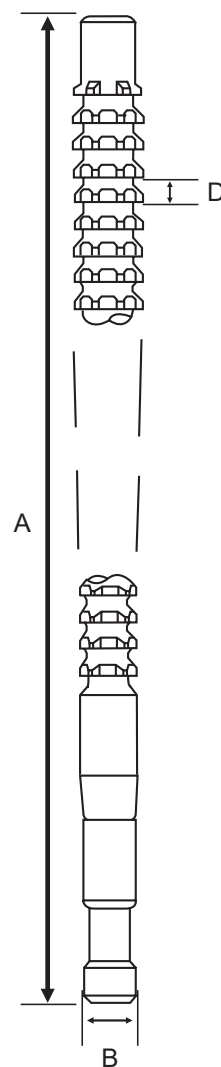
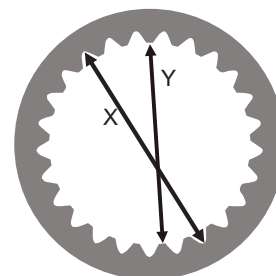
Involute Spline	
Fillet Root (Side fit)	201
Flat Root (Side fit)	204
Major Diameter Fit	207
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6 Spline	209
10 Spline	210
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DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
12/24	30°	12	1.168	.917	44	.438	2-1/4	3/4	BF30-12-012
12/24	30°	14	1.335	1.084	52	.500	2-1/2	1	BF30-12-014
12/24	30°	19	1.752	1.500	52	.500	2-3/4	1	BF30-12-019
12/24	30°	6	.663	.449	36.5	.375	2	7/16	BF30-12-006E
12/24	30°	7	.746	.521	36.5	.330	2	1/2	BF30-12-007E
12/24	30°	10	.989	.752	47	.440	2-1/2	11/16	BF30-12-010E
12/24	30°	10	1.005	.754	42.5	.375	2-1/4	3/4	BF30-12-010F
12/24	30°	14	1.335	1.084	52	.500	2-1/2	1	BF30-12-014
12/24	30°	19	1.752	1.500	52	.500	2-3/4	1	BF30-12-019
16/32	30°	8	.628	.448	34	.302	1-1/2	3/8	BF30-008
16/32	30°	9	.690	.505	39	.375	1-5/8	1/2	BF30-009
16/32	30°	9	.694	.507	36.5	.320	1-1/2	1/2	BF30-009E
16/32	30°	10	.753	.565	39	.450	1-5/8	1/2	BF30-010
16/32	30°	11	.815	.625	34	.350	1-3/4	5/8	BF30-011
16/32	30°	12	.878	.688	38	.4375	2	5/8	BF30-012
16/32	30°	13	.940	.750	32	.3125	1-7/8	5/8	BF30-013
16/32	30°	13	.944	.752	50	.500	2-1/2	3/4	BF30-013F
16/32	30°	14	1.003	.813	43	.4375	2-7/8	3/4	BF30-014
16/32	30°	14	1.003	.813	32	.375	2	3/4	BF30-014S
16/32	30°	15	1.066	.875	43	.375	2-1/2	3/4	BF30-015
16/32	30°	15	1.069	.877	44	.440	2-1/2	3/4	BF30-015EL
16/32	30°	15	1.069	.877	42	.440	2-1/2	Key	BF30-015EM
16/32	30°	15	1.069	.877	36	.375	2	Key	BF30-015ES
16/32	30°	15	1.069	.877	36.5	.350	1-3/4	3/4	BF30-015XS
16/32	30°	16	1.128	.938	43	.480	2-7/8	3/4	BF30-016
16/32	30°	16	1.128	.938	43	.480	2-7/8	3/4	BF30-016E
16/32	30°	17	1.191	1.000	43	.500	2-7/8	3/4	BF30-017
16/32	30°	17	1.182	1.000	43	.500	2-3/4	7/8	BF30-017E
16/32	30°	18	1.253	1.063	43	.4375	2-1/2	3/4	BF30-018
16/32	30°	19	1.316	1.125	43	.500	2-7/8	1	BF30-019
16/32	30°	20	1.378	1.188	43	.500	2-7/8	1	BF30-020
16/32	30°	21	1.441	1.249	43	.500	2-7/8	1	BF30-021
16/32	30°	21	1.445	1.251	46	.500	2-7/8	1-1/4	BF30-021EL
16/32	30°	22	1.504	1.313	39	.500	2-7/8	1	BF30-022
16/32	30°	23	1.566	1.375	43	.500	2-7/8	1	BF30-023
16/32	30°	24	1.627	1.438	46	.500	2-7/8	1	BF30-024
16/32	30°	26	1.753	1.562	47	.5625	3	1-1/2	BF30-026
20/40	30°	6	.395	.271	25	.250	1-1/4	1/4	BF30-20-006E
20/40	30°	8	.504	.361	33	.250	1-1/2	3/8	BF30-20-008

BF30 & BF45 Series

DP Fillet Root
Involute Spline
Pull Broach
Class 5 Fit
ANSI B92.1



*Approximate overall length of broach listed

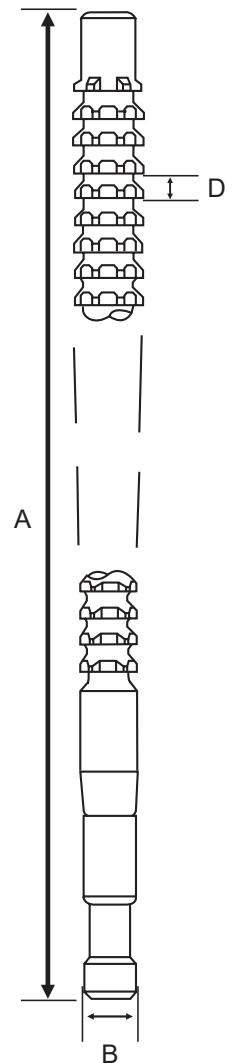
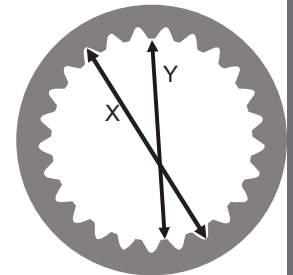
SERIES CONTINUED
ON NEXT PAGE ->



BF30 & BF45 Series

DP Fillet Root
Involute Spline
Pull Broach
Class 5 Fit
ANSI B92.1

DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
20/40	30°	9	.550	.405	33	.215	1-1/2	3/8	BF30-20-009
20/40	30°	10	.608	.454	31	.310	2	7/16	BF30-20-010G
20/40	30°	12	.704	.550	28	.312	1-1/2	1/2	BF30-20-012
20/40	30°	13	.758	.602	31	.312	1-5/8	1/2	BF30-20-013E
20/40	30°	13	.758	.602	36	.375	2	Key	BF30-20-013F
20/40	30°	14	.804	.650	41	.500	2-1/2	5/8	BF30-20-014
20/40	30°	15	.854	.698	36.25	.375	2-1/4	5/8	BF30-20-015
20/40	30°	16	.908	.751	33	.375	2-1/4	3/4	BF30-20-016E
20/40	30°	16	.908	.751	38	.437	2-1/2	Key	BF30-20-016F
20/40	30°	17	.958	.801	23	.220	1-1/4	Key	BF30-20-017S
20/40	30°	17	.958	.802	30	.312	2-1/4	5/8	BF30-20-017Y
20/40	30°	17	.958	.802	36	.375	2-1/2	3/4	BF30-20-017Z
20/40	30°	18	1.004	.850	40	.500	2-1/2	5/8	BF30-20-018
20/40	30°	19	1.055	.900	40	.563	3-1/4	3/4	BF30-20-019
20/40	30°	20	1.105	.952	35	.500	2-7/8	3/4	BF30-20-020
20/40	30°	21	1.155	1.000	38	.375	2	3/4	BF30-20-021
20/40	30°	22	1.205	1.050	39	.500	2-1/2	1	BF30-20-022
20/40	30°	24	1.302	1.150	38	.4375	2-1/2	1	BF30-20-024
20/40	30°	27	1.460	1.302	32	.3125	2-1/4	1-1/4	BF30-20-027S
20/40	30°	28	1.502	1.350	38	.500	2-1/2	1-1/4	BF30-20-028
20/40	30°	18	1.00	.830	26	.290	1-5/8	3/4	BF30-23-018E
24/48	30°	8	.418	.300	25	.220	1-1/4	1/4	BF30-24-008E
24/48	30°	10	.504	.378	36	.375	1-1/2	3/8	BF30-24-010
24/48	30°	11	.546	.418	28	.375	1-5/8	3/8	BF30-24-011
24/48	30°	12	.591	.461	31.5	.375	2.25	Key	BF30-24-012F
24/48	30°	12	.591	.461	32	.3125	1.75	Key	BF30-24-012G
24/48	30°	12	.590	.461	23	.375	2-1/4	3/8	BF30-24-012S
24/48	30°	13	.632	.501	27	.250	1-3/8	Key	BF30-24-013E
24/48	30°	13	.633	.501	31	.3125	1-3/4	Key	BF30-24-013F
24/48	30°	14	.671	.542	31	.400	2-1/4	1/2	BF30-24-014
24/48	30°	15	.713	.584	34.5	.375	1-5/8	1/2	BF30-24-015
24/48	30°	16	.758	.627	27	.250	1-3/8	1/2	BF30-24-016F
24/48	30°	17	.796	.667	36	.450	2-1/2	5/8	BF30-24-017
24/48	30°	18	.842	.711	28	.375	1-3/4	5/8	BF30-24-018F
24/48	30°	18	.842	.711	32	.375	2-1/4	Key	BF30-24-018G
24/48	30°	19	.884	.752	36	.320	1-3/4	Key	BF30-24-019F
24/48	30°	19	.884	.752	35	.375	2-1/4	3/4	BF30-24-019Y
24/48	30°	20	.921	.792	23	.3125	1-1/8	3/4	BF30-24-020
24/48	30°	20	.925	.794	28	.3125	1-3/4	Key	BF30-24-020X
24/48	30°	22	1.005	.875	34	.500	2-1/2	3/4	BF30-24-022



*Approximate overall length
of broach listed

SERIES CONTINUED
ON NEXT PAGE ->

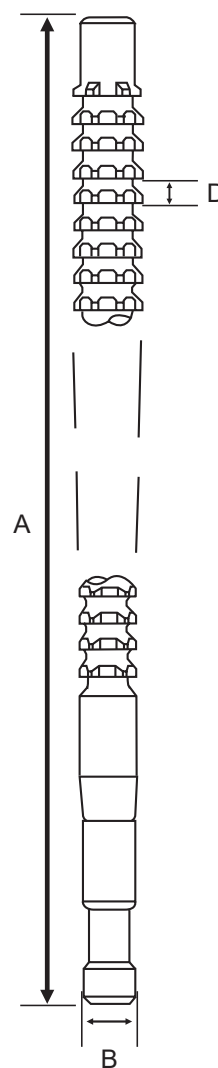
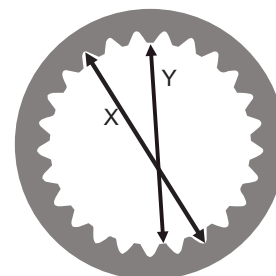
BROACH



DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
24/48	30°	23	1.050	.917	32	.4375	2-1/2	3/4	BF30-24-023
24/48	30°	24	1.083	.961	32	.440	2-1/2	3/4	BF30-24-024
24/48	30°	24	1.092	.961	34	.440	2-1/2	7/8	BF30-24-024E
24/48	30°	25	1.134	1.001	40	.500	2-3/4	1	BF30-24-025E
24/48	30°	25	1.134	1.002	40	.500	2-3/4	Key	BF30-24-025F
24/48	30°	26	1.172	1.042	31	.450	2-1/2	1	BF30-24-026
24/48	30°	27	1.215	1.084	42	.560	3	1	BF30-24-027
24/48	30°	28	1.255	1.125	36	.5625	3-1/4	1	BF30-24-028
24/48	30°	30	1.339	1.209	31	.3125	1-3/4	1	BF30-24-030
24/48	30°	35	1.550	1.416	35	.4375	2-1/2	1-1/4	BF30-24-035
24/48	30°	36	1.593	1.456	32	.4375	2-1/2	1-1/4	BF30-24-036
32/64	30°	9	.349	.255	27	.375	1-3/8	1/4	BF30-32-009
32/64	30°	11	.411	.315	25	.3125	1-1/2	5/16	BF30-32-011
32/64	30°	12	.443	.346	27	.3125	1-5/8	5/16	BF30-32-012F
32/64	30°	13	.469	.375	26	.350	1-5/8	3/8	BF30-32-013
32/64	30°	15	.537	.438	30	.375	1-3/4	3/8	BF30-32-015
32/64	30°	16	.572	.470	29	.315	2	7/16	BF30-32-016
32/64	30°	17	.595	.502	25	.4375	1-5/8	3/8	BF30-32-017
32/64	30°	18	.636	.530	25.5	.275	1-3/8	7/16	BF30-32-018Y
32/64	30°	19	.662	.563	27	.463	2	1/2	BF30-32-019
32/64	30°	20	.695	.594	32	.5625	2	1/2	BF30-32-020
32/64	30°	21	.729	.626	26	.312	1-5/8	Key	BF30-32-021E
32/64	30°	22	.760	.657	35	.500	2-1/2	5/8	BF30-32-022
32/64	30°	23	.787	.688	29	.500	2	5/8	BF30-32-023S
32/64	30°	24	.821	.719	32	.437	2-1/2	5/8	BF30-32-024
32/64	30°	25	.848	.750	26	.375	1-5/8	3/4	BF30-32-025
32/64	30°	26	.875	.781	24	.375	1-3/4	3/4	BF30-32-026
32/64	30°	28	.950	.844	24	.375	1-3/4	3/4	BF30-32-028
32/64	30°	29	.975	.877	32	.500	2-1/4	3/4	BF30-32-029
32/64	30°	29	.978	.877	35	.500	2-1/2	Key	BF30-32-029Y
40/80	30°	19	.525	.449	18	.250	3/4	7/16	BF30-40-019
40/80	30°	24	.657	.576	21	.300	3/4	1/2	BF30-40-024
40/80	30°	32	.856	.774	22	.350	2	3/4	BF30-40-032
40/80	30°	39	1.030	.950	21	.250	2	3/4	BF30-40-039
48/96	30°	12	.298	.232	17	.250	1-1/2	3/16	BF30-48-012
48/96	30°	13	.323	.253	18.5	.250	1-1/4	1/4	BF30-48-013E
48/96	30°	18	.423	.355	31	.4375	1-1/2	5/16	BF30-48-018
24/48	45°	29	1.276	1.184	22	.375	1-3/4	1	BF45-24-029
24/48	45°	35	1.527	1.434	27	.3125	1-1/2	1-1/4	BF45-24-035

BF30 & BF45 Series

DP Fillet Root
 Involute Spline
 Pull Broach
 Class 5 Fit
 ANSI B92.1



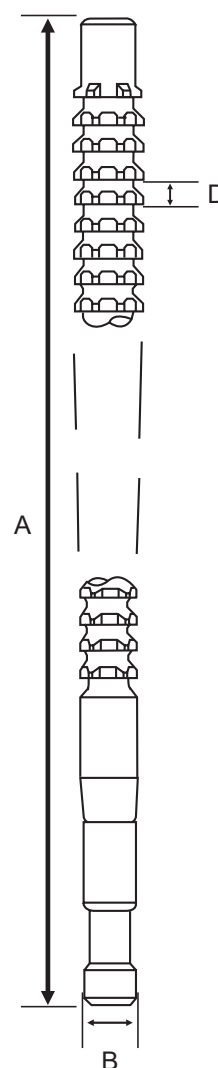
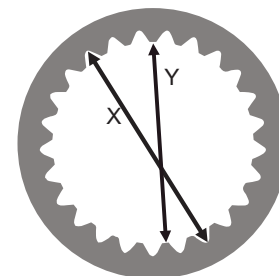
*Approximate overall length
 of broach listed



DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
8/16	30°	16	2.169	1.876	55	.465	2-1/2	1-3/4	BR30-8-016
16/32	30°	7	.526	.393	28	.312	1-1/2	3/8	BR30-007
16/32	30°	8	.588	.449	32	.312	1-1/2	3/8	BR30-008
16/32	30°	8	.587	.450	37	.375	1-7/8	Key	BR30-008LE
16/32	30°	9	.651	.509	36	.375	1-5/8	1/2	BR30-009
16/32	30°	9	.650	.509	36	.375	2	1/2	BR30-009L
16/32	30°	10	.713	.569	39	.400	1-5/8	1/2	BR30-010
16/32	30°	10	.712	.572	36	.375	1-7/8	Key	BR30-010E
16/32	30°	10	.712	.572	33	.375	1-7/8	Key	BR30-010ES
16/32	30°	11	.776	.631	36	.400	1-7/8	1/2	BR30-011
16/32	30°	11	.776	.631	25	.300	1-3/10	Key	BR30-011E
16/32	30°	12	.838	.692	39	.312	1-1/2	5/8	BR30-012
16/32	30°	13	.901	.754	36	.312	1-5/8	3/4	BR30-013
16/32	30°	13	.901	.754	39	.510	3	3/4	BR30-013L
16/32	30°	13	.901	.754	24	.300	1	3/4	BR30-013S
16/32	30°	14	.963	.814	43	.500	2-7/8	3/4	BR30-014
16/32	30°	14	.963	.815	35	.375	2	3/4	BR30-014S
16/32	30°	15	1.026	.877	33	.375	2	3/4	BR30-015
16/32	30°	15	1.026	.877	35	.500	3	3/4	BR30-015L
16/32	30°	15	1.026	.877	35	.375	2	3/4	BR30-015S
16/32	30°	16	1.088	.938	43	.500	2-1/2	3/4	BR30-016
16/32	30°	16	1.087	.941	46.5	.560	3	7/8	BR30-016L
16/32	30°	16	1.087	.941	41.5	.500	2-1/2	7/8	BR30-016MF
16/32	30°	16	1.088	.939	30	.320	2	7/8	BR30-016S
16/32	30°	17	1.151	1.001	43	.375	2	7/8	BR30-017
16/32	30°	17	1.151	1.001	35	.375	2	3/4	BR30-017S
16/32	30°	18	1.213	1.063	43	.450	2-1/2	3/4	BR30-018
16/32	30°	18	1.213	1.063	35	.365	2-1/2	3/4	BR30-018S
16/32	30°	19	1.276	1.125	43	.565	3	1	BR30-019
16/32	30°	19	1.276	1.125	43	.560	4	1	BR30-019L
16/32	30°	19	1.276	1.125	36	.500	2-1/2	1	BR30-019S
16/32	30°	20	1.338	1.188	43	.5625	3	1	BR30-020
16/32	30°	20	1.338	1.188	35	.3125	2-1/2	1	BR30-020S
16/32	30°	21	1.401	1.250	43	.500	2-3/4	1	BR30-021
16/32	30°	21	1.401	1.250	35	.437	2.5	1	BR30-021S
16/32	30°	22	1.463	1.313	43	.380	3	1	BR30-022
16/32	30°	22	1.463	1.313	35	.380	2	1	BR30-022S
16/32	30°	23	1.525	1.375	34	.500	3	1-1/4	BR30-023L
16/32	30°	23	1.526	1.375	35	.375	2-1/2	1	BR30-023S
16/32	30°	24	1.588	1.438	43	.450	2-3/4	1	BR30-024
16/32	30°	25	1.651	1.500	45	.500	2-3/4	1-1/4	BR30-025
16/32	30°	25	1.651	1.500	35	.375	2	1-1/4	BR30-025S
16/32	30°	26	1.713	1.563	45	.500	3	1-1/4	BR30-026
16/32	30°	27	1.772	1.625	36	.4375	2-1/4	1-1/2	BR30-027S
16/32	30°	28	1.838	1.688	33	.4375	2-1/2	1-1/2	BR30-028

BR30 Series

DP Flat Root
Involute Spline
Pull Broach
Class 5 Fit
ANSI B92.1



*Approximate overall length of broach listed

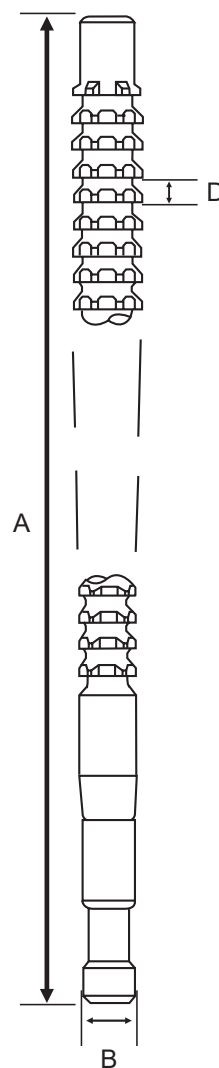
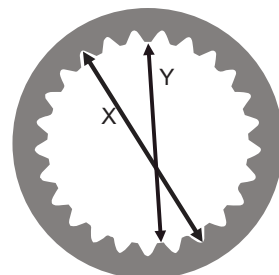
SERIES CONTINUED
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DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
16/32	30°	29	1.900	1.750	38.5	.400	2-1/2	1-3/8	BR30-029S
16/32	30°	30	1.963	1.813	33	.4375	2-1/2	1-1/2	BR30-030
16/32	30°	31	2.026	1.875	33	.4375	2-1/2	1-1/2	BR30-031
10/20	30°	6	.738	.533	36.5	.3125	1-5/8	1/2	BR30-10-006E
10/20	30°	8	.938	.717	52	.500	2-3/4	Key	BR30-10-008E
10/20	30°	9	1.038	.814	46	.4375	2-3/8	3/4	BR30-10-009E
10/20	30°	10	1.138	.913	52	.4375	2	7/8	BR30-10-010
10/20	30°	10	1.138	.913	52	.375	2	7/8	BR30-10-010G
10/20	30°	11	1.238	1.008	39.875	.375	2	7/8	BR30-10-011E
10/20	30°	12	1.339	1.105	50	.500	2-1/4	1	BR30-10-012
10/20	30°	13	1.435	1.205	42.5	.4375	2-1/2	1	BR30-10-013
10/20	30°	14	1.536	1.300	49	.500	2-1/2	1	BR30-10-014
10/20	30°	15	1.638	1.395	48	.500	2-1/2	1-3/8	BR30-10-015E
10/20	30°	17	1.838	1.602	55	.4375	2-1/4	1-1/2	BR30-10-017E
10/20	30°	17	1.838	1.602	48	.500	2-1/2	1-1/2	BR30-10-017F
10/20	30°	18	1.937	1.699	42	.500	2-1/2	1-1/2	BR30-10-018
12/24	30°	7	.700	.520	34	.375	2	1/2	BR30-12-007
12/24	30°	8	.782	.599	42.5	.4375	2-1/4	9/16	BR30-12-008
12/24	30°	9	.866	.678	45.625	.450	2-1/4	5/8	BR30-12-009E
12/24	30°	9	.865	.679	51.25	.450	2-1/4	5/8	BR30-12-009F
12/24	30°	10	.947	.759	34	.3125	1-3/4	5/8	BR30-12-010
12/24	30°	11	1.033	.841	34	.4375	2	3/4	BR30-12-011
12/24	30°	12	1.116	.922	38	.4375	2-1/4	3/4	BR30-12-012
12/24	30°	13	1.200	1.006	51	.500	2-1/2	7/8	BR30-12-013E
12/24	30°	13	1.200	1.006	51	.437	2-1/4	7/8	BR30-12-013F
12/24	30°	14	1.283	1.087	48	.500	3-1/5	1	BR30-12-014L
12/24	30°	14	1.283	1.087	36	.375	1-3/8	1	BR30-12-014S
12/24	30°	15	1.366	1.170	50	.5625	3	1	BR30-12-015
12/24	30°	16	1.450	1.250	40	.5625	3	1-1/4	BR30-12-016S
12/24	30°	17	1.533	1.334	54	.5625	3	1-1/4	BR30-12-017
12/24	30°	18	1.617	1.417	44	.500	2-1/2	1-3/8	BR30-12-018
12/24	30°	19	1.696	1.500	34	.500	2-1/4	1-1/4	BR30-12-019
12/24	30°	20	1.782	1.584	46	.375	2-1/4	1-1/2	BR30-12-020
12/24	30°	20	1.782	1.584	56	.700	4	1-1/2	BR30-12-020L
12/24	30°	21	1.866	1.668	48	.500	2-1/2	1-1/2	BR30-12-021E
12/24	30°	22	1.950	1.750	38	.375	2	1-1/2	BR30-12-022
12/24	30°	23	2.032	1.834	40	.500	2-5/8	1-1/2	BR30-12-023
12/24	30°	24	2.117	1.917	51	.562	3-1/4	1-1/2	BR30-12-024
12/24	30°	25	2.200	2.000	37	.312	1-3/4	1-3/4	BR30-12-025
12/24	30°	26	2.283	2.084	40	.500	2-1/2	1-1/2	BR30-12-026
12/24	30°	29	2.533	2.334	46	.500	2	2	BR30-12-029
20/40	30°	7	.417	.318	25	.3125	1-1/2	5/16	BR30-20-007
20/40	30°	9	.522	.408	26	.3125	1-1/2	3/8	BR30-20-009
20/40	30°	9	.522	.408	38	.500	2-1/2	3/8	BR30-20-009L
20/40	30°	10	.572	.457	28	.350	2-1/2	7/16	BR30-20-010
20/40	30°	11	.622	.506	25	.281	1-1/2	1/2	BR30-20-011E
20/40	30°	12	.672	.554	32	.500	2-1/2	1/2	BR30-20-012

