NPA

NEW

New Product Announcement

Member IMC Group
Ingersoll Cutting Tools

HOLEMAKING

Diameter Range

0.3149–0.5117"
8.000–12.999 mm

Bodies

3xD
5xD
Cylindrical Shanks
(inch and mm)

Head Geometries

XSA...
Straight flute/blind hole

XLB...
LH flute/through hole

Grade

IN2005

Materials

- Steel
- Stainless Steel
- Cast Iron
- Non-Ferrous

QWIKREAMS™

XLB

XSA

Replaceable Head Carbide Reamers, Now Available in Smaller Diameters

- Innovative clamping system provides minimal setup and machining downtime.
- Excellent hole accuracy and finish (H7 tolerance capable).
- Multiple cutting edges for high productivity.

See it in action! »

WINSFEED™
ADVANCED MACHINING

ingersoll-imc.com

Replaceable Head Carbide Reamers

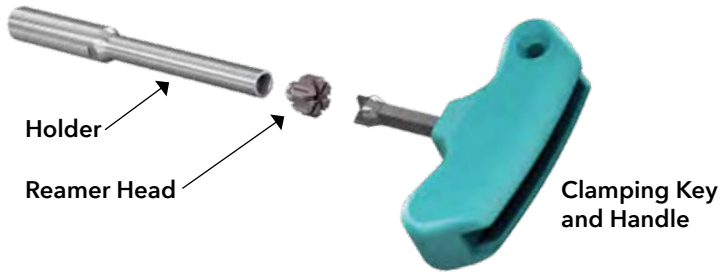
Ø0.3149-0.5117"; Ø8.000-12.999 MM

Series XSA...R7 For blind holes	Series XLB...R7 For through holes
	

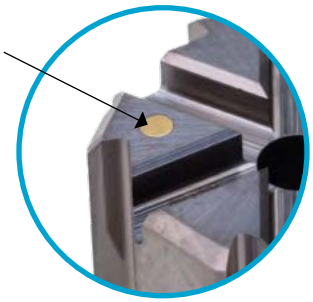
Coolant Flow (Two Head Variations)

SA Head For blind holes	LB Head For through holes
	

Replaceable Head Carbide Reamers

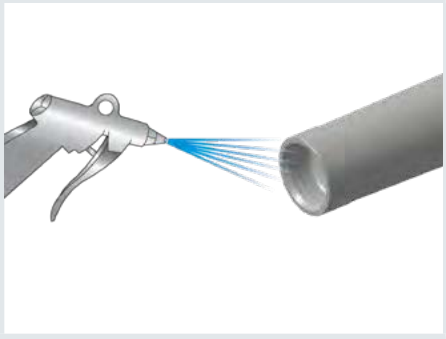


Reamer Head Alignment Dot
(see page 4 for more info)



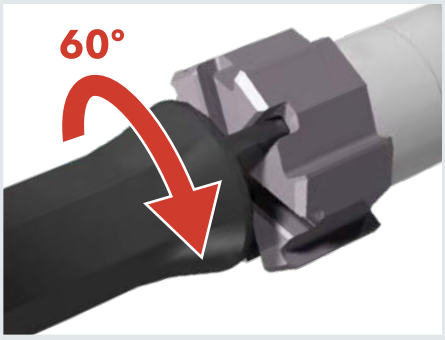
Reamer Head Mounting Procedure

1. Clean the reamer holder pocket prior to assembling the head.



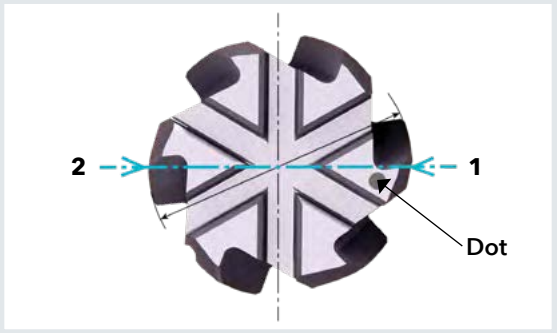
2. Mount the reamer head to the holder.

