







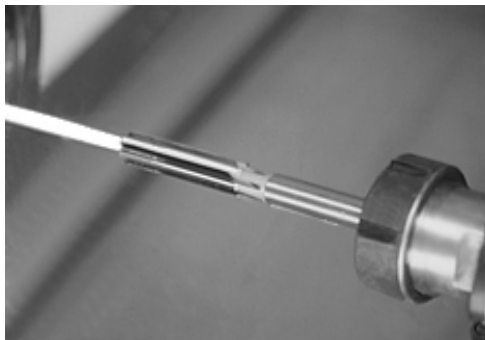
# Carbide Tip Coolant Fed Chucking Reamers

KOOLREAM®	
	 <b>Style 452</b> General purpose, straight flute for blind hole applications. For reaming aluminum, cast iron, steels, plastics and other abrasive materials. <b>Page. 92</b>
	 <b>Style 452A</b> General purpose, straight flute for thru hole applications. For reaming aluminum, cast iron, steels, plastics and other abrasive materials. <b>Page. 93</b>
	 <b>Style 453</b> General purpose, right hand spiral for blind hole applications. For reaming aluminum, cast iron, steels, plastics and other abrasive materials. <b>Page. 94</b>
	 <b>Style 453A</b> General purpose, right hand spiral for thru hole applications. For reaming aluminum, cast iron, steels, plastics and other abrasive materials. <b>Page. 95</b>

Style 452 and Style 453 carbide tipped reamers with through the tool coolant capability yield higher tool life, better size control and finer surface finishes than can be achieved with a conventional carbide tipped reamer. Coolant fed through the tool ejects the chips and heat out and away from the piece part decreasing distortion. When ordering, please specify the type of coolant hole configuration desired, “For Blind Hole” reaming or “For Thru Hole” reaming.

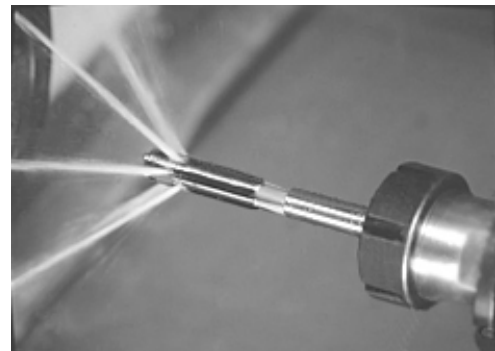
Special threaded shank configurations, oversized flatted shanks or taper shanks are available on request. Standard diameter tolerance is  $+.0003" - .0000"$ , closer tolerances need to be specified at time of quotation.

## For Blind Hole Applications



Blind hole coolant feeding reamers carry the coolant down the tool through a centerline coolant port exiting in front and then flushing the chips up the tool's flutes.

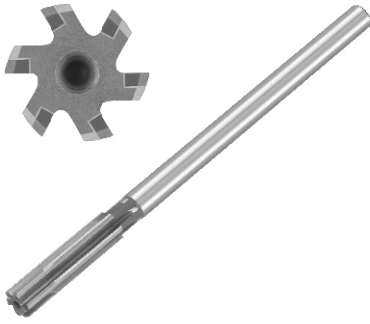
## For Thru Hole Applications



Thru hole coolant feeding reamers have coolant ports exiting out into each of the flutes. The ports are staggered slightly behind the cutting edge and angled forward to flush the chips out of the hole ahead of the reamer.

# Carbide Tip, "Blind Hole" Koolream®, Chucking Reamer

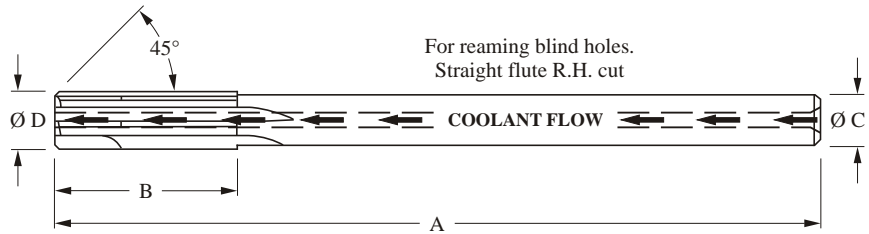
## Style 452



Coolant fed construction increases tool life and improves surface finish when reaming aluminum, cast iron, steels, plastics and other abrasive materials.