BR30 Series

DP Flat Root
Involute Spline
Pull Broach
Class 5 Fit
ANSI B92.1



*Approximate overall length of broach listed

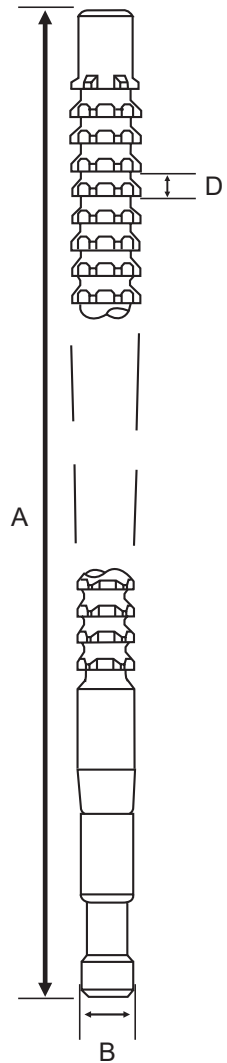
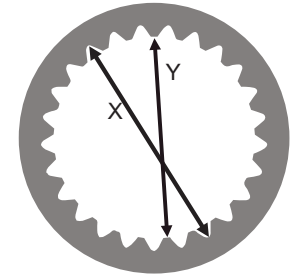
SERIES CONTINUED
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DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
20/40	30°	13	.721	.602	30.5	.375	2	1/2	BR30-20-013F
20/40	30°	14	.771	.653	26	.375	2	5/8	BR30-20-014
20/40	30°	15	.821	.703	26	.281	1-1/2	5/8	BR30-20-015S
20/40	30°	16	.872	.752	30	.437	1-1/2	3/4	BR30-20-016
20/40	30°	17	.918	.800	31	.4375	1-1/2	3/4	BR30-20-017
20/40	30°	18	.972	.853	38	.475	2-7/8	3/4	BR30-20-018
20/40	30°	19	1.022	.902	32	.500	2-7/8	3/4	BR30-20-019
20/40	30°	20	1.072	.950	31	.500	2-1/2	3/4	BR30-20-020
20/40	30°	20	1.071	.950	30	.500	2-1/4	3/4	BR30-20-020S
20/40	30°	22	1.172	1.049	36	.500	2-1/2	1	BR30-20-022S
20/40	30°	24	1.271	1.149	30	.375	2	7/8	BR30-20-024
20/40	30°	25	1.321	1.200	30	.460	2-1/2	1	BR30-20-025
20/40	30°	26	1.372	1.251	35	.450	2-1/2	1	BR30-20-026
24/48	30°	10	.477	.380	29	.4375	2	3/8	BR30-24-010
24/48	30°	11	.519	.421	28	.4375	2	3/8	BR30-24-011
24/48	30°	12	.559	.462	23	.350	2	3/8	BR30-24-012E
24/48	30°	13	.601	.504	26	.290	1-1/2	1/2	BR30-24-013F
24/48	30°	14	.639	.544	29	.375	2	1/2	BR30-24-014
24/48	30°	15	.684	.582	25	.312	1-3/4	1/2	BR30-24-015F
24/48	30°	17	.769	.668	23	.375	1-3/4	5/8	BR30-24-017
24/48	30°	19	.852	.751	22.5	.375	1-7/8	5/8	BR30-24-019S
24/48	30°	20	.894	.790	23	.4375	2	3/4	BR30-24-020
24/48	30°	21	.934	.834	30	.437	2-3/8	3/4	BR30-24-021
24/48	30°	23	1.019	.916	27	.375	1-3/4	3/4	BR30-24-023
24/48	30°	24	1.060	.959	30	.440	2	7/8	BR30-24-024
24/48	30°	25	1.101	1.001	23	.365	1-5/8	3/4	BR30-24-025S
24/48	30°	26	1.143	1.041	28	.4375	2-3/8	3/4	BR30-24-026
24/48	30°	27	1.185	1.084	35	.437	2-1/2	1	BR30-24-027
32/64	30°	11	.389	.317	24	.340	1-1/2	5/16	BR30-32-011
32/64	30°	12	.420	.346	24	.3125	1-1/2	5/16	BR30-32-012
32/64	30°	13	.451	.377	21	.250	1-3/8	3/8	BR30-32-013F
32/64	30°	14	.480	.400	27	.320	2	3/8	BR30-32-014
32/64	30°	15	.515	.439	27	.400	2	7/16	BR30-32-015
32/64	30°	16	.546	.467	21	.250	1-1/4	7/16	BR30-32-016
32/64	30°	17	.577	.501	26	.400	1-3/4	1/2	BR30-32-017
32/64	30°	18	.609	.532	28	.375	2	1/2	BR30-32-018
32/64	30°	19	.637	.561	26	.3125	1-5/8	1/2	BR30-32-019
32/64	30°	19	.633	.563	26	.280	1-1/2	1/2	BR30-32-019E
32/64	30°	19	.637	.561	19	.3125	1-5/8	Key	BR30-32-019S
32/64	30°	20	.668	.594	25	.350	1-1/2	5/8	BR30-32-020
32/64	30°	21	.702	.624	24	.375	1-5/8	1/2	BR30-32-021
32/64	30°	21	.701	.625	19.5	.250	1-3/8	1/2	BR30-32-021E
32/64	30°	24	.796	.719	28	.375	1-3/4	5/8	BR30-32-024
32/64	30°	25	.826	.751	25.125	.3125	1-5/8	Key	BR30-32-025E
32/64	30°	25	.826	.751	21	.3125	1-5/8	Key	BR30-32-025S
32/64	30°	32	1.039	.969	25	.375	1-3/4	3/4	BR30-32-032S
32/64	30°	34	1.108	1.032	25.375	.437	2-3/8	Key	BR30-32-034E

BR30 Series

DP Flat Root
Involute Spline
Pull Broach
Class 5 Fit
ANSI B92.1



*Approximate overall length
of broach listed

BROACH

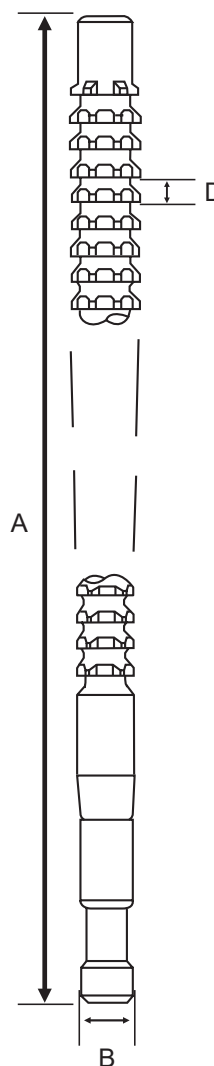
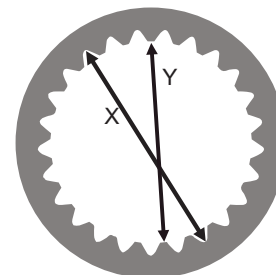


DP	PA	# Teeth	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
8/16	30°	9	1.250	1.017	45	.4375	2	1	BJ30-8-009
8/16	30°	14	1.876	1.6253	48	.480	3	1-1/2	BJ30-8-014
10/20	30°	9	1.015	.814	53	.650	4	3/4	BJ30-10-009E
10/20	30°	13	1.400	1.205	39	.437	2-1/2	1	BJ30-10-013
12/24	30°	14	1.252	1.084	45	.500	2-3/4	1	BJ30-12-014
12/24	30°	17	1.500	1.335	44	.565	2-1/2	1-1/4	BJ30-12-017
12/24	30°	27	2.338	1.335	36	.310	1	2	BJ30-12-027
20/40	30°	7	.409	.318	30	.350	2	5/16	BJ30-20-007E
16/32	30°	8	.5625	.449	23	.3125	1-1/2	3/8	BJ30-008
16/32	30°	9	.625	.509	32	.325	1-5/8	1/2	BJ30-009
16/32	30°	10	.689	.570	34	.320	1-5/8	1/2	BJ30-010
16/32	30°	11	.751	.632	36	.437	1-7/8	1/2	BJ30-011
16/32	30°	12	.8125	.692	36	.425	1-7/8	5/8	BJ30-012
16/32	30°	12	.8125	.692	28	.3125	1-3/4	5/8	BJ30-012S
16/32	30°	13	.876	.754	35	.4375	2-1/2	3/4	BJ30-013
16/32	30°	14	.9375	.815	31	.500	2-1/2	3/4	BJ30-014
16/32	30°	15	1.001	.877	31	.375	2-1/4	3/4	BJ30-015
16/32	30°	17	1.126	1.001	42	.380	3	3/4	BJ30-017
16/32	30°	18	1.1875	1.063	42	.380	3	3/4	BJ30-018
16/32	30°	19	1.2505	1.125	42	.4375	3	1	BJ30-019
16/32	30°	19	1.251	1.130	50	.4375	3	1	BJ30-019E
16/32	30°	21	1.377	1.250	31	.500	3	1	BJ30-021S
16/32	30°	23	1.501	1.375	31	.500	2-1/2	1	BJ30-023S
16/32	30°	24	1.5626	1.438	43	.575	2-1/2	1	BJ30-024
16/32	30°	25	1.636	1.502	33.375	.4375	2-5/8	1	BJ30-025E
16/32	30°	34	2.1875	2.062	34	.4375	2-1/2	2	BJ30-034

*Approximate overall length of broach listed

BJ30 Series

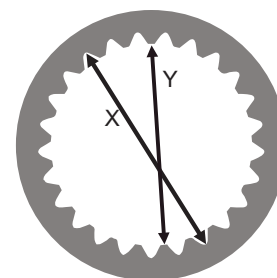
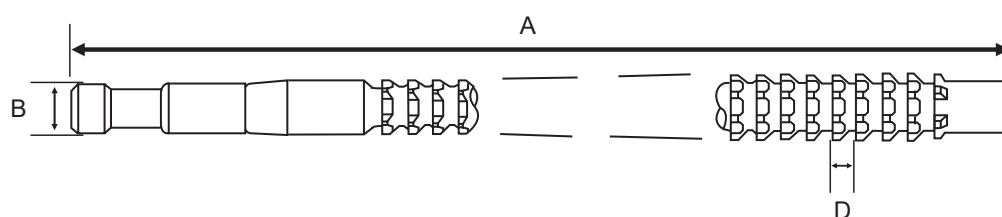
DP Flat Root
 Involute Spline
 Pull Broach
 Class 5 Fit
 ANSI B92.1





Module	PA	# Teeth	Standard	Major (X)	Minor (Y)	Length (A)	Pitch of Cut (D)	Max LOC	Auto Puller (B)	Series
.8	30°	13	5480	12mm	10mm	18	.200	1	3/8	BDN80-12-10
2	30°	24	5480	50mm	48mm	38	.500	2-1/2	1-1/2	BDN80-50-48
2.5	30°	22	5480	60mm	55mm	42	.432	2	1-1/2	BDN80-60-55
2	30°	28	5480	60mm	56mm	40	.500	2-3/4	1-1/2	BDN80-60-56
1.60	30°	9	5482	17mm	14mm	24	.250	1-1/8	1/2	BDN82-17-14
1.75	30°	18	5482	35mm	31mm	42	.500	2-1/2	1	BDN82-35-31
1.90	30°	20	5482	40mm	36mm	48	.5625	3	1-3/8	BDN82-40-36
1.75	30°	18	5482	35mm	31mm	42	.500	2-1/2	1	BDN82-35-31
1.9	30°	20	5482	40mm	36mm	48	.5625	2-13/16	1-1/4	BDN82-40-36

*Approximate overall length of broach listed



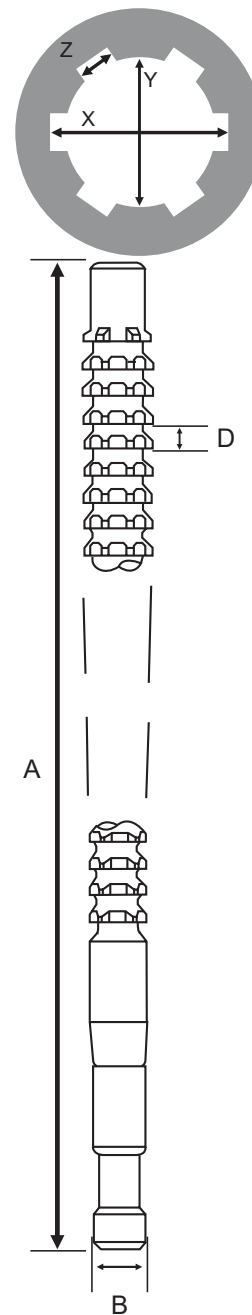


Part				Broach			
Major (X)	Fit	Minor (Y)	Key (Z)	Approx. Pitch (D)	Length (A)	Auto Puller (B)	Series
.501	C	.397	.125	5/16	24	3/8	BSS6-050C
.625	A	.563	.156	3/8	24	1/2	BSS6-062A
.625	B	.531	.156	3/8	26	1/2	BSS6-062B
.625	C	.500	.156	3/8	26	1/2	BSS6-062C
.750	A	.675	.188	7/16	26	5/8	BSS6-075A
.750	B	.638	.188	7/16	29	5/8	BSS6-075B
.750	C	.600	.188	7/16	31	1/2	BSS6-075C
.875	A	.786	.219	7/16	29	1/2	BSS6-087A
.875	B	.744	.219	7/16	32	1/2	BSS6-087B
.875	C	.699	.219	7/16	32	5/8	BSS6-087C
1.000	A	.900	.250	1/2	34	3/4	BSS6-100A
1.000	B	.850	.250	9/20	38	3/4	BSS6-100B
1.000	C	.800	.250	2/5	38	3/4	BSS6-100C
1.125	A	1.013	.281	1/2	34	3/4	BSS6-112A
1.125	B	.956	.281	15/32	38	3/4	BSS6-112B
1.125	C	.900	.281	15/32	38	3/4	BSS6-112C
1.250	B	1.063	.313	5/8	48	7/8	BSS6-125B
1.250	C	1.000	.313	5/8	50	7/8	BSS6-125C
1.375	A	1.238	.344	5/8	43	1	BSS6-137A
1.375	B	1.169	.344	5/8	48	1	BSS6-137B
1.375	C	1.009	.344	5/8	48	3/4	BSS6-137C
1.500	A	1.350	.375	3/4	50	1-1/4	BSS6-150A
1.500	B	1.275	.375	3/4	56	1-1/4	BSS6-150B
1.500	C	1.200	.375	3/4	56	N/A	BSS6-150C
1.625	B	1.381	.406	3/4	56	1-1/4	BSS6-162B
1.625	C	1.300	.406	3/4	56	1-1/4	BSS6-162C
1.750	A	1.575	.438	1/2	51	1-3/8	BSS6-175A
1.750	B	1.488	.438	23/40	58	1-3/8	BSS6-175B
1.750	C	1.400	.438	23/40	58	1-1/4	BSS6-175C
2.000	A	1.800	.500	3/4	52	1-1/2	BSS6-200A
2.000	B	1.700	.500	6/10	60	1-1/2	BSS6-200B
2.000	C	1.600	.500	3/4	60	1-1/2	BSS6-200C

*Approximate overall length of broach listed

BSS6 Series

6 Parallel Spline
Pull Broach



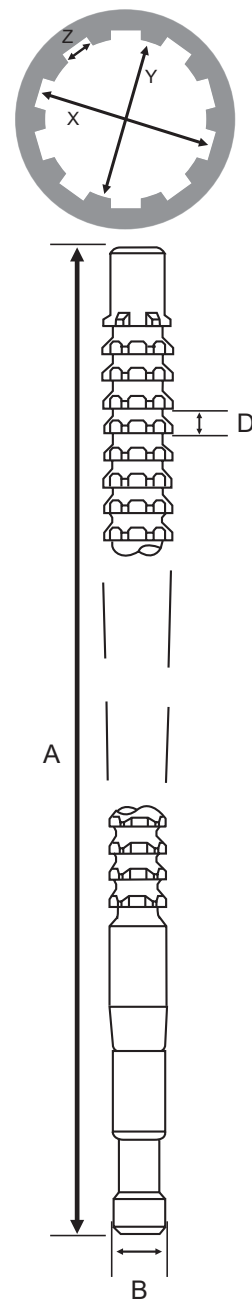


Part				Broach			
Major (X)	Fit	Minor (Y)	Key (Z)	Approx. Pitch (D)	Length (A)	Auto Puller (B)	Series
.750	B	.639	.117	7/16	31	1/2	BSS10-075B
.750	C	.608	.117	7/16	29	1/2	BSS10-075C
.875	A	.796	.137	3/8	30	3/4	BSS10-087A
.875	B	.753	.137	1/2	28	3/4	BSS10-087B
.875	C	.709	.137	7/16	32	5/8	BSS10-087C
1.000	A	.910	.156	1/2	34	3/4	BSS10-100A
1.000	B	.860	.156	1/2	34	3/4	BSS10-100B
1.000	C	.810	.156	1/2	38	5/8	BSS10-100C
1.125	A	1.024	.176	1/2	34	1	BSS10-112A
1.125	B	.968	.176	1/2	38	Key Type	BSS10-112B
1.125	C	.911	.176	1/2	38	Key Type	BSS10-112C
1.250	B	1.075	.195	1/2	43	3/4	BSS10-125B
1.250	C	1.013	.195	5/8	48	Key Type	BSS10-125C
1.375	A	1.251	.215	5/8	43	1	BSS10-137A
1.375	B	1.183	.215	5/8	48	1	BSS10-137B
1.375	C	1.114	.215	5/8	48	Key Type	BSS10-137C
1.500	A	1.365	.234	3/4	49	1	BSS10-150A
1.500	B	1.290	.234	3/4	56	1-1/4	BSS10-150B
1.500	C	1.215	.234	5/8	56	1	BSS10-150C
1.625	A	1.479	.254	3/4	50	1	BSS10-162A
1.625	B	1.398	.254	3/4	56	1-1/4	BSS10-162B
1.625	C	1.316	.254	3/4	67	1-1/4	BSS10-162CE
1.750	A	1.593	.273	3/4	52	1-3/8	BSS10-175A
1.750	B	1.505	.273	3/4	58	1-3/8	BSS10-175B
1.750	C	1.418	.273	9/16	58	1-3/8	BSS10-175C
1.875	B	1.613	.273	3/4	60	1-1/2	BSS10-187B
2.000	A	1.819	.309	5/8	52	1-5/8	BSS10-200A
2.000	B	1.719	.312	1/2	60	1-5/8	BSS10-200B
2.000	C	1.620	.312	9/16	60	1-1/2	BSS10-200C
2.250	B	1.935	.351	5/8	64	1-3/4	BSS10-225B
2.500	B	2.150	.390	5/8	68	1-1/2	BSS10-250B
2.500	C	2.025	.390	9/16	72	1-1/2	BSS10-250C

*Approximate overall length of broach listed

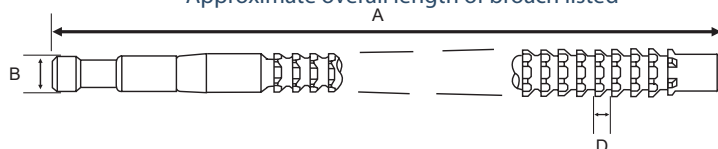
BSS10 Series

10 Parallel Spline
Pull Broach



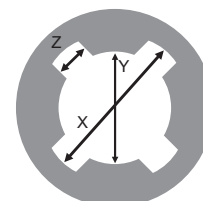
Part			Broach			Series
Major (mm) (X)	Minor (mm) (Y)	Key (mm) (Z)	Approx. Pitch (D)	Length (A)	Auto Puller (B)	
14	11	4	.5	36	3/8	BSM4-14-11
16	13	5	.5	36	1/2	BSM4-16-13
20	16	6	.5	36	1/2	BSM4-20-16

*Approximate overall length of broach listed



BSM4 Series

4 Parallel Spline
Metric Pull Broach
DIN 5463/ UNI 221
Cuts splines only



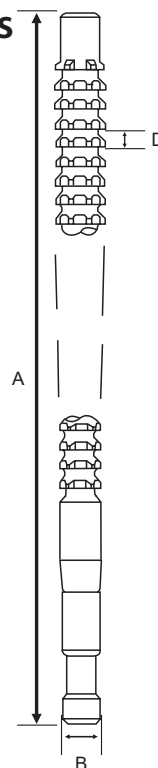
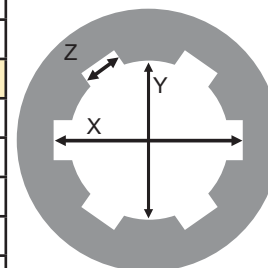


Part			Broach			
Major (mm) (X)	Minor (mm) (Y)	Key (mm) (Z)	Approx- Pitch (D)	Length (A)	Auto Puller (B)	Series
DIN5462/UNI 220						
26	23	6	.500	36	3/4	BSM6-26-23
30	26	6	.500	44	3/4	BSM6-30-26
32	28	7	.500	44	1-1/4	BSM6-32-28
DIN5463/UNI 221						
14	11	3	.500	36	3/8	BSM6-14-11
16	13	3.5	.500	36	1/2	BSM6-16-13
20	16	4	.500	36	5/8	BSM6-20-16
22	18	5	.500	36	5/8	BSM6-22-18
25	21	5	.500	36	3/4	BSM6-25-21
28	23	6	.500	44	3/4	BSM6-28-23
32	26	6	.500	44	3/4	BSM6-32-26
34	28	7	.500	44	1	BSM6-34-28
42	36	8	.420	44	1	BSM6-42-36

*Approximate overall length of broach listed

BSM6 Series

6 Parallel Spline
Metric Pull Broach
Cuts splines only

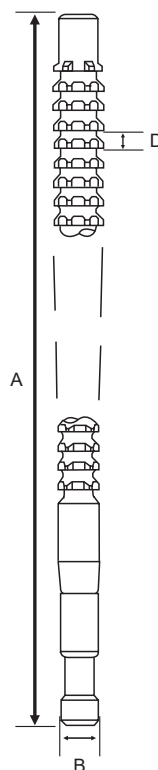
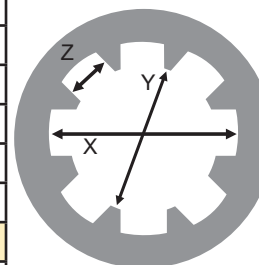


Part			Broach			Series
Major (mm) (X)	Minor (mm) (Y)	Key (mm) (Z)	Approx- Pitch (D)	Length (A)	Auto Puller (B)	
DIN5462/UNI 220						
36	32	6	.625	44	1	BSM8-36-32
40	36	7	.625	44	1-1/4	BSM8-40-36
46	42	8	.625	53	1-1/2	BSM8-46-42
50	46	9	.625	53	1-1/2	BSM8-50-46
58	52	10	.625	54	1-3/4	BSM8-58-52
62	56	10	.625	54	1-3/4	BSM8-62-56
DIN5463/UNI 221						
38	32	6	.625	53	1-1/4	BSM8-38-32
42	36	7	.625	53	1-1/4	BSM8-42-36
48	42	8	.625	53	1-1/2	BSM8-48-42
54	46	9	.625	53	1-3/4	BSM8-54-46
60	52	10	.625	60	1-3/4	BSM8-60-52
65	56	10	.625	60	2	BSM8-65-56

*Approximate overall length of broach listed

BSM8 Series

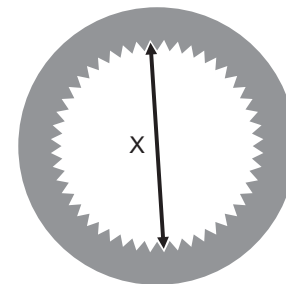
8 Parallel Spline
Metric Pull Broach
Cuts splines only



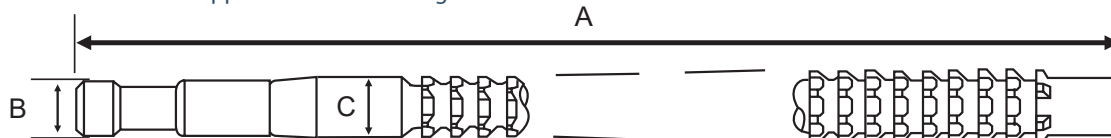


Major (X)	# Serrations	Pilot (C)	Length (A)	Max LOC	Auto Puller (B)	Series
1/4	36	.232	17	1	Pin Type	BSA36-250
5/16	36	.289	16	7/8	1/4	BSA36-312
3/8	36	.350	18	1	5/16	BSA36-375
1/2	36	.4665	22	1-1/2	3/8	BSA36-500
5/8	36	.581	22	1-1/2	1/2	BSA36-625
3/4	36	.703	22	1	5/8	BSA36-750
1	36	.931	26	1-7/8	3/4	BSA36-100

