ANGLE JET（Angle Head Holder）

**With the new mechanism "the coolant unit ",
the thru-the-coolant from the spindle can be supplied
directly to the cutting edge.**

FEATURES

Perfectly suitable for spindle through coolant

"Coolant unit"has made it possible to deliver coolant internally starting from the spindle to the point of cutting tool which was impossible before.

Various applications to use

Angle-Jet can make full use of it's performance not only in drilling but in various types of machining such as tapping and milling.

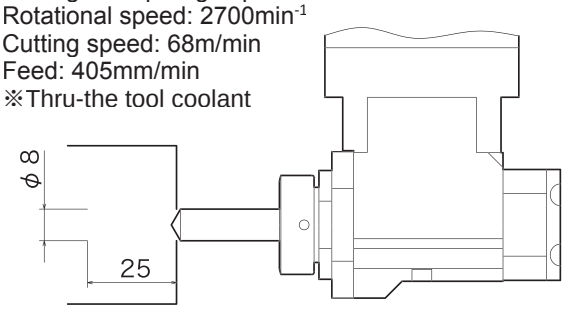
Specifications

Max.revolution：4,000min
Coolant pressure：MAX2.0Mpa
Gear raito：1:1
Allowable transmittal torque：5.8N・m
Collet systems：CR10、CR16、CR20
Run-out：4×D point 0.02mm
Universal position of 360°

Mashining Conditions

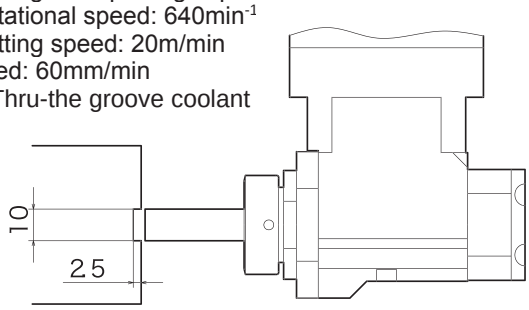
BBT40-AGCT-RSC16-190AJ

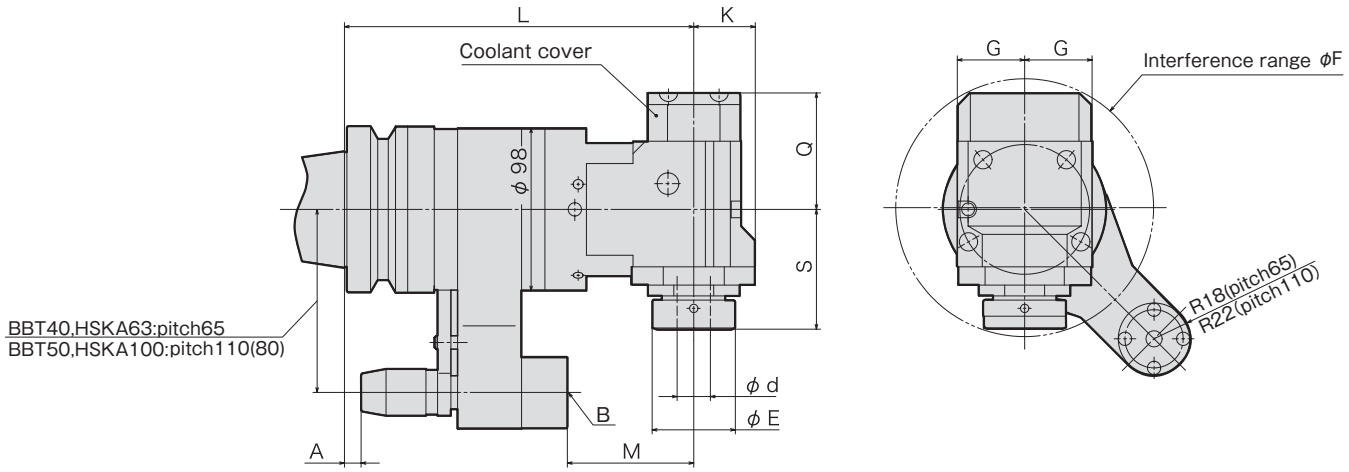
The work material: A5052
Cutting tool: φ8 high speed drill with oil hole
Rotational speed: 2700min^{-1}
Cutting speed: 68m/min
Feed: 405mm/min
※Thru-the tool coolant



