

# NPN

New Product News



## XM-REAM

**Head Exchangeable Reamer Line  
for Small Diameter Ø8-12 mm Holes**



## KEY POINT

**XM-REAM is the high productivity head exchangeable reamer line for Ø8-12 mm holes.**

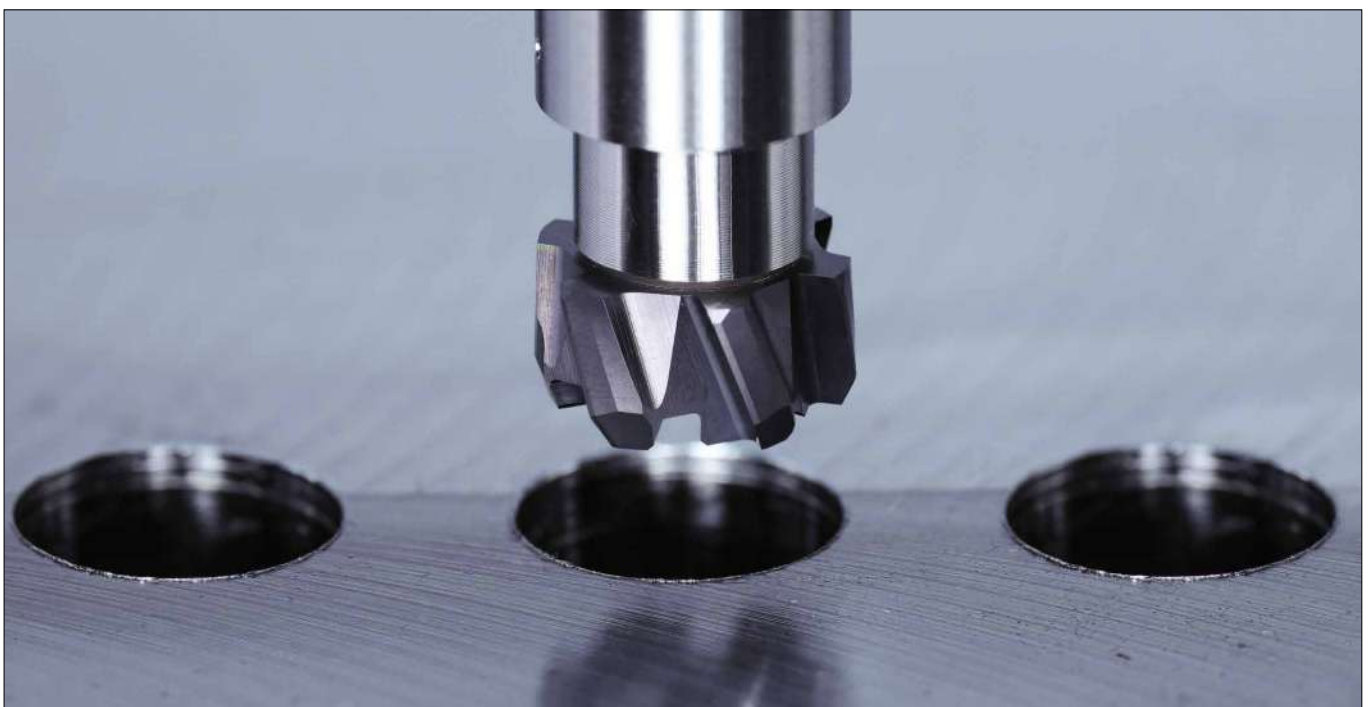
In response to end-user demand for a wider diameter range in the reaming industry and the popularity of the TM-REAM, a market leader in exchangeable head reamers, TaeguTec presents the XM-REAM.

This head reamer line is for machining small diameters between 8 and 12 mm. The user-friendly, distinctive key clamping system of the XM-REAM contributes to its essential features of minimal setup and downtime. The series consists of holders in lengths of 3xD and 5xD as well as heads for H7 tolerance holes in the 8-12 mm range. Intermediate sized heads can be supplied upon customer request.

Please contact the product manager, for more details.