BSA36 Series
36 SAE 45° Serrations
Pull Broach

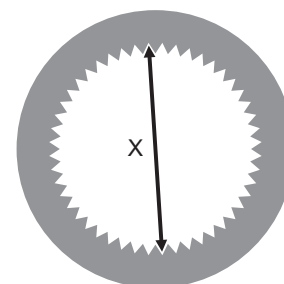


*Approximate overall length of broach listed

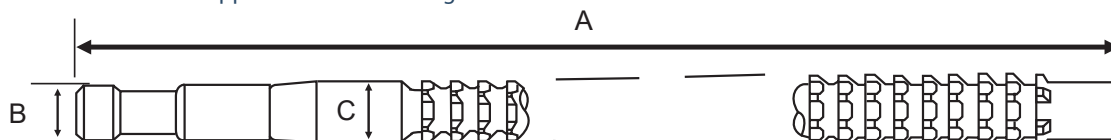


Major (X)	# Serrations	Pilot (C)	Length (A)	Max LOC	Auto Puller (B)	Series
3/4	48	.713	19	1-3/8	5/8	BSA48-750
7/8	48	.8315	19	1-1/4	3/4	BSA48-875S
1	48	.950	26	1-1/2	7/8	BSA48-100
1-1/8	48	1.07	26	1-1/2	1	BSA48-112
1-1/4	48	1.1875	24	1	1	BSA48-125S
1-3/8	48	1.306	18	1	1-1/4	BSA48-137S
2	48	1.899	36	2	1	BSA48-200
2-1/4	48	2.141	36	2-3/4	1-1/2	BSA48-225
1-1/2	48	1.425	32	2	1-1/4	BSA48-150

BSA48 Series
48 SAE 45° Serrations
Pull Broach

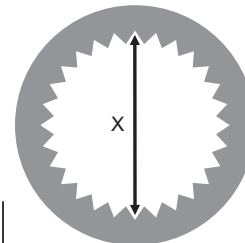


*Approximate overall length of broach listed



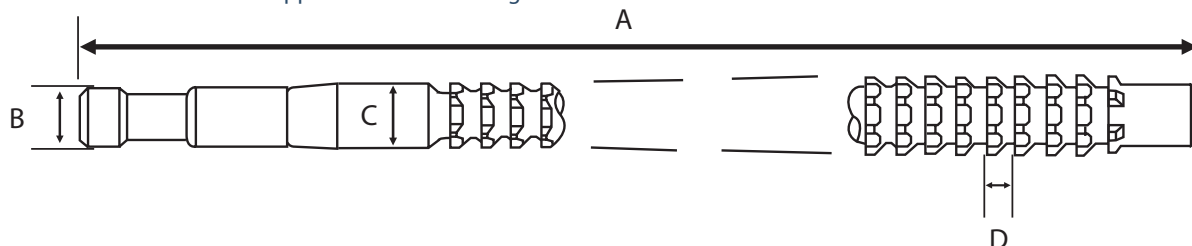
Major (mm) (X)	Minor (mm)	# Serrations	Pilot (C)	Pitch (D)	Length (A)	Max LOC	Auto Puller (B)	Series
10	8	28	.312	.312	21	1-1/2	5/16	BDN81-10-8
20	17	33	.691	.250	22	1-1/4	5/8	BDN81-20-17

BDN81 Series
DIN 5481
Serration Pull Broach



Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed





Hex (X)	Dec. Dim	Pitch (D)	Pilot (C)	Length (A)	Max LOC	Auto Puller (B)	Series
1/4	.251	1/4	.247	16	1	1/4	BHX-250
5/16	.314	1/4	.310	17	1	1/4	BHX-312
3/8	.376	1/4	.373	18	1	5/16	BHX-375
7/16	.439	9/32	.434	19	1	3/8	BHX-437
1/2	.502	5/16	.499	21	1-1/2	3/8	BHX-500
9/16	.564	11/32	.560	22	1-37/100	1/2	BHX-562
5/8	.627	3/8	.624	25	1-1/2	1/2	BHX-625
3/4	.752	7/16	.747	28	1-3/4	5/8	BHX-750
7/8	.877	1/2	.873	34	2	3/4	BHX-875
1	1.002	9/16	.997	37	3	7/8	BHX-100
1-1/8	1.127	9/16	1.123	40	3	1	BHX-112
1-1/4	1.252	5/8	1.248	47	4	1	BHX-125
1-3/8	1.378	1/2	1.372	47	2-3/4	1	BHX-137
1-1/2	1.503	9/16	1.5	54	3	1-1/4	BHX-150

*Approximate overall length of broach listed

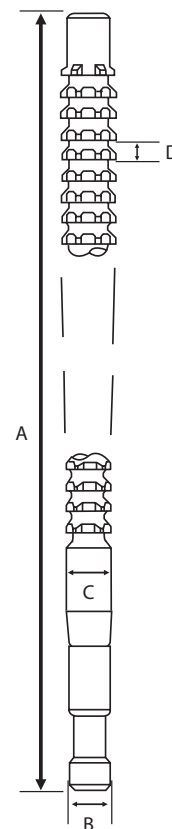
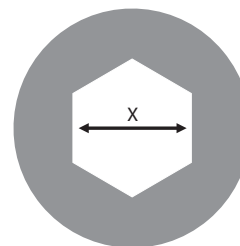
Hex (X)	Dec. Dim. (Max)	Approx Pitch	Pilot (C)	Length (A)	Max LOC	Series
1/8	.126	.125	.125	4-5/8	3/8	PHX-125
5/32	.157	.125	.156	5-1/2	1/2	PHX-156
3/16	.189	.156	.187	5-9/16	5/8	PHX-187
7/32	.220	.156	.218	6	3/4	PHX-218
1/4	.252	.1875	.250	6-1/2	3/4	PHX-250
9/32	.283	.1875	.281	7-3/4	1	PHX-281
5/16	.314	.312	.312	8-1/4	1	PHX-312
11/32	.345	.2188	.343	8-1/2	1	PHX-343
3/8	.377	.2188	.375	9	1-1/4	PHX-375
13/32	.408	.250	.406	10	1-3/8	PHX-406
7/16	.440	.250	.437	10-3/4	1-3/8	PHX-437
15/32	.470	.281	.468	11-1/4	1-3/8	PHX-468
1/2	.502	.281	.500	12-1/2	1-3/8	PHX-500
9/16	.564	.3125	.562	14-1/4	1-1/2	PHX-562
5/8	.627	.375	.625	16-7/8	1-5/8	PHX-625
11/16	.689	.375	.687	17	1-5/8	PHX-687
3/4	.752	.375	.750	17-7/8	1-5/8	PHX-750
7/8	.877	.375	.875	18-7/8	1-5/8	PHX-875
1	1.003	.5625	1.000	19-7/8	1-5/8	PHX-100

*Approximate overall length of broach listed

Length of cut is predicated on mild steel, Broach cuts splines only

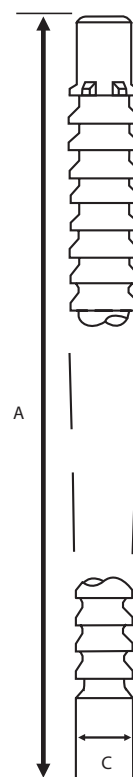
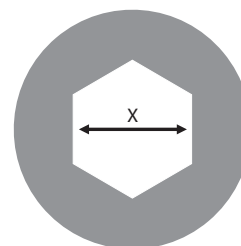
BHX Series

Hexagon Inch Pull Broach



PHX Series

Hexagon Inch Push Broach



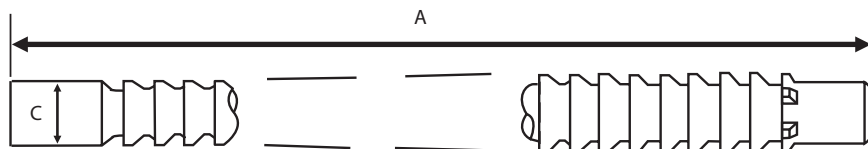


Hex (mm) (X)	Dec. Dim.	Pitch (D)	Pilot (C)	Length (A)	Max Length of Cut	Auto Puller (B)	Series
6	.238	1/4	.233	17	1	3/16	BHXM-600
7	.277	1/4	.273	17	1	1/4	BHXM-700
8	.317	1/4	.311	17	1	1/4	BHXM-800
10	.395	1/4	.390	19	1	3/8	BHXM-010
12	.474	1/4	.390	20	1-1/4	3/8	BHXM-012
14	.554	11/32	.549	22	1-3/8	1/2	BHXM-014
16	.633	3/8	.624	25	1-5/8	5/8	BHXM-016
18	.711	7/16	.706	27	1-3/4	5/8	BHXM-018
20	.790	7/16	.785	31	1-3/4	3/4	BHXM-020
22	.870	1/2	.864	34	2	3/4	BHXM-022
24	.947	9/16	.942	37	2-1/2	3/4	BHXM-024
25	.987	5/8	.983	38	3	7/8	BHXM-025

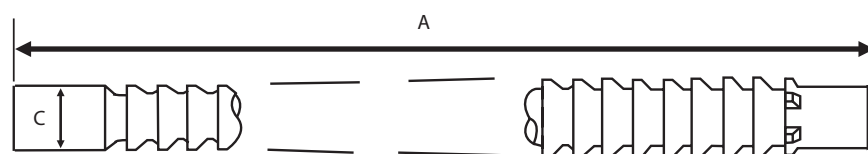
*Approximate overall length of broach listed

Hex (mm) (X)	Dec. Dim. (Max)	Diag. Dim. (Max)	Pilot (C)	Length (A)	Max Length of Cut	Series
4	.159	.183	.158	5-1/2	1/2	PHXM-400
5	.198	.228	.197	6	3/4	PHXM-500
6	.238	.274	.236	6-1/2	3/4	PHXM-600
7	.277	.319	.276	7-3/4	1	PHXM-700
8	.317	.364	.315	8-1/4	1	PHXM-800
10	.395	.455	.394	10	1-3/8	PHXM-010
12	.474	.546	.472	12-3/8	1-5/8	PHXM-012
14	.553	.634	.551	14-1/4	1-1/2	PHXM-014
16	.632	.727	.629	16-7/8	1-1/2	PHXM-016
20	.789	.906	.787	17-7/8	1-5/8	PHXM-020
24	.946	1.087	.944	19-7/8	1-5/8	PHXM-024

*Approximate overall length of broach listed



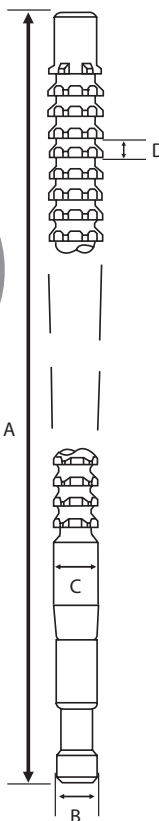
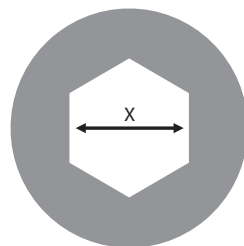
Square (X)	Dec. Dim. (Max)	Diag. Dim. (Min)	Pilot (C)	Length (A)	Max Length of Cut	Series
3/16	.189	.263	.187	6-1/4	1/2	PSQQ-187
1/4	.252	.351	.249	8-5/8	3/4	PSQQ-250
5/16	.314	.438	.312	10-1/4	3/4	PSQQ-312
3/8	.377	.525	.375	12-1/4	1	PSQQ-375
1/2	.502	.699	.500	14-7/16	1	PSQQ-500



*Approximate overall length of broach listed

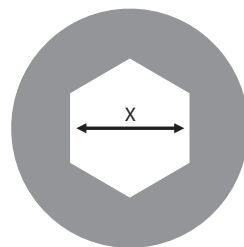
BHXM Series

Hexagon Metric Pull Broach



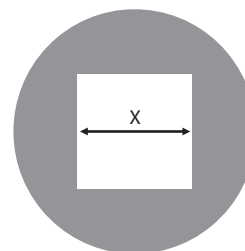
PHXM Series

Hexagon Metric Push Broach



PSQQ Series

Full Square Push Broach

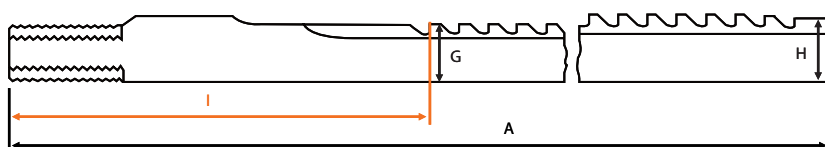




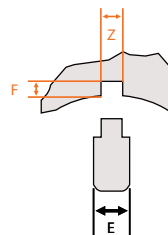
BRK, BRKC & BRKN Series

Keyway Pull Broach

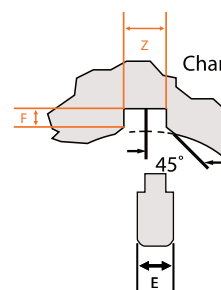
Threaded Puller



Non-Chamfering



Chamfering



A		Min. Hole Size	Max Length of Cut	Body (E)	Length (A)	Last Tooth (H)	First Tooth (G)	Tang (I)	Depth (F)	# of Cuts	Puller Thread Size	Non-Chamfering Series	Chamfering Series	Notch Puller Non-Chamfering
Nom. Key (Z)	Dec. Key (Z)													
1/16	.064	3/8	1-1/4	.155	20	.313	.271	7-3/16	.042	1	1/4-20	BRK-501	BRKC-501	-
3/32	.095	7/16	1-1/2	.187	24	.367	.309	8-1/4	.058	1	5/16-18	BRK-502	BRKC-502	-
3/32	.095	5/8	2-1/2	.249	33	.491	.433	10	.058	1	3/8-16	BRK-503	BRKC-503	BRKN-503
1/8	.126	1/2	1-1/2	.249	30	.438	.364	9	.074	1	3/8-16	BRK-504	BRKC-504	BRKN-504
1/8	.126	11/16	2-1/2	.312	36	.594	.520	10	.074	1	1/2-13	BRK-505	BRKC-505	-
5/32	.157	19/32	1-1/2	.249	30	.525	.436	9	.089	1	3/8-16	BRK-506	BRKC-506	BRKN-506
5/32	.157	23/32	2-1/2	.312	33	.625	.536	10	.089	1	1/2-13	BRK-507	BRKC-507	-
3/16	.189	11/16	2-1/2	.374	36	.581	.476	10	.105	1	1/2-13	BRK-508	BRKC-508	BRKN-508
3/16	.189	15/16	3-1/2	.374	36	.796	.691	10-11/16	.105	1	1/2-13	BRK-509	BRKC-509	-
7/32	.220	11/16	2-1/2	.374	33	.557	.437	10	.120	1	1/2-13	BRK-510	BRKC-510	-
7/32	.220	15/16	3-1/2	.374	42	.813	.693	11-1/16	.120	1	1/2-13	BRK-511	BRKC-511	-
1/4	.251	3/4	2-1/2	.374	36	.612	.476	10	.136	1	1/2-13	BRK-512	BRKC-512	BRKN-512
1/4	.251	1	4	.499	45	.877	.741	11-13/16	.136	1	5/8-11	BRK-513	BRKC-513	BRKN-513
1/4	.251	1-3/8	6	.624	51	1.250	1.114	13-1/2	.136	1	3/4-10	BRK-514	BRKC-514	-
9/32	.283	7/8	4	.499	42	.716	.564	11-5/8	.152	1	5/8-11	BRK-515	BRKC-515	-
9/32	.283	1-1/4	6	.499	51	1.093	.941	13-1/2	.152	1	5/8-11	BRK-516	BRKC-516	-
5/16	.314	1-1/16	4	.499	45	.908	.741	11-13/16	.167	1	5/8-11	BRK-517	BRKC-517	BRKN-517
5/16	.314	1-5/16	6	.499	51	1.158	.991	13-1/2	.167	1	5/8-11	BRK-518	BRKC-518	-
3/8	.377	1-1/16	4	.499	45	.938	.739	11-13/16	.199	1	5/8-11	BRK-519	BRKC-519	BRKN-519
3/8	.377	1-5/17	6	.499	54	1.189	.990	13-1/2	.199	1	5/8-11	BRK-520	BRKC-520	-
7/16	.439	1-9/16	4	.624	48	1.390	1.160	12	.230	1	3/4-10	BRK-521	BRKC-521	-
7/16	.439	1-3/4	8	.624	48	1.611	1.496	15-5/8	.230	2	3/4-10	BRK-522	BRKC-522	-
1/2	.502	1-1/2	4	.624	48	1.312	1.051	12	.261	1	3/4-10	BRK-523	BRKC-523	BRKN-523
1/2	.502	1-9/16	8	.624	48	1.377	1.246	16-1/2	.261	2	3/4-10	BRK-524	BRKC-524	-
9/16	.565	1-11/16	4	.687	54	1.438	1.146	11-13/16	.292	1	1-8	BRK-525	BRKC-525	-
9/16	.565	1-5/8	8	.687	51	1.391	1.245	16	.292	2	1-8	BRK-526	BRKC-526	-
9/16	.565	1-15/16	12	.874	60	1.641	1.495	20	.292	2	1-8	BRK-527	BRKC-527	-
5/8	.627	1-7/8	4	.749	60	1.625	1.301	12-3/16	.324	1	1-8	BRK-528	BRKC-528	BRKN-528
5/8	.627	1-15/16	8	.874	54	1.657	1.495	16-3/8	.324	2	1-8	BRK-529	BRKC-529	-
5/8	.627	1-15/16	12	.874	57	1.657	1.495	20	.324	2	1-8	BRK-530	BRKC-530	-
3/4	.752	1-15/16	4	.874	60	1.625	1.239	12-3/16	.386	1	1-8	BRK-531	BRKC-531	-
3/4	.752	2-1/16	8	.999	60	1.688	1.495	16-1/4	.386	2	1-1/4-7	BRK-532	BRKC-532	-
3/4	.752	2-1/16	12	.999	57	1.688	1.560	20	.386	3	1-1/4-7	BRK-533	BRKC-533	-
7/8	.877	2-1/4	4	1.124	63	1.875	1.426	12-3/8	.449	1	1-1/4-7	BRK-534	BRKC-534	-
7/8	.877	2-1/8	8	1.124	63	1.719	1.494	15-3/4	.499	2	1-1/4-7	BRK-535	BRKC-535	-
7/8	.877	2-1/8	12	1.124	63	1.719	1.569	20	.499	3	1-1/4-7	BRK-536	BRKC-536	-
1	1.002	2-1/4	2-1/2	1.249	63	1.750	1.239	10-1/2	.511	1	1-1/2-6	BRK-537	BRKC-537	-
1	1.002	2-1/4	6	1.249	63	1.750	1.494	14-1/4	.511	2	1-1/2-6	BRK-538	BRKC-538	-
1	1.002	2-1/4	12	1.249	60	1.750	1.580	20	.511	3	1-1/2-6	BRK-539	BRKC-539	-
1-1/4	1.254	2-3/4	6	1.374	69	2.375	2.166	14-1/4	.627	3	1-1/2-6	BRK-541	BRKC-541	-

*Approximate overall length of broach listed

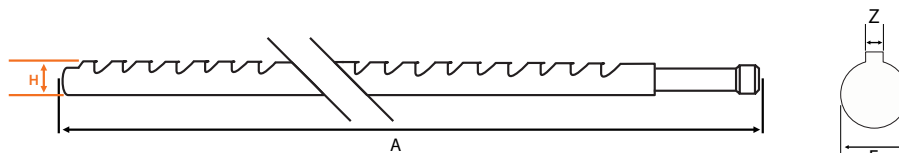
BRKN Series





BRB Series

Round Body Key
Pull Type



A		Bore Size	Body (E)	Overall Length (A)	Last Tooth (H)	Auto Puller	Series
Nom. Key (Z)	Decimal Key (Z)						
1/8	.127	1/2	.499	21	.562	1/2	BRB-125-1
1/8	.127	9/16	.561	21	.626	1/2	BRB-125-2
3/16	.189	5/8	.623	26	.712	1/2	BRB-187-1
3/16	.189	11/16	.686	26	.775	1/2	BRB-187-2
3/16	.189	3/4	.748	26	.839	3/4	BRB-187-3
3/16	.189	13/16	.811	26	.901	3/4	BRB-187-4
3/16	.189	7/8	.873	26	.965	3/4	BRB-187-5
1/4	.251	1	.998	31	1.117	3/4	BRB-250-2
1/4	.251	1-1/16	1.061	31	1.179	3/4	BRB-250-3
1/4	.251	1-1/8	1.123	31	1.243	1	BRB-250-4
1/4	.251	1-3/16	1.185	31	1.306	1	BRB-250-5
1/4	.251	1-1/4	1.248	31	1.370	1	BRB-250-6

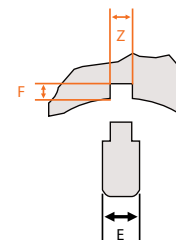
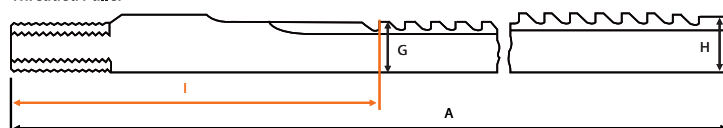
*Approximate overall length of broach listed

Non-Chamfering

BMK Series

Keyway Metric
Pull Broach

Threaded Puller



Key mm (Z)	Key Tol. mm	Min. Hole Size	Max Length of Cut	Body (E)	OAL (A)	Last Tooth (H)	First Tooth (G)	Tang (I)	Depth (F)	# of Cuts	Thread Size Series	Series
2	-0.0002	0.354	1-1/4	.155	20	.313	.260	7-3/4	.053	1	1/4-20	BMK-200-20
3	-0.0002	0.433	1-1/2	.187	24	.367	.295	7-3/4	.072	1	5/16-18	BMK-300-24
4	-0.0003	0.512	1-1/2	.249	33	.438	.347	9	.091	1	3/8-16	BMK-400-33
4	-0.0003	0.512	2-1/2	.249	36	.436	.345	10	.091	1	3/8-16	BMK-400-36
5	-0.0003	0.551	1-3/4	.312	36	.436	.322	9-3/4	.114	1	1/2-13	BMK-500-36
5	-0.0003	0.551	3-1/2	.374	36	.797	.691	9-3/4	.106	1	1/2-13	BMK-500-36-91A
5	-0.0003	0.906	3	.374	42	.813	.699	11	.114	1	1/2-13	BMK-500-42
6	-0.0003	0.709	2-1/2	.374	36	.612	.471	10	.141	1	1/2-13	BMK-600-36
6	-0.0003	1.024	4	.499	45	.877	.736	12	.141	1	5/8-11	BMK-600-45
7	-0.0004	0.709	3	.374	36	.612	.476	10	.136	1	5/8-11	BMK-700-36
7	-0.0004	1.025	4	.499	45	.742	.742	12	.134	1	5/8-11	BMK-700-45
8	-0.0004	1.063	4	.499	45	.908	.739	12	.169	1	5/8-11	BMK-800-45
8	-0.0004	1.299	6	.499	51	1.158	.989	13-7/8	.169	1	5/8-11	BMK-800-51
10	-0.0004	1.063	4	.499	45	.916	.739	12	.177	1	5/8-11	BMK-010-45
10	-0.0004	1.417	6	.624	51	1.250	1.073	13-7/8	.177	1	3/4-10	BMK-010-51
10	-0.0004	1.417	6	.499	54	1.189	.990	13-7/8	.199	1	3/4-10	BMK-010-54-91
12	-0.0004	1.535	4	.624	48	1.341	1.160	11-7/8	.181	1	3/4-10	BMK-012-48
12	-0.0004	1.535	8	.624	48	1.611	1.496	11-7/8	.115	1	3/4-10	BMK-012-48-91
12	-0.0004	1.535	8	.624	60	1.341	1.160	16	.181	1	3/4-10	BMK-012-60
14	-0.0004	1.575	4	.686	51	1.391	1.245	11-5/8	.146	1	1-8	BMK-014-51-91
14	-0.0004	1.575	4	.687	54	1.354	1.146	11-5/8	.208	1	1-8	BMK-014-54

Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed

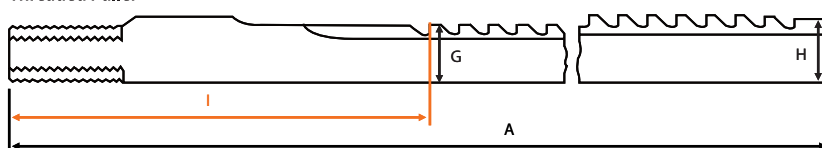
SERIES CONTINUED ON NEXT PAGE ->



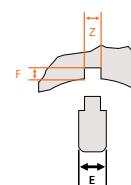
BMK Series

Keyway Metric
Pull Broach

Threaded Puller



Non-Chamfering

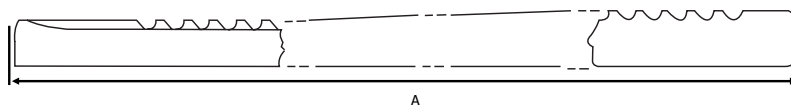


Key mm (Dec.) (Z)	Key Tol. mm	Min. Hole Size	Max Length of Cut	Body (E)	OAL (A)	Last Tooth (H)	First Tooth (G)	Tang (I)	Depth (F)	# of Cuts	Thread Size Series	Series
14	-0.0004	1.732	8	.749	60	1.509	1.301	15-3/4	.208	1	1-8	BMK-014-60
14	-0.0004	1.850	8	.874	60	1.641	1.495	15-3/4	.146	1	1-8	BMK-014-60-91
16	-0.0004	1.850	4	.749	60	1.625	1.396	12	.229	1	1-8	BMK-016-60
16	-0.0004	1.890	12	.874	60	1.625	1.510	20	.229	2	1-8	BMK-016-61
18	-0.0004	1.890	4	.874	60	1.625	1.388	12	.237	1	1-8	BMK-018-60
18	-0.0004	2.008	12	.999	60	1.688	1.569	20-3/16	.237	2	1-1/4-7	BMK-018-61
20	-0.0005	2.205	4	1.124	63	1.875	1.612	11-7/8	.263	1	1-1/4-7	BMK-020-63
20	-0.0005	2.087	12	1.124	63	1.719	1.587	19-13/16	.263	2	1-1/4-7	BMK-020-64
22	-0.0005	2.244	4	1.124	63	1.875	1.590	11-7/8	.285	1	1-1/4-7	BMK-022-63
25	-0.0005	2.205	4	1.249	63	1.750	1.456	10-5/8	.294	1	1-1/2-6	BMK-025-63