BBT40-AGCT-RSC16-190AJ

The work material: S50C
Cutting tool: φ10 high speed two blade end mill
Rotational speed: 640min^{-1}
Cutting speed: 20m/min
Feed: 60mm/min
※Thru-the groove coolant





BBT SHANK

MODEL		CODE	ød	øE	L	K	M	S	G	Q	Q'	F	F'	COLLET	N/W(kg)
BBT40	-AGCT-RSC10-190AJ	240622	2.9~10	30	190	26	80	58	40.5	67	47.5	137	123	CROH10	6.0
	-AGCT-RSC16-190AJ	240624	5.5~16	42		28.5		60		70	50.5	142	128	CROH16	6.2
BBT50	-AGCT-RSC10-210AJ	270662	5.5~10	30	210	26	76	58		67	47.5	137	123	CROH10	10.4
	-AGCT-RSC20-210AJ	270664	7.5~20	50		37		72		70	50.5	155	140	CROH20	11.0

HSK SHANK

MODEL		CODE	ød	øE	L	K	M	S	G	Q	Q'	F	F'	COLLET	N/W(kg)
HSKA63	-AGCT-RSC10-200AJ	321272	2.9~10	30	200	26	80	58	40.5	67	47.5	137	123	CROH10	5.8
	-AGCT-RSC16-200AJ	321274	5.5~16	42		28.5		60		70	50.5	142	128	CROH16	6.0
HSKA100	-AGCT-RSC10-220AJ	351072	5.5~10	30	220	26	76	58		67	47.5	137	123	CROH10	9.4
	-AGCT-RSC20-220AJ	351074	7.5~20	50		37		72		70	50.5	155	140	CROH20	10.0

NOTE : 1.Rotation direction of cutting tool is reversed; speed ratio is 1:1
2.Angle of position pin, drive key groove and addendum direction can be set freely.
3.Angle-Jet can be used by thru-the tool coolant only. No Dry cutting!
4.Non-thru-the tool coolant type (AG model) is also available. Q' and F' shown in above dimension chart correnspond to AG model.
5.Wrench to clamp nut is included, but collet is not include.
6.Set length of A is 8mm(for BBT40 & HSKA63), nad 6mm(for BBT50 & HSKA100) is standard of SHOWA but other length.
7.Installation of Angle-Jet requires a positioning block.
8.Deeping on Machine type, ATC(Aoutmatic Tool Changer) may not be used.
9.Supply of coolant through positioning pin requires connecting coolant hose with B posititon(65mm:PT1/16,110mm:PT1/8)(this only is AG model).

COLLET

Body	Collet type	Grasp range
AGCT-RSC10	CROH10-**	ϕ2.9~ϕ10
AGCT-RSC16	CROH16-**	ϕ5.5~ϕ16
AGCT-RSC20	CROH20-**	ϕ7.5~ϕ20

ACCESSORIES P.54 COLLETS
ACCESSORIES P.57 CHUCK WRENCH
ACCESSORIES P.94 NUT

NUT

Body	Nut type
AGCT-RSC10	RSN10NB
AGCT-RSC16	RSN16NB
AGCT-RSC20	RSN20NB

ACCESSORIES for COLLET CHUCK

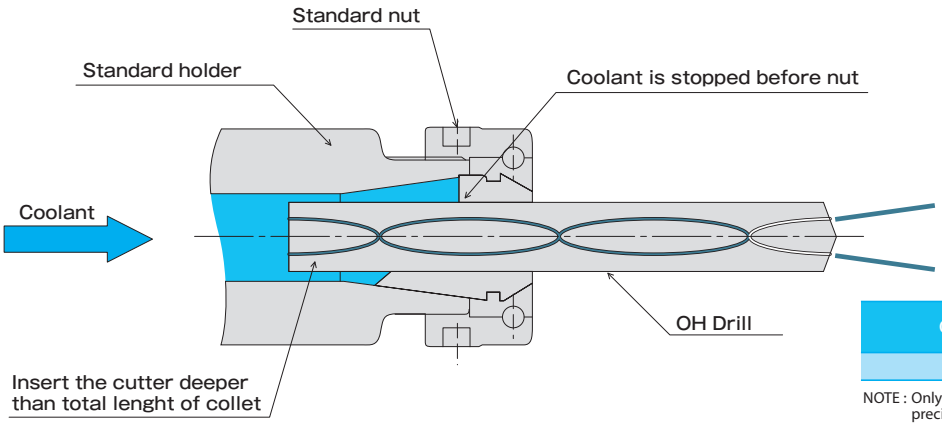
ACCESSORIES

OIL HOLE CR COLLET

CROH№-Ⓓ

FEATURES

- For thru-the tool coolant application.
- High pressure up to 7 Mpa is acceptable.
- Standard holders and nuts can be used.
- Bearing of nut is not affected by coolant.