3. Using the dedicated key, rotate clockwise to firmly secure the head.



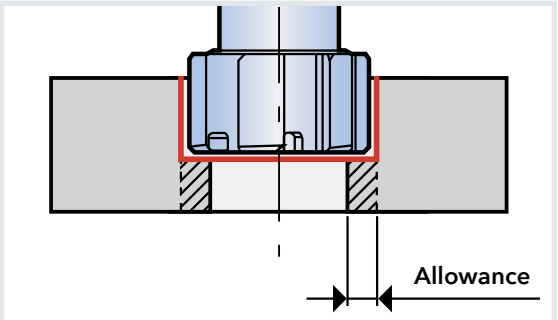
4. Check for proper dot and slot alignment (see page 4).

How to Check Reamer Diameter



Measure the dot side edge **(1)** and the opposite side edge **(2)**.

Reamer Allowance

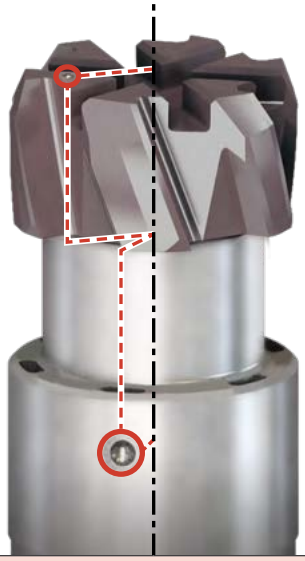
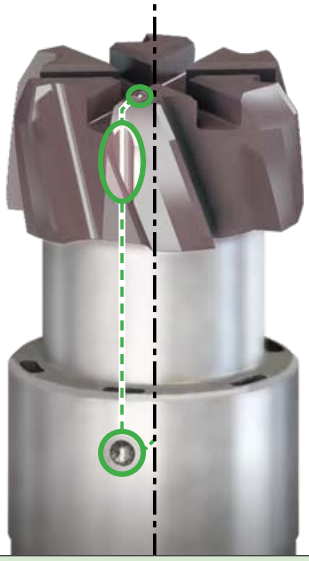


Material	Diameter (inch)	
	<.3937"	.3937-.5117"
Steel and Cast Iron	.003-.004	.003-.006
Aluminum and Brass	.003-.004	.004-.006

Example: .3878" pre-hole is recommended for .3937" H7 reaming in cast iron

Dot and Slot Alignment

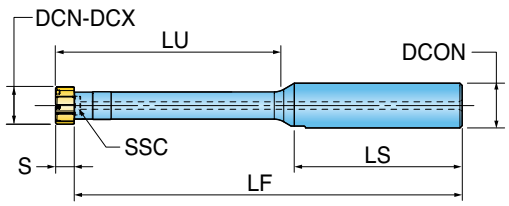
CAUTION: To ensure smooth coolant flow, the dot and slot alignment of the head must be oriented as illustrated below.

✗ **Incorrect Dot and Slot Alignment** Reduced coolant flow		✓ **Correct Dot and Slot Alignment** Smooth coolant flow	
			
Dot alignment mismatch between head and holder.		Dot alignment match between head and holder.	
			
Coolant hole is hidden by the flute.	Result: reduced coolant flow.	Coolant hole is slightly visible through flutes.	Result: smooth coolant flow.

