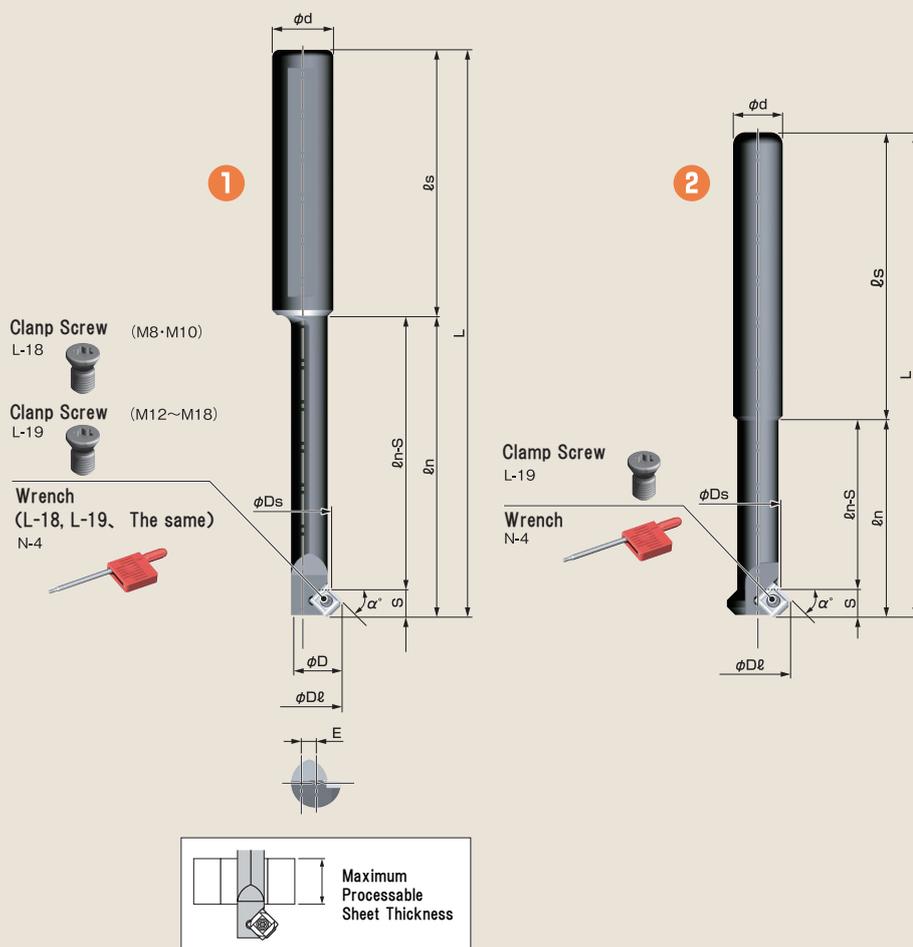


## Exclusive use for back chamfering

● This is a special tool for back spot hole chamfering and edge chamfering process



30°		
Model. No.	Hole diameter	Capacity
		Rear edge chamfering
UMH12-6.8S-M8-30	φ6.8	φ6.8mm~φ9.7mm
UMH12-8.5S-M10-30	φ8.5	φ8.5mm~φ11.7mm
UMH12-10S-M12-30	φ10.0	φ10.0mm~φ14.8mm
UMH12-12S-M14-30	φ12.0	φ12.0mm~φ16.8mm
UMH12-14S-M16-30	φ14.0	φ14.0mm~φ18.8mm
UMH16-16S-M18-30	φ16.0	φ16.0mm~φ20.8mm
UM12-16S-30		φ16.0mm Over ~

45°		
Model. No.	Hole diameter	Capacity
		Rear edge chamfering
UMH12-6.8S-M8	φ6.8	φ6.8mm~φ9.7mm
UMH12-8.5S-M10	φ8.5	φ8.5mm~φ11.7mm
UMH12-10S-M12	φ10.0	φ10.0mm~φ14.8mm
UMH12-12S-M14	φ12.0	φ12.0mm~φ16.8mm
UMH12-14S-M16	φ14.0	φ14.0mm~φ18.8mm
UMH16-16S-M18	φ16.0	φ16.0mm~φ20.8mm
UM12-16S		φ16.0mm Over ~

