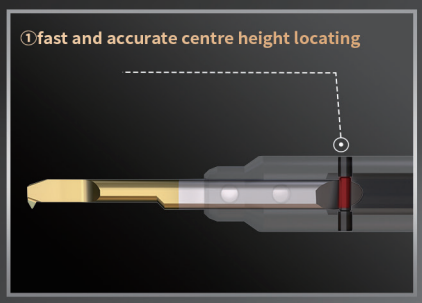
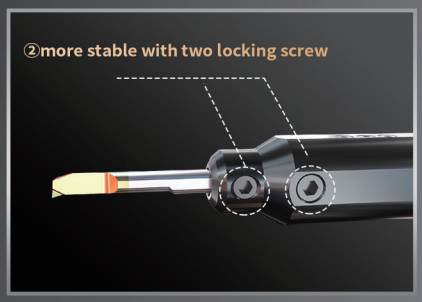
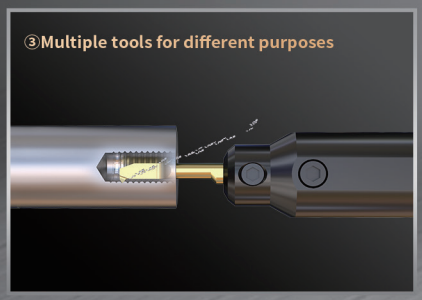
SBT SERISE