*Approximate overall length of broach listed

PMK Series

Keyway Metric
Push Broach



A		Max Length of Cut	Body (E)	Length (A)	# of Passes	Series
Key Nominal (mm) (Z)	Decimal Key (Z)					
2	.079	1	.129	5	1	PMK-AA02
3	.120	1-1/8	.129	5	1	PMK-AA03
4	.158	1-1/8	.250	6-3/4	1	PMK-BB04
5	.197	1-5/16	.250	6-3/4	2	PMK-BB05
6	.237	2-1/2	.385	12	2	PMK-C006
7	.276	2-1/2	.385	11-7/8	2	PMK-CC07
8	.315	2-1/2	.390	11-3/4	1	PMK-CC08
10	.395	6	.566	13-7/8	2	PMK-DD10
12	.473	6	.566	13-7/8	2	PMK-DD12
14	.552	6	.566	13-7/8	2	PMK-DD14
16	.631	6	.760	15-1/2	2	PMK-EE16
18	.710	6	.760	15-1/2	2	PMK-EE18
20	.788	6	1.015	19-1/2	2	PMK-FF20
22	.867	6	1.015	20-1/4	2	PMK-FF22
24	.945	6	1.015	20-1/4	2	PMK-FF24
25	.985	6	1.015	20-1/4	2	PMK-FF25

*Approximate overall length of broach listed

Length of cut is predicated on mild steel, Broach cuts splines only



BKY Series

Keyseating Inch Broach

Broach Size (Z)	Keyway Width Tolerances	Width x Body (E)	Length (A)	Max Length of Cut	Series
3/32	.0937-.0947	3/16 X 3/8	16	1-7/8	BKY-702
1/8	.1252-.1262	3/16 X 7/8	16	1-7/8	BKY-703
5/32	.1564-.1574	3/16 X 1/2	16	1-7/8	BKY-704
3/16	.1877-.1887	3/16 X 9/16	16	1-7/8	BKY-705
3/16	.1877-.1887	3/16 X 3/4	20	3-1/8	BKY-706
1/4	.2502-.2512	1/4 X 3/4	16	1-5/8	BKY-707
1/4	.2502-.2512	1/4 X 3/4	20	3-1/8	BKY-708
5/16	.3127-.3137	5/16 X 7/8	16	3-3/16	BKY-709
5/16	.3127-.3137	5/16 X 7/8	20	5-3/16	BKY-710
3/8	.3755-.3765	3/8 X 7/8	16	3-3/16	BKY-711
3/8	.3755-.3765	3/8 X 7/8	20	5-5/16	BKY-712
7/16	.4380-.4390	7/16 X 1	16	3-3/16	BKY-713
7/16	.4380-.4390	7/16 X 1	20	5-3/16	BKY-714
1/2	.5006-.5016	1/2 X 1	20	5-3/16	BKY-715
9/16	.5630-.5640	9/16 X 1	20	5-3/16	BKY-716
5/8	.6260-.6270	5/8 X 1	20	5-3/16	BKY-717
3/4	.7515-.7525	3/4 X 1	20	5-3/16	BKY-718
7/8	.8765-.8775	7/8 X 1	20	5-3/16	BKY-719
1	1.0015-1.0025	1 X 1	20	5-3/16	BKY-720

*Approximate overall length of broach listed

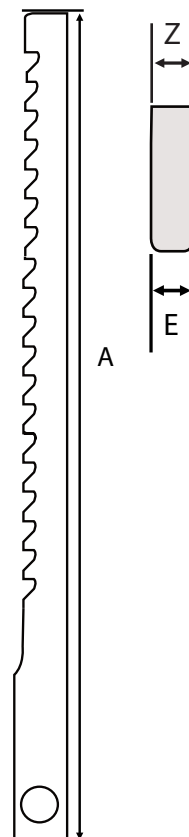
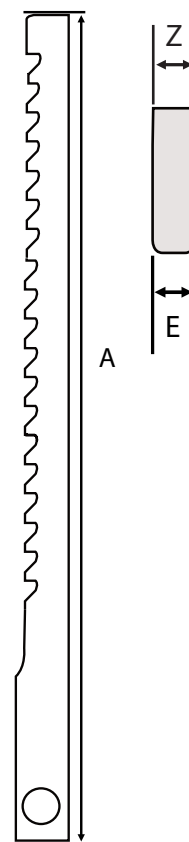
BKYM Series

Keyseating Metric Broach

Broach Size (mm) (Z)	Keyway Width Tolerances	Width x Body (E)	Length (A)	Max Length of Cut	Series
4	.1575-.1580	4mm x 1/2	16	1-7/8	BKYM-416
5	.1968-.1973	5mm X 9/16	16	1-7/8	BKYM-516
5	.1968-.1973	5mm X 3/4	20	3-1/8	BKYM-520
6	.2362-.2367	6mm X 3/4	16	1-7/8	BKYM-616
6	.2362-.2367	6mm X 3/4	20	3-1/8	BKYM-620
8	.3150-.3155	8mm X 7/8	16	3-3/16	BKYM-816
10	.3937-.3942	10mm X 7/8	16	5-5/16	BKYM-116
10	.3927-.3942	10mm X 7/8	20	5-5/16	BKYM-120
12	.4724-.4730	12mm X 1	20	5-5/16	BKYM-012
14	.5512-.5519	14mm X 1	20	5-5/16	BKYM-014
16	.6299-.6306	16mm X 1	20	5-5/16	BKYM-016
18	.7087-.7093	18mm X 1	20	5-5/16	BKYM-018
20	.7874-.7883	20mm X 1	20	5-5/16	BKYM-020
22	.8661-.8669	22mm X 1	20	5-5/16	BKYM-022
24	.9449-.9458	24mm X 1	20	5-5/16	BKYM-024
25	.9843-.9853	25mm X 1	20	5-5/16	BKYM-025

Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed



BROACH



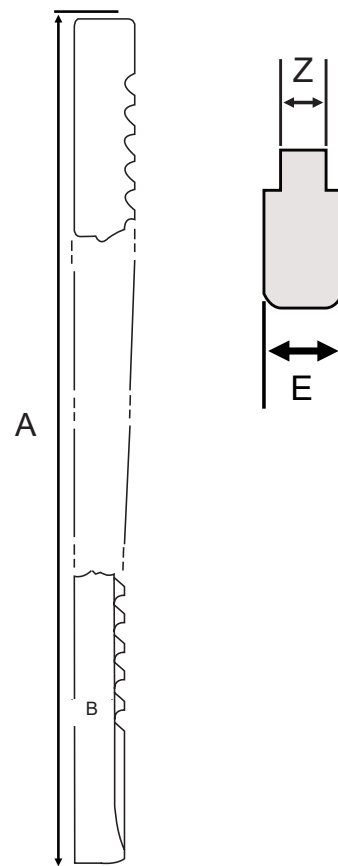
A		Max LOC	Body (E)	Length (A)	# of Passes	Series
Nom. Key (Z)	Decimal Key (Z)					
1/16	.063	1-1/8	1/8	5	1	PRK-401
3/32	.094	1-1/8	1/8	5	1	PRK-402
3/32	.094	1-11/16	3/16	6-3/4	1	PRK-403
1/8	.126	1-1/8	1/8	5	1	PRK-404
1/8	.126	1-11/16	3/16	6-3/4	1	PRK-405
5/32	.157	1-11/16	3/16	6-3/4	1	PRK-406
3/16	.188	1-11/16	3/16	6-3/4	2	PRK-408
3/16	.188	2-1/2	3/8	11-3/4	2	PRK-409
1/4	.251	2-1/2	3/8	11-3/4	2	PRK-412
5/16	.313	2-1/2	3/8	11-3/4	2	PRK-417
5/16	.313	6	9/16	13-7/8	2	PRK-418
3/8	.376	2-1/2	3/8	11-3/4	2	PRK-419
3/8	.376	6	9/16	13-7/8	2	PRK-420
7/16	.439	6	9/16	13-7/8	1	PRK-421
1/2	.501	6	9/16	13-7/8	2	PRK-423
5/8	.627	6	3/4	15-1/2	2	PRK-428
3/4	.752	6	3/4	15-1/2	2	PRK-431
7/8	.877	6	1	20-1/4	2	PRK-434
1	1.002	6	1	20-1/4	2	PRK-437

Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed

PRK Series

Keyway Push Broach



RECOMMENDED PITCH CHART

Based on Broach Tooth Data

Broaching is a machining method in which a series of cutting teeth each remove a small portion of stock as they move past or through the work. It combines both roughing and finishing in one operation. The finished work can be held to very precise limits.

Broaching can be done on an internal or the surface of work. Internal broaching is used to finish holes, cut internal splines, or odd shaped holes. Surface broaching is used to produce finished surfaces to almost any contour and to cut external serrations, or slots.

Broaching is an economical finishing method for both high and low production jobs. For finishing odd shaped holes there is often no economical alternative to broaching.

PART WIDTH	DP	LAND	DEPTH	RADIUS
7/32	1/8	3/64	3/64	0.02
1/4	5/32	3/64	1/16	0.02
3/8	3/16	1/16	1/16	1/32
1/2	7/32	1/16	5/64	3/64
5/8	1/4	1/16	3/32	1/16
3/4	9/32	3/32	7/64	1/16
1	5/16	3/32	1/8	5/64
1-1/8	11/32	3/32	1/8	5/64
1-1/2	3/8	7/64	9/64	3/32
1-3/4 to 2	7/16	1/8	5/32	7/64
2-1/2	1/2	1/8	3/16	1/18
3	9/16	9/64	7/32	9/64
3-1/2	5/8	5/32	15/64	5/32
4-1/2	11/16	11/64	9/32	3/16
5	3/4	3/16	19/64	3/16
6	13/16	3/16	5/16	13/64
7	7/8	7/32	11/32	7/32
8	15/16	7/32	23/64	7/32
9	1	1/4	3/8	1/4



Square (X)	Dec. Dim. (Max)	Diag. Dim. (Min)	Pilot (C)	Length (A)	Max Length of Cut	Series
1/8	.126	.177	.129	4-1/8	1/2	PSQ-125
3/16	.189	.264	.193	5-9/16	5/8	PSQ-187
1/4	.252	.352	.266	7	3/4	PSQ-250
9/32	.283	.395	.297	7-3/4	1	PSQ-281
5/16	.314	.439	.328	8-1/8	1	PSQ-312
11/32	.345	.483	.359	9-3/8	1-1/4	PSQ-343
3/8	.377	.525	.391	9-3/8	1-1/4	PSQ-375
13/32	.408	.570	.422	10-5/8	1-3/8	PSQ-406
7/16	.440	.613	.453	10-7/8	1-3/8	PSQ-437
15/32	.470	.658	.500	12	1-3/8	PSQ-468
1/2	.502	.699	.531	12	1-3/8	PSQ-500
9/16	.564	.788	.594	14-3/4	1-1/2	PSQ-562
5/8	.627	.873	.656	16-5/16	1-5/8	PSQ-625
11/16	.690	.963	.750	17-3/4	1-5/8	PSQ-687
3/4	.752	1.047	.813	19	1-3/4	PSQ-750
7/8	.878	1.030	.938	22-3/4	2	PSQ-875
1	1.003	1.405	1.094	24-1/8	2	PSQ-100

*Approximate overall length of broach listed

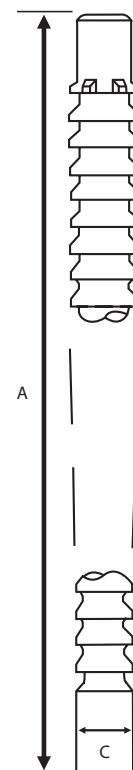
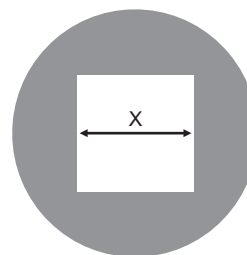
Square (X)	Dec. Dim.	Pitch (D)	Pilot (C)	Length (A)	Max Length of Cut	Auto Puller Dia. (B)	Series
5/32	.158	.156	.154	14	1/2	pin	BSQ-156S
3/16	.188	.187	.185	16	5/8	pin	BSQ-187S
1/4	.251	.187	.247	21	7/8	1/4	BSQ-250
1/4	.251	.187	.247	16	5/8	1/4	BSQ-250S
5/16	.314	.250	.312	26	1	1/4	BSQ-312
5/16	.314	.187	.312	17	3/4	1/4	BSQ-312S
3/8	.376	.250	.374	28	1-1/4	5/16	BSQ-375
3/8	.376	.187	.374	18	4/5	1/4	BSQ-375S
7/16	.439	.375	.435	38	1-3/8	3/8	BSQ-437
7/16	.439	.250	.435	30	1-1/8	3/8	BSQ-437S
1/2	.502	.375	.497	41	1-5/8	7/16	BSQ-500
1/2	.502	.250	.497	32	1-1/4	3/8	BSQ-500S
9/16	.565	.375	.562	45	1-3/4	1/2	BSQ-562
9/16	.565	.250	.562	34	1-1/4	1/2	BSQ-562S
5/8	.627	.375	.623	45	1-3/4	9/16	BSQ-625
5/8	.627	.312	.623	34	1-3/8	1/2	BSQ-625S
3/4	.752	.438	.748	53	2-1/2	5/8	BSQ-750
3/4	.752	.375	.748	38	1-5/8	5/8	BSQ-750S
7/8	.877	.438	.872	56	2-1/2	3/4	BSQ-875
7/8	.877	.375	.873	42	1-5/8	3/4	BSQ-875S
1	1.002	.500	.998	66	3	7/8	BSQ-100
1	1.002	.437	.998	50	2-1/4	7/8	BSQ-100S
1-1/4	1.252	.438	1.250	48	2-1/4	1	BSQ-125

Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed

PSQ Series

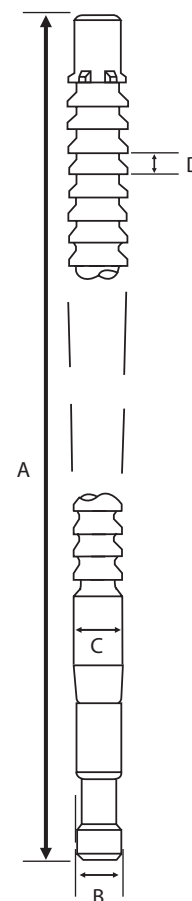
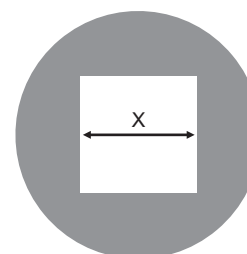
Square
Push Broach



BROACH

BSQ Series

Square
Pull Broach





Square (mm) (X)	Dec Dim.	Approx. Pitch (D)	Pilot (C)	Length (A)	Max Length of Cut	Auto Puller Dia (B)	Series
4	.159	.156	.154	14	1/2	pin	BSQM-400
5	.198	.187	.794	16	5/8	pin	BSQM-500
6	.238	.187	.233	20	7/8	3/16	BSQM-600
6	.238	.187	.233	15	5/8	3/16	BSQM-600S
8	.317	.250	.313	26	1	1/4	BSQM-800
8	.317	.187	.313	17	3/4	1/4	BSQM-800S
10	.396	.250	.392	28	1-1/2	3/8	BSQM-010
10	.396	.188	.392	19	4/5	3/8	BSQM-010S
12	.474	.375	.470	40	1-1/2	3/8	BSQM-012
12	.474	.250	.469	32	1-1/8	3/8	BSQM-012S
14	.557	.375	.547	44	1-5/8	1/2	BSQM-014
14	.557	.250	.547	33	1-3/8	1/2	BSQM-014S
16	.632	.375	.627	45	1-3/4	5/8	BSQM-016
16	.632	.312	.625	34	1-1/4	5/8	BSQM-016S
18	.710	.375	.706	35	1-3/8	5/8	BSQM-018S
20	.790	.438	.782	54	2-1/2	3/4	BSQM-020
20	.790	.375	.784	40	1-5/8	3/4	BSQM-020S
24	.946	.500	.941	62	2-1/2	3/4	BSQM-024
24	.946	.437	.944	47	1-5/8	3/4	BSQM-024S

*Approximate overall length of broach listed

Square (mm) (X)	Dec. Dim. (Max)	Pilot (C)	Length (A)	Max Length of Cut	Series
5	.198	.205	6-7/8	3/4	PSQM-500
6	.238	.250	7	3/4	PSQM-600
8	.317	.327	8-3/16	7/8	PSQM-800
10	.395	.406	10-7/8	1	PSQM-010
12	.474	.492	12-7/8	1-1/4	PSQM-012
14	.553	.591	14-7/8	1-1/2	PSQM-014
16	.632	.669	16-13/16	1-5/8	PSQM-016
18	.710	.787	18-1/2	1-3/4	PSQM-018
20	.788	.866	19	1-3/4	PSQM-020
22	.868	.945	23-1/4	1-3/4	PSQM-022
24	.946	1.024	24-9/16	1-3/4	PSQM-024
25	.986	1.063	24-1/2	1-3/4	PSQM-025

*Approximate overall length of broach listed

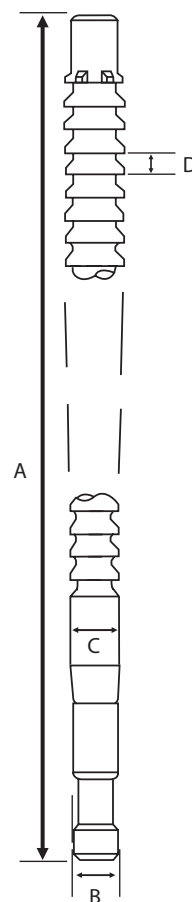
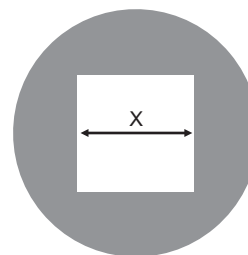
Maj. Dia.	Pilot	Max LOC	Length	Auto Puller	Series
.848	.750	1	40	3/4	BTR-875
1.185	1.069	1-3/8	33	1	BTR-118

Length of cut is predicated on mild steel, Broach cuts splines only

*Approximate overall length of broach listed

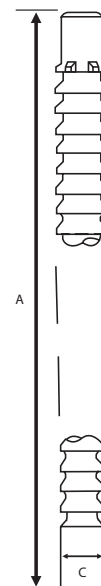
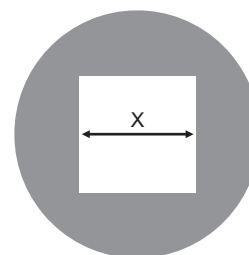
BSQM Series

Square Metric Pull Broach



PSQM Series

Square Metric Push Broach



BTR Series

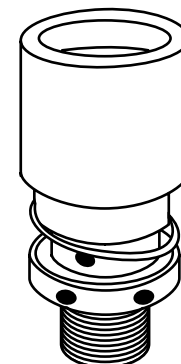
Fellows Tri-Lobe Pull Broach



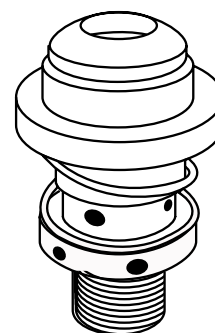


PHH & PHV Series

Automatic Broach
Pull Head



Horizontal (PHH)
2" x 8 Threads



Vertical (PHV)
2" x 8 Threads

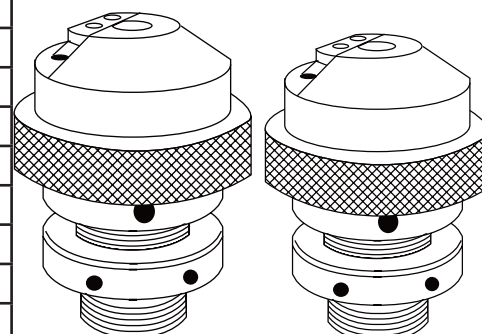
Size	Horizontal R		Verticle RD	
	No Locator	with Locator	No Locator	with Locator
3/16	PHH-018	PHH-018L	PHV-018	PHV-018L
1/4	PHH-025	PHH-025L	PHV-025	PHV-025L
9/32	PHH-028	-	-	-
5/16	PHH-031	PHH-031L	PHV-031	-
11/32	PHH-034	-	-	-
3/8	PHH-037	PHH-037L	PHV-037	PHV-037L
13/32	PHH-040	-	-	-
7/16	PHH-043	PHH-043L	PHV-043	PHV-043L
1/2	PHH-050	PHH-050L	PHV-050	PHV-050L
9/16	PHH-056	PHH-056L	PHV-056	-
5/8	PHH-062	PHH-062L	PHV-062	PHV-062L
11/16	PHH-068	-	PHV-068	-
3/4	PHH-075	PHH-075L	PHV-075	PHV-075L
13/16	PHH-081	-	PHV-081	-
7/8	PHH-087	PHH-087L	PHV-087	PHV-087L
15/16	PHH-093	-	PHV-093	-
1	PHH-100	PHH-100L	PHV-100	PHV-100L
1-1/8	PHH-112	PHH-112L	PHV-112	-
1-1/4	PHH-125	PHH-125L	PHV-125	PHV-125L
1-3/8	PHH-137	PHH-137L	PHV-137	-
1-7/16	PHH-143	-	PHV-143	-
1-1/2	PHH-150	PHH-150L	PHV-150	PHV-150L
1-5/8	PHH-162	-	-	-
1-3/4	PHH-175	PHH-175L	PHV-175	-
1-7/8	PHH-187	PHH-187L	-	-
2	PHH-200	PHH-200L	PHV-200	PHV-200L
2-1/4	PHH-225	PHH-225L	-	-
2-1/2	PHH-250	PHH-250L	-	-

Replacement Parts Available

Size	2 x 8 Thread	1-3/8 x 12 Thread	
	No Locator	No Locator	With Locator
3/16	-	PHS-12-018	-
7/32	-	PHS-12-021	PHS-12-021L
1/4	-	PHS-12-025	-
5/16	-	PHS-12-031	-
3/8	-	PHS-12-037	-
1/2	-	-	PHS-12-050L
5/8	PHS-8-062	-	-
3/4	PHS-8-075	-	-
7/8	PHS-8-087	-	-
1	PHS-8-100	-	-

PHS-8 & PHS-12 Series

Semi-Automatic Broach
Pull Head

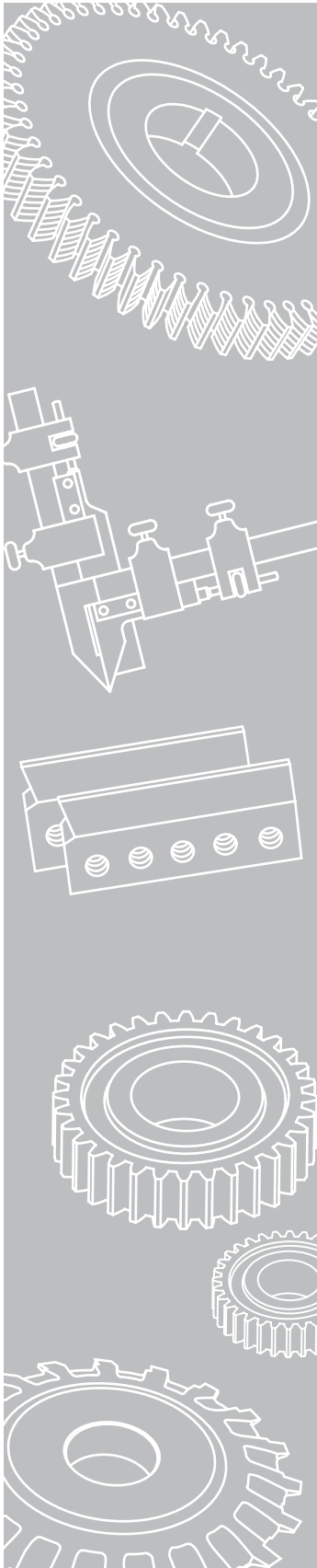


Semi-Automatic
2" x 8 Threads

Semi-Automatic
1-3/8" x 12 Threads



Misc. Tool Sort Index



#104 Bevel Cutters	225
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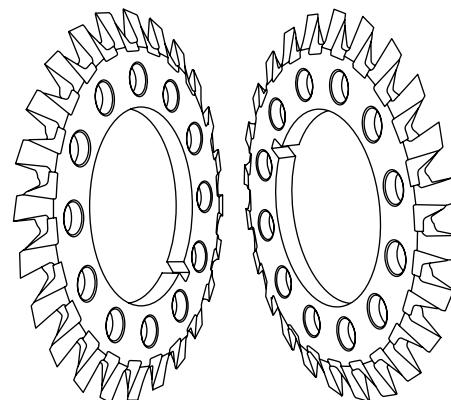
Point Width	PA	WD	Corner Breaks	Series
.011	14.5°	.550	Break Corner	G104E-11T-F
.015	20°	.550	Break Corner	G104E-15T-D
.015	17.5°	.550	Break Corner	G104E-15T-E
.015	14.5°	.550	Break Corner	G104E-15T-F
.020	22.2°	.550	Break Corner	G104E-20T-B
.020	21.5°	.550	Break Corner	G104E-20T-C
.020	20°	.550	Break Corner	G104E-20T-D
.020	17.5°	.550	Break Corner	G104E-20T-E
.020	14.5°	.550	Break Corner	G104E-20T-F
.021	14.5°	.550	Break Corner	G104E-21T-F
.025	21.5°	.550	Break Corner	G104E-25T-C
.025	20°	.550	Break Corner	G104E-25T-D
.025	17.5°	.550	Break Corner	G104E-25T-E
.025	14.5°	.550	Break Corner	G104E-25T-F
.027	14.5°	.550	Break Corner	G104E-27T-F
.028	21.5°	.550	Break Corner	G104E-28T-C
.028	17.5°	.550	Break Corner	G104E-28T-E
.031	21.5°	.550	Break Corner	G104E-31T-C
.031	20°	.550	Break Corner	G104E-31T-D
.031	17.5°	.550	Break Corner	G104E-31T-E
.031	14.5°	.550	Break Corner	G104E-31T-F
.033	21.5°	.550	Break Corner	G104E-33T-C
.033	20°	.550	Break Corner	G104E-33T-D
.033	17.5°	.550	Break Corner	G104E-33T-E
.035	21.5°	.550	Break Corner	G104E-35T-C
.035	14.5°	.550	Break Corner	G104E-35T-F
.038	22.2°	.550	.010	G104E-38T-B
.038	21.5°	.550	.010	G104E-38T-C
.038	20°	.550	.010	G104E-38T-D
.038	17.5°	.550	.010	G104E-38T-E
.038	14.5°	.550	.010	G104E-38T-F
.040	17.5°	.550	.010	G104E-40T-E
.040	14.5°	.550	.010	G104E-40T-F
.043	21.5°	.550	.010	G104E-43T-C
.045	21.5°	.550	.010	G104E-45T-C
.045	20°	.550	.010	G104E-45T-D
.048	22.2°	.550	.010	G104E-48T-B
.048	21.5°	.550	.010	G104E-48T-C
.048	20°	.550	.010	G104E-48T-D
.048	17.5°	.550	.010	G104E-48T-E
.048	14.5°	.550	.010	G104E-48T-F
.060	22.6°	.550	.010	G104E-60T-A
.060	22.2°	.550	.010	G104E-60T-B
.060	21.5°	.550	.010	G104E-60T-C
.060	20°	.550	.010	G104E-60T-D