- Straight flute, right hand cut.
- Polished flutes for smooth chip flow.
- Precision ground cutting edges.
- Carbide tipped, high speed steel bodies.
- Use decimal size range column to determine the overall length, flute length and shank dimensions for modified and grind down reamers.

Diameter Tolerances				
Nominal Size	Cutting Ø		Shank Ø	
	Inch	mm	Inch	mm
All	+0.003 -0.000	+0.008 -0.000	+0.000 -0.0010	+0.000 -0.025



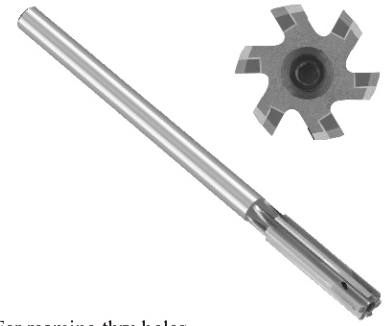
EDP #	Cutting Diameter "D"		Dec. Equiv.	Overall Length "A"		Flute Length "B"		Shank Diameter "C"		Decimal Size Range		Ref. Tip Length	No. of Flts.						
	Inch	mm		Inch	mm	Inch	mm	Inch	mm	Inch	mm								
45202344	15/64	5.954	.2344	6	152.	1-1/2	38.	7/32	5.558	.2211 - .2380	5.616 - 6.045	.50	4						
45202500	1/4	6.35	.2500							.2381 - .2530	6.048 - 6.426								
45202656	17/64	6.746	.2656							.2531 - .2840	6.429 - 7.214								
45202812	9/32	7.142	.2812							.2841 - .3150	7.216 - 8.001								
45202969	19/64	7.541	.2969	6	152.	1-1/2	38.	9/32	7.142	.3151 - .3470	8.004 - 8.814	.63	4						
45203125	5/16	7.938	.3125							.3471 - .3780	8.816 - 9.601								
45203281	21/64	8.334	.3281							.3781 - .4090	9.604 - 10.389								
45203438	11/32	8.733	.3438							.4091 - .4410	10.391 - 11.201								
45203594	23/64	9.129	.3594	7	178.	1-3/4	44.	5/16	7.938	.4411 - .4720	11.204 - 11.989	.63	4						
45203750	3/8	9.525	.3750							.4721 - .5030	11.991 - 12.776								
45203906	25/64	9.921	.3906							.5031 - .5340	12.779 - 13.564								
45204062	13/32	10.317	.4062							.5341 - .5660	13.566 - 14.376								
45204219	27/64	10.716	.4219	7	178.	1-3/4	44.	3/8	9.525	.5661 - .5970	14.379 - 15.164	.63	6						
45204375	7/16	11.113	.4375							.5971 - .6280	15.166 - 15.951								
45204531	29/64	11.509	.4531							.6281 - .6590	15.954 - 16.739								
45204688	15/32	11.908	.4688							.6591 - .6910	16.741 - 17.551								
45204844	31/64	12.304	.4844	8	203.	2	51.	7/16	11.113	.7221 - .7530	18.341 - 19.126	.75	6						
45205000	1/2	12.7	.5000							.7531 - .7841	19.126 - 19.916								
45205156	33/64	13.096	.5156							.7841 - .8160	19.916 - 20.726								
45205312	17/32	13.492	.5312							.8161 - .8471	20.726 - 21.516								
45205625	9/16	14.288	.5625	9	229.	2-1/4	57.	9/16	14.288	.8471 - .8780	21.516 - 22.301	.75	6						
45205938	19/32	15.083	.5938							.8781 - .9091	22.301 - 23.091								
45206250	5/8	15.875	.6250							.9091 - .9410	23.091 - 23.901								
45206562	21/32	16.667	.6562							.9411 - 1.0030	24.691 - 25.476								
45206875	11/16	17.463	.6875	9-1/2	241.	2-1/2	64.	5/8	15.875	1.0031 - 1.0660	25.479 - 27.076	.75	8						
45207500	3/4	19.05	.7500							1.0661 - 1.1280	27.079 - 28.651								
45208125	13/16	20.638	.8125							10	254.			2-5/8	67.	3/4	19.05		
45208750	7/8	22.225	.8750																
45209375	15/16	23.813	.9375																
45210000	1	25.4	1.0000																
45210625	1-1/16	26.988	1.0625	10-1/2	267.	2-3/4	70.	7/8	22.225			.75	8						
45211250	1-1/8	28.575	1.1250																