### Features

- User-friendly, ingenious clamping system - No Set-up time and minimum machine downtime
- Increased number of cutting edges (6z) for higher productivity compared to solid reamers
- Straight type and helix type heads suitable for two hole geometries (AS: blind hole, BL: through hole)
- Excellent hole accuracy and premium surface roughness (H7 tolerance capable)
- Direct coolant supply to each cutting edge
- Range : Ø8-12 mm heads (1 mm increment), 3xD and 5xD holders



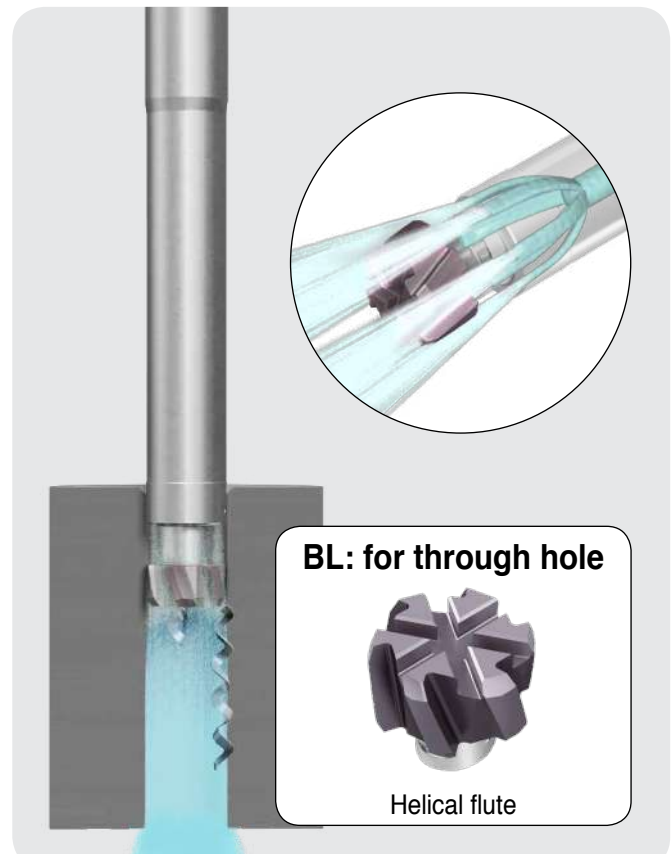
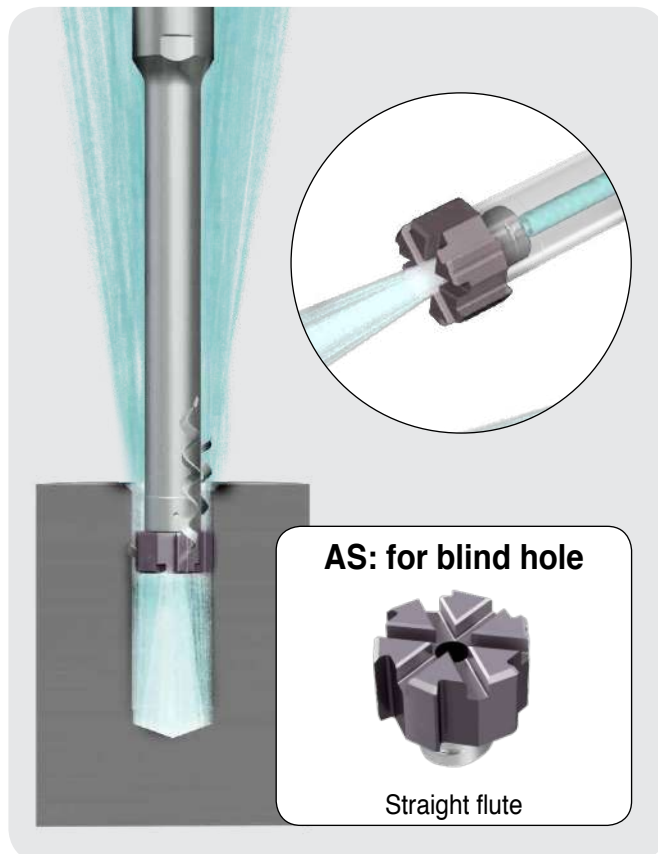
## Head changeable reamer line

<b><i>XM-REAM</i></b> Ø8-12 mm		<b><i>TM-REAM</i></b> Ø11.5-32 mm	
<div style="border: 1px solid red; padding: 2px; color: red; font-weight: bold; display: inline-block;">new</div>  <b>XR...-AS</b> for blind hole	<div style="border: 1px solid red; padding: 2px; color: red; font-weight: bold; display: inline-block;">new</div>  <b>XR...-BL</b> for through hole	 <b>TM...-AS</b> for blind hole	 <b>TM...-BL</b> for through hole