G104E Series

Straight Bevel

Coniflex® Cutters #104

9 x 4.5 Set includes both right and left hand



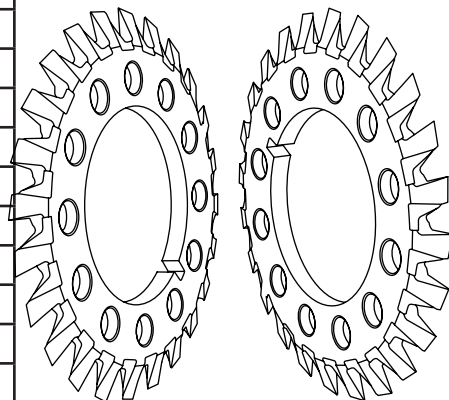
SERIES CONTINUED ON NEXT PAGE ->



Point Width	PA	WD	Corner Breaks	Series
.060	17.5°	.550	.010	G104E-60T-E
.060	14.5°	.550	.010	G104E-60T-F
.060	22.2°	.750	.010	G104E-60U-B
.065	21.5°	.550	.010	G104E-65T-C
.065	20°	.550	.010	G104E-65T-D
.065	22.2°	.750	.010	G104E-65U-B
.067	22.6°	.550	.010	G104E-67T-A
.071	17.5°	.550	.010	G104E-71T-E
.075	22.2°	.550	.010	G104E-75T-B
.075	21.5°	.550	.010	G104E-75T-C
.075	20°	.550	.010	G104E-75T-D
.075	17.5°	.550	.010	G104E-75T-E
.075	14.5°	.550	.010	G104E-75T-F
.075	21.5°	.750	.010	G104E-75U-C
.078	22.6°	.550	.010	G104E-78T-A
.080	22.6°	.550	.010	G104E-80T-A
.080	20°	.550	.010	G104E-80T-D
.085	22.6°	.750	.010	G104E-85U-A
.085	22.2°	.750	.010	G104E-85U-B
.090	22.6°	.550	.015	G104E-90T-A
.090	22.2°	.550	.015	G104E-90T-B
.090	21.5°	.550	.015	G104E-90T-C
.090	20°	.550	.015	G104E-90T-D
.090	17.5°	.550	.015	G104E-90T-E
.090	22.6°	.750	.015	G104E-90U-A
.090	21.5°	.750	.015	G104E-90U-C
.092	21.5°	.550	.015	G104E-92T-C
.100	22.6°	.550	.015	G104E-100T-A
.100	22.2°	.550	.015	G104E-100T-B
.100	17.5°	.550	.015	G104E-100T-E
.110	22.6°	.550	.020	G104E-110T-A
.110	22.2°	.550	.020	G104E-110T-B
.110	21.5°	.550	.020	G104E-110T-C
.110	20°	.550	.020	G104E-110T-D
.110	22.6°	.750	.020	G104E-110U-A
.110	22.2°	.750	.020	G104E-110U-B
.110	21.5°	.750	.020	G104E-110U-C
.130	22.6°	.550	.020	G104E-130T-A
.130	22.2°	.550	.020	G104E-130T-B
.130	21.5°	.550	.020	G104E-130T-C
.130	20°	.550	.020	G104E-130T-D
.130	22.6°	.750	.030	G104E-130U-A
.130	22.2°	.750	.030	G104E-130U-B
.160	22.6°	.750	.040	G104E-160U-A
.160	22.2°	.750	.040	G104E-160U-B
.160	21.5°	.750	.040	G104E-160U-C

G104E Series

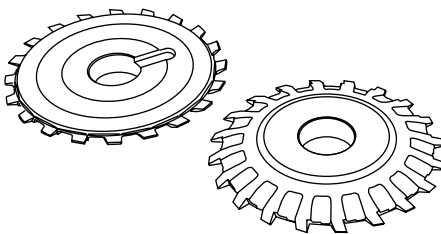
Straight Bevel
Coniflex® Cutters #104
9 x4.5 Set includes both
right and left hand





G102E Series

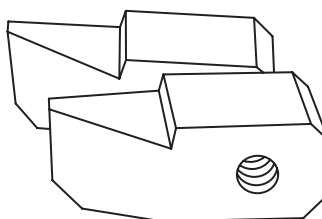
Straight Bevel
 Coniflex® Cutters #102
 4.25 x1
 Set includes both
 right and left hand



Point Width	WD	Series
.003	.225	G102E-3T-20
.004	.225	G102E-3.5T-20
.005	.225	G102E-5T-20
.006	.225	G102E-6T-20
.008	.225	G102E-8T-20
.011	.225	G102E-11T-20
.015	.225	G102E-15T-20
.020	.225	G102E-20T-20
.026	.225	G102E-26T-20

BV24 & BV24F Series

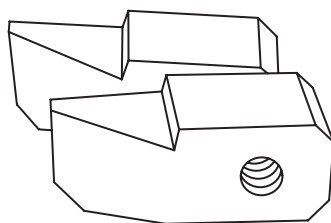
Straight Bevel Gear Cutters
 for 24" Machine
 DP 14.5°, 20° & 25° PA



	14.5°			20°			25°		
DP	Roughing	Finishing	Slotting	Roughing	Finishing	Slotting	Roughing BV24-25	Finishing BV24-25	Slotting BV24-25
1	-	-	-	BV24-100R	BV24-100F	BV24-100SL	-	-	-
1-1/4	BV24F-125R	BV24F-125F	-	BV24-125R	BV24-125F	BV24-125SL	-125R	-125F	-
1-1/2	BV24F-150R	BV24F-150F	-	BV24-150R	BV24-150F	BV24-150SL	-150R	-150F	-
1-3/4	BV24F-175R	BV24F-175F	-	BV24-175R	BV24-175F	BV24-175SL	-175R	-175F	-
2	BV24F-200R	BV24F-200F	-	BV24-200R	BV24-200F	BV24-200SL	-200R	-200F	-
2-1/2	BV24F-250R	BV24F-250F	BV24F-250SL	BV24-250R	BV24-250F	BV24-250SL	-250R	-250F	-250SL
3	BV24F-300R	BV24F-300F	-	BV24-300R	BV24-300F	BV24-300SL	-	-	-
3-1/2	-	-	-	BV24-350R	BV24-350F	-	-	-	-
4	BV24F-400R	-	-	BV24-400R	BV24-400F	-	-400R	-400	-400SL



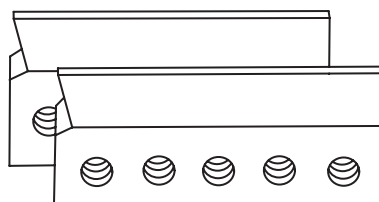
BVM24 Series
Straight Bevel Gear Cutters
for 24 Machine
Module 20° PA



Module Pitch	Roughing	Finishing
16	BVM24-016R	BVM24-016F
20	BVM24-020R	BVM24-020F
22	BVM24-022R	BVM24-022F
24	BVM24-024R	BVM24-024F

BV14, BV17, BV20, BV22

& BV25 Series
Straight Bevel Gear Cutters
for 12" & 14" Machine
DP 14.5°, 17.5°, 20°, 22.5°, 25° PA



DP	14-1/2°		17 1/2°		20°		22-1/2°	25°	
	Roughing	Finishing	Roughing	Finishing	Roughing	Finishing	Finishing	Roughing	Finishing
2-1/2	---	---	-	-	BV20-250R	BV20-250F	-	---	---
3	BV14-300R	BV14-300F	-	-	BV20-300R	BV20-300F	-	BV25-300R	BV25-300F
3-1/2	BV14-350R	BV14-350F	-	BV17-350F	BV20-350R	BV20-350F	-	BV25-350R	BV25-350F
4	BV14-400R	BV14-400F	-	-	BV20-400R	BV20-400F	BV22-400F	BV25-400R	BV25-400F
4-1/2	---	---	-	-	BV20-450R	BV20-450F	-	BV25-450R	BV25-450F
5	BV14-500R	BV14-500F	-	BV17-500F	BV20-500R	BV20-500F	-	BV25-500R	BV25-500F
6	BV14-600R	BV14-600F	-	-	BV20-600R	BV20-600F	-	BV25-600R	BV25-600F
7	BV14-700R	BV14-700F	-	BV17-700F	BV20-700R	BV20-700F	-	---	---
8	BV14-800R	BV14-800F	BV17-800R	BV17-800F	BV20-800R	BV20-800F	BV22-800F	BV25-800R	BV25-800F
9	BV14-900R	BV14-900F	-	-	BV20-900R	BV20-900F	-	---	---
10	BV14-010R	BV14-010F	-	-	BV20-010R	BV20-010F	-	BV25-010R	BV25-010F
11	-	-	-	-	BV20-011R	BV20-011F	-	-	-
12	BV14-012R	BV14-012F	-	-	BV20-012R	BV20-012F	-	BV25-012R	BV25-012F
14	BV14-014R	BV14-014F	-	-	BV20-014R	BV20-014F	-	---	---
16	BV14-016R	BV14-016F	-	-	BV20-016R	BV20-016F	-	BV25-016R	BV25-016F
17	-	-	-	-	BV20-017R	BV20-017F	-	-	-
18	BV14-018R	BV14-018F	-	-	BV20-018R	BV20-018F	-	---	---
20	BV14-020R	BV14-020F	-	-	BV20-020R	BV20-020F	-	---	---
24	BV14-024R	BV14-024F			BV20-024R	BV20-024F		-	-
28	BV14-028R	BV14-028F	-	-	BV20-028R	BV20-028F	-	---	---
32	BV14-032R	BV14-032F	-	-	BV20-032R	BV20-032F	-	---	---
40	-	-	-	-	BV20-040R	BV20-040F	-	-	-
48	BV14-048R	BV14-048F	-	-	BV20-048R	BV20-048F	-	-	-
64	BV14-064R	BV14-064F	-	-	-	-	-	-	-

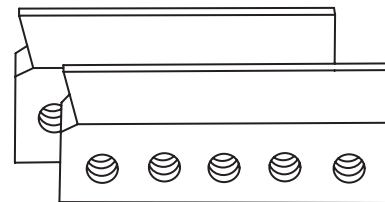
Completing and TanRuf styles available



Module	20°		25°	
	Roughing	Finishing	Roughing	Finishing
3/4	BVM20-075R	BVM20-075F	---	---
1	BVM20-100R	BVM20-100F	BVM25-100R	BVM25-100F
1-1/4	BVM20-125R	BVM20-125F	---	---
1-1/2	BVM20-150R	BVM20-150F	---	---
1-3/4	BVM20-175R	BVM20-175F	---	---
2	BVM20-200R	BVM20-200F	BVM25-200R	BVM25-200F
2-1/4	BVM20-225R	BVM20-225F	---	---
2-1/2	BVM20-250R	BVM20-250F	---	---
2-3/4	BVM20-275R	BVM20-275F	---	---
3	BVM20-300R	BVM20-300F	BVM25-300R	BVM25-300F
3-1/2	BVM20-350R	BVM20-350F	---	---
4	BVM20-400R	BVM20-400R	BVM25-400R	BVM25-400F
4-1/2	BVM20-450R	BVM20-450F	---	---
5	BVM20-500R	BVM20-500F	BVM25-500R	BVM25-500F
6	BVM20-600R	BVM20-600F	BVM25-600R	BVM25-600F
7	BVM20-700R	BVM20-700F	---	---
8	BVM20-800R	BVM20-800F	BVM25-800R	BVM25-800F
10	BVM20-010R	BVM20-010F	---	---

BVM20 & BVM25 Series

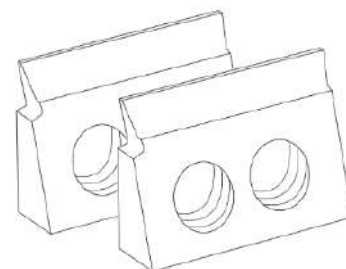
Straight Bevel Gear Cutters
for 12" & 14" Machine
Module 20° & 25° PA



DP	14-1/2°		20°	
	Roughing	Finishing	Roughing	Finishing
8	BVS14-800R	BVS14-800F	BVS20-800R	BVS20-800F
10	BVS14-010R	BVS14-010F	BVS20-010R	BVS20-010F
12	BVS14-012R	BVS14-012F	BVS20-012R	BVS20-012F
14	BVS14-014R	BVS14-014F	BVS20-014R	BVS20-014F
16	BVS14-016R	BVS14-016F	BVS20-016R	BVS20-016F
18	-	-	BVS20-018R	BVS20-018F
20	-	BVS14-020F	BVS20-020R	BVS20-020F
24	-	-	BVS20-024R	BVS20-024F
32	-	BVS14-032F	BVS20-032R	BVS20-032F
36	-	-	-	BVS20-036F
40	-	BVS14-040F	BVS20-040R	BVS20-040F
48	-	BVS14-048F	BVS20-048R	BVS20-048F
64	-	BVS14-064F	-	BVS20-064F

BVS14 & BVS20 Series

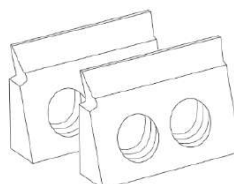
Straight Bevel Gear Cutters
for 3 Machine
DP 14.5° & 20° PA



Module	PA	Roughing	Finishing
1.5	20	BVSM20-150R	BVSM20-150F

BVSM20 Series

Straight Bevel Gear Cutters
for 3 Machine
Module 20°





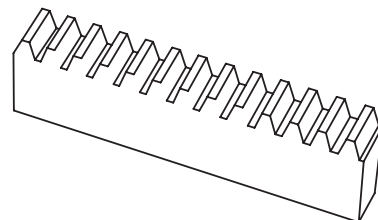


DP	Maag 14.5°	Maag 20°	Sunderland 14.5°	Sunderland 20°
1	GD14-100	GD20-100	-	-
1-1/4	GD14-125	GD20-125	-	-
1-1/2	GD14-150	GD20-150	-	DD20-150
1-3/4	GD14-175	GD20-175	-	DD20-175
2	GD14-200	GD20-200	DD14-200	DD20-200
2-1/4	GD14-225	GD20-225	DD14-225	DD20-225
2-1/2	GD14-250	GD20-250	DD14-250	DD20-250
3	GD14-300	GD20-300	DD14-300	DD20-300
4	GD14-400	GD20-400	DD14-400	DD20-400
5	GD14-500	GD20-500	DD14-500	DD20-500
6	GD14-600	GD20-600	DD14-600	DD20-600
7	GD14-700	GD20-700	DD14-700	DD20-700
8	GD14-800	GD20-800	DD14-800	DD20-800
9	GD14-900	GD20-900	DD14-900	DD20-900
10	GD14-010	GD20-010	DD14-010	DD20-010
12	GD14-012	GD20-012	DD14-012	DD20-012
16	GD14-016	GD20-016	DD14-016	DD20-016
18	-	GD20-018	DD14-018	DD20-018
20	-	GD20-020	DD14-020	DD20-020
24	-	GD20-024	DD14-024	DD20-024
32	-	GD20-032	DD14-032	DD20-032
48	-	GD20-048	DD14-048	DD20-048
64	-	-	DD14-064	DD20-064
72	-	-	-	DD20-072

Backing Plates Also Available

GD14, GD20 & DD14, DD20 Series

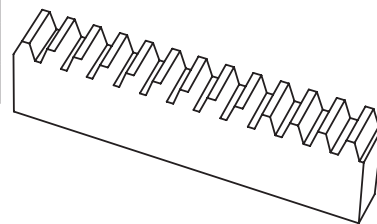
Maag & Sunderland Cutters



DP	Maag	Sunderland
4/5	GFD20-400	-
5/7	GFD20-500	DFD20-500
6/8	GFD20-600	DFD20-600
8/10	GFD20-800	DFD20-800
10/12	-	DFD20-010

GFD20, & DFD20 Series

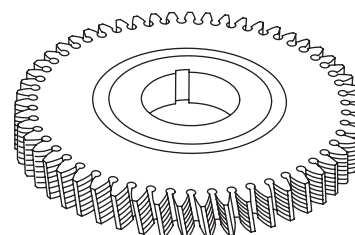
Maag & Sunderland Cutters
Combination Stub 20°PA





V20 Series

Shaving Cutters
 DP 20° PA 2-1/2 Bore



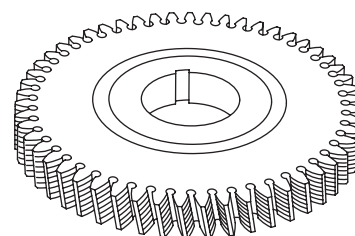
DP	OD	Specify Left or Right Hand				
		0° Helix	5° Helix	10° Helix	12° Helix	15° Helix
4	9	V20-04-S	V20-04-5	V20-04-10	V20-04-12	V20-04-15
5	9	V20-05-S	V20-05-5	V20-05-10	V20-05-12	V20-05-15
5	9-1/4					V20-05-15L
6	9-1/4		V20-06-5L			
6	9	V20-06-S	V20-06-5	V20-06-10	V20-06-12	V20-06-15
8	7-3/8		V20-8-5L			
8	7-1/2	V20-08-S	V20-08-5	V20-08-10	V20-08-12	V20-08-15
10	7-1/4		V20-10-5L			
10	7-3/8			V20-10-10L		
10	7-3/8	V20-10-S	V20-10-5	V20-10-10	V20-10-12	V20-10-15
12	7-1/4	V20-12-S	V20-12-5	V20-12-10	V20-12-12	V20-12-15
16	7-1/4	V20-16-S	V20-16-5	V20-16-10	V20-16-12	V20-16-15

14½°PA also available

Module	OD	Specify Left or Right Hand				
		0° Helix	5° Helix	10° Helix	12° Helix	15° Helix
1.25	7-1/4	VM20-125-S	VM20-125-5	VM20-125-10	VM20-125-12	VM20-125-15
1.5	7-1/4	VM20-150-S	VM20-150-5	VM20-150-10	VM20-150-12	VM20-150-15
2	7-1/4	VM20-200-S	VM20-200-5	VM20-200-10	VM20-200-12	VM20-200-15
3	7-1/2	VM20-300-S	VM20-300-5	VM20-300-10	VM20-300-12	VM20-300-15
4	9	VM20-400-S	VM20-400-5	VM20-400-10	VM20-400-12	VM20-400-15
5	9	VM20-500-S	VM20-500-5	VM20-500-10	VM20-500-12	VM20-500-15
6	9	VM20-600-S	VM20-600-5	VM20-600-10	VM20-600-12	VM20-600-15
8	9	VM20-800-S	VM20-800-5	VM20-800-10	VM20-800-12	VM20-800-15
10	9	VM20-010-S	VM20-010-5	VM20-010-10	VM20-010-12	VM20-010-15

VM20 Series

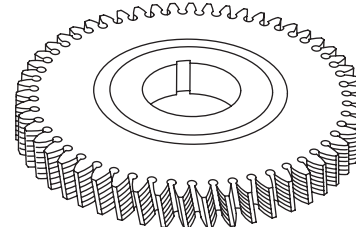
Shaving Cutters
 Module 20° PA 2-1/2 Bore



Module Pitch	Specify Left or Right Hand			
	0° Helix	5° Helix	10° Helix	12° Helix
2.75	VM25-275-S	VM25-275-5	VM25-275-10	VM25-275-12
3	VM25-300-S	VM25-300-5	VM25-300-10	VM25-300-12
4	VM25-400-S	VM25-400-5	VM25-400-10	VM25-400-12
5	VM25-500-S	VM25-500-5	VM25-500-10	VM25-500-12

VM25 Series

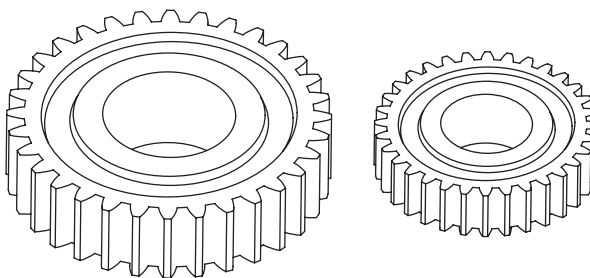
Shaving Cutters
 Module 25° PA 2.5 Bore





MDP14, MDP20, MDP25 & MDP30 Series

Master Gear
DP 14.5°, 20°, 25° & 30° PA



DP	PD	Face	Bore	# Teeth	14.5°PA	20°PA	25°PA	30°PA
4	6	1-1/4	1-1/4	24	-	MDP20-004-6	-	-
5	4	1-1/4	1-1/4	20	-	-	MDP25-500-4	-
5	5	1-1/4	1-1/4	25	-	MDP20-005-5	-	-
5	7	1-1/4	1-1/4	35	-	MDP20-005-7	-	-
6	3	1	1-1/4	18	-	MDP20-006-3	-	-
6	4	1-1/4	1-1/4	24	-	MDP20-006-4	MDP25-006-4	-
6	6	1-1/4	1-1/4	36	-	MDP20-006-6	-	-
8	3	1	1-1/4	24	-	-	MDP25-008-3	-
8	4	1	1-1/4	32	MDP14-008-4	MDP20-008-4	MDP25-008-4	-
10	3	3/4	1-1/4	30	-	MDP20-010-3	MDP25-010-3	MDP30-010-3
10	4	3/4	1-1/4	40	MDP14-010-4	MDP20-010-4	MDP25-010-4	-
11	2	1/2	1/2	22	-	MDP20-011-2	-	-
12	3	3/4	1-1/4	36	MDP14-012-3	MDP20-012-3	MDP25-012-3	-
12	4	1	1-1/4	48	-	MDP20-012-4	-	-
13	3	3/4	1-1/4	39	-	MDP20-013-3	-	-
14	3	3/4	1-1/4	42	-	MDP20-014-3	-	-
15	3	3/4	1-1/4	45	-	MDP20-015-3	-	-
16	2	1/2	1/2	32	-	MDP20-016-2	-	MDP30-016-2
16	3	3/4	1-1/4	48	MDP14-016-3	MDP20-016-3	MDP25-016-3	-
18	2	1/2	1/2	36	-	MDP20-018-2	-	-
20	1-1/2	1/2	1/2	30	-	MDP20-020-1	MDP25-020-1	-
20	2	1/2	1/2	40	MDP14-020-2	MDP20-020-2	-	-
20	3	3/4	1-1/4	60	MDP14-020-3	MDP20-020-3	-	-
21	3	1/2	1-1/4	63	-	MDP20-021-3	-	-
24	1-1/2	1/2	1/2	36	MDP14-024-1	MDP20-024-1	MDP25-024-1	-
24	2	1/2	1/2	48	-	MDP20-024-2	-	-
24	3	1/2	1/2	72	-	MDP20-024-3	-	-
27	2	1/2	1/2	54	-	MDP20-027-2	-	-
28	1-1/2	1/2	1/2	42	-	MDP20-028-1	-	-
28	2	1/2	1/2	56	-	MDP20-028-2	-	-

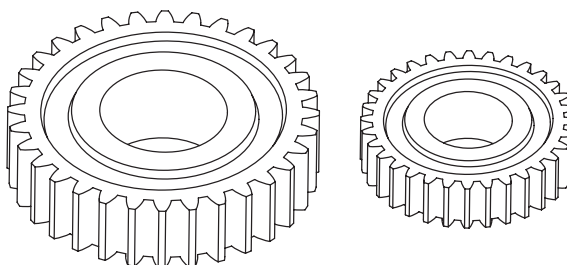
All master gears are made of hardened tool steel & finish ground to exacting standards. Each gear will be marked with the class, the exact test diameter and the actual tooth thickness. The accuracy of each gear will be certified from the manufacturer for assurance of the highest quality. Stock master gears are made to class 3B. Master gears are used to determine the accuracy of work gears. When work gears and master gears are rolled together on rolling fixtures with either fixed or adjustable centers, dimensional variations may be determined through the use of indicators, charts, or other suitable indicating devices.