60°		
Model. No.	Hole diameter	Capacity
		Rear edge chamfering
UMH12-6.8S-M8-60	φ6.8	φ6.8mm~φ9.7mm
UMH12-8.5S-M10-60	φ8.5	φ8.5mm~φ11.4mm
UMH12-10S-M12-60	φ10.0	φ10.0mm~φ13.5mm
UMH12-12S-M14-60	φ12.0	φ12.0mm~φ15.5mm
UMH12-14S-M16-60	φ14.0	φ14.0mm~φ17.5mm
UMH16-16S-M18-60	φ16.0	φ16.0mm~φ19.5mm
UM12-14.5S-60		φ14.5mm Over ~

### Body

Model. No.	Figure	Blades	Dimensions (mm)											Inserts	α°
			φD	φDℓ	φDs	φd	L	ℓs	ℓn	ℓn-S	S	T	E		
UMH12-6.8S-M8-30	①	1	6.2	9.7	6.8	12	107	70	37	32.1	4.9	28	1.76	SP-SPET040102	30°
UMH12-8.5S-M10-30	①	1	7.5	11.7	8.5	12	117	70	47	42.0	5.0	38	2.11	SPET040102	
UMH12-10S-M12-30	①	1	9.0	14.8	10.0	12	129	70	59	52.2	6.8	47	2.92	SPET06T104	
UMH12-12S-M14-30	①	1	10.0	16.8	12.0	12	134	70	64	57.2	6.8	52	3.42	SPET06T104	
UMH12-14S-M16-30	①	1	12.0	18.8	14.0	12	139	70	69	62.2	6.8	57	3.41	SPET06T104	
UMH16-16S-M18-30	①	1	14.0	20.8	16.0	16	149	70	79	72.2	6.8	67	3.41	SPET06T104	
UM12-16S-30	②	1		16.0	11.0	12	118	70	48	41.1	6.9			SPET06T104	45°
UMH12-6.8S-M8	①	1	6.2	9.7	6.8	12	107	70	37	32.2	4.8	28	1.76	SP-SPET040102	
UMH12-8.5S-M10	①	1	7.5	11.7	8.5	12	117	70	47	42.0	5.0	38	2.11	SPET040102	
UMH12-10S-M12	①	1	9.0	14.8	10.0	12	129	70	59	52.1	6.9	47	2.92	SPET06T104	
UMH12-12S-M14	①	1	10.0	16.8	12.0	12	134	70	64	57.1	6.9	52	3.42	SPET06T104	
UMH12-14S-M16	①	1	12.0	18.8	14.0	12	139	70	69	62.1	6.9	57	3.41	SPET06T104	
UMH16-16S-M18	①	1	14.0	20.8	16.0	16	149	70	79	72.1	6.9	67	3.41	SPET06T104	60°
UM12-16S	②	1		16.0	11.0	12	118	70	48	41.0	7.0			SPET06T104	
UMH12-6.8S-M8-60	①	1	6.2	9.7	6.8	12	107	70	37	32.0	5.0	28	1.76	SP-SPET040102	
UMH12-8.5S-M10-60	①	1	7.5	11.4	8.5	12	117	70	47	42.0	5.0	38	1.96	SPET040102	
UMH12-10S-M12-60	①	1	9.0	13.5	10.0	12	129	70	59	52.7	6.3	47	2.27	SPET06T104	
UMH12-12S-M14-60	①	1	10.0	15.5	12.0	12	134	70	64	57.7	6.3	52	2.77	SPET06T104	
UMH12-14S-M16-60	①	1	12.0	17.5	14.0	12	139	70	69	62.7	6.3	57	2.76	SPET06T104	60°
UMH16-16S-M18-60	①	1	14.0	19.5	16.0	16	149	70	79	72.7	6.3	69	2.76	SPET06T104	
UM12-14.5S-60	②	1		14.5	11.0	12	118	70	48	41.7	6.3			SPET06T104	

※ Inset is not supplied as standard accessory. Please order separately.

※ Clamp screw and wrench are supplied as standard accessory.

