

2024

TOOLING SYSTEM

PAVO TOOLS(HANGZHOU)CO.,LTD.

2024

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TOOLING
SYSTEM



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COMPANY PROFILE

ENTERPRISE MISSION

Provide the reasonable cutting solution

ENTERPRISE VISION

To become the leading brand in the cutting tool industry

ENTERPRISE VALUES

Originality, integrity, innovation and win-win



Muge Precision Tools (Hangzhou) Co., Ltd. was established in 2010. It is a modern enterprise specializing in the research and development, production, sales, and service of CNC and non-standard cutting tools. It is a national high-tech enterprise and a technology-based small and medium-sized enterprise in Zhejiang Province. It is recognized as a "specialized, refined, and new small and medium-sized enterprise" by the Ministry of Industry and Information Technology. The company has won multiple honors such as 14 exterior design and utility model patents issued by the state, And passed ISO9001 quality management system certification, ISO14001 environmental management system certification, and ISO45001 occupational health and safety management system certification.

The company adheres to the development vision of "becoming a leading brand in the cutting tool industry"; Integrating talent and technological resources, always adhering to the concept of "providing reasonable cutting solutions" for customers; Adhere to the values of "craftsmanship, integrity, innovation, and win-win". Continuously improving product quality and service level, the project covers the whole country, and has won the trust and support of customers.

The company has advanced manufacturing technology and testing equipment. Since 2012, it has successively imported production equipment from countries and regions such as Japan and Germany. The main equipment includes Japan's Mazak CNC lathe, Keppel five axis machining center, Germany's DMG turning and milling composite machining center, and Harting multi axis digital control grinding machine. To ensure 100% customer satisfaction, Muger also conducts a self inspection of the product. Muge has advanced testing equipment such as the German Zhuolu Knife Setting Instrument and Hanmo Dynamic Balancing Machine.

After more than ten years of hard work, Muge Tools has become a high-quality precision machining tool brand in China. The company currently has nearly ten direct sales and distribution outlets nationwide, and its products are sold in more than 20 provinces and cities across the country, and are also exported to countries and regions such as Italy, Russia, and Japan. The future development direction of the company is intelligence, digitization, and greening. The company plans to continuously improve product competitiveness and market share through technological innovation and quality improvement.

HONOR SYSTEM















ENTERPRISE PATENTS

Independently developed nearly 30 patents and achievements accelerate the transformation and industrialization of scientific and technological achievements









PRODUCTION FACILITY

DMG MORI Turn & Mill Complete Machining Center

MAZAK CNC machining center

CAMPRO Five-axis machining center

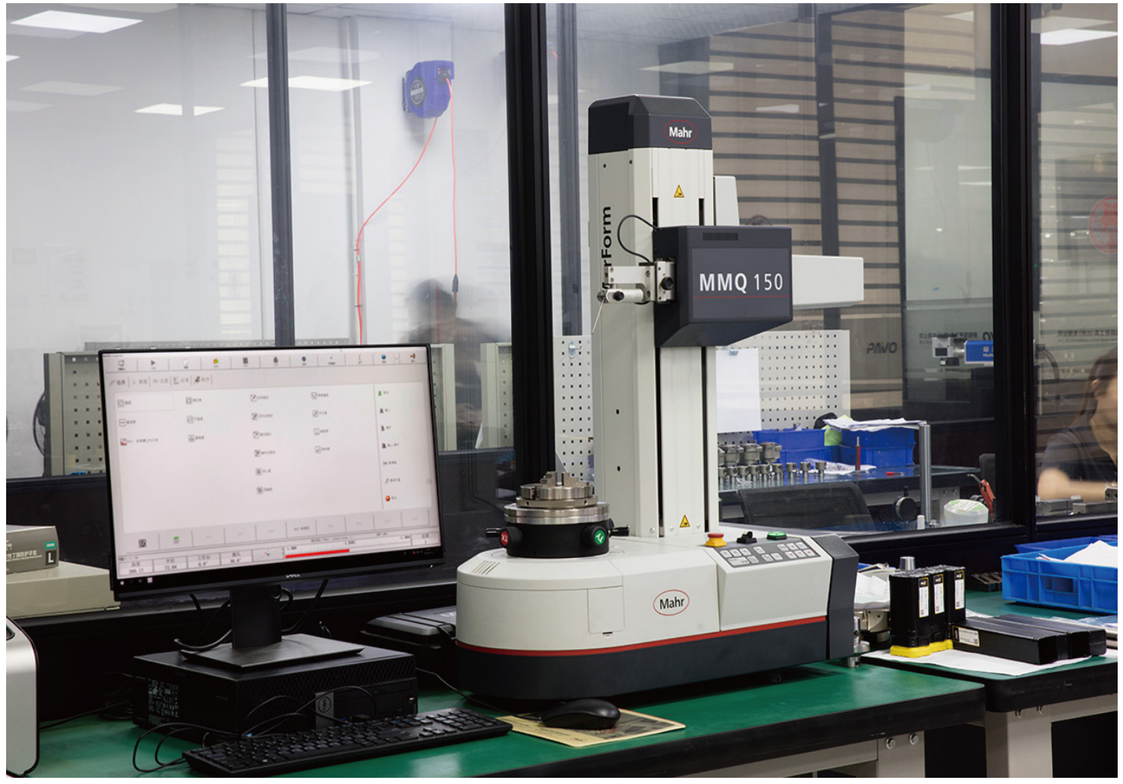
HARDINGE grinding machines

PRODUCTION FACILITY

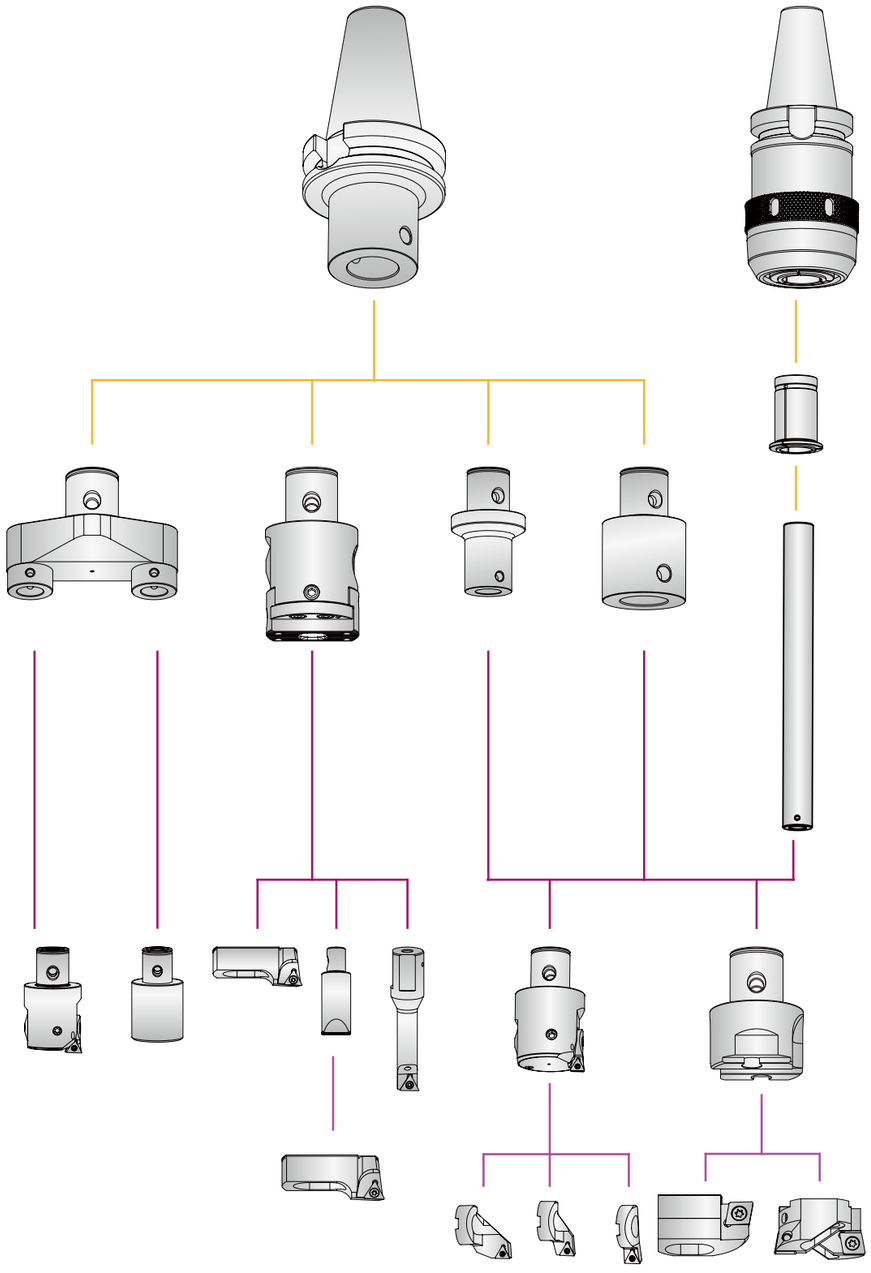
ZOLLER PRESETTER

Mahr high-precision cylindricity instrument





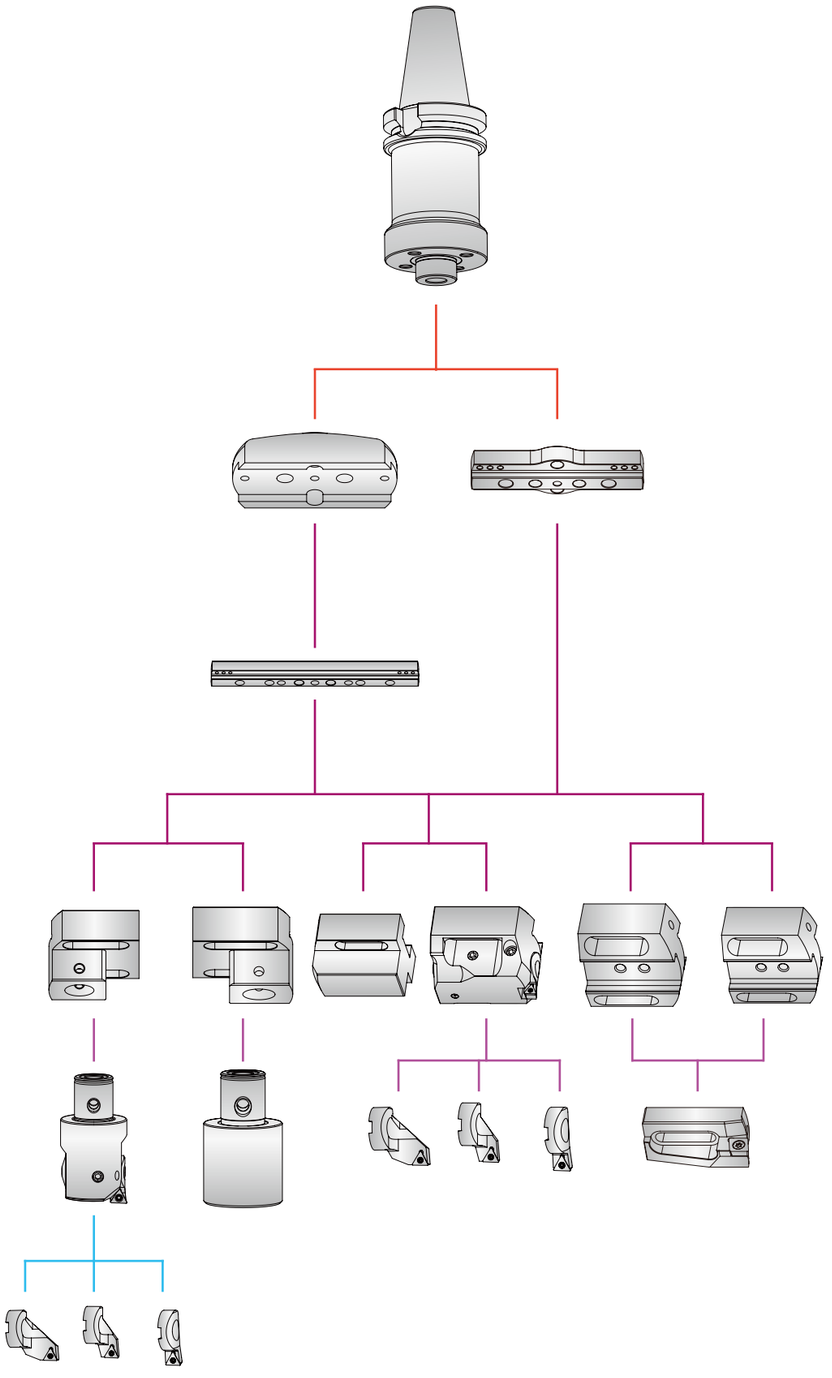
Boring cutter combination



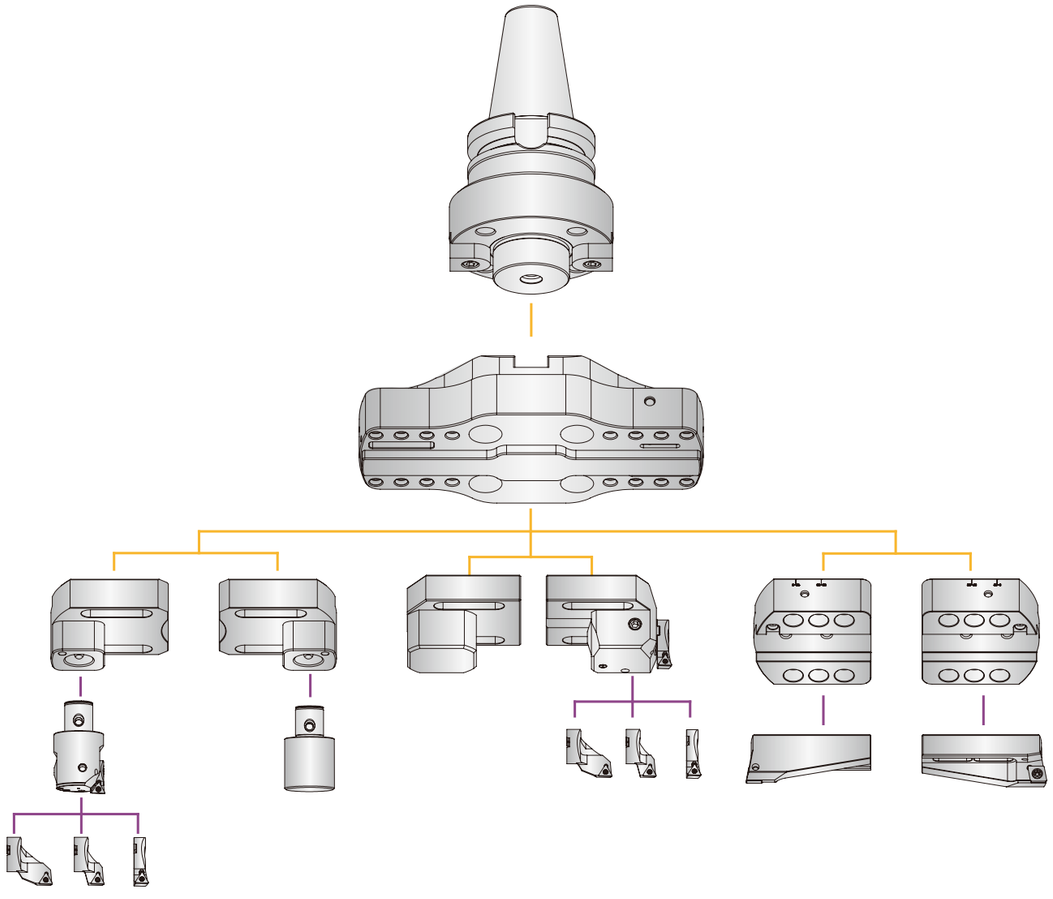
BORING SYSTEM

Hole Processing Tools

Boring cutter combination



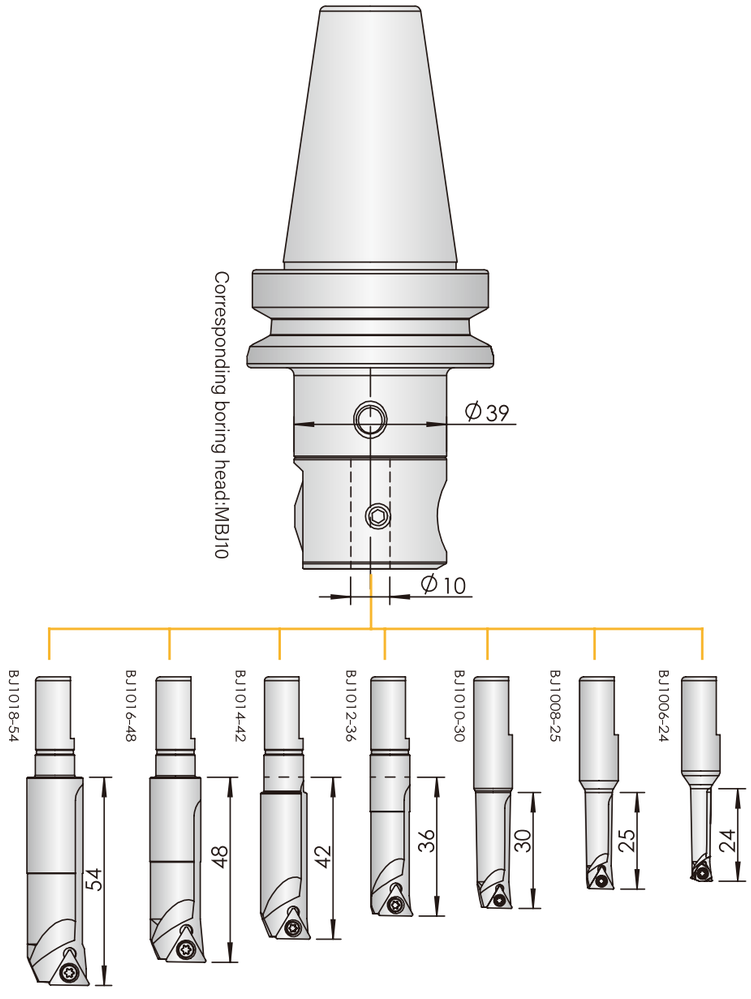
Internal coolant large boring tool system



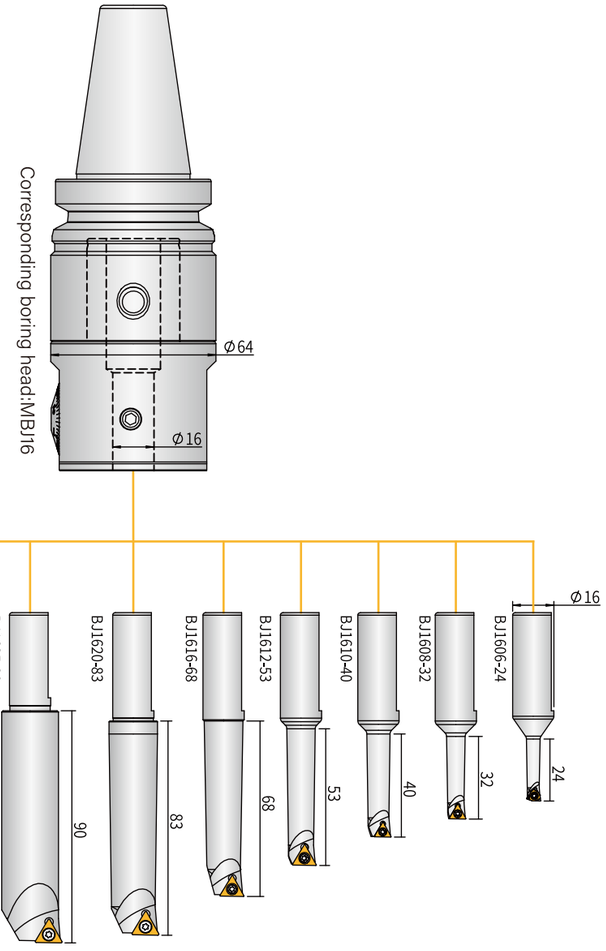
BORING SYSTEM

Hole Processing Tools

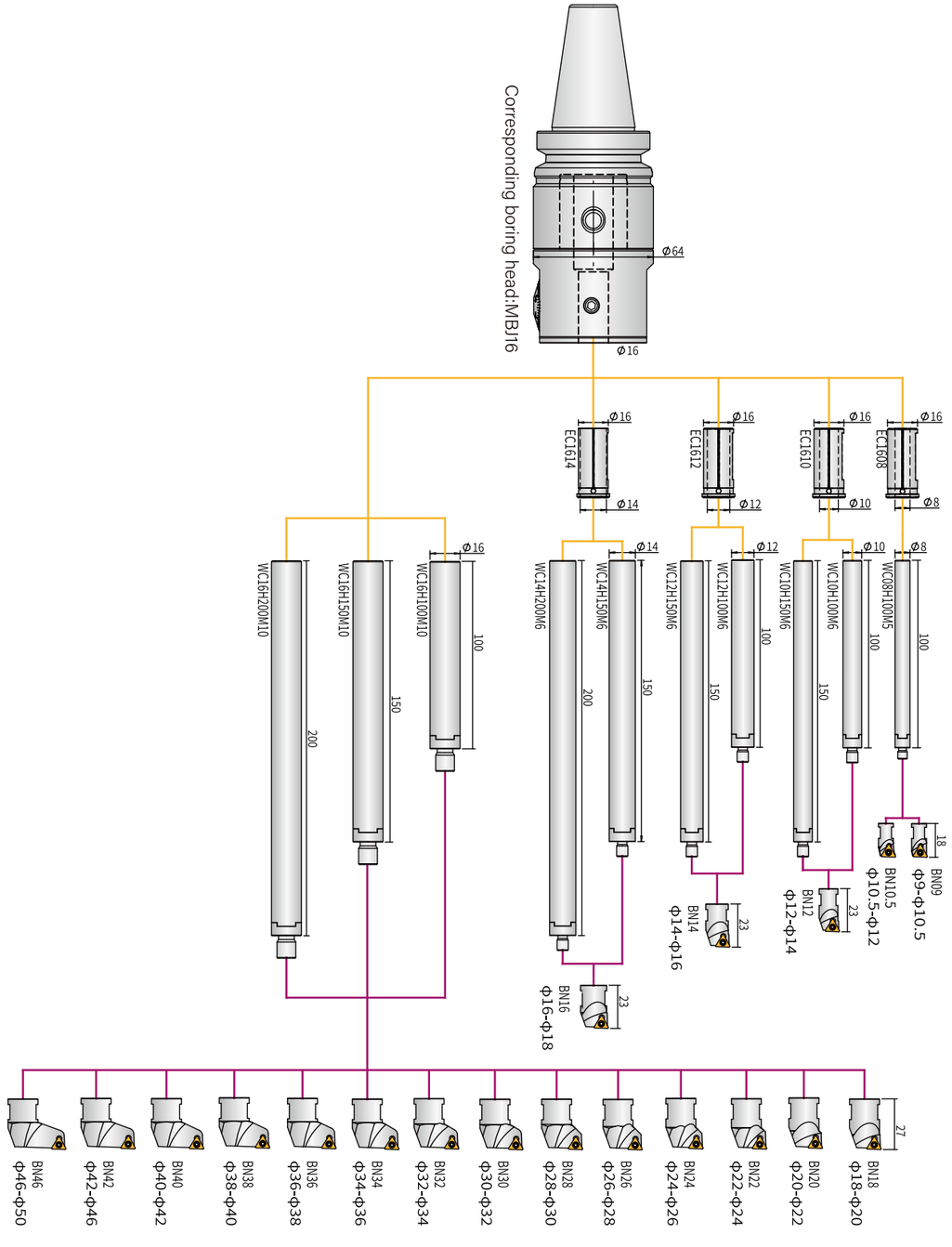
Small bore tool system



Small bore system

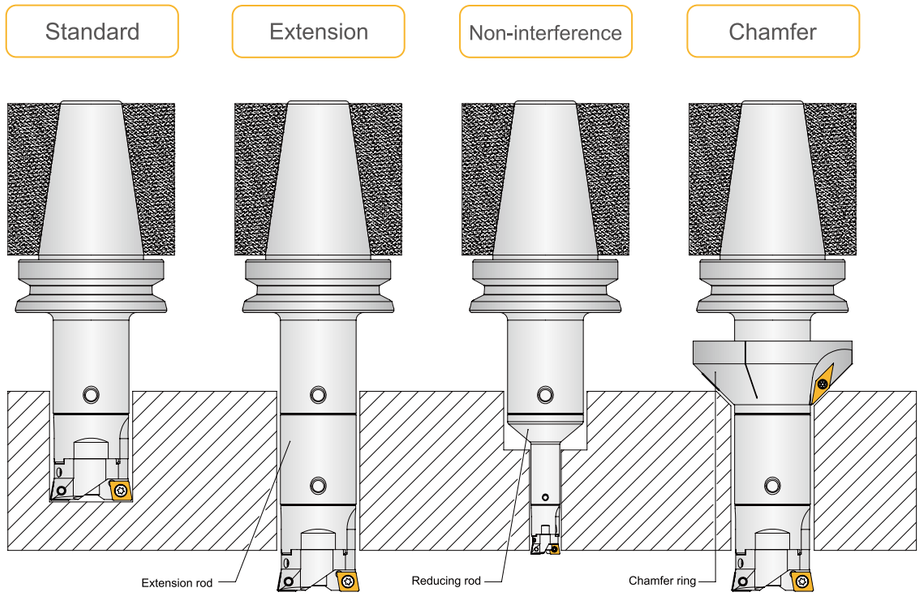


Small bore system

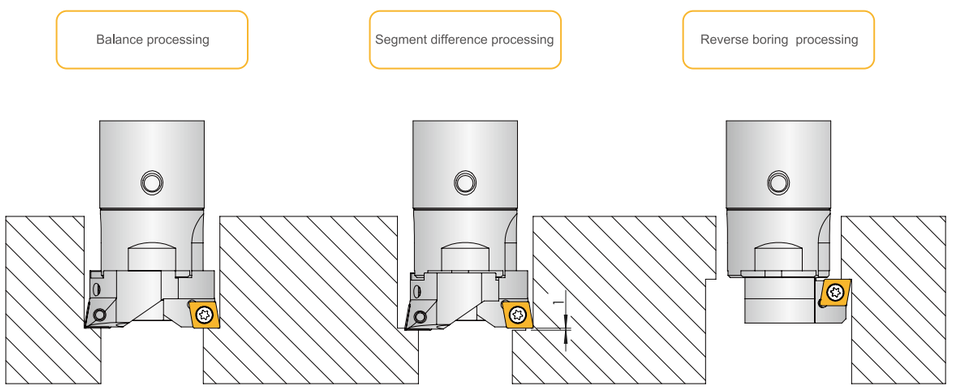


Rough boring system

Connection form



Processing methods

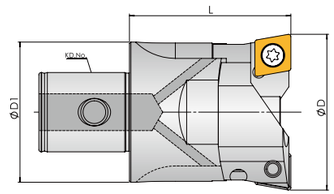


Blind hole type rough boring head

Processing range φ20-φ203

- Suitable for single and double edge boring , min processing diameter is 20 according to various processing
- Requirements, the boring tool can be easily adjusted to make small amount but various processing, the processing depth can be extended to the required length with the extensions
- Clear side scales allow the user adjust to the required range easily, don't have to preset on the tool presetter



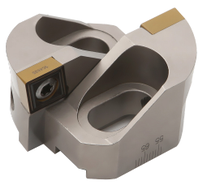


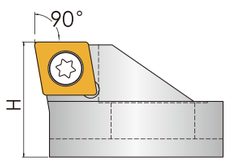
Process Diameter ΦD	Order Combination Model	KD.NO.	Cutter Body Model	Cartridge Code	ΦD1	L	Lock Screw Combination	Weight (kg)
20-26	CMR20-26KD1(RSC2026)	1	CMR20-26KD1	RSC-2026	18.7	32.5	RMM4x16	0.06
25-33	CMR25-33KD2(RSC2533)	2	CMR25-33KD2	RSC-2533	23.5	35.5	RMM5x16	0.11
32-42	CMR32-42KD3(RSC3242)	3	CMR32-42KD3	RSC-3242	30.5	40	RMM6x20	0.19
41-51	CMR32-42KD3(RSC4151)			RSC-4151				0.21
41-54	CMR41-54KD4(RSC4154)	4	CMR41-54KD4	RSC-4154	38.5	47	RMM8x25	0.38
53-66	CMR41-54KD4(RSC5366)			RSC-5366				0.42
53-70	CMR53-70KD5(RSC5370)	5	CMR53-70KD5	RSC-5370	49.5	57	RMM10x30	0.75
69-86	CMR53-70KD5(RSC6986)			RSC-6986				0.87
68-90	CMR68-110KD6(RSC6890)	6	CMR68-110KD6	RSC-6890	64	71	RMM10x35	1.6
88-110	CMR68-110KD6(RSC88110)			RSC-88110				1.73
98-126	CMR98-153KD6(RSC98126)	6	CMR98-153KD6	RSC-98126	93	71	RMM12x40	2.32
125-153	CMR98-153KD6(RSC125153)			RSC-125153				2.58
98-126	CMR98-153KD7(RSC98126)	7	CMR98-153KD7	RSC-98126	93	87		3.85
125-153	CMR98-153KD7(RSC125153)			RSC-125153				4.11
148-176	CMR148-203KD6(RSC98126)	6	CMR148-203KD6	RSC-98126	138	71		2.9
175-203	CMR148-203KD6(RSC125153)			RSC-125153				3.15

- Attached with a set of locking screw.shim and a L-shaped wrench
- No insert attached,please purchase according to your needs
- All the CMR boring tools are with internal coolant
- Blind hole type tool holder is included as standard



Couple of spare cartridges for twin cutter boring head

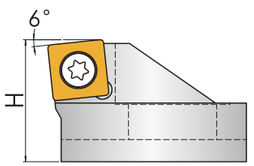




Designation	Adapts To Cutter Body Model	H	Insert	Screw
RSC-2026	CMR20-26KD1	13	CC 06	DM2.5x6-T8
RSC-2533	CMR25-33KD2	14		
RSC-3242	CMR32-42KD3	19.5	CC 09	DM4x10-T15
RSC-4151				
RSC-4154	CMR41-54KD4	21.5		
RSC-5366				
RSC-5370	CMR53-70KD5	27.5	CC 12	DM5x12-T20
RSC-6986				
RSC-6890	CMR68-110KD6	30		
RSC-88110				
RSC-98126	CMR98-153KD6 CMR98-153KD7 CMR148-203KD6	30		
RSC-125153				

Cartidge for rough boring head

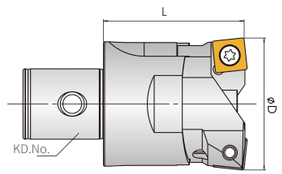




Designation	Adapts To Cutter Body Model	H	Insert	Screw
RSS-2026-B	CMR20-26KD1	13.6	SC 06	DM2.5x6-T8
RSS-2533-B	CMR25-33KD2	14.6		
RSS-3242-B	CMR32-42KD3	20.5	SC 09	DM4x10-T15
RSS-4154-B	CMR41-54KD4	22.5		
RSS-5370-B	CMR53-70KD5	27.7	SC 12	DM5x12-T20
RSS-6890-B	CMR68-110KD6	30.3		
RSS-88110-B				
RSS-98126-B	CMR98-153KD6 CMR98-153KD7 CMR148-203KD6	30.3		
RSS-125153-B				

Rough boring head for through-hole

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- No inserts attached,please purchase according to your needs
- Attached with screw and wrench

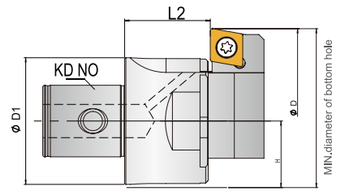
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Process Diameter ΦD	Order Combination Model	KD.NO.	Cutter Body Model	Cartridge Code	ΦD1	L	Lock Screw Combination	Weight (kg)
20-26	CMR20-26KD1(RSS2026-B)	1	CMR20-26KD1	RSS-2026-B	18.7	32.5	RMM4x16	0.06
25-33	CMR25-33KD2(RSS2533-B)	2	CMR25-33KD2	RSS-2533-B	23.5	35.5	RMM5x16	0.11
32-42	CMR32-42KD3(RSS3242-B)	3	CMR32-42KD3	RSS-3242-B	30.5	40	RMM6x20	0.19
41-54	CMR41-54KD4(RSS4154-B)	4	CMR41-54KD4	RSS-4154-B	38.5	47	RMM8x25	0.38
53-70	CMR53-70KD5(RSS5370-B)	5	CMR53-70KD5	RSS-5370-B	49.5	57	RMM10x30	0.75
68-90	CMR68-110KD6(RSS6890-B)	6	CMR68-110KD6	RSS-6890-B	64	71	RMM10x35	1.6
88-110	CMR68-110KD6(RSS88110-B)			RSS-88110-B				1.73
98-126	CMR98-153KD6(RSS98126-B)	6	CMR98-153KD6	RSS-98126-B	93	71		2.32
125-153	CMR98-153KD6(RSS125153-B)			RSS-125153-B				2.58
98-126	CMR98-153KD7(RSS98126-B)	7	CMR98-153KD7	RSS-98126-B	93	87	RMM12x40	3.85
125-153	CMR98-153KD7(RSS125153-B)			RSS-125153-B				4.11
148-176	CMR148-203KD6(RSS98126-B)	6	CMR148-203KD6	RSS-98126-B	138	71		2.9
175-203	CMR148-203KD6(RSS125153-B)			RSS-125153-B				3.15

Rough boring head(reverse boring)

Processing range φ25-φ153





MIN.diameter of bottom hole=H+(Count Bore Diameter/2)

Processing Range ΦD	Cutter Body Model	KD.NO.	Blade Seat Model	ΦD1	L2	Locking Screw	H	Weight (kg)
25-31	CMR20-26KD1	KD1	RSC-F2531	18.7	21.5	RMM4×16	10	0.06
30-35			RSC-F3035					0.06
32-40	CMR25-33KD2	KD2	RSC-F3240	23.5	23.5	RMM5×16	12.5	0.11
39-47			RSC-F3947					0.11
41-51	CMR32-42KD3	KD3	RSC-F4151	30.5	23.5	RMM6×20	16	0.18
50-60			RSC-F5060					0.19
50-63	CMR41-54KD4	KD4	RSC-F5063	38.5	28.5	RMM8×25	20	0.36
61-74			RSC-F6174					0.38
65-82	CMR53-70KD5	KD5	RSC-F6582	49.5	33.5	RMM10×30	25.5	0.7
78-95			RSC-F7895					0.75
80-102	CMR68-110KD6	KD6	RSC-F80102	63	45.5	RMM10×35	32.5	1.5
100-122			RSC-F100122					1.6
98-126	CMR98-153KD6	KD6	RSC-F98126	93	45.5	RMM12×40	46.5	2.25
125-153			RSC-F125153					2.45

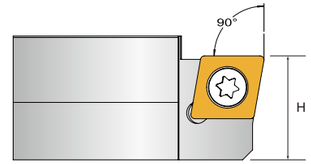
- No inserts attached,please purchase according to your needs
- Attached with screw and wrench



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Cartridge for rough boring head(reverse boring)





Designation	Adapts To Cutter Body Model	H	Insert	Screw
RSC-F2531	CMR20-26KD1	9.5	CC 0602	DM2.5x6-T8
RSC-F3035				
RSC-F3240	CMR25-33KD2	11		
RSC-F3947				
RSC-F4151	CMR32-42KD3	13.5	CC 09T3	DM4x10-T15
RSC-F5060				
RSC-F5063	CMR41-54KD4	17.5		
RSC-F6174				
RSC-F6582	CMR53-70KD5	20.5	CC 1204	DM5x12-T20
RSC-F7895				
RSC-F80102	CMR68-110KD6	22.5		
RSC-F100122				
RSC-F98126	CMR98-153KD6	25		
RSC-F125153				

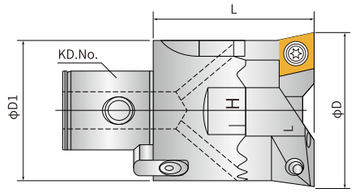
- No inserts attached,please purchase according to your needs
- Attached with screw and wrench



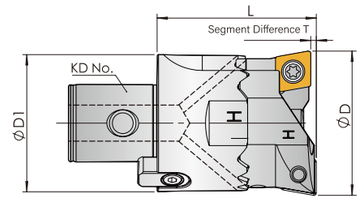
P76

SMR rough boring head





Balanced Cutting:HL/LH



Segment Difference Cutting:HH/LL

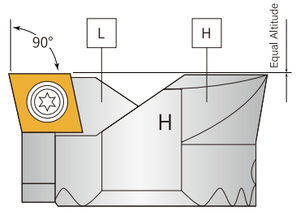
Process Diameter ΦD	Order Combination Model	KD.NO.	Cutter Body Model	Cartridge Code	ΦD1	L	T	Lock Screw Combination	Weight (kg)
20-26	SMR20-26KD1(SMC2026)	KD1	SMR20-26KD1	SMC-2026	18.7	32.5	0.2	RMM4x16	0.08
25-33	SMR25-33KD2(SMC2533)	KD2	SMR25-33KD2	SMC-2533	23.5	35.5	0.2	RMM5x16	0.12
32-42	SMR32-42KD3(SMC3242)	KD3	SMR32-42KD3	SMC-3242	30.5	40	0.2	RMM6x20	0.22
41-54	SMR41-54KD4(SMC4154)	KD4	SMR41-54KD4	SMC-4154	38.5	47	0.4	RMM8x25	0.42
53-70	SMR53-70KD5(SMC5370)	KD5	SMR53-70KD5	SMC-5370	49.5	57	0.4	RMM10x30	0.8
68-90	SMR68-110KD6(SMC6890)	KD6	SMR68-110KD6	SMC-6890	64	71	0.4	LRM8x30	1.75
88-110	SMR68-110KD6(SMC88110)			SMC-88110					1.85
98-126	SMR98-153KD6(SMC98126)		SMR98-153KD6	SMC-98126	93	71	0.4	RMM12x40	2.9
125-153	SMR98-153KD6(SMC125153)			SMC-125153					3.15

P46-P49

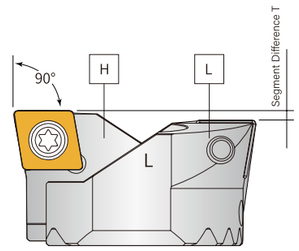
- Attached with a set of locking screw.shim and a L-shaped wrench
- No inserts attached,please purchase according to your needs
- All the SMR boring tools with internal coolant
- SMC toothed toolholders are included as standard

Cartridge for SMR rough boring head





Balanced Cutting



Segment Difference Cutting

Designation	Adapts To Cutter Body Model	Insert	Screw
SMC-2026	SMR20-26KD1	CC 0602	DM2.5x6-T8
SMC-2533	SMR25-33KD2		
SMC-3242	SMR32-42KD3	CC 09T3	DM4x10-T15
SMC-4154	SMR41-54KD4		
SMC-5370	SMR53-70KD5	CC1204	DM5x12-T20
SMC-6890	SMR68-110KD6		
SMC-88110			
SMC-98126	SMR98-153KD6		
SMC-125153			



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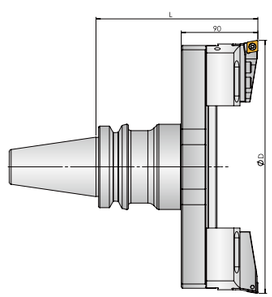
- Each model includes two 2pcs of insert holders are included
- Balanced cutting and severance cutting only require the toolholders on both sides to be swapped

Rough boring head (large aperture)

Processing range φ150-φ530

- Modular design simplifies tool management, for it only needs to combine the componets to meet various ranges of processing
- Aluminum alloy bridge rough boring tool available to reduce the weight of tool





Standard steel bridge bough boring head

Process Range ΦD	Designation	Weight (kg)	Connect Plate		Steel Bridge		Rough Boring Slide		Insert Holder(2PCS)		Insert
			Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	
150-210	CLR 150-210	5.5	/	/	CL 150-210	2.5	LR 150	1.9 (One group)	RS 150	0.6 (One group)	CC 1204
210-290	CLR 210-290	6.7			CL 210-290	3.7					
290-370	CLR 290-370	8.05			CL 290-370	5.05					
370-450	CLR 370-450	9.8			CL 370-450	6.8					
450-530	CLR 450-530	11.4			CL 450-530	8.4					
530-610	CLR 530-610	17.2	CL40-200	4.7	CL 530-610	9.5					
610-690	CLR 610-690	18.7			CL 610-690	11					
690-770	CLR 690-770	20.4			CL 690-770	12.7					
770-850	CLR 770-850	22.7			CL 770-850	15					

- No inserts attached,please purchase according to your needs
- No rivets attached. Please note it, different machines use different type rivets
- If needed, extended bridge type shank (Non-standard) is available.
- The tip and direction of otation of the standard product are in the same phase

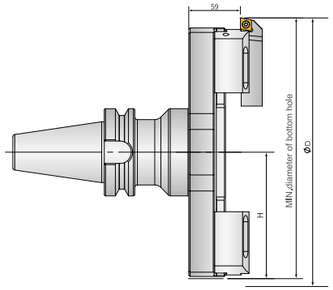


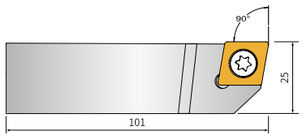
Light Weight AL. Bridge Rough Boring Head

Process Diameter ΦD	Designation	Weight (kg)	Aluminum Bridge		Rough Boring Slide		Insert Holder(2PCS)		Insert
			Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	
150-210	CLR 150-210 AL	3.9	CL 150-210 AL	0.9	LR 150	1.9 (One group)	RS 150	0.6 (One group)	CC 12
210-290	CLR 210-290 AL	4.3	CL 210-290 AL	1.3					
290-370	CLR 290-370 AL	5	CL 290-370 AL	2					
370-450	CLR 370-450 AL	5.5	CL 370-450 AL	2.5					
450-530	CLR 450-530 AL	6	CL 450-530 AL	3					

- Componets can be sold separately
- OEM service available

Rough boring head (large aperture)revers boring



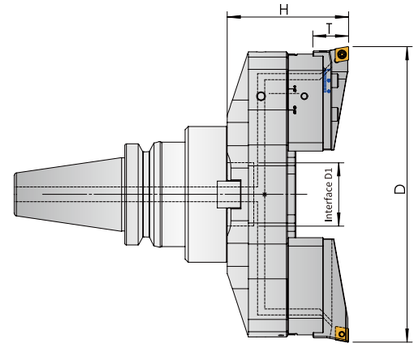


MIN.diameter of bottom hole=H+(Count Bore Diameter/2)

Process Range ΦD	Steel Bridge		H	Rough Boring Slide		Insert Holder(1PCS)		Insert
	Designation	Weight (kg)		Designation	Weight (kg)	Designation	Weight (kg)	
165-205	CL 150-210	2.5	75	LR 150	1.9 (One group)	RSC-F150-A	0.6	CC 12
225-265	CL 210-290	3.7	105					
305-345	CL 290-370	5.05	145					
385-425	CL 370-450	6.8	185					
465-505	CL 450-530	8.4	225					

Internal coolant large boring head(full range AL-base brdige)



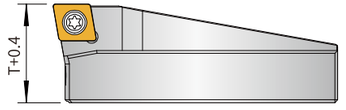


Process Diameter ΦD	Designation	Weight (kg)	Interface D1	H	Aluminum Bridge		Rough Boring Slide		Insert Holder(2PCS)		Insert
					Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	
200-280	CNR 200-280AL	6.9	CL40	115	NL 200-280AL	2.8	NR 200	3.2 (One group)	RNC 200	0.9 (One group)	CC 1204
280-360	CNR 280-360AL	8.1	FMB60	115	NL 280-360AL	4					
360-440	CNR 360-440AL	10.3		125	NL 360-440AL	6.2					
440-520	CNR 440-520AL	11.8		125	NL 440-520AL	7.7					
520-600	CNR 520-600AL	13.8		135	NL 520-600AL	9.7					
600-680	CNR 600-680AL	15.3		135	NL 600-680AL	11.2					
680-760	CNR 680-760AL	18.2		145	NL 680-760AL	14.1					
760-840	CNR 760-840AL	19.5		145	NL 760-840AL	15.4					

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Cratridge for rough boring head height difference

Rough Boring Insert Holder	Insert
RNC 200H	CC 1204



- When used in large margin cutting, with the standard RNC 200 toolholder, it is possible to achieve a height difference of 0.4 mm.