SERIES CONTINUED ON NEXT PAGE ->



MDP14, MDP20, MDP25 & MDP30 Series

Master Gear
DP 14.5°, 20°, 25° & 30° PA



DP	PD	Face	Bore	# Teeth	14.5°PA	20°PA	25°PA	30°PA
28	2	1/2	1/2	56	-	MDP20-028-2	-	-
30	1-1/2	1/2	1/2	45	-	MDP20-030-1	-	-
30	2	1/2	1/2	60	-	MDP20-030-2	-	-
32	1-1/2	1/2	1/2	48	MDP14-032-1	MDP20-032-1	MDP25-032-1	-
32	2	1/2	1/2	64	MDP14-032-2	MDP20-032-2	-	MDP30-032-2
34	2	1/2	1/2	68	-	MDP20-034-2	-	-
36	1-1/2	1/2	1/2	54	-	MDP20-036-1	-	-
36	2	1/2	1/2	72	MDP14-036-2	-	MDP25-036-2	-
40	1-1/2	1/2	1/2	60	-	MDP20-040-1	-	-
40	2	1/2	1/2	80	MDP14-040-2	MDP20-040-2	-	MDP30-040-2
42	1-1/2	1/2	1/2	63	-	MDP20-042-1	-	-
44	1-1/2	1/2	1/2	66	-	MDP20-044-1	-	-
48	1-1/2	1/2	1/2	72	MDP14-048-1	MDP20-048-1	MDP25-048-1	MDP30-048-1
48	2	1/2	1/2	96	MDP14-048-2	MDP20-048-2	-	-
48	4	1/2	1-1/4	192	-	MDP20-048-4	-	-
56	1-1/2	1/2	1/2	84	-	MDP20-056-1	-	-
60	1-1/2	1/2	1/2	90	-	MDP20-060-1	-	-
64	1-1/2	1/2	1/2	96	-	MDP20-064-1	-	-
64	2	1/2	1/2	128	MDP14-064-2	MDP20-064-2	-	MDP30-064-2
64	2	1/2	1/2	130	-	-	MDP25-064-2	-
72	1-1/2	1/2	1/2	108	-	MDP20-072-1	-	-
72	2	1/2	1/2	144	MDP14-072-2	-	MDP25-072-2	-
80	1-1/2	1/2	1/2	120	-	MDP20-080-1	-	MDP30-080-1
90	1-1/2	1/2	1/2	135	MDP14-090-1	-	-	-
96	1-1/2	1/2	1/2	144	MDP14-096-1	MDP20-096-1	-	-
96	2	1/2	1/2	192	-	MDP20-096-2	-	-
100	2	1/2	1/2	200	-	MDP20-100-2	-	-
120	1-1/2	1/2	1/2	180	-	MDP20-120-1	-	-
120	2	1/2	1/2	240	-	MDP20-120-2	-	-

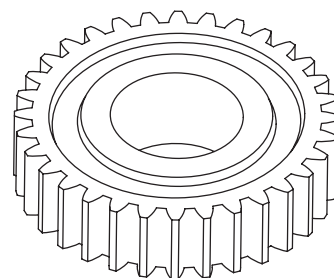




CP	PD	Face	Bore	# Teeth	14.5° PA	20° PA
1/8	2	1/2	1/2	50	-	MCP20-012-2
1/4	3	3/4	1-1/4	38	MCP14-025-3	MCP20-025-3
1/4	4-31/40	1-1/4	1-1/4	60	-	MCP20-025-5
1/3	3	3/4	1-1/4	28	-	MCP20-033-3
1/2	3-13/16	1-1/4	1-1/4	24	MCP14-050-4	MCP20-050-4

MCP14 & MCP20 Series

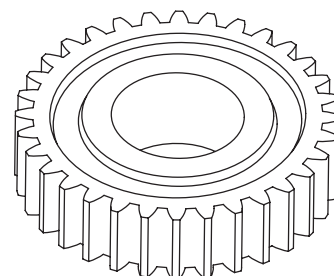
Master Gear
CP 14.5° & 20° PA



Module Pitch	PD	Face	Bore	# Teeth	Series
.20	1-1/2	1/2	1/2	190	MM20-020-2
.25	1-1/2	1/2	1/2	152	MM20-025-1
.30	1-1/2	1/2	1/2	126	MM20-030-1
.40	1-1/2	1/2	1/2	95	MM20-040-1
.50	1-1/2	1/2	1/2	76	MM20-050-1
.60	1-1/2	1/2	1/2	64	MM20-060-1
.60	2	1/2	1/2	84	MM20-060-2
.70	1-1/2	1/2	1/2	54	MM20-070-1
.70	2	1/2	1/2	72	MM20-070-2
.75	1-1/2	1/2	1/2	50	MM20-075-1
.80	1-1/2	1/2	1/2	48	MM20-080-1
1	1-1/2	1/2	1/2	38	MM20-100-1
1.25	1-1/2	1/2	1/2	30	MM20-125-1
1.5	2	1/2	1/2	34	MM20-150-2
1.5	3	1/2	1-1/4	50	MM20-150-3
1.75	1-1/2	1/2	1/2	22	MM20-175-1
1.75	2-1/4	1/2	1/2	32	MM20-175-2
2	3	3/4	1-1/4	38	MM20-200-3
2.5	3	3/4	1-1/4	32	MM20-250-3
3	3	1	1-1/4	26	MM20-300-3
3.5	3	1	1-1/4	22	MM20-350-3
4	4-3/32	1-1/4	1-1/4	26	MM20-400-4

MM20 Series

Master Gear
Module 20° PA



All master gears are made of hardened tool steel & finish ground to exacting standards. Each gear will be marked with the class, the exact test diameter and the actual tooth thickness. The accuracy of each gear will be certified from the manufacturer for assurance of the highest quality. Stock master gears are made to class 3B. Master gears are used to determine the accuracy of work gears. When work gears and master gears are rolled together on rolling fixtures with either fixed or adjustable centers, dimensional variations may be determined through the use of indicators, charts, or other suitable indicating devices.

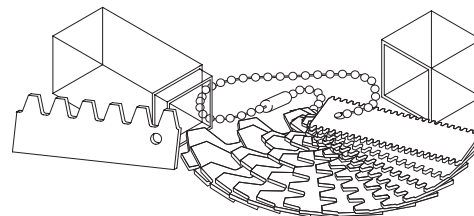
Series	Pitch Gauge
PG-D2SS	Super Set Diametral Pitch Super Set 14.5° & 20° PA includes: 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 28, 30, 32 DP
PG-D2	Diametral Pitch Common 14.5° & 20° PA includes: 3, 4, 5, 6, 8, 10, 12, 16, 20, 24, 32, 48 DP
PG-D3	Diametral Pitch Uncommon 14.5° & 20° PA includes: 3-1/2, 6-1/2, 7, 9, 11, 13, 14, 15, 18, 22, 26, 28, 30 DP
PG-DD1	Diametral Pitch Coarse Single Tooth 14.5° & 20° PA includes: 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/2 DP
PG-D5	Combination Stub Diametral Pitch 20° PA includes: 3/4, 4/5, 5/7, 6/8, 7/9, 8/10, 9/11, 10/12, 12/14, 14/18, 16/21, 20/24, 24/32, 32/42 DP
PG-D6	Diametral Pitch Common 25° PA includes: 3, 3-1/2, 4, 5, 6, 7, 8, 10, 12, 14, 16, 20, 24, 32 DP
PG-M1	Module Pitch 14.5° & 20° PA includes: 8, 7, 6, 5-1/2, 5, 4-1/2, 4, 3-1/2, 3, 2-1/2, 2, 1-1/2, 1 Mod
PG-S1	Involute Spline 30° PA includes: 3/6, 4/8, 5/10, 6/12, 7/16, 8/16, 10/20, 12/24, 16/32, 20/40, 24/48, 32/64, 40/80, 48/96 DP
PG-C1	Circular Pitch 14.5° & 20° PA includes: 1, 3/4, 5/8, 1/2, 7/16, 3/8, 1/3, 1/4, 1/5, 3/16, 1/8 CP

Pitch Range	Graduation	Series
24 to 1-1/2 DP	-.001	GV-A2-C1*
20 to 2 DP	-.001	GV-A2
10 to 1 DP	-.001	GV-B2
1 to 16 Mod	-.001	GVM-A2-C1
1-1/4 to 12 Mod	-.001	GVM-A2
2-1/2 to 25 Mod	-.001	GVM-B2

*Carbide Tipped



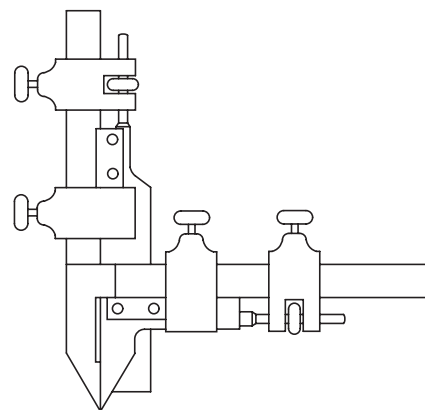
Pitch Templates



Use to correctly identify your gear. Each rack template has generated machine cut accuracy and is made from anodized aluminum for long life. Sold in complete sets only, with carrying case.



GV & GVM Series Gear Tooth Vernier Caliper

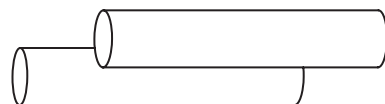




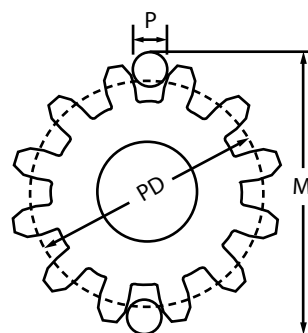
Normal Diametral Pitch	Enlarged Pinions <u>1.92</u> DP		External Gears <u>1.728</u> DP		Alternate Gears <u>1.68</u> DP		Internal Gears <u>1.44</u> DP	
	P	Series	P	Series	P	Series	P	Series
1	1.9200	GW-1.9200	1.7280	-	1.680	-	1.440	-
1-1/2	1.2800	GW-1.2800	1.1520	-	1.120	GW-1.12000	.9600	GW-96000
2	.9600	GW-96000	.8640	GW-86400	.8400	GW-84000	.7200	GW-72000
2-1/2	.7680	GW-76800	.6910	GW-69120	.6720	GW-67200	.5760	GW-57600
3	.6400	GW-64000	.5760	GW-57600	.5600	GW-56000	.4800	GW-48000
3-1/2	.5490	-	.4940	GW-49371	.4800	GW-48000	.4110	GW-41143
4	.4800	GW-48000	.4320	GW-43200	.4200	GW-42000	.3600	GW-36000
4-1/2	.4270	-	.3840	GW-38400	.3730	-	.3200	GW-32000
5	.3840	GW-38400	.3460	GW-34560	.3360	GW-33600	.2880	GW-28800
6	.3200	GW-32000	.2880	GW-28800	.2800	GW-28000	.2400	GW-24000
7	.2740	GW-27429	.2470	GW-24686	.2400	GW-24000	.2060	GW-20571
8	.2400	GW-24000	.2160	GW-21600	.2100	GW-21000	.1800	GW-1800
9	.2130	GW-21333	.1920	GW-19200	.1870	-	.1600	GW-16000
10	.1920	GW-19200	.1730	GW-17280	.1680	GW-16800	.1440	GW-14400
11	.1750	GW-17455	.1570	GW-15709	.1530	GW-15273	.1310	GW-13091
12	.1600	GW-16000	.1440	GW-14400	.1400	GW-14400	.1200	GW-12000
14	.1370	GW-13714	.1230	GW-12343	.1200	GW-12000	.1030	GW-10286
16	.1200	GW-12000	.1080	GW-10800	.1050	GW-10500	.0900	GW-09000
18	.1070	-	.0960	GW-09600	.0930	GW-09333	.0800	GW-08000
20	.0960	GW-09600	.0860	GW-08640	.0840	GW-08400	.0720	GW-07200
22	.0870	GW-08727	.0790	GW-07855	.0760	GW-07636	.0650	GW-06545
24	.0800	GW-08000	.0720	GW-07200	.0700	GW-07000	.0600	GW-06000
28	.0690	GW-06857	.0620	GW-06171	.0600	GW-06000	.0510	GW-05143
32	.0600	GW-06000	.0540	GW-05400	.0530	GW-05250	.0450	GW-04500
36	.0530	GW-05333	.0480	GW-04800	.0470	GW-04667	.0400	GW-0400
40	.0480	GW-04800	.0430	GW-04320	.0420	-	.0360	GW-03600
48	.0400	GW-0400	.0360	GW-03600	.0350	GW-03500	.0300	GW-03000
56	.0340	GW-03429	.0310	GW-03086	.0300	GW-03000	.0260	-
64	.0300	GW-03000	.027	GW-02700	.0260	GW-02625	.0230	GW-02250
72	.0270	-	.0240	GW-02400	.0230	-	.0200	GW-02000
80	.0240	GW-02400	.0220	GW-02160	.0210	-	.0180	GW-01800
96	.0200	GW-02000	.0180	GW-01800	.0180	-	.0150	GW-01400
100	.0190	-	.0170	-	.0170	-	.0140	GW-01440
120	.0160	-	.0140	GW-01400	.0140	GW-01400	.0120	-

GW Series

Gear Measuring Wires
Diametral Pitch Gears
XX Tolerance
- Two wires per set



Wires sold is pairs only.



All wires shown in inch sizes

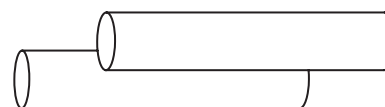
Series	Gear Measuring Wire Sets
GWS-1728-18	Set includes 1 pair each of 18 sizes from 1.728/DP Series: 3, 4, 5, 6, 8, 9, 10, 12, 14, 16, 18, 20, 24, 32, 36, 40, 48 & 64 DP
GWS-144-18	Set includes 1 pair each of 18 sizes from 1.44/DP Series: 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 24, 32, 36, 40, 48 & 64 DP
GWS-168-15	Set includes 1 pair each of 15 sizes from 1.68/DP Alternate Series: 4, 5, 6, 7, 8, 10, 12, 14, 16, 20, 24, 28, 32, 48 & 56 DP
GWS-192-15	Set includes 1 pair each of 15 sizes from 1.92/DP Series: 1, 2, 2-1/2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 20, 24 & 32 DP

Spline Pitch	1.92 DP		1.728 DP	
	P	Series	P	Series
3/6	.6400	GW-64000	.5760	GW-57600
4/8	.4800	GW-48000	.4320	GW-43200
5/10	.3840	GW-38400	.3460	GW-34560
6/12	.3200	GW-32000	.2880	GW-28800
8/16	.2400	GW-24000	.2160	GW-21600
10/20	.1920	GW-19200	.1730	GW-17280
12/24	.1600	GW-16000	.1440	GW-14400
16/32	.1200	GW-12000	.1080	GW-10800
20/40	.0960	GW-09600	.0860	GW-08640
24/48	.0800	GW-08000	.0720	GW-07200
32/64	.0600	GW-06000	.0540	GW-05400
40/80	.0480	GW-04800	.0430	GW-04320
48/96	.0400	GW-04000	.0360	GW-03600
64/128	.0300	GW-03000	.0270	GW-02700

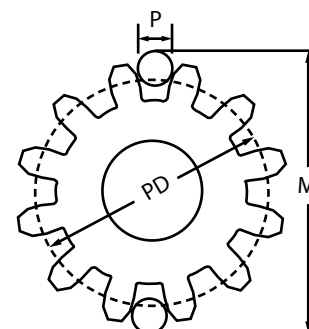
All wires shown in inch sizes

GW Series

Gear Measuring Wires
Involute Spline
XX Tolerance - Two wires per set



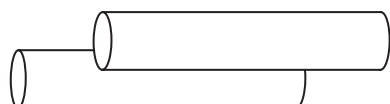
Wires sold is pairs only.



GW Series

Gear Measuring Wires
For 36 & 48 Serrations
XX Tolerance - Two wires per set

36 SERRATION					48 SERRATION				
Nominal Dia.	Internal P	Series	External P	Series	Nominal Dia.	Internal P	Series	External P	Series
1/8	.00650	-	.00796	-	3/4	.03025	-	.03558	-
3/16	.00967	-	.01194	-	7/8	.03529	-	.04150	-
1/4	.01290	-	.01592	-	1	.04033	-	.04743	-
5/16	.01613	-	.01990	-	1-1/8	.04538	-	.05336	-
3/8	.01935	GW-01935	.02388	GW-02388	1-1/4	.05042	GW-05042	.05929	GW-05929
1/2	.02580	GW-02580	.03184	-	1-3/8	.05546	-	.06522	GW-06522
5/8	.03225	GW-03225	.03980	GW-03980	1-1/2	.06050	-	.07115	-
					1-3/4	.07058	-	.08301	-
					2	.08067	-	.09487	-
					2-1/4	.09075	-	.10673	-
					2-1/2	.10083	-	.11858	-
					2-3/4	.11092	-	.13044	-
					3	.12100	-	.14230	-



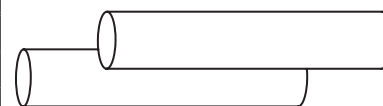
Wires sold is pairs only.

All wires shown in inch sizes

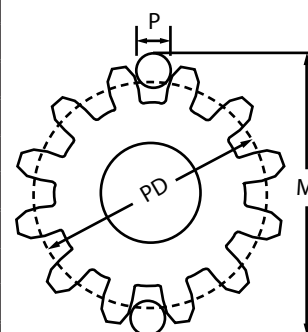


GW Series

Gear Measuring Wires
Module Pitch Gears
XX Tolerance
- Two wires per set



Wires sold is pairs only.



Normal Module Pitch	Enlarged Pinions $\frac{1.92}{DP}$		External Gears $\frac{1.728}{DP}$		Alternate Series $\frac{1.68}{DP}$		Internal Gears $\frac{1.44}{DP}$	
	P	Series	P	Series	P	Series	P	Series
0.5	.9600	GW-03780	.8640	GW-03402	.8400	-	.7200	GW-02835
0.6	1.1520	GW-04535	1.0370	-	1.0080	GW-03969	.8640	GW-03402
0.7	1.3440	-	1.2100	-	1.1760	-	1.0080	GW-03969
0.750	1.4400	GW-05669	1.2960	GW-05102	1.2600	-	1.0800	GW-04252
0.8	1.5360	-	1.3820	-	1.3440	-	1.1520	GW-04535
1.0	1.9200	GW-07559	1.7280	-	1.6800	-	1.4400	GW-05669
1.25	2.4000	-	2.1600	-	2.1000	-	1.8000	GW-07087
1.50	2.8800	GW-11339	2.5920	GW-10205	2.5200	GW-09921	2.1600	GW-08500
1.75	3.3600	-	3.0240	-	2.9400	-	2.5200	GW-09921
2.0	3.8400	-	3.4560	-	3.3600	-	2.8800	GW-11339
2.25	4.3200	-	3.8880	GW-15307	3.7800	-	3.2400	GW-12756
2.5	4.8000	-	4.3200	-	4.2000	-	3.6000	GW-14173
3.0	5.7600	-	5.1840	-	5.0400	-	4.3200	-
3.5	6.7200	-	6.0480	-	5.8800	-	5.0400	-
4.0	7.6800	-	6.9120	GW-27213	6.7200	-	5.7600	-
4.5	8.6400	GW-34016	7.7760	-	7.5600	-	6.4800	-
5	9.6000	-	8.6400	-	8.4000	-	7.2000	-
6	11.5200	-	10.3680	-	10.0800	-	8.6400	GW-34016
7	13.4400	-	12.0960	-	11.7600	-	10.0800	-
8	15.3600	-	13.8240	GW-54425	13.4400	-	11.5200	-
9	17.2800	-	15.5520	-	15.1200	-	12.9600	GW-51024
10	19.2000	-	17.2800	-	16.8000	-	14.4000	-
11	21.1200	-	19.0080	-	18.4800	-	15.8400	-
12	23.0400	-	20.7360	-	20.1600	-	17.2800	-
14	26.8800	-	24.1920	-	23.5200	-	20.1600	-
16	30.7200	-	27.6480	-	26.8800	-	23.0400	-
18	34.5600	-	31.1040	-	30.2400	-	25.9200	-
20	38.4000	-	34.5600	-	33.6000	-	28.8000	-

All wires shown in inch sizes

Normal Circular Pitch	Enlarged Pinions $\frac{1.92}{DP}$		External Gears $\frac{1.728}{DP}$		Alternate Series $\frac{1.68}{DP}$	
	P	Series	P	Series	P	Series
.125	.0760	GW-07639	.0690	GW-06875	.0670	-
.250	.1530	-	.1380	GW-13751	.1340	GW-13369
.375	.2290	-	.2060	GW-20626	.2010	-
.500	.3060	-	.2750	GW-27502	.2670	-
.625	.3820	-	.3440	-	.3340	-
.750	.4580	-	.4130	-	.4010	-
.875	.5350	-	.4810	-	.4680	-
1.00	.6110	-	.5500	-	.5350	-
1.25	.7640	-	.6880	-	.6680	-
1.50	.9170	-	.8250	-	.8020	-

All wires shown in inch sizes

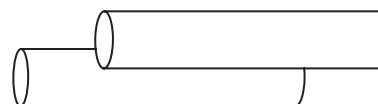
GW Series

Gear Measuring Wires
Circular Pitch Gears
XX Tolerance
- Two wires per set

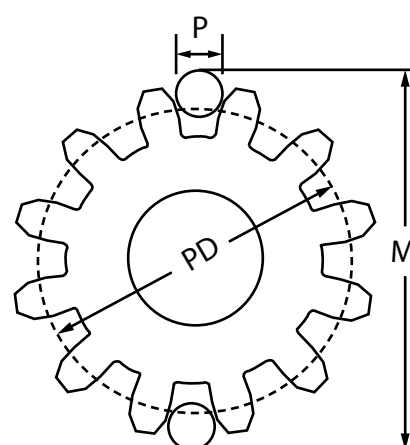


GW Series

Miscellaneous Sizes
Gear Measuring Wires
XX Tolerance - Two wires per set



Wires sold is pairs only.