Rear Spot surface chamfer process in bore process



Rear surface Edge chamfering process

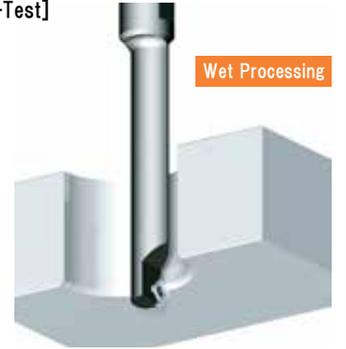


Processing Example

[Eccentric Rear Chamfering Cutter-Test]

- Body : UMH12-8 5S-M10
- Insert : SPET040102 AC16N

- Material : SKD11
- Rotation Speed : 800r.p.m.
- Cutting Speed : 21m/min
- Table Feed : 40mm/min
- Blade Feed : 0.05mm/tooth
- Hole diameter : 8.5mm
- Cutting Depth : 1mm



Result

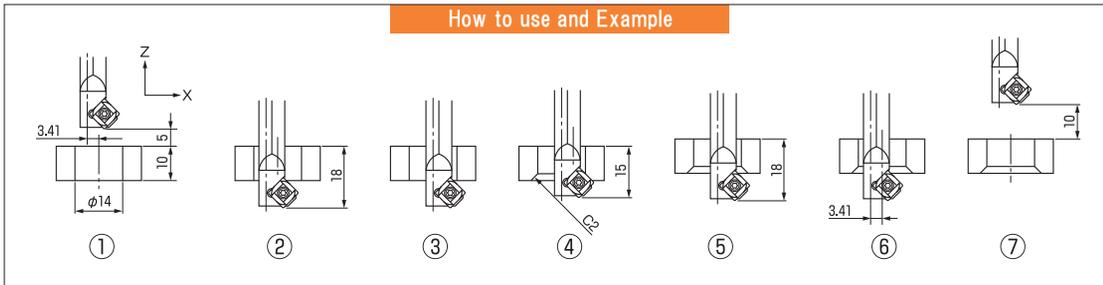
Good!  
Without secondary burrs and chattering

Cutting Conditions

Body Figure	1 UMH□-□□□-M□-30 UMH□-□□□-M□ UMH□-□□□-M□-60			2 UM12-16S UM12-16S-30 UM12-14.5S-60				
	Material Model	NK1010	NK2020	AC16N	Material Model	NK1010	NK2020	AC16N
	Feed Per Blade (fz)		Cutting speed (m / min)		Feed Per Blade (fz)		Cutting Speed (m / min)	
General Steel	0.03~0.05		25~30	25~30	0.05~0.1		50~70	50~70
Alloy Steel	0.03~0.05		25~30	25~30	0.05~0.1		50~70	50~70
Stainless Steel	0.03~0.05		20~25	25~30	0.05~0.1		40~50	40~50
Aluminum, Resin, Brass	0.03~0.05	30~35			0.05~0.1	80~100		
Cast Steel	0.03~0.05	30~35			0.05~0.1	80~100		

- According to the shape of work, clamp condition, large or small chamfering amount and position of blade, the cutting condition will have to be reduced
- Coolant is recommended
- Yellow marked condition is recommended for the material listed

How to use and Example



Example program (UMH12-14S-M16)

- N10
- G90 G00 G54 X-3.41 Y0 M19
- G43 Z5.0 H3 T11
- G1 Z-18.0 F2000
- X0
- M3 S600
- G1 Z-14.9 F30
- Z-18.0 F200
- M19
- X-3.41
- G0 Z10.0
- G80 Z10.0
- G30 Z10.0

Max. processing thickness: T  
Chamfer amount: C  
Z = -(T+S-C)

Insert

Figure	Model.No.	Material	Blade Shape	Coating	Usable corner	Quantity per box
M8 (SP-SPET040102) 	SP-SPET040102 NK1010	Carbide K10	Sharp edge	None	1	12
	SP-SPET040102 NK2020	Carbide M20	Honing edge	None	1	12
	NEW SP-SPET040102 AC16N	Fine particles Carbide	Honing edge	AICrN	1	12
M10 (SPET040102) 	SPET040102 NK1010	Carbide K10	Sharp edge	None	4	12
	SPET040102 NK2020	Carbide M20	Honing edge	None	4	12
	NEW SPET040102 AC16N	Fine particles Carbide	Honing edge	AICrN	4	12
M12~18/UM12-16S (SPET06T104) 	SPET06T104 NK1010	Carbide K10	Sharp edge	None	4	12
	SPET06T104 NK2020	Carbide M20	Honing edge	None	4	12
	NEW SPET06T104 AC16N	Fine particles Carbide	Honing edge	AICrN	4	12