Double-edged rough boring bar

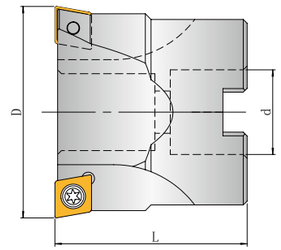




Designation	Edge	D	d	L	L1	Insert	Screw	Wrench	Weight (kg)
C16-TB16-110	2	15.7	16	60	110	CCMT060204	DM2.5x6	T08	0.14
C16-TB17-110	2	16.7		40					0.15
C16-TB18-110	2	17.7							0.15
C16-TB19-110	2	18.7							0.15
C16-TB20-110	2	19.7							0.16
C20-TB21-120	2	20.7	20		120				0.26
C20-TB22-120	2	21.7							0.27
C20-TB23-120	2	22.7							0.27
C20-TB24-120	2	23.7							0.27
C20-TB25-120	2	24.7							0.28
C20-TB26-120	2	25.7							0.28
C20-TB27-120	2	26.7							0.28
C20-TB28-120	2	27.7				CCMT09T308	DM4x10	T15	0.29
C25-TB25-160	2	24.7	25	50	160	CCMT060204	DM2.5x6	T08	0.53
C25-TB30-160	2	29.7				CCMT09T308	DM4x10	T15	0.54
C25-TB30-190	2	29.7			190				0.69
C25-TB32-160	2	31.7			160				0.58
C25-TB35-160	2	34.7							0.61
C25-TB37-160	2	36.7							0.64
C25-TB40-160	2	39.7							0.64
C32-TB35-230	2	34.7	32		230				1.38
C32-TB40-250	2	39.7			250				1.54
C32-TB42-200	2	41.7			200				1.24
C32-TB45-200	2	44.7							1.26
C32-TB47-200	2	46.7							1.26
C32-TB50-200	2	49.7							1.32
C42-TB50-220	2	49.7	42		220				1.45
C42-TB52-220	2	51.7							1.53
C42-TB58-220	2	57.7							1.61
C42-TB60-220	2	59.7							1.8

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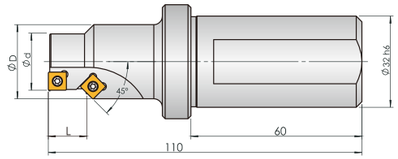
Double-edged rough boring bar



Designation	Edge	D	d	L	Insert	Screw	Wrench	Weight (kg)
MR-50-FMB22	2	49.7	22	50	CCMT09T308	DM4x10	T15	0.3
MR-55-FMB22	2	54.7						0.35
MR-60-FMB22	2	59.7						0.47
MR-60-FMB27	2	59.7	27					0.55
MR-65-FMB27	2	64.7						0.61
MR-70-FMB27	2	69.7						0.8
MR-75-FMB27	2	74.7						0.85
MR-80-FMB27	2	79.7						0.95
MR-85-FMB27	2	84.7						1.05
MR-90-FMB27	2	89.7						1.1
MR-95-FMB27	2	94.7						1.12
MR-100-FMB27	2	99.7						1.2
MR-105-FMB32	2	104.7	32	63				1.9
MR-110-FMB32	2	109.7						2.15
MR-115-FMB32	2	114.7						2.2
MR-120-FMB32	2	119.7						2.3
MR-125-FMB32	2	124.7						2.4
MR-130-FMB32	2	129.7						2.6

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Machine folder-Shentou

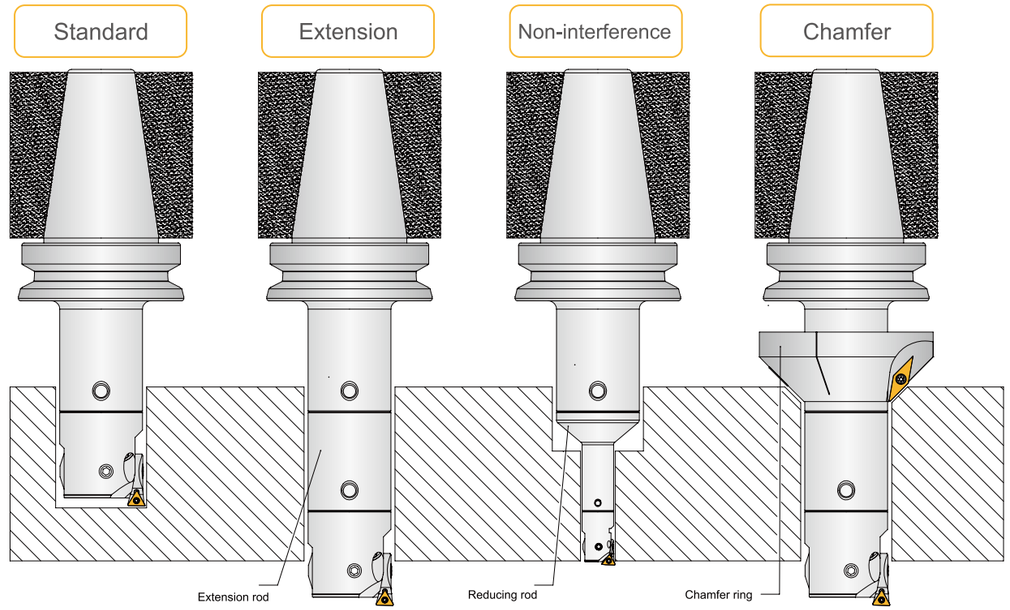


Designation	d	D	L	C	Insert
MR-11-W32	11	19	7	1C	SP 0602
MR-14-W32	14	20	9		
MR-18-W32	18	24	11		
MR-20-W32	20	26	13.5		
MR-23-W32	23	31	15	2C	SP 1104
MR-26-W32	26	34	18		
MR-32-W32	32	40	22		
MR-39-W32	39	47	26		

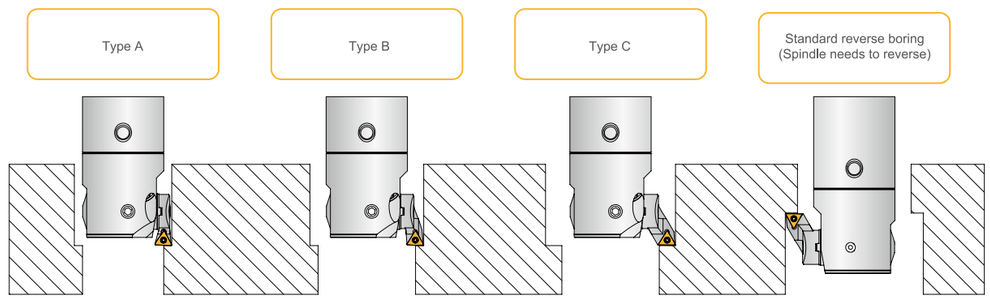
- Inner hole and hole chamfer are processed at the same time to improve processing efficiency.
- OEM service available.

Precision boring series

Connection form



Processing methods

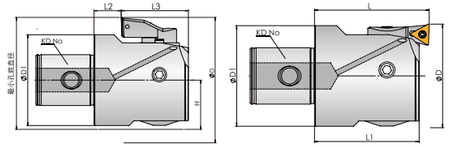


Fine boring head

Processing range φ20-φ203



- Standard corresponds to the reverse processing, which has a wide range of use and increases the added value.
- CMP series is suitable for precision boring, min processing diameter is ϕ 20.
- The precision screw is located inside,so it won't affected by iron filings, abrasion, rust, etc. Internal lubrication makes it precision and durability.



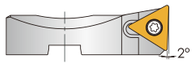
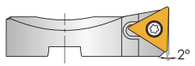
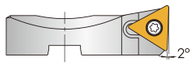
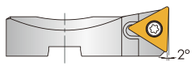
MIN.diameter of bottom hole=H+(Count Bore Diameter/2)

Designation	KD.NO.	Insert Holder	Boring				Reverse Boring				Weight (kg)	Insert	
			Process Range ΦD	L	L1	D1	Process Range ΦD	L2	L3	H			
CMP20-36KD1	1	FS*-1A	20-26	32.5	30.5	19	/	10.5	20	10	0.07	TP 0802	/
		FS*-1B	25-31				30-31						
		FS*-1C	30-36				30-36						
CMP25-47KD2	2	FS*-2A	25-33	35.5	33	24	/	11.5	21.5	12.5	0.12		
		FS*-2B	32-40				36-40						
		FS*-2C	39-47				39-47						
CMP32-60KD3	3	FS*-3A	32-42	40	37	31	/	10	27	16	0.22		
		FS*-3B	41-51				46-51						
		FS*-3C	50-60				50-60						
CMP41-74KD4	4	FS*-4A	41-54	47	43	40	/	12	31	20	0.42	TC 1102	CC 0602
		FS*-4B	50-63				53-63						
		FS*-4C	61-74				61-74						
CMP53-95KD5	5	FS*-5A	53-70	57	52	50	62-70	15	37	25.5	0.85		
		FS*-5B	65-82				65-82						
		FS*-5C	78-95				78-95						
CMP68-150KD6	6	FS*-6A	68-100	71	67	64	80-100	23	44	32.5	1.85		CC 09T3
		FS*-6B	94-126				94-126						
		FS*-6C	118-150				118-150						
CMP100-203KD6	6	FS*-6A	100-153	71	67	64	112-153	23	44	46.5	2.7		
		FS*-6B	126-179				126-179						
		FS*-6C	150-203				150-203						
CMP100-203KD7	7	FS*-6A	100-153	87	83	90	112-153	39	44	46.5	4.05		
		FS*-6B	126-179				126-179						
		FS*-6C	150-203				150-203						

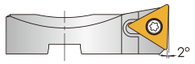
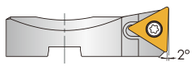
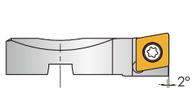
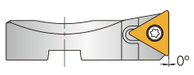
- Processing range refers to the value of insert tip radius R0.2 and R0.4.
- No inserts attached,please purchase according to your needs
- All the CMP boring tools are with internal coolant.


P46-P49

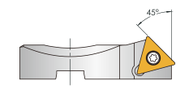
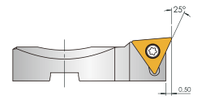
Cartridges for finishing boring head

Diagram	Designation	Adapted Boring Head	Process Range ΦD	Insert	Screw
	FST-1A	CMP20-36KD1	/	TP 0802	DM2x4-T6
	FST-1B				
	FST-1C				
	FST-2A	CMP25-47KD2			
	FST-2B				
	FST-2C				
	FST-3A	CMP32-60KD3			
	FST-3B				
	FST-3C				
	FST-4A	CMP41-74KD4	/	TC 1102	DM2.5x6-T8
	FST-4B				
	FST-4C				
	FST-5A	CMP53-95KD5			
	FST-5B				
	FST-5C				
	FST-6A	CMP68-150KD6 CMP100-203KD6			
	FST-6B				
	FST-6C				
	FST-1A(TC06)	CMP20-36KD1	20-26	TC 06T1	DM2x4-T6
	FST-1B(TC06)		25-31		
	FST-1C(TC06)		30-36		
	FST-2A(TC06)	CMP25-47KD2	25-33		
	FST-2B(TC06)		32-40		
	FST-2C(TC06)		39-47		
	FST-3A(TC06)	CMP32-60KD3	32-42		
	FST-3B(TC06)		41-51		
	FST-3C(TC06)		50-60		
	FST-3A(TP09)	CMP32-60KD3	32-42	TP 0902	DM2.5x6-T8
	FST-3B(TP09)		41-51		
	FST-3C(TP09)		50-60		
	FST-4A(TP09)	CMP41-74KD4	41-54		
	FST-4B(TP09)		50-63		
	FST-4C(TP09)		61-74		
	FST-5A(TP09)	CMP53-90KD5	53-70		
	FST-5B(TP09)		65-82		
	FST-5C(TP09)		78-95		
	FST-6A(TP09)	CMP68-150KD6 CMP100-203KD6	68-100/100-153		
	FST-6B(TP09)		94-126/126-179		
	FST-6C(TP09)		118-150/150-203		
	FST-4A(TC1103)	CMP41-74KD4	41-54	TC 1103	DM2.5x6-T8
	FST-4B(TC1103)		50-63		
	FST-4C(TC1103)		61-74		

Cartridges for finishing boring head

Diagram	Designation	Adapted Boring Head	Process Range ΦD	Insert	Screw
	FST-5A(TC1103)	CMP53-90KD5	53-70	TC 1103	DM2.5x6-T8
	FST-5B(TC1103)		65-82		
	FST-5C(TC1103)		78-95		
	FST-6A(TC1103)	CMP68-150KD6 CMP100-203KD6	68-100/100-153		
	FST-6B(TC1103)		94-126/126-179		
	FST-6C(TC1103)		118-150/150-203		
	FST-4A(TP1103)	CMP41-74KD4	41-54	TP 1103	DM3.0x7-T10
	FST-4B(TP1103)		50-63		
	FST-4C(TP1103)		61-74		
	FST-5A(TP1103)	CMP53-90KD5	53-70		
	FST-5B(TP1103)		65-82		
	FST-5C(TP1103)		78-95		
	FST-6A(TP1103)	CMP68-150KD6 CMP100-203KD6	68-100/100-153		
	FST-6B(TP1103)		94-126/126-179		
	FST-6C(TP1103)		118-150/150-203		
	FSC-2A+2(CC06)	CMP25-47KD2	27-33	CC 0602	DM2.5x6-T8
	FSC-2B(CC06)		32-40		
	FSC-2C(CC06)		39-47		
	FSC-3A(CC06)	CMP32-60KD3	32-42		
	FSC-3B(CC06)		41-51		
	FSC-3C(CC06)		50-60		
	FSC-4A(CC06)	CMP41-74KD4	41-54		
	FSC-4B(CC06)		50-63		
	FSC-4C(CC06)		61-74		
	FSC-5A(CC06)	CMP53-95KD5	53-70		
	FSC-5B(CC06)		65-82		
	FSC-5C(CC06)		78-95		
	FSC-6A(CC09)	CMP68-150KD6 CMP100-203KD6	68-100/100-153	CC 09T3	DM4.0x10-T15
	FSC-6B(CC09)		94-126/126-179		
	FSC-6C(CC09)		118-150/150-203		
	FST-1A0	CMP20-36KD1	20-26	TP 0802	DM2x4-T6
	FST-2A0	CMP25-47KD2	25-33		
	FST-3A0	CMP32-60KD3	32-42		
	FST-3B0		41-51		
	FST-3C0		50-60		
	FST-4A0	CMP41-74KD4	41-54	TC 1102	DM2.5x6-T8
	FST-4B0		50-63		
	FST-4C0		61-74		
	FST-5A0	CMP53-95KD5	53-70		
	FST-5B0		65-82		
	FST-5C0		78-95		
	FST-6A0	CMP68-150KD6 CMP100-203KD6	68-100/100-153		
	FST-6B0		94-126/126-179		
	FST-6C0		118-150/150-203		

Cartridges for finishing boring head

Diagram	Designation	Adapted Boring Head	Process Range ΦD	Insert	Screw
	FSC-4A0	CMP41-74KD4	41-54	CC 0602	DM2.5x6-T8
	FSC-4B0		50-63		
	FSC-4C0		61-74		
	FSC-5A0	CMP53-95KD5	53-70		
	FSC-5B0		65-82		
	FSC-5C0		78-95		
	FSC-6A0	CMP68-150KD6 CMP100-203KD6	68-100/100-153	CC 09T3	DM4.0x10-T15
	FSC-6B0		94-126/126-179		
	FSD-3A30+2.5	CMP32-60KD3	37-42	DC 0702	DM2.5x6-T8
	FSD-3B30		41-51		
	FSD-3C30		50-60		
	FSD-4A30+1.5	CMP41-74KD4	44-54		
	FSD-4B30		50-63		
	FSD-4C30		61-74		
	FSD-5A30	CMP53-95KD5	53-70		
	FSD-5B30		65-82		
	FSD-5C30		78-95		
	FSD-6A30	CMP68-150KD6 CMP100-203KD6	68-100/100-153		
	FSD-6B30		94-126/126-179		
	FSD-6C30		118-150/150-203		
	FST-4A45	CMP41-74KD4	41-54	TC 1102	DM2.5x6-T8
	FST-5A45	CMP53-95KD5	53-70		
	FST-6A45	CMP68-150KD6	68-100		
		CMP100-203KD6	100-153		
	FST-3A25	CMP32-60KD3	32-42	TP 0802	DM2x4-T6
	FST-4A25	CMP41-74KD4	41-54		
	FST-5A25	CMP53-95KD5	53-70		
	FST-6A25	CMP68-150KD6	68-100	TC 1102	DM2.5x6-T8
		CMP100-203KD6	100-153		

- No inserts attached,please purchase according to your needs
- Attached with screw and wrench.

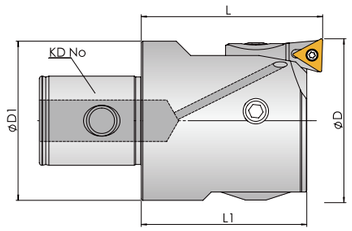


Fine boring head(Selfbalancing series)

Processing range φ32-φ105

- The built-in self-balancing compensation mechanism is suitable for high-speed machining to achieve stable machining.
- Precision fine boring head with the smallest adjustment scale of Φ0.01mm.



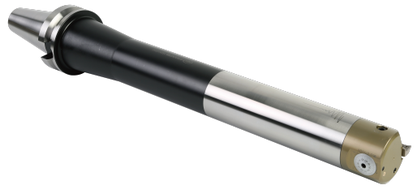


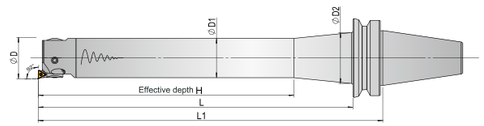
Designation	KD.NO.	Insert Holder	Process Range ΦD	L	L1	D1	Weight (kg)	Insert
CMB32-42KD3	3	FST-3A	32-42	45	37	31	0.25	TP 0802
CMB41-54KD4	4	FST-4A	41-54	51	43	40	0.45	TC 1102
CMB53-70KD5	5	FST-5A	53-70	65	52	50	0.86	
CMB68-88KD6	6	FST-6A	68-88	79	67	64	1.85	
CMB85-105KD6		FST-6B	85-105				1.96	

- Processing range refers to the value of insert tip radius R0.2 and R0.4.
- It is not recommended to use the B/C insert seat, which will affect the self-balancing effect
- No inserts attached,please purchase according to your needs
- All the CMP boring tools are with internal coolant.


P46-P49

Anti-vibration fine boring bar



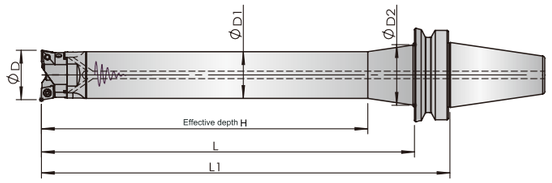


Designation	Insert Holder	Process Range	D1	D2	H	L	L1	Weight (kg)	Insert
BBT50CMP41-74KH280	FS*-4A	41-54	40	55	280	320	358	7.4	TC 1102
	FS*-4B	50-63							
	FS*-4C	61-71							
BBT50CMP53-95KH350	FS*-5A	53-70	50	65	350	400	438	11	
	FS*-5B	65-82							
	FS*-5C	78-95							
BBT50CMP68-150KH450	FS*-6A	68-100	64	80	450	512	550	18.9	
	FS*-6B	94-126							
	FS*-6C	118-150							
BBT50CMP100-203KH525	FS*-6A	100-153	70	85	525	525	563	23.5	
	FS*-6B	126-179							
	FS*-6C	150-203							

- Large aperture can be customized
- When encountering special circumstances, please provide the corresponding tool size in the table according to the on-site situation, and carry out technical communication with the Mugt tool engineer

Anti-vibration rough boring bar

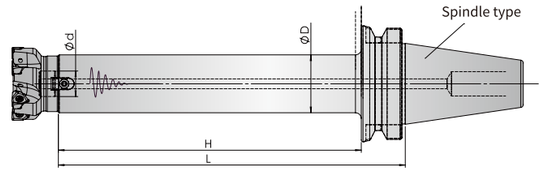




Designation	Insert Holder	Process Range ΦD	D1	D2	H	L	L1	Weight (kg)	Insert
BBT50CMR41-54KH280	RSC-4154	41-54	40	55	280	320	358	7.9	CC 09T3
BBT50CMR53-70KH350	RSC-5370	53-70	50	65	350	400	438	11.8	CC 1204
BBT50CMR68-110KH450	RSC-6890	68-90	64	80	450	512	550	19.8	
	RSC-88110	88-110							
BBT50CMR98-153KH525	RSC-98126	98-126	70	85	525	525	563	24.9	
	RSC-125153	126-153							
BBT50CMR148-203KH525	RSC-98126	148-176	70	85	525	525	563	26.8	
	RSC-125153	175-203							

Anti-vibration face milling boring bar





Designation	d	D	H	L
BBT50D49-FMB22KH350	22	49	350	388
BBT50D49-FMB22KH400			400	438

- When encountering special circumstances, please provide the corresponding tool size in the table according to the on-site situation, and carry out technical communication with the Mugt tool engineer

Fine boring head(large aperture)

Processing range φ150-φ850

- CLP series of large aperture modular fine boring head with good balance and high accuracy
- Same components with rough boring tools, so optional accessories can be used together
- Aluminum alloy bridge rough boring tool available to reduce the weight of tool.



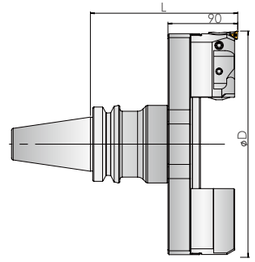
Standard steel bridge fine boring head

Process Range ΦD	Designation	Weight (kg)	Connect Plate		Steel Bridge		Fine Boring Slide		Balance Block		Adapted Insert Seat			
			Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Insert Holder	Insert	Insert Holder	Insert
150-210	CLP 150-210	6.2			CL 150-210	2.5			LM 150	1.05				
210-290	CLP 210-290	7.5			CL 210-290	3.7								
290-370	CLP 290-370	8.5	-	-	CL 290-370	5.05								
370-450	CLP 370-450	10.2			CL 370-450	6.8					FST-6A		FSC-6A	
450-530	CLP 450-530	11.6			CL 450-530	8.4	LP 150	1.6	LM 200	1.6	FST-6B	TC 1102	FSC-6B	CC 09T3
530-610	CLP 530-610	17.5			CL 530-610	9.5					FST-6C		FSC-6C	
610-690	CLP 610-690	19	CL40-200	4.7	CL 610-690	11								
690-770	CLP 690-770	20.8			CL 690-770	12.7								
770-850	CLP 770-850	23			CL 770-850	15								

- No inserts attached,please purchase according to your needs
- No rivets attached, rivet type is different for different machines.
- OEM service available.



Lighweight aluminum bridge fine boring



Process Range ΦD	Designation	Weight (kg)	Aluminum Bridge		Fine Boring Slide		Balance Block		Adapted Insert Seat			
			Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Insert Holder	Insert	Insert Holder	Insert
150-210	CLP 150-210 AL	4.6	CL 150-210 AL	0.9			LM 150	1.05				
210-290	CLP 210-290 AL	5.1	CL 210-290 AL	1.3					FST-6A		FSC-6A	
290-370	CLP 290-370 AL	5.5	CL 290-370 AL	2	LP 150	1.6	LM 200	1.6	FST-6B	TC 1102	FSC-6B	CC 09T3
370-450	CLP 370-450 AL	5.9	CL 370-450 AL	2.5					FST-6C		FSC-6C	
450-530	CLP 450-530 AL	6.2	CL 450-530 AL	3								

OEM service available.

The expanding function of LP 150fine boring head

The processing range will increase by exchanging insert seat. A reverse installation achieves reverse boring, to improve efficiency and accuracy

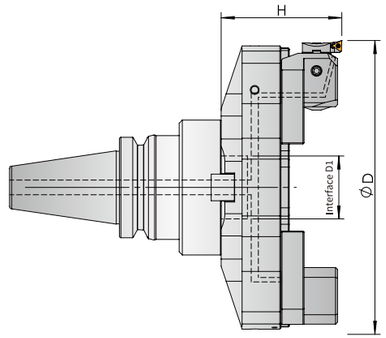
Working range of the exchange insert holder

Process Range	bridge	Insert Seat	Process Range	bridge	Insert Seat	Process Range	bridge	Insert Seat
150-210	CL 150-210	FS*-6A	370-450	CL 370-450	FS*-6A	610-690	CL 610-690	FS*-6A
176-236		FS*-6B	396-476		FS*-6B	636-716		FS*-6B
200-260		FS*-6C	420-500		FS*-6C	660-740		FS*-6C
210-290	CL 210-290	FS*-6A	450-530	CL 450-530	FS*-6A	610-770	CL 690-770	FS*-6A
236-315		FS*-6B	476-556		FS*-6B	716-746		FS*-6B
260-340		FS*-6C	500-580		FS*-6C	740-820		FS*-6C
290-370	CL 290-370	FS*-6A	530-610	CL 530-610	FS*-6A	770-850	CL 770-850	FS*-6A
316-396		FS*-6B	556-636		FS*-6B	796-876		FS*-6B
340-420		FS*-6C	580-660		FS*-6C	820-900		FS*-6C

OEM service available.

Internally cooled large bore fine boring tool (full range of aluminum-based bridges)





Process Diameter ΦD	Designation	Weight (kg)	D1	H	Aluminum Bridge		Fine Boring Adjustment Slider		Fine Boring Balance Block		Process Diameter ΦD		
					Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Insert Holder	Insert	Other Inserts
200-280	CNP 200-280AL	6.3	CL40	115	NL 200-280AL	2.8							
280-360	CNP 280-360AL	7.5		115	NL 280-360AL	4.1							CC 09T3
360-440	CNP 360-440AL	9.7		125	NL 360-440AL	6.2							TC 1103
440-520	CNP 440-520AL	11.2		125	NL 440-520AL	7.7							TP 1103
520-600	CNP 520-600AL	13.2	FMB60	135	NL 520-600AL	9.7	LNP 200	1.75	LNM 200	1.75	FST-6A	TC 1102	TP 0902
600-680	CNP 600-680AL	14.7		135	NL 600-680AL	11.2							DC 0702
680-760	CNP 680-760AL	17.5		145	NL 680-760AL	14.1							
760-840	CNP 760-840AL	18.8		145	NL 760-840AL	15.4							

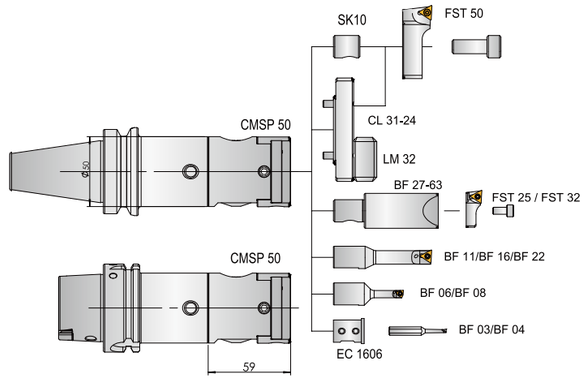
P51-P52

Fine boring head with small bore

Processing range φ6-φ108

- CMSP Micro adjustment boring head is suitable for fineboring with working ranges.
- The dial adjustment is each 0.002mm on diameter.
- The insert holder is fixed by toothed instruction, proving high stability and width working range.





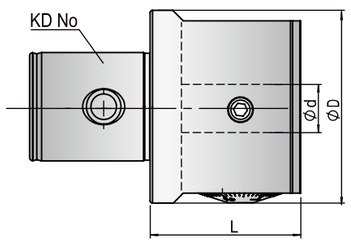
Description	Designation	Process Range	Depth	Insert	Screw	Wrench	Weight (kg)
Fine Boring Head	CMSP 50	Φ6-Φ108	59	–	–	–	0.95
Switch Bar	EC 1606	Cooperate with BF03 or BF04	–	–	–	–	0.03
Solid Carbide Boring Bar	BF 03	Φ3-Φ4	15	–	–	–	0.03
Solid Carbide Boring Bar	BF 04	Φ4-Φ6	20	–	–	–	0.03
Boring Bar	BF 06	Φ6-Φ9	21	WBGT 0601..L	DM2x4	T6	0.04
Boring Bar	BF 08	Φ8-Φ12	28				0.04
Boring Bar	BF 11	Φ11-Φ17	40	TPGT 0902..L	DM2.5x6	T8	0.06
Boring Bar	BF 16	Φ16-Φ23	50				0.08
Boring Bar	BF 22	Φ22-Φ28	68				0.11
Detachable Boring Bar	BF 27-63	Cooperate with FST25 or FST32	52				0.22
Insert Holder For Fine Boring	FST 25	Φ28-Φ42	52+11				0.01
Insert Holder For Fine Boring	FST 32	Φ36-Φ54	52+11				0.02
Insert Holder For Fne Boring	FST 50	Φ54-Φ84	59+20	TPGT 1103..L	DM3x7	T10	0.08
Bridge Frame	CL 31-24	Cooperate with FST50 Φ80-Φ108	59+13+20	–	–	–	0.15
Counter Weight	LM 32		–	–	–	–	0.04
Lock Block	SK 10		–	–	–	–	0.03

P73-P75

Fine boring head with small bore

Processing range φ6-φ50





Designation	Process Range	KD.NO.	D	d	L	Trip	Weight (kg)
MBJ10	6-20	4	40	10	28.5	1.5	0.35
MBJ16	6-50	6	64	16	50	6	1.25

Steel Boring Bar

P46-P49

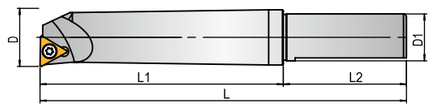
Designation	Process Range	D	D1	L1	L2	L	Insert	Insert Screw	Insert Spanner	Weight (kg)
BJ1006-23	6-8	6	10	23	30	53	WBGT 0601	DM2x4	T6	0.05
BJ1008-25	8-10	8		25	30	55	TBGT			0.06
BJ1010-30	10-12	10		30	30	60	0601			0.07
BJ1012-36	12-14	12		36	30	66	TPGH	DM2.5x6	T8	0.09
BJ1014-42	14-16	14		42	30	72	0902			0.12
BJ1016-48	16-18	16		48	30	78	TPGH	DM3x7	T10	0.14
BJ1018-54	18-20	18		54	30	84	1103			0.2



P73-P75

Steel Boring Bar

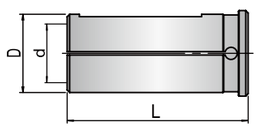




Designation	Process Range	D	D1	L1	L2	L	Insert	Insert Screw	Insert Spanner	Weight (kg)
BJ1606-24	6-8	6	16	24	49	73	WBGT 0601	DM2x4	T6	0.07
BJ1608-32	8-11	8		32	48	80	TBGT			0.08
BJ1610-40	10-13	10		40	47	87	0601			0.08
BJ1612-53	12-17	12		53	45	98	TPGH	DM2.5x6	T8	0.11
BJ1616-68	16-21	16		68	42	110	0902			0.14
BJ1620-83	20-26	20		83	42	125	TPGH	DM3x7	T10	0.21
BJ1625-90	25-32	25		90	38	128				0.3
BJ1630-90	30-42	30		90	38	128	1103			0.32
BJ1640-90	40-50	40		90	38	128				0.41

Conversion sleeve





Designation	D	d	L	Combined tungsten steel cutter rod
EC1608	16	8	37	WC08*M5
EC1610	16	10	37	WC10*M6
EC1612	16	12	37	WC12*M6
EC1614	16	14	37	WC14*M6

Carbide anti-seismic shank

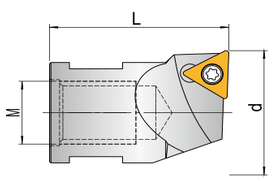




Designation	D	L	M	Conversion sl eeve	Weight (kg)	Combined boring head
WC08H100M5	8	100	M5	EC1608	0.08	BN09,BN10.5
WC10H100M6	10	100	M6	EC1610	0.15	BN12
WC10H150M6	10	150			0.23	
WC12H100M6	12	100		EC1612	0.24	BN14
WC12H150M6	12	150			0.33	
WC14H150M6	14	150		EC1614	0.43	BN16
WC14H200M6	14	200			0.58	
WC16H100M10	16	100	M10	-	0.42	BN18,BN20,BN22,BN24,BN26,BN28,
WC16H150M10	16	150	M10		0.61	BN30,BN32,BN34,BN36,BN38,BN40,
WC16H200M10	16	200	M10		0.82	BN42 ,BN46,

Boring cutter head





Designation	Process Range	d	L	M	Insert	Insert Screw	Insert Spanner	Weight (kg)
BN09	9-10.5	9	18	M5	TPGT 0802	DM2x4	T6	0.03
BN10.5	10.5-12	10.5	18	M5				0.03
BN12	12-14	12	23	M6				0.03
BN14	14-16	14						0.03
BN16	16-18	16						0.04
BN18	18-20	18	27	M10				0.04
BN20	20-22	20						0.05
BN22	22-24	22						0.05
BN24	24-26	24						0.05
BN26	26-28	26						0.05
BN28	28-30	28						0.06
BN30	30-32	30						0.06
BN32	32-34	32						0.07
BN34	34-36	34						0.09
BN36	36-38	36						0.11
BN38	38-40	38						0.15
BN40	40-42	40						0.16
BN42	42-46	42						0.19
BN46	46-50	46						0.26

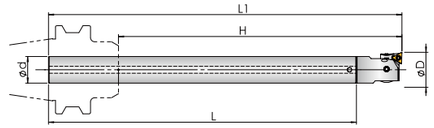


Carbide shock proof tool bar

Processing range φ20-φ60

- Super-hard tungsten carbide boring bar, hard and durable, high hardness, high rigidity,high shock resistance, can be used to deep hole boring.
- With internal coolant, and the drainage and with good chip removal and internal cooling effect when deep hole processing.
- Straight shank,the machining depth can be adjusted according to your needs.





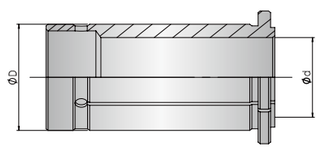
Designation	Φd	Process Range	L1	L	H	Fiend Boring Head
WC19H150KD1	19	20-36	182.5	150	130	CMP 20-36KD1
WC19H200KD1			232.5	200	170	
WC19H250KD1			282.5	250	210	
WC24H200KD2	24	25-47	235.5	200	170	CMP 25-47KD2
WC24H250KD2			285.5	250	210	
WC24H300KD2			335.5	300	260	
WC32H250KD3	32	32.5-60	290	250	180	CMP 32-60KD3
WC32H300KD3			340	300	230	
WC32H350KD3			390	350	300	

- No CMP fine boring head ,please purchase
- Note: The machining depth may not reach the effective machining depth depending on the material of the workpiece.

Carbid straight shank power collect

Designation	Φd	ΦD
C 32-19	19	32
C 32-24	24	
C 42-19	19	42
C 42-24	24	
C 42-32	32	



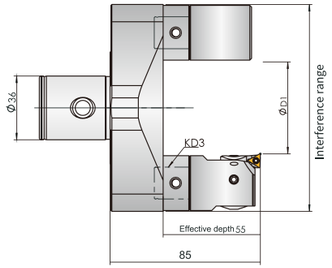


- Collet should be used on the powerful milling shank

Series of cylindrical sets of knives

Processing range φ25-φ102





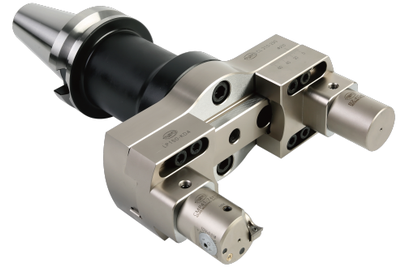
Process Range ΦD1	Connection Bracket			Fine Boring Head		Balance Block		Insert Holder	Insert
	Designation	Weight (kg)	Interference Range	Designation	Weight (kg)	Designation	Weight (kg)		
25-34	CMPT 25-52KD6	1.5kg	Φ118	CMP 32-60KD3	0.22kg	BZ-KD3	0.22kg	FS*-3C	TP 0802
34-43								FS*-3B	
43-52								FS*-3A	
50-59	CMPT 50-77KD6	1.8kg	Φ143					FS*-3C	
59-68								FS*-3B	
68-77								FS*-3A	
75-84	CMPT 75-102KD6	1.9kg	Φ168					FS*-3C	
84-93								FS*-3B	
93-102								FS*-3A	

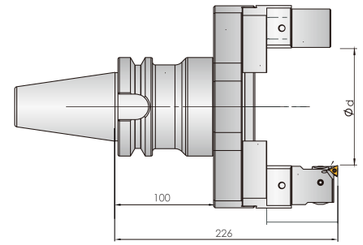
P73

- Inserts are not included, please order it separately.
- Please reverse the spindle when machining the outer circle.
- When the fine is installed in the opposite direction,
  it can be used for boring At this time,the spindle should be rotated forward.

Series of cylindrical sets of knives

Processing range φ41-φ404



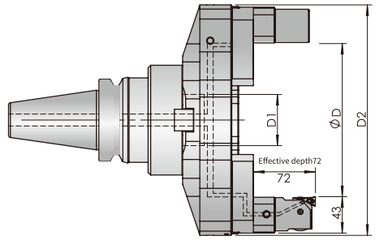


Process Range Φd	Bridge		Set block		Fine Boring Head		Balance Block	
	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)
41-96	CL 150-210	2.5	LP 150-KD4	0.75	CMP 41-74KD4 Insert Seat FST-4A Insert TC 1102	0.42	BZ-KD4	0.43
84-164	CL 210-290	3.7						
164-244	CL 290-370	5.05						
244-324	CL 370-450	6.8						
324-404	CL 450-530	8.4						

- Inserts are not included, please order it separately.
- Please reverse the spindle when machining the outer circle.
- When the fine is installed in the opposite direction,
  it can be used for boring At this time, the spindle should be rotated forward.
- When machining the minimum stroke of the outer circle, it is necessary to
  adjust the stroke with CMP41-74KD4 fine boring cutter.

