

SIGMA
TOOLINGS



Standard Products

**Solutions for Boring, Milling,
Cutting and Drilling**



- ▶ Rough/Semifinish Boring Heads
- ▶ Indexable Drill in SPMG Insert
- ▶ Fine Boring Heads
- ▶ **SAMURAI** Tools
- ▶ Micro Bore Unit

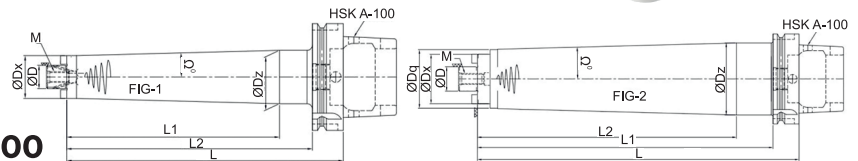
The Samurai series offers anti-vibration tools as well as boring heads. Samurai tools is a flagship product of Sigma Tools. Samurai anti vibration tools, as the name suggests are aimed at reducing vibration generated in machining. Made of high tensile steel, Samurai tools are designed to dampen & absorb vibration. Samurai tools let you increase the number of cutting parameters and achieve close tolerance.



Features

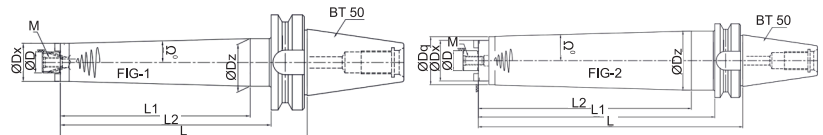
- ▶ Better Surface finish with faster speed.
 - ▶ Consistent operation for even above L/D 4.
 - ▶ Steady machining and greater rigidity.
- Dynamic stability in extreme conditions.

Anti-Vibration Milling Adaptor - HSK-A100



ORDER CODE	FIG. NO.	DIMENSION (mm)									L-KEY
		ØD	M	ØDx	ØDq	ØDz	Ω°	L2	L1	L	
ST22-1-2240300	1	22	M10	40		50	1.5°	200	271	300	L-8
ST22-1-2240370	2				55	63		238	341	370	
ST22-2-2755440	2	27	M12	55	65	80	1.5°	290	411	440	L-10
ST22-1-3270440	1	32	M16	70		80	1°	310	411	440	L-14
ST22-1-4070440	1	40	M20	70		80	1°	310	411	440	L-17

Anti-Vibration Milling Adaptor - BT50



ORDER CODE	FIG. NO.	DIMENSION (mm)									L-KEY
		ØD	M	ØDx	ØDq	ØDz	Ω°	L2	L1	L	
ST23-1-2240260	1	22	M10	40		50	1.5°	200	222	260	L-8
ST23-1-2240300					52	63			238	262	
ST23-2-2240300	2	27	M12	55	65	80	1.5°	290	262	300	L-10
ST23-2-2240350									312	350	
ST23-2-2755360	2	32	M16	70		80	1°	310	322	360	L-14
ST23-2-2755410									372	410	
ST23-1-3270390	1	40	M20	70		80	1°	310	352	390	L-17
ST23-1-3270440									402	440	
ST23-1-4070390	1	40	M20	70		80	1°	310	352	390	L-17
ST23-1-4070440									402	440	

Micro Bore Unit

Micro bore units from Sigma toolings offer up to 2-micron accuracy which is perfectly design & suitable for finish boring applications with the help of visible scale fine setting to be done very easily on machine. our unit is having a zero backlash unit & an ultra coating mechanism on the surface gives higher strokes.



Features

- ▶ The least count of MBU is +/- 0.002mm radially.
- ▶ The repeatability of MBU is +/- 0.002mm radially.
- ▶ Extremely economical with extra stock availability.
- ▶ Very easy adjustment from top.

Micro Bore Unit - Angular

F	L	T	A	09	02
FINE	LEFT HAND	INSERT SHAPE	ANGULAR	CUTTING EDGE LENGTH	INSERT THICKNESS

Code of Angular MBU	ANGULER UNIT CODE & HAND		SUITABLE INSERT	DIMENSION			
	LH	RH		Dh	L1	F1	Dmin
	FLCA-0602	FRCA-0602	CC - - 0602	16	14.3	0.45	25
	FLTA-0902	FRTA-0902	TC - - 0902	20	19.1	1.0	32
	FLTA-1102	FRTA-1102	TC - - 1102	22	23	1.2	42
	FLCA-09T3	FRCA-09T3	CC - - 09T3	22	23	1.2	42
	FLTA-16T3	FRTA-16T3	TC - - 16T3	32	33.3	1.3	55
	FLDA-0702	FRDA-0702	DC - - 0702	20	19.9	1.0	32

Micro Bore Unit - Vertical

F	R	T	V	09	02
FINE	RIGHT HAND	INSERT SHAPE	VERTICAL	CUTTING EDGE LENGTH	INSERT THICKNESS

Code of Vertical MBU	VERTICAL UNIT CODE & HAND		SUITABLE INSERT	DIMENSION			
	LH	RH		Dh	L1	F1	Dmin
	FLCV-0602	FRCV-0602	CC - - 0602	16	14.3	5.1	27
	FLTV-0902	FRTV-0902	TC - - 0902	20	19.1	6.3	37
	FLTV-1102	FRTV-1102	TC - - 1102	22	23	7.2	49
	FLCV-09T3	FRCV-09T3	CC - - 09T3	22	23	7.2	49
	FLTV-16T3	FRTV-16T3	TC - - 16T3	32	33.3	10.3	67
	FLDV-0702	FRDV-0702	DC - - 0702	20	19.9	6.3	37

Different Types of Micro Bore Unit



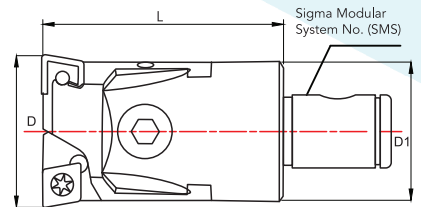
Range of Micro Boring Units

- ▶ Angular C/T/D Type
- ▶ Vertical C/T/D Type

** Note:- We have also manufacture customise design MBU

Rough/Semifinish Boring Heads

Sigma Tools offer customized and specialized tools for rough or semi-finished boring requirements. Capable of providing an even and excellent surface finish our range of rough boring heads offers maximum material removal at a faster pace.



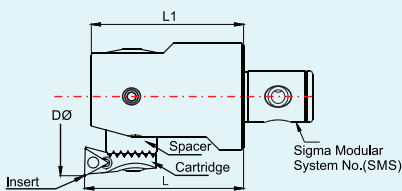
Features

- ▶ Superior rigidity with compact body design.
- ▶ Designed with a good dia/length ratio for better depth.
- ▶ Superior quality boring and best performance.

2-Stepped Rough & Semifinish Boring Head

ORDER CODE	SMS	ØD1	L	ØD	INSERT TYPE	INSERT CLAMPING SCREW
SRBH22-28 S	0	21	40	22-28	CC..0602	CSTB-2.5
SRBH27-35 S	1	23	40	27-35	CC..0602	CSTB-2.5
SRBH34-44 S	2	29	45	34-44	CC..09T3	CSTB-4
SRBH43-55 S	3	37	55	43-55	CC..1204	CSTB-5
SRBH54-76 S	4	48	60	54-76	CC..1204	CSTB-5
SRBH75-105 S	5	60	75	75-105	CC..1204	CSTB-5
SRBH104-150 S	6	80	90	104-150	CC..1204	CSTB-5

Fine Boring Heads



Machining Range

Ø22-200

Least count adjustment 5 micron

ORDERING CODE	SMS NO.	CART-RIDGE	CARTRIDGE SCREW	BORING			KG	TIGHTENING TORQUE
				ØD	L	L1		
SFBH22-28	0	SC0	SM405	22-28	42	38	0.1	10kgf/cm
SFBH27-35	1	SC1	SM406	27-35	42	38	0.12	15kgf/cm
SFBH34-44	2	SC2	SM406	34-44	46	43	0.22	15kgf/cm
SFBH43-55	3	SC3	SM508	43-55	55	53	0.44	25kgf/cm
SFBH54-76	4	SC4	SM608	54-76	60	55	0.8	60kgf/cm
SFBH75-105	5	SC5	SM810	75-105	75	70	1.7	100kgf/cm
SFBH104-150	6	SC6	SM810	104-150	90	85	3.5	100kgf/cm

SAMURAI Tools (Stationary)

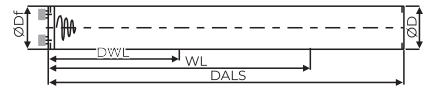
Sigma has Introduced a special range of boring bars for the application L/D more than-7 called as **Anti-Vibration Boring and milling tools (Samurai Tools)**. It has Auto-tuned damping & piston operated mechanism. It absorbs the vibration, thus provides steady machining.



Features

- ▶ High boring range from L/D-7 to L/D-14.
- ▶ For roughing max depth of cut is 1.5 mm radially.
- ▶ For finishing depth of the cut is 0.25 to 0.3 radially.
- ▶ Each and every tool is tried & well tested in-house.
- ▶ Longer life and assured reliability.

Anti-Vibration Stationary Tools



ØD	L/D	ORDER CODE	DIMENSION (mm)				MIN. BORING ØD	HEAD TYPE	SCREW	KEY
			ØDf	DWL	WL	OALS				
16	7	STB-7D-16-156-A	16	55	92	156	20	S-type	M3	L-2.5
	10	STB-10D-16-204-A		96	140	204		T-type		
20	7	STB-7D-20-200-A	20	70	120	200	25	S-type	M3.5	L-2.5
	8	STB-8D-20-250-M		96	160	250		T-type		
	10	STB-10D-20-260-A		120	180	260		S-type		
	12	STB-12D-20-340-M		120	240	340		T-type		
	14	STB-14D-20-380-M		120	280	380		M-3		
25	7	STB-7D-25-255-A	25	88	158	255	32	S-type	M4	L-3
	8	STB-8D-25-300-M		120	230	300		T-type		
	10	STB-10D-25-330-A		155	200	330		S-type		
	12	STB-12D-25-400-M		155	300	400		T-type		
	14	STB-14D-25-450-M		155	350	450		M-3		
32	7	STB-7D-32-320-A	32	100	192	320	40	S-type	M5	L-4
	8	STB-8D-32-350-M		155	256	350		T-type		
	10	STB-10D-32-416-A		192	288	416		S-type		
	12	STB-12D-32-480-M		192	384	480		T-type		
	14	STB-14D-32-560-M		192	448	560		M-3		
40	7	STB-7D-40-408-A	40	128	248	408	50	S-type	M6	L-5
	8	STB-8D-40-420-M		155	320	420		T-type		
	10	STB-10D-40-528-A		248	368	528		S-type		
	12	STB-12D-40-580-M		248	480	580		T-type		
	14	STB-14D-40-660-M		248	560	660		M-3		
50	7	STB-7D-50-519-A	40	168	318	519	60	S-type	M6	L-5
	8	STB-8D-50-510-M		190	320	510		T-type		
	10	STB-10D-50-669-A		318	368	669		S-type		
60	7	STB-7D-60-628-A	40	208	388	628	70	S-type	M6	L-5
	8	STB-8D-60-620-M		230	480	620		T-type		
	10	STB-10D-60-669-A		388	568	808		S-type		

** Note:- Also available - ØD 80 & 100 with L/D 7 & 10

Indexable Drill In SPMG Insert

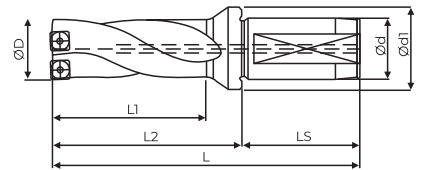
Our drilling tool holder is designed & made from special high tensile steel suitable for higher feed rate & longer tool life. Unique surface coating treatment & large flute with proper helix angle control chip flow.



Features

- ▶ Highly productive, reliable, and economical indexable drills.
- ▶ 4 real cutting edges per insert.
- ▶ X-offset design to adjust diameter size on turning machines. and optimize tolerances on machining centers.

Drill L/D	2D	3D	4D	5D
Drill Dia	Ø13-Ø50	Ø13-Ø50	Ø13-Ø50	Ø14-Ø50
Suitable Insert	SPMG05 / SPMG06 / SPMG07 SPMG09 / SPMG11 / SPMG14			



SIGMA
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