Ream Coolant

Series XS_RB

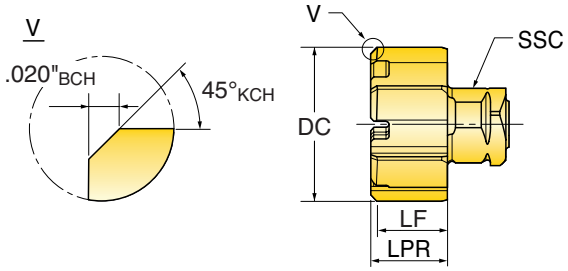
3XD, 5XD • BLIND HOLE SHANKS



Part Number	DCN Cutting Dia. Min.	DCX Cutting Dia. Max.	SSC Insert Seat Size	S Thickness	LUDR Usable Length Dia. Ratio	LU Usable Length	LF Functional Length	LS Shank Length	DCON Shank Dia.
INCH									
XS0080028R8RB1	0.3150	0.3542	XT0	0.157	3	1.10	3.03	1.77	0.375
XS1090032R8RB1	0.3543	0.3936	XT1	0.177	3	1.24	3.19	1.77	0.375
XS2100035S4RB1	0.3937	0.4330	XT2	0.197	3	1.38	3.31	1.77	0.500
XS3110039S4RB1	0.4331	0.4723	XT3	0.217	3	1.52	3.43	1.77	0.500
XS4120042S4RB1	0.4724	0.5117	XT4	0.236	3	1.65	3.54	1.77	0.500
XS0080044R8RB1	0.3150	0.3542	XT0	0.157	5	1.73	3.66	1.77	0.375
XS1090050R8RB1	0.3543	0.3936	XT1	0.177	5	1.95	3.90	1.77	0.375
XS2100055S4RB1	0.3937	0.4330	XT2	0.197	5	2.17	4.09	1.77	0.500
XS3110061S4RB1	0.4331	0.4723	XT3	0.217	5	2.38	4.29	1.77	0.500
XS4120066S4RB1	0.4724	0.5117	XT4	0.236	5	2.60	4.49	1.77	0.500
METRIC									
XS0080028T1RB1	8.000	8.999	XT0	4.0 mm	3	28.0 mm	77.0 mm	45.0 mm	10.0 mm
XS1090032T1RB1	9.000	9.999	XT1	4.5 mm	3	31.5 mm	81.0 mm	45.0 mm	10.0 mm
XS2100035T2RB1	10.000	10.999	XT2	5.0 mm	3	35.0 mm	84.0 mm	45.0 mm	12.0 mm
XS3110039T2RB1	11.000	11.999	XT3	5.5 mm	3	38.5 mm	87.0 mm	45.0 mm	12.0 mm
XS4120042T2RB1	12.000	12.999	XT4	6.0 mm	3	42.0 mm	90.0 mm	45.0 mm	12.0 mm
XS0080044T1RB1	8.000	8.999	XT0	4.0 mm	5	44.0 mm	93.0 mm	45.0 mm	10.0 mm
XS1090050T1RB1	9.000	9.999	XT1	4.5 mm	5	49.5 mm	99.0 mm	45.0 mm	10.0 mm
XS2100055T2RB1	10.000	10.999	XT2	5.0 mm	5	55.0 mm	104.0 mm	45.0 mm	12.0 mm
XS3110061T2RB1	11.000	11.999	XT3	5.5 mm	5	60.5 mm	109.0 mm	45.0 mm	12.0 mm
XS4120066T2RB1	12.000	12.999	XT4	6.0 mm	5	66.0 mm	114.0 mm	45.0 mm	12.0 mm

Series XSA

BLIND HOLE REAMER HEAD • STRAIGHT FLUTE

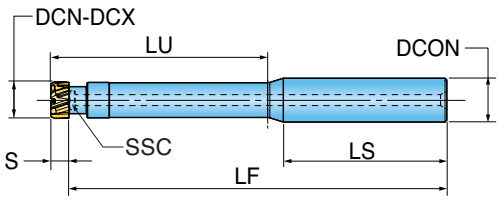


Part Number	DC Cutting Dia.	ZEFF Effective Teeth	SSC Insert Seat Size	LPR Protruding Length	LF Functional Length	FHH Flute Helix Hand	Grade IN2005
INCH							
XSA08731R71	0.3438	6	XT0	0.157	0.142	Neutral	•
XSA09525R71	0.3750	6	XT1	0.177	0.161	Neutral	•
XSA10319R71	0.4063	6	XT2	0.197	0.181	Neutral	•
XSA11113R71	0.4375	6	XT3	0.217	0.201	Neutral	•
XSA11906R71	0.4688	6	XT3	0.217	0.201	Neutral	•
XSA12700R72	0.5000	6	XT4	0.236	0.220	Neutral	•
METRIC							
XSA08000R71	8.00 mm	6	XT0	4.0 mm	3.64 mm	Neutral	•
XSA09000R71	9.00 mm	6	XT1	4.5 mm	4.14 mm	Neutral	•
XSA10000R71	10.00 mm	6	XT2	5.0 mm	4.64 mm	Neutral	•
XSA11000R71	11.00 mm	6	XT3	5.5 mm	5.14 mm	Neutral	•
XSA12000R72	12.00 mm	6	XT4	6.0 mm	5.64 mm	Neutral	•