# Carbide Tip, "Thru Hole" Koolream,<sup>®</sup> Chucking Reamer

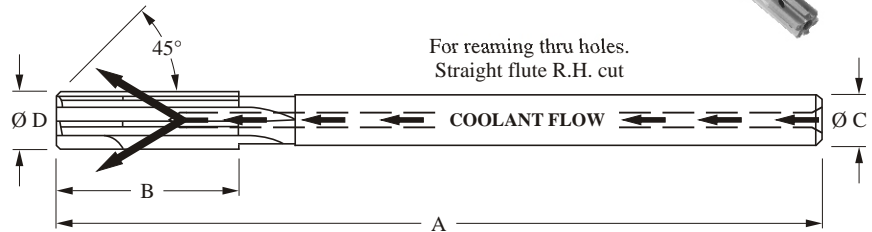
Coolant fed construction increases tool life and improves surface finish when reaming aluminum, cast iron, steels, plastics and other abrasive materials.

## Style 452A

- Straight flute, right hand cut.
- Polished flutes for smooth chip flow.
- Precision ground cutting edges.
- Carbide tipped, high speed steel bodies.
- Use decimal size range column to determine the overall length, flute length and shank dimensions for modified and grind down reamers.

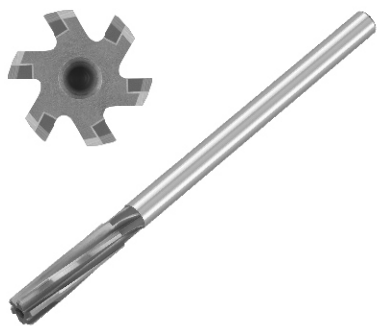


Diameter Tolerances				
Nominal Size	Cutting Ø		Shank Ø	
	Inch	mm	Inch	mm
All	+0.003 -.0000	+0.008 -0.000	+0.000 -.0010	+0.000 -0.025



EDP #	Cutting Diameter "D"		Dec. Equiv.	Overall Length "A"		Flute Length "B"		Shank Diameter "C"		Decimal Size Range		Ref. Tip Length	No. of Flts.
	Inch	mm		Inch	mm	Inch	mm	Inch	mm	Inch	mm		
45202344A	15/64	5.954	.2344	6	152.	1-1/2	38.	7/32	5.558	.2211 - .2380	5.616 - 6.045	.50	4
45202500A	1/4	6.35	.2500							.2381 - .2530	6.048 - 6.426		
45202656A	17/64	6.746	.2656							.2531 - .2840	6.429 - 7.214		
45202812A	9/32	7.142	.2812							.2841 - .3150	7.216 - 8.		
45202969A	19/64	7.541	.2969	6	152.	1-1/2	38.	9/32	7.142	.3151 - .3470	8.004 - 8.814	.63	4
45203125A	5/16	7.938	.3125							.3471 - .3780	8.816 - 9.601		
45203281A	21/64	8.334	.3281							.3781 - .4090	9.604 - 10.389		
45203438A	11/32	8.733	.3438							.4091 - .4410	10.391 - 11.201		
45203594A	23/64	9.129	.3594	7	178.	1-3/4	44.	5/16	7.938	.4411 - .4720	11.204 - 11.989	.63	4
45203750A	3/8	9.525	.3750							.4721 - .5030	11.991 - 12.776		
45203906A	25/64	9.921	.3906							.5031 - .5340	12.779 - 13.564		
45204062A	13/32	10.317	.4062							.5341 - .5660	13.566 - 14.376		
45204219A	27/64	10.716	.4219	8	203.	2	51.	7/16	11.113	.5661 - .5970	14.379 - 15.164	.63	6
45204375A	7/16	11.113	.4375							.5971 - .6280	15.166 - 15.951		
45204531A	29/64	11.509	.4531							.6281 - .6590	15.954 - 16.739		
45204688A	15/32	11.908	.4688							.6591 - .6910	16.741 - 17.551		
45204844A	31/64	12.304	.4844	9	229.	2-1/4	57.	9/16	14.288	.7221 - .7530	18.316 - 19.126	.75	6
45205000A	1/2	12.7	.5000							.7531 - .7841	19.126 - 19.916		
45205156A	33/64	13.096	.5156							.7841 - .8160	19.916 - 20.726		
45205312A	17/32	13.492	.5312							.8161 - .8471	20.726 - 21.516		
45205625A	9/16	14.288	.5625	10	254.	2-5/8	67.	3/4	19.05	.8471 - .8780	21.516 - 22.3	.75	8
45205938A	19/32	15.083	.5938							.8781 - .9091	22.3 - 23.091		
45206250A	5/8	15.875	.6250							.9091 - .9410	23.091 - 23.901		
45206562A	21/32	16.667	.6562							.9411 - 1.0030	23.901 - 24.691		
45206875A	11/16	17.463	.6875	11	279.	2-7/8	73.	7/8	22.225	1.0031 - 1.0660	24.691 - 25.476	.75	8
45207500A	3/4	19.05	.7500							1.0661 - 1.1280	25.476 - 26.266		
45208125A	13/16	20.638	.8125							1.1281 - 1.1900	26.266 - 27.056		
45208750A	7/8	22.225	.8750							1.1901 - 1.2520	27.056 - 27.846		
45209375A	15/16	23.813	.9375	1.2521 - 1.3140	27.846 - 28.636								
45210000A	1	25.4	1.0000	1.3141 - 1.3760	28.636 - 29.426								
45210625A	1-1/16	26.988	1.0625	1.3761 - 1.4380	29.426 - 30.216								
45211250A	1-1/8	28.575	1.1250	1.4381 - 1.5000	30.216 - 31.006								