GRADE	RUNOUT (MAX, μm) 4×d
(AA)	5μm

NOTE : Only super precious grade (AA) is available for sale only ultra precision grade (AA) type.

COLLET CODECHUCK	RSC07 CROH07-d GRADE		RSC10 CROH10-d GRADE		RSC13 CROH13-d GRADE		RSC16 CROH16-d GRADE		RSC20 CROH20-d GRADE	
	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE
	2.0	1.9~2.0	2.0	1.9~2.0	3.0	2.9~3.0	3.0	2.9~3.0	3.0	2.9~3.0
	2.5	2.4~2.5	2.5	2.4~2.5	3.5	3.4~3.5	3.5	3.4~3.5	3.5	3.4~3.5
	3.0	2.9~3.0	3.0	2.9~3.0	4.0	3.9~4.0	4.0	3.9~4.0	4.0	3.9~4.0
	4.0	3.9~4.0	4.0	3.9~4.0	4.5	4.4~4.5	4.5	4.4~4.5	4.5	4.4~4.5
	4.5	4.4~4.5	4.5	4.4~4.5	5.0	4.9~5.0	5.0	4.9~5.0	5.0	4.9~5.0
	5.0	4.9~5.0	5.0	4.9~5.0	5.5	5.0~5.5	5.5	5.4~5.5	5.5	5.4~5.5
	5.5	5.4~5.5	5.5	5.0~5.5	6.0	5.5~6.0	6.0	5.5~6.0	6.0	5.9~6.0
	6.0	5.9~6.0	6.0	5.5~6.0	6.5	6.0~6.5	6.5	6.0~6.5	6.5	6.4~6.5
	6.5	6.4~6.5	6.5	6.0~6.5	7.0	6.5~7.0	7.0	6.5~7.0	7.0	6.9~7.0
	7.0	6.9~7.0	7.0	6.5~7.0	7.5	7.0~7.5	7.5	7.0~7.5	7.5	7.4~7.5
			7.5	7.0~7.5	8.0	7.5~8.0	8.0	7.5~8.0	8.0	7.5~8.0
			8.0	7.5~8.0	8.5	8.0~8.5	8.5	8.0~8.5	8.5	8.0~8.5
			8.5	8.0~8.5	9.0	8.5~9.0	9.0	8.5~9.0	9.0	8.5~9.0
			9.0	8.5~9.0	9.5	9.0~9.5	9.5	9.0~9.5	9.5	9.0~9.5
			9.5	9.0~9.5	10.0	9.5~10.0	10.0	9.5~10.0	10.0	9.5~10.0
			10.0	9.5~10.0	10.5	10.0~10.5	10.5	10.0~10.5	10.5	10.0~10.5
ϕd					11.0	10.5~11.0	11.0	10.5~11.0	11.0	10.5~11.0
					11.5	11.0~11.5	11.5	11.0~11.5	11.5	11.0~11.5
					12.0	11.5~12.0	12.0	11.5~12.0	12.0	11.5~12.0
					12.5	12.0~12.5	12.5	12.0~12.5	12.5	12.0~12.5
					13.0	12.5~13.0	13.0	12.5~13.0	13.0	12.5~13.0
							13.5	13.0~13.5	13.5	13.0~13.5
							14.0	13.5~14.0	14.0	13.5~14.0
							14.5	14.0~14.5	14.5	14.0~14.5
							15.0	14.5~15.0	15.0	14.5~15.0
							15.5	15.0~15.5	15.5	15.0~15.5
							16.0	15.5~16.0	16.0	15.5~16.0
									16.5	16.0~16.5
									17.0	16.5~17.0
									17.5	17.0~17.5
									18.0	17.5~18.0
									18.5	18.0~18.5
									19.0	18.5~19.0
									19.5	19.0~19.5
									20.0	19.5~20.0
ϕD	11		16		20		25		32	
L	18		27		31		35		40	

NOTE : 1. Applicable for drill with oil hole.
2. When in use insert a drill to the end from the rear of the collet.
3. Do not use smaller sized cutting tools than inner diameter of collet, or coolant may leak out of a collet.
4. If flat-face shank cutting tool is used, sealing function of collet does not work.