fast locationg small diameter boring tools

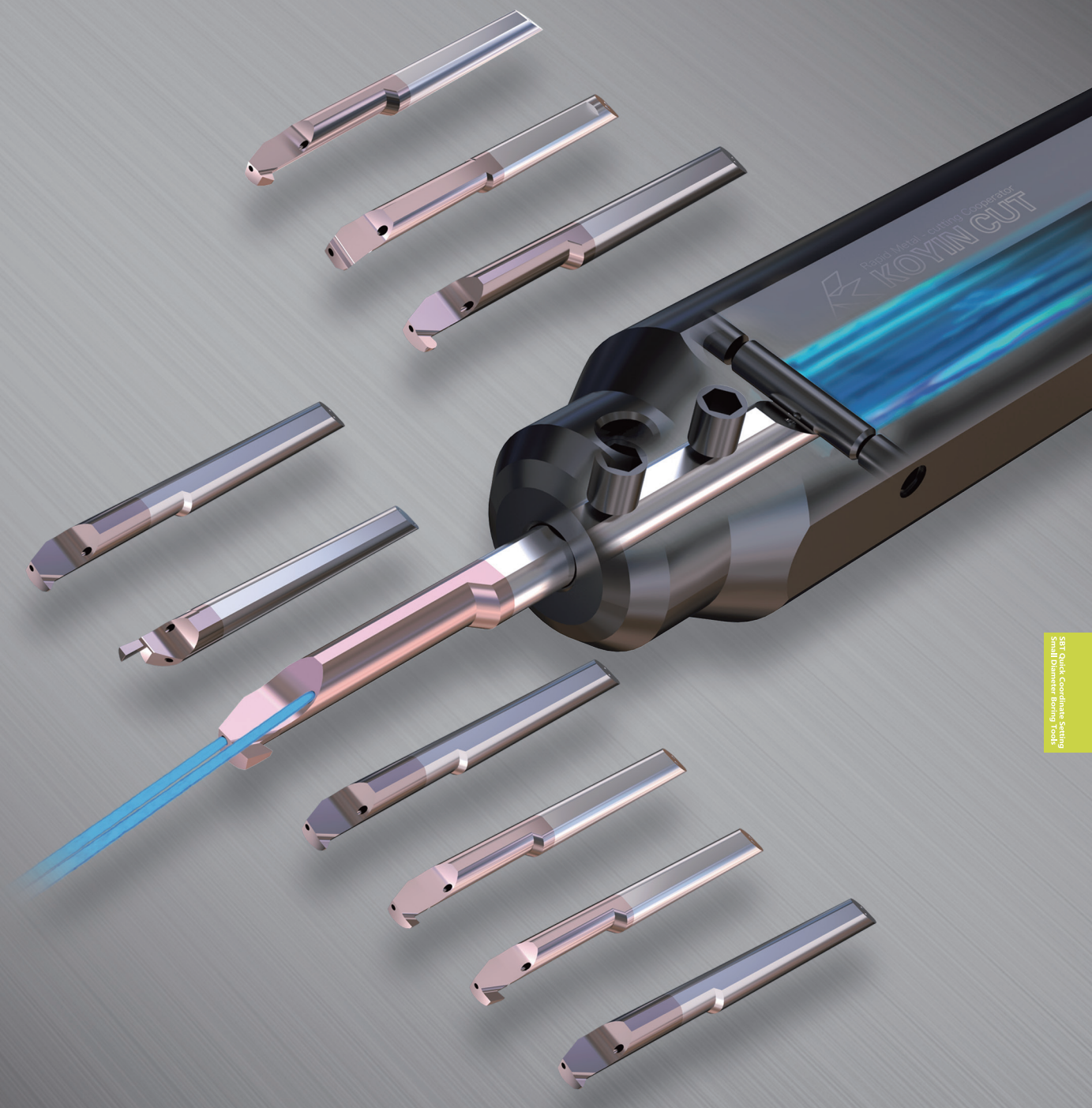






SBT SERIES COOLING

SBT Quick Coordinate Setting Small Diameter Boring Tools



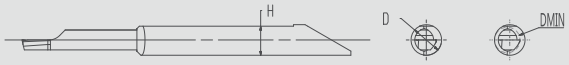
-Fast and accurate centre height locating
-Multiple tools
-inner coolant supply

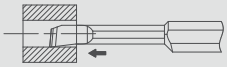
Symbols of SBT boring tools

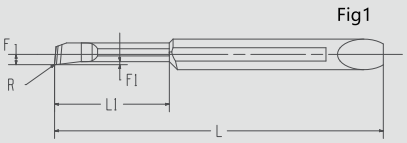
				20: Boring diameter 2	08: Effective lenght 8mm	005: R0.05		H: Parellel geometry		C2=Double jet
		4: Shank diameter 4		25: Boring diameter 2.5	125: Effective lenght 12.5mm	008: R0.08		N: Without chipbreaking slot		C1=Single jet
KH: Boring series	F: Boring	6: Shank diameter 6		30: Boring diameter 3.0	15: Effective lenght 15mm	015: R0.15		F: Chip breaking slot with lead angle		Without Inner cooling
Series	**Type**	**Shank diameter**	**Direction**	**machinable diamter of boring**	**Effective lenght**	**Nose Radius**	**-**	**Geometry**	**-**	**inner cooling**
KH	F	4	R	20	08	005	-	H	-	C2

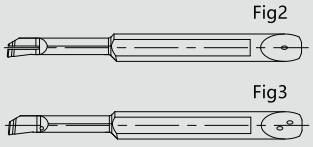
Internal processing-boring process

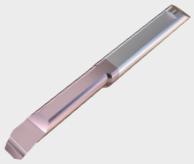
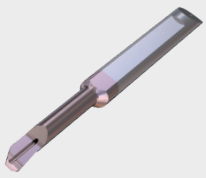
H Chip breaking slot
Excellent hardness and sharpness





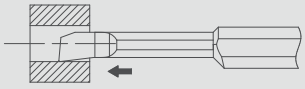




Shape	Type	minimum boring diameter	Minimum boring diameter (mm)								PVD Coated Cemented Carbide		Applicable holders
		DMIN	D	H	L	L1	F	F1	R	Fig	KHS10M	KCH15D	
	KHF4R 2008-008-H	2	4	3.6	35	8	0.85	0.25	0.08	1			KHP4 ●●●
	KHF4R 25125-008-H	2.5	4	3.6	40	12.5	1.1	0.25	0.08	1			
	KHF4R 25125-015-H								0.15	1			
	KHF4R 3013-008-H	3	4	3.6	43	13	1.35	0.35	0.08	1			
	KHF4R 3013-015-H								0.15	1			
	KHF4R 4015-008-H	4	4	3.6	49	15	1.86	0.4	0.08	1			
	KHF4R 4015-015-H								0.15	1			
	KHF6R 5020-008-H	5	6	5.6	58	20	2.35	0.5	0.08	1			KHP6 ●●●
	KHF6R 5020-015-H								0.15	1			
	KHF6R 6025-008-H	6	6	5.6	63	25	2.85	0.6	0.08	1			
	KHF6R 6025-015-H								0.15	1			
	KHF4R 2008-008-H-C1	2	4	3.6	35	8	0.85	0.25	0.08	2			KHP4●●●JCT
	KHF4R 25125-008-H-C1	2.5	4	3.6	40	12.5	1.1	0.25	0.08	2			
	KHF4R 25125-015-H-C1								0.15	2			
	KHF4R 3013-008-H-C1	3	4	3.6	43	13	1.35	0.35	0.08	2			
	KHF4R 3013-015-H-C1								0.15	2			
	KHF4R 4015-008-H-C2	4	4	3.6	49	15	1.86	0.4	0.08	3			
	KHF4R 4015-015-H-C2								0.15	3			
	KHF6R 5020-008-H-C2	5	6	5.6	58	20	2.35	0.5	0.08	3			KHP6●●●JCT
	KHF6R 5020-015-H-C2								0.15	3			
	KHF6R 6025-008-H-C2	6	6	5.6	63	25	2.85	0.6	0.08	3			
	KHF6R 6025-015-H-C2								0.15	3			

Internal processing-boring process

Without chipbreaking slot



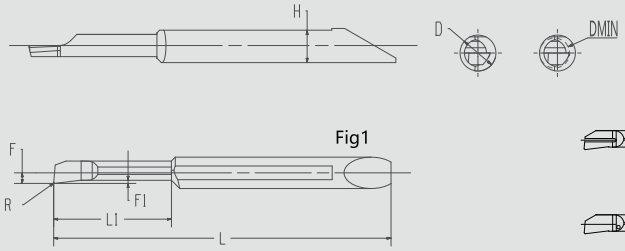


Fig1



Fig2

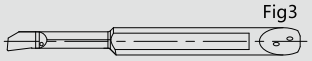
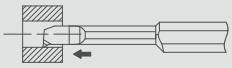


Fig3

Shape	Type	minimum boring diameter	Minimum boring diameter (mm)								PVD Coated Cemented Carbide		Applicable holders
		DMIN	D	H	L	L1	F	F1	R	Fig	KHS10M	KCH15D	
	KHF4R 2008-008-N	2	4	3.6	35	8	0.85	0.25	0.08	1			KHP4 ●●●
	KHF4R 25125-008-N	2.5	4	3.6	40	12.5	1.1	0.25	0.08	1			
	KHF4R 25125-015-N								0.15	1			
	KHF4R 3013-008-N	3	4	3.6	43	13	1.35	0.35	0.08	1			
	KHF4R 3013-015-N								0.15	1			
	KHF4R 4015-008-N	4	4	3.6	49	15	1.86	0.4	0.08	1			
	KHF4R 4015-015-N								0.15	1			
	KHF6R 5020-008-N	5	6	5.6	58	20	2.35	0.5	0.08	1			KHP6 ●●●
	KHF6R 5020-015-N								0.15	1			
	KHF6R 6025-008-N	6	6	5.6	63	25	2.85	0.6	0.08	1			
	KHF6R 6025-015-N								0.15	1			
	KHF4R 2008-008-N-C1	2	4	3.6	35	8	0.85	0.25	0.08	2			KHP4●●●JCT
	KHF4R 25125-008-N-C1	2.5	4	3.6	40	12.5	1.1	0.25	0.08	2			
	KHF4R 25125-015-N-C1								0.15	2			
	KHF4R 3013-008-N-C2	3	4	3.6	43	13	1.35	0.35	0.08	3			
	KHF4R 3013-015-N-C2								0.15	3			
	KHF4R 4015-008-N-C2	4	4	3.6	49	15	1.86	0.4	0.08	3			
	KHF4R 4015-015-N-C2								0.15	3			
	KHF6R 5020-008-N-C2	5	6	5.6	58	20	2.35	0.5	0.08	3			KHP6●●●JCT
	KHF6R 5020-015-N-C2								0.15	3			
	KHF6R 6025-008-N-C2	6	6	5.6	63	25	2.85	0.6	0.08	3			
	KHF6R 6025-015-N-C2								0.15	3			

Internal processing-boring process

F Chip breaking slot with lead angle
Sharp, chips evacuate frontend



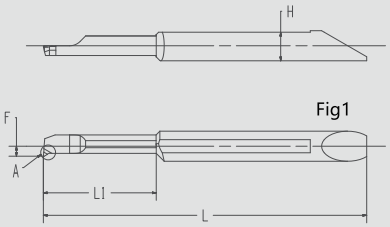


Fig1



Enlarged A zone

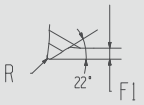




Fig2

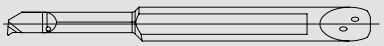
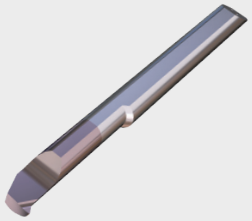


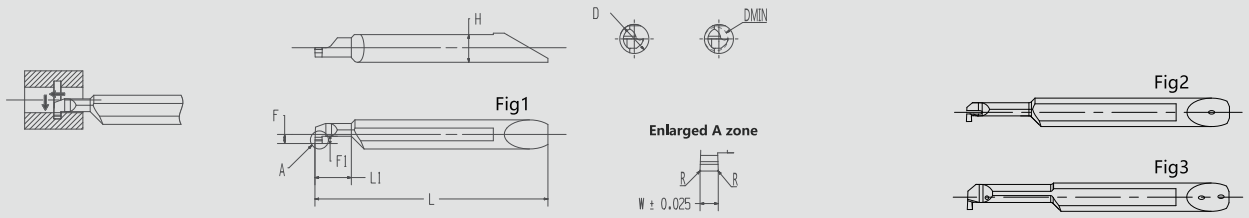
Fig3

Shape	Type	minimum boring diameter	Minimum boring diameter (mm)								PVD Coated Cemented Carbide		Applicable holders
		DMIN	D	H	L	L1	F	F1	R	Fig	KHS10M	KCH15D	
	KHF4R 2008-005-F	2	4	3.6	35	8	0.85	0.25	0.05	1			KHP4●●●
	KHF4R 25125-005-F	2.5	4	3.6	40	12.5	1.1	0.3	0.05	1			
	KHF4R 25125-015-F								0.15	1			
	KHF4R 3013-005-F	3	4	3.6	43	13	1.35	0.4	0.05	1			
	KHF4R 3013-015-F								0.15	1			
	KHF4R 4015-005-F	4	4	3.6	49	15	1.86	0.5	0.05	1			
	KHF4R 4015-015-F								0.15	1			
	KHF6R 5020-005-F	5	6	5.6	58	20	2.35	0.7	0.05	1			KHP6●●●
	KHF6R 5020-015-F								0.15	1			
	KHF6R 6025-005-F	6	6	5.6	63	25	2.85	0.9	0.05	1			
	KHF6R 6025-015-F								0.15	1			
	KHF4R 2008-005-F-C1	2	4	3.6	35	8	0.85	0.25	0.05	2			KHP4●●●JCT
	KHF4R 25125-005-F-C1	2.5	4	3.6	40	12.5	1.1	0.3	0.05	2			
	KHF4R 25125-015-F-C1								0.15	2			
	KHF4R 3013-005-F-C2	3	4	3.6	43	13	1.35	0.4	0.05	3			
	KHF4R 3013-015-F-C2								0.15	3			
	KHF4R 4015-005-F-C2	4	4	3.6	49	15	1.86	0.5	0.05	3			
	KHF4R 4015-015-F-C2								0.15	3			
	KHF6R 5020-005-F-C2	5	6	5.6	58	20	2.35	0.7	0.05	3			KHP6●●●JCT
	KHF6R 5020-015-F-C2								0.15	3			
	KHF6R 6025-005-F-C2	6	6	5.6	63	25	2.85	0.9	0.05	3			
	KHF6R 6025-015-F-C2								0.15	3			

Symbols of Inner Grooving Tools

				30: boring diameter 3.0	05: width 0.5		050: groove depth 0.5		C2= double jet
		4: shank diameter 4		40: boring diameter 4.0	075: width 0.75		100: groove depth 1.0		C1=single jet
KH: boring series	G: Grooving tools	6: shank diameter 6		50: boring diameter 5.0	10: width 1.0		120: groove depth 1.2		without Inner Cooling
Series	**Type**	**shank diameter**	**Direction**	**Machinable diamter of boring**	**Tip width**	**-**	**Machinable groove depth**	**-**	**Inner cooling**
KH	G	4	R	30	075	-	080	-	C2

Internal processing-grooving process

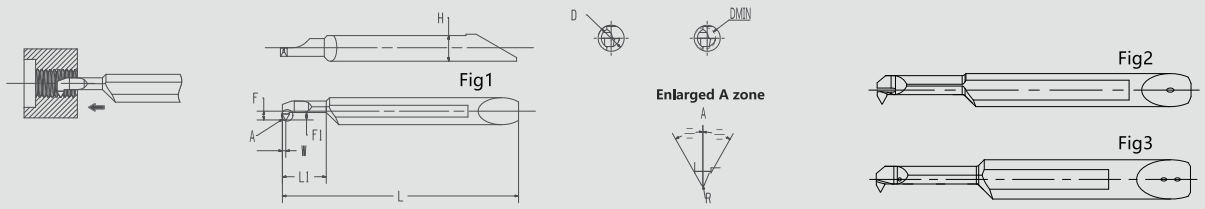


Shape	Type	minimum boring diameter	Minimum boring diameter (mm)									PVD Coated Cemented Carbide		Applicable holders
		DMIN	W	R	D	H	L	L1	F	F1	Fig	KHS10M	KCH15D	
	KHG4R 3005-050	3	0.5	0.05	4	3.6	37	9	1.3	0.5	1			KHP4●●●
	KHG4R 30075-060		0.75							0.6	1			
	KHG4R 3010-070		1							0.7	1			
	KHG4R 4005-050	4	0.5		4	3.6	40	10	1.75	0.5	1			
	KHG4R 40075-060		0.75							0.6	1			
	KHG4R 4010-100		1							1	1			
	KHG4R 4015-100		1.5								1			
	KHG4R 4020-100		2								1			
	KHG6R 50075-120	5	0.75		6	5.6	53	15	2.8	1.2	1			KHP6●●●
	KHG6R 5010-120		1							1.2	1			
	KHG6R 5015-120		1.5								1			
	KHG6R 5020-120		2								1			
	KHG6R 6010-180	6	1		6	5.6	53		3	1.8	1			
	KHG6R 6015-180		1.5								1			
	KHG6R 6020-180		2								1			
	KHG4R 3005-050-C1	3	0.5	0.05	4	3.6	37	9	3	0.5	2			KHP4●●●JCT
	KHG4R 30075-060-C1		0.75							0.6	2			
	KHG4R 3010-070-C1		1							0.7	2			
	KHG4R 4005-050-C2	4	0.5		4	3.6	40	10	1.75	0.5	3			
	KHG4R 40075-060-C2		0.75							0.6	3			
	KHG4R 4010-100-C2		1							1	3			
	KHG4R 4015-100-C2		1.5								3			
	KHG4R 4020-100-C2		2								3			
	KHG6R 50075-120-C2	5	0.75		6	5.6	53	15	2.8	1.2	3			KHP6●●●JCT
	KHG6R 5010-120-C2		1							1.2	3			
	KHG6R 5015-120-C2		1.5								3			
	KHG6R 5020-120-C2		2								3			
	KHG6R 6010-180-C2	6	1		6	5.6	53		3	1.8	3			
	KHG6R 6015-180-C2		1.5								3			
	KHG6R 6020-180-C2		2								3			

Symbols of SBT Threading Tools

				30: Boring diameter 3					C2=double jet
		4: Shank diameter 4		40: Boring diameter 4.0	003: R0.03				C1=single jet
KH: Boring series	T: Threading Tools	6: Shank diameter 6		50: Boring diameter 5.0	005: R0.05		60A:60°		without jet
Series	**Type**	**Shank diameter**	**Direction**	**Machinable diamter of boring**	**Nose Radius**	**-**	**Thread Angle**	**-**	**Jet**
KH	T	4	R	30	003	-	60A	-	C2

Internal processing- theading process



Shape	Type	minimum boring diameter	Minimum boring diameter (mm)										Metric thread		Imperial Thread		PVD Coated Cemented Carbide		Applicable holders
		DMIN	D	H	L	L1	F	F1	W	R	Fig	A	Specifications of thread	Pitch (mm)	Specifications of thread	Teeth (per inch)	KHS10M	KCH15D	
	KHT4R 30003-60A	3	4	3.6	34	6.5	1.19	1	0.5	0.03Max	1	60°	M4 More than (Fine thread M3.5 More than)	0.35~0.8	No.8-32UNC No.8-36UNF More than	36~32			KHP4 ●●●
	KHT4R 35003-60A	3.5	4	3.6	36	8.5	1.44	1.2	0.6	0.03Max	1		M4 More than (Fine thread M4.5 More than)	0.5~1.0	No.10-24UNC No.8-36UNF More than	36~24			
	KHT4R 40005-60A	4	4	3.6	38	10.5	1.69	1.2	0.6	0.05Max	1		M5 More than (Fine thread M6 More than)	0.75~1.25	No.12-24UNC No.12-28UNF More than	28~20			
	KHT6R 50005-60A	5	6	5.6	48	15.5	1.94	1.3	0.65	0.05Max	1		M7 More than (Fine thread M6 More than)	0.75~1.5	1/4-20UNC 1/4-28UNF More than	28~18			KHP6 ●●●
	KHT6R 60005-60A	6	6	5.6	53	19.5	2.44	1.6	0.8	0.05Max	1		M8 More than (Fine thread M7 More than)	0.75~1.5	5/16-18UNC 5/16-24UNF More than	24~16			
	KHT4R 40005-60A-C1	4	4	3.6	38	10.5	1.69	1.2	0.6	0.05Max	2		M5 More than (Fine thread M6 More than)	0.75~1.25	No.12-24UNC No.12-28UNF More than	28~20			KHP4●●●JCT
	KHT6R 50005-60A-C2	5	6	5.6	48	15.5	1.94	1.3	0.65	0.05Max	3		M7 More than (Fine thread M6 More than)	0.75~1.5	1/4-20UNC 1/4-28UNF More than	28~18			KHP6●●●JCT
	KHT6R 60005-60A-C2	6	6	5.6	53	19.5	2.44	1.6	0.8	0.05Max	3		M8 More than (Fine thread M7 More than)	0.75~1.5	5/16-18UNC 5/16-24UNF More than	24~16			

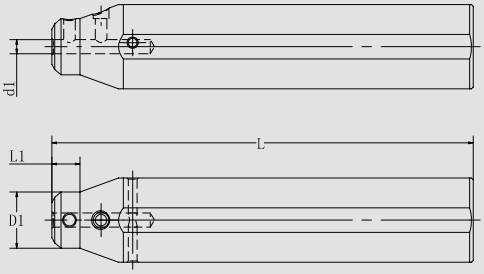
Symbols of SBT Tool holders

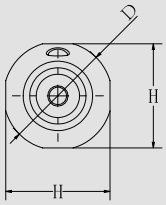
				16: Shank diameter 16						
				1905: Shank diameter 19.05						
				20: Shank diameter 20						
		4: Shank diameter 4		22: Shank diameter 22		90: Length 90				
		6: Shank diameter 6		25: Shank diameter 25		100: Length 100				Without Inner Cooling
KH: Boring series	P: Tools	8: Shank diameter 8		254: Shank diameter 25.4		120: Length 120				JCT: Inner cooling
Series	**Tools**	**Tool diameter**	**-**	**Shank diameter**	**-**	**Tool Length**		**-**		**Inner cooling**
KH	P	4	-	20	-	100		-		JCT

Accessaries

Symbols of tool holders	Lock screw (for insert)	Wrenth	Lock screw (for pin)	Wrenth	locating pin
KHP□-16 □□□□	KS-4004-SH	KW-LH2	KS-3002-SH	KW-LH1.5	KLP-2511
KHP□-1905 □□□□			KS-3003-SH		
KHP□-20 □□□□					
KHP□-22 □□□□					KLP-2514
KHP□-25 □□□□					
KHP□-254 □□□□					

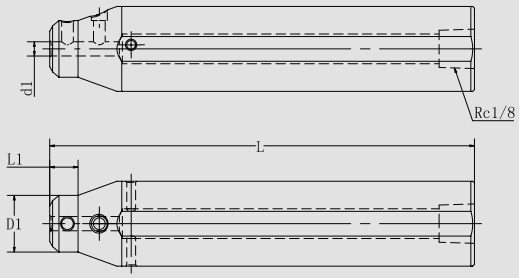
Internal processing-tool holders

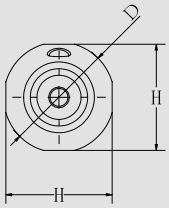




Shape	Type	Stock	Size (mm)						Corresponding Insert
			D	D1	d1	L	L1	H	
	KHP4-16-90		16	11	4	90	8	15	KH□4R □□□
	KHP4-1905-100		19.05	14		100		18	
	KHP4-20-100		20	15		100		19	
	KHP4-22-120		22	17		120		21	
	KHP4-25-120		25	20		120		24	
	KHP4-254-120		25.4	20.4		120		24.4	
	KHP6-16-90		16	13	6	90	8	15	KH□6R □□□
	KHP6-1905-100		19.05	14		100		18	
	KHP6-20-100		20	15		100		19	
	KHP6-22-120		22	17		120		21	
	KHP6-25-120		25	20		120		24	
	KHP6-254-120		25 4	20 4		120		24 4	

Internal processing-holders with jet





Shape	Type	Stock	Size (mm)						Corresponding Insert
			D	D1	d1	L	L1	H	
	KHP4-16-90-JCT		16	11	4	90	8	15	KH□4R □□□
	KHP4-1905-100-JCT		19.05	14		100		18	
	KHP4-20-100-JCT		20	15		100		19	
	KHP4-22-120-JCT		22	17		120		21	
	KHP4-25-120-JCT		25	20		120		24	
	KHP4-254-120-JCT		25.4	20.4		120		24.4	
	KHP6-16-90-JCT		16	13	6	90	8	15	KH□6R □□□
	KHP6-1905-100-JCT		19.05	14		100		18	
	KHP6-20-100-JCT		20	15		100		19	
	KHP6-22-120-JCT		22	17		120		21	
	KHP6-25-120-JCT		25	20		120		24	
	KHP6-254-120-JCT		25 4	20 4		120		24 4	

Recommend Application Parameter

SBT small diameter boring tools								
Machined Materials	Carbon Steel, Alloy Steel	Stainless Steel		Cast Iron	Heat Resisting Alloy/Titanium Alloy		Nonferrous	
Insert Grades	KHS10M	KCH15D	KHS10M	KHS10M	KHS10M	KCH15D	KCN10	KCN10D
Cutting Speed Vc(m/min)	60-150	50-180	60-120	60-150	50-60	40-80	100-180	120-250

	Boring tools	Inner grooving tools	Threading tools					
Edge width of grooving	0.01-0.2	———	0.015-0.05					
Feeding Speed f(mm/rev)	0.02-0.1	0.02-0.05	——					