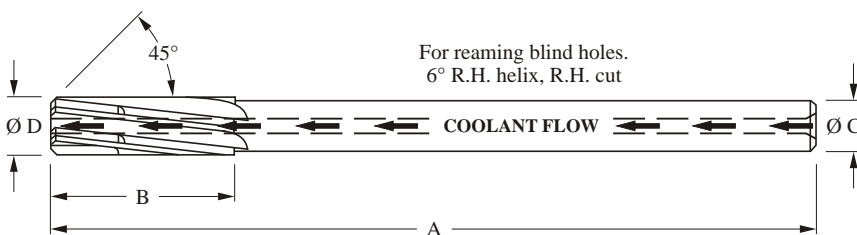
## Style 453



Coolant fed construction increases tool life and improves surface finish when reaming aluminum, cast iron, steels, plastics and other abrasive materials.

- Right hand spiral, right hand cut construction has better chip evacuation when used on ductile materials or blind holes.
- Polished flutes for smooth chip flow.
- Precision ground cutting edges.
- Carbide tipped, high speed steel bodies.
- Use decimal size range column to determine the overall length, flute length and shank dimensions for modified and grind down reamers.

Diameter Tolerances				
Nominal Size	Cutting Ø		Shank Ø	
	Inch	mm	Inch	mm
All	+0.0003 -0.0000	+0.008 -0.000	+0.0000 -0.0010	+0.000 -0.025