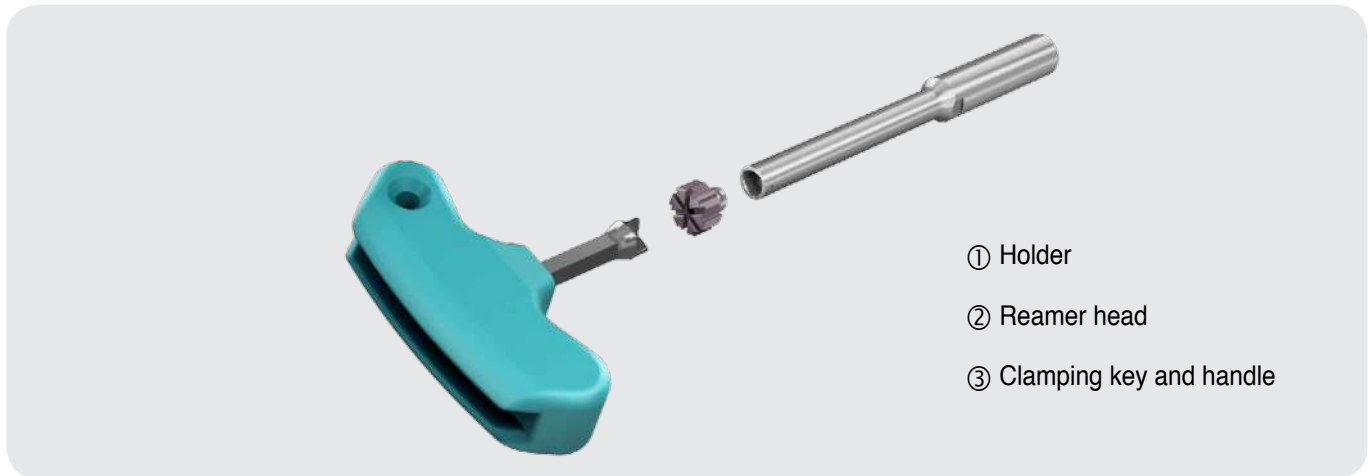
## Two type heads and coolant flow

- For blind hole (AS)

- For through hole (BL)