ORDERING EXAMPLE

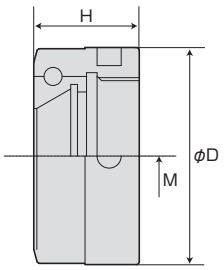
① CROH10 - ② 10 ③ AA

① Chuck Type
② ød
③ Grade

ACCESSORIES

NUT FOR COLLET CHUCK

RSN № - TYPE



for BT, ST

CODE		M	ϕD	H	CHUCK
RSN07NB(Ni)	30891	M16×1.0	24	11.5	RSC07
RSN10NB(Ni)	30892	M21×1.0	30	15.5	RSC10
RSN13NB(Ni)	30893	M26×1.0	36	17.5	RSC13
RSN16NB(Ni)	30894	M32×1.0	42	17.5	RSC16
RSN20NB(Ni)	30895	M40×1.0	50	17.5	RSC20

Through-Coolant use

CODE		M	ϕD	H	CHUCK
RSN10NB-OH	30870	M21×1.0	30	15.5	RSC10
RSN13NB-OH	30871	M26×1.0	36	17.5	RSC13
RSN16NB-OH	30872	M32×1.0	42		RSC16
RSN20NB-OH	30873	M40×1.0	50		RSC20

Note: Single use of OH nut can not cope with the thru-the-tool coolant.

ACCESSORIES

ADJUST SCREW (For COLLET CHUCK)

FIG.1

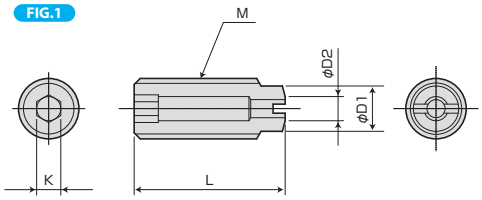
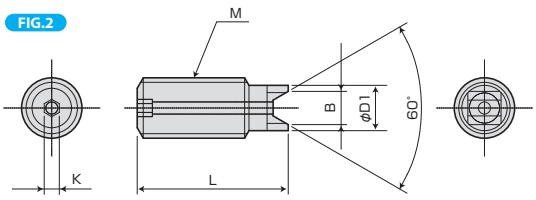


FIG.2



MODEL	FIG	M	L	D1	D2	K	B	HOLDER
M6×20L-CTW 1)	1	M6×1.0	20	4.5	3	3	—	RSC07
RAS10-25-2.5 2)	2	M10×1.5	25	7.5	—	2.5	5.5	RSC10
RAS13-25-2.5 2)		M12×1.5		9.5			7.2	RSC13
RAS16-25-5 2)		M18×1.5		13.5		5	9.5	RSC16
RAS20-25-5 2)		M24×1.5		17.5				RSC20

Note 1: Drill less than φ3 cannnot ne used for adjustment protrusion in order to enter the coolant hole.
CTW is not in the two pieces shape
Note 2: Drill less than φ2 cannnot ne used for adjustment protrusion in order to enter the coolant hole.

ACCESSORIES

CHUCK WRENCH (For COLLET CHUCK)

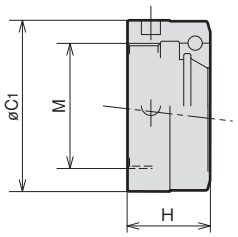
CODE		CHUCK
FP25	35844	RSC07
FP30	35845	RSC10
FP35	35846	RSC13
FP42	35847	RSC16
FP50	35848	RSC20

ACCESSORIES for TRACTION DRIVE SPEED ACCELERATOR

ACCESSORIES

NUT FOR TAP HOLDER FOR SYNCHRONIZED MACHINE & TRACTION DRIVE SPEED ACCELERATOR

RSN№NB



CODE		M	øC1	H	TDU No.
RSN10NB	30898	21×1.0	30	15.5	(TDU17)
RSN20NB	30899	40×1.0	50	17.5	(TDU40)