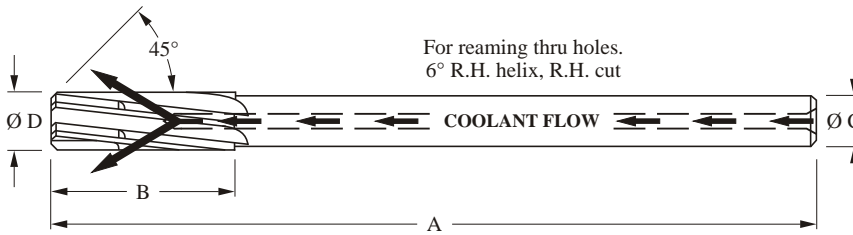
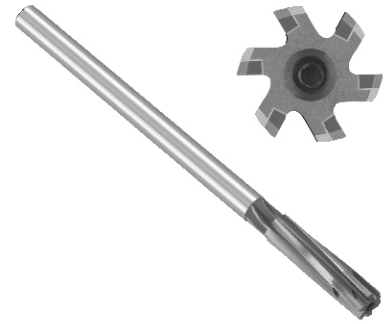
EDP #	Cutting Diameter "D"		Dec. Equiv.	Overall Length "A"		Flute Length "B"		Shank Diameter "C"		Decimal Size Range		Ref. Tip Length	No. of Flts.
	Inch	mm		Inch	mm	Inch	mm	Inch	mm	Inch	mm		
45302500	1/4	6.35	.2500	6	152.	1-1/2	38.	15/64	5.954	.2381 - .2530	6.048 - 6.426	.50	4
45302812	9/32	7.142	.2812					9/32	7.142	.2531 - .2840	6.429 - 7.214		
45303125	5/16	7.938	.3125					9/32	7.142	.2841 - .3150	7.216 - 8.001		
45303438	11/32	8.733	.3438					9/32	7.142	.3151 - .3470	8.004 - 8.814		
45303750	3/8	9.525	.3750	7	178.	1-3/4	44.	5/16	7.938	.3471 - .3780	8.816 - 9.601	.62	4
45304062	13/32	10.317	.4062					5/16	7.938	.3781 - .4090	9.604 - 10.389		
45304375	7/16	11.113	.4375					3/8	9.525	.4091 - .4410	10.391 - 11.201		
45304688	15/32	11.908	.4688	8	203.	2	51.	7/16	11.113	.4411 - .4720	11.204 - 11.989	.75	6
45305000	1/2	12.7	.5000					7/16	11.113	.4721 - .5030	11.991 - 12.776		
45305625	9/16	14.288	.5625	9	229.	2-1/4	57.	9/16	14.288	.5341 - .5660	13.566 - 14.376	.75	6
45306250	5/8	15.875	.6250					9/16	14.288	.5971 - .6280	15.166 - 15.951		
45306875	11/16	17.463	.6875	9-1/2	241.	2-1/2	64.	5/8	15.875	.6591 - .6910	16.741 - 17.551	.75	6
45307500	3/4	19.05	.7500					5/8	15.875	.7221 - .7530	18.341 - 19.126		

# Carbide Tip, "Thru Hole" Koolream,<sup>®</sup> Spiral, Chucking Reamer

Coolant fed construction increases tool life and improves surface finish when reaming aluminum, cast iron, steels, plastics and other abrasive materials.

## Style 453A

- Right hand spiral, right hand cut construction improves hole finish in ductile materials.
- Polished flutes for smooth chip flow.
- Precision ground cutting edges.
- Carbide tipped, high speed steel bodies.
- Use decimal size range column to determine the overall length, flute length and shank dimensions for modified and grind down reamers.



Diameter Tolerances				
Nominal Size	Cutting Ø		Shank Ø	
	Inch	mm	Inch	mm
All	+0.0003 -0.0000	+0.008 -0.000	+0.0000 -0.0010	+0.000 -0.025

EDP #	Cutting Diameter "D"		Dec. Equiv.	Overall Length "A"		Flute Length "B"		Shank Diameter "C"		Decimal Size Range		Ref. Tip Length	No. of Flts.
	Inch	mm		Inch	mm	Inch	mm	Inch	mm	Inch	mm		
45302500A	1/4	6.35	.2500	6	152.	1-1/2	38.	15/64	5.954	.2381 - .2530	6.048 - 6.426	.50	4
45302812A	9/32	7.142	.2812					9/32	7.142	.2531 - .2840	6.429 - 7.214		
45303125A	5/16	7.938	.3125							.2841 - .3150	7.216 - 8.001		
45303438A	11/32	8.733	.3438							.3151 - .3470	8.004 - 8.814		
45303750A	3/8	9.525	.3750	7	178.	1-3/4	44.	5/16	7.938	.3471 - .3780	8.816 - 9.601	.62	4
45304062A	13/32	10.317	.4062							.3781 - .4090	9.604 - 10.389		
45304375A	7/16	11.113	.4375							.4091 - .4410	10.391 - 11.201		
45304688A	15/32	11.908	.4688							.4411 - .4720	11.204 - 11.989		
45305000A	1/2	12.7	.5000	8	203.	2	51.	7/16	11.113	.4721 - .5030	11.991 - 12.776	.62	6
45305625A	9/16	14.288	.5625							.5341 - .5660	13.566 - 14.376		
45306250A	5/8	15.875	.6250	9	229.	2-1/4	57.	9/16	14.288	.5971 - .6280	15.166 - 15.951	.75	6
45306875A	11/16	17.463	.6875							.6591 - .6910	16.741 - 17.551		
45307500A	3/4	19.05	.7500	9-1/2	241.	2-1/2	64.	5/8	15.875	.7221 - .7530	18.341 - 19.126		