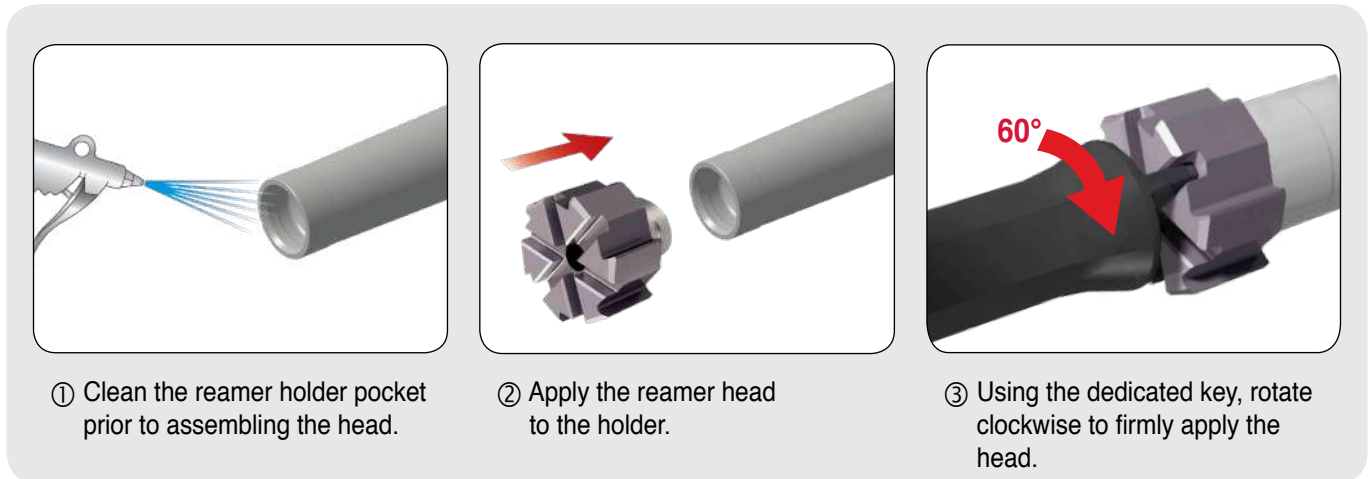


## Components



- ① Holder
- ② Reamer head
- ③ Clamping key and handle

## Reamer head mounting procedure

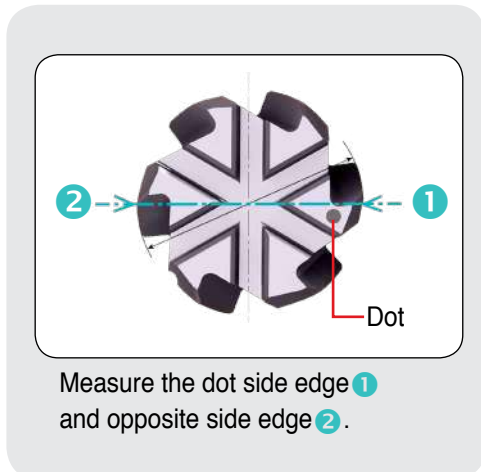


① Clean the reamer holder pocket prior to assembling the head.

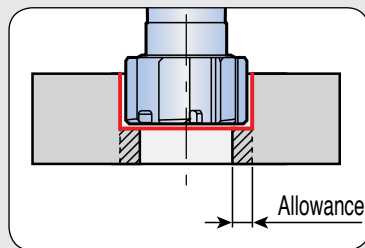
② Apply the reamer head to the holder.

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

## How to check reamer diameter Reaming allowance



Measure the dot side edge ① and opposite side edge ②.



Ex)  $\varnothing 9.85-9.93$  mm pre-hole is recommended for  $\varnothing 10H7$  reaming in cast iron.

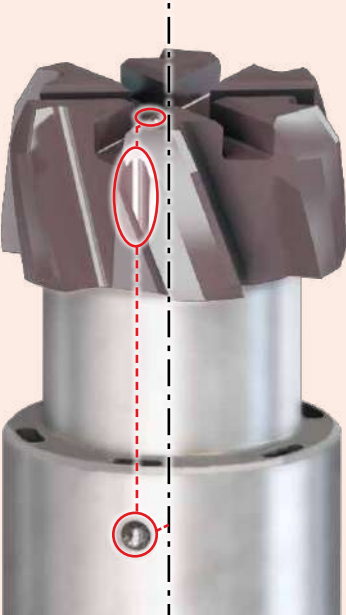
Material	Diameter	
	< $\varnothing 10$	$\varnothing 10-12$
Steel & Cast iron	0.07-0.10	0.07-0.15
Aluminum & brass	0.07-0.10	0.10-0.15

\* Based on diameter

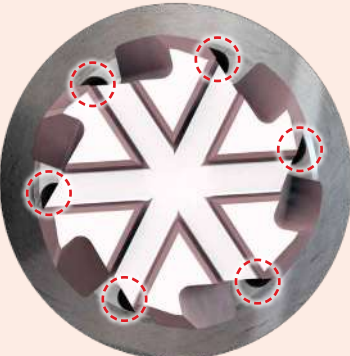
## Caution

- To ensure smooth coolant flow, the dot and slot orientation of the head must be aligned as illustrated.