P73

Internal coolant outer round sleeve cutter



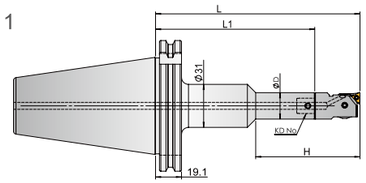
Process Range Φd	Aluminum Bridge				Set block		Balance block		Fine Boring Head		Optional Insert Holders		
	Designation	Weight (kg)	D1	D2	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Insert Seat	Insert	Other Insert
100-180	NL 200-280AL	2.8	CL40	195	NP200-KD4	1.3 (Single)	BZ-KD4	0.43	CMP 41-74KD4	0.42	FST-4A (Standard)	TC 1102	CC 0602 TC 1103 TP 1103 TP 0902 DC 0702
180-260	NL 280-360AL	4.1	FMB60	275									
260-340	NL 360-440AL	6.2		355									
340-420	NL 440-520AL	7.7		435									
420-500	NL 520-600AL	9.7		515									
500-580	NL 600-680AL	11.2		595									
580-660	NL 680-760AL	14.1		675									
660-740	NL 760-840AL	15.4		755									

- Inserts are not included, please order it separately.
- Please reverse the spindle when machining the outer circle.
- When the fine is installed in the opposite direction, it can be used for boring At this time, the spindle should be rotated forward.

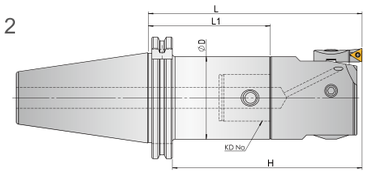
SK Toolholder



pic 1



pic 2



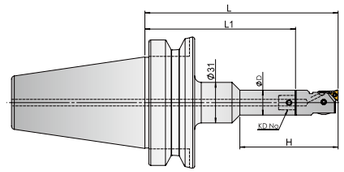
Designation	Picture	KD NO.	ΦD	L	L1	H (Effective Depth)	Weight (kg)
SK40H075KD1	pic 2	1	19	107.5	75	88	0.8
SK40H085KD2		2	24	120.5	85	101	1.05
SK40H095KD3		3	31	135	95	115.5	1
SK40H125KD3				165	125	145.5	1.3
SK40H085KD4		4	39	132	85	112.5	1.2
SK40H130KD4				177	130	157.5	1.8
SK40H075KD5		5	50	132	75	112.5	1.2
SK40H125KD5				182	125	162.5	2.3
SK40H065KD6		6	64	136	65	116.5	1.25
SK40H115KD6				186	115	166.5	2.65
SK40H165KD6				236	165	216.5	3.85
SK50H115KD1	pic 1	1	19	147.5	115	75	3.2
SK50H085KD2	pic 2	2	24	120.5	85	101	3.1
SK50H110KD2				145.5	110	126	3.2
SK50H090KD3		3	31	130	90	110.5	3.2
SK50H125KD3				165	125	145.5	3.4
SK50H115KD4		4	39	162	115	142.5	3.8
SK50H145KD4				192	145	172.5	4
SK50H105KD5		5	50	162	105	142.5	3.9
SK50H150KD5				207	150	187.5	4.5
SK 50H180KD5				237	180	217.5	5.0
SK50H240KD5				297	240	277.5	5.8
SK50H095KD6		6	64	166	95	146.5	4
SK50H170KD6				241	170	221.5	5.8
SK50H230KD6				301	230	281.5	7.2
SK50H290KD6				361	290	341.5	8.5

Note: the SK50H350KD6-80 type of thick tool handle are in stock, the processing aperture over Φ80 and depth over 340, you can choose it for reference.

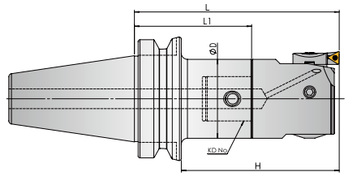
BT Taper Standard



pic 1



pic 2

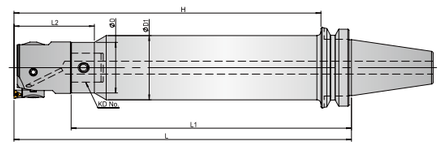


Designation	Picture	KD NO.	ΦD	L	L1	H (Effective Depth)	Weight (kg)
BT30H070KD1	pic 2	1	19	102.5	70	80.5	0.5
BT30H070KD2		2	24	105.5	70	83.5	0.6
BT30H080KD3		3	31	120	80	98	0.7
BT30H070KD4		4	39	117	70	95	0.8
BT30H070KD5		5	50	127	70	105	0.8
BT30H070KD6		6	64	141	70	119	1.2
BT40H075KD1	pic 2	1	19	107.5	75	80.5	1
BT40H105KD1				137.5	105	110.5	1.2
BT40H085KD2		2	24	120.5	85	93.5	1.1
BT40H115KD2				150.5	115	123.5	1.4
BT40H095KD3		3	31	135	95	108	1.2
BT40H125KD3				165	125	138	1.5
BT40H085KD4		4	39	132	85	105	1.3
BT40H130KD4				177	130	150	1.9
BT40H175KD4				222	175	195	2.2
BT40H050KD5		5	50	107	50	80	1.2
BT40H075KD5				132	75	105	1.3
BT40H125KD5				182	125	155	2.4
BT40H175KD5				232	175	205	3
BT40H065KD6		6	64	136	65	109	1.3
BT40H115KD6				186	115	159	2.7
BT40H165KD6				236	165	209	3.9

Designation	Picture	KD NO.	ΦD	L	L1	H (Effective Depth)	Weight (kg)
BT50H115KD1	—	1	19	147.5	115	75	4
BT50H085KD2	二	2	24	120.5	85	82.5	3.8
BT50H110KD2				145.5	110	107.5	3.9
BT50H090KD3	二	3	31	130	90	92	3.9
BT50H125KD3				165	125	127	4.1
BT50H115KD4	二	4	39	162	115	124	4.3
BT50H145KD4				192	145	154	4.5
BT50H175KD4				222	175	184	4.8
BT50H065KD5	二	5	50	122	65	84	3.85
BT50H105KD5				162	105	124	4.5
BT50H150KD5				207	150	169	5.1
BT50H180KD5				237	180	199	5.5
BT50H240KD5				297	240	259	6.2
BT50H095KD6	二	6	64	166	95	128	4.5
BT50H170KD6				241	170	203	6.3
BT50H230KD6				301	230	263	7.7
BT50H290KD6				361	290	323	9
BT50H170KD7	二	7	90	257	170	219	9.1
BT50H230KD7				317	230	279	11.8
BT50H290KD7				377	290	339	14.6
BT50H350KD7				437	350	399	17.45

Thicken Boring Toolhlder



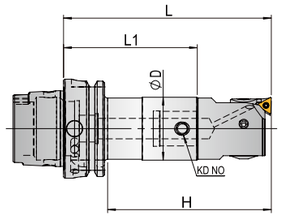


Designation	KD NO.	ΦD	ΦD1	L	L1	L2	H (Effective Depth)	Weight (kg)
BT50H190KD4-46	4	39	46	237	190	65	199	5.6
BT50H235KD4-46				282	235		244	6.2
BT50H240KD5-61	5	50	61	297	240	80	259	8.2
BT50H300KD5-61				357	300		319	9.6
BT50H260KD6-71	6	64	71	331	260	100	293	10.3
BT50H315KD6-71				386	315		348	12.2
BT50H290KD6-80			80	361	290		323	13.2
BT50H350KD6-80				421	350		383	15.3

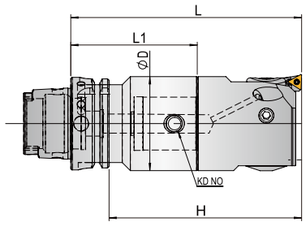
HSK Boring toolholder



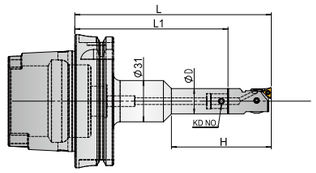
pic 1



pic 2



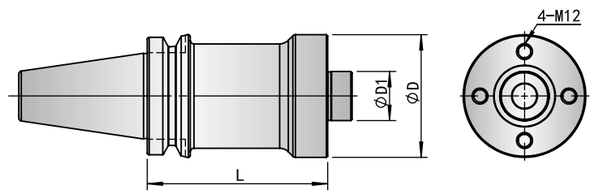
pic 3



Designation	Picture	KD NO.	ΦD	L	L1	H (Effective Depth)	Weight (kg)
HSK63AH075KD1	PIC 1	KD1		107.5	75	81.5	0.9
HSK63AH100KD1				132.5	100	106.5	1.3
HSK63AH085KD2		KD2		120.5	85	94.5	1.7
HSK63AH115KD2				150.5	115	124.5	2.2
HSK63AH095KD3		KD3		135	95	109	2.3
HSK63AH125KD3				165	125	139	2.6
HSK63AH085KD4		KD4		132	85	106	2.1
HSK63AH130KD4				177	130	151	2.7
HSK63AH075KD5		KD5		132	75	106	2.3
HSK63AH100KD5				157	100	131	2.7
HSK63AH135KD5				192	135	166	2.8
HSK63AH075KD6	PIC 2	KD6	64	146	75	120	2.3
HSK63AH115KD6				186	115	160	2.8
HSK63AH165KD6				236	165	210	3.1
HSK100AH105KD1	PIC 3	KD1	19	137.5	105	75	2.6
HSK100AH115KD2	PIC 2	KD2	24	150.5	115	121.5	2.7
HSK100AH125KD3		KD3	31	165	125	136	2.9
HSK100AH120KD4		KD4	39	167	120	138	3.1
HSK100AH180KD4				227	180	198	3.7
HSK100AH110KD5		KD5	50	167	110	138	3.5
HSK100AH185KD5				242	185	213	4.6
HSK100AH095KD6		KD6	64	166	95	137	3.6
HSK100AH170KD6				241	170	212	5.5
HSK100AH230KD6				301	230	272	7.1

BT Bridge Boring Toolholder





Designation	ΦD	ΦD1	L	Screw	Weight (kg)
BT40H070CL40	100	40	70	CLM12x35	2.8
BT50H100CL40			100		6.1
BT50H150CL40			150		7.9
BT50H200CL40			200		9.7
BT50H250CL40			250		10.9
BT50H300CL40			300		12.5
BT50H350CL40			350		13.9

SK Bridge Boring Toolholder



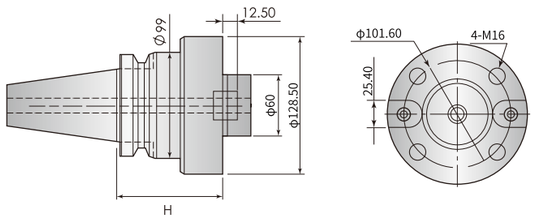
Designation	ΦD	ΦD1	L	Screw	Weight (kg)
SK40H070CL40	100	40	70	CLM12x35	2.8
SK50H080CL40			80		5.1
SK50H150CL40			150		7.3
SK50H200CL40			200		9.4
SK50H250CL40			250		10.5

HSK Bridge Boring Toolholder



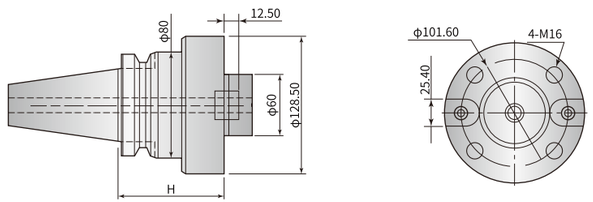
Designation	ΦD	ΦD1	L	Screw	Weight (kg)
HSK63AH070CL40	100	40	70	CLM12x35	2.8
HSK100AH080CL40			80		5.1
HSK100AH150CL40			150		7.3
HSK100AH200CL40			200		9.3
HSK100AH250CL40			250		10.5
HSK100AH300CL40			300		12.4

BT Internal coolant bridge boring t oolholder



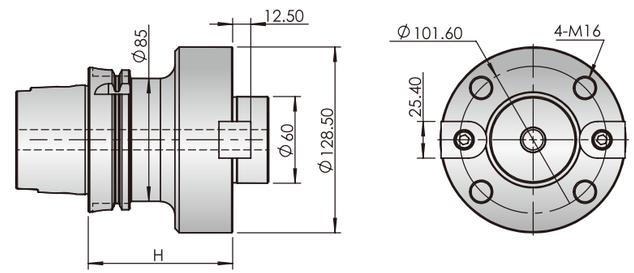
Designation	L	Set The Screws	Weight (kg)
BT50H100FMB60	100	M16	9.2
BT50H150FMB60	150	M16	12.1
BT50H200FMB60	200	M16	14.9
BT50H250FMB60	250	M16	17.9
BT50H300FMB60	300	M16	20.8
BT50H350FMB60	350	M16	23.7

SK Internal coolant bridge boring toolholder



Designation	L	Set The Screws	Weight (kg)
SK50H100FMB60	100	M16	8.6
SK50H150FMB60	150	M16	10.6
SK50H200FMB60	200	M16	12.4
SK50H250FMB60	250	M16	14.2

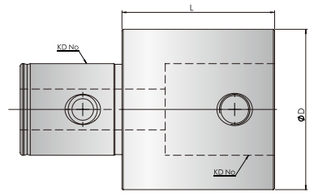
BT Internal coolant bridge boring toolholder



Designation	L	Fix Screws	Weight (kg)
HSK100AH100FMB60	100	M16	7.9
HSK100AH150FMB60	150	M16	10.1
HSK100AH200FMB60	200	M16	12.2
HSK100AH250FMB60	250	M16	14.4

Extension



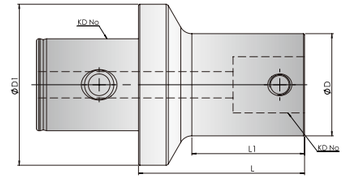


Designation	KD NO.	L	ΦD	Weight (kg)
KD11-30	1	30	19	0.07
KD22-30	2	30	24	0.1
KD33-30	3	30	31	0.15
KD44-45	4	45	39	0.4
KD44-60		60		0.53
KD55-60	5	60	50	0.8
KD55-90		90		1.25
KD66-60	6	60	64	1.4
KD66-100		100		2.33

- Please note that after using the extension bar,length to diameter ratio will becomes larger may affect processing conditions.
- With internal coolant

Reductions



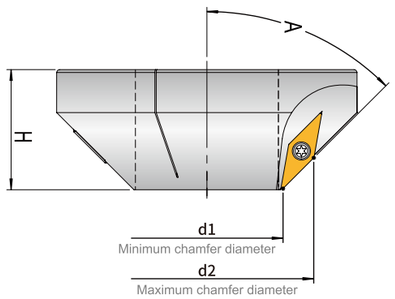


Designation	KD NO.	KD NO.	ΦD	ΦD1	L	L1	Weight (kg)
KD21-36	2	1	19	24	36	30	0.1
KD31-41	3			31	41		0.15
KD32-37		2	24		37	25	
KD41-58	4	1	19	39	58	40	0.3
KD42-50		2	24		50	36	
KD43-50		3	31			37	0.35
KD51-60	5	1	19	50	60	40	0.45
KD52-54		2	24		54	35	
KD52-75					75	55	0.47
KD53-47		3	31		47	29	0.5
KD53-75					75	55	0.57
KD54-42		4	39		42	25	0.5
KD54-75					75	55	0.66
KD61-70	6	1	19	64	70	40	0.9
KD62-63		2	24		63	45	0.7
KD62-90					90	72	0.72
KD63-56		3	31		56	39	0.75
KD63-90					90	73	0.88
KD64-51		4	39		51	35	0.85
KD64-90					90	75	1.08
KD65-41		5	50		41	25	0.85
KD65-90					90	74	1.45
KD76-60-A90	7	6	64	90	60	25	2.3

- Please note that after using the extension bar,length to diameter ratio will becomes larger may affect processing conditions.
- With internal cooland
- A90 indicates that the locking screw hole of the head and the locking taper hole of the handle are 90° staggered design, which is convenient for special situations.

Chamfer

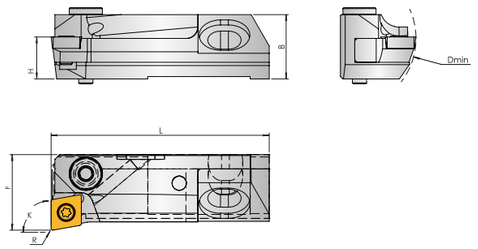




Designation	Teeht	Angle A	d1	d2	H	Holder	Insert	Screw	Locking Screw	Weight (kg)
MC1-34-45	1	45	21	34	22	KD1	VCGT110302	DM3x7-T10	M5x16	0.06
MC2-39-45			26	39	25	KD2				0.12
MC3-54-45			34	54	35	KD3	VCGT 160404	DM4x10-T15	M6x20	0.52
MC4-62-45			42	62	38	KD4				0.7
MC5-93-45	2		53	93	43	KD5			M6x25	1.31
MC6-107-45			67	107	46	KD6			M8x25	1.82
MC6-138-45			98	138						3.85
MC6-160-45			120	160						5.58
MC1-41-30		30	23	41	30	KD1	VCGT110302	DM3x7-T10	M5x16	0.11
MC2-46-30			28	46	35	KD2				0.22
MC3-53-30			35	53		KD3			M6x20	0.35
MC4-61-30			43	61		KD4				0.42
MC5-84-30			56	84	48	KD5	VCGT 160404	DM4x10-T15	M8x25	1.3
MC6-98-30			70	98		KD6				1.2
MC6-120-30			92	120						3.05
MC6-142-30			114	142						4.1

Cutting insert holder





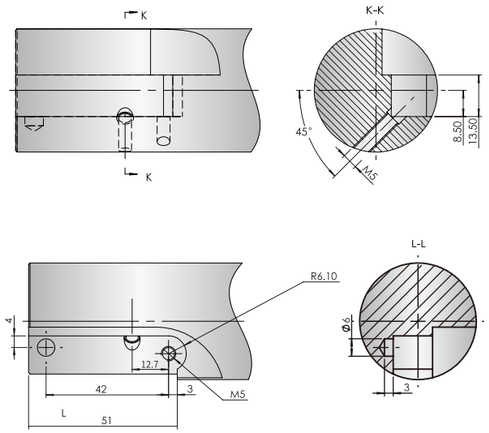
The picture is the right hand tool holder

Designation	Description	L	F	B	H	K	R	Insert	Screw
FSC-8516A0-06-R/L	28	45.8	16	13.5	8.8	90°	0.4	CC 0602	DM2.5x6-T8
FSC-8516A5-06-R/L						95°			
FST-8516A0-09-R/L						90°		TP 0902	DM2.5x6-T8
FST-8516A5-09-R/L						95°			
FSD-8516A30-07-R/L		47.5				120°		DC 0702	DM2.5x6-T8
FST-8520A0-11C-R/L	36	45.8	20			90°		TC 1102	
FST-8520A5-11C-R/L						95°			
FST-8520A0-11P-R/L						90°		TP 1103	DM3x6-T10
FST-8520A5-11P-R/L						95°			

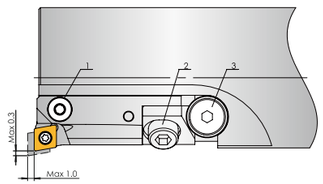
- Please order the insert separately
- Fine adjustment accuracy diameter is φ0.01mm
- Radial range:0-φ6mm，Axial range:0-10mm

Spare Parts	Dmin	Designation
	Axial adjustment block	SV-12
	Axial adjustment screw	SVM5-20
	Tool holder fixing screw	RMM5-20
	Tool holder fixing Wrench	PS-4B
	Radial adjustment Wrench	PS-2.5B
	Axial adjustment Wrench	PS-3B

Fine tuning tool holder instructions



Tool holder adjustment instructions



1. Screw for radial adjustment
2. Screw for tool holder fixing
3. Screw for adjust the axis direction

Adjust axis direction operation

- Slightly loosen the screw 2
- Turn clockwise the screw 3,Move the tool holder forward to the required size.
- Tighten the screw 2.

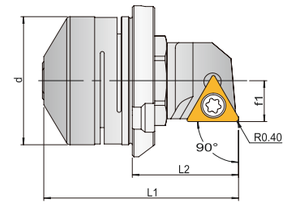
Adjust diameter operation

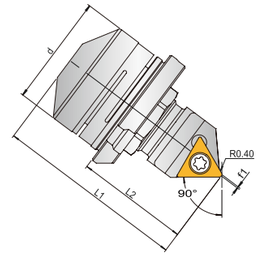
- Turn the screw 1 clockwise.tool diameter becomes larger(φ0.01mm/grid)
- Turn the screw 1 counterclockwise,tool diameter becomes smaller(φ0.01 mm/grid)

Notice:If the tool holder needs to adjust the axis direction backwards,you should loosen the screw 2, and move the tool holder to the last position,gradually move forward to the desired position

Trimming unit



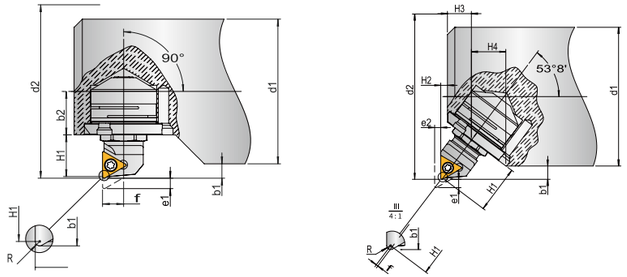




Installation Method	Designation	Approach Angle	Cutting Edce Angle	Minimum Machining Diameter	d	L1	L2	f1	Insert	Screw
Side angle installation 	R/L148C-31-CC06	90°	0°	25.5	16	25.15	14.3	0.45	CC 0602	DM2.5x6-T8
	R/L148C-31-TC06			24.8		25.3	14.3	0.49	TC 06T1	DM2x4-T6
	R/L148C-31-TB06								TB 0601	
	R/L148C-32-TC09			32.5	20	33.7	19.1	0.9	TC 0902	DM2.2x6-T6
	R/L148C-32-TP09								TP 0902	DM2.5x6-T8
	R/L148C-33-TC1102			42	22	45.3	23	1.1	TC 1102	
	R/L148C-33-TP1103								TP 1103	DM3x7-T10
	R/L148C-34-TC16			59.5	32	62.3	33.3	1.2	TC 16T3	DM4x10-T15
Right angle installation 	R/L148C-11-CC06	90°	0°	27	16	24.2	13.3	5.1	CC 0602	DM2.5x6-T8
	R/L148C-11-TC06								TC 06T1	DM2x4-T6
	R/L148C-11-TB06								TB 0601	
	R/L148C-12-TC09			36.5	20	32.9	18.3	6.3	TC 0902	DM2.2x6-T6
	R/L148C-12-TP09								TP 0902	DM2.5x6-T8
	R/L148C-13-TC1102			48.5	22	44.3	22.1	7.2	TC 1102	
	R/L148C-13-TP1103								TP 1103	DM3x7-T10
	R/L148C-14-TC16			68.4	32	62.7	32	10.3	TC 16T3	DM4x10-T15

- Inserts are not included, please order it separately.
- Please refer to P59 for installation dimensions.
- For the choice of tool tip and minimum machining diameter, please refer to P60

Trim unit mounting dimensions

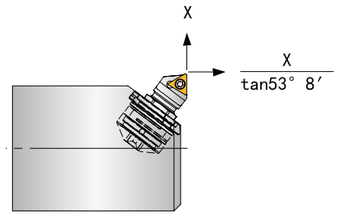


Installation Method	Insert			d1	d2	b1	e1	e2	b2	H1	H2	H3	H4	f
		iC	R	min	min	min	max	max	min	min				
Side angle installation	06	6.35	0.2	26	27.9	0.6	2.5	-	3.6	9.8	-	-	-	5.1
			0.4		27.6	0.55				9.6				
			0.8		27	0.5				9.1				
	06	3.96	0.2	24	25.9	0.6		-		8.8	-	-	-	5.1
			0.4		25.6	0.55				8.6				
			0.8		25	0.5				8.1				
	09	5.56	0.2	34.5	37.4	1.45	3.5	-	4.55	13.95	-	-	-	6.3
			0.4		37.1	1.3				13.6				
			0.8		36.5	1				12.9				
	11	6.35	0.2	46.5	49.7	1.45	6	-	7.75	16.75	-	-	-	7.2
			0.4		49.1	1.3				16.4				
			0.8		48.5	1				15.7				
	16	9.525	0.4	67	69.6	1.3	10	-	9.4	25	-	-	-	10.3
			0.8		69	1				24.3				
			1.2		68.4	0.7				23.6				
Right angle installation	06	6.35	0.2	22	26.2	1.7	2	1.5	-	11	0.5	6.6	9.55	0.4
			0.4		25.9	1.65				10.7				0.4
			0.8		25.3	1.6				10.1				0.45
	06	3.96	0.2		25.7	1.5			-	10.9	0.5	6.6	9.55	0.4
			0.4		25.4	1.45				10.6				0.4
			0.8		24.8	1.4				10				0.45
	09	5.56	0.2	28.5	33.4	2.45	2.8	2.1	-	14.9	0.5	9.4	12.15	0.95
			0.4		33.1	2.3				14.5				1
			0.8		32.5	2				13.7				1.1
	11	6.35	0.2	38	42.9	2.45	4.8	3.6	-	17.6	0.5	11.2	14.85	1.15
			0.4		42.6	2.3				17.2				1.2
			0.8		42	2				16.4				1.3
	16	9.525	0.4	55	60.6	2.8	8	6	-	26.2	0.5	16.65	12.7	1.3
			0.8		60	2.5				25.4				1.4
			1.2		59.4	2.2				24.6				1.5

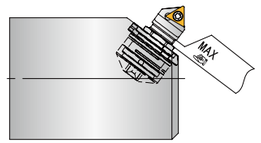
- Please refer to P37 for installation dimensions

Fine tuning unit application

Fine tuning device is applid to boring of nonstandard cutting tools

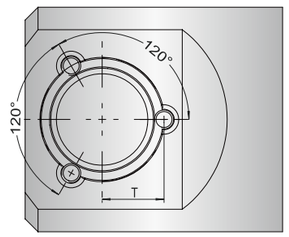


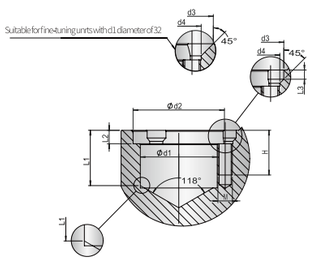
- Blind hole installation, not affected by the diameter of the machining
- Size can be adjusted at the front end, easy to operate
- The fine-tuning device can be self-locking, no need to unlock when adjusting the size, and no need to lock after adjustment
- The fine-tuning nut has a scale plate, and the radial adjustment of each scale is φ0.02mm



Notice:

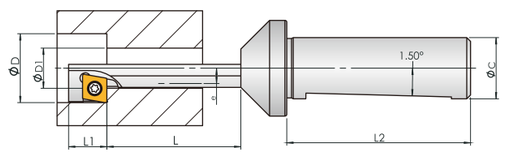
- Axial movement amount of side angle installation's fine turning unit=Radial movement amount/tan53°8'
- Never loosen the cutter head beyond the adjustment range indicated by the wrench corresponding to
- the fine adjustment unit. If this happens, it will cause the fine tuning unit not to be repaired





Diameter ΦD	d1 H7	d2	d3	d4	L1	L2	L3	H	T	M
16	16	19	4.6	3.2	11.5	2.8	1.6	9	9.65±0.02	M3
20	20	25	4.6	3.2	15.5	4	1.6	9	12.5±0.05	M3
22	22	30	6.5	4.3	24	5	1.8	13	15.4±0.05	M4
32	32	46	11.9	5.4	33	6.3	——	16	23±0.05	M5

Machine folder type reverse pull cutter



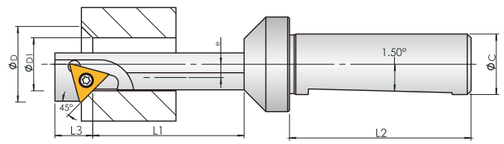
Designation	D	D1	C	L2	L	L1	e	Insert
MRF-18-W16	18	10.5	16	48	35	10	4	CC 0602
MRF-20-W16	20	13	16	48	40		4	
MRF-23-W20	23	15	20	50	50		4.5	
MRF-26-W20	26	17	20	50	50	13	5	CC 09T3
MRF-33-W25	33	21	25	56	70		6.5	
MRF-40-W25	40	25	25	56	80		8	

- Avoid secondary clamping to ensure accurate position of the hole Reverse pulling process step
- One direction tuming to reduce the chance of damage
- Non-standard design body with best rigidity
- Non-standard customization is acceptable

Reverse pulling process

1. Spindle orientation
2. Eccentric shift (e value)
3. Z axis down
4. Displacement to the center of the hole (e value)
5. Spindle makes upward rotation and reverse pulling process.
6. Spindle orientation
7. Eccentric shift (e value)
8. Move up to a safe position and finish processing

Machine folder anti-pull chamfering cutter



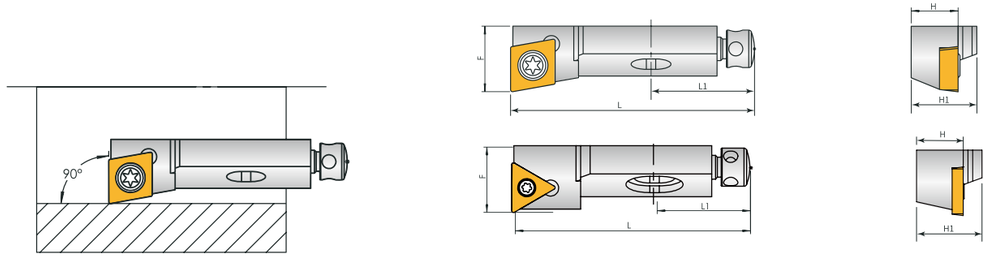
Designation	D	D1	C	L2	L	L1	e	Insert
MCF-14-W16	20	14	16	48	40	10	3.5	TC 1102
MCF-17-W20	23	17	20	50	50			
MCF-21-W25	27	21	25	56	70			
MCF-24-W25	31	24	25	56	80		4	

- Avoid secondary clamping to ensure accurate position of the hole
- One direction tuming to reduce the chance of damage
- Non-standard design body with best rigidity
- Non-standard customization is acceptable

Reverse pulling process

1. Spindle orientation
2. Eccentric shift (e value)
3. Z axis down
4. Displacement to the center of the hole (e value)
5. Spindle makes upward rotation and reverse pulling process.
6. Spindle orientation
7. Eccentric shift (e value)
8. Move up to a safe position and finish processing

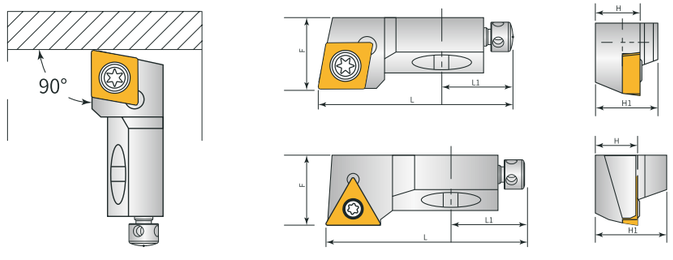
F Series 90° Cassette Tool Holder



Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCFCR-06CA-06 QJ	●	–	8.5	6	29	13	8.5	18	0.4	CC 0602
SCFCR/L-08CA-06	●	○	10	8	32	17	10	25	0.4	CC 0602
SCFCR/L-10CA-09	●	○	14	10	50	20	13.5	40	0.4	CC 09T3
SCFCR/L-12CA-12	●	○	20	12	55	20	18	50	0.8	CC 1204
SCFCR-12CA-12-42L	●	–	20	12	42	18	16	50	0.8	CC 1204
STFCR/L-08CA-09	○	○	10	8	32	17	10	25	0.4	TC 0902
STFCR/L-10CA-11	●	○	14	10	50	20	14	40	0.4	TC 1102
STFCR/L-12CA-16	●	○	20	12	55	20	20	50	0.8	TC 16T3
STFCR-12CA-16-M	●	–	20.3	12	55	20	20	50	0.4	TC 16T3
STFPR-10CA-11	●	–	14	10	10	20	14	40	0.4	TP 1103
STFPR-12CA-16	●	–	20	12	55	20	20	50	0.8	TP 1603

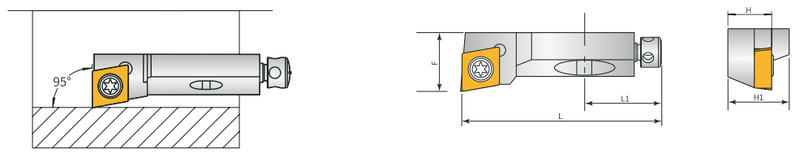
- SCFCR-06CA-06 QJ model should pay attention to the side without radial adjustment screws, locking screws need to be equipped with semi-round head screws.
- SCFCR-12CA-12-42L fortunately note that there are no radial adjustment screws on the sides. Insert to be ordered separately

G Series 90° Cassette Toolholder



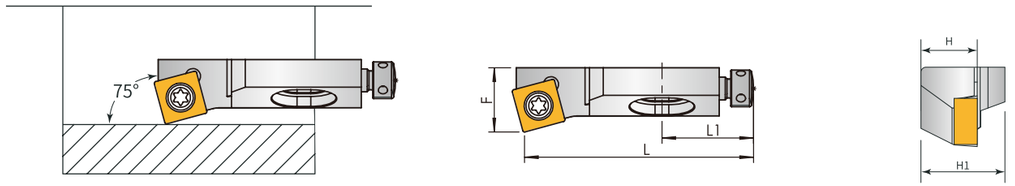
Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCGCR/L-08CA-06	○	○	10	8	32	17	11	25	0.4	CC 0602
SCGCR/L-10CA-09	○	○	14	10	50	20	15	40	0.4	CC 09T3
SCGCR/L-12CA-12	○	○	20	12	55	20	20	50	0.8	CC 1204
STGCR/L-10CA-11	○	○	14	10	50	20	15	40	0.4	TC 1102
STGCR/L-12CA-16	○	●	20	12	55	20	20	50	0.8	TC 16T3

L Series 95° Cassette Toolholder



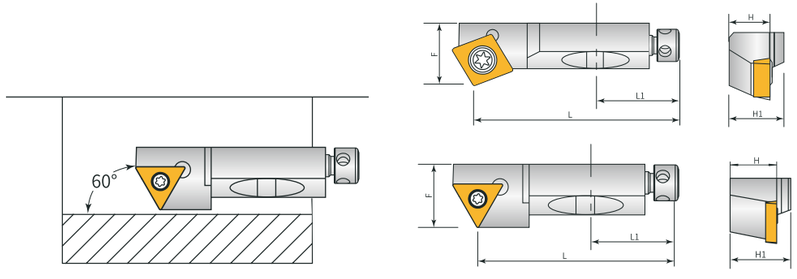
Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCLCR/L-08CA-06	○	○	10	8	32	17	11	25	0.4	CC 0602
SCLCR/L-10CA-09	●	○	14	10	50	20	13.5	40	0.4	CC 09T3
SCLCR/L-12CA-12	○	○	20	12	55	20	20	50	0.8	CC 1204
SCLCL-10CA-09-L42	–	●	14	10	42	20	13.5	40	0.4	CC 09T3

K Series 75° Cassette Tool Holder



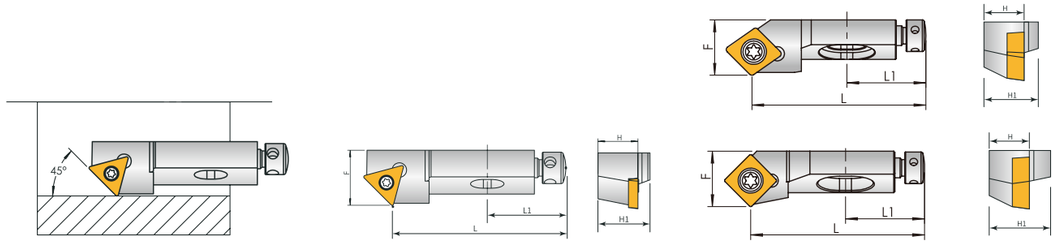
Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SSKCR/L-10CA-09	●	●	14	10	50	20	15	40	0.4	SC 09T3
SSKCR/L-12CA-12	○	○	20	12	55	20	20	50	0.8	SC 1204

W series 60° cassette toolholder



Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCWCR/L-08CA-06	○	○	10	8	28	17	11	25	0.4	CC 0602
SCWCR/L-10CA-09	●	●	14	10	44	20	13.5	40	0.4	CC 09T3
STWCR/L-08CA-09	●	○	10	8	28	17	11	25	0.4	TC 0902
STWCR/L-10CA-11	●	○	14	10	44	20	15	40	0.4	TC 1102
STWCR/L-12CA-16	●	○	20	12	47	20	20	50	0.8	TC 16T3

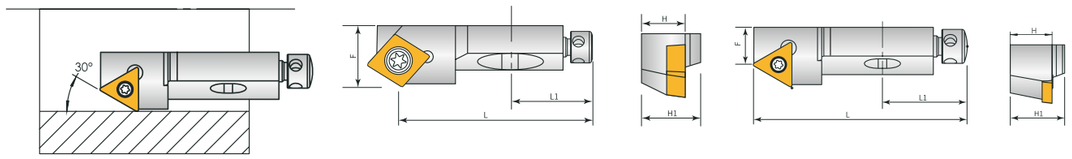
S series 45° cassette toolholder



Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCSCR/L-08CA-06	●	○	10	8	28	17	11	25	0.4	CC 0602
SCSCR/L-08CA-06-B	●	●	10	8	28	17	11	25	0.4	CC 0602
SCSCR/L-10CA-09	●	○	14	10	44	20	13.5	40	0.4	CC 09T3
SCSCR/L-12CA-12-L46	●	–	20	12	37.2	19	16	50	0.8	CC 1204
SCSCR/L-10CA-09-42L	●	–	14	10	35.5	18	13.5	40	0.8	CC 09T3
SSSCR/L-10CA-09	●	○	14	10	44	20	15	40	0.4	SC 09T3
SSSCR-10CA-09-B	●	–	14	10	34	19	15	40	0.4	SC 09T3
SSSCR/L-12CA-12	○	○	20	12	47	20	20	50	0.8	SC 1204
STSCR/L-08CA-09	●	○	10	8	28	17	11	25	0.4	TC 0902
STSCR/L-10CA-11	●	○	14	10	44	20	14	40	0.4	TC 1102
STSCR/L-12CA-16	●	○	20	12	47	20	20	50	0.8	TC 16T3
STSCR-10CA-11-5	●	–	14	10	45	21	14	40	0.4	TC 1102
STSCR-10CA-11-TJ4	●	–	14	10	44	20	14	40	0.4	TC 1102

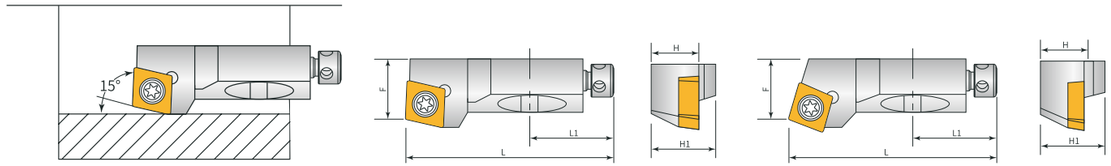
• The STSCR-10CA-11-TJ4 model is designed with axial adjustment length of 4mm.

T Series 30° Cassette Tool Holder



Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCTCR/L-08CA-06	●	○	6	8	34.5	17	11	25	0.4	CC 0602
SCTCR/L-10CA-09	●	○	9	10	50	20	13.5	40	0.4	CC 09T3
STTCR/L-08CA-09	●	●	6	8	32	17	11	25	0.4	TC 0902
STTCR/L-10CA-11	●	○	9	10	50	20	14	40	0.4	TC 1102
STTCR-10CA-11-B1	●	–	8.8	10	49.5	20	15	40	0.4	TC 1103
STTCR/L-12CA-16	●	○	13	12	55	20	20	50	0.8	TC 16T3

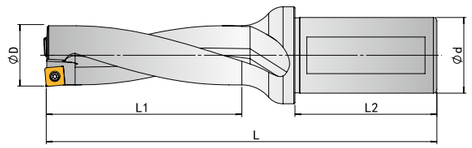
R Series 15° Cassette Tool Holder



Designation	inventory		F	H	L	L1	H1	Dmin	Radius	Insert
	R	L								
SCRCR/L-08CA-06	○	○	10	8	32	17	11	25	0.4	CC 0602
SCRCR/L-10CA-09	●	○	14	10	50	20	15	40	0.4	CC 09T3
SSRCR/L-10CA-09	●	○	14	10	50	20	15	40	0.4	SC 09T3

2D Speed drill

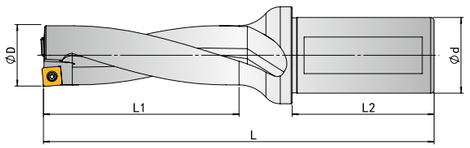




Designation	D	L1	L	L2	d	Insert
SP05.D25.140.2D	14	28	106	56	25	SPMG050204
SP05.D25.145.2D	14.5	29	107			
SP05.D25.150.2D	15	30	108			
SP06.D25.155.2D	15.5	31	109			SPMG060204
SP06.D25.160.2D	16	32	110			
SP06.D25.165.2D	16.5	33	111			
SP06.D25.170.2D	17	34	112			
SP06.D25.175.2D	17.5	35	113			
SP06.D25.180.2D	18	36	114			
SP06.D25.185.2D	18.5	37	115			
SP06.D25.190.2D	19	38	116			
SP06.D25.195.2D	19.5	39	117			
SP06.D25.200.2D	20	40	119			
SP06.D25.205.2D	20.5	41	120			
SP06.D25.210.2D	21	42	121			
SP06.D25.215.2D	21.5	43	122			
SP07.D25.220.2D	22	44	123			SPMG07T308
SP07.D25.225.2D	22.5	45	124			
SP07.D25.230.2D	23	46	125			
SP07.D25.235.2D	23.5	47	126			
SP07.D25.240.2D	24	48	127			
SP07.D25.245.2D	24.5	49	128			
SP07.D32.250.2D	25	50	141	60	32	
SP07.D32.255.2D	25.5	51	142			
SP07.D32.260.2D	26	52	143			
SP07.D32.265.2D	26.5	53	144			
SP07.D32.270.2D	27	54	145			
SP09.D32.275.2D	27.5	55	146			SPMG090408
SP09.D32.280.2D	28	56	147			
SP09.D32.285.2D	28.5	57	148			
SP09.D32.290.2D	29	58	149			
SP09.D32.295.2D	29.5	59	150			
SP09.D32.300.2D	30	60	151			
SP09.D32.305.2D	30.5	61	152			
SP09.D32.310.2D	31	62	153			
SP09.D32.315.2D	31.5	63	154			

2D Speed drill

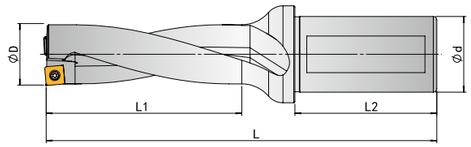




Designation	D	L1	L	L2	d	Insert
SP09.D32.320.2D	32	64	155	60	32	SPMG090408
SP09.D32.325.2D	32.5	65	156			
SP09.D32.330.2D	33	66	157			
SP11.D32.335.2D	33.5	67	158			SPMG110408
SP11.D32.340.2D	34	68	159			
SP11.D32.345.2D	34.5	69	160			
SP11.D32.350.2D	35	70	161			
SP11.D32.355.2D	35.5	71	162			
SP11.D32.360.2D	36	72	163			
SP11.D32.365.2D	36.5	73	164			
SP11.D32.370.2D	37	74	165			
SP11.D32.375.2D	37.5	75	166			
SP11.D32.380.2D	38	76	167			
SP11.D32.385.2D	38.5	77	168			
SP11.D32.390.2D	39	78	169			
SP11.D32.395.2D	39.5	79	170			
SP11.D32.400.2D	40	80	171			
SP14.D32.410.2D	41	82	173			SPMG140512
SP14.D32.420.2D	42	84	175			
SP14.D40.430.2D	43	86	186	65	40	
SP14.D40.440.2D	44	88	188			
SP14.D40.450.2D	45	90	190			
SP14.D40.460.2D	46	92	192			
SP14.D40.470.2D	47	94	194			
SP14.D40.480.2D	48	96	196			
SP14.D40.490.2D	49	98	198			
SP14.D40.500.2D	50	100	200			
SP14.D40.510.2D	51	102	202			
SP09.D40.520.2D	52	104	204			SPMG090408
SP09.D40.530.2D	53	106	206			
SP09.D40.540.2D	54	108	208			
SP09.D40.550.2D	55	110	210			
SP09.D40.560.2D	56	112	212			
SP09.D40.570.2D	57	114	214			
SP09.D40.580.2D	58	116	216			
SP09.D40.590.2D	59	118	218			
SP09.D40.600.2D	60	120	220			

3D Speed drill

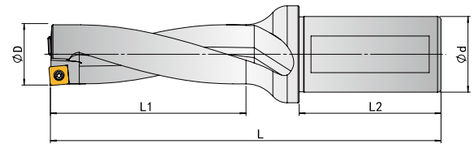




Designation	D	L1	L	L2	d	Insert
SP05.D25.140.3D	14	42	120	56	25	SPMG050204
SP05.D25.145.3D	14.5	43.5	122			
SP05.D25.150.3D	15	45	123			
SP06.D25.155.3D	15.5	46.5	124			SPMG060204
SP06.D25.160.3D	16	48	126			
SP06.D25.165.3D	16.5	49.5	127			
SP06.D25.170.3D	17	51	129			
SP06 D25.175.3D	17.5	52.5	130			
SP06.D25.180.3D	18	54	132			
SP06.D25.185.3D	18.5	55.5	133			
SP06.D25.190.3D	19	57	135			
SP06.D25.195.3D	19.5	58.5	135			
SP06.D25.200.3D	20	60	139			
SP06.D25.205.3D	20.5	61.5	140			
SP06.D25.210.3D	21	63	142			
SP06.D25.215.3D	21.5	64.5	143			
SP07.D25.220.3D	22	66	145			SPMG07T308
SP07.D25.225.3D	22.5	67.5	148			
SP07.D25.230.3D	23	69	148			
SP07.D25.235.3D	23.5	70.5	149			
SP07.D25.240.3D	24	72	151			
SP07.D25.245.3D	24.5	73.5	152			
SP07.D32.250.3D	25	75	166	60	32	
SP07.D32.255.3D	25.5	76.5	167			
SP07.D32.260.3D	26	78	169			
SP07.D32.265.3D	26.5	79.5	170			
SP07.D32.270.3D	27	81	172			
SP09.D32.275.3D	27.5	82.5	173			SPMG090408
SP09.D32.280.3D	28	84	175			
SP09.D32.285.3D	28.5	85.5	176			
SP09.D32.290.3D	29	87	178			
SP09.D32.295.3D	29.5	88.5	179			
SP09.D32.300.3D	30	90	181			
SP09.D32.305.3D	30.5	91.5	182			
SP09.D32.310.3D	31	93	184			
SP09.D32.315.3D	31.5	94.5	185			

3D Speed drill

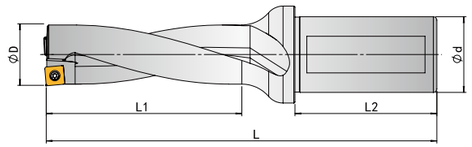




Designation	D	L1	L	L2	d	Insert
SP09.D32.320.3D	32	96	187	60	32	SPMG090408
SP09.D32.325.3D	32.5	97.5	188			
SP09.D32.330.3D	33	99	190			
SP11.D32.335.3D	33.5	100.5	191			SPMG110408
SP11.D32.340.3D	34	102	193			
SP11.D32.345.3D	34.5	103.5	194			
SP11.D32.350.3D	35	105	196			
SP11 D32.355.3D	35.5	106.5	197			
SP11.D32.360.3D	36	108	199			
SP11.D32.365.3D	36.5	109.5	200			
SP11.D32.370.3D	37	111	202			
SP11.D32.375.3D	37.5	112.5	203			
SP11.D32.380.3D	38	114	205			
SP11.D32.385.3D	38.5	115.5	206			
SP11.D32.390.3D	39	117	206			
SP11.D32.395.3D	39.5	118.5	209			
SP11.D32.400.3D	40	120	211			
SP14.D32.410.3D	41	123	214			SPMG140512
SP14.D32.420.3D	42	126	217			
SP14.D40.430.3D	43	129	229	65	40	
SP14.D40.440.3D	44	132	232			
SP14.D40.450.3D	45	135	235			
SP14.D40.460.3D	46	138	238			
SP14.D40.470.3D	47	141	241			
SP14.D40.480.3D	48	144	244			
SP14.D40.490.3D	49	147	247			
SP14.D40.500.3D	50	150	250			
SP14.D40.510.3D	51	153	253			
SP09.D40.520.3D	52	156	256			SPMG090408
SP09.D40.530.3D	53	159	259			
SP09.D40.540.3D	54	162	262			
SP09.D40.550.3D	55	165	265			
SP09.D40.560.3D	56	168	268			
SP09.D40.570.3D	57	171	271			
SP09.D40.580.3D	58	174	274			
SP09.D40.590.3D	59	177	277			
SP09.D40.600.3D	60	180	280			

4D Speed drill

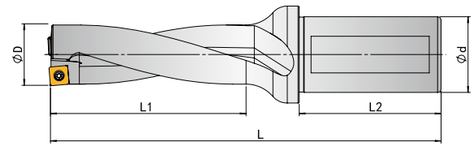




Designation	D	L1	L	L2	d	Insert
SP05.D25.140.4D	14	56	134	56	25	SPMG050204
SP05.D25.145.4D	14.5	58	136			
SP05.D25.150.4D	15	60	138			
SP06.D25.155.4D	15.5	62	140			SPMG060204
SP06.D25.160.4D	16	64	142			
SP06.D25.165.4D	16.5	66	144			
SP06.D25.170.4D	17	68	146			
SP06 D25.175.4D	17.5	70	148			
SP06.D25.180.4D	18	72	150			
SP06.D25.185.4D	18.5	74	152			
SP06.D25.190.4D	19	76	154			
SP06.D25.195.4D	19.5	78	155			
SP06.D25.200.4D	20	80	159			
SP06.D25.205.4D	20.5	82	161			
SP06.D25.210.4D	21	84	163			
SP06.D25.215.4D	21.5	86	165			
SP07.D25.220.4D	22	88	167			SPMG07T308
SP07.D25.225.4D	22.5	90	169			
SP07.D25.230.4D	23	92	171			
SP07.D25.235.4D	23.5	94	173			
SP07.D25.240.4D	24	96	175			
SP07.D25.245.4D	24.5	98	177			
SP07.D32.250.4D	25	100	191	60	32	
SP07.D32.255.4D	25.5	102	193			
SP07.D32.260.4D	26	104	195			
SP07.D32.265.4D	26.5	106	197			
SP07.D32.270.4D	27	108	199			
SP09.D32.275.4D	27.5	110	201			SPMG090408
SP09.D32.280.4D	28	112	203			
SP09.D32.285.4D	28.5	114	205			
SP09.D32.290.4D	29	116	207			
SP09.D32.295.4D	29.5	118	209			
SP09.D32.300.4D	30	120	211			
SP09.D32.305.4D	30.5	122	213			
SP09.D32.310.4D	31	124	215			
SP09.D32.315.4D	31.5	126	217			

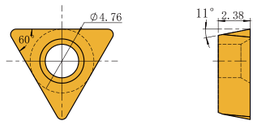
4D Speed drill





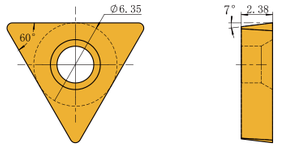
Designation	D	L1	L	L2	d	Insert
SP09.D32.320.4D	32	128	219	60	32	SPMG090408
SP09.D32.325.4D	32.5	130	221			
SP09.D32.330.4D	33	132	223			
SP11.D32.335.4D	33.5	134	225			SPMG110408
SP11.D32.340.4D	34	136	227			
SP11.D32.345.4D	34.5	138	229			
SP11.D32.350.4D	35	140	231			
SP11 D32.355.4D	35.5	142	233			
SP11.D32.360.4D	36	144	235			
SP11.D32.365.4D	36.5	146	237			
SP11.D32.370.4D	37	148	239			
SP11.D32.375.4D	37.5	150	241			
SP11.D32.380.4D	38	152	243			
SP11.D32.385.4D	38.5	154	245			
SP11.D32.390.4D	39	156	247			
SP11.D32.395.4D	39.5	158	249			
SP11.D32.400.4D	40	160	251			
SP14.D32.410.4D	41	164	255			SPMG140512
SP14.D32.420.4D	42	168	259			
SP14.D40.430.4D	43	172	272	65	40	
SP14.D40.440.4D	44	176	276			
SP14.D40.450.4D	45	180	280			
SP14.D40.460.4D	46	184	284			
SP14.D40.470.4D	47	188	288			
SP14.D40.480.4D	48	192	292			
SP14.D40.490.4D	49	196	296			
SP14.D40.500.4D	50	200	300			
SP14.D40.510.4D	51	204	304			SPMG090408
SP09.D40.520.4D	52	208	308			
SP09.D40.530.4D	53	212	312			
SP09.D40.540.4D	54	216	316			
SP09.D40.550.4D	55	220	320			
SP09.D40.560.4D	56	224	324			
SP09.D40.570.4D	57	228	328			
SP09.D40.580.4D	58	232	332			
SP09.D40.590.4D	59	236	336			
SP09.D40.600.4D	60	240	340			

TP08



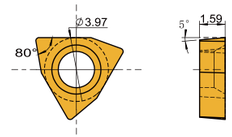
Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
TPGT 080202FB	MG1510P	0.2	●	◎			
TPGT 080204FB		0.4					
TPGT 080202FN	CN1000	0.2					●
TPGT 080204FN		0.4					
TPGT 080202FN	MG3610K	0.2			●		
TPGT 080204FN		0.4					
TPGT 080202FN	CN2000	0.2			●		
TPGT 080204FN		0.4					
TPGT 080202FA	MG4610N	0.2				●	
TPGT 080204FA		0.4					
TPGT 080202FN	PD1000	0.2				●	
TPGT 080204FN		0.4					

TC11



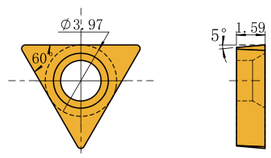
Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
TCGT 110202FB	MG1510P	0.2	●	◎			
TCGT 110204FB		0.4					
TCGT 110208FB		0.8					
TCGT 110202FN	CN1000	0.2					●
TCGT 110204FN		0.4					
TCGT 110208FN		0.8					
TCGT 110202FN	MG3610K	0.2			●		
TCGT 110204FN		0.4					
TCGT 110208FN		0.8					
TCGT 110202FN	CN2000	0.2			●		
TCGT 110204FN		0.4					
TCGT 110208FN		0.8					
TCGT 110202FA	MG4610N	0.2				●	
TCGT 110204FA		0.4					
TCGT 110208FA		0.8					
TCGT 110202FN	PD1000	0.2				●	
TCGT 110204FN		0.4					
TCGT 110208FN		0.8					

WB06



Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
WBGT 060102FB	MG1510P	0.2	●	◎			
	MG1610P		●	◎			
WBGT 060102FN	CN1000						●
WBGT 060102FB	MG3610K				●		
WBGT 060102FN	CN2000				●		
WBGT 060102FA	MG4610N					●	
WBGT 060102FN	PD1000					●	

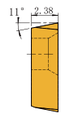
TB06



Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
TBGT 060102FB	MG1510P	0.2	●	◎			
	MG1610P		●	◎			
TBGT 060102FN	CN1000						●
TBGT 060102FB	MG3610K				●		
TBGT 060102FN	CN2000				●		
TBGT 060102FA	MG4610N					●	
TBGT 060102FN	PD1000					●	

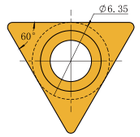
TP09

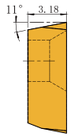




Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
TPGH 090202FB	MG1510P	0.2	●	◎			
TPGH 090204FB		0.4					
TPGH 090202FB	MG1610P	0.2	●	◎			
TPGH 090204FB		0.4					
TPGH 090202FN	CN1000	0.2					●
TPGH 090204FN		0.4					
TPGH 090202FB	MG3610K	0.2			●		
TPGH 090204FB		0.4					
TPGH 090202FN	CN2000	0.2			●		
TPGH 090204FN		0.4					
TPGH 090202FA	MG4610N	0.2				●	
TPGH 090204FA		0.4					
TPGH 090202FN	PD1000	0.2				●	
TPGH 090204FN		0.4					

TP11





Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
TPGH 110302FB	MG1510P	0.2	●	◎			
TPGH 110304FB		0.4					
TPGH 110308FB		0.8					
TPGH 110302FB	MG1610P	0.2	●	◎			
TPGH 110304FB		0.4					
TPGH 110308FB		0.8					
TPGH 110302FN	CN1000	0.2					●
TPGH 110304FN		0.4					
TPGH 110308FN		0.8					
TPGH 110302FB	MG3610K	0.2			●		
TPGH 110304FB		0.4					
TPGH 110308FB		0.8					
TPGH 110302FN	CN2000	0.2			●		
TPGH 110304FN		0.4					
TPGH 110308FN		0.8					
TPGH 110302FA	MG4610N	0.2				●	
TPGH 110304FA		0.4					
TPGH 110308FA		0.8					
TPGH 110302FN	PD1000	0.2				●	
TPGH 110304FN		0.4					
TPGH 110308FN		0.8					

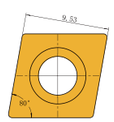
CC06

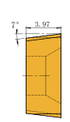




Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
CCMT 060204RB	MG1010P	0.4	●	◎			
CCMT 060204RB	MG3010K				●		
CCGT 060204RA	MG4010N					●	

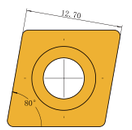
CC09

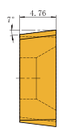




Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
CCMT 09T304RB	MG1010P	0.4	●	◎			
CCMT 09T308RB		0.8					
CCMT 09T304RB	MG3010K	0.4			●		
CCMT 09T308RB		0.8					
CCGT 09T304RA	MG4010N	0.4				●	
CCGT 09T308RA		0.8					

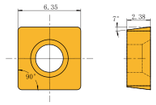
CC12





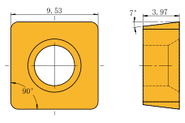
Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
CCMT 120404RB	MG1010P	0.4	●	◎			
CCMT 120408RB		0.8					
CCMT 120404RB	MG3010K	0.4			●		
CCMT 120408RB		0.8					
CCGT 120404RA	MG4010N	0.4				●	
CCGT 120408RA		0.8					

SC06



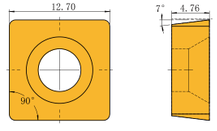
Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
SCMT 060204RB	MG1010P	0.4	●	◎			
SCMT 060204RB	MG3010K				●		
SCGT 060204RA	MG4010N					●	

SC09



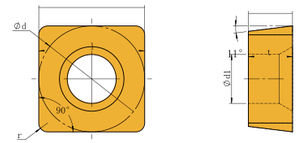
Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
SCMT 09T304RB	MG1010P	0.4	●	◎			
SCMT 09T308RB		0.8					
SCMT 09T304RB	MG3010K	0.4			●		
SCMT 09T308RB		0.8					
SCGT 09T304RA	MG4010N	0.4				●	
SCGT 09T308RA		0.8					

SC12



Designation	Insert Material	Blade Radius (R)	P	M	K	N	H
SCMT 120404RB	MG1010P	0.4	●	◎			
SCMT 120408RB		0.8					
SCMT 120404RB	MG3010K	0.4			●		
SCMT 120408RB		0.8					
SCGT 120404RA	MG4010N	0.4				●	
SCGT 120408RA		0.8					

SP fast drilling blade

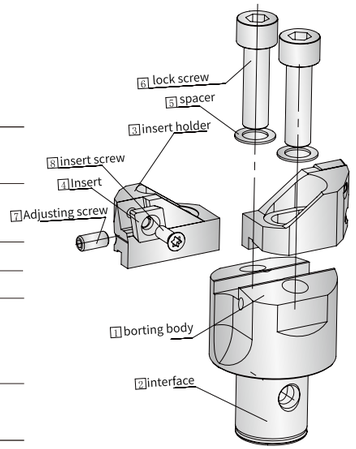


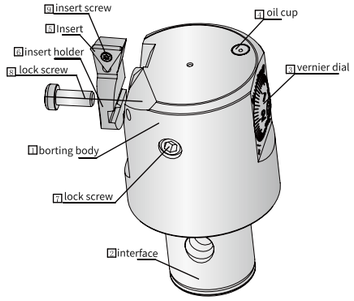
Designation	d	1	d1	t	r	Insert Material	P	M	K	N	H
SPMG 050204-OPM	5	5	2.2	2.38	0.4	MG1215	●	◎	●		
SPMG 060204-OPM	6	6	2.6	2.38	0.4	MG1215	●	◎			
SPMG 07T308-OPM	7.94	7.94	2.8	3.97	0.8	MG1215	●	◎			
SPMG 090408-OPM	9.8	9.8	4.2	4.3	0.8	MG1215	●	◎			
SPMG 110408-OPM	11.5	11.5	4.4	4.76	0.8	MG1215	●	◎			
SPMG 140512-OPM	14.3	14.3	5.75	5.2	1.2	MG1215	●	◎			

Various boring heads of all part of the screw name

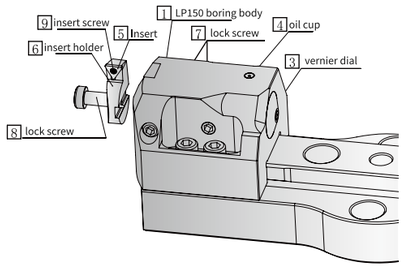
CMR rough boring head

Designation	⑧ Insert Screw	⑦ Radial Adjustable Screw	Radial Adjustable Wrench
RSC-2026	DM2.5x6 (CC06)	PMM3x6	PS-1.5B
RSC-2533			
RSC-3242	DM4x10 (CC09)	PMM4x8	PS-2B
RSC-4154		PMM5x10	PS-2.5B
RSC-5370	DM5x12 (CC12)	PMM6x12	PS-3B
RSC-6890		PMM6x14	
RSC-88110		PMM6x20	
RSC-98126		PMM8x20	PS-4B
RSC-125153		PMM8x25	





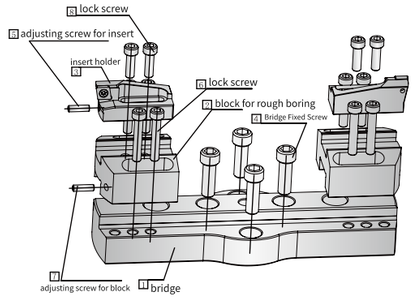
CMP Fine Bore Head

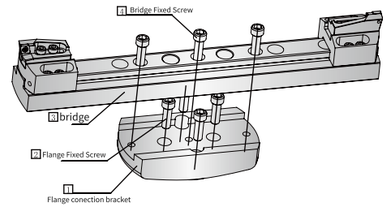


CLP Fine Bore Head

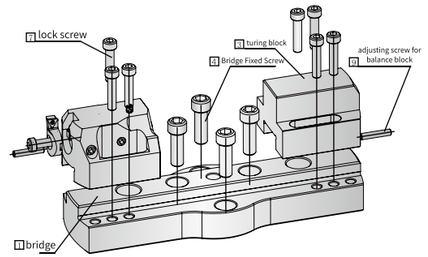
CMR/CLP fine boring head

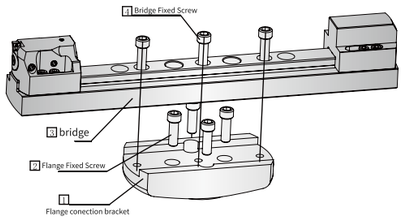
Designation	⑦ Slide Fixed Screw	Slide Fixed Wrench	⑧ Seat Fixed Wrench	Seat Fixed Wrench	⑨ Insert Screw
CMP20-36KD1	PMM4x4	TS2	SFM3x4.5(KD1)	TS2	DM2x4 (TP08)
CMP25-47KD2	PFM4x6(KD2)		SFM3x6(KD2)		
CMP32-60KD3	PFM5x8(KD3)	TS2.5	SFM4x8(KD3)	TS2.5	
CMP41-74KD4	PFM6x10(KD4)	TS3	SFM5x10(KD4)	TS3	DM2.5x6 (TC1102)
CMP53-95KD5	PFM8x12(KD5)	TS4	SFM5x10(KD5)	TS4	
CMP68-150KD6	PFM10x16(KD6)	TS5	SFM8x12(KD6)	TS5	
CMP100-203KD6			SFM8x16(KD6)		
LP 150	PFM10x16(KD6)	PS-5B	SFM8x16(KD6)	PS-5B	
	PMM10x8				





Designation	② Flange Fixed Screw	④ Bridge Fixed Screw	⑥ Slide Fixed Screw	⑧ Seat Fixed Screw	⑦ Slide Adjustable Screw	⑤ Seat Adjustable Screw
CLR150-530	/	CLM12x35	LM8x45	LRM8x30	PMM6x20	PMM6x20
CLR530-850	CLM12x35	CLM12x70				



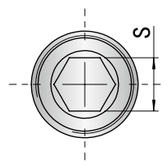


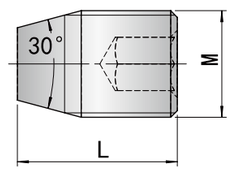
CLR rough boring head

Designation	② Flange Fixed Screw	④ Bridge Fixed Screw	⑦ Slide Fixed Screw	⑧ Adjustable Screwof fine-tuning Block	⑨ Adjustable Screwof Balance Block
CLP150-210	/	CLM12x35	LM8x45	PMM6x30	PMM6x16
CLP210-530	/				PMM6x20
CLP530-850	CLM12x35	CLM12x70			PMM6x20

KD connection screw

Designation	KD NO.	Wrench/S	M	L
KM4x5	KD1	PS-2B	M4x0.5	5
KM5x6.5	KD2	PS-2.5B	M5x0.5	6.5
KM6x8.5	KD3	PS-3B	M6x0.75	8.5
KM8x11	KD4	PS-4B	M8x0.75	11.6
KM10x14	KD5	PS-5B	M10x1	14
KM12x18	KD6	PS-6B	M12x1	18
KM20x31	KD7	PS-10B	M20x1.5	31

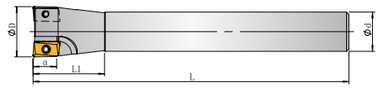




Right angle high-speed end mill



pic 1



pic 2

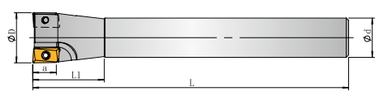


Designation	Flutes	Picture	D	d	a	L1	L2	L	Insert	Screw	Wrench	Weight (kg)
300R-C10-10-100-1T	1	1	10	10	9	25	/	100	APMT1135	SRM2.5	T08	0.05
300R-C12-12-130-1T	1	1	12	12	9	25	/	130				0.1
300R-C16-16-180-2T	2	2	16	16	9	60	90	180				0.26
300R-C16-16-200-2T	2	2	16	16	9	60	100	200				0.29
300R-C20-20-120-2T	2	1	20	20	9	50	/	120				0.26
300R-C20-20-160-2T	2	1	20	20	9	60	/	160				0.36
300R-C20-20-200-2T	2	2	20	20	9	70	100	200				0.46
400R-C25-25-160-2T	2	1	25	25	14	70	/	160	APMT1604	SRM4.0	T15	0.55
400R-C25-25-200-2T	2	2	25	25	14	70	100	200				0.7
400R-C25-25-250-2T	2	2	25	25	14	80	115	250				0.89
400R-C25-25-300-2T	2	2	25	25	14	80	165	300				1.07
400R-C25-30-160-2T	2	1	30	25	14	48	/	160				0.81
400R-C25-30-200-2T	2	2	30	25	14	48	100	200				1.11
400R-C25-30-250-2T	2	2	30	25	14	48	115	250				1.42
400R-C32-32-160-2T	2	1	32	32	14	48	/	160				0.86
400R-C32-32-200-2T	2	2	32	32	14	48	100	200				1.16
400R-C32-32-250-2T	2	2	32	32	14	48	115	250				1.47
400R-C32-32-300-2T	2	2	32	32	14	48	165	300				1.77
400R-C32-35-160-2T	2	1	35	32	14	48	/	160				0.95
400R-C32-35-200-2T	2	1	35	32	14	48	/	200				1.2
400R-C32-35-250-2T	2	1	35	32	14	60	/	250				1.51
400R-C32-35-300-2T	2	1	35	32	14	60	/	300				1.83
400R-C32-35-160-3T	3	1	35	32	14	60	/	160				0.94
400R-C32-35-200-3T	3	1	35	32	14	60	/	200				1.2
400R-C32-35-250-3T	3	1	35	32	14	60	/	250				1.51
400R-C32-35-300-3T	3	1	35	32	14	60	/	300				1.82
400R-C32-35-350-3T	3	1	35	32	14	60	/	350				2.13
400R-C32-35-400-3T	3	1	35	32	14	60	/	400				2.46
400R-C32-35-450-3T	3	1	35	32	14	60	/	450				2.78
400R-C32-35-500-3T	3	1	35	32	14	60	/	500				3.07
400R-C32-40-200-3T	3	1	40	32	14	60	/	200				1.24
400R-C32-40-250-3T	3	1	40	32	14	60	/	250				1.55
400R-C32-40-300-3T	3	1	40	32	14	60	/	300				1.88
300R-C12-13-130-1T	1	1	13	12	9	25	130	/	APMT1135	SRM2.5	T08	0.11
300R-C15-16-120-2T	2	1	16	15	9	40	120	/				0.15
300R-C15-16-160-2T	2	1	16	15	9	40	160	/				0.21

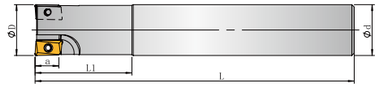
Right angle high-speed end mill



pic 1



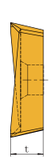
pic 2

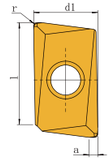


Designation	Flutes	Picture	D	d	a	L1	L2	L	Insert	Screw	Wrench	Weight (kg)
300R-C15-16-180-2T	2	1	16	15	9	40	180	/	APMT1135	SRM2.5	T08	0.24
300R-C15-16-200-2T	2	1	16	15	9	40	200	/				0.26
300R-C15.6-16-160-2T	2	1	16	15.6	9	50	160	/				0.22
300R-C15.6-16-200-2T	2	1	16	15.6	9	50	200	/				0.28
300R-C16-17-120-2T	2	1	17	16	9	50	120	/				0.17
300R-C16-17-160-2T	2	1	17	16	9	50	160	/				0.24
300R-C16-17-180-2T	2	1	17	16	9	50	180	/				0.27
300R-C16-17-200-2T	2	1	17	16	9	50	200	/				0.3
300R-C19-20-120-2T	2	1	20	19	9	50	160	/				0.33
300R-C19-20-200-2T	2	1	20	19	9	50	200	/				0.42
300R-C20-21-160-2T	2	1	21	20	9	50	160	/				0.39
300R-C20-21-200-2T	2	1	21	20	9	50	200	/				0.47
400R-C24-25-160-2T	2	1	25	24	14	50	160	/				0.51
400R-C24-25-200-2T	2	1	25	24	14	50	200	/	APMT1604	SRM4.0	T15	0.65
400R-C24-25-250-2T	2	1	25	24	14	50	250	/				0.83
400R-C25-26-160-2T	2	1	26	25	14	50	160	/				0.56
400R-C25-26-200-2T	2	1	26	25	14	50	200	/				0.71
400R-C25-26-250-2T	2	1	26	25	14	50	250	/				0.9

- Standard shank without internal cooling
- Insert to be ordered separately

Inserts



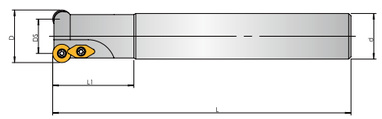


Designation	d1	l	t	a	r	Insert Material	P	M	K	N	H
APMT 1135PDER-XDU	6.2	11.39	2.8	1.2	0.8	MG1315	●	●			
						MG1220	●				
						MG3320			●		
APMT 1604PDER-XDU	9.2	17.12	4.76	3	0.8	MG1315	●	●			
						MG1220	●				
						MG3320			●		

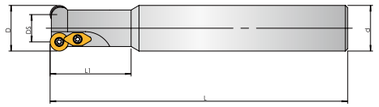
Round nose milling cutter



pic 1



pic 2

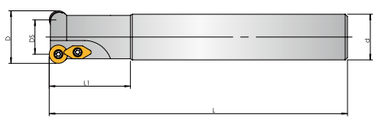


Designation	Flutes	Picture	D	DS	d	L1	L2	L	Insert	Screw	Clamp Plate	Clamp Screw	Wrench	Weight (kg)
C12-4R12-130-1T	1	—	12	4	12	30	/	130	RPMW0802	SRM3.0	/	/	T10	0.11
C16-4R16-160-2T	2	—	16	8	16	40	/	160			YS-34	SRM3.0		0.23
C16-4R16-200-2T	2	二	16	8	16	40	100	200						0.23
C20-4R20-160-2T	2	—	20	12	20	60	/	160						0.36
C20-4R20-200-2T	2	二	20	12	20	70	100	200						0.44
C20-5R20-160-2T	2	—	20	10	20	60	/	160	RPMW1003	SRM4.0	YS-39	SRM3.5	T15	0.35
C20-5R20-200-2T	2	二	20	10	20	70	100	200						0.45
C20-5R25-160-2T	2	—	25	15	20	40	/	160		SRM4.0	YS-43	SRM4.0	T15	0.36
C20-5R25-200-2T	2	—	25	15	20	40	/	200						0.56
C25-5R25-160-2T	2	—	25	15	25	60	/	160						0.54
C25-5R25-180-2T	2	二	25	15	25	60	90	180						0.62
C25-5R25-200-2T	2	二	25	15	25	70	100	200						0.7
C25-5R25-250-2T	2	二	25	15	25	80	115	250						0.86
C3/4-5R30-110-2T	2	—	30	20	3/4	30	/	110						0.28
C20-5R30-110-2T	2	—	30	20	20	30	/	110						0.27
C25-5R30-160-2T	2	—	30	20	25	35	/	160						0.57
C25-5R30-200-2T	2	—	30	20	25	35	/	200						0.75
C25-5R30-250-2T	2	—	30	20	25	35	/	250						0.92
C25-5R30-300-2T	2	—	30	20	25	35	/	300						1.11
C32-5R35-160-2T	2	—	35	25	32	48	/	160						0.95
C32-5R35-200-2T	2	—	35	25	32	48	/	200						1.2
C32-5R35-250-2T	2	—	35	25	32	48	/	250						1.5
C32-5R35-300-2T	2	—	35	25	32	48	/	300						1.8
C32-5R35-350-2T	2	—	35	25	32	48	/	350						2.13
C32-5R35-160-3T	3	—	35	25	32	48	/	160						0.91
C32-5R35-200-3T	3	—	35	25	32	48	/	200						1.17
C32-5R35-250-3T	3	—	35	25	32	48	/	250						1.49
C32-5R35-300-3T	3	—	35	25	32	48	/	300						1.79
C32-5R35-350-3T	3	—	35	25	32	48	/	350						2.11
C32-6R32-160-2T	2	—	32	20	32	48	/	160	RPMW1204					0.89
C32-6R32-200-2T	2	—	32	20	32	48	/	200						1.16
C32-6R32-250-2T	2	—	32	20	32	48	/	250						1.46
C32-6R40-160-3T	3	—	40	28	32	48	/	160						0.93
C32-6R40-200-3T	3	—	40	28	32	48	/	200						1.2
C32-6R40-250-3T	3	—	40	28	32	48	/	250						1.51
C32-6R40-300-3T	3	—	40	28	32	48	/	300						1.81

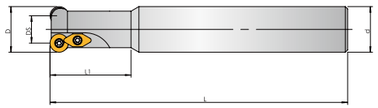
Round nose milling cutter



pic 1



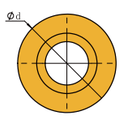
pic 2

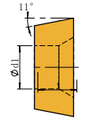


Designation	Flutes	Picture	D	DS	d	L1	L2	L	Insert	Screw	Clamp Plate	Clamp Screw	Wrench	Weight (kg)
C32-6R50-160-4T	4	—	50	38	32	48	/	160	RPMW1204	SRM4.0	YS-43	SRM4.0	T15	1.03
C32-6R50-200-4T	4	—	50	38	32	48	/	200						1.29
C32-6R50-250-4T	4	—	50	38	32	48	/	250						1.59
C15-4R16-160-2T	2	—	16	8	15	40	/	160	RPMW 0802	SRM3.0	YS-34	SRM3.0	T10	0.2
C15-4R16-200-2T	2	—	16	8	15	40	/	200						0.25
C16-4R17-160-2T	2	—	17	9	16	40	/	160						0.23
C16-4R17-200-2T	2	—	17	9	16	40	/	200						0.29
C19-4R20-160-2T	2	—	20	12	19	60	/	160						0.32
C19-4R20-200-2T	2	—	20	12	19	70	/	200						0.41
C20-4R21-160-2T	2	—	21	13	20	60	/	160						0.36
C20-4R21-200-2T	2	—	21	13	20	70	/	200						0.45
C20-5R21-160-2T	2	—	21	11	20	60	/	160	RPMW 1003	SRM4.0	YS-43	SRM4.0	T15	0.38
C20-5R21-200-2T	2	—	21	11	20	70	/	200						0.47
C24-5R25-160-2T	2	—	25	15	24	60	/	160						0.51
C24-5R25-200-3T	3	—	25	15	24	70	/	200						0.65
C24-5R25-250-2T	2	—	25	15	24	80	/	250						0.83
C25-5R26-160-2T	2	—	26	16	25	60	/	160						0.55
C25-5R26-200-2T	2	—	26	16	25	70	/	200						0.7
C25-5R26-250-2T	2	—	26	16	25	80	/	250						0.89

- Standard shank without internal cooling
- Insert to be ordered separately

Inserts

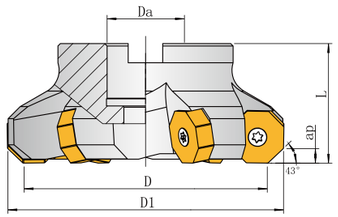




Designation	d	t	d1	Insert Material	P	M	K	N	H
RPMW 0802MO-BG	8	2.38	3.5	MG1315	●	●			
				MG1220	●		●		
RPMW 1003MO-BG	10	3.18	4.6	MG1315	●	●			
				MG1220	●		●		
RPMW 1204MO-BG	12	4.76	4.6	MG1315	●	●			
				MG1220	●		●		

43° face milling cutter head

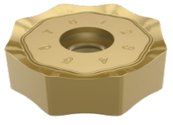


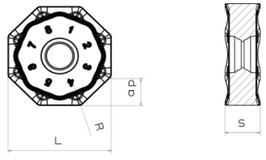


Designation	Flutes	D	D1	L	ap	Da	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
FL43ON-563A22R-07	5	63	78	40	6	22	A	ONKU 0707	CSG5012	CTS20W	0.6
FL43ON-680A27R-07	6	80	95	50	6	27	A				1.1
FL43ON-7100B32R-07	7	100	115	50	6	32	B				1.8
FL43ON-8125B40R-07	8	125	140	63	6	40	B				3.0
FL43ON-10160C40R-07	10	160	175	63	6	40	C				4.4
FL43ON-12200C60R-07	12	200	215	63	6	60	C				6.2
FL43ON-16250C60R-07	16	250	265	63	6	60	C				13.5
FL43ON-20315D60R-07	20	315	330	80	6	60	D				27.8

- Standard cutter head without internal cooling
- Insert to be ordered separately

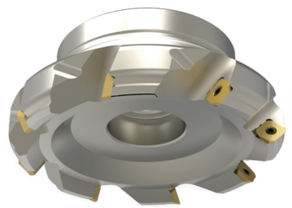
Inserts

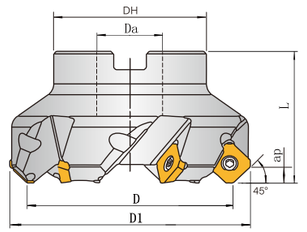




Designation	L	s	r	Insert Material	P	M	K	N	H
ONKU 070708-M	19.0	7.0	0.8	MG1215	●				
				MG2315		●			
				MG3320			●		

45° degree high-speed piane milling head



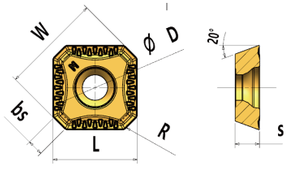


Designation	Flutes	DC	DCX	Da	L	ap	Interface Type	Insert	Screw	Wrench	Weight (kg)
CFM45SE-450A22R-12	4	50	62	22	40	6	A	SEKT 12T3	CSC3580	CTS15W	0.3
CFM45SE-563A22R-12	5	63	75	22	40	6	A				0.5
CFM45SE-680A27R-12	6	80	92	27	50	6	A				1.2
CFM45SE-7100B32R-12	7	100	112	32	50	6	B				1.2
CFM45SE-8125B40R-12	8	125	137	40	63	6	B				2.6
CFM45SE-10160C40R-12	10	160	172	40	63	6	C				3.4
CFM45SE-12200C60R-12	12	200	212	60	63	6	C				7.6
CFM45SE-14250C60R-12	14	250	262	60	63	6	C				13.5

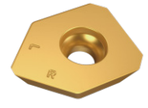
- Standard cutter head without internal cooling
- Insert to be ordered separately

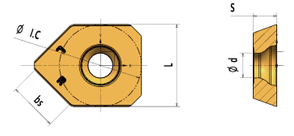
Inserts





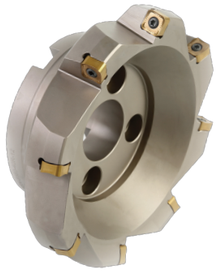
Designation	L	D	S	bs	R	W	Insert Material	P	M	K	N	H
SEKT 12T3AFTN-M	13.15	13.15	3.8	2.5	0.8	15.75	MG1315	●	●			
							MG3320			●		

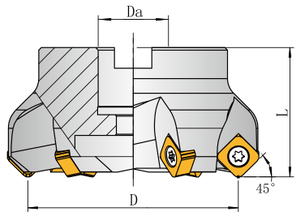




Designation	L	ΦI.C	S	Φd	bs	R	Insert Material	P	M	K	N	H
SEKT 12T3AFTN-WC	13.4	13.4	3.97	4.1	2.55	-	MG1315	●	●			
							MG3320			●		

45° face milling cutter head



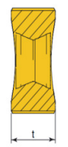


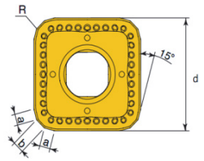
Designation	Flutes	D	Da	L	ap	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
FL45SN-450-22R-12	4	50	22	40	6	A	SNKX 1206	CST4010	CTS15W	0.3
FL45SN-563-22R-12	5	63	22	40	6	A				0.5
FL45SN-663-22R-12	6	63	22	40	6	A				0.5
FL45SN-680-27R-12	6	80	27	50	6	A				1.2
FL45SN-1080-27R-12	10	80	27	50	6	A				1.2
FL45SN-8100-32R-12	8	100	32	50	6	B				1.8
FL45SN-12100-32R-12	12	100	32	50	6	B				1.8
FL45SN-10125-40R-12	10	125	40	63	6	B				3.0
FL45SN-16125-40R-12	16	125	40	63	6	B				3.0
FL45SN-12160-40R-12	12	160	40	63	6	C				4.6
FL45SN-10200-60R-12	10	200	60	63	6	C				6.5
FL45SN-18200-60R-12	18	200	60	63	6	C				6.5
FL45SN-12250-60R-12	12	250	60	63	6	C				10.2
FL45SN-20250-60R-12	20	250	60	63	6	C				10.2
FL45SN-15315-60R-12	15	315	60	63	6	D				18.0
FL45SN-22315-60R-12	22	315	60	63	6	D				18.0

- Standard cutter head without internal cooling
- Insert to be ordered separately

Inserts

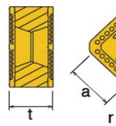


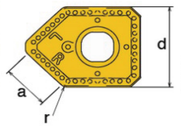


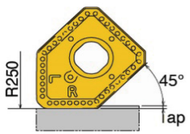


Designation	d	t	a	b	r	Insert Material	P	M	K	N	H
SNKX 1206XTN	12.7	6.35	1.25	1.3	0.4	MG1315	●	●			
						MG3320			●		



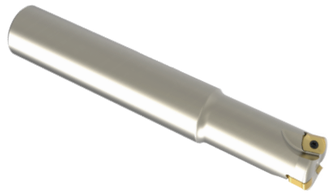






Designation	d	t	a	b	r	Insert Material	P	M	K	N	H
SNKX 1206ANSN-W	12.7	6.45	6.9	-	0.4	MG3320			●		

Fast feed end mill holders



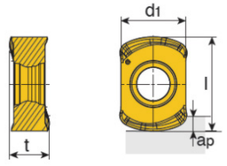


Designation	Flutes	D	d	L	H	ap	Insert	Insert Screw	Spanner
TEBL 216-15-06-L150	2	16	15	150	40	0.7	BLMP 0603	CSC2560	CTS08W
TEBL 216-15-06	2	16	16	150	40	0.7			
TEBL 220-20-06-L200	2	20	20	200	80	1.0			
TEBL 320-19-06-L180	3	20	19	180	80	1.0			
TEBL 320-20-06-S	3	20	20	130	50	1.0			
TEBL 320-20-06	3	20	20	160	80	1.0			
TEBL 325-25-06-L220	3	25	25	220	50	1.0			
TEBL 425-24-06-L180	4	25	24	180	60	1.0			
TEBL 425-25-06-S	4	25	25	140	60	1.0			
TEBL 425-25-06	4	25	25	180	60	1.0			
TEBL 432-32-06-S	4	32	32	150	70	1.0			
TEBL 532-32-06-S	5	32	32	150	70	1.0			
TEBL 532-32-06-L200	5	32	32	200	120	1.0			
TEBL 540-32-06-L220	5	40	32	220	40	1.0			
TEBL 640-32-06-S	6	40	32	150	40	1.0			
TEBL 640-32-06-L220	6	40	32	220	40	1.0			

- Standard cutter head without internal cooling
- Insert to be ordered separately

Inserts

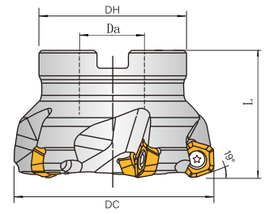




Designation	1	d1	t	ap	Feed mm/tooth	Cutting-in mm	Insert Material	P	M	K	N	H
BLMP 0603R-M	9.0	6.39	3.73	1.0	0.3-2.5	0.1-1.0	MG1215	●	◎			
BLMP 0904R-M	11.9	9.18	4.80	1.5	0.3-3.5	0.1-1.5	MG1215	●	◎			
BLMP 1105R-M	14.6	11.2	6.54	2.0	0.3-4.0	0.3-2.0	MG1215	●	◎			
BLMP 1105R-ML	14.6	11.2	6.54	2.0	0.3-4.0	0.3-2.0	MG1215	●	◎			

Fast forward feed milling cutter

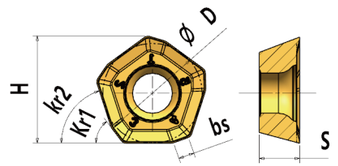




Designation	Flutes	DCX	Da	L	kr°	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
CFM19PD-342A16R-09	4	42	16	40	19	A	PDKT 0905	CSD5012	CTS20W	0.18
CFM19PD-450A22R-09	5	50	22	40	19	A				0.23
CFM19PD-452A22R-09	6	52	22	40	19	A				0.24
CFM19PD-563A22R-09	7	63	22	40	19	A				0.31
CFM19PD-666A22R-09	8	66	22	40	19	A				0.32
CFM19PD-580A27R-09	10	80	27	50	19	A				0.83
CFM19PD-6100B32R-09	12	100	32	50	19	B				1.40
CFM19PD-8100B32R-09	14	100	32	50	19	B				1.38

Inserts

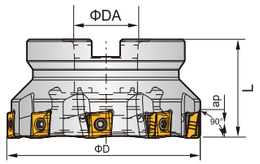




Designation	D	H	S	kr1°	kr2°	bs	Insert Material	P	M	K	N	H
PDKT 090508R-MW	13.5	14.46	5.45	19	72	2.1	MG1215	●	◎			
PDKT 090508L-MW	13.5	14.46	5.45	19	72	2.1	MG1215	●	◎			
PDKT 090530R-M	13.5	14.46	5.45	-	72	-	MG1215	●	◎			

Right angle plane milling cutter

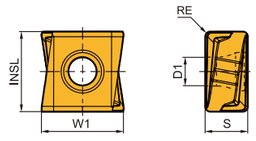




Designation	Flutes	D	Da	L	ap	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
FL90LN-340A16-12	3	40	16	40	11.5	A	LNKT 1206	DM4x12	T15	0.2
FL90LN-440A16-12	4									0.2
FL90LN-550A22-12	5	50	22	40		A				0.3
FL90LN-650A22-12	6									0.3
FL90LN-663A22-12	6	63	22	40		A				0.54
FL90LN-863A22-12	8									0.54
FL90LN-780A27-12	7	80	27	50		A				1.18
FL90LN-1080A27-12	10									1.18
FL90LN-9100B32-12	9	100	32	50		B				1.64
FL90LN-13100B32-12	13									1.64
FL90LN-11125B40-12	11	125	40	63		B				2.75
FL90LN-16125B40-12	16									2.75

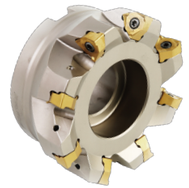
Inserts

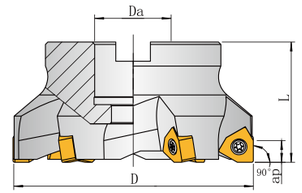




Designation	INSL	W1	S	D1	RE	Insert Material	P	M	K	N	H
LNKT 120608PNR-GM	12.7	13	6.75	4.4	0.8	MG1215	●	◎			
						MG3320			●		
LNKT 120612PNR-GM	12.7	13	6.75	4.4	1.2	MG1215	●	◎			
						MG3320			●		
LNKT 120616PNR-GM	12.7	13	6.75	4.4	1.6	MG1125	●	◎			
						MG3320			●		

Right angle plane milling cutter head

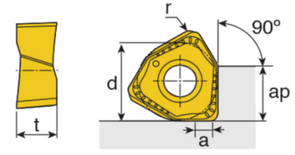




Designation	Flutes	D	Da	L	ap	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
FL90XN-550A22R-09	5	50	22	40	9.2	A	XNGU 0905	DRM4x10 (D6.0)	CTS15W	0.4
FL90XN-663A22R-09	6	63	22	40	9.2	A				0.5
FL90XN-763A22R-09	7	63	22	40	9.2	A				0.5
FL90XN-780A27R-09	7	80	27	50	9.2	A				1.1
FL90XN-980A27R-09	9	80	27	50	9.2	A				1.1
FL90XN-8100B32R-09	8	100	32	50	9.2	B				1.8
FL90XN-11100B32R-09	11	100	32	50	9.2	B				1.9
FL90XN-11125B40R-09	11	125	40	63	9.2	B				3.1
FL90XN-14125B40R-09	14	125	40	63	9.2	B				3.2
FL90XN-12160C40R-09	12	160	40	63	9.2	C				4.3
FL90XN-16160C40R-09	16	160	40	63	9.2	C				4.3
FL90XN-14200C60R-09	14	200	60	63	9.2	C				5.9
FL90XN-18200C60R-09	18	200	60	63	9.2	C				5.9
FL90XN-18250C60R-09	18	250	60	63	9.2	C				10.7
FL90XN-22250C60R-09	22	250	60	63	9.2	C				10.8

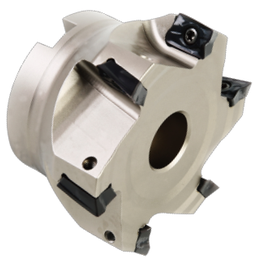
- Standard cutter head without internal cooling
- Insert to be ordered separately

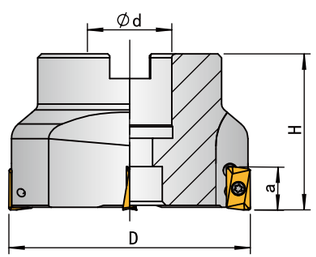
Inserts



Designation	d	t	a	r	Feed mm/tooth	Insert Material	P	M	K	N	H
XNGU 090508-M	13.05	6.7	2	0.8	0.1-0.2	MG1315	●	●			
						MG3320			●		
XNGU 090508-ML	13.05	6.7	2	0.8	0.05-0.1	MG1315	●	●			
						MG3320			●		

Right angle plane milling cutter head

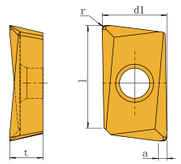




Designation	Flutes	D	d	a	H	Insert	Screw	Wrench	Weight (kg)
400R-50-22-4T	4	50	22	16	50	APMT1604	SRM4.0	T15	0.4
400R-63-22-5T	5	63	22	16	50				0.65
400R-80-27-6T	6	80	27	16	50				1
400R-100-32-6T	6	100	32	16	50				1.25
400R-125-40-8T	8	125	40	16	63				3.1
400R-160-40-8T	8	160	40	16	63				5.1

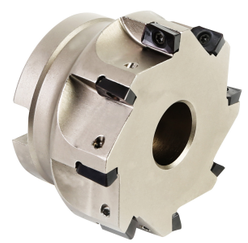
- Standard cutter head without internal cooling
- Insert to be ordered separately

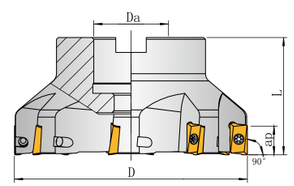
Inserts



Designation	d1	1	t	a	r	Insert Material	P	M	K	N	H
APMT 1604PDER-XDU	9.2	17.12	4.76	3	0.8	MG1220	●				
						MG3320			●		
APMT 160408PDER-N						MG4220				●	

Right angle plane milling cutter head

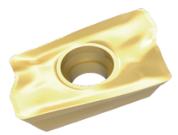


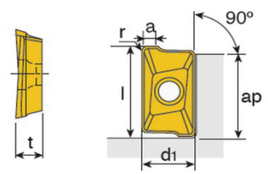


Designation	Flutes	D	Da	L	ap	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
FL90AP 550-22R-17	5	50	22	40	16.1	A	APKT 1705	CSC4090	CTS15W	0.4
FL90AP 663-22R-17	6	63	22	40	16.1	A				0.5
FL90AP 780-27R-17	7	80	27	50	16.1	A				0.9
FL90AP 8100-32R-17	8	100	32	50	16.1	B				1.5
FL90AP 8125-40R-17	8	125	40	63	16.1	B				3.0
FL90AP 9125-40R-17	9	125	40	63	16.1	B				3.1
FL90AP 10160-40R-17	10	160	40	63	16.1	C				4.2
FL90AP 12200-60R-17	12	200	60	63	16.1	C				6.1

- Standard cutter head without internal cooling
- Insert to be ordered separately

Inserts

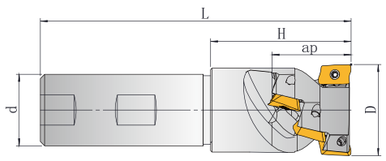




Designation	d	l	t	a	r	Insert Material	P	M	K	N	H
APKT 170508-EM	10.7	18.5	5.56	3.0	0.8	MG1315	●	●			
						MG3320			●		

Corn milling cutter

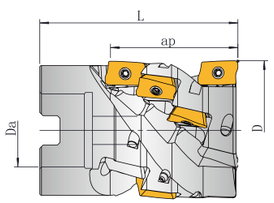




Designation	Flutes	Tooth Number	D	d	H	L	ap	Insert	Insert Screw	Spanner	Weight (kg)
ML90AP-2232L120Z32-17	2	4	32	32	50	120	30	APKT 1705	CSG4011-P	CTS15W-P	0.82
ML90AP-2340L140Z32-17	2	6	40	32	65	140	44				1.15

- Standard cutter head without internal cooling
- Insert to be ordered separately

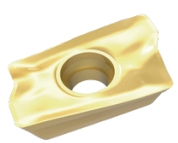


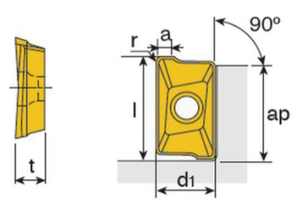


Designation	Flutes	Tooth Number	D	L	ap	Da	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
ML90AP-2350H44A22R-17	2	6	50	60	44	22	A	APKT 1705	CSG4011-P	CTS15W-P	0.5
ML90AP-3363H44A27R-17	3	9	63	63	44	27	A				0.9
ML90AP-4363H44A27R-17	4	12	63	63	44	27	A				0.9
ML90AP-4480H58A32R-17	4	16	80	75	58	32	A				1.9
ML90AP-56100H88A40R-17	5	30	100	110	88	40	A				4.8

- Standard cutter head without internal cooling
- Insert to be ordered separately

Inserts

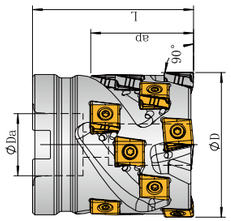




Designation	d	l	t	a	r	Insert Material	P	M	K	N	H
APKT 170508-EM	10.7	18.5	5.56	3.0	0.8	MG1315	●	●			
						MG3320			●		

Corn milling cutter

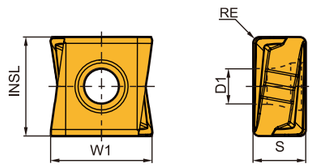




Designation	Flutes	Tooth Number	D	L	ap	Da	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
ML90LN-2340A16-12	2	6	40	16	55	33	A	LNKT 1206	DM4x12	T15	0.3
ML90LN-2440A16-12	2	8			65	43					0.35
ML90LN-3350A22-12	3	9	50	22	55	33	A				0.5
ML90LN-3450A22-12	3	12			70	43					0.65
ML90LN-4463A27-12	4	16	63	27	70	43	A				1.05
ML90LN-4563A27-12	4	20			80	53					1.2
ML90LN-5480A27-12	5	20	80	27	70	43	A				1.93
ML90LN-5580A27-12	5	25			80	53					2.12
ML90LN-66100A27-12	6	36	100	27	90	63	A				3.35

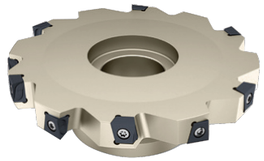
Inserts

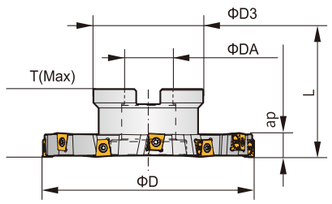




Designation	INSL	W1	S	D1	RE	Insert Material	P	M	K	N	H
LNKT 120608PNR-GM	12.7	13	6.75	4.4	0.8	MG1215	●	◎			
						MG3320			●		
LNKT 120612PNR-GM	12.7	13	6.75	4.4	1.2	MG1215	●	◎			
						MG3320			●		
LNKT 120616PNR-GM	12.7	13	6.75	4.4	1.6	MG1125	●	◎			
						MG3320			●		

Vertical three-sided milling cutter

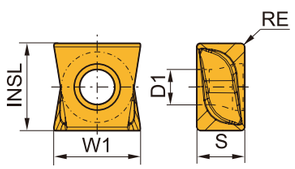




Designation	Flutes	ap	D	Da	D3	L	Tmax	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
SMFLN-10100W14B27R-10	5+5	14	100	27	55	12	24	B	LNGX 1005	DM3.5x8	T10	0.7
SMFLN-12125W14B32R-10	6+6		125	32	65		33	B				1.2
SMFLN-14160W14B40R-10	7+7		160	40	80		42	B				2.4
SMFLN-16200W14C40R-10	8+8		200	40	92		53	C				3.6
SMFLN-12125W16B32R-10	6+6	16	125	32	65	14	33	B	LNGX 1005	DM3.5x8	T10	1.4
SMFLN-14160W16B40R-10	7+7		160	40	80		42	B				2.6
SMFLN-16200W16C40R-10	8+8		200	40	92		53	C				4
SMFLN-10125W20B32R-14	8+8	20	125	32	65	18	33	B	LNGX 1407	DM4x10	T15	1.6
SMFLN-12160W20B40R-14	6+6		160	40	80		42	B				2.7
SMFLN-14200W20C40R-14	7+7		200	40	92		53	C				4.6
SMFLN-16250W20C60R-14	8+8		250	60	132		58	C				7.4
SMFLN-12160W25B40R-14	6+6	25	160	40	80	20	42	B	LNGX 1407	DM4x10	T15	3.2
SMFLN-14200W25C40R-14	7+7		200	40	92		53	C				5.2
SMFLN-16250W25C60R-14	8+8		250	60	132		58	C				8.6
SMFLN-20315W25C60R-14	10+10		315	60	132		90	C				13.2

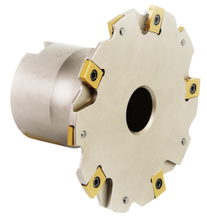
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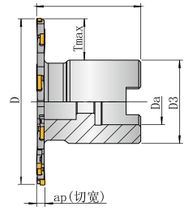


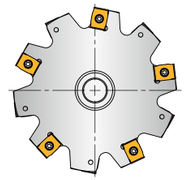


Designation	INSL	W1	S	D1	RE	Insert Material	P	M	K	N	H
LNGX 100504-GM	10	9.9	5.5	4.1	0.4	MG1215	●	◎	●		
LNGX 100508-GM	10	9.9	5.5	4.1	0.8	MG1215	●	◎	●		
LNGX 100512-GM	10	9.9	5.5	4.1	1.2	MG1215	●	◎	●		
LNGX 140704-GM	14	13.4	7.5	4.4	0.4	MG1215	●	◎	●		
LNGX 140708-GM	14	13.4	7.5	4.4	0.8	MG1215	●	◎	●		
LNGX 140712-GM	14	13.4	7.5	4.4	1.2	MG1215	●	◎			

Flange type three edge milling cutter head



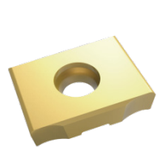


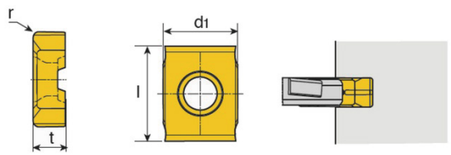


Designation	Flutes	ap (mm)	D	da	D3	L	Tmax	Interface Type	Insert	Insert Screw	Spanner	Weight (kg)
SMFZN-1080W04A22R-023	5+5	4	80	22	40	50	20.0	A	ZNHT 023	CSX2531	CTS08W	0.4
SMFZN-12100W04A27R-023	6+6	4	100	27	48	50	26.0	A				0.6
SMFZN-1080W05A22R-028	5+5	5	80	22	40	50	20.0	A	ZNHT 028	CSX2542	CTS08W	0.5
SMFZN-12100W05A27R-028	6+6	5	100	27	48	50	26.0	A				0.7
SMFZN-1080W06A22R-033	5+5	6	80	22	40	50	20.0	A	ZNHT 033	CSX2553	CTS08W	0.6
SMFZN-12100W06A27R-033	6+6	6	100	27	48	50	26.0	A				0.7
SMFZN-14125W06B40R-033	7+7	6	125	40	70	50	25.0	B				1.2
SMFZN-18160W06B40R-033	9+9	6	160	40	70	50	43.0	B				1.5
SMFZN-880W07A22R-038	4+4	7	80	22	40	50	20.0	A	ZNHT 038	CSX4051	CTS15W	0.5
SMFZN-10100W07A27R-038	5+5	7	100	27	48	50	25.5	A				0.7
SMFZN-12125W07B40R-038	6+6	7	125	40	70	50	24.5	B				1.2
SMFZN-16160W07B40R-038	8+8	7	160	40	70	50	42.0	B				1.5
SMFZN-880W08A22R-043	4+4	8	80	22	40	50	20.0	A	ZNHT 043	CSX4061	CTS15W	0.5
SMFZN-10100W08A27R-043	5+5	8	100	27	48	50	25.5	A				0.8
SMFZN-12125W08B40R-043	6+6	8	125	40	70	50	24.5	B				1.2
SMFZN-16160W08B40R-043	8+8	8	160	40	70	50	42.0	B				1.6
SMFZN-10100W09A27R-048	5+5	9	100	27	48	50	26.0	A	ZNHT 048	CSX4070	CTS15W	0.8
SMFZN-12125W09B40R-048	6+6	9	125	40	70	50	24.5	B				1.3
SMFZN-16160W09B40R-048	8+8	9	160	40	70	50	42.0	B				1.7
SMFZN-10100W10A27R-053	5+5	10	100	27	48	50	26.0	A	ZNHT 053	CSX4080	CTS15W	0.8
SMFZN-12125W10B40R-053	6+6	10	125	40	70	50	24.5	B				1.4
SMFZN-16160W10B40R-053	8+8	10	160	40	70	50	42.0	B				1.9
SMFZN-8100W11A27R-058	4+4	11	100	27	48	50	26.0	A	ZNHT 058	SCY5012	CTS20W	0.8
SMFZN-10125W11B40R-058	5+5	11	125	40	70	50	24.5	B				1.4
SMFZN-14160W11B40R-058	7+7	11	160	40	70	50	42.0	B				1.9
SMFZN-8100W12A27R-063	4+4	12	100	27	48	50	26.0	A	ZNHT 063	SCY5012	CTS20W	0.8
SMFZN-10125W12B40R-063	5+5	12	125	40	70	50	24.5	B				1.4
SMFZN-14160W12B40R-063	7+7	12	160	40	70	50	42.0	B				1.9
SMFZN-8100W14A27R-073	4+4	14	100	27	48	50	26 0	A	ZNHT 073	SCY5012	CTS20W	0.8
SMFZN-10125W14B40R-073	5+5	14	125	40	70	50	24.5	B				1.4
SMFZN-14160W14B40R-073	7+7	14	160	40	70	50	42.0	B				1.9

- Standard cutter head without internal cooling
- Insert to be ordered separately

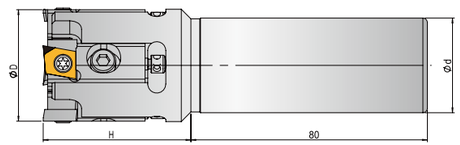
Inserts



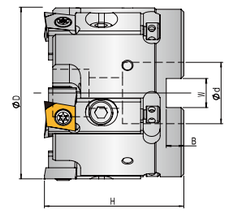


Designation	l	d1	t	r	Feed mm/tooth	Insert Material	P	M	K	N	H
ZNHT 018-04-ML	10	7.5	1.8	0.4	0.05～0.08	MG1315	●	●			
ZNHT 023-04-ML	10	7.5	2.3	0.4	0.05～0.08	MG1315	●	●			
ZNHT 028-04-ML	10	7.5	2.8	0.4	0.05～0.08	MG1315	●	●			
ZNHT 033-04-ML	10	7.5	3.3	0.4	0.05～0.12	MG1315	●	●			
ZNHT 038-04-ML	13	10	3.8	0.4	0.05～0.12	MG1315	●	●			
ZNHT 043-04-ML	13	10	4.3	0.4	0.05～0.12	MG1315	●	●			
ZNHT 048-04-ML	13	10	4.8	0.4	0.05～0.12	MG1315	●	●			
ZNHT 053-04-ML	13	10	5.3	0.4	0.05～0.12	MG1315	●	●			
ZNHT 058-04-ML	15	12	5.8	0.4	0.05～0.12	MG1315	●	●			
ZNHT 058-08-ML	15	12	5.8	0.8	0.05～0.12	MG1315	●	●			
ZNHT 063-04-ML	15	12	6.3	0.4	0.05～0.12	MG1315	●	●			
ZNHT 063-08-ML	15	12	6.3	0.8	0.05～0.12	MG1315	●	●			
ZNHT 073-08-ML	15	12	7.3	0.8	0.05～0.12	MG1315	●	●			
ZNHT 073-12-ML	15	12	7.3	1.2	0.05～0.12	MG1315	●	●			

High speed milling cutter for aluminum alloy



pic 1



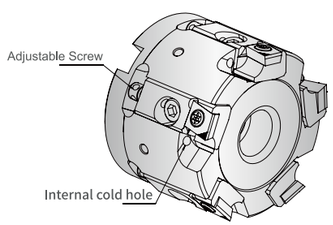
pic 2

Designation	Picture	Flutes	D	d	H	W	B	Blade	Weight (kg)
CAL 04004	pic 1	4	40	32	50	-	-	XCALBSS	0.9
CAL 05005	pic 2	5	50	22		10.4	6.3		0.3
CAL 06306		6	63	22		10.4	6.3		0.4
CAL 08008		8	80	25.4		9.5	6.3		0.7
CAL 10010		10	100	31.75	54.8	12.7	8		1.1
CAL 12512		12	125	38.1		15.9	10		1.6

- Standard cutter head without internal cooling
- Insert to be ordered separately

Convertible tool holder

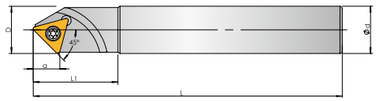
Name	Designation	Shape	Insert（PCD)	Screw
Cutter holder	XCALBSS		XCBGW 09T3-R	SRM4-T15



- Through simple adjust(adjust screw) can assure tip runout within 0.01mm
- Tool body with inside coolant, can provide coolant to tip accurately

45 degree chamfering knife



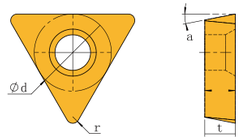


Designation	Flutes	D	D1	d	a	L1	L	Chamfer Range	Insert	Screw	Wrench	Weight (kg)
MCT-C20-20-130-1T	1	20	6	20	11.3	20	130	6-20	TCMX16T308	SRM4.0	T15	0.28

- Standard shank without internal cooling
- Insert to be ordered separately

Inserts

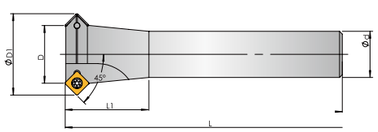




Designation	d	l	t	r	Insert Material	P	M	K	N	H
TCMX 16T308	9.525	3.97	7°	0.8	MG1315	●	●			

45 degree inside and outside chamfering knife

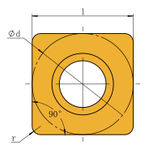


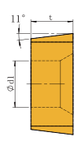


Designation	Flutes	D	D1	d	L1	L	Insert	Screw	Wrench	Weight (kg)
MCT45-C3/4-25-110-2T	2	25	38	19.05	45	110	SPMW090304	SRM4.0	T15	0.26
MCT45-C20-25-110-2T	2	25	38	20	45	110				0.4
MCT45-C25-25-150-2T	2	25	38	25	45	150				0.55
MCT45-C25-30-150-2T	2	30	43	25	45	150				0.59

- Standard shank without internal cooling
- Insert to be ordered separately

Inserts

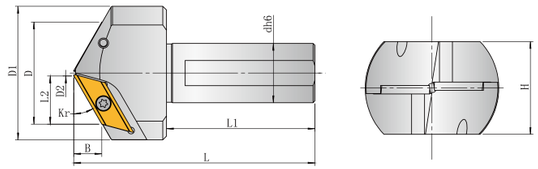




Designation	d	l	t	r	Insert Material	P	M	K	N	H
SPMW 090304	9.525	9.525	3.18	0.4	MG1610	●	◎	◎		

Type C chamfering tool

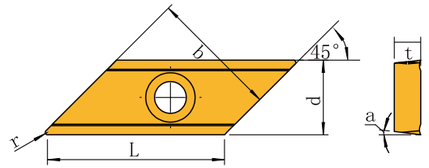




Designation	Flutes	Kr	B	L2	D	D1	D2	L	L1	d	H	Insert	Insert Screw	Spanner
CCF60XC-134L130W32R-31	1	60	25.5	14.5	34	40	5	130	80	32	—	XCET310404	CSG5012-P	CTS20W-P
CCF45XC-246L130W32R-31	2	45	20.5	20.5	46	56	5	130	80	32	45			
CCF30XC-255L130W32R-31	2	30	14.5	25.5	55	72	5	130	80	32	50			

- Standard shank without internal cooling, Insert to be ordered separately
- Minimum machining aperture ϕ5mm

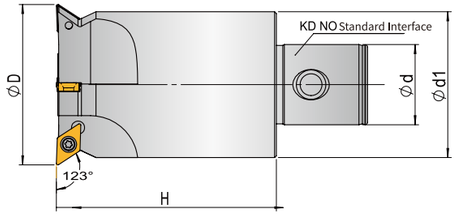
Inserts



Designation	L	b	d	t	a	r	Insert Material	P	M	K	N	H
XCET 310404	29.2	22	12.7	4.5	7°	0.4	MG1315	●	●			
							MG3320			●		

Dovetail milling cutter

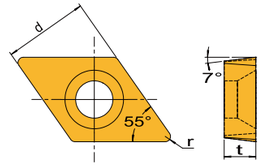




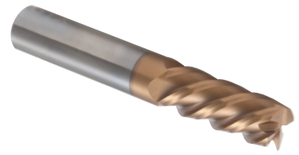
Designation	Flutes	Kr	d	d1	H	KD NO	Insert	Insert Screw	Spanner	Weight (kg)
FL123DC-444KD4-07	4	44	22	40	60	KD4	DCMT 070204	DM2.5x6	T08	0.3
FL123DC-463KD5-07	4	63	28	55	80	KD5				1.35
FL123DC-594KD6-07	5	94	36	85.5	93	KD6				3.1

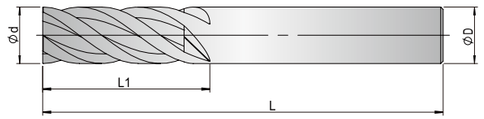
Inserts

Designation	d	t	r	Insert Material	P	M	K	N	H
DCMT 070204	6.35	2.38	0.4	MG1215	●	◎			
				MG3320			●		



Flat End Mill (HRC55)

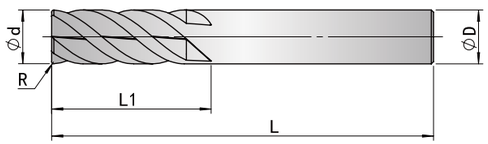




Designation	d	D	Flutes	L1	L
XLP403-04L50	3.0	4	4	8	50
XLP403-03L50	3.0	3	4	8	50
XLP404-04L50	4.0	4	4	10	50
XLP405-06L50	5.0	6	4	13	50
XLP406-06L50	6.0	6	4	15	50
XLP407-08L60	7.0	8	4	18	60
XLP408-08L60	8.0	8	4	20	60
XLP409-10L75	9.0	10	4	23	75
XLP410-10L75	10.0	10	4	25	75
XLP412-12L75	12.0	12	4	30	75
XLP414-14L100	14.0	14	4	35	100
XLP416-16L100	16.0	16	4	45	100
XLP418-18L100	18.0	18	4	45	100
XLP420-20L100	20.0	20	4	50	100

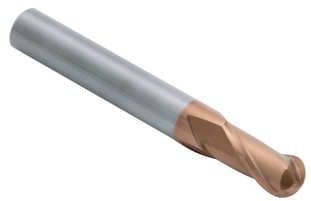
End Mill with round nose (HRC55)

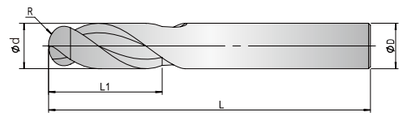




Designation	d	R	D	Flutes	L1	L
XLR403-04L50R02	3.0	0.2	4	4	8	50
XLR403-04L50R05	3.0	0.5	4	4	8	50
XLR404-04L50R02	4.0	0.2	4	4	10	50
XLR404-04L50R05	4.0	0.5	4	4	10	50
XLR404-04L50R10	4.0	1.0	4	4	10	50
XLR405-05L50R05	5.0	0.5	5	4	13	50

Ball End Mill (HRC55)

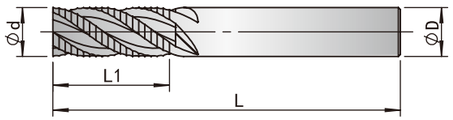




Designation	d	R	D	Flutes	L1	L
XLQ201-04L50	1.0	0.5	4	2	4	50
XLQ2015-04L50	1.5	0.75	4	2	6	50
XLQ202-04L50	2.0	1.0	4	2	8	50
XLQ2025-05L50	2.5	1.25	5	2	10	50
XLQ203-06L50	3.0	1.5	6	2	12	50
XLQ204-08L60	4.0	2.0	8	2	16	60
XLQ205-10L75	5.0	2.5	10	2	20	75
XLQ206-12L75	6.0	3.0	12	2	24	75
XLQ208-16L100	8.0	4.0	16	2	32	100
XLQ210-20L100	10.0	5.0	20	2	40	100

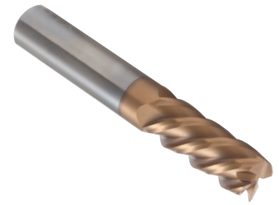
Rough End Mill (HRC55)

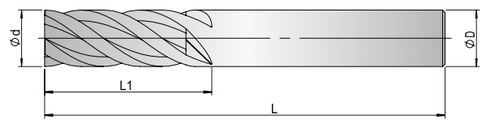




Designation	d	D	Flutes	L1	L
XLC406-06L50	6.0	6	4	16	50
XLC408-08L60	8.0	8	4	20	60
XLC410-10L75	10.0	10	4	25	75
XLC412-12L75	12.0	12	4	30	75
XLC414-14L100	14.0	14	4	35	100
XLC416-16L100	16.0	16	4	45	100
XLC418-18L100	18.0	18	4	45	100
XLC420-20L100	20.0	20	4	45	100

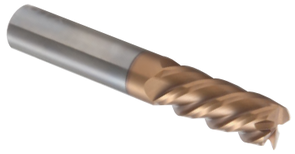
Flat End Mill (HRC70)

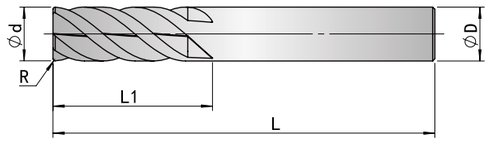




Designation	d	D	Flutes	L1	L
XHP403-04L50	3.0	4	4	8	50
XHP404-04L50	4.0	4	4	10	50
XHP405-06L60	5.0	6	4	13	60
XHP406-06L60	6.0	6	4	13	60
XHP408-08L60	8.0	8	4	19	60
XHP410-10L75	10.0	10	4	22	75
XHP412-12L75	12.0	12	4	26	75
XHP404-04L75	4.0	4	4	12	75
XHP406-06L75	6.0	6	4	20	75
XHP408-08L75	8.0	8	4	25	75
XHP406-06L100	6.0	6	4	20	100
XHP408-08L100	8.0	8	4	25	100
XHP410-10L100	10.0	10	4	33	100
XHP412-12L100	12.0	12	4	37	100

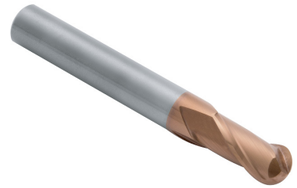
End Mill with round nose (HRC70)

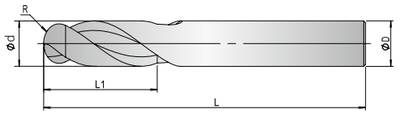




Designation	d	R	D	Flutes	L1	L
XHR403- 04L50R02	3.0	0.2	4	4	4.5	50
XHR403-04L50R03	3.0	0.3	4	4	4.5	50
XHR403-04L50R05	3.0	0.5	4	4	4.5	50
XHR404-04L50R02	4.0	0.2	4	4	6	50
XHR404-04L50R03	4.0	0.3	4	4	6	50
XHR404-04L50R05	4.0	0.5	4	4	6	50
XHR405-06L60R05	5.0	0.5	6	4	7.5	60
XHR405-06L60R10	5.0	1	6	4	7.5	60
XHR406-06L60R02	6.0	0.2	6	4	9	60
XHR406-06L60R05	6.0	0.5	6	4	9	60
XHR406-06L60R10	6.0	1	6	4	9	60
XHR408-08L60R02	8.0	0.2	8	4	12	60
XHR408-08L60R05	8.0	0.5	8	4	12	60
XHR408-08160R10	8.0	1	8	4	12	60
XHR410-10L75R02	10.0	0.2	10	4	15	75
XHR410-10L75R05	10.0	0.5	10	4	15	75
XHR410-10L75R10	10.0	1	10	4	15	75
XHR412-12L75R05	12.0	0.5	12	4	18	75
XHR412-12L75R10	12.0	1	12	4	18	75

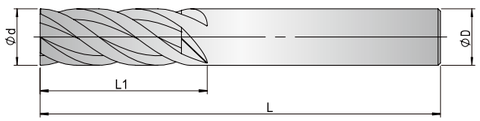
Ball End Mill (HRC70)





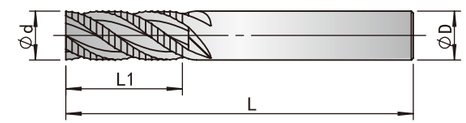
Designation	d	R	D	Flutes	L1	L
XHQ201-04L50	1	0.5	4	2	2	50
XHQ2015-04L50	1.5	0.75	4	2	3	50
XHQ202-04L50	2	1.0	4	2	4	50
XHQ203-06L60	3	1.5	6	2	6	60
XHQ204-08L60	4	2.0	8	2	8	60
XHQ205-10L75	5	2.5	10	2	10	75
XHQ206-12L75	6	3.0	12	2	12	75
XHQ202-04L75	2	1.0	4	2	4	75
XHQ203-06L75	3	1.5	6	2	6	75
XHQ204-08L75	4	2.0	8	2	8	75
XHQ203-06L100	3	1.5	6	2	6	100
XHQ204-08L100	4	2.0	8	2	8	100
XHQ205-10L100	5	2.5	10	2	10	100
XHQ206-12L100	6	3.0	12	2	12	100

Flat End Mill (AL)



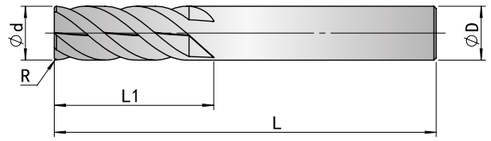
Designation	d	D	Flutes	L1	L
XAP303-04L50	3.0	4	3	8	50
XAP304-04L50	4.0	4	3	12	50
XAP305-05L50	5.0	5	3	15	50
XAP306-06L50	6.0	6	3	18	50
XAP308-08L60	8.0	8	3	20	60
XAP310 -10L75	10.0	10	3	30	75
XAP312 -12L75	12.0	12	3	30	75
XAP316-16L100	16.0	16	3	45	100
XAP320-20L100	20.0	20	3	45	100

Rough End Mill (AL)



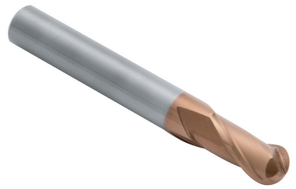
Designation	d	D	Flutes	L1	L
XAC306-06L50	6.0	6	3	15	50
XAC308-08L60	8.0	8	3	20	60
XAC310-10L75	10.0	10	3	25	75
XAC312-12L75	12.0	12	3	30	75
XAC314-14L100	14.0	14	3	35	100
XAC316-16L100	16.0	16	3	45	100
XAC318-18L100	18.0	18	3	45	100
XAC320-20L100	20.0	20	3	45	100

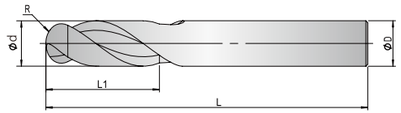
End Mill with round nose (AL)



Designation	d	R	D	Flutes	L1	L
XAR303-04L50R05	3.0	0.5	4	3	8	50
XAR304-04L50R05	4.0	0.5	4	3	10	50
XAR306-06L50R05	6.0	0.5	6	3	16	50
XAR306-06L50R10	6.0	1.0	6	3	16	50
XAR308-08L60R05	8.0	0.5	8	3	20	60
XAR308-08L60R10	8.0	1.0	8	3	20	60
XAR310-10L75R05	10.0	0.5	10	3	25	75
XAR310-10L75R10	10.0	1.0	10	3	25	75
XAR312-12L75R05	12.0	0.5	12	3	30	75
XAR312-12L75R10	12.0	1.0	12	3	30	75
XAR316-16L100R05	16.0	0.5	16	3	40	100
XAR316-16L100R10	16.0	1.0	16	3	40	100
XAR316-16L100R30	16.0	3.0	16	3	40	100
XAR320-20L100R05	20.0	0.5	20	3	45	100
XAR320-20L100R10	20.0	1.0	20	3	45	100
XAR320-20L100R30	20.0	3.0	16	3	45	100

Ball End Mill (AL)

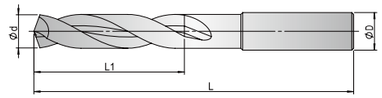




Designation	d	R	D	Flutes	L1	L
XAQ201-04L50	1	0.5	4	2	4	50
XAQ202-04L50	2	1.0	4	2	8	50
XAQ203-06L50	3	1.5	6	2	12	50
XAQ204-08L60	4	2.0	8	2	16	60
XAQ205-10L75	5	2.5	10	2	20	75
XAQ206-12L75	6	3.0	12	2	24	75
XAQ201-04L75	1	0.5	4	2	4	75
XAQ202-04L75	2	1.0	4	2	8	75
XAQ203-06L75	3	1.5	6	2	12	75
XAQ204-08L75	4	2.0	8	2	16	75
XAQ202-04L100	2	1.0	4	2	8	100
XAQ203-06L100	3	1.5	6	2	12	100
XAQ204-08L100	4	2.0	8	2	16	100
XAQ205-10L100	5	2.5	10	2	20	100
XAQ206-12L100	6	3.0	12	2	24	100
XAQ203-06L150	3	1.5	6	2	12	150
XAQ204-08L50	4	2.0	8	2	16	150
XAQ205-10L150	5	2.5	10	2	20	150
XAQ206-12L150	6	3.0	12	2	24	150

Carbide drill 3D



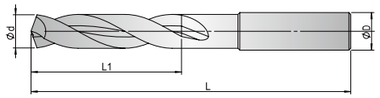


Designation	d	L1	D	L	Cooling
ZH-D033-3D	3.3	20	6	62	Internal cold
ZH-D034-3D	3.4				
ZH-D035-3D	3.5				
ZH-D036-3D	3.6				
ZH-D037-3D	3.7				
ZH-D038-3D	3.8	24	6	66	Internal cold
ZH-D039-3D	3.9				
ZH-D040-3D	4.0				
ZH-D041-3D	4.1				
ZH-D042-3D	4.2				
ZH-D043-3D	4.3				
ZH-D044-3D	4.4				
ZH-D045-3D	4.5				
ZH-D046-3D	4.6				
ZH-D047-3D	4.7				
ZH-D048-3D	4.8	28	6	66	Internal cold
ZH-D049-3D	4.9				
ZH-D050-3D	5.0				
ZH-D051-3D	5.1				
ZH-D052-3D	5.2				
ZH-D053-3D	5.3				
ZH-D054-3D	5.4				
ZH-D055-3D	5.5				
ZH-D056-3D	5.6				
ZH-D057-3D	5.7				
ZH-D058-3D	5.8				
ZH-D059-3D	5.9				
ZH-D060-3D	6.0				
ZH-D061-3D	6.1	34	8	79	Internal cold
ZH-D062-3D	6.2				
ZH-D063-3D	6.3				
ZH-D064-3D	6.4				
ZH-D065-3D	6.5				
ZH-D066-3D	6.6				
ZH-D067-3D	6.7				
ZH-D068-3D	6.8				
ZH-D069-3D	6.9				
ZH-D070-3D	7.0				

Designation	d	L1	D	L	Cooling
ZH-D071-3D	7.1	41	8	79	Internal cold
ZH-D072-3D	7.2				
ZH-D073-3D	7.3				
ZH-D074-3D	7.4				
ZH-D075-3D	7.5				
ZH-D076-3D	7.6				
ZH-D077-3D	7.7				
ZH-D078-3D	7.8				
ZH-D079-3D	7.9				
ZH-D080-3D	8.0				
ZH-D081-3D	8.1	47	10	89	Internal cold
ZH-D082-3D	8.2				
ZH-D083-3D	8.3				
ZH-D084-3D	8.4				
ZH-D085-3D	8.5				
ZH-D086-3D	8.6				
ZH-D087-3D	8.7				
ZH-D088-3D	8.8				
ZH-D089-3D	8.9				
ZH-D090-3D	9.0				
ZH-D091-3D	9.1				
ZH-D092-3D	9.2				
ZH-D093-3D	9.3				
ZH-D094-3D	9.4				
ZH-D095-3D	9.5				
ZH-D096-3D	9.6				
ZH-D097-3D	9.7				
ZH-D098-3D	9.8				
ZH-D099-3D	9.9				
ZH-D100-3D	10.0				

Carbide drill 3D

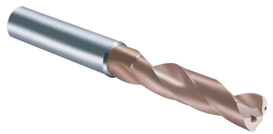


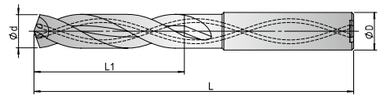


Designation	d	L1	D	L	Cooling
ZH-D101-3D	10.1	55	12	102	Internal cold
ZH-D102-3D	10.2				
ZH-D103-3D	10.3				
ZH-D104-3D	10.4				
ZH-D105-3D	10.5				
ZH-D106-3D	10.6				
ZH-D107-3D	10.7				
ZH-D108-3D	10.8				
ZH-D109-3D	10.9				
ZH-D110-3D	11.0				
ZH-D111-3D	11.1				
ZH-D112-3D	11.2				
ZH-D113-3D	11.3				
ZH-D114-3D	11.4				
ZH-D115-3D	11.5				
ZH-D116-3D	11.6				
ZH-D117-3D	11.7				
ZH-D118-3D	11.8				
ZH-D119-3D	11.9				
ZH-D120-3D	12.0				
ZH-D121-3D	12.1	60	14	107	Internal cold
ZH-D122-3D	12.2				
ZH-D123-3D	12.3				
ZH-D124-3D	12.4				
ZH-D125-3D	12.5				
ZH-D126-3D	12.6				
ZH-D127-3D	12.7				
ZH-D128-3D	12.8				
ZH-D129-3D	12.9				
ZH-D130-3D	13.0				

Designation	d	L1	D	L	Cooling
ZH-D131-3D	13.1	60	14	107	Internal cold
ZH-D132-3D	13.2				
ZH-D133-3D	13.3				
ZH-D134-3D	13.4				
ZH-D135-3D	13.5				
ZH-D136-3D	13.6				
ZH-D137-3D	13.7				
ZH-D138-3D	13.8				
ZH-D139-3D	13.9				
ZH-D140-3D	14.0				
ZH-D141-3D	14.1	65	16	115	Internal cold
ZH-D142-3D	14.2				
ZH-D143-3D	14.3				
ZH-D144-3D	14.4				
ZH-D145-3D	14.5				
ZH-D146-3D	14.6				
ZH-D147-3D	14.7				
ZH-D148-3D	14.8				
ZH-D149-3D	14.9				
ZH-D150-3D	15.0				
ZH-D151-3D	15.1				
ZH-D152-3D	15.2				
ZH-D153-3D	15.3				
ZH-D154-3D	15.4				
ZH-D155-3D	15.5				
ZH-D156-3D	15.6				
ZH-D157-3D	15.7				
ZH-D158-3D	15.8				
ZH-D159-3D	15.9				
ZH-D160-3D	16.0				

Carbide drill Internal cooling 3D

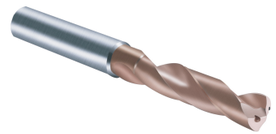


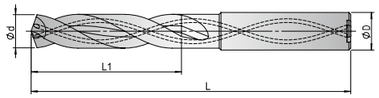


Designation	d	L1	D	L	Cooling
ZH-D033-3D-C	3.3	20	6	62	External cooling
ZH-D034-3D-C	3.4				
ZH-D035-3D-C	3.5				
ZH-D036-3D-C	3.6				
ZH-D037-3D-C	3.7				
ZH-D038-3D-C	3.8	24	4	58	External cooling
ZH-D039-3D-C	3.9				
ZH-D040-3D-C	4.0				
ZH-D041-3D-C	4.1	24	6	66	External cooling
ZH-D042-3D-C	4.2				
ZH-D043-3D-C	4.3				
ZH-D044-3D-C	4.4				
ZH-D045-3D-C	4.5				
ZH-D046-3D-C	4.6				
ZH-D047-3D-C	4.7				
ZH-D048-3D-C	4.8	28	6	66	External cooling
ZH-D049-3D-C	4.9				
ZH-D050-3D-C	5.0				
ZH-D051-3D-C	5.1				
ZH-D052-3D-C	5.2				
ZH-D053-3D-C	5.3				
ZH-D054-3D-C	5.4				
ZH-D055-3D-C	5.5				
ZH-D056-3D-C	5.6				
ZH-D057-3D-C	5.7				
ZH-D058-3D-C	5.8				
ZH-D059-3D-C	5.9				
ZH-D060-3D-C	6.0				
ZH-D061-3D-C	6.1	34	8	79	External cooling
ZH-D062-3D-C	6.2				
ZH-D063-3D-C	6.3				
ZH-D064-3D-C	6.4				
ZH-D065-3D-C	6.5				
ZH-D066-3D-C	6.6				
ZH-D067-3D-C	6.7				
ZH-D068-3D-C	6.8				
ZH-D069-3D-C	6.9				
ZH-D070-3D-C	7.0				

Designation	d	L1	D	L	Cooling
ZH-D071-3D-C	7.1	41	8	79	External cooling
ZH-D072-3D-C	7.2				
ZH-D073-3D-C	7.3				
ZH-D074-3D-C	7.4				
ZH-D075-3D-C	7.5				
ZH-D076-3D-C	7.6				
ZH-D077-3D-C	7.7				
ZH-D078-3D-C	7.8				
ZH-D079-3D-C	7.9				
ZH-D080-3D-C	8.0				
ZH-D081-3D-C	8.1	47	10	89	External cooling
ZH-D082-3D-C	8.2				
ZH-D083-3D-C	8.3				
ZH-D084-3D-C	8.4				
ZH-D085-3D-C	8.5				
ZH-D086-3D-C	8.6				
ZH-D087-3D-C	8.7				
ZH-D088-3D-C	8.8				
ZH-D089-3D-C	8.9				
ZH-D090-3D-C	9.0				
ZH-D091-3D-C	9.1				
ZH-D092-3D-C	9.2				
ZH-D093-3D-C	9.3				
ZH-D094-3D-C	9.4				
ZH-D095-3D-C	9.5				
ZH-D096-3D-C	9.6				
ZH-D097-3D-C	9.7				
ZH-D098-3D-C	9.8				
ZH-D099-3D-C	9.9				
ZH-D100-3D-C	10.0				

Carbide drill Internal cooling 3D



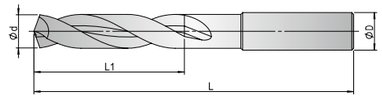


Designation	d	L1	D	L	Cooling
ZH-D101-3D-C	10.1	55	12	102	External cooling
ZH-D102-3D-C	10.2				
ZH-D103-3D-C	10.3				
ZH-D104-3D-C	10.4				
ZH-D105-3D-C	10.5				
ZH-D106-3D-C	10.6				
ZH-D107-3D-C	10.7				
ZH-D108-3D-C	10.8				
ZH-D109-3D-C	10.9				
ZH-D110-3D-C	11.0				
ZH-D111-3D-C	11.1				
ZH-D112-3D-C	11.2				
ZH-D113-3D-C	11.3				
ZH-D114-3D-C	11.4				
ZH-D115-3D-C	11.5				
ZH-D116-3D-C	11.6				
ZH-D117-3D-C	11.7				
ZH-D118-3D-C	11.8				
ZH-D119-3D-C	11.9				
ZH-D120-3D-C	12.0				
ZH-D121-3D-C	12.1	60	14	107	External cooling
ZH-D122-3D-C	12.2				
ZH-D123-3D-C	12.3				
ZH-D124-3D-C	12.4				
ZH-D125-3D-C	12.5				
ZH-D126-3D-C	12.6				
ZH-D127-3D-C	12.7				
ZH-D128-3D-C	12.8				
ZH-D129-3D-C	12.9				
ZH-D130-3D-C	13.0				

Designation	d	L1	D	L	Cooling
ZH-D131-3D-C	13.1	60	14	107	External cooling
ZH-D132-3D-C	13.2				
ZH-D133-3D-C	13.3				
ZH-D134-3D-C	13.4				
ZH-D135-3D-C	13.5				
ZH-D136-3D-C	13.6				
ZH-D137-3D-C	13.7				
ZH-D138-3D-C	13.8				
ZH-D139-3D-C	13.9				
ZH-D140-3D-C	14.0				
ZH-D141-3D-C	14.1	65	16	115	External cooling
ZH-D142-3D-C	14.2				
ZH-D143-3D-C	14.3				
ZH-D144-3D-C	14.4				
ZH-D145-3D-C	14.5				
ZH-D146-3D-C	14.6				
ZH-D147-3D-C	14.7				
ZH-D148-3D-C	14.8				
ZH-D149-3D-C	14.9				
ZH-D150-3D-C	15.0				
ZH-D151-3D-C	15.1				
ZH-D152-3D-C	15.2				
ZH-D153-3D-C	15.3				
ZH-D154-3D-C	15.4				
ZH-D155-3D-C	15.5				
ZH-D156-3D-C	15.6				
ZH-D157-3D-C	15.7				
ZH-D158-3D-C	15.8				
ZH-D159-3D-C	15.9				
ZH-D160-3D-C	16.0				

Carbide drill 5D



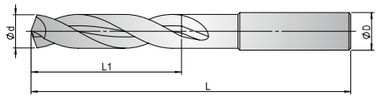


Designation	d	L1	D	L	Cooling
ZH-D033-5D	3.3	28	6	66	Internal cold
ZH-D034-5D	3.4				
ZH-D035-5D	3.5				
ZH-D036-5D	3.6				
ZH-D037-5D	3.7				
ZH-D038-5D	3.8	36	6	74	Internal cold
ZH-D039-5D	3.9				
ZH-D040-5D	4.0				
ZH-D041-5D	4.1				
ZH-D042-5D	4.2				
ZH-D043-5D	4.3				
ZH-D044-5D	4.4				
ZH-D045-5D	4.5				
ZH-D046-5D	4.6				
ZH-D047-5D	4.7				
ZH-D048-5D	4.8	44	6	82	Internal cold
ZH-D049-5D	4.9				
ZH-D050-5D	5.0				
ZH-D051-5D	5.1				
ZH-D052-5D	5.2				
ZH-D053-5D	5.3				
ZH-D054-5D	5.4				
ZH-D055-5D	5.5				
ZH-D056-5D	5.6				
ZH-D057-5D	5.7				
ZH-D058-5D	5.8				
ZH-D059-5D	5.9				
ZH-D060-5D	6.0				
ZH-D061-5D	6.1	53	8	91	Internal cold
ZH-D062-5D	6.2				
ZH-D063-5D	6.3				
ZH-D064-5D	6.4				
ZH-D065-5D	6.5				
ZH-D066-5D	6.6				
ZH-D067-5D	6.7				
ZH-D068-5D	6.8				
ZH-D069-5D	6.9				
ZH-D070-5D	7.0				

Designation	d	L1	D	L	Cooling
ZH-D071-5D	7.1	53	8	91	Internal cold
ZH-D072-5D	7.2				
ZH-D073-5D	7.3				
ZH-D074-5D	7.4				
ZH-D075-5D	7.5				
ZH-D076-5D	7.6				
ZH-D077-5D	7.7				
ZH-D078-5D	7.8				
ZH-D079-5D	7.9				
ZH-D080-5D	8.0				
ZH-D081-5D	8.1	61	10	103	Internal cold
ZH-D082-5D	8.2				
ZH-D083-5D	8.3				
ZH-D084-5D	8.4				
ZH-D085-5D	8.5				
ZH-D086-5D	8.6				
ZH-D087-5D	8.7				
ZH-D088-5D	8.8				
ZH-D089-5D	8.9				
ZH-D090-5D	9.0				
ZH-D091-5D	9.1				
ZH-D092-5D	9.2				
ZH-D093-5D	9.3				
ZH-D094-5D	9.4				
ZH-D095-5D	9.5				
ZH-D096-5D	9.6				
ZH-D097-5D	9.7				
ZH-D098-5D	9.8				
ZH-D099-5D	9.9				
ZH-D100-5D	10.0				

Carbide drill 5D

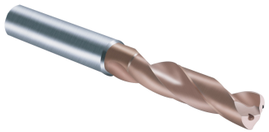


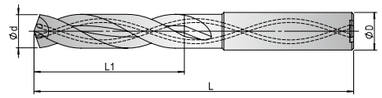


Designation	d	L1	D	L	Cooling
ZH-D101-5D	10.1	71	12	118	Internal cold
ZH-D102-5D	10.2				
ZH-D103-5D	10.3				
ZH-D104-5D	10.4				
ZH-D105-5D	10.5				
ZH-D106-5D	10.6				
ZH-D107-5D	10.7				
ZH-D108-5D	10.8				
ZH-D109-5D	10.9				
ZH-D110-5D	11.0				
ZH-D111-5D	11.1				
ZH-D112-5D	11.2				
ZH-D113-5D	11.3				
ZH-D114-5D	11.4				
ZH-D115-5D	11.5				
ZH-D116-5D	11.6				
ZH-D117-5D	11.7				
ZH-D118-5D	11.8				
ZH-D119-5D	11.9				
ZH-D120-5D	12.0				
ZH-D121-5D	12.1	77	14	124	Internal cold
ZH-D122-5D	12.2				
ZH-D123-5D	12.3				
ZH-D124-5D	12.4				
ZH-D125-5D	12.5				
ZH-D126-5D	12.6				
ZH-D127-5D	12.7				
ZH-D128-5D	12.8				
ZH-D129-5D	12.9				
ZH-D130-5D	13.0				

Designation	d	L1	D	L	Cooling
ZH-D131-5D	13.1	77	14	127	Internal cold
ZH-D132-5D	13.2				
ZH-D133-5D	13.3				
ZH-D134-5D	13.4				
ZH-D135-5D	13.5				
ZH-D136-5D	13.6				
ZH-D137-5D	13.7				
ZH-D138-5D	13.8				
ZH-D139-5D	13.9				
ZH-D140-5D	14.0				
ZH-D141-5D	14.1	83	16	133	Internal cold
ZH-D142-5D	14.2				
ZH-D143-5D	14.3				
ZH-D144-5D	14.4				
ZH-D145-5D	14.5				
ZH-D146-5D	14.6				
ZH-D147-5D	14.7				
ZH-D148-5D	14.8				
ZH-D149-5D	14.9				
ZH-D150-5D	15.0				
ZH-D151-5D	15.1				
ZH-D152-5D	15.2				
ZH-D153-5D	15.3				
ZH-D154-5D	15.4				
ZH-D155-5D	15.5				
ZH-D156-5D	15.6				
ZH-D157-5D	15.7				
ZH-D158-5D	15.8				
ZH-D159-5D	15.9				
ZH-D160-5D	16.0				

Carbide drill Internal cooling 5D

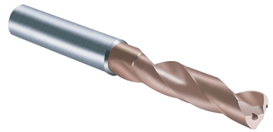


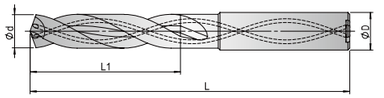


Designation	d	L1	D	L	Cooling
ZH-D033-5D-C	3.3	28	4	58	External cooling
ZH-D034-5D-C	3.4				
ZH-D035-5D-C	3.5				
ZH-D036-5D-C	3.6				
ZH-D037-5D-C	3.7				
ZH-D038-5D-C	3.8	36	4	66	External cooling
ZH-D039-5D-C	3.9				
ZH-D040-5D-C	4.0				
ZH-D041-5D-C	4.1	36	6	74	External cooling
ZH-D042-5D-C	4.2				
ZH-D043-5D-C	4.3				
ZH-D044-5D-C	4.4				
ZH-D045-5D-C	4.5				
ZH-D046-5D-C	4.6				
ZH-D047-5D-C	4.7				
ZH-D048-5D-C	4.8	44	6	82	External cooling
ZH-D049-5D-C	4.9				
ZH-D050-5D-C	5.0				
ZH-D051-5D-C	5.1				
ZH-D052-5D-C	5.2				
ZH-D053-5D-C	5.3				
ZH-D054-5D-C	5.4				
ZH-D055-5D-C	5.5				
ZH-D056-5D-C	5.6				
ZH-D057-5D-C	5.7				
ZH-D058-5D-C	5.8				
ZH-D059-5D-C	5.9				
ZH-D060-5D-C	6.0				
ZH-D061-5D-C	6.1	53	8	91	External cooling
ZH-D062-5D-C	6.2				
ZH-D063-5D-C	6.3				
ZH-D064-5D-C	6.4				
ZH-D065-5D-C	6.5				
ZH-D066-5D-C	6.6				
ZH-D067-5D-C	6.7				
ZH-D068-5D-C	6.8				
ZH-D069-5D-C	6.9				
ZH-D070-5D-C	7.0				

Designation	d	L1	D	L	Cooling
ZH-D071-5D-C	7.1	53	8	91	External cooling
ZH-D072-5D-C	7.2				
ZH-D073-5D-C	7.3				
ZH-D074-5D-C	7.4				
ZH-D075-5D-C	7.5				
ZH-D076-5D-C	7.6				
ZH-D077-5D-C	7.7				
ZH-D078-5D-C	7.8				
ZH-D079-5D-C	7.9				
ZH-D080-5D-C	8.0				
ZH-D081-5D-C	8.1	61	10	103	External cooling
ZH-D082-5D-C	8.2				
ZH-D083-5D-C	8.3				
ZH-D084-5D-C	8.4				
ZH-D085-5D-C	8.5				
ZH-D086-5D-C	8.6				
ZH-D087-5D-C	8.7				
ZH-D088-5D-C	8.8				
ZH-D089-5D-C	8.9				
ZH-D090-5D-C	9.0				
ZH-D091-5D-C	9.1				
ZH-D092-5D-C	9.2				
ZH-D093-5D-C	9.3				
ZH-D094-5D-C	9.4				
ZH-D095-5D-C	9.5				
ZH-D096-5D-C	9.6				
ZH-D097-5D-C	9.7				
ZH-D098-5D-C	9.8				
ZH-D099-5D-C	9.9				
ZH-D100-5D-C	10.0				

Carbide drill Internal cooling 5D





Designation	d	L1	D	L	Cooling
ZH-D101-5D-C	10.1	71	12	118	External cooling
ZH-D102-5D-C	10.2				
ZH-D103-5D-C	10.3				
ZH-D104-5D-C	10.4				
ZH-D105-5D-C	10.5				
ZH-D106-5D-C	10.6				
ZH-D107-5D-C	10.7				
ZH-D108-5D-C	10.8				
ZH-D109-5D-C	10.9				
ZH-D110-5D-C	11.0				
ZH-D111-5D-C	11.1				
ZH-D112-5D-C	11.2				
ZH-D113-5D-C	11.3				
ZH-D114-5D-C	11.4				
ZH-D115-5D-C	11.5				
ZH-D116-5D-C	11.6				
ZH-D117-5D-C	11.7				
ZH-D118-5D-C	11.8				
ZH-D119-5D-C	11.9				
ZH-D120-5D-C	12.0				
ZH-D121-5D-C	12.1	77	14	124	External cooling
ZH-D122-5D-C	12.2				
ZH-D123-5D-C	12.3				
ZH-D124-5D-C	12.4				
ZH-D125-5D-C	12.5				
ZH-D126-5D-C	12.6				
ZH-D127-5D-C	12.7				
ZH-D128-5D-C	12.8				
ZH-D129-5D-C	12.9				
ZH-D130-5D-C	13.0				

Designation	d	L1	D	L	Cooling
ZH-D131-5D-C	13.1	77	14	124	External cooling
ZH-D132-5D-C	13.2				
ZH-D133-5D-C	13.3				
ZH-D134-5D-C	13.4				
ZH-D135-5D-C	13.5				
ZH-D136-5D-C	13.6				
ZH-D137-5D-C	13.7				
ZH-D138-5D-C	13.8				
ZH-D139-5D-C	13.9				
ZH-D140-5D-C	14.0				
ZH-D141-5D-C	14.1	83	16	133	External cooling
ZH-D142-5D-C	14.2				
ZH-D143-5D-C	14.3				
ZH-D144-5D-C	14.4				
ZH-D145-5D-C	14.5				
ZH-D146-5D-C	14.6				
ZH-D147-5D-C	14.7				
ZH-D148-5D-C	14.8				
ZH-D149-5D-C	14.9				
ZH-D150-5D-C	15.0				
ZH-D151-5D-C	15.1				
ZH-D152-5D-C	15.2				
ZH-D153-5D-C	15.3				
ZH-D154-5D-C	15.4				
ZH-D155-5D-C	15.5				
ZH-D156-5D-C	15.6				
ZH-D157-5D-C	15.7				
ZH-D158-5D-C	15.8				
ZH-D159-5D-C	15.9				
ZH-D160-5D-C	16.0				

Carbide drill cutting parameters (recommended)

Feed Series mm/r									
		A	B	C	D	E	F	G	H
Diameter mm	3.00	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.15
	4.00	0.04	0.05	0.06	0.08	0.10	0.12	0.15	0.18
	5.00	0.05	0.06	0.07	0.09	0.10	0.12	0.16	0.18
	6.00	0.05	0.07	0.08	0.10	0.12	0.15	0.18	0.20
	8.00	0.06	0.08	0.10	0.12	0.15	0.18	0.20	0.25
	10.00	0.08	0 10	0.12	0.15	0.18	0.20	0.25	0.30
	12.00	0.10	0.12	0.15	0.18	0.20	0.25	0.30	0.35
	16.00	0.12	0.15	0.18	0.20	0.25	0.30	0.35	0.40
	20.00	0 15	0 18	0.20	0.25	0 30	0 35	0.40	0 50

- Carbide drill bits should be used on high-rigidity and high-power machine tools.
- It should be ensured that the run-out error of the spindle one tool handle and one tool tip is within 0.02.
- When using the internal cooling twist drill, ensure that the internal pressure is not less than the data as follows: ϕ5--20kgf/cm',ϕ10--15kgf/cm', ϕ15--10kgf/cm',ϕ20 --7kgf/cm'; Because of the difficulty of chip removal, the internal cooling pressure should be increased accordingly.
- The recommended parameters need to be adjusted according to the actual processing conditions.

Processed Material Group IOS	Material Being Processed	Hardness		Strength	Examples of Materials		3×D		3×D		5×D		5×D	
		HB	HRC	N/mm²	China	International	Vc	f	Vc	f	Vc	f	Vc	f
1.Steel	Free cutting steel	<150		<700	Y12, Y15Pb	10S20, 11SMnPb36	130	E	150	E	117	E	135	E
		>150		>700	Y35, Y40Mn	35S520, 44SMn28	110	D	125	D	99	D	113	D
	Carbon structural steel	<200		<700	Q235A, Q275	S235JR, S275J2G3	105	E	120	E	95	E	108	E
		<250		<850	35#, 45#	C35E4, C45E4	90	E	105	E	81	E	95	E
		<300	<31	<1000	55#, 65#	C55E4, C60E4,	80	E	90	E	72	E	81	E
	Structural alloy steel	<300	<31	<1000	20Cr, 20CrMo	20Cr4, 18CrMo4	85	E	100	E	77	E	90	E
		<350	<37	<1200	40Cr, 42CrMo	41Cr4, 42CrMo4	75	D	85	D	68	D	77	D
	Mould steel	<300	<31	<1000	Cr12, Cr12MoV1	210Cr12, 160CrMoV12	85	D	100	D	77	D	90	D
		<350	<37	<1200	CrWMn, 3CrW8V	105WCr1, 30WCrV9	75	D	85	D	68	D	77	D
	Chisel tool steel	<300	<31	<1000	9SiCr, [r2	100Cr2,	60	D	70	D	54	D	63	D
	Ferritic stainless steel	<200		<700	0Cr13Al, 1Cr17	X6CrA[13, X6Cr17-1	55	C	63	C	50	C	57	C
	Martensitic stainless steel	<240		<820	2Cr13, 1Cr17Ni2	X20Cr13, X17CrNi16-2	55	C	63	C	50	C	57	C
2.Stainless steel	Austenitic stainless steel	<250		<850	0Cr19Ni9	X5CrNi18-10,	45	B	50	B			45	B
					0Cr17Ni17Mo2	X5CrNiCrM017-12-2								
	Duplex stainless steel	<250		<850	0Cr 26Ni5Mo2		45	B	50	B			45	B
3.Cast iron	Gray cast iron	<240			HT250, HT350	250, 350	160	G	180	G	144	G	162	G
	Nodular cast iron	<300			QT500, QT600	500-7, 600-3	120	F	135	F	108	F	122	F
	Malleable cast iron	<300			KTH350-10,KTB400-05	B35-10, W40-05	90	F	105	F	81	F	95	F
4.Aluminum and aluminum alloy	Fine aluminium	<120		<400	1A50/L3	A199.5								
	Wrought aluminium alloy≤0.5Si	<120		<400	LF5-1, LD30	AlMg5, AlMg1SiCu								
	Cast aluminium alloy≤10Si	<160		<550	ZL101, ZL104	AlSi7Mg, AlSi9Cu3	160	G	180	G	144	G	162	G
	Cast aluminium alloy>10Si	<160		<550	ZL102, ZL109	AlSi12, AlSi12Cu	140	G	160	G	126	G	144	G
5.Copper and copper alloys	Red copper, low alloy copper	<120		<400	Tu2, H96	Cu-0F, CuSn5								
	brass	<160		<550	HPb63, HPb59	CuZn35Pb1, CuZn39Pb3	160	G	180	G	144	G	162	G
	bronze	<160		<550	QSn8, BSn18-26	CuSn8, CuNi18Zn27	90	G	105	G	81	G	95	G
6.Difficult-to-process materials are preferred Basic heat resisting alloy	Pure titanium, titanium alloy			<400	TA2	Ti99.5								
	Alpha+beta Titanium alloy			<1050	TC4, -	TiAl6V4, TiAl6Zr5								
	Iron based heat resistant alloy	<280		<950										
	Nickel chromium, nickel molybdenum, Nickel-cobalt alloy, diamond alloy	<350		<1200		Hastelloy, Monel, Inconel								
7.High hard material	Quenched rigor		<48											
			<62											
	Chilled iron		<55											

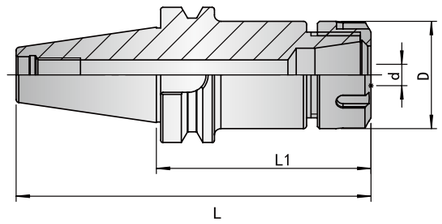
Toolholder Series



BT collet chuck holder

- BT NO taper holder execute AT3 standard
- Concentration of internal and external taper 0.005MM





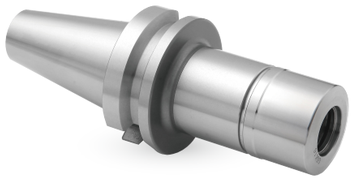
Designation	Clamping Range d	L	L1	D	Weight (kg)
BT30H060ER11	0.5-7	108.4	60	19	0.45
BT30H100ER11		148.4	100		0.50
BT30H070ER16	1-10	118.4	70	28	
BT30H100ER16		148.4	100		0.64
BT30H070ER20	2-13	118.4	70	34	0.55
BT30H100ER20		148.4	100		0.76
BT30H070ER25	2-16	118.4	70	42	0.64
BT30H100ER25		148.4	100		0.98
BT30H070ER32	3-20	118.4	70	50	0.70
BT30H100ER32		148.4	100		1.14
BT40H070ER11	0.5-7	135.4	70	19	1.00
BT40H100ER11		165.4	100		1.15
BT40H070ER16	1-10	135.4	70	28	1.08
BT40H100ER16		165.4	100		1.21
BT40H150ER16		215.4	150		1.44
BT40H070ER20	2-13	135.4	70	34	1.12
BT40H100ER20		165.4	100		1.33
BT40H150ER20		215.4	150		1.65
BT40H070ER25	2-16	135.4	70	42	1.22
BT40H100ER25		165.4	100		1.49
BT40H150ER25		215.4	150		1.97
BT40H070ER32	3-20	135.4	70	50	1.27
BT40H100ER32		165.4	100		1.70
BT40H150ER32		215.4	150		2.39
BT40H080ER40	3-26	145.4	80	63	1.62
BT40H100ER40		165.4	100		2.08
BT40H150ER40		215.4	150		2.55

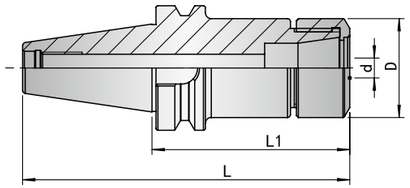
BT collet chuck holder

Designation	Clamping Range d	L	L1	D	Weight (kg)
BT50H070ER16	1-10	171.8	70	28	3.67
BT50H100ER16		201.8	100		3.77
BT50H150ER16		251.8	150		4.00
BT50H070ER20	2-13	171.8	70	34	3.66
BT50H100ER20		201.8	100		3.75
BT50H150ER20		251.8	150		4.22
BT50H200ER20		301.8	200		4.66
BT50H070ER25	2-16	171.8	70	42	3.64
BT50H100ER25		201.8	100		4.02
BT50H150ER25		251.8	150		4.54
BT50H200ER25		301.8	200		5.01
BT50H070ER32	3-20	171.8	70	50	3.75
BT50H100ER32		201.8	100		4.07
BT50H150ER32		251.8	150		4.82
BT50H200ER32		301.8	200		5.32
BT50H250ER32		351.8	250		5.92
BT50H300ER32		401.8	350		6.60
BT50H080ER40	3-26	181.8	80	63	3.93
BT50H100ER40		201.8	100		4.38
BT50H150ER40		251.8	150		5.51
BT50H200ER40		301.8	200		6.30

BT collet chuck holder

- BT NO taper holder execute AT3 standard
- Concentration of internal and external taper 0.005MM
- Balanced:G2.5;25000rpm



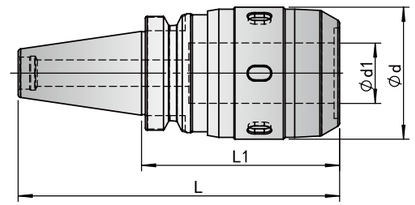


Designation	Clamping Range d	L	L1	D	Weight (kg)
BT30H070GSK06	2-6	118.4	70	20	0.90
BT30H100GSK06		148.4	100		0.95
BT30H070GSK10	2-10	118.4	70	27	
BT30H100GSK10		148.4	100		1.00
BT30H100GSK16	3-16			40	
BT30H120GSK16		168.4	120		1.10
BT30H100GSK25	16-25.4	148.4	100	54	
BT40H070GSK06	2-6	135.4	70	20	
BT40H100GSK06		165.4	100		1.20
BT40H070GSK10	2-10	135.4	70	27	1.60
BT40H100GSK10		165.4	100		1.70
BT40H120GSK10		185.4	120		1.80
BT40H070GSK16	3-16	135.4	70	40	1.60
BT40H100GSK16		165.4	100		1.70
BT40H120GSK16		185.4	120		1.80
BT40H070GSK25	16-25.4	135.4	70	54	1.60
BT40H100GSK25		165.4	100		1.70
BT40H120GSK25		185.4	120		1.80
BT50H070GSK06	2-6	171.8	70	20	3.60
BT50H100GSK06		201.8	100		3.90
BT50H100GSK10	3-10			27	4.00
BT50H130GSK10		231.8	130		4.10
BT50H160GSK10		261.8	160		4.40
BT50H100GSK16	3-16	201.8	100	40	4.30
BT50H130GSK16		231.8	130		4.60
BT50H160GSK16		261.8	160		4.80
BT50H100GSK25	16-25.4	201.8	100	54	4.30
BT50H130GSK25		231.8	130		4.60
BT50H160GSK25		261.8	160		4.80

BT power chuck

- BT NO taper holder execute AT3 standard

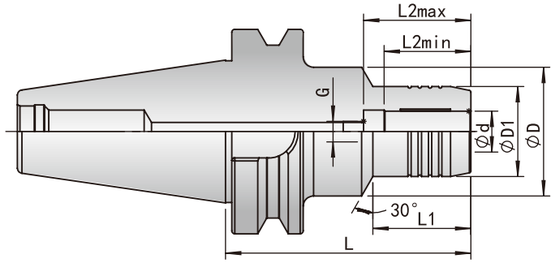




Designation	L	L1	d1	d	Weight (kg)
BT40H100PAC25	165.4	100	25	58	1.8
BT40H105PAC32	170.4	105	32	68	2. 3
BT40H135PAC32	200.4	135	32	68	2.6
BT50H110PAC32	211.8	110	32	68	5.8
BT50H135PAC32	236.8	135	32	68	5.8
BT50H165PAC32	266.8	165	32	68	6. 6
BT50H200PAC32	301.8	200	32	68	7. 6
BT50H110PAC42	211.8	110	42	92	5.5

BT hydraulic chuck





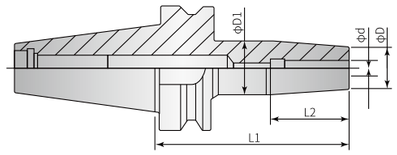
Designation	d	D	D1	L	L1	L2max	L2mix	Weight (kg)
BT40H065HDC10	10	45	32	65	23	42	32	1.36
BT40H090HDC10				90	44			1.42
BT40H140HDC10				140				1.61
BT40H065HDC12	12		34	65	23	47	37	1.39
BT40H090HDC12				90	44			1.48
BT40H140HDC12				140				1.64
BT40H065HDC14	14		36	65	23	47	37	1.44
BT40H090HDC14				90	44			1.53
BT40H140HDC14				140				1.68
BT40H065HDC16	16	48	38	65	23	52	42	1.48
BT40H090HDC16				90	48			1.54
BT40H140HDC16				140				1.72
BT40H075HDC18	18	50	41	75	30	52	42	1.55
BT40H090HDC18				90	48			1.66
BT40H140HDC18				140				1.76
BT40H075HDC20	20	52	43	75	30	52	42	1.59
BT40H090HDC20				90	48			1.65
BT40H140HDC20				140				1.8
BT40H100HDC25	25	58	54	100	73	61	51	1.9
BT40H135HDC25				135	108			1.82
BT40H105HDC32	32	62	58	105	73	65	55	2.18
BT40H135HDC32				135	108			1.86

BT hydraulic chuck

Designation	d	D	D1	L	L1	L2max	L2mix	Weight (kg)
BT50H090HDC10	10	50	32	90	32	42	32	4.06
BT50H120HDC10				120	44			4.12
BT50H140HDC10				140				4.2
BT50H090HDC12	12		34	90	32	47	37	4.16
BT50H120HDC12				120	44			4.22
BT50H140HDC12				140				4.54
BT50H090HDC14	14		36	90	32	47	37	4.4
BT50H120HDC14				120	44			4.5
BT50H140HDC14				140				4.6
BT50H090HDC16	16		38	90	32	52	42	4.4
BT50H120HDC16				120	48			4.5
BT50H140HDC16				140				4.7
BT50H090HDC18	18		41	90	32	52	42	4.45
BT50H120HDC18				120	48			4.55
BT50H140HDC18				140				4.6
BT50H090HDC20	20	52	43	90	34	52	42	4.18
BT50H120HDC20				120	48			4.61
BT50H140HDC20				140				4.69
BT50H105HDC25	25	57	-	105	67	61	51	4.72
BT50H150HDC25				150	112			4.83
BT50H115HDC32	32	63	-	115	77	65	55	4.84
BT50H150HDC32				150	112			4.95

BT shrink fit chank





Designation	d	D	D1	L1	L2	Weight (kg)
BT40H090SD06	6	21	27	90	36	1.25
BT40H120SD06			30.2	120		1.1
BT40H160SD06			33.3	162		1.17
BT40H090SD08	8	21	27	90	36	1.21
BT40H120SD08			30.2	120		1.18
BT40H160SD08			33.3	162		1.25
BT40H090SD10	10	24	30	90	41	1.2
BT40H120SD10			35.2	120		1.21
BT40H160SD10			38.3	162		1.27
BT40H090SD12	12	24	30	90	47	1.21
BT40H120SD12			35.2	120		1.25
BT40H160SD12			38.3	162		1.32
BT40H090SD14	14	27	34	90	47	1.24
BT40H120SD14			37.2	120		1.28
BT40H160SD14			40.3	162		1.38
BT40H090SD16	16	27	34	90	50	1.21
BT40H120SD16			37.2	120		1.3
BT40H160SD16			40.3	162		1,42
BT40H090SD18	18	33	42	90	50	1.4
BT40H120SD18			-	120		1.19
BT40H160SD18			48.3	162		1.57
BT40H090SD20	20	33	42	90	52	1.37
BT40H120SD20			-	120		1.31
BT40H160SD20			48.3	162		1.52
BT40H090SD25	25	44	52	90	58	1.64
BT40H120SD25			-	120		1.41
BT40H160SD25			-	162		1.71
BT40H100SD32	32	44	-	100	58	1.64

BT shrink fit chank

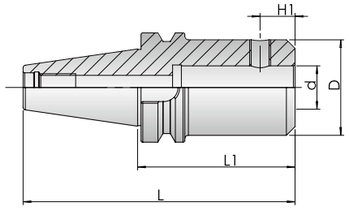
Designation	d	D	D1	L1	L2	Weight (kg)
BT50H100SD06	6	21	27	100	36	3.92
BT50H130SD06			30.2	130		3.55
BT50H160SD06			33.3	160		3.69
BT50H200SD06			37.5	200		3.89
BT50H100SD08	8	21	27	100	36	3.92
BT50H130SD08			30.2	130		3.69
BT50H160SD08			33.3	160		3.79
BT50H200SD08			37.5	200		4.02
BT50H100SD10	10	24	30	100	41	3.9
BT50H130SD10			35.2	130		3.59
BT50H160SD10			38.3	160		3.77
BT50H200SD10			40.5	200		4.02
BT50H100SD12	12	24	30	100	47	3.94
BT50H130SD12			35.2	130		3.73
BT50H160SD12			38.3	160		3.82
BT50H200SD12			40.5	200		4.07
BT50H100SD14	14	27	34	100	47	4.02
BT50H130SD14			37.2	130		3,78
BT50H160SD14			40.3	160		3.83
BT50H200SD14			43.5	200		4.16
BT50H100SD16	16	27	34	100	50	3.96
BT50H130SD16			37.2	130		3.74
BT50H160SD16			40.3	160		3.89
BT50H200SD16			43.5	200		4.19
BT50H100SD18	18	33	42	100	50	4.12
BT50H130SD18			-	130		3.79
BT50H160SD18			48.3	160		3.97
BT50H200SD18			51.1	200		4.3
BT50H100SD20	20	33	42	100	52	4.06
BT50H130SD20			-	130		3.78
BT50H160SD20			48.3	160		3.94
BT50H200SD20			51.1	200		4.22
BT50H100SD25	25	44	52	100	58	4.36
BT50H130SD25			-	130		3.89
BT50H160SD25			-	160		4.17
BT50H200SD25			60.5	200		4.67
BT50H100SD32	32	44	52	100	62	4.15
BT50H130SD32			-	130		3.99
BT50H160SD32			-	160		4.37
BT50H200SD32			60.5	200		5.01

BT end mill holder weldon

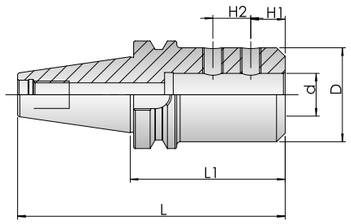
- BT NO taper holder execute AT3 standard
- Inside hole tolerance H5
- Pre-indicated dynamic balance design



pic 1



pic 2

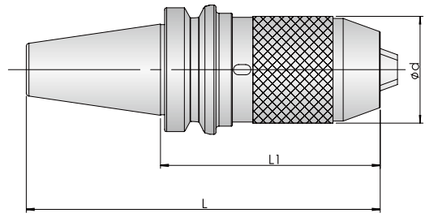


Designation	Picture	L	L1	H1	H2	D	d	Weight (kg)
BT30H075SLN16	1	123.4	75	24	-	48	16	1.05
BT30H075SLN20	1	123.4	75	25	-	52	20	1.10
BT30H090SLN25	2	138.4	90	24	25	65	25	1.70
BT40H100SLN20	1	165.4	100	25	-	52	20	2.10
BT40H100SLN25	2	165.4	100	24	25	55	25	2.32
BT40H100SLN32	2	165.4	100	24	28	65	32	3.80
BT40H105SLN40	1	170.4	105	30	32	73	40	4.10
BT50H100SLN20	2	201.8	100	25	-	52	20	4.45
BT50H150SLN20	2	251.8	150	25	-	52	20	5.30
BT50H100SLN25	2	201.8	100	24	25	65	25	4.62
BT50H150SLN25	2	251.8	150	24	25	65	25	5.92
BT50H105SLN32	2	206.8	105	24	28	72	32	4.80
BT50H150SLN32	2	251.8	150	24	28	72	32	6.60
BT50H115SLN40	2	216.8	115	30	32	80	40	5.42
BT50H150SLN40	2	251.8	150	30	32	80	40	6.78
BT50H120SLN42	2	221.8	120	30	32	82	42	6.14
BT50H120SLN50	2	221.8	120	35	35	90	50	6.30
BT50H150SLN50	2	251.8	150	35	35	90	50	8,20

BT drill chuck holder

- BT NO taper holder execute AT3 standard





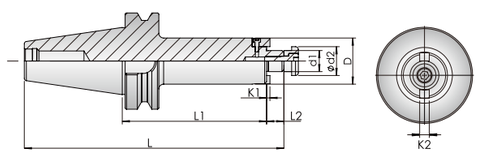
Designation	L	L1	L1	Weight (kg)
BT40H085APU8	150.4	85	37	1.36
BT40H105APU13	170.4	105	49	1.8
BT40H120APU16	185.4	120	54	2.35
BT50H095APU8	196.8	95	37	4.45
BT50H120APU13	221.8	120	49	5.4
BT50H130APU16	231.8	130	54	5.24
BT50H165APU16	266.8	165		6.15
BT50H190APU16	291.8	190		6.66

BT Face mill holder

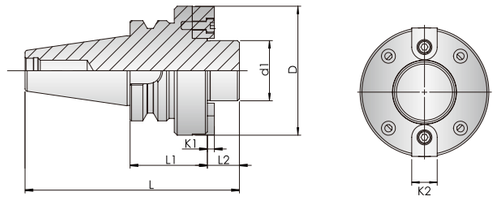
- BT NO Taper holder comply with AT3 standard
- d1 external round tolerance h5



pic 1



pic 2



Designation	Picture	d1	d2	D	L	L1	L2	K1	K2	Weight (kg)
BT30H060FMB22	1	22	26	45	124.9	60	16.5	4.8	10	1.03
BT30H060FMB27		27	33	54	126.9	60	18.5	5.8	12	1.30
BT30H060FMB32		32	41	58	130.4		20	6.8	14	2.00
BT40H060FMB22		22	26	48	141.9	60	16.5	4.8	10	1.51
BT40H100FMB22					181.9	100				1.94
BT40H150FMB22					231.9	150				2.70
BT40H200FMB22					281.9	200				3.43
BT40H060FMB27		27	33	60	143.9	60	18.5	5.8	12	1.86
BT40H100FMB27					183.9	100				2.75
BT40H150FMB27					233.9	150				3.02
BT40H060FMB32		32	41	62	147.4	60	20	6.8	14	2.32
BT40H100FMB32					187.4	100				3.25
BT40H150FMB32					237.4	150				3.52
BT40H200FMB32					287.4	200				4.03
BT40H060FMB40		40	48	80	150.4	60	23	8	16	2.47
BT40H100FMB40					190.4	100				3.15
BT40H150FMB40					240.4	150				3.85
BT40H200FMB40					290.4	200				4.56

BORING SYSTEM

Tooling Series

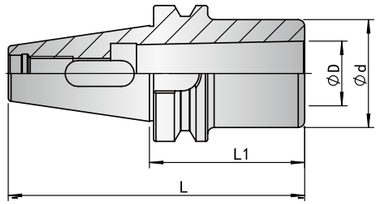
BT Face mill holder

Designation	Picture	d1	d2	D	L	L1	L2	K1	K2	Weight (kg)
BT50H060FMB22	1	22	26	48	178.3	60	16.5	4.8	10	4.41
BT50H100FMB22					218.3	100				4.57
BT50H150FMB22					268.3	150				5.27
BT50H200FMB22					318.3	200				5.97
BT50H300FMB22					418.3	300				7.37
BT50H060FMB27		27	33	60	180.3	60	18.5	5.8	12	4.24
BT50H100FMB27					220.3	100				5.13
BT50H150FMB27					270.3	150				6.25
BT50H200FMB27					320.3	200				7.73
BT50H060FMB32		32	41	73	183.8	60	20	6.8	14	5.38
BT50H100FMB32					223.8	100				5.98
BT50H150FMB32					273.8	150				7.1
BT50H200FMB32					323.8	200				7.95
BT50H060FMB40		40	48	80	186.8	60	23	8	16	5.2
BT50H100FMB40					226.8	100				6.6
BT50H150FMB40					276.8	150				8.1
BT50H200FMB40					326.8	200				9.6
BT50H075FMB60	二	60		128.5	201.8	75		12.5	25.4	8.9

Morse taper adaptep with tang

- BT NO taper holder execute AT3 standard
- Concentration of internal and external round 0.005MM

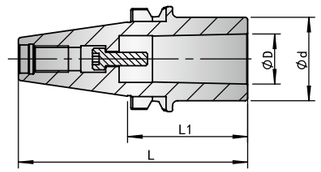




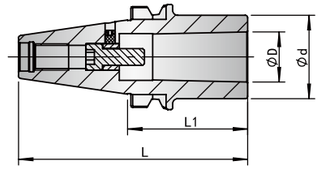
Designation	L	L1	D	d	Weight (kg)
BT40H045MTA1	110.4	45	12.065	25	1.05
BT40H120MTA1	185.4	120			1.28
BT40H060MTA2	125.4	60	17.780	32	1.10
BT40H120MTA2	185.4	120			1.41
BT40H075MTA3	140.4	75	23.825	40	1.20
BT40H135MTA3	200.4	135			1.75
BT40H095MTA4	160.4	95	31.267	48	1.35
BT40H165MTA4	230.4	165			2.30
BT50H045MTA1	146.8	45	12.065	25	3.59
BT50H120MTA1	221.8	120			3.88
BT50H060MTA2	161.8	60	17.780	32	3.64
BT50H135MTA2	236.8	135			4.17
BT50H180MTA2	281.8	180			5.00
BT50H075MTA3	176.8	75	23.825	40	3.90
BT50H150MTA3	251.8	150			4.40
BT50H180MTA3	281.8	180			5.50
BT50H075MTA4	176.8	75	31.267	48	3.80
BT50H150MTA4	251.8	150			5.00
BT50H180MTA4	281.8	180			5.00
BT50H105MTA5	211.8	105	44.399	63	3.80

BT Morse shank (without flat tail)

pic 1



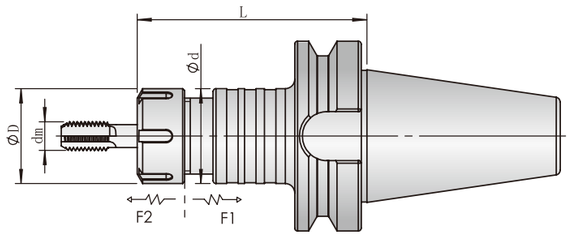
pic 2





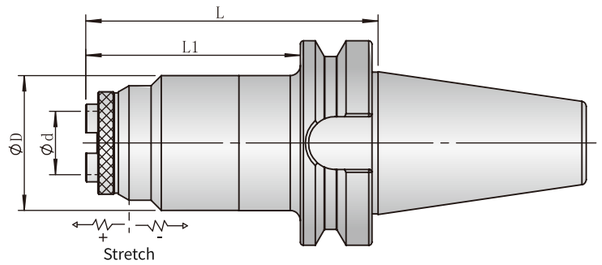
Designation	Picture	L	L1	D	d	Weight (kg)
BT40H045MTB1	1	110.4	45	12.065	25	1
BT40H050MTB2		115.4	50	17.78	32	1.02
BT40H075MTB3	2	140.4	75	23.825	40	1.19
BT40H090MTB4		155.4	90	31.267	48	1.33
BT50H045MTB1	1	146.8	45	12.065	25	3.3
BT50H060MTB2				17.78	32	3.5
BT50H060MTB3		161.8	60	23.825	40	3.61
BT50H075MTB4		176.8	75	31.267	48	3.92
BT50H120MTB5	2	221.8	120	44.399	63	4.1

BT Micro compensation tapping tool handle



Designation	Tapping Range	D	d	L	F1	F2	Collet Name
BT40-TAP20V-106	M2-M16	34	47	106	1	1	20ER
BT40-TAP25V-108	M2-M22	42		108			25ER
BT40-TAP32V-110	M2-M30	50		110			32ER
BT50-TAP20V-112	M2-M30	34	47	112	1	1	20ER
BT50-TAP25V-113	M2-M22	42		113			25ER
BT50-TAP32V-115	M2-M30	50		115			32ER

BT flexible telescopic tapping tool handle

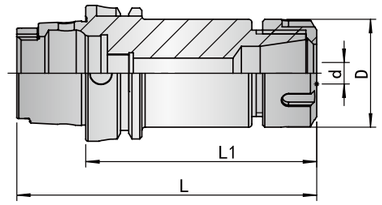


Designation	Tapping Range		D	d	L	L1	Collet Name
BT40-G3-90-D19	ISO	M2-M16	46	19	90	63	G3-D19
	JIS						
	DIN	M2-M12					
BT40-G3-180-D19	ISO	M2-M16	46	19	180	153	G3-D19
	JIS						
	DIN	M2-M12					
BT40-G12-145-D31	ISO	M6-M30	63	31	145	118	G12-D31
	JIS						
	DIN						
BT50-G3-100-D19	ISO	M2-M16	46	19	100	62	G3-D19
	JIS						
	DIN	M2-M12					
BT50-G3-200-D19	ISO	M2-M16	46	19	200	162	G3-D19
	JIS						
	DIN	M2-M12					
BT50-G12-140-D31	ISO	M6-M30	66	31	140	102	G12-D31
	JIS						
	DIN						
BT50-G12-210-D31	ISO	M6-M30	66	31	210	172	G12-D31
	JIS						
	DIN						
BT50-G24-175-D45	ISO	M24-M48	92	45	175	137	G24-D45
	JIS						

HSK Collet chuck holder

- Balancing up to:G2.5;25000rpm



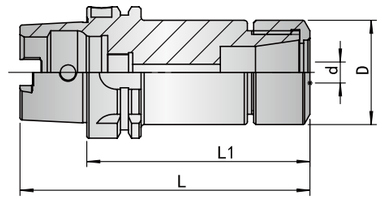


Designation	Clamping Range d	L	L1	D	Nut	Weight (kg)
HSK63AH080ER16	0.5-10	112	80	28	ER16-A	1.5
HSK63AH100ER16		132	100			1.55
HSK63AH160ER16		192	160			1.85
HSK63AH080ER20	1.0-12	112	80	34	ER20-A	1.6
HSK63AH100ER20		132	100			1.75
HSK63AH160ER20		192	160			2.2
HSK63AH080ER25	1.0-16	112	80	42	ER25-UM	1.7
HSK63AH100ER25		132	100			1.9
HSK63AH160ER25		192	160			2.55
HSK63AH080ER32	2.0-20	112	80	50	ER32-UM	2.5
HSK63AH100ER32		132	100			2.8
HSK63AH160ER32		192	160			3.75
HSK63AH080ER40	3.0-26	112	80	63	ER40-UM	2.7
HSK63AH100ER40		132	100			3.2
HSK63AH160ER40		192	160			4.65
HSK100AH100ER16	0.5-10	150	100	28	ER16-A	2.95
HSK100AH160ER16		210	160			3.3
HSK100AH100ER20	1.0-12	150	100	34	ER20-A	3
HSK100AH160ER20		210	160			3.45
HSK100AH100ER25	1.0-16	150	100	42	ER25-UM	3.3
HSK100AH160ER25		210	160			3.95
HSK100AH100ER32	2.0-20	150	100	50	ER32-UM	3.4
HSK100AH160ER32		210	160			4.3
HSK100AH100ER40	3.0-26	150	100	63	ER40-UM	3.9
HSK100AH160ER40		210	160			5.3

HSK Collet chuck holder

- Balancing up to:G2.5;25000rpm



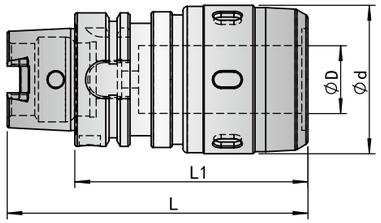


Designation	Clamping Range d	L	L1	D	Weight (kg)
HSK63AH080GSK06	2-6	112	80	20	0.85
HSK63AH080GSK10	2-10			27	1.10
HSK63AH100GSK10		132	100		1.40
HSK63AH080GSK16	3-16	112	80	40	2.00
HSK63AH100GSK16		132	100		2.20
HSK63AH100GSK25	6-25.4			54	2.30
HSK100AH105GSK06	2-6	155	105	20	1.20
HSK100AH105GSK10	2-10			27	2.60
HSK100AH105GSK16	3-16			10	2.80
HSK100AH120GSK20	4-20	170	120	48	3.50
HSK100AH120GSK25	6-25.4			54	3.50

HSK Power chuck

- Balanced:G2.5;25000rpm

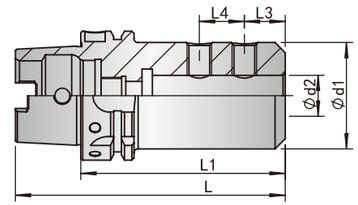




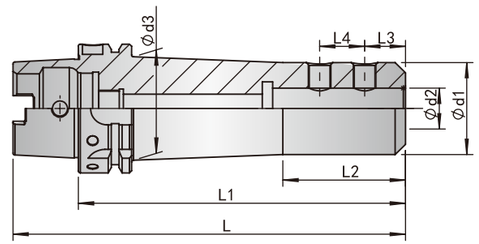
Designation	L	L1	D	d	Weight (kg)
HSK63AH100PAC25	132	100	25	60	2
HSK63AH110PAC32	142	110	32	73	2.3
HSK63AH130PAC32	162	130	32	73	2.7
HSK100AH115PAC32	165	115	32	60	3.8
HSK100AH135PAC32	185	135	32	73	4.3
HSK100AH165PAC32	215	135	32	73	4.8
HSK100AH115PAC42	165	115	42	95	5.1

HSK Holder weldon

pic 1



pic 2





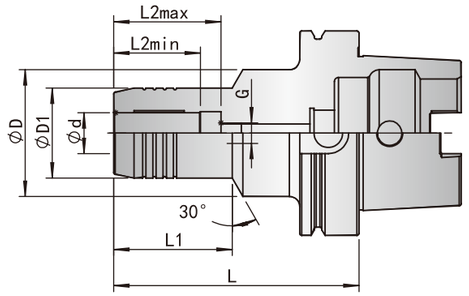
Designation	L	L1	L3	L4	d1	d1	L2	d3	Picture	Weight (kg)
HSK63AH100SLN16	132	100	22	18	48	16	-	-	1	1.8
HSK63AH160SLN16	192	160			40		55	45	2	2.9
HSK63AH100SLN20	132	100	25	20	52	20	-	-	1	1.7
HSK63AH160SLN20	192	160			45		60	50	2	2.95
HSK63AH110SLN25	132	110	24	25	65	25	-	-	1	2.5
HSK63AH160SLN25	192	160			50		65	55	2	3.95
HSK63AH110SLN32	132	110		28	72	32	-	-	1	2.7
HSK63AH160SLN32	192	160			60		70	65	2	4.45
HSK100AH100SLN16	150	100	22	18	48	16	-	-	1	3.8
HSK100AH100SLN20	150	100	25	20	52	20	-	-	1	3.9
HSK100AH160SLN20	210	160			45		60	50	2	4.8
HSK100AH100SLN25	150	100	24	25	65	25	-	-	1	4
HSK100AH160SLN25	210	160			50		65	55	2	5.5
HSK100AH120SLN32	170	120		28	72	32	-	-	1	4.2
HSK100AH160SLN32	210	160			60		70	65	2	5.9
HSK100AH120SLN40	170	120	30	32	80	40	-	-	1	4.6
HSK100AH160SLN40	210	160			70		80	75	2	6.4

BORING SYSTEM

HSK Hydraulic chuck

HSK Hydraulic chuck



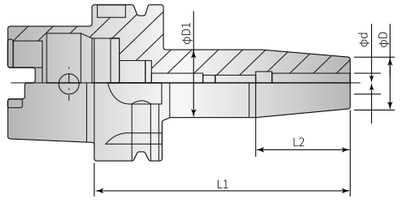


Designation	d	D	D1	L	L1	L2max	L2min	Weight (kg)
HSK63AH080HDC10	10	50	32	80	35	38	28	1.1
HSK63AH120HDC10				120	55			1.3
HSK63AH150HDC10				150				1.6
HSK63AH085HDC12	12		34	85	40	45	35	1.1
HSK63AH120HDC12				120	65			1.4
HSK63AH150HDC12				150				1.6
HSK63AH085HDC14	14		36	85	40	45	35	1.2
HSK63AH120HDC14				120	65			1.4
HSK63AH150HDC14				150				1.7
HSK63AH090HDC16	16		38	90	46	50	40	1.3
HSK63AH120HDC16				120	66			1.5
HSK63AH150HDC16				150				1.9
HSK63AH090HDC18	18		41	90	46	52	42	1.3
HSK63AH120HDC18				120	66			1.6
HSK63AH150HDC18				150				2
HSK63AH090HDC20	20	52	43	90	46	52	42	1.34
HSK63AH120HDC20				120	66			1.7
HSK63AH150HDC20				150				2.1
HSK63AH120HDC25	25	63	57	120	56	61	51	2.3
HSK63AH125HDC32	32	75	64	125	59	65	55	2.72

Designation	d	D	D1	L	L1	L2max	L2min	Weight (kg)
HSK100AH090HDC10	10	50	32	90	32	38	28	2.58
HSK100AH120HDC10				120	44			2.96
HSK100AH165HDC10				165				3.48
HSK100AH090HDC12	12		34	90	32	45	35	2.68
HSK100AH120HDC12				120	44			3.06
HSK100AH165HDC12				165				3.58
HSK100AH090HDC14	14		36	90	32	45	35	2.68
HSK100AH120HDC14				120	44			3.16
HSK100AH165HDC14				165				3.68
HSK100AH100HDC16	16		38	100	32	50	40	2.76
HSK100AH120HDC16				120	48			3.26
HSK100AH165HDC16				165				3.78
HSK100AH100HDC18	18		41	100	32	52	42	2.76
HSK100AH120HDC18				120	48			3.36
HSK100AH165HDC18				165				3.98
HSK100AH105HDC20	20	52	43	105	34	52	42	2.92
HSK100AH120HDC20				120	48			3.46
HSK100AH165HDC20				165				4.1
HSK100AH110HDC25	25	63	57	110	67	61	51	3.54
HSK100AH110HDC32	32	75	64	110	77	65	55	3.84

HSK Shrink fit chuck





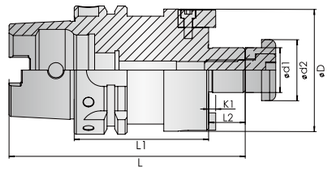
Designation	d	D	D1	L1	L2	Weight (kg)
HSK63AH080SD06	6	21	27	80	36	0.83
HSK63AH100SD06				100		0.85
HSK63AH120SD06			30.2	120		0.85
HSK63AH160SD06			33.3	160		0.88
HSK63AH080SD08	8	21	27	80	36	0.83
HSK63AH100SD08				100		0.85
HSK63AH120SD08			30.2	120		1.06
HSK63AH160SD08			33.3	160		1.16
HSK63AH090SD10	10	24	30	90	42	0.91
HSK63AH120SD10			35.2	120		1.18
HSK63AH160SD10			38.3	160		1.4
HSK63AH090SD12	12	24	30	90	47	0.92
HSK63AH120SD12			35.2	120		1.16
HSK63AH160SD12			38.3	160		1.5
HSK63AH090SD14	14	27	34	90	47	0.97
HSK63AH120SD14			37.2	120		1.2
HSK63AH160SD14			40.3	160		1.6
HSK63AH090SD16	16	27	34	90	50	1.03
HSK63AH120SD16			37.2	120		1.21
HSK63AH160SD16			40.3	160		1.7
HSK63AH090SD18	18	33	42	90	50	1.15
HSK63AH120SD18			-	120		1.23
HSK63AH160SD18			48.3	160		1.8
HSK63AH100SD20	20	33	-	100	52	1.27
HSK63AH120SD20				120		1.62
HSK63AH160SD20			48.3	160		1.9
HSK63AH115SD25	25	44	-	115	58	1.74
HSK63AH130SD25				130		1.85
HSK63AH160SD25				160		2.1
HSK63AH120SD32	32	44	-	120	58	1.67
HSK63AH160SD32				160		2.3

HSK Shrink fit chuck

Designation	d	D	D1	L1	L2	Weight (kg)
HSK100AH090SD06	6	21	27	90	36	2.25
HSK100AH130SD06			30.2	130		2.85
HSK100AH160SD06			33.3	160		3.4
HSK100AH090SD08	8	21	27	90	36	2.24
HSK100AH130SD08			30.2	130		2.85
HSK100AH160SD08			33.3	160		3.4
HSK100AH090SD10	10	24	30	90	41	2.28
HSK100AH130SD10			35.2	130		2.89
HSK100AH160SD10			38.3	160		3.5
HSK100AH090SD12	12	24	30	90	47	2.35
HSK100AH130SD12			35.2	130		2.94
HSK100AH160SD12			38.3	160		3.52
HSK100AH090SD14	14	27	34	90	47	2.35
HSK100AH130SD14			37.2	130		2.94
HSK100AH160SD14			38.3	160		3.52
HSK100AH100SD16	16	27	34	100	50	2.36
HSK100AH130SD16			37.2	130		2,97
HSK100AH160SD16			40.3	160		3.55
HSK100AH100SD18	18	33	42	100	50	2.37
HSK100AH130SD18			-	130		2.98
HSK100AH160SD18			48.3	160		3.56
HSK100AH105SD20	20	33	42	105	52	2.5
HSK100AH130SD20			-	130		3.02
HSK100AH160SD20			49.3	160		3.7
HSK100AH130SD25	25	44	-	130	58	3.1
HSK100AH160SD25				160		3.8
HSK100AH130SD32	32	44	-	130	62	3.06
HSK100AH160SD32				160		3.76

HSK face milling handle

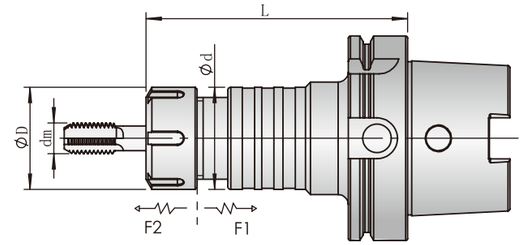






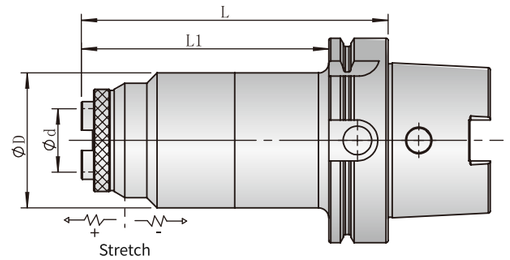
Designation	L	L1	L2	d1	d2	D	K1	K2	Screw	Weight (kg)
HSK63AH050FMB16	98.5	50	16.5	16	-	40	3.8	8	M8X25	1.2
HSK63AH050FMB22		50		22	26	48	4.8	10	M10X30	1.3
HSK63AH100FMB22	148.5	100								2
HSK63AH150FMB22	198.5	150								2.7
HSK63AH200FMB22	248.5	200								3.4
HSK63AH060FMB27	110.5	60	18.5	27	33	60	5.8	12	M12X30	1.6
HSK63AH100FMB27	150.5	100								2.5
HSK63AH150FMB27	200.5	150								3.6
HSK63AH060FMB32	114	60	22	32	41	63	6.8	14	M16X35	2
HSK63AH100FMB32	154	100								2.95
HSK63AH150FMB32	204	150								4.1
HSK63AH060FMB40	117	60	25	40	48	80	8.3	116	M16X35	2.35
HSK100AH050FMB22	116.5	50	16.5	22	26	48	4.8	10	M10X30	2.7
HSK100AH100FMB22	166.5	100								3.4
HSK100AH150FMB22	216.5	150								4.1
HSK100AH200FMB22	266.5	200								4.8
HSK100AH050FMB27	118.5	50	18.5	27	33	60	5.8	12	M12X30	2.9
HSK100AH100FMB27	168.5	100								4
HSK100AH150FMB27	218.5	150								5.1
HSK100AH050FMB32	122	50	22	32	41	80	6.8	14	M16X35	3
HSK100AH100FMB32	172	100								4.2
HSK100AH150FMB32	222	150								5.4
HSK100AH060FMB40	135	60	25	40	48	80	18.3	16	M16X35	4
HSK100AH100FMB40	175	100								5.6
HSK100AH150FMB40	225	150								7.55

HSK micro-compensation tapping tool handle



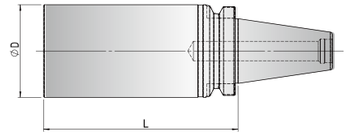
Designation	Tapping Range	D	d	L	F1	F2	Collet Name
HSK63A-TAP20V-117	M2-M16	34	47	117	1	1	20ER
HSK63A-TAP25V-118	M2-M22	42		118			25ER
HSK63A-TAP32V-119	M2-M30	50		119			32ER
HSK100A-TAP20V-135	M2-M16	34	47	135	1	1	20ER
HSK100A-TAP25V-145	M2-M22	42		145			25ER
HSK100A-TAP32V-155	M2-M30	50		155			32ER

HSKFlexible retractable tapping handle



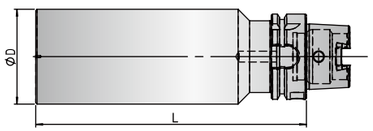
Designation	Tapping Range		D	d	L	L1	Collet Name
HSK63A-G3-90-D19	ISO	M2-M16	46	19	90	64	G3-D19
	JIS						
	DIN	M2-M12					
HSK63A-G12-125-D31	ISO	M6-M30	63	31	125	99	G12-D31
	JIS						
	DIN						
HSK100A-G3-125-D19	ISO	M2-M16	46	19	125	96	G3-D19
	JIS						
	DIN	M2-M12					
HSK100A-G12-150-D31	ISO	M6-M30	66	31	150	121	G12-D31
	JIS						
	DIN						
HSK100A-G24-167-D45	ISO	M24-M48	92	45	167	138	G24-D45
	JIS						
	DIN						

BT Boring bow blank



Designation	D	L
BT40-D80-150	80.0	150
BT40-D80-200		200
BT40-D80-250		250
BT50-D100-150	100.0	150
BT50-D100-200		200
BT50-D100-250		250
BT50-D100-300		300

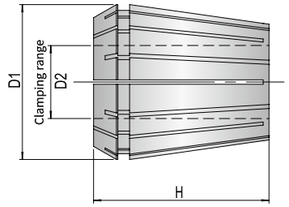
BT Boring bow blank



Designation	D	L
HSK63A-D80-150	80.0	150
HSK63A-D80-200		200
HSK63A-D80-250		250
HSK63A-D80-300		300
HSK100A-D100-200	100.0	200

ER Collect

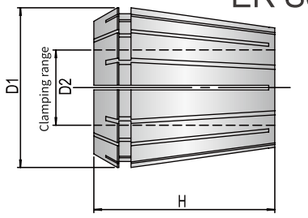




ER11		ER16		ER20		ER25		ER32		ER40	
Designation	D2	Designation	D2	Designation	D2	Designation	D2	Designation	D2	Designation	D2
ER11-1	1-0.5	ER16-1	1-0.5	ER20-1	1-0.5	ER25-1	1-0.5	ER32-1	1-0.5	ER40-3	3-2
ER11-1.5	1.5-1	ER16-1.5	1.5-1	ER20-1.5	1.5-1	ER25-1.5	1.5-1	ER32-1.5	1.5-1	ER40-4	4-3
ER11-2	2-1.5	ER16-2	2-1.5	ER20-2	2-1.5	ER25-2	2-1.5	ER32-2	2-1.5	ER40-5	5-4
ER11-2.5	2.5-2	ER16-2.5	2.5-2	ER20-2.5	2.5-2	ER25-2.5	2.5-2	ER32-2.5	2.5-2	ER40-6	6-5
ER11-3	3-2.5	ER16-3	3-2	ER20-3	3-2	ER25-3	3-2	ER32-3	3-2	ER40-7	7-6
ER11-3.5	3.5-3	ER16-4	4-3	ER20-4	4-3	ER25-4	4-3	ER32-4	4-3	ER40-8	8-7
ER11-4	4-3.5	ER16-5	5-4	ER20-5	5-4	ER25-5	5-4	ER32-5	5-4	ER40-9	9-8
ER11-4.5	4.5-4	ER16-6	6-5	ER20-6	6-5	ER25-6	6-5	ER32-6	6-5	ER40-10	10-9
ER11-5	5-4.5	ER16-7	7-6	ER20-7	7-6	ER25-7	7-6	ER32-7	7-6	ER40-11	11-10
ER11-5.5	5.5-5	ER16-8	8-7	ER20-8	8-7	ER25-8	8-7	ER32-8	8-7	ER40-12	12-11
ER11-6	6-5.5	ER16-9	9-8	ER20-9	9-8	ER25-9	9-8	ER32-9	9-8	ER40-13	13-12
ER11-6.5	6.5-6	ER16-10	10-9	ER20-10	10-9	ER25-10	10-9	ER32-10	10-9	ER40-14	14-13
ER11-7	7-6.5			ER20-11	11-10	ER25-11	11-10	ER32-11	11-10	ER40-15	15-14
				ER20-12	12-11	ER25-12	12-11	ER32-12	12-11	ER40-16	16-15
				ER20-13	13-12	ER25-13	13-12	ER32-13	13-12	ER40-17	17-16
						ER25-14	14-13	ER32-14	14-13	ER40-18	18-17
						ER25-15	15-14	ER32-15	15-14	ER40-19	19-18
						ER25-16	16-15	ER32-16	16-15	ER40-20	20-19
								ER32-17	17-16	ER40-21	21-20
								ER32-18	18-17	ER40-22	22-21
								ER32-19	19-18	ER40-23	23-22
								ER32-20	20-19	ER40-24	24-23
										ER40-25	25-24
										ER40-26	26-25

ER Sealed collect

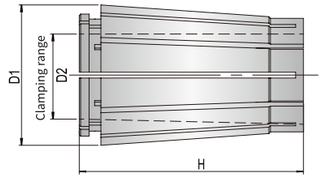




ER11C		ER16C		ER20C		ER25C		ER32C		ER40C	
Designation	D2	Designation	D2	Designation	D2	Designation	D2	Designation	D2	Designation	D2
ER11-3C	3-2.9	ER16-3C	3-2.9	ER20-3C	3-2.9	ER25-3C	3-2.9	ER32-3C	3-2.9	ER40-4C	4-3.9
ER11-4C	4-3.9	ER16-4C	4-3.9	ER20-4C	4-3.9	ER25-4C	4-3.9	ER32-4C	4-3.9	ER40-5C	5-4.9
ER11-4.5C	4.5-4.4	ER16-4.5C	4.5-4.4	ER20-5C	5-4.9	ER25-5C	5-4.9	ER32-5C	5-4.9	ER40-6C	6-5.9
ER11-5C	5-4.9	ER16-5C	5-4.9	ER20-5.5C	5.5-5.4	ER25-6C	6-5.5	ER32-6C	6-5.9	ER40-7C	7-6.9
ER11-5.5C	5.5-5.4	ER16-5.5C	5.5-5.4	ER20-6C	6-5.5	ER25-6.5C	6.5-6	ER32-7C	7-6.9	ER40-8C	8-7.9
ER11-6C	6-5.9	ER16-6C	6-5.5	ER20-6.5C	6.5-6	ER25-7C	7-6.5	ER32-8C	8-7.5	ER40-9C	9-8.9
ER11-6.5C	6.5-6.4	ER16-6.5C	6.5-6	ER20-7C	7-6.5	ER25-7.5C	7.5-7	ER32-8.5C	8.5-8	ER40-10C	10-9.5
ER11-7C	7-6.9	ER16-7C	7-6.5	ER20-7.5C	7.5-7	ER25-8C	8-7.5	ER32-9C	9-8.5	ER40-10.5C	10.5-10
		ER16-7.5C	7.5-7	ER20-8C	8-7.5	ER25-8.5C	8.5-8	ER32-9.5C	9.5-9	ER40-11C	11-10.5
		ER16-8C	8-7.5	ER20-8.5C	8.5-8	ER25-9C	9-8.5	ER32-10C	10-9.5	ER40-11.5C	11.5-11
		ER16-8.5C	8.5-8	ER20-9C	9-8.5	ER25-9.5C	9.5-9	ER32-10.5C	10.5-10	ER40-12C	12-11.5
		ER16-9C	9-8.5	ER20-9.5C	9.5-9	ER25-10C	10-9.5	ER32-11C	11-10.5	ER40-12.5C	12.5-12
		ER16-9.5C	9.5-9	ER20-10C	10-9.5	ER25-10.5C	10.5-10	ER32-11.5C	11.5-11	ER40-13C	13-12.5
		ER16-10C	10-9.5	ER20-10.5C	10.5-10	ER25-11C	11-10.5	ER32-12C	12-11.5	ER40-13.5C	13.5-13
				ER20-11C	11-10.5	ER25-11.5C	11.5-11	ER32-12.5C	12.5-12	ER40-14C	14-13.5
				ER20-11.5C	11.5-11	ER25-12C	12-11.5	ER32-13C	13-12.5	ER40-14.5C	14.5-14
				ER20-12C	12-11.5	ER25-12.5C	12.5-12	ER32-13.5C	13.5-13	ER40-15C	15-14.5
				ER20-12.5C	12.5-12	ER25-13C	13-12.5	ER32-14C	14-13.5	ER40-15.5C	15.5-15
				ER20-13C	13-12.5	ER25-13.5C	13.5-13	ER32-14.5C	14.5-14	ER40-16C	16-15.5
						ER25-14C	14-13.5	ER32-15C	15-14.5	ER40-16.5C	16.5-16
						ER25-14.5C	14.5-14	ER32-15.5C	15.5-15	ER40-17C	17-16.5
						ER25-15C	15-14.5	ER32-16C	16-15.5	ER40-17.5C	17.5-17
						ER25-15.5C	15.5-15	ER32-16.5C	16.5-16	ER40-18C	18-17.5
						ER25-16C	16-15.5	ER32-17C	17-16.5	ER40-18.5C	18.5-18
								ER32-17.5C	17.5-17	ER40-19C	19-18.5
								ER32-18C	18-17.5	ER40-19.5C	19.5-19
								ER32-18.5C	18.5-18	ER40-20C	20-19.5
								ER32-19C	19-18.5	ER40-20.5C	20.5-20
								ER32-19.5C	19.5-19	ER40-21C	21-20.5
								ER32-20C	20-19.5	ER40-21.5C	21.5-21
										ER40-22C	22-21.5
										ER40-22.5C	22.5-22
										ER40-23C	23-22.5
										ER40-23.5C	23.5-23
										ER40-24C	24-23.5
										ER40-24.5C	24.5-24
										ER40-25C	25-24.5
										ER40-25.5C	25.5-25
										ER40-26C	26-25.5

GSK Collect

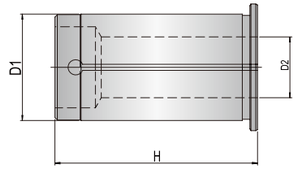




GSK 06		GSK10		GSK16		GSK25	
Designation	D2	Designation	D2	Designation	D2	Designation	D2
GSK06-2	2-1.75	GSK10-2	2-1.75	GSK16-3	3-2.75	GSK25-6	6-5.5
GSK06-2.5	2.-2.25	GSK10-2.5	2.-2.25	GSK16-3.175	3.175-2.7	GSK25-8	8-7.5
GSK06-3	3-2.75	GSK10-3	3-2.75	GSK16-3.5	3.5-3	GSK25-10	10-9.5
GSK06-3.5	3.5-3	GSK10-3.175	3.175-2.7	GSK16-4	4-3.5	GSK25-12	12-11.5
GSK06-4	4-3.5	GSK10-3.5	3.5-3	GSK16-4.5	4.5-4	GSK25-14	14-13.5
GSK06-4.5	4.5-4	GSK10-4	4-3.5	GSK16-5	5-4.5	GSK25-16	16-15.5
GSK06-5	5-4.5	GSK10-4.5	4.5-4	GSK16-5.5	5.5-5	GSK25-16.5	16.5-16
GSK06-5.5	5.5-5	GSK10-5	5-4.5	GSK16-6	6-5.5	GSK25-17	17-16.5
GSK06-6	6-5.5	GSK10-5.5	5.5-5	GSK16-6.5	6.5-6	GSK25-17.5	17.5-17
		GSK10-6	6-5.5	GSK16-7	7-6.5	GSK25-18	18-17.5
		GSK10-6.5	6.5-6	GSK16-7.5	7.5-7	GSK25-18.5	18.5-18
		GSK10-7	7-6.5	GSK16-8	8-7.5	GSK25-19	19-18.5
		GSK10-7.5	7.5-7	GSK16-8.5	8.5-8	GSK25-19.5	19.5-19
		GSK10-8	8-7.5	GSK16-9	9-8.5	GSK25-20	20-19.5
		GSK10-8.5	8.5-8	GSK16-9.5	9.5-9	GSK25-20.5	20.5-20
		GSK10-9	9-8.5	GSK16-10	10-9.5	GSK25-21	21-20.5
		GSK10-9.5	9.5-9	GSK16-10.5	10.5-10	GSK25-21.5	21.5-21
		GSK10-10	10-9.5	GSK16-11	11-10.5	GSK25-22	22-21.5
				GSK16-11.5	11.5-11	GSK25-22.5	22.5-22
				GSK16-12	12-11.5	GSK25-23	23-22.5
				GSK16-12.5	12.5-12	GSK25-23.5	23.5-22
				GSK16-13	13-12.5	GSK25-24	24-23.5
				GSK16-13.5	13.5-13	GSK25-24.5	24.5-24
				GSK16-14	14-13.5	GSK25-25	25-24.5
				GSK16-14.5	14.5-14		
				GSK16-15	15-14.5		
				GSK16-15.5	15.5-15		
				GSK16-16	16-15.5		

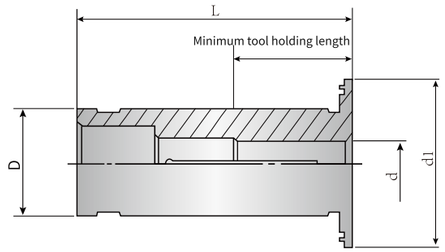
Power collect





Designation	D	L	H
C12	12	3,4,5,6,7,8,9,10	40
C16	16	4,5,6,7,8,9,10,11,12,13,14	
C20	20	6,8,10,12,14,16	64
C25	25	6,8,10,12,16,20	
C32	32	6,8,10,12,16,20,25	71
C42	42	6,8,10,12,16,20,25,32	

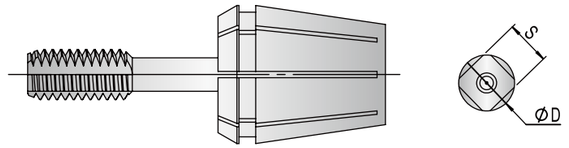
Hydraulic collect



Designation	D	Clamping Range d	L	d1	Minimum Tool Holding Length
DC12	12	4, 5,6, 7, 8,9, 10	45	19	18
DC20	20	4,6,8,10,12,14,16,18	52.5	29	
DC32	32	4,5,6,8,10,12,16,18,20,25	64.6	39	

BORING SYSTEM

ER Tapping collect

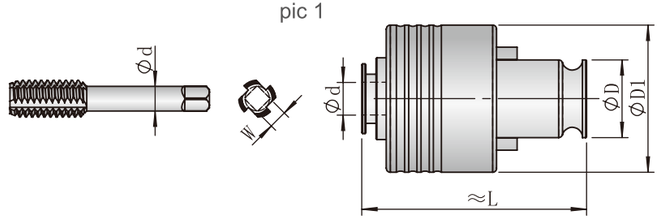


Designation			Φd Shank diameter	S Flat square	JIS	DIN371	DIN376	IOS
20ER-4B3.2	25ER-4B3.2	32ER-4B3.2	4	3.2	M3			
20ER-4.5B3.4			4.5	3.4		M4	M6	
20ER-5B4.0	25ER-5B4.0	32ER-5B4.0	5	4	M4			M5
20ER-5.5B4.5		32ER-5.5B4.5	5.5	4.5	M5			
20ER-6B4.9		32ER-6B4.9	6	4.9	M6/W1/4"	M5/M6	M8	
20ER-6.3B5	25ER-6.3B5.0	32ER-6.3B5	6.3	5	M8			M6/M8
20ER-7B5.5		32ER-7B5.5	7	5.5	M10		M10	
20ER-8B6.3	25ER-8B6.3	32ER-8B6.3	8	6.3		M8		M8/M10
20ER-8.5B6.5		32ER-8.5B6.5	8.5	6.5	M12			
20ER-9B7.1	25ER-9B7.1	32ER-9B7.1	9	7.1			M12	M12
20ER-10B8		32ER-10B8	10	8		M10		M10
20ER-11.2B9	25ER-11.2B9	32ER-11.2B9	11.2	9				M14
		32ER-12B9.0	12	9	W5/8"		M16	
20ER-12.5B10	25ER-12.5B10	32ER-12.5B10	12.5	10	M16			M16
	25ER-14B11.2	32ER-14B11.2	14	11.2	M18 / W3/4"		M18	M18/M20
		32ER-15B12	15	12	M20			
	25ER-16B12.5	32ER-16B12.5	16	12.5			M20	M22

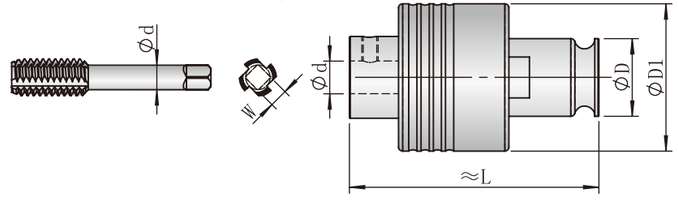
Tooling Series

G3 torque protection tapping Chuck

pic 1



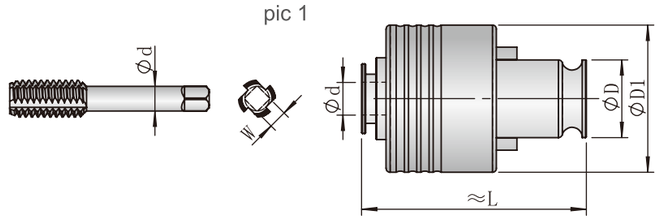
pic 2



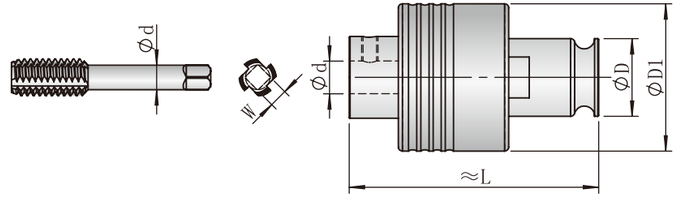
Standard	Designation	TAP Measurment (Metric)	TAP Measurment (British)	D	D1	L	d	W	Picture
ISO	G3-M2-D19/ISO	M2	-	19	36	55	2.5	2	pic 1
	G3-M3-D19/ISO	M3					3.15	2.5	
	G3-M4-D19/ISO	M4					4	3.15	
	G3-M5-D19/ISO	M5					5	4	
	G3-M6-8-D19/ISO	M6-8					6.3	5	
	G3-M10-D19/ISO	M10					8	6.3	
	G3-M12-D19/ISO	M12					9	7.1	
	G3-M14-D19/ISO	M14				61	11.2	9	pic 2
	G3-M16-D19/ISO	M16					12.5	10	
JIS	G3-M2-D19/JIS	M2	-	19	36	55	3.0	2.5	pic 1
	G3-M3-D19/JIS	M3	1/8				4.0	3.2	
	G3-M4-D19/JIS	M4	5/32				5.0	4.0	
	G3-M5-D19/JIS	M5	3/16				5.5	4.5	
	G3-M6-D19/JIS	M6	1/4				6.0	4.5	
	G3-5/16-D19/JIS	-	5/16				6.1	5.0	
	G3-M8-D19/JIS	M8	-				6.2	5.0	
	G3-M10-D19/JIS	M10	3/8				7.0	5.5	
	G3-7/16-D19/JIS	-	7/16				8.0	6.0	
	G3-M12-D19/JIS	M12	-				8.5	6.5	
	G3-1/2-D19/JIS	-	1/2				9.0	7.0	
	G3-M14-D19/JIS	M14	-			61	10.5	8.0	pic 2
	G3-M16-D19/JIS	M16					12.5	10.0	

G3 torque protection tapping Chuck

pic 1

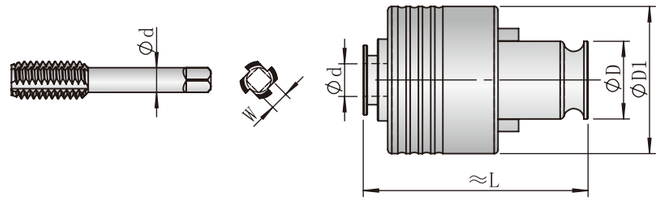


pic 2



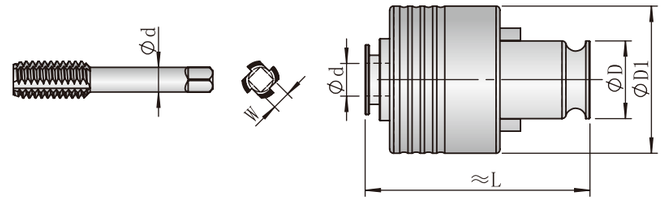
Standard	Designation	TAP Measurment (Metric)	TAP Measurment (British)	D	D1	L	d	W	Picture
DIN371	G3-M2-D19/DIN371	M2	-	19	32.5	50	2.8	2.1	
	G3-M3-D19/DIN371	M3					3.5	2.7	
	G3-M4-D19/DIN371	M4					4.5	3.4	
	G3-M5-D19/DIN371	M5					6.0	4.9	
	G3-M6-D19/DIN371	M6					6.0	4.9	
	G3-M8-D19/DIN371	M8					8.0	6.2	
	G3-M10-D19/DIN371	M10					10.0	8.0	
DIN376	G3-M12-D19/DIN376	M12					9.0	7.0	
	G3-M14-D19/DIN376	M14					11.0	9.0	
	G3-M16-D19/DIN376	M16					12.0	9.0	

G12 torque protection tapping Chuck



Standard	Designation	TAP Measurment (Metric)	TAP Measurment (British)	D	D1	L	d	W
ISO	G12-M6-8-D31/ISO	M6-8	-	31	58	70	6.3	5.0
	G12-M10-D31/ISO	M10					8.0	6.3
	G12-M12-D31/ISO	M12					9.0	7.1
	G12-M14-D31/ISO	M14					11.2	9.0
	G12-M16-D31/ISO	M16					12.5	10.0
	G12-M18-20-D31/ISO	M18-20					14.0	11.2
	G12-M22-D31/ISO	M22					16.0	12.5
	G12-M24-D31/ISO	M24					18.0	14.0
	G12-M27-30-D31/ISO	M27-30					20.0	16.0
JIS	G12-M6-D31/JIS	M6	-	31	58	70	6.0	4.5
	G12-M8-D31/JIS	M8					6.2	5.0
	G12-M10-D31/JIS	M10					7.0	5.5
	G12-M12-D31/JIS	M12					8.5	6.5
	G12-M14-D31/JIS	M14					10.5	8.0
	G12-M16-D31/JIS	M16					12.5	10.0
	G12-M18-D31/JIS	M18					14.0	11.0
	G12-M20-D31/JIS	M20					15.0	12.0
	G12-M22-D31/JIS	M22					17.0	13.0
	G12-M24-D31/JIS	M24					19.0	15.0
	G12-M27-D31/JIS	M27					20.0	15.0
	G12-M30-D31/JIS	M30					23.0	17.0
DIN376	G12-M6-D31/DIN376	M6	-	31	58	70	4.5	3.4
	G12-M8-D31/DIN376	M8					6.0	4.9
	G12-M10-D31/DIN376	M10					7.0	5.5
	G12-M12-D31/DIN376	M12					9.0	7.0
	G12-M14-D31/DIN376	M14					11.0	9.0
	G12-M16-D31/DIN376	M16					12.0	9.0
	G12-M18-D31/DIN376	M18					14.0	11.0
	G12-M20-D31/DIN376	M20					16.0	12.0
	G12-M22-D31/DIN376	M22					18.0	14.5
	G12-M24-D31/DIN376	M24					18.0	14.5
	G12-M27-D31/DIN376	M27					20.0	16.0
	G12-M30-D31/DIN376	M30					22.0	18.0

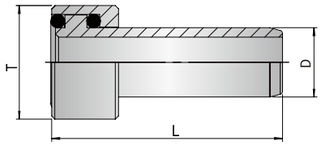
G24 torque protection tapping Chuck

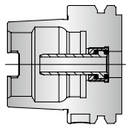


Standard	Designation	TAP Measurment (Metric)	TAP Measurment (British)	D	D1	L	d	W
ISO	G24-M24-D45/ISO	M24	-	45	82	100	18.0	14.0
	G24-M27-30-D45/ISO	M27-30					20.0	16.0
	G24-M33-D45/ISO	M33					22.4	18.0
	G24-M36-D45/ISO	M36					25.0	20.0
	G24-M39-42-D45/ISO	M39-42					28.0	22.4
	G24-M45-48-D45/ISO	M45-48					31.5	25.0
JIS	G24-M24-D45/JIS	M24	-	45	82	100	19.0	15.0
	G24-M27-D45/JIS	M27					20.0	15.0
	G24-M30-D45/JIS	M30					23.0	17.0
	G24-M32-D45/JIS	M32					24.0	19.0
	G24-M33-D45/JIS	M33					25.0	19.0
	G24-M36-D45/JIS	M36					28.0	21.0
	G24-M39-40-D45/JIS	M39/M40					30.0	23.0
	G24-M42-D45/JIS	M42					32.0	26.0
	G24-M45-D45/JIS	M45					35.0	26.0
	G24-M48-D45/JIS	M48					38.0	29.0

HSK Coolant tube



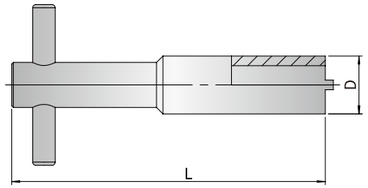




Designation	L	l1	D	T	Weight (kg)
HSK63-CP	36.6	11.5	12	M18x1.0	0.02
HSK100-CP	44	15.5	16	M24x1.0	0.06

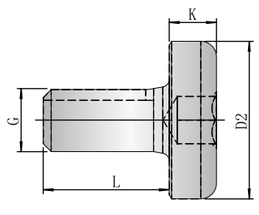
Special wrench for inner cooling pipe

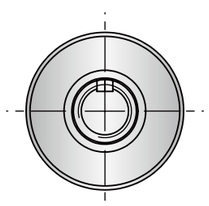




Designation	L	D	Weight (kg)
HSK63-CPW	100	18	0.14
HSK100-CPW	125	24	0.32

Outlet screw - for face milling tool shank

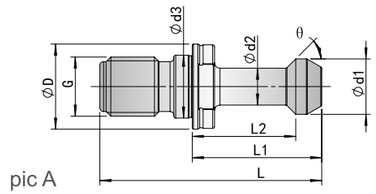




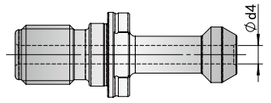
Designation	FMB	G	D2	K	L
FMB32C	32	M16	42	9	26
FMB40C	40	M20	52	10	30
FMB50C	50	M24	63	12	36

BT Japanese pull stud

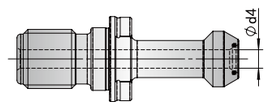




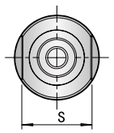
pic A



pic B



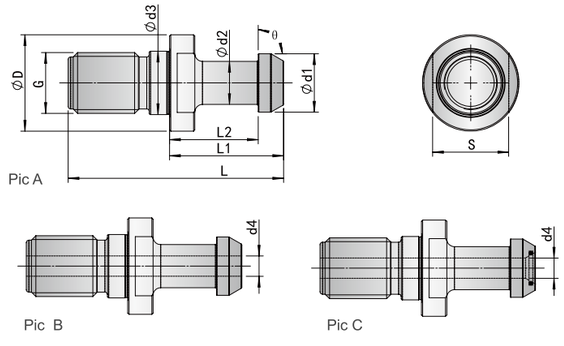
pic C



Designation	Picture	d4	D	d1	d2	d3	L1	L2	L	θ	G	S	Weight (kg)	Remark
BT30-45°	A	-	16.5	11	7	12.5	23	18	43	45	M12	13	0.03	
BT30-45°/T	B	2.5											0.03	
BT30-60°	A	-								60			0.03	
BT30-60°/T	B	2.5											0.03	
BT40-45°	A	-	23	15	10	17	35	28	60	45	M16	19	0.08	
BT40-45°/T	B	4											0.07	
BT40-60°	A	-								60			0.08	
BT40-60°/T	B	4											0.07	
BT40-90°	A	-								90			0.08	
BT40-90°/T	B	4											0.07	
BT50-45°	A	-	38	23	17	25	45	35	85	45	M24	30	0.26	
BT50-45°/T	B	8.5											0.25	
BT50-45°/T6-O	C	6											0.25	Okuma
BT50-60°	A	-								60			0.26	
BT50-60°/T	B	8.5											0.25	
BT50-60°/T6-O	C	6											0.25	Okuma
BT50-90°	A	-								90			0.26	
BT50-90°/T	B	8.5											0.25	

Special broaching nail for DMG seizing machine

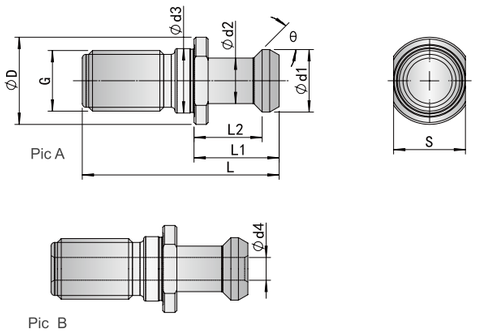




Designation	Picture	d4	D	d1	d2	d3	L1	L2	L	θ	G	S	Weight (kg)
POM40MG	A	-	23	15	10	17	35	28	60	90	M16	19	0.08
PMO40MG	C	7		19	14		29	23	54	75			0.07
POM50	A	-	38	23	17	25	45	35	85	90	M24	30	0.26
POM50H	B	8											0.25
POM50H1	C												0.25

MAZAK pull stud





Designation	Picture	d4	D	d1	d2	d3	L1	L2	L	θ	G	S	Weight (kg)
MAZAK 40	A	-	22	18.8	12.45	17	19.1	14.02	44.1	45	M16	19	0.06
MAZAK 40/T	B	7											0.05
MAZAK 50	A	-	37	29	20.83	25	25.2	17.7	65.2		M24	30	0.22
MAZAK 50/T	B	10											0.18

Test Arbor

- Used for periodic inspection of machine tool precision

Pulsation During Detection		
Spindle Detection	Horizontal Machining Centre	VMC (vertical machining centre)
Test Rod Base	Within 0.007	Within 0.01
Inspection Rod Head (300mm)	Within 0.015	Within 0.02

Normal

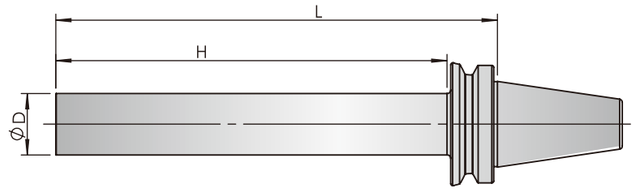
- The utility model can be used for calibrating the cutter instrument



Designation	L	H	ΦD
BT30-D32-L225	225	217	32
BT40-D50-L350	350	334	50
BT50-D50-L350	350	341	

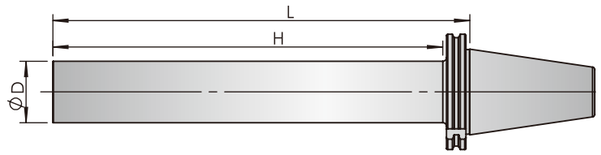
BORING SYSTEM

BBT



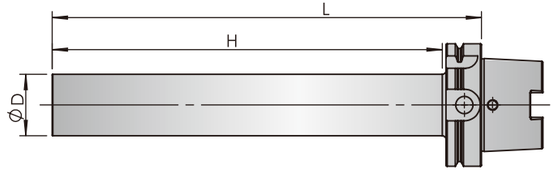
Designation	L	H	ΦD
BBT30-D32-L225	235	210	32
BBT40-D50-L350	350	320	50
BBT50-D50-L350	350	309	

SK



Designation	L	H	ΦD
SK40-D50-L350	350	320	50
SK50-D50-L350	350	328	

HSK-A



Designation	L	H	ΦD
HSK40A-D32-L180	180	157	32
HSK50A-D32-L240	240	211	
HSK63A-D50-L350	350	321	50
HSK100A-D50-L350	350	318	

ER wrench



Designation	Out-Diameter of Nut
ER16-A	28
ER20-A	34
ER11-M	16
ER16-M	23
ER20-M	28
ER25-M	35
ER25-UM	42
ER32-UM	50
ER40-UM	63

GSK wrench



Designation	Out-Diameter of Nut
GSK06	GSK6
GSK10	GSK10
GSK16	GSK16
GSK25	GSK25

Special wrench for strong handle



Designation	Out-Diameter of Nut
C20	C20
C32	C32
C42	C42

Meter type Z axis setter



Designation	Style	Highly
EDS-50	Meter	50

- Place the parallel gauge on the standard surface and turn the dial indicator to make the long needle return to zero.
- Remove the parallel gauge.
- Place the z-axis setter on the workpiece, the tool contacts the operation surface, and the distance between the tool and the workpiece is 50 mm when the slow feeding speed reaches the second finger at "0".

Mechanical edge finder



Designation
ME-1020
ME-420

- 10. The straight handle is installed on the collet, and the stator is speculated by finger light, so that the eccentricity is 0.5mm and the speed is 400-600 / min, so as to measure the stator
- If you want to touch the end face of the workpiece, the touch movement of the dots is that the detector is not vibrating, just like the static state.
- Then touch with inching feed, the measuring stator will slide in one direction, and the sliding starting point is the required reference position.
- It is not suitable for horizontal meter.

Rough boring head

Ctting parameter table

- This table is a selection principle for cutting parameter, please varies to the terms of machine,piece,chipetc.

BT40

Designation	Workpiece Material	Effective Depth of Cutting	Tip Corner R	Cutting Speed	Depth of Cutting mm/Φ		Feed mm/r	
					Recommended Value	MAX	Recommended Value	MAX
CMR20-26KD1	alloy steel	80	0.4	110	1.2	2	0.15	0.25
	stainless steel			60	1.3	2	0.16	0.25
	cast iron			100	1.5	2.5	0.2	0.25
	aluminium alloy			150	1.8	2.5	0.22	0.3
CMR25-33KD2	alloy steel	93	0.4	110	1.8	3	0.15	0.3
	stainless steel			60	2	3	0.18	0.3
	cast iron			100	2.5	4	0.2	0.3
	aluminium alloy			150	2.8	4	0.25	0.35
CMR32-42KD3	alloy steel	108	0.8	150	3	4	0.2	0.35
	stainless steel			70	2.8	4	0.22	0.35
	cast iron			90	3.5	5	0.25	0.4
	aluminium alloy			150	4	5	0.25	0.4
CMR41-54KD4	alloy steel	105	0.8	150	3.8	5	0.25	0.4
	stainless steel			70	3.2	5	0.25	0.4
	cast iron			90	5	8	0.28	0.45
	aluminium alloy			150	6	8	0.35	045
CMR53-70KD5	alloy steel	105	0.8	160	5.5	7	0.3	0.45
	stainless steel			80	7.5	7	0.3	0.5
	cast iron			100	8.5	10	0.35	0.55
	aluminium alloy			150	6.5	10	0.4	0.45
CMR68-110KD6	alloy steel	109	0.8	160	6.5	10	0.3	0.45
CMR98-153KD6	stainless steel			80	6.5	9	0.3	0.45
	cast iron			100	9.5	12	0.35	0.5
CMR148203KD6	aluminium alloy			150	10	12	0.4	0.55

BT50

Designation	Workpiece Material	Effective Depth of Cutting	Tip Corner R	Cutting Speed	Depth of Cutting mm/Φ		Feed mm/r	
					Recommended Value	MAX	Recommended Value	MAX
CMR20-26KD1	alloy steel	75	0.4	110	1.2	2	0.15	0.25
	stainless steel			60	1.3	2	0.16	0.25
	cast iron			100	1.5	2.5	0.2	0.25
	aluminium alloy			150	1.8	2.5	0.22	0.3
CMR25-33KD2	alloy steel	107.5	0.4	110	1.8	3	0.15	0.3
	stainless steel			60	2	3	0.18	0.3
	cast iron			100	2.5	4	0.2	0.3
	aluminium alloy			150	2.8	4	0.25	0.35
CMR32-42KD3	alloy steel	127	0.8	150	3	4	0.2	0.35
	stainless steel			70	2.8	4	0.22	0.35
	cast iron			90	3.5	5	0.25	0.4
	aluminium alloy			150	4	5	0.25	0.4
CMR41-54KD4	alloy steel	124	0.8	150	3.8	5	0.25	0.4
	stainless steel			70	3.2	5	0.25	0.4
	cast iron			90	5	8	0.28	0.45
	aluminium alloy			150	6	8	0.35	0.45
CMR53-70KD5	alloy steel	124	0.8	160	6	8	0.3	0.45
	stainless steel			80	5.5	7	0.3	0.5
	cast iron			100	8	12	0.35	0.55
	aluminium alloy			150	8.5	12	0.4	0.45
CMR68-110KD6	alloy steel	128	0.8	160	7.5	10	0.3	0.45
	stainless steel			80	6.5	9	0.3	0.45
	cast iron			100	9.5	14	0.35	0.5
	aluminium alloy			150	10	12	0.4	0.55
CMR98-153KD6	alloy steel	128	0.8	160	8.5	12	0.3	0.45
	stainless steel			80	6.5	9	0.3	0.45
CMR148203KD6	cast iron			100	9.5	14	0.35	0.5
	aluminium alloy			150	10	12	0.4	0.55
大于370(CLR系列)	alloy steel	152	0.8	160	8.5	12	0.3	0.45
	stainless steel			80	6.5	9	0.3	0.45
	cast iron			100	9.5	14	0.35	0.5
	aluminium alloy			150	10	12	0.4	0.55
大于370(CLR系列)	alloy steel	152	0.8	160	5.5	8	0.3	0.45
	stainless steel			80	4.5	6	0.3	0.45
	cast iron			100	7	10	0.35	0.5
	aluminium alloy			150	7.5	8	0.4	0.55

Fine boring head

Ctting parameter table

- This chart is the principle for selecting cutting parameters. please adjust consider m achine,work pieceetc.
- High pressure inside coolant might cause holder bend. As tolerance is strict, reduce coolant pressure
- As a solution aimed at wear out of machining steel,we suggest adopt alloy ceram icinsert with coating
- Use CBN insert, recom mend dry cutting

BT40

Designation	Workpiece Material	Effective Depth of Cutting	Tip Corner R	Cutting Speed	Depth of Cutting mm/Φ		Feed mm/r	
					Recommended Value	MAX	Recommended Value	MAX
CMP20-36KD1	alloy steel	80	0.2	140	0.2	0.4	0.06	0.15
	stainless steel			80	0.2	0.4	0.06	0.15
	cast iron			90	0.25	0.5	0.06	0.15
	aluminium alloy			180	0.25	0.5	0.06	0.15
CMP25-47KD2	alloy steel	93	0.2	150	0.2	0.4	0.06	0.15
	stainless steel			90	0.2	0.4	0.06	0.15
	cast iron			100	0.25	0.5	0.06	0.15
	aluminium alloy			180	0.25	0.5	0.06	0.15
CMP32-60KD3	alloy steel	108	0.4	150	0.25	0.5	0.06	0.15
	stainless steel			120	0.25	0.5	0.06	0.15
	cast iron			110	0.3	0.6	0.06	0.15
	aluminium alloy			250	0.3	0.6	0.08	0.15
CMP41-74KD4	alloy steel	105	0.4	150	0.3	0.5	0.06	0.15
	stainless steel			120	0.3	0.5	0.06	0.15
	cast iron			110	0.35	0.6	0.06	0.15
	aluminium alloy			250	0.35	0.6	0.08	0.15
CMP53-95KD5	alloy steel	105	0.4	150	0.3	0.5	0.08	0.15
	stainless steel			120	0.3	0.5	0.08	0.15
	cast iron			110	0.35	0.6	0.08	0.15
	aluminium alloy			250	0.35	0.6	0.10	0.2
CMP68-150KD6	alloy steel	109	0.4	150	0.3	0.5	0.08	0.15
	stainless steel			120	0.3	0.5	0.08	0.15
CMP100-203KD6	cast iron			110	0.35	0.6	0.08	0.15
	aluminium alloy			250	0.35	0.6	0.10	0.2

BT50

Designation	Workpiece Material	Effective Depth of Cutting	Tip Corner R	Cutting Speed	Depth of Cutting mm/Φ		Feed mm/r	
					Recommended Value	MAX	Recommended Value	MAX
CMP20-36KD1	alloy steel	75	0.2	140	0.2	0.4	0.06	0.15
	stainless steel			80	0.2	0.4	0.06	0.15
	cast iron			90	0.25	0.5	0.06	0.15
	aluminium alloy			180	0.25	0.5	0.06	0.15
CMP25-47KD2	alloy steel	107.5	0.2	150	0.2	0.4	0.06	0.15
	stainless steel			90	0.2	0.4	0.06	0.15
	cast iron			100	0.25	0.5	0.06	0.15
	aluminium alloy			180	0.25	0.5	0.06	0.15
CMP32-60KD3	alloy steel	127	0.4	150	0.25	0.5	0.06	0.15
	stainless steel			120	0.25	0.5	0.06	0.15
	cast iron			110	0.3	0.6	0.06	0.15
	aluminium alloy			250	0.3	0.6	0.08	0.15
CMP41-74KD4	alloy steel	124	0.4	150	0.3	0.5	0.06	0.15
	stainless steel			120	0.3	0.5	0.06	0.15
	cast iron			110	0.35	0.6	0.06	0.15
	aluminium alloy			250	0.35	0.6	0.08	0.15
CMP53-95KD5	alloy steel	124	0.4	150	0.3	0.5	0.08	0.15
	stainless steel			120	0.3	0.5	0.08	0.15
	cast iron			110	0.35	0.6	0.08	0.15
	aluminium alloy			250	0.35	0.6	0.10	0.2
CMP68-150KD6	alloy steel	128	0.4	150	0.3	0.5	0.08	0.15
	stainless steel			120	0.3	0.5	0.08	0.15
CMP100-203KD6	cast iron			110	0.35	0.6	0.08	0.15
	aluminium alloy			250	0.35	0.6	0.10	0.2
CLP系列	alloy steel	152	0.4	150	0.3	0.5	0.08	0.15
	stainless steel			120	0.3	0.5	0.08	0.15
	cast iron			110	0.35	0.6	0.08	0.15
	aluminium alloy			250	0.35	0.6	0.10	0.2

Straight shank carbide tool

Ctting parameter table

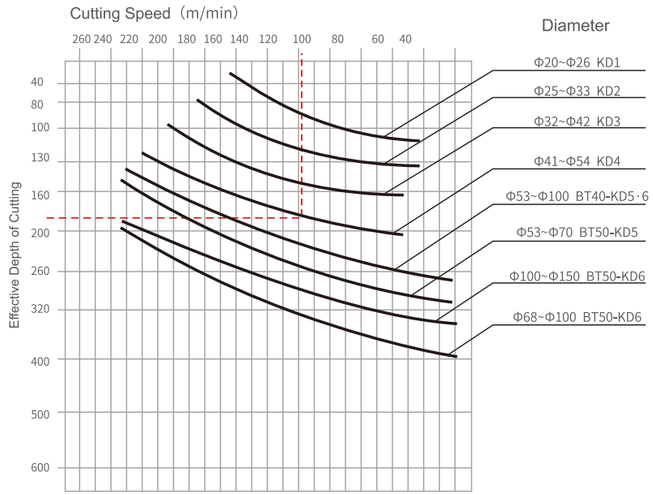
- This chart is the principle for selecting cutting parameters. please adjust consider machine,workpiece etc.
- High pressure inside coolant might cause holder bend. As tolerance is strict, reduce coolant pressure.
- As a solution aimed at wear out of machining steel,we suggest adopt alloy ceramic insert with coating.
- Following date in thi chart is under terms of using power milling holder.

BT40

Designation	Workpiece Material	Effective Depth of Cutting	Tip Corner R	Cutting Speed	Depth of Cutting mm/Φ		Feed mm/r	
					Recommended Value	MAX	Recommended Value	MAX
CMP20-36KD1	carbon steel	90	0.4	150	0.25	0.3	0.07	0.15
		135	0.2	90	0.25	0.3	0.05	0.15
		160	0.2	45	0.2	0.3	0.05	0.1
		190	0.2	20	0.18	0.25	0.05	0.1
	cast iron	90	0.4	120	0.25	0.3	0.07	0.15
		135	0.2	90	0.25	0.3	0.05	0.12
		160	0.2	45	0.2	0.3	0.05	0.1
		190	0.2	20	0.18	0.25	0.05	0.08
	aluminium alloy	100	0.4	150	0.3	0.4	0.07	0.15
		150	0.2	75	0.25	0.35	0.05	0.15
		190	0.2	30	0.2	0.3	0.05	0.1
		210	0.2	20	0.16	0.22	0.04	0.08
CMP25-47KD2	carbon steel	120	0.4	150	0.25	0.3	0.07	0.15
		160	0.2	90	0.25	0.3	0.05	0.15
		190	0.2	45	0.2	0.3	0.05	0.1
		235	0.2	20	0.18	0.25	0.05	0.1
	cast iron	120	0.4	120	0.25	0.3	0.07	0.15
		160	0.2	90	0.25	0.3	0.05	0.12
		190	0.2	45	0.2	0.3	0.05	0.1
		235	0.2	20	0.18	0.25	0.05	0.08
	aluminium alloy	125	0.4	150	0.25	0.3	0.07	0.15
		160	0.2	90	0.25	0.3	0.05	0.15
		190	0.2	45	0.2	0.3	0.05	0.1
		235	0.2	20	0.18	0.25	0.05	0.08
CMP32-60KD3	carbon steel	120	0.4	120	0.25	0.3	0.07	0.15
		160	0.2	90	0.25	0.3	0.05	0.15
		190	0.2	45	0.2	0.3	0.05	0.1
		235	0.2	20	0.18	0.25	0.05	0.1
	cast iron	145	0.4	150	0.3	0.4	0.07	0.15
		190	0.2	75	0.25	0.35	0.07	0.12
		245	0.2	30	0.2	0.3	0.05	0.1
		300	0.2	20	0.16	0.22	0.04	0.08
	aluminium alloy	140	0.4	150	0.3	0.4	0.07	0.15
		170	0.2	75	0.25	0.35	0.07	0.15
		220	0.2	30	0.2	0.3	0.05	0.1
		260	0.2	20	0.16	0.22	0.04	0.08

Choice of cutt ing speed for cutting steel parts

- It often happen to shake(vibrate) when boring.from this chart,boring bar length increase, accordingly cutting speed must decrease.
- Please refer to right chart and mentioned situation,select suitable manufacturing terms
- When manufacturing cast iron, effective depth can improve 10%--20% related to right chart

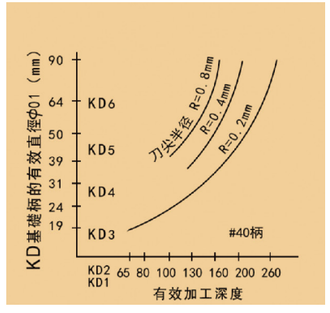


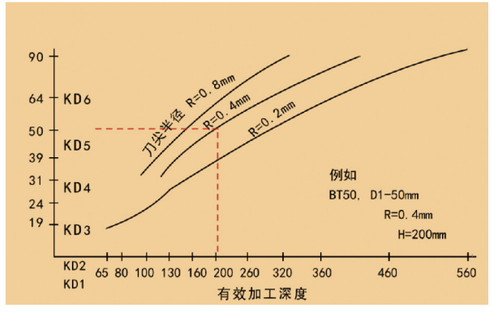
EXAMPLE

Take effective depth H=182 for example,diameter D45 (D41--D54 KD4), in chart, intersect point of red line H=182 and D45 is suitable cutting speed. please refer to this sample,select suitable cutting speed.

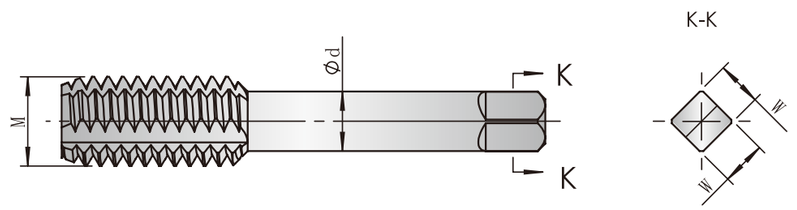
The relationship between R tip radius and the effective depth of processing

- There is a closely relation between insert tip R and depth of cut
- Select fitable holder and insert(tip corner) refer to following chart
- Manufacturing steel can improve effective depth 1.1-1.3 times





International standard form of tap



Metric System	American System	British System	JIS		IOS		DIN371		DIN376		British system
			d	WXW	d	WXW	d	WXW	d	WXW	Diameter d
M3		W1/8	4	3.2	3.15	2.5	3.5	2.7	2.2		3.18
M4/M4.5		W5/32	5	4	4	3.15	4.5	3.4	2.8	2.1	3.97
M5/M5.5		W3/16	5.5	4.5	5	4	6	4.9	3.5	2.7	4.76
M6	U1/4	W1/4	6	4.5	6.3	5	6	4.9	4.5	3.4	6.35
	U5/16	W5/16	6.1	5.5							7.94
M8/M7			6.2	5	6.3	5	8	6.2	6	4.9	
M10/M9	U3/8	W3/8	7	5.5	8	6.3	10	8		5.5	9.52
M11	U7/16	W7/16	8	6							11.11
M12			8.5	6.5	9	7.1	12	9	9	7	
	U1/2	W1/2	9	7							12.7
M14/M15	U9/16	W9/16	10.5	8	11.2	9			11	9	14.28
	U5/8	W5/8	12	9							15.88
M16			12.5	10	12.5	10			12	9	
M17			13	10							
M18	U3/4	W3/4	14	11	14	11.2			14	11	19.05
M20			15	12	14	11.2			16	12	
M22	U7/8	W7/8	17	13	16	12.5			18	14.5	22.22
M24/M25			19	15	18	14			18	14.5	
M25/M26	U1	W1	20	15							25.4
M27			20	15	20	16			20	16	
M28			21	17							
	U1 1/8	W1 1/8	22	17							28.58
M30			23	17	20	16			22	18	
M32	U1 1/4	W1 1/4	24	19							31.75
M33			25	19	22.4	18			25	20	
M34/M35	U1 3/8	W1 3/8	26	21							34.93
M36			28	21	25	20			28	22	
M39/M40	U1 ½	W1 ½	30	23					32	24	38.1
M42		W1 5/8	32	26	28	22.4			32	24	41.28
M45	U1 3/4	W1 3/4	35	26					36	29	44.45
M48		W1 7/8	38	29	31.5	25			36	29	47.63