Ream Coolant

Series XS_RT

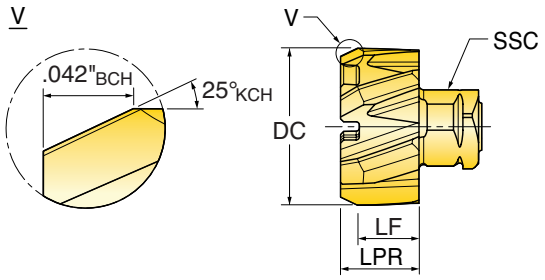
3XD, 5XD • THRU HOLE SHANKS



Part Number	DCN Cutting Dia. Min.	DCX Cutting Dia. Max.	SSC Insert Seat Size	S Thickness	LUDR Usable Length Dia. Ratio	LU Usable Length	LF Functional Length	LS Shank Length	DCON Shank Dia.
INCH									
XS0080028R8RT1	0.3150	0.3542	XT0	0.157	3	1.10	3.03	1.77	0.375
XS1090032R8RT1	0.3543	0.3936	XT1	0.177	3	1.24	3.19	1.77	0.375
XS2100035S4RT1	0.3937	0.4330	XT2	0.197	3	1.38	3.31	1.77	0.500
XS3110039S4RT1	0.4331	0.4723	XT3	0.217	3	1.52	3.43	1.77	0.500
XS4120042S4RT1	0.4724	0.5117	XT4	0.236	3	1.65	3.50	1.77	0.500
XS0080044R8RT1	0.3150	0.3542	XT0	0.157	5	1.73	3.66	1.77	0.375
XS1090050R8RT1	0.3543	0.3936	XT1	0.177	5	1.95	3.90	1.77	0.375
XS2100055S4RT1	0.3937	0.4330	XT2	0.197	5	2.17	4.09	1.77	0.500
XS3110061S4RT1	0.4331	0.4723	XT3	0.217	5	2.38	4.29	1.77	0.500
XS4120066S4RT1	0.4724	0.5117	XT4	0.236	5	2.60	4.45	1.77	0.500
METRIC									
XS0080028T1RT1	8.000	8.999	XT0	4.0 mm	3	28.0 mm	77.0 mm	45.0 mm	10.0 mm
XS1090032T1RT1	9.000	9.999	XT1	4.5 mm	3	31.5 mm	81.0 mm	45.0 mm	10.0 mm
XS2100035T2RT1	10.000	10.999	XT2	5.0 mm	3	35.0 mm	84.0 mm	45.0 mm	12.0 mm
XS3110039T2RT1	11.000	11.999	XT3	5.5 mm	3	38.5 mm	87.0 mm	45.0 mm	12.0 mm
XS4120042T2RT1	12.000	12.999	XT4	6.0 mm	3	42.0 mm	89.0 mm	45.0 mm	12.0 mm
XS0080044T1RT1	8.000	8.999	XT0	4.0 mm	5	44.0 mm	93.0 mm	45.0 mm	10.0 mm
XS1090050T1RT1	9.000	9.999	XT1	4.5 mm	5	49.5 mm	99.0 mm	45.0 mm	10.0 mm
XS2100055T2RT1	10.000	10.999	XT2	5.0 mm	5	55.0 mm	104.0 mm	45.0 mm	12.0 mm
XS3110061T2RT1	11.000	11.999	XT3	5.5 mm	5	60.5 mm	109.0 mm	45.0 mm	12.0 mm
XS4120066T2RT1	12.000	12.999	XT4	6.0 mm	5	66.0 mm	113.0 mm	45.0 mm	12.0 mm

Series XLB

THRU HOLE REAMER HEAD • LEFT HAND HELIX



Part Number	DC Cutting Dia.	ZEFF Effective Teeth	SSC Insert Seat Size	LPR Protruding Length	LF Functional Length	FHH Flute Helix Hand	Grade IN2005
INCH							
XLB08731R71	0.3438	6	XT0	0.157	0.115	Left	•
XLB09525R71	0.3750	6	XT1	0.177	0.135	Left	•
XLB10319R71	0.4063	6	XT2	0.197	0.155	Left	•
XLB11113R71	0.4375	6	XT3	0.217	0.174	Left	•
XLB11906R71	0.4688	6	XT3	0.217	0.174	Left	•
XLB12700R72	0.5000	6	XT4	0.236	0.194	Left	•
METRIC							
XLB08000R71	8.00 mm	6	XT0	4.0 mm	2.93 mm	Left	•
XLB09000R71	9.00 mm	6	XT1	4.5 mm	3.43 mm	Left	•
XLB10000R71	10.00 mm	6	XT2	5.0 mm	3.93 mm	Left	•
XLB11000R71	11.00 mm	6	XT3	5.5 mm	4.43 mm	Left	•
XLB12000R72	12.00 mm	6	XT4	6.0 mm	4.93 mm	Left	•

Hardware

DC Cutting Diameter	DC Cutting Diameter	Head		
INCH	MM		Handle	Key
0.3150–0.3542	8.000–8.999 mm	XSA	SW6-T SHORT	W XR D08-KEY
0.3543–0.3936	9.000–9.999 mm	XSA	SW6-T SHORT	W XR D08-KEY
0.3937–0.4330	10.000–10.999 mm	XSA	SW6-T SHORT	W XR D10-KEY
0.4331–0.4723	11.000–11.999 mm	XSA	SW6-T SHORT	W XR D10-KEY
0.4724–0.5117	12.000–12.999 mm	XSA	SW6-T SHORT	W XR D12-KEY
0.3150–0.3542	8.000–8.999 mm	XLB	SW6-T SHORT	W XR D08-KEY
0.3543–0.3936	9.000–9.999 mm	XLB	SW6-T SHORT	W XR D08-KEY
0.3937–0.4330	10.000–10.999 mm	XLB	SW6-T SHORT	W XR D10-KEY
0.4331–0.4723	11.000–11.999 mm	XLB	SW6-T SHORT	W XR D10-KEY
0.4724–0.5117	12.000–12.999 mm	XLB	SW6-T SHORT	W XR D12-KEY

Operating Guidelines

Materials				Vc Cutting Speed SFM	Feed Per Tooth vs. Diameter		
ISO	Material Group No.	Condition	Hardness HB		IN	.3150–.3936	.3937–.4723	.4724–.5117
					MM	8.00–9.99	10.00–11.99	12.00–12.99
P	1	Low carbon steels (C <0.3)	125	164–492	.010–.020	.012–.024	.014–.031
	2		190				
	3	Carbon steels (C>0.3)	250				
	4		220				
	5		300				
	6	Low alloy steels	200				
	7		275				
	8		300				
	9		350				
	10	Alloy steels	200	66–197	.008–.012	.010–.016	.012–.020
	11		325				
M	12	Stainless steels (Ferritic)	200	66–131	.008–.012	.010–.016	.012–.020
	13	Stainless steels (Martensitic)	250				
	14	Stainless steels (Austenitic)	180				
K	15	Grey cast iron	160	164–656	.012–.024	.014–.031	.016–.039
	16		250				
	17	Nodular cast iron	180				
	18		260				
	19	Malleable cast iron	30				
	20		230				
N	21	Aluminum alloy forging	60	328–820	.012–.024	.014–.031	.016–.039
	22		100				
	23	Aluminum alloy casting	75				
	24		90				
	25		130				
	26	Copper Alloy	110				
	27		90				
	28		100				

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.