**O**



Dot orientation match  
between head and holder

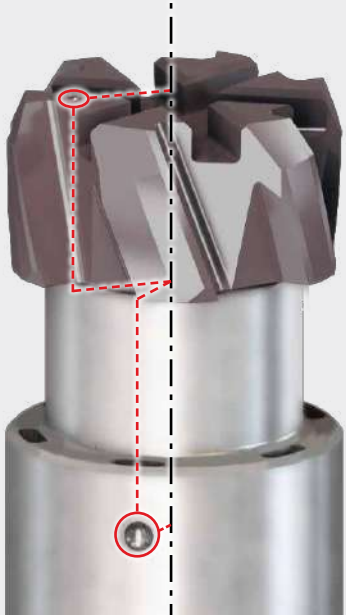


Coolant hole slightly  
visible through flutes




Smooth coolant flow


**X**



Dot orientation mismatch  
between head and holder



Coolant hole is  
hidden by the flute



Reduced coolant flow

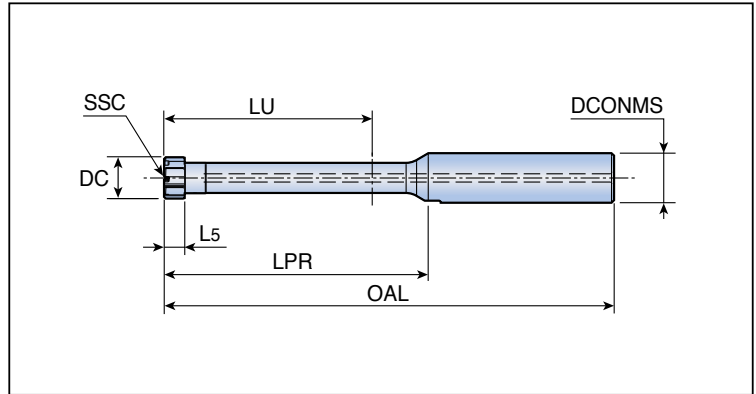
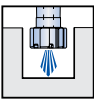
## XR...-3B/5B-S0



Head changeable reamer holders for small diameter blind hole



- Cylindrical shank



Designation	DC	SSC	Dimension (mm)					Overhang
			DCONMS	L5	OAL	LU	LPR	
<b>XR-D08-3B-10S0</b>	8.000-8.999	8	10	4.0	81.0	28.0	36.0	3XD
<b>D09-3B-10S0</b>	9.000-9.999	9	10	4.5	85.5	31.5	40.5	
<b>D10-3B-12S0</b>	10.000-10.999	10	12	5.0	89.0	35.0	44.0	
<b>D11-3B-12S0</b>	11.000-11.999	11	12	5.5	92.5	38.5	47.5	
<b>D12-3B-12S0</b>	12.000-12.999	12	12	6.0	96.0	42.0	51.0	
<b>XR-D08-5B-10S0</b>	8.000-8.999	8	10	4.0	97.0	44.0	52.0	5XD
<b>D09-5B-10S0</b>	9.000-9.999	9	10	4.5	103.5	49.5	58.5	
<b>D10-5B-12S0</b>	10.000-10.999	10	12	5.0	109.0	55.0	64.0	
<b>D11-5B-12S0</b>	11.000-11.999	11	12	5.5	114.5	60.5	69.5	
<b>D12-5B-12S0</b>	12.000-12.999	12	12	6.0	120.0	66.0	75.0	

- ▶ SSC: Seat size code
- ▶ Matched with XR...-AS reamer heads

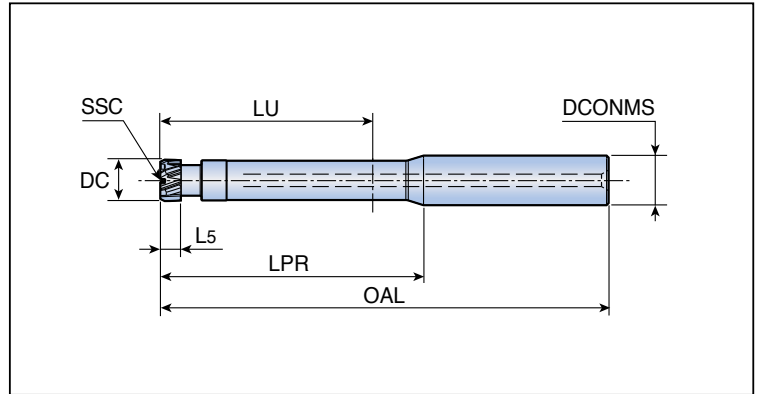
### Spare parts

Designation	Clamping key	Key handle
<b>XR-D08...</b>	W XR D08-KEY	SW6-T-SH
<b>XR-D09...</b>	W XR D08-KEY	SW6-T-SH
<b>XR-D10...</b>	W XR D10-KEY	SW6-T-SH
<b>XR-D11...</b>	W XR D10-KEY	SW6-T-SH
<b>XR-D12...</b>	W XR D12-KEY	SW6-T-SH

