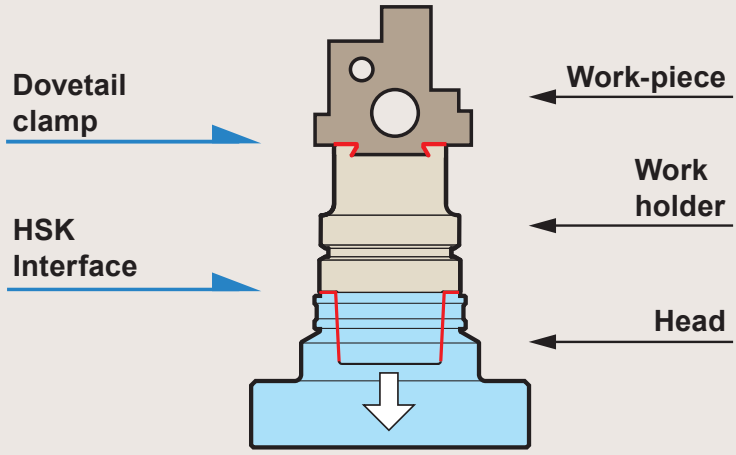
The fixture creates the new machining process.

▷ A highly rigid work-clamping fixture developed for both 5-axis machining centers and multi-surface machining with 3-axis machining centers (with a rotary table)



5-axis machine

Clamping force

Automated robotic work-piece changing system

3-axis + rotary table

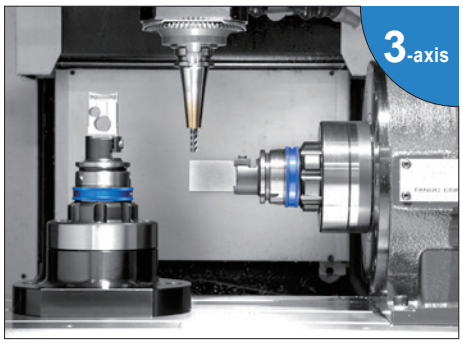
29th Award

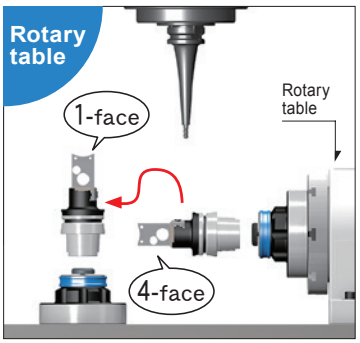
Small- and Medium-size Enterprises Award for Excellence in New Innovative Technologies and Products

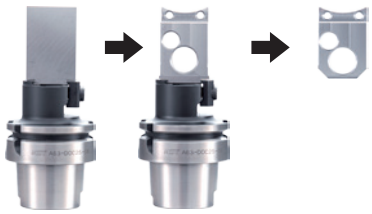
The Resona Foundation for Small and Medium Enterprise Promotion and The Daily Industrial News

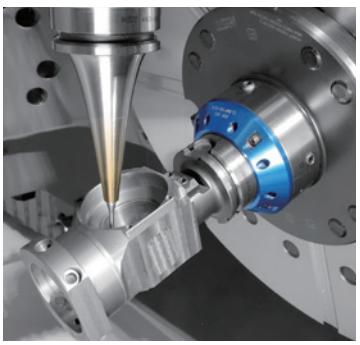
Multi-surface machining

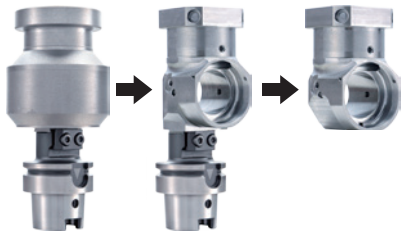
Process integration on a 3-axis machining center with a rotary table and 5-axis machining center





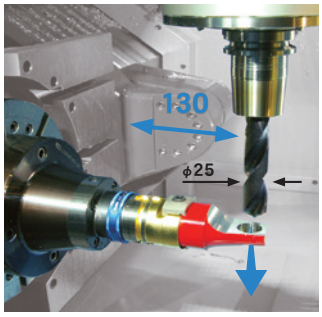


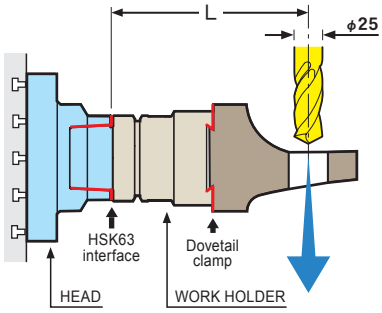




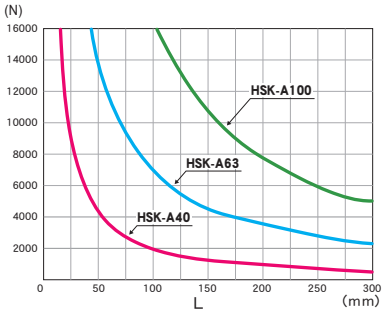
Clamping force

HSK (2-face clamping interface) and dovetail clamping



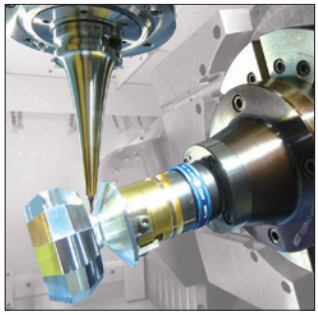


Maximum cutting force

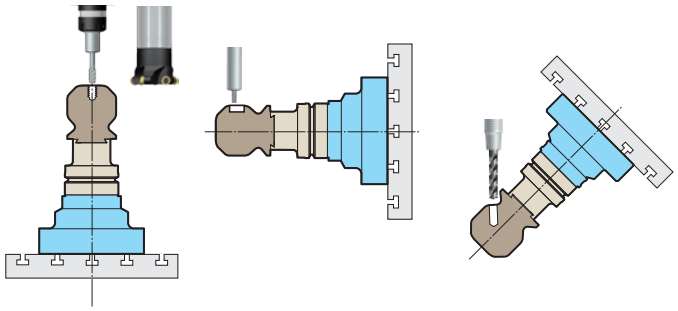


Avoids interference

The fixture(work-holders and heads) design has much smaller than the work-piece.



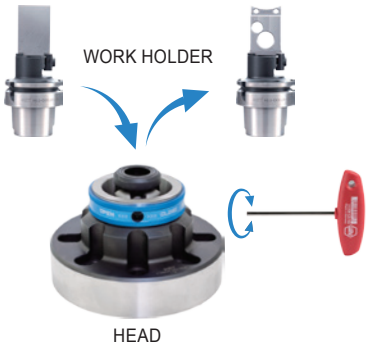
- The fixture has less interference with a tool holder and a cutting tool and it endures large machining force in a different direction.



Quick change

Clamping 5-sec. Unclamping 5-sec.

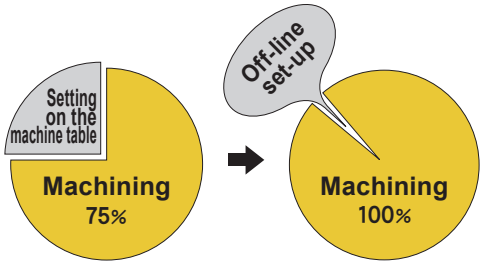
- Easy operation – just mount the work holder on the head and tighten with a wrench.

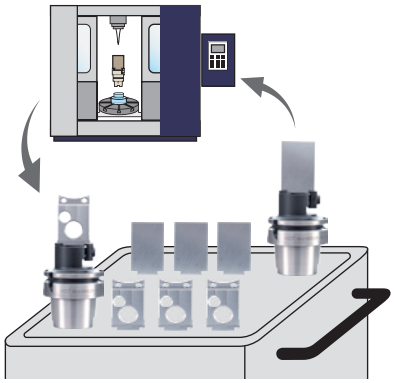


Off-line set-up

Minimizing machine downtime.

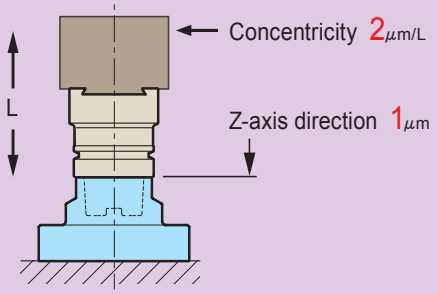
- You can start machining the next work-piece quickly when it is mounted in a work holder in advance.
- The machine runs continuously, so you can maximize the machine utilization ratio.

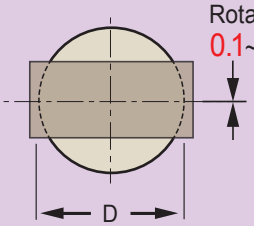




Repeatability

No alignment by experienced workers required.





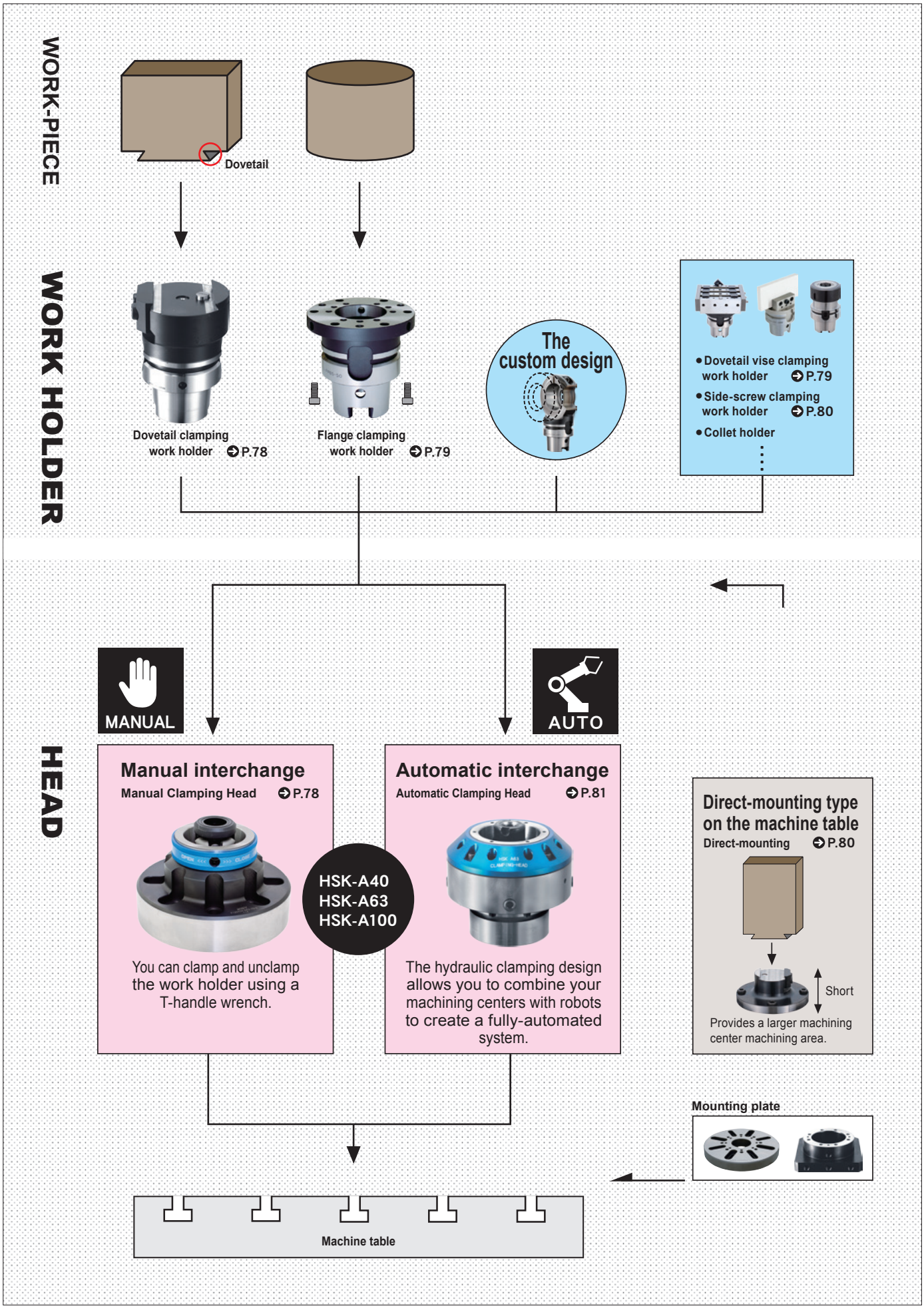
L=3×D	D	L
A40	40	120
A63	63	190
A100	100	300

If necessary, please off-set the rotational direction using a touch probe.

BLUM high-accuracy touch probe

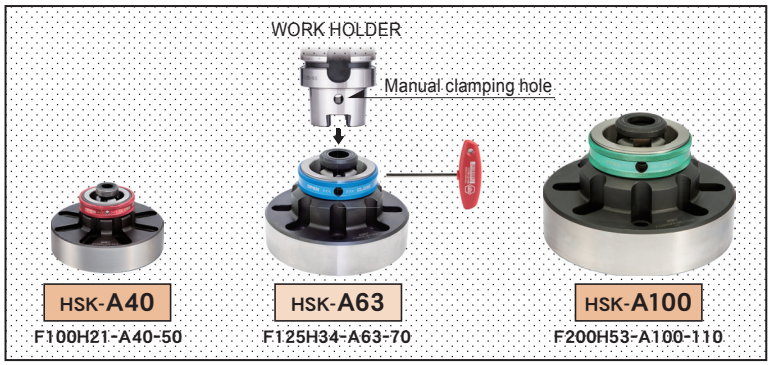
System

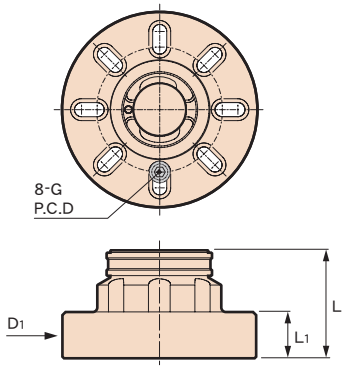
Supports various work-piece shapes



HEAD

The Manual Clamping Head (Manual exchange)





CODE	Interface	L	ϕD1	L1	G	P.C.D.	Clamping force(kN)	Kg
F100H21-**A40** - 50	HSK-A40	50	100	25	M 6×30	55～ 85	10	1.7
F125H34-**A63** - 70	HSK-A63	70	125	30	M 8×35	80～100	20	3.8
F200H53-**A100**-110	HSK-A100	110	200	50	M12×50	125～160	30	14

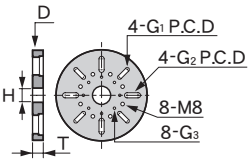
■**Option**
- Mounting plate

■**Std access.**
- T-handle wrench • Mounting bolt × 4pcs.

■**Note**
- A manual clamping hole on the work holder is required for mounting.

Please use a mounting plate if the fixing hole of the head doesn't match with a T-groove on the machine table. Also, we can make a custom-designed mounting plate for you if necessary.

CODE	Interface	T	ϕD	ϕH	G1	G2	G3	P.C.D	Kg
F160H32-A40	HSK-A40	20	160	32	M 5×20	M 6×20	M 6	80～125	2.6
F200H32-A40		25	200		M 8×25	M10×25		100～160	5
F160H50-A63	HSK-A63	20	160	50	M 5×20	M 6×20	M 6	80～125	2.4
F200H50-A63		25	200		M 8×25	M10×25		100～160	4.7
F250H50-A63		30	250	50	M10×30	M12×30	M12	140～200	9.4
F250H80-A100	HSK-A100	30	250	80	M10×30	M12×30	M12	140～200	8.7

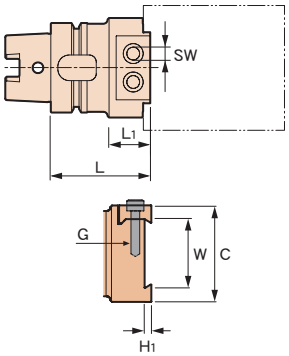


Automatic Clamping Head P.81

WORK HOLDER

Dovetail clamping work holder

A63-DOC25-65



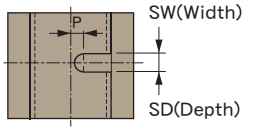
CODE	L	L1	ϕC	W	H1	G	SW	Kg
A40 -DOC 17.5-55	55	25	30	17.5	2	M 5	4	0.4
-DOC 25 -55		28	40	25	3	M 6	5	0.6
-DOC 35 -55		25	50	35				0.7
-DOC 50 -60	60	30	70	50	5	M 8	6	1.2
A63 -DOC 25 -65	65	27	40	25	3	M 6	5	1.2
-DOC 35 -65			50	35				1.3
-DOC 50 -70	70	30	70	50	5	M 8	6	1.8
-DOC 70 -75	75	35	100	70		M10	8	3
A100-DOC 35 -70	70	27	50	35	3	M 6	5	3.3
-DOC 50 -75	75	32	70	50	5	M 8	6	3.8
-DOC 70 -75		35	100	70		M10	8	5
-DOC100 -85	85	40	140	100	10	M12	10	7.7

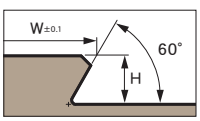
Dovetail grooving a work-piece

Dovetail grooving of the work-piece clamping area using an angular cutter is required prior to machining.
After machining, cut off the dovetail of the work-piece.

Angular cutter
For more information, please contact us.

Details of dovetail dimensions





Holder type	W	H	P	SW	SD
DOC 17.5	17.5	2.5	2.5	4	2
DOC 25	25	3.5		6	2.5
DOC 35	35		5.5	8	
DOC 50	50	5.5	9	10	4
DOC 70	70		18	12	
DOC100	100	10.5	26	15	

法兰式连接工件夹具


A63-FP85-50

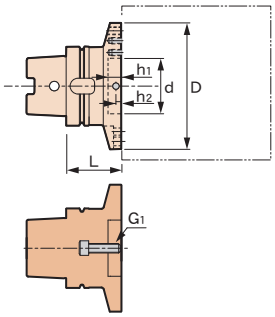


Fig. 1

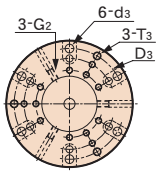


Fig. 2

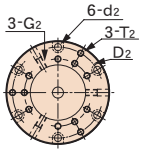
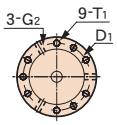
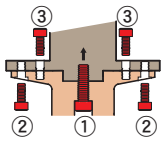


Fig. 3



三种工件安装方法

①中心螺丝
②法兰螺栓
③法兰螺纹



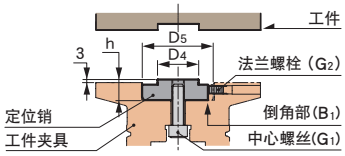
型号	Fig.	L	φD	φD1	φD2	φD3	φd	h1	h2	T1	T2	T3	φd2	φd3	G1	G2	Kg
A40 -FP40 -35	3	35	40	32	—	—	25 +0.053 +0.020	12	4	M4× 6	—	—	—	—	M 6×15	M4× 8	0.3
-FP63 -40	2	40	63		50						M5		5.5		M 6×20		0.5
A63 -FP63 -45	3	45	63	50	—	—	40 +0.064 +0.025	13	5	M5× 8	—	—	—	—	M10×20	M6×10	0.9
-FP85 -50	2	50	85		73						M6		6.6		M10×25		1.2
-FP110-55	1	55	110			95					M6×9	M 8		9	M10×30		1.7
A100-FP100-55	3	55	100	85	—	—	70 +0.076 +0.030	17	7	M8×12	—	—	—	—	M12×25	M8×16	3.0
-FP130-65	2	65	130		115						M8		9		M12×35		4.2
-FP160-70	1	70	160			140					M8×12	M10		11	M12×40		5.3

■标准附属品
- ●中心螺丝(G1)×1个 ●紧固螺栓(G2)×6个
- ●M6 非标小径螺栓(头部径为M5)×6个(A63-FP85-50 / A63-FP110-55)
  ※无法使用一般的M6 大头螺栓。

■选购品
- ●定位销 ●适配器

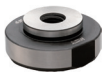
■备考
- ●请用中心螺栓(G1)将工件紧固。如需防止旋转,请在倒角部用紧固螺丝(G2)进行固定

请在需要进行中心定位时使用。



型号	刀柄类型	φD4	φD5	h	Kg
IR15-A40 FP	HSK-A40	15 0 -0.027	25	15	0.05
IR25-A63 FP	HSK-A63	25 0 -0.033	40	16	0.1
IR40-A100FP	HSK-A100	40 0 -0.039	70	20	0.5

■备考
- ●请用中心螺栓(G1)将工件紧固。如需防止旋转,
  请在倒角部(B1)用紧固螺丝(G2)进行固定。


IR25-A63FP

小型工件的情况下,请使用适配器

通过减小小型工件的夹持部,
减少加工的干涉。


RS-A63-A40

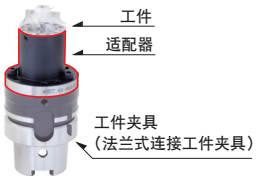


Fig. 1

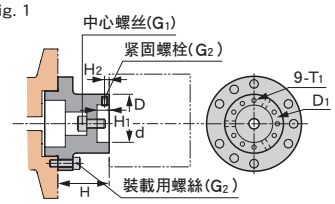
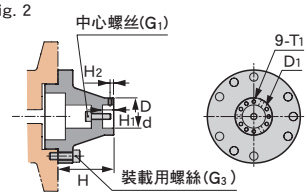


Fig. 2



型号	对应的工件夹具	Fig.	φD	φD1	φd	H1	H2	H	T1	G1	G2	G3	Kg
RS-A63 -A40	A63 -FP 63-45	1	40 +0.064 +0.025	32	25	12	4	50	M4×6	M 6×20	M4× 8	M5×16	0.5
	-FP 85-50												
	-FP110-55												
RS-A100-A40	A100-FP100-55	2	40 +0.053 +0.020	32	25	12	4	60	M4×6	M 6×20	M4× 8	M8×25	1.5
	-FP130-65												
	-FP160-70												
RS-A100-A63	A100-FP100-55	1	63 +0.053 +0.020	50	40	13	5	55	M5×8	M10×20	M6×10	M8×25	1.7
	-FP130-65												
	-FP160-70												

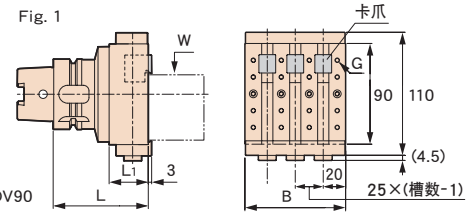
■标准附属品
- ●中心螺丝(G1)× 1个 ●紧固螺栓(G2)× 3个
- ●装载用螺 (G3)× 3个

■备考
- ●请用中心螺栓(G1)将工件紧固。如需防止旋转,请在倒角部用紧固螺丝(G2)进行固定

燕尾槽虎钳工件夹具


A63-DOV90

Fig. 1



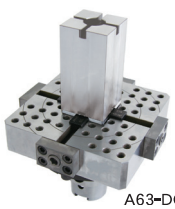
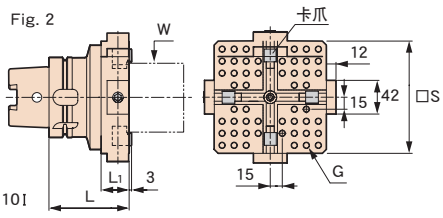

A63-DOV110I

Fig. 2



型号	Fig.	□S	槽数	B	W	G (槽深)	L	L1	Kg
A63 -DOV 90	1	—	3	90	12～ 73	20-M4(6)	85	35	3.8
110I	2	110	—	—	36～ 80	24-M8(10)	90	35	5.7
A100-DOV140	1	—	5	140	12～ 73	30-M4(6)	100	35	7.7
140I	2	140	—	—	36～110	52-M8(10)	100	35	9.9

■标准附属品
- ●8mm六角扳手

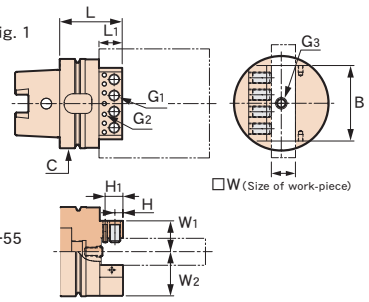
燕尾槽加工铣刀
关于燕尾铣刀的详细信息请垂询弊司。

■备考
- ●**加工前需要预先在工件上加工燕尾槽。**
  加工后请去除燕尾部分。
- ●卡爪各不相连独立稼动。
- ●请根据需要使用虎钳上的螺纹孔。

Side screw clamping work holder

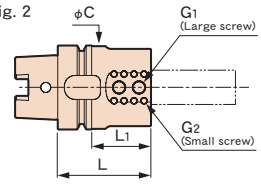
A63-SCS10-55

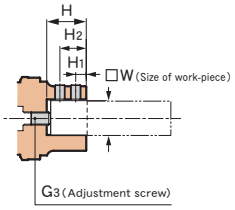
Fig. 1



A63-SCD30-70

Fig. 2





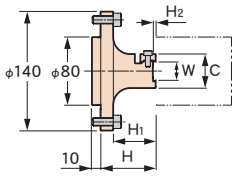
■Std access.
- Large screw(G1)×2pcs.

CODE	Fig.	□W	W1	W2	B	L	L1	φC	H	H1	H2	G1 (Bolt)	G2	G3	Kg
A40 -SCS10-40	1	5 ~ 10	13	18.6	30	40	11	39	4.5	—	—	M 6×10	—	M 6	0.5
-SCD20-55	2	15 ~ 20	—	—	—	55	30	49	25	11	—	M 8×16	M4	M10	0.5
A63 -SCS10-55	1	5 ~ 10	20	23.5	50	55	21	62	7.5	17	—	M10×15	M5	M10	1.1
-SCS20-55		15 ~ 20	25	28.5											
-SCD20-65	2	15 ~ 20	—	—	—	65	30	49	25	11	—	M 8×16	M4	M10	1.2
-SCD25-70		20 ~ 25				70	35	56	30	8	20				1.3
-SCD30-70		25 ~ 30					44	62	35	9	24	M10×20	M5		1.4
-SCD40-85		35 ~ 40				85	52	76	45	12	30	M12×20	M6		1.9
A100 -SCS20-70	1	12 ~ 20	29.5	34	80	70	26	99	9	20	—	M12×20	M5	M12	3.6
-SCS30-70		22 ~ 30	34.5	39											
-SCD20-70	2	15 ~ 20	—	—	—	70	30	49	25	11	—	M 8×16	M4	M10	3
-SCD25-75		20 ~ 25				75	35	56	30	8	20				3.4
-SCD30-80		25 ~ 30				80		62	35	9	24	M10×20	M5		3.5
-SCD40-90		35 ~ 40				90	45	76	45	12	30	M12×20	M6		3.9

Direct-mounting (Direct-mounting type on the machine table)

Dovetail clamping type

F140S80-DOC50-55



Angular cutter
For more information, please contact MST.

■Option
- Mounting plate

■Std access.
- Mounting bolt×4pcs. (DOC100)

■Note
- Dovetail grooving of the work-piece clamping area using an angular cutter is required prior to machining. After machining, cut off the dovetail of the work-piece.

CODE	H	H1	H2	φC	W	Kg
F140S80-DOC17.5-60	60	45	2	30	17.5	2.5
-DOC25 -60			3	40	25	2.6
-DOC35 -55	55	40		50	35	2.8

CODE	H	H1	H2	φC	W	Kg
F140S80-DOC 50-55	55	40	5	70	50	3.4
-DOC 70-55				100	70	4.7
-DOC100-55			10	140	100	5.5

Flange clamping type

F140S80-FP85-50

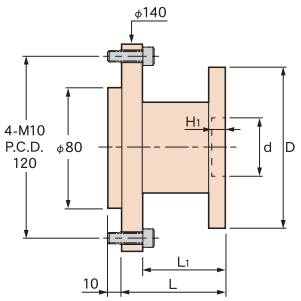


Fig. 1

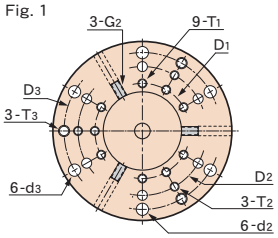
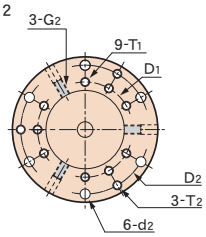


Fig. 2



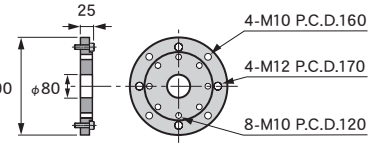
CODE	Fig.	L	L1	H1	φD	φD1	T1	φD2	T2	φd2	φD3	T3	φd3	φd	G2	Kg
F140S80-FP 63-50	2	50	35	12	63	32	M4× 6	50	M5 thru	5.5 thru	—	—	—	$25^{+0.053}_{+0.020}$	M4	2.6
-FP 85-50				13	85	50	M5× 8	73	M6 thru	6.6 thru				$40^{+0.064}_{+0.025}$	M6	3.1
-FP110-70	1	70	55		110				M6×9		95	M8 thru	9 thru			3.7
-FP130-75	2	75	60	17	130	85	M8×12	115	M8 thru	9 thru	—	—	—	$70^{+0.076}_{+0.030}$	M8	5.5

■Option
- Mounting plate ●Positioner boss→P.79 ●Adapter→P.79

The mounting plate is required.
Also, we can make a custom design mounting plate.

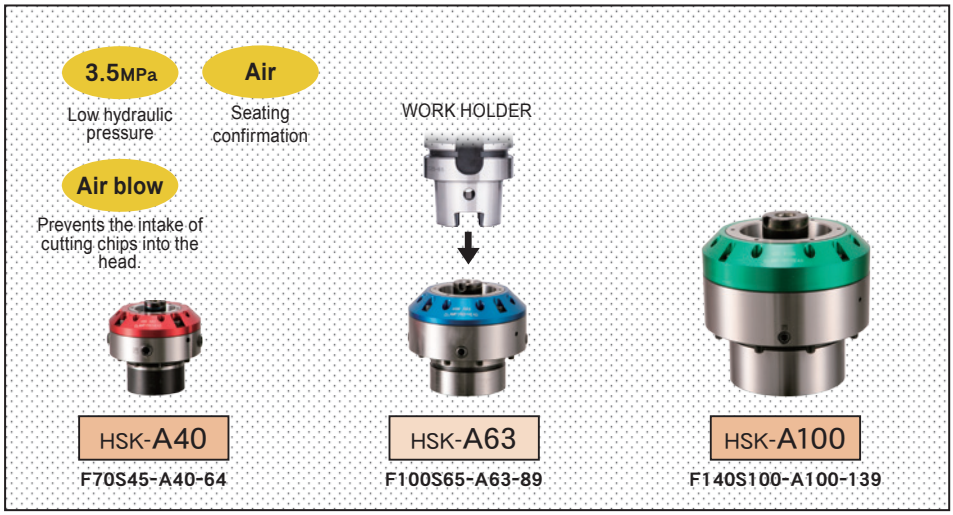
CODE	Kg
F200H80-MP140-25	4.3

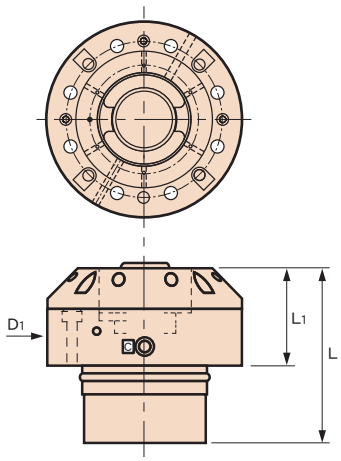
■Std access. ●Mounting bolt×4pcs.



The Automatic Clamping Head (Automatic exchange)

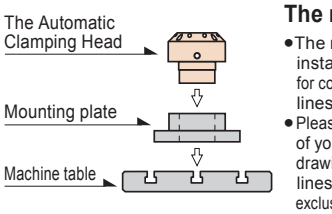
The hydraulic clamping design allows you to interchange work-pieces automatically, and makes