Misc.		
P ()	P (mm)	Series
1.7717	45.001	GW-1.7717
1.5748	40.000	GW-1.5748
1.5360	39.014	GW-1.5360
1.3780	35.000	GW-1.37795
1.3606	34.559	GW-1.3606
1.2246	31.105	GW-1.2246
1.1811	30.000	GW-1.18110
1.0897	27.678	GW-1.0897
.9873	25.078	GW-98733
.9630	24.460	GW-96300
.9524	24.191	GW-95240
.8750	22.225	GW-87500
.6190	15.723	GW-61900
.8750	22.225	GW-87500
.8250	20.955	GW-82500
.8164	20.737	GW-81640
.7480	19.000	GW-74803
.7086	18.000	GW-70866
.6299	16.000	GW-62992
.6283	15.960	GW-62836
.6190	15.723	GW-61900
.5511	14.000	GW-55118
.5443	13.825	GW-54430
.5317	13.505	GW-53170
.5170	13.132	GW-51700
.5000	12.700	GW-50000
.4930	12.522	GW-49300
.4724	12.000	GW-47244
.4330	11.000	GW-43307
.4150	10.541	GW-41500
.4133	10.500	GW-41338
.4082	10.368	GW-40820
.4082	10.366	GW-40812
.3937	10.000	GW-39370
.3930	9.982	GW-39300
.3800	9.652	GW-38000
.3780	9.601	GW-37800
.3750	9.525	GW-37500
.3543	9.000	GW-35433
.3500	8.890	GW-35000
.3438	8.733	GW-34380
.3231	8.208	GW-32315
.3149	8.000	GW-31496
.3125	7.938	GW-31250

Misc.		
P ()	P (mm)	Series
.3061	7.775	GW-30610
.3024	7.681	GW-30240
.2969	7.541	GW-29690
.2952	7.500	GW-29528
.2864	7.276	GW-28646
.2835	7.201	GW-28350
.2812	7.142	GW-28120
.2786	7.076	GW-27860
.2755	7.000	GW-27559
.2721	6.912	GW-27213
.2721	6.911	GW-27210
.2667	6.774	GW-26670
.2646	6.721	GW-26460
.2637	6.700	GW-26378
.2616	6.645	GW-26160
.2600	6.604	GW-26000
.2559	6.500	GW-25590
.2551	6.480	GW-25510
.2500	6.350	GW-25000
.2480	6.300	GW-24803
.2469	6.271	GW-24690
.2464	6.261	GW-24648
.2420	6.147	GW-24200
.2381	6.048	GW-23810
.2362	6.000	GW-23622
.2362	5.999	GW-23620
.2344	5.954	GW-23440
.2300	5.842	GW-23000
.2268	5.761	GW-22680
.2211	5.616	GW-22110
.2187	5.556	GW-21875
.2187	5.555	GW-21870
.2185	5.550	GW-21850
.2165	5.500	GW-21653
.2150	5.461	GW-21500
.2130	5.410	GW-21300
.2080	5.283	GW-20800
.2066	5.250	GW-20669
.2041	5.184	GW-20410
.1984	5.039	GW-19840
.1968	5.000	GW-19685
.1875	4.763	GW-18750
.1866	4.741	GW-18666
.1851	4.702	GW-18510



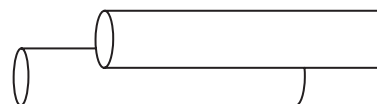
Misc.		
P ()	P (mm)	Series
.0787	2.000	GW-07874
.0787	2.000	GW-07873
.0785	1.994	GW-07850
.0708	1.800	GW-07087
.0688	1.750	GW-06889
.0668	1.698	GW-06684
.0665	1.689	GW-06650
.0650	1.651	GW-06500
.0640	1.626	GW-06400
.0590	1.500	GW-05906
.0576	1.463	GW-05760
.0550	1.397	GW-05500
.0520	1.321	GW-05200
.0511	1.300	GW-05118
.0510	1.295	GW-05100
.0504	1.280	GW-05040
.0500	1.270	GW-05000
.0492	1.250	GW-04921
.0472	1.200	GW-04724
.0430	1.092	GW-04300
.0411	1.045	GW-04114
.0410	1.041	GW-04100
.0408	1.036	GW-04080
.0393	1.000	GW-03937
.0356	.904	GW-03560
.0343	.873	GW-03437
.0340	.864	GW-03400
.0320	.815	GW-03207
.0314	.800	GW-03148
.0303	.777	GW-03036
.0267	.678	GW-02670
.0240	.611	GW-02406
.0213	.543	GW-02138
.0161	.410	GW-01614
.0144	.367	GW-01443

All wires shown in inch sizes

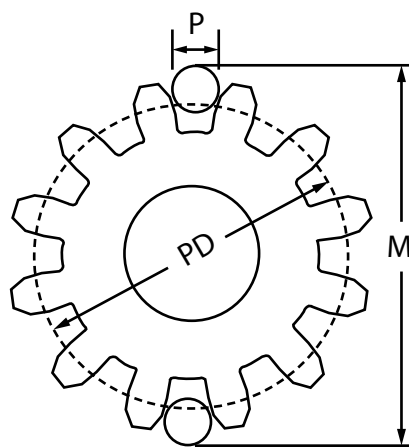
Misc.		
P ()	P (mm)	Series
.1771	4.500	GW-17717
.1745	4.432	GW-17450
.1700	4.320	GW-17007
.1673	4.250	GW-16732
.1670	4.242	GW-16700
.1643	4.174	GW-16434
.1574	4.000	GW-15748
.1562	3.967	GW-15620
.1530	3.888	GW-15307
.1512	3.840	GW-15120
.1496	3.800	GW-14960
.1488	3.780	GW-14880
.1476	3.750	GW-14764
.1378	3.500	GW-13780
.1375	3.493	GW-13750
.1370	3.480	GW-13700
.1361	3.457	GW-13610
.1337	3.396	GW-13370
.1323	3.360	GW-13230
.1279	3.250	GW-12795
.1250	3.175	GW-12500
.1236	3.139	GW-12360
.1230	3.124	GW-12300
.1181	3.000	GW-11811
.1120	2.845	GW-11200
.1100	2.794	GW-11000
.1093	2.778	GW-10938
.1083	2.751	GW-10830
.1082	2.750	GW-10826
.1066	2.708	GW-10660
.1043	2.650	GW-10433
.1027	2.609	GW-10271
.1020	2.591	GW-10200
.1016	2.581	GW-10160
.0984	2.500	GW-09843
.0945	2.400	GW-09450
.0938	2.383	GW-09380
.0925	2.350	GW-09250
.0916	2.327	GW-09160
.0890	2.261	GW-08900
.0885	2.250	GW-08858
.0881	2.240	GW-08818
.0860	2.184	GW-08600
.0850	2.159	GW-08500

GW Series

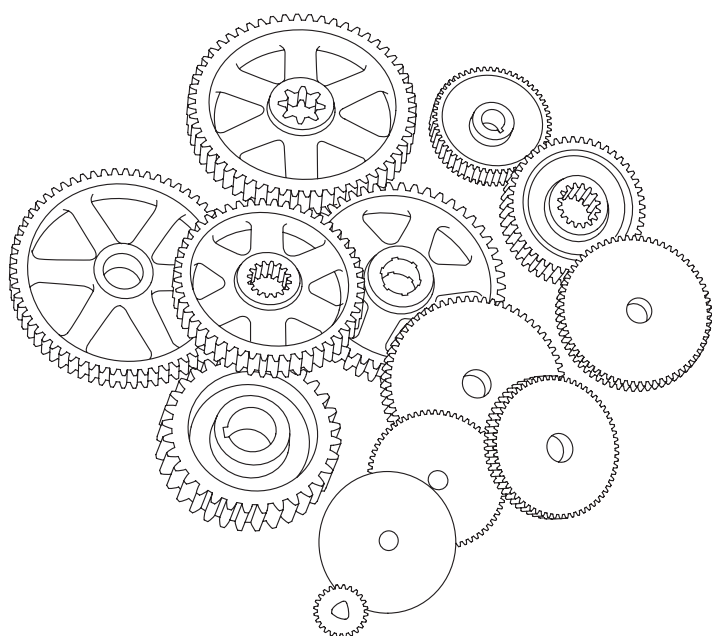
Miscellaneous Sizes
Gear Measuring Wires
XX Tolerance - Two wires per set



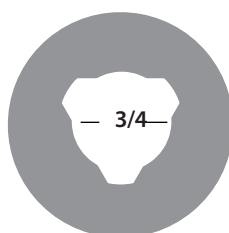
Wires sold is pairs only.



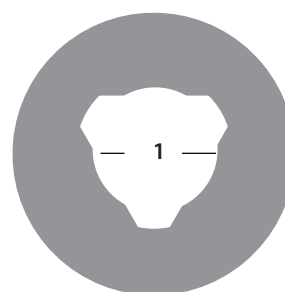
Change Gear Series Identification



Pitch	Bore	Series
20 DP	11/16 Bore	CG20
16 DP	3/4 Bore	CG16
12 DP	12 Spline	CG12
12 DP	1 Bore	CG12B
12 DP	1-1/4 Bore	CG12BL
10 DP	1-1/4 Bore	CG10
8 DP	1-3/8 Bore	CG8



Standard Tri-lobe

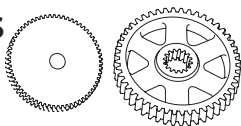


Large Tri-lobe

Pitch	Bore	Series
16 DP	Standard Tri-Lobe	CGT
16 DP	Large Tri-Lobe	CGBT

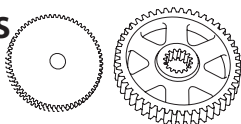


CG Series
8-12DP Sizes
Change Gears



# Teeth	8DP 14.5°PA 1.5 bore	10DP 14.5°PA 1.25 bore	10DP 14.5°PA .875 bore	10DP 20°PA 1.75 bore	10DP 20°PA 14 Spline bore	12DP 14.5°PA 12 Spline bore	12DP 14.5°PA 1 bore	12DP 14.5°PA 1.25 bore	12DP 14.5°PA .875 bore
18	-	-	CG10A-18	-	-	-	CG12B-18	-	CG12A-18
19	-	-	-	-	-	-	-	-	CG12A-19
20	-	CG10-20	CG10A-20	-	-	CG12-20	CG12B-20	-	CG12A-20
21	-	CG10-21	-	-	-	CG12-21	CG12B-21	-	CG12A-21
22	-	CG10-22	CG10A-22	-	-	CG12-22	CG12B-22	-	CG12A-22
23	-	CG10-23	-	-	-	CG12-23	CG12B-23	-	-
24	CG8-24	CG10-24	CG10A-24	-	-	CG12-24	CG12B-24	CG12BL-24	CG12A-24
25	-	CG10-25	CG10A-25	-	-	CG12-25	CG12B-25	CG12BL-25	CG12A-25
26	-	CG10-26	CG10A-26	-	-	CG12-26	CG12B-26	-	CG12A-26
27	-	CG10-27	CG10A-27	-	-	CG12-27	CG12B-27	CG12BL-27	-
28	-	CG10-28	CG10A-28	-	-	CG12-28	CG12B-28	CG12BL-28	CG12A-28
29	-	CG10-29	CG10A-29	-	-	CG12-29	CG12B-29	-	CG12A-29
30	-	CG10-30	-	-	CG14-30	CG12-30	CG12B-30	CG12BL-30	CG12A-30
31	-	CG10-31	-	-	-	CG12-31	CG12B-31	CG12BL-31	CG12A-31
32	CG8-32	CG10-32	CG10A-32	-	CG14-32	CG12-32	CG12B-32	CG12BL-32	CG12A-32
33	CG8-33	CG10-33	-	-	CG14-33	CG12-33	CG12B-33	CG12BL-33	CG12A-33
34	CG8-34	CG10-34	CG10A-34	-	-	CG12-34	CG12B-34	CG12BL-34	CG12A-34
35	CG8-35	CG10-35	-	-	CG14-35	CG12-35	CG12B-35	CG12BL-35	CG12A-35
36	-	CG10-36	CG10A-36	-	CG14-36	CG12-36	CG12B-36	CG12BL-36	CG12A-36
37	-	CG10-37	-	-	CG14-37	CG12-37	CG12B-37	CG12BL-37	CG12A-37
38	-	CG10-38	CG10A-38	-	CG14-38	CG12-38	CG12B-38	CG12BL-38	CG12A-38
39	-	CG10-39	-	-	CG14-39	CG12-39	CG12B-39	CG12BL-39	CG12A-39
40	CG8-40	CG10-40	-	-	CG14-40	CG12-40	CG12B-40	CG12BL-40	CG12A-40
41	CG8-41	CG10-41	-	-	CG14-41	CG12-41	CG12B-41	CG12BL-41	CG12A-41
42	CG8-42	CG10-42	-	-	CG14-42	CG12-42	CG12B-42	CG12BL-42	CG12A-42
43	CG8-43	CG10-43	-	-	CG14-43	CG12-43	CG12B-43	CG12BL-43	CG12A-43
44	CG8-44	CG10-44	-	-	CG14-44	CG12-44	CG12B-44	CG12BL-44	CG12A-44
45	CG8-45	CG10-45	-	-	CG14-45	CG12-45	CG12B-45	CG12BL-45	CG12A-45
46	CG8-46	CG10-46	-	-	CG14-46	CG12-46	CG12B-46	CG12BL-46	CG12A-46
47	CG8-47	CG10-47	-	-	CG14-47	CG12-47	CG12B-47	CG12BL-47	CG12A-47
48	CG8-48	CG10-48	-	-	CG14-48	CG12-48	CG12B-48	CG12BL-48	CG12A-48
49	CG8-49	CG10-49	-	-	CG14-49	CG12-49	CG12B-49	CG12BL-49	CG12A-49
50	CG8-50	CG10-50	-	CG10BL-50	CG14-50	CG12-50	CG12B-50	CG12BL-50	CG12A-50
51	CG8-51	CG10-51	-	CG10BL-51	CG14-51	CG12-51	CG12B-51	CG12BL-51	CG12A-51
52	CG8-52	CG10-52	-	-	CG14-52	CG12-52	CG12B-52	CG12BL-52	CG12A-52
53	CG8-53	CG10-53	-	-	CG14-53	CG12-53	CG12B-53	CG12BL-53	CG12A-53
54	CG8-54	CG10-54	-	-	CG14-54	CG12-54	CG12B-54	CG12BL-54	CG12A-54
55	CG8-55	CG10-55	-	-	CG14-55	CG12-55	CG12B-55	CG12BL-55	-
56	CG8-56	CG10-56	-	-	CG14-56	CG12-56	CG12B-56	CG12BL-56	-
57	CG8-57	CG10-57	-	-	CG14-57	CG12-57	CG12B-57	CG12BL-57	-
58	CG8-58	CG10-58	-	-	CG14-58	CG12-58	CG12B-58	CG12BL-58	CG12A-58
59	CG8-59	CG10-59	-	-	CG14-59	CG12-59	CG12B-59	CG12BL-59	-
60	CG8-60	CG10-60	-	-	CG14-60	CG12-60	CG12B-60	CG12BL-60	-
61	CG8-61	CG10-61	-	CG10BL-61	CG14-61	CG12-61	CG12B-61	CG12BL-61	-
62	CG8-62	CG10-62	-	-	CG14-62	CG12-62	CG12B-62	CG12BL-62	-
63	CG8-63	CG10-63	-	-	CG14-63	CG12-63	CG12B-63	CG12BL-63	-
64	CG8-64	CG10-64	-	-	CG14-64	CG12-64	CG12B-64	CG12BL-64	-
65	CG8-65	CG10-65	-	-	CG14-65	CG12-65	CG12B-65	CG12BL-65	-

SERIES CONTINUED ON NEXT PAGE ->

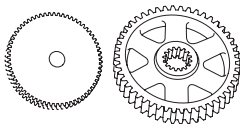

CG Series
 8-12 DP Sizes
 Change Gears


# Teeth	8DP 14.5°PA 1.5 bore	10DP 14.5°PA 1.25 bore	10DP 14.5°PA .875 bore	10DP 20°PA 1.75 bore	10DP 20°PA 14 Spline bore	12DP 14.5°PA 12 Spline bore	12DP 14.5°PA 1 bore	12DP 14.5°PA 1.25 bore	12DP 14.5°PA .875 bore
66	CG8-66	CG10-66	-	CG10BL-66	CG14-66	CG12-66	CG12B-66	CG12BL-66	-
67	CG8-67	CG10-67	-	-	CG14-67	CG12-67	CG12B-67	CG12BL-67	-
68	CG8-68	CG10-68	-	-	CG14-68	CG12-68	CG12B-68	CG12BL-68	-
69	CG8-69	CG10-69	-	-	CG14-69	CG12-69	CG12B-69	CG12BL-69	-
70	CG8-70	CG10-70	-	-	CG14-70	CG12-70	CG12B-70	CG12BL-70	-
71	CG8-71	CG10-71	-	-	CG14-71	CG12-71	CG12B-71	CG12BL-71	-
72	CG8-72	CG10-72	-	CG10BL-72	CG14-72	CG12-72	CG12B-72	CG12BL-72	-
73	-	CG10-73	-	-	CG14-73	CG12-73	CG12B-73	CG12BL-73	-
74	-	CG10-74	-	-	CG14-74	CG12-74	CG12B-74	CG12BL-74	-
75	-	CG10-75	-	-	CG14-75	CG12-75	CG12B-75	CG12BL-75	-
76	CG8-76	CG10-76	-	-	-	CG12-76	CG12B-76	CG12BL-76	-
77	-	CG10-77	-	-	CG14-77	CG12-77	CG12B-77	CG12BL-77	-
78	CG8-78	CG10-78	-	-	-	CG12-78	CG12B-78	CG12BL-78	-
79	-	CG10-79	-	-	-	CG12-79	CG12B-79	CG12BL-79	-
80	CG8-80	CG10-80	-	-	-	CG12-80	CG12B-80	CG12BL-80	-
81	-	CG10-81	-	-	-	CG12-81	CG12B-81	CG12BL-81	-
82	-	CG10-82	-	-	-	CG12-82	CG12B-82	CG12BL-82	-
83	-	CG10-83	-	CG10BL-83	-	CG12-83	CG12B-83	CG12BL-83	-
84	-	CG10-84	-	CG10BL-84	-	CG12-84	CG12B-84	CG12BL-84	-
85	CG8-85	CG10-85	-	-	-	CG12-85	CG12B-85	CG12BL-85	-
86	CG8-86	CG10-86	-	-	-	CG12-86	CG12B-86	CG12BL-86	-
87	CG8-87	CG10-87	-	-	CG14-87	CG12-87	CG12B-87	CG12BL-87	-
88	CG8-88	CG10-88	-	-	-	CG12-88	CG12B-88	CG12BL-88	-
89	-	CG10-89	-	-	-	CG12-89	CG12B-89	CG12BL-89	-
90	-	CG10-90	-	-	-	CG12-90	CG12B-90	CG12BL-90	-
91	-	CG10-91	-	-	-	CG12-91	CG12B-91	CG12BL-91	-
92	CG8-92	CG10-92	-	-	-	CG12-92	CG12B-92	CG12BL-92	-
93	CG8-93	CG10-93	-	-	-	CG12-93	CG12B-93	CG12BL-93	-
94	CG8-94	CG10-94	-	-	-	CG12-94	CG12B-94	CG12BL-94	-
95	CG8-95	CG10-95	-	-	CG14-95	CG12-95	-	-	-
96	-	CG10-96	-	-	-	CG12-96	CG12B-96	CG12BL-96	-
97	-	CG10-97	-	-	-	CG12-97	CG12B-97	CG12BL-97	-
98	-	CG10-98	-	-	-	CG12-98	-	CG12BL-98	-
99	CG8-99	CG10-99	-	-	CG14-99	CG12-99	CG12B-99	-	-
100	CG8-100	CG10-100	-	-	-	CG12-100	-	-	-
101	-	CG10-101	-	-	-	CG12-101	-	CG12BL-101	-
102	-	CG10-102	-	-	-	CG12-102	-	CG12BL-102	-
103	-	CG10-103	-	-	-	CG12-103	-	CG12BL-103	-
104	-	CG10-104	-	-	-	CG12-104	-	CG12BL-104	-
105	-	CG10-105	-	-	-	CG12-105	-	CG12BL-105	-
106	-	CG10-106	-	-	-	CG12-106	-	CG12BL-106	-
107	-	CG10-107	-	-	-	CG12-107	-	CG12BL-107	-
108	-	CG10-108	-	-	-	CG12-108	-	CG12BL-108	-
109	-	-	-	-	-	CG12-109	-	CG12BL-109	-
110	-	-	-	-	-	CG12-110	-	CG12BL-110	-
111	-	-	-	-	-	CG12-111	-	CG12BL-111	-
112	-	CG10-112	-	-	-	CG12-112	-	CG12BL-112	-
113	-	CG10-113	-	-	-	CG12-113	-	CG12BL-113	-

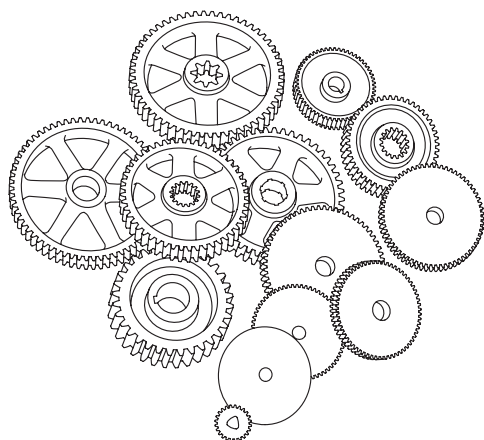
SERIES CONTINUED ON NEXT PAGE ->



CG Series
8-12 DP Sizes
Change Gears



# Teeth	8DP 14.5°PA 1.5 bore	10DP 14.5°PA 1.25 bore	10DP 14.5°PA .875 bore	10DP 20°PA 1.75 bore	10DP 20°PA 14 Spline bore	12DP 14.5°PA 12 Spline bore	12DP 14.5°PA 1 bore	12DP 14.5°PA 1.25 bore	12DP 14.5°PA .875 bore
114	-	-	-	-	-	CG12-114	-	-	-
115	-	-	-	-	-	CG12-115	-	-	-
116	-	-	-	-	-	-	-	-	-
117	-	-	-	-	-	CG12-117	-	-	-
118	-	-	-	-	-	-	-	-	-
119	-	CG10-119	-	-	-	CG12-119	-	-	-
120	-	CG10-120	-	-	-	-	-	CG12BL-120	-
121	-	-	-	-	-	-	-	-	-
122	-	-	-	-	-	-	-	-	-
123	-	-	-	-	-	-	-	-	-
124	-	-	-	-	-	-	-	CG12BL-124	-
125	-	-	-	-	-	-	-	-	-
126	-	-	-	-	-	-	-	-	-
127	-	-	-	-	-	CG12-127	-	-	-
128	-	-	-	-	-	-	-	-	-
129	-	-	-	-	-	-	-	-	-
130	-	-	-	-	-	-	-	-	-
131	-	-	-	-	-	-	-	-	-
132	-	-	-	-	-	-	-	CG12BL-132	-
133	-	-	-	-	-	CG12-133	-	-	-

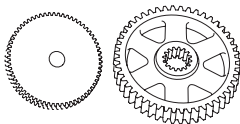


DP	Bore	Series
20 DP	11/16 Bore	CG20
16 DP	3/4 Bore	CG16
12 DP	12 Spline	CG12
12 DP	1 Bore	CG12B
12 DP	1-1/4 Bore	CG12BL
10 DP	1-1/4 Bore	CG10
8 DP	1-3/8 Bore	CG8



CG Series

16-24 DP & Mod Sizes
Change Gears

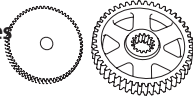


# Teeth	16DP 14.5°PA .75 bore	16DP 14.5°PA .875 bore	18DP 20°PA .875 bore	20DP 14.5°PA .6875 Bore	20DP 14.5°PA 12 Spline bore	24DP 14.5°PA .625 bore	2Mod 20°PA 28mm D-bore	1.75Mod 20°PA 26mm D-bore
18	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-
20	CG16-020	-	-	-	-	-	CG2M-20	CG175M-20
21	CG16-021	-	-	CG20-21	-	-	-	CG175M-21
22	CG16-022	-	-	CG20-22	CG1220-22	-	-	-
23	CG16-023	-	-	CG20-23	-	-	-	CG175M-23
24	CG16-024	-	-	CG20-24	CG1220-24	CG24-24	CG2M-24	CG175M-24
25	CG16-025	-	-	CG20-25	-	CG24-25	-	CG175M-25
26	CG16-026	-	-	CG20-26	CG1220-26	CG24-26	-	CG175M-26
27	CG16-027	-	-	CG20-27	-	-	-	CG175M-27
28	CG16-028	-	-	CG20-28	-	CG24-28	-	CG175M-28
29	CG16-029	-	-	CG20-29	-	-	-	CG175M-29
30	CG16-030	-	-	CG20-30	CG1220-30	CG24-30	CG2M-30	CG175M-30
31	CG16-031	-	-	CG20-31	CG1220-31	CG24-31	-	CG175M-31
32	CG16-032	CG16B-32	-	CG20-32	CG1220-32	CG24-32	-	CG175M-32
33	CG16-033	-	-	CG20-33	CG1220-33	CG24-33	-	CG175M-33
34	CG16-034	CG16B-34	-	CG20-34	CG1220-34	CG24-34	-	CG175M-34
35	CG16-035	CG16B-35	-	CG20-35	CG1220-35	CG24-35	-	CG175M-35
36	CG16-036	CG16B-36	CG18-36	CG20-36	CG1220-36	CG24-36	-	CG175M-36
37	CG16-037	CG16B-37	-	CG20-37	CG1220-37	CG24-37	-	CG175M-37
38	CG16-038	CG16B-38	-	CG20-38	CG1220-38	CG24-38	-	CG175M-38
39	CG16-039	-	CG18-39	CG20-39	CG1220-39	CG24-39	-	CG175M-39
40	CG16-040	CG16B-40	-	CG20-40	CG1220-40	CG24-40	CG2M-40	CG175M-40
41	CG16-041	-	-	CG20-41	CG1220-41	CG24-41	CG2M-41	CG175M-41
42	CG16-042	CG16B-42	CG18-42	CG20-42	CG1220-42	CG24-42	CG2M-42	CG175M-42
43	CG16-043	-	-	CG20-43	CG1220-43	CG24-43	CG2M-43	CG175M-43
44	CG16-044	-	-	CG20-44	CG1220-44	CG24-44	CG2M-44	CG175M-44
45	CG16-045	-	-	CG20-45	CG1220-45	CG24-45	CG2M-45	CG175M-45
46	CG16-046	CG16B-46	-	CG20-46	CG1220-46	CG24-46	CG2M-46	CG175M-46
47	CG16-047	-	-	CG20-47	CG1220-47	CG24-47	CG2M-47	CG175M-47
48	CG16-048	CG16B-48	-	CG20-48	CG1220-48	CG24-48	CG2M-48	CG175M-48
49	CG16-049	-	-	CG20-49	CG1220-49	CG24-49	CG2M-49	CG175M-49
50	CG16-050	-	-	CG20-50	CG1220-50	CG24-50	CG2M-50	CG175M-50
51	CG16-051	-	-	CG20-51	CG1220-51	CG24-51	CG2M-51	CG175M-51
52	CG16-052	CG16B-52	-	CG20-52	CG1220-52	CG24-52	CG2M-52	CG175M-52
53	CG16-053	CG16B-53	-	CG20-53	CG1220-53	CG24-53	CG2M-53	CG175M-53
54	CG16-054	CG16B-54	-	CG20-54	CG1220-54	CG24-54	CG2M-54	CG175M-54
55	CG16-055	CG16B-55	-	CG20-55	CG1220-55	CG24-55	CG2M-55	CG175M-55
56	CG16-056	CG16B-56	-	CG20-56	CG1220-56	CG24-56	CG2M-56	CG175M-56
57	CG16-057	CG16B-57	-	CG20-57	CG1220-57	CG24-57	CG2M-57	CG175M-57

SERIES CONTINUED ON NEXT PAGE ->



CG Series
16-24 DP & Mod Sizes
Change Gears



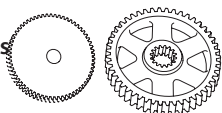
# Teeth	16DP 14.5°PA .75 bore	16DP 14.5°PA .875 bore	18DP 20°PA .875 bore	20DP 14.5°PA .6875 Bore	20DP 14.5°PA 12 Spline bore	24DP 14.5°PA .625 bore	2Mod 20°PA 28mm D-bore	1.75Mod 20°PA 26mm D-bore
58	CG16-058	CG16B-58	-	CG20-58	CG1220-58	CG24-58	CG2M-58	CG175M-58
59	CG16-059	CG16B-59	-	CG20-59	CG1220-59	CG24-59	CG2M-59	CG175M-59
60	CG16-060	CG16B-60	-	CG20-60	CG1220-60	CG24-60	CG2M-60	CG175M-60
61	CG16-061	CG16B-61	-	CG20-61	CG1220-61	CG24-61	CG2M-61	CG175M-61
62	CG16-062	CG16B-62	-	CG20-62	CG1220-62	CG24-62	CG2M-62	CG175M-62
63	CG16-063	CG16B-63	-	CG20-63	CG1220-63	CG24-63	CG2M-63	CG175M-63
64	CG16-064	CG16B-64	-	CG20-64	CG1220-64	CG24-64	CG2M-64	CG175M-64
65	CG16-065	CG16B-65	CG18-65	CG20-65	CG1220-65	CG24-65	CG2M-65	CG175M-65
66	CG16-066	CG16B-66	-	CG20-66	CG1220-66	CG24-66	CG2M-66	CG175M-66
67	CG16-067	CG16B-67	-	CG20-67	CG1220-67	CG24-67	CG2M-67	CG175M-67
68	CG16-068	CG16B-68	-	CG20-68	CG1220-68	CG24-68	CG2M-68	CG175M-68
69	CG16-069	CG16B-69	-	CG20-69	CG1220-69	-	CG2M-69	CG175M-69
70	CG16-070	CG16B-70	CG18-70	CG20-70	CG1220-70	CG24-70	CG2M-70	CG175M-70
71	CG16-071	CG16B-71	CG18-71	CG20-71	CG1220-71	-	CG2M-71	CG175M-71
72	CG16-072	CG16B-72	CG18-72	CG20-72	CG1220-72	CG24-72	CG2M-72	CG175M-72
73	CG16-073	-	CG18-73	CG20-73	CG1220-73	-	CG2M-73	CG175M-73
74	CG16-074	-	CG18-74	CG20-74	CG1220-74	CG24-74	CG2M-74	CG175M-74
75	CG16-075	-	CG18-75	CG20-75	CG1220-75	-	CG2M-75	CG175M-75
76	CG16-076	-	CG18-76	CG20-76	CG1220-76	CG24-76	CG2M-76	CG175M-76
77	CG16-077	-	CG18-77	CG20-77	CG1220-77	-	CG2M-77	CG175M-77
78	CG16-078	CG16B-78	CG18-78	CG20-78	CG1220-78	-	CG2M-78	CG175M-78
79	CG16-079	-	CG18-79	CG20-79	CG1220-79	-	CG2M-79	-
80	CG16-080	-	CG18-80	CG20-80	CG1220-80	-	CG2M-80	-
81	CG16-081	-	CG18-81	CG20-81	CG1220-81	-	CG2M-81	-
82	CG16-082	-	CG18-82	CG20-82	CG1220-82	-	CG2M-82	-
83	CG16-083	-	CG18-83	CG20-83	CG1220-83	-	CG2M-83	-
84	CG16-084	CG16B-84	CG18-84	CG20-84	CG1220-84	-	CG2M-84	-
85	CG16-085	-	CG18-85	CG20-85	CG1220-85	-	CG2M-85	-
86	CG16-086	-	CG18-86	CG20-86	CG1220-86	-	CG2M-86	-
87	CG16-087	-	CG18-87	CG20-87	CG1220-87	-	-	-
88	CG16-088	-	CG18-88	CG20-88	CG1220-88	-	-	-
89	CG16-089	-	CG18-89	CG20-89	CG1220-89	-	CG2M-89	-
90	CG16-090	CG16B-90	CG18-90	CG20-90	CG1220-90	-	-	-
91	CG16-091	-	CG18-91	CG20-91	CG1220-91	-	-	-
92	CG16-092	-	CG18-92	CG20-92	CG1220-92	-	-	-
93	CG16-093	-	CG18-93	CG20-93	CG1220-93	-	-	-
94	CG16-094	-	CG18-94	CG20-94	CG1220-94	-	CG2M-94	-
95	CG16-095	-	CG18-95	CG20-95	CG1220-95	-	-	-
96	CG16-096	CG16B-96	CG18-96	CG20-96	CG1220-96	-	CG2M-96	CG175M-96
97	CG16-097	-	CG18-97	CG20-97	CG1220-97	-	CG2M-97	-
98	CG16-098	-	CG18-98	CG20-98	CG1220-98	-	-	-

SERIES CONTINUED ON NEXT PAGE ->



CG Series

16-24 DP & Mod Sizes
Change Gears

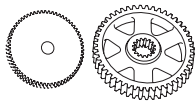


# Teeth	16DP 14.5°PA .75 bore	16DP 14.5°PA .875 bore	18DP 20°PA .875 bore	20DP 14.5°PA .6875 Bore	20DP 14.5°PA 12 Spline bore	24DP 14.5°PA .625 bore	2Mod 20°PA 28mm D-bore	1.75Mod 20°PA 26mm D-bore
99	CG16-099	-	CG18-99	CG20-99	CG1220-99	-	-	-
100	CG16-100	-	CG18-100	CG20-100	CG1220-100	-	-	-
101	-	-	CG18-101	-	CG1220-101	-	-	-
102	CG16-102	-	CG18-102	-	CG1220-102	-	-	-
103	CG16-103	-	CG18-103	CG20-103	CG1220-103	-	-	-
104	CG16-104	-	CG18-104	-	CG1220-104	-	-	-
105	CG16-105	-	CG18-105	-	CG1220-105	-	-	-
106	CG16-106	-	-	-	CG1220-106	-	-	-
107	CG16-107	-	-	-	CG1220-107	-	-	-
108	-	-	-	-	CG1220-108	-	-	-
109	CG16-109	-	-	-	CG1220-109	-	-	-
110	CG16-110	-	CG18-110	-	CG1220-110	-	-	-
111	CG16-111	-	-	-	CG1220-111	-	-	-
112	CG16-112	-	-	-	CG1220-112	-	-	-
113	CG16-113	-	-	CG20-113	CG1220-113	-	-	-
114	CG16-114	-	-	-	CG1220-114	-	-	-
115	CG16-115	-	-	CG20-115	CG1220-115	-	-	-
116	CG16-116	-	-	-	CG1220-116	-	-	-
117	CG16-117	-	-	-	-	-	-	-
118	CG16-118	-	-	-	-	-	-	-
119	CG16-119	-	-	-	-	-	-	-
120	CG16-120	-	-	CG20-120	CG1220-120	-	-	-
121	-	-	-	-	-	-	-	-
122	CG16-122	-	-	-	-	-	-	-
123	CG16-123	-	-	-	-	-	-	-
124	CG16-124	-	-	-	-	-	-	-
125	CG16-125	-	-	-	-	-	-	-
126	-	-	-	-	-	-	-	-
127	-	-	-	-	-	-	-	-
128	-	-	-	-	CG1220-128	-	-	-
129	-	-	-	-	-	-	-	-
130	-	-	CG18-130	-	-	-	-	-
131	CG16-131	-	-	-	-	-	-	-
132	-	-	-	-	-	-	-	-
133	-	-	-	-	-	-	-	-
134	-	-	-	-	-	-	-	-
135	-	-	-	-	-	-	-	-
136	-	-	-	-	-	-	-	-
137	-	-	-	-	-	-	-	-
138	-	-	-	-	-	-	-	-
139	-	-	-	-	-	-	-	-

SERIES CONTINUED ON NEXT PAGE ->



CG Series
16-24 DP & Mod Sizes
Change Gears

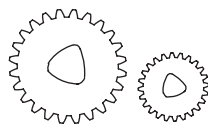


# Teeth	16DP 14.5°PA .75 bore	16DP 14.5°PA .875 bore	18DP 20°PA .875 bore	20DP 14.5°PA .6875 Bore	20DP 14.5°PA 12 Spline bore	24DP 14.5°PA .625 bore	2Mod 20°PA 28mm D-bore	1.75Mod 20°PA 26mm D-bore
140	-	-	-	-	-	-	-	-
141	-	-	-	-	-	-	-	-
142	-	-	-	-	-	-	-	-
143	-	-	-	-	-	-	-	-
144	CG16-144	-	-	-	-	-	-	-
145	-	-	-	-	-	-	-	-
146	-	-	-	CG20-146	-	-	-	-
147	-	-	-	-	-	-	-	-
148	-	-	-	-	-	-	-	-
149	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-
151	CG16-151	-	-	-	-	-	-	-
152	-	-	-	-	-	-	-	-
153	-	-	-	-	-	-	-	-
154	-	-	-	-	-	-	-	-
155	-	-	-	-	-	-	-	-
156	-	-	-	-	-	-	-	-
157	CG16-157	-	-	-	-	-	-	-
158	-	-	-	-	-	-	-	-
159	-	-	-	-	-	-	-	-
160	-	-	-	-	-	-	-	-
161	-	-	-	-	-	-	-	-
162	-	-	-	-	-	-	-	-
163	CG16-163	-	-	-	-	-	-	-



CGT, CGB10 & CGBT Series

Fellows Tri-Lobe Change Gears

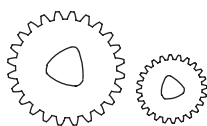


# Teeth	16DP 15.3°PA Tri-Lobe	16DP 15.3°PA Large Tri-Lobe	10DP 20°PA Large Tri-Lobe	# Teeth	16DP 15.3°PA Tri-Lobe	16DP 15.3°PA Large Tri-Lobe	10DP 20°PA Large Tri-Lobe
17	CGT-017	-	-	57	CGT-057	CGBT-057	-
18	CGT-018	-	-	58	CGT-058	CGBT-058	-
19	CGT-019	-	-	59	CGT-059	CGBT-059	CGB10-59
20	CGT-020	-	-	60	CGT-060	CGBT-060	CGB10-60
21	CGT-021	-	-	61	CGT-061	CGBT-061	CGB10-61
22	CGT-022	-	-	62	CGT-062	CGBT-062	CGB10-62
23	CGT-023	-	-	63	CGT-063	CGBT-063	CGB10-63
24	CGT-024	CGBT-024	-	64	CGT-064	CGBT-064	CGB10-64
25	CGT-025	CGBT-025	-	65	CGT-065	CGBT-065	CGB10-65
26	CGT-026	CGBT-026	-	66	CGT-066	CGBT-066	CGB10-66
27	CGT-027	CGBT-027	-	67	CGT-067	CGBT-067	CGB10-67
28	CGT-028	CGBT-028	-	68	CGT-068	CGBT-068	CGB10-68
29	CGT-029	CGBT-029	-	69	CGT-069	CGBT-069	CGB10-69
30	CGT-030	CGBT-030	-	70	CGT-070	CGBT-070	CGB10-70
31	CGT-031	CGBT-031	-	71	CGT-071	CGBT-071	CGB10-71
32	CGT-032	CGBT-032	-	72	CGT-072	CGBT-072	CGB10-72
33	CGT-033	CGBT-033	-	73	CGT-073	CGBT-073	CGB10-73
34	CGT-034	CGBT-034	-	74	CGT-074	CGBT-074	CGB10-74
35	CGT-035	CGBT-035	-	75	CGT-075	CGBT-075	CGB10-75
36	CGT-036	CGBT-036	-	76	CGT-076	CGBT-076	CGB10-76
37	CGT-037	CGBT-037	-	77	CGT-077	CGBT-077	CGB10-77
38	CGT-038	CGBT-038	-	78	CGT-078	CGBT-078	CGB10-78
39	CGT-039	CGBT-039	-	79	CGT-079	CGBT-079	CGB10-79
40	CGT-040	CGBT-040	-	80	CGT-080	CGBT-080	CGB10-80
41	CGT-041	CGBT-041	-	81	CGT-081	CGBT-081	CGB10-81
42	CGT-042	CGBT-042	-	82	CGT-082	CGBT-082	CGB10-82
43	CGT-043	CGBT-043	-	83	CGT-083	CGBT-083	CGB10-83
44	CGT-044	CGBT-044	CGB10-44	84	CGT-084	CGBT-084	-
45	CGT-045	CGBT-045	CGB10-45	85	CGT-085	CGBT-085	CGB10-85
46	CGT-046	CGBT-046	-	86	CGT-086	CGBT-086	-
47	CGT-047	CGBT-047	-	87	CGT-087	CGBT-087	-
48	CGT-048	CGBT-048	CGB10-48	88	CGT-088	CGBT-088	CGB10-88
49	CGT-049	CGBT-049	-	89	CGT-089	CGBT-089	-
50	CGT-050	CGBT-050	-	90	CGT-090	CGBT-090	-
51	CGT-051	CGBT-051	-	91	CGT-091	CGBT-091	-
52	CGT-052	CGBT-052	-	92	CGT-092	CGBT-092	-
53	CGT-053	CGBT-053	-	93	CGT-093	CGBT-093	-
54	CGT-054	CGBT-054	CGB10-54	94	CGT-094	CGBT-094	-
55	CGT-055	CGBT-055	-	95	CGT-095	CGBT-095	-
56	CGT-056	CGBT-056	-	96	CGT-096	CGBT-096	-



CGT, CGB10 & CGBT Series

Fellows Tri-Lobe Change Gears

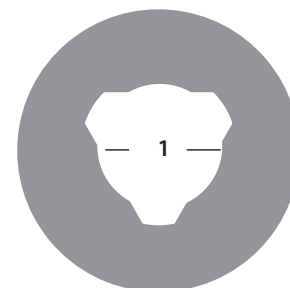


# Teeth	16DP 15.3°PA Tri-Lobe	16DP 15.3°PA Large Tri-Lobe	10DP 20°PA Large Tri-Lobe
97	CGT-097	CGBT-097	-
98	CGT-098	CGBT-098	-
99	CGT-099	CGBT-099	-
100	CGT-100	CGBT-100	-
101	CGT-101	CGBT-101	-
102	CGT-102	CGBT-102	-
103	CGT-103	CGBT-103	-
104	CGT-104	CGBT-104	-
105	CGT-105	CGBT-105	-
106	CGT-106	CGBT-106	-
107	CGT-107	CGBT-107	-
108	CGT-108	CGBT-108	-
109	CGT-109	CGBT-109	-
110	CGT-110	CGBT-110	-
111	CGT-111	CGBT-111	-
112	CGT-112	CGBT-112	-
113	CGT-113	CGBT-113	-
114	CGT-114	CGBT-114	-
115	CGT-115	CGBT-115	-
116	CGT-116	CGBT-116	-
117	CGT-117	CGBT-117	-
118	CGT-118	CGBT-118	-
119	CGT-119	CGBT-119	-
120	CGT-120	CGBT-120	-
121	CGT-121	CGBT-121	-
122	CGT-122	CGBT-122	-
123	CGT-123	CGBT-123	-
124	CGT-124	CGBT-124	-
125	CGT-125	CGBT-125	-
126	CGT-126	CGBT-126	-
127	CGT-127	CGBT-127	-
128	CGT-128	CGBT-128	-
129	CGT-129	CGBT-129	-
130	CGT-130	CGBT-130	-
131	CGT-131	CGBT-131	-
132	CGT-132	CGBT-132	-
133	CGT-133	-	-
134	CGT-134	-	-
135	CGT-135	-	-
136	CGT-136	-	-

# Teeth	16DP 15.3°PA Tri-Lobe	16DP 15.3°PA Large Tri-Lobe	10DP 20°PA Large Tri-Lobe
137	CGT-137	-	-
138	CGT-138	-	-
139	CGT-139	-	-
140	CGT-140	-	-
141	CGT-141	-	-
142	CGT-142	-	-
143	CGT-143	-	-
144	CGT-144	CGBT-144	-
145	-	-	-
146	-	-	-
147	CGT-147	-	-
148	-	-	-
149	CGT-149	-	-
150	-	-	-
151	CGT-151	-	-



Standard Tri-lobe



Large Tri-lobe

GCP4 Gear Calculation Program

GCP4 calculates your gear data even when you have a limited amount of information.

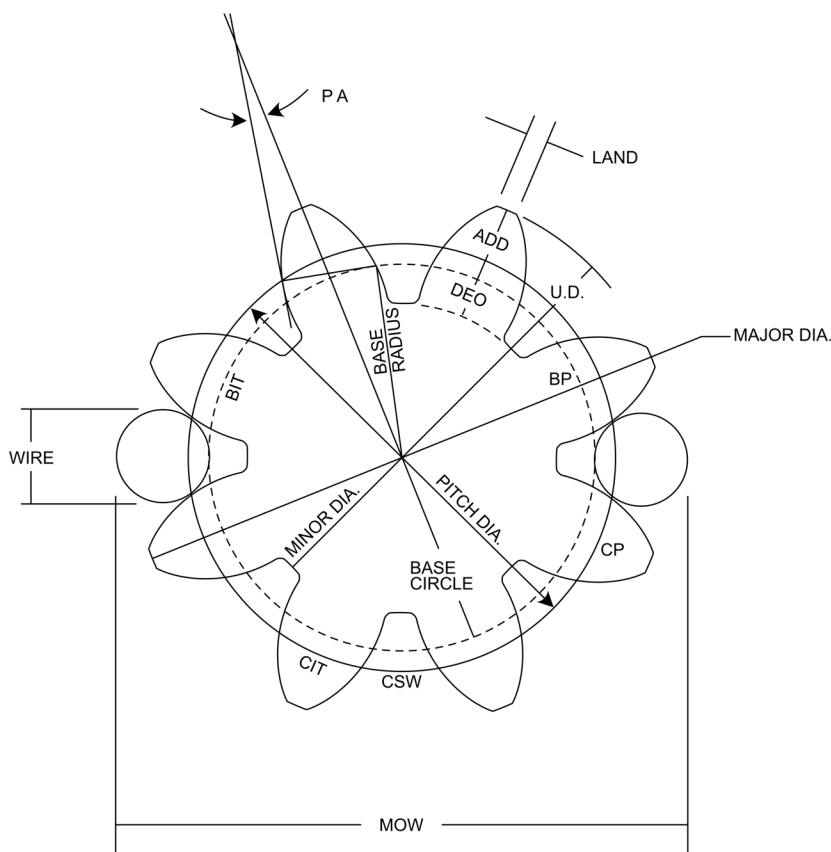
Choose From 17 Different AGMA Standard Depth Systems

GCP4 is a seven program package for use with:

- Internal Spur
- External Spur
- Helical Gears
- Worm Gears
- Rack & Worms
- Straight sided splines
- 30°, 37.5°, 45°, PA, involute Splines, DIN, ANSI, Standard & Non Standard, Long Addendum, and Short Addendum.

All the GCP4 programs share a common trait, field integration.

All the GCP4 programs share a common trait, field integration. Data fields are updated when a related field is modified. For example, if on the External Spur Gear Screen the PD. is moved down the tooth from 3" to 2.95" the fields for pressure angle and tooth thickness are updated to the values for the new PD., (other related fields are also updated).



GCP4 Calculates Data For

- Pitch, including Module Diametral & Circular
 - Pressure angle at PD.
 - Major
 - Minor
 - Addendum
 - Dedendum
- Tooth thickness - Circular and Chordal
 - MOW/MBW - for any wire diameter
 - And much, much more.

CPC-24 – BEVEL GENERATOR SETUP SOFTWARE

This setup program is for Gleason No's. 12, 14, & 24 Machine. These machines use two planer-style cutters having specified rack form PA and point width. Setup includes A & B dial settings for pattern control.

CPC-24 features:

- Accepts angular sets where shaft angle is not 90°.
- Suggests correct long (pinion) & short (gear) addendums to control undercut.
- Determines balanced tooth strength by suggesting best tooth thicknesses.
- Saves setup history to an internal database. Allows rerunning an old setup at any time.
- May be configured to keep track of change gears and cutters for each of your machines separately. Useful for tooling inventory control.
- Or may be used for a single machine.
- No graphs, tables, or calculator necessary to produce summary results.
- Complete dimension sheet and machine setup can be reviewed on screen and printed out for use at machine.
- Complete with on-line context sensitive help.



CPC-2A – CONIFLEX STRAIGHT BEVEL GENERATOR

This setup program is for a Gleason # 2A Coniflex machine. The 2A machine uses rotary milling-style cutters and is typically used to cut 10NDP or finer gears. Very productive, fast floor-to-floor times.

CPC-2A Features:

- Calculates gear dimensions, angles, tooth proportions, and all machine setup data ready for the shop floor.
- Handles angular gear sets.
- Provides formate cutting option. Can be useful at large shaft angles.
- Suggests correct long (pinion) & short (gear) addendums to control undercut.
- Determines balanced tooth strength by suggesting best tooth thicknesses.
- Saves setup history to an internal database with one click. You can rerun an old setup at any time.
- Automatically directs you to extra-depth feed cam only when necessary.
- Does not require tables, graphs, or calculator. Fully self contained.
- Complete with on-line context sensitive help.

CPC-26 – SPIRAL BEVEL GENERATOR

This setup program is for Gleason # 26 spiral bevel machine. The basic # 26 may be used in several processes: roughing, finishing, grinding, production, and in jobber (Small Job Fixed Blade) Mode. High production requires the fixed-blade setup method which requires special cutters/bodies specific to the job.

CPC-26 Features:

- Produces setups for the jobber (SJFB) method only. An SJFB setup requires each member to be machine mounted and cut twice. This is quite acceptable for small lots and is actually Gleason's recommendation to control contact pattern and profile bearing. Because of its ability to use your tooling cutters to cover a range of pitches and ratios, the # 26 machine is ideally suited for small job lots and the SJFB method.
- Suggests best tooth proportions. You alter to suit your design.
- Handles angular gear sets. You specify the shaft angle.
- Lets you make tooling choices from suggested optimum selections. Displays all possible choices based on your tooling inventory.
- Print out complete machine setup for roughing and finishing, including all machine settings and change gears.
- Any setup can be saved to and retrieved from database.
- Accurate first-time setups are produced quickly to help you make small lot sizes profitable.
- Warns you whenever a potential problem could occur. Permits you to continue if not critical, or allows you to alter your inputs.
- So far, field trials have demonstrated that bias settings and re-cutting have been unnecessary.
- Bias settings are provided, just in case. You control the work test roll bias amount. Complete with on-line

CPC-HOB - For all gear hobbing machines

CPC-HOB is a simple and painless way to set up all types of gear hobbers. You select a machine, enter gear specs and CPC-HOB creates a complete set of change gears - for differential or non-differential machines. You easily control table feed. Easily sets up machines without differentials to cut helical gears.

CPC-HOB features:

- Maintains a customized list of your hobbing machines. Enter machine constants once and only once. If you have difficulty finding out what your hob machine constants are, we can do it for you. This is the only time you need to consider what a machine constant is!
- Works for all gear hobbing machines: with differential, without differential, dial feed, or tangential feed. Helical or spur, prime or not.
- Change gear inventories may be customized for each machine.
- Enter a min. and max. size and enter missing sizes to be excluded from change gear sets.
- When you start a setup, simply select a machine from the machine list, enter your gear specs and suggest a table feed. CPC-HOB does the rest.
- Enter your gear data as NDP, NCP, or Module. Enter helix angle in Degrees/Minutes or Decimal Degrees.
- Don't like the gear set chosen? You can remove a gear size from any change gear set (index, differential, or feed) and CPC-HOB finds the next best set. This ability to accept only the gear set you want assures you a working setup for your machine.
- Create a special hybrid setup for a differential machine to cut large prime number teeth on spur gears.
- Determines OD and over pin measurement. You specify Min/Max backlash allowance.
- Complete with on-line context sensitive help.



ASH GEAR & SUPPLY CREDIT APPLICATION

Credit Reference Information

Company Name			Years in Business		
Address # & Street			Suite #	Phone #	
City	State	Zip Code		County	
President of Company		Financial Officer		Bookkeeper	
Tax ID#					

Bank Reference

Bank Name					
Address # & Street			Suite #		
City	State	Zip Code			
Account #(s)					
Phone #	Fax #		Contact Person		

Trade Reference

Company Name					
Address # & Street			Suite #	# of years doing bus. with	
City	State	Zip Code			
Phone #	Fax #		Contact Person		

Company Name					
Address # & Street			Suite #	# of years doing bus. with	
City	State	Zip Code			
Phone #	Fax #		Contact Person		

Company Name					
Address # & Street			Suite #	# of years doing bus. with	
City	State	Zip Code			
Phone #	Fax #		Contact Person		

Company Name					
Address # & Street			Suite #	# of years doing bus. with	
City	State	Zip Code			
Phone #	Fax #		Contact Person		

I the undersigned to hereby certify that all the information contained in this application is correct to the best of my knowledge. I understand that by filling out this application I give Ash Gear the right to examine my credit history.

Signature _____ **Date** _____



ASH GEAR AND SUPPLY

WORLD'S LARGEST GEAR TOOL INVENTORY

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