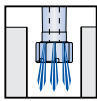
## XR...-3T/5T-S0



Head changeable reamer holders for small diameter through hole



- Cylindrical shank



Designation	DC	SSC	Dimension (mm)					Overhang
			DCONMS	L5	OAL	LU	LPR	
<b>XR-D08-3T-10S0</b>	8.000-8.999	8	10	4.0	81.0	28.0	36.0	3XD
<b>D09-3T-10S0</b>	9.000-9.999	9	10	4.5	85.5	31.5	40.5	
<b>D10-3T-12S0</b>	10.000-10.999	10	12	5.0	89.0	35.0	44.0	
<b>D11-3T-12S0</b>	11.000-11.999	11	12	5.5	92.5	38.5	47.5	
<b>D12-3T-12S0</b>	12.000-12.999	12	12	6.0	95.0	42.0	50.0	
<b>XR-D08-5T-10S0</b>	8.000-8.999	8	10	4.0	97.0	44.0	52.0	5XD
<b>D09-5T-10S0</b>	9.000-9.999	9	10	4.5	103.5	49.5	58.5	
<b>D10-5T-12S0</b>	10.000-10.999	10	12	5.0	109.0	55.0	64.0	
<b>D11-5T-12S0</b>	11.000-11.999	11	12	5.5	114.5	60.5	69.5	
<b>D12-5T-12S0</b>	12.000-12.999	12	12	6.0	119.0	66.0	74.0	

- ▶ SSC: Seat size code
- ▶ Matched with XR...-BL reamer heads

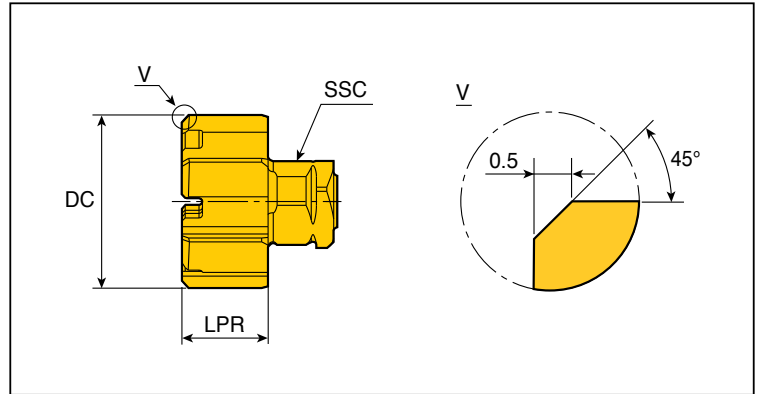
### Spare parts

Designation	Clamping key	Key handle
<b>XR-D08...</b>	W XR D08-KEY	SW6-T-SH
<b>XR-D09...</b>	W XR D08-KEY	SW6-T-SH
<b>XR-D10...</b>	W XR D10-KEY	SW6-T-SH
<b>XR-D11...</b>	W XR D10-KEY	SW6-T-SH
<b>XR-D12...</b>	W XR D12-KEY	SW6-T-SH

## XR...-AS



### Head changeable reamer head



- Straight flute for blind hole
- For H7 hole tolerance

Designation	Dimension (mm)		NOF	SSC	Flute type	Edge type	Grade TT9030
	DC	LPR					
<b>XR-08.000-AS</b>	8.000	4.0	6	8	S	A	●
<b>09.000-AS</b>	9.000	4.5	6	9	S	A	●
<b>10.000-AS</b>	10.000	5.0	6	10	S	A	●
<b>11.000-AS</b>	11.000	5.5	6	11	S	A	●
<b>12.000-AS</b>	12.000	6.0	6	12	S	A	●

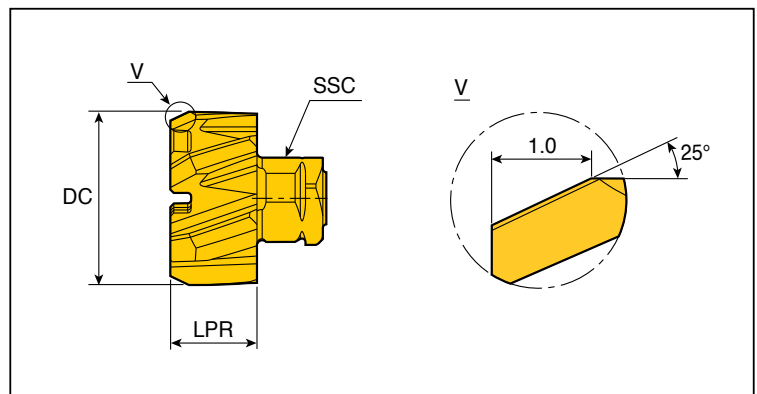
- ▶ NOF: Number of flutes
- ▶ SSC: Seat size code
- ▶ Matched with XR...B... holders

●: Standard items

## XR...-BL



### Head changeable reamer head



- Helical flute for through hole
- For H7 hole tolerance

Designation	Dimension (mm)		NOF	SSC	Flute type	Edge type	Grade TT9030
	DC	LPR					
<b>XR-08.000-BL</b>	8.000	4.0	6	8	L	B	●
<b>09.000-BL</b>	9.000	4.5	6	9	L	B	●
<b>10.000-BL</b>	10.000	5.0	6	10	L	B	●
<b>11.000-BL</b>	11.000	5.5	6	11	L	B	●
<b>12.000-BL</b>	12.000	6.0	6	12	L	B	●

- ▶ NOF: Number of flutes
- ▶ SSC: Seat size code
- ▶ Matched with XR...T... holders

●: Standard items



## Recommended Cutting Conditions

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Vc m/min	Feed (mm/rev) vs. reamer diameter		
							Ø8-9.99	Ø10-11.99	Ø12-12.99
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	50-150	0.25-0.50	0.30-0.60	0.35-0.80
		>=0.25%C Annealed	650	190	2	50-150	0.25-0.50	0.30-0.60	0.35-0.80
		<0.55%C Quenched and tempered	850	250	3	50-150	0.25-0.50	0.30-0.60	0.35-0.80
		>=0.55%C Annealed	750	220	4	50-150	0.25-0.50	0.30-0.60	0.35-0.80
		Quenched and tempered	1000	300	5	50-150	0.25-0.50	0.30-0.60	0.35-0.80
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	50-150	0.25-0.50	0.30-0.60	0.35-0.80
		Quenched and tempered	930	275	7	50-150	0.25-0.50	0.30-0.60	0.35-0.80
			1000	300	8	50-150	0.25-0.50	0.30-0.60	0.35-0.80
			1200	350	9	50-150	0.25-0.50	0.30-0.60	0.35-0.80
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	20-60	0.20-0.30	0.25-0.40	0.30-0.50
Quenched and tempered		1100	325	11	20-60	0.20-0.30	0.25-0.40	0.30-0.50	
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	20-40	0.20-0.30	0.25-0.40	0.30-0.50
		Martensitic	820	240	13	20-40	0.20-0.30	0.25-0.40	0.30-0.50
		Austenitic	600	180	14	20-40	0.20-0.30	0.25-0.40	0.30-0.50
K	Gray cast iron (GG)	Ferritic		160	15	50-200	0.30-0.60	0.35-0.80	0.40-1.00
		Pearlitic		250	16	50-200	0.30-0.60	0.35-0.80	0.40-1.00
	Cast iron nodular (GGG)	Ferritic		180	17	50-200	0.30-0.60	0.35-0.80	0.40-1.00
		Pearlitic		260	18	50-200	0.30-0.60	0.35-0.80	0.40-1.00
	Malleable cast iron	Ferritic		130	19	50-200	0.30-0.60	0.35-0.80	0.40-1.00
		Pearlitic		230	20	50-200	0.30-0.60	0.35-0.80	0.40-1.00
N	Aluminum - wrought alloy	Not cureable		60	21	100-250	0.30-0.60	0.35-0.80	0.40-1.00
		Cured		100	22	100-250	0.30-0.60	0.35-0.80	0.40-1.00
	Aluminum- cast, alloyed <=12% Si	Not cureable		75	23	100-250	0.30-0.60	0.35-0.80	0.40-1.00
		Cured		90	24	100-250	0.30-0.60	0.35-0.80	0.40-1.00
	>12% Si	High temp.		130	25	100-250	0.30-0.60	0.35-0.80	0.40-1.00
		>1% Pb Free cutting		110	26	100-250	0.30-0.60	0.35-0.80	0.40-1.00
	Copper alloys	Brass		90	27	100-250	0.30-0.60	0.35-0.80	0.40-1.00
		Electrolitic copper		100	28	100-250	0.30-0.60	0.35-0.80	0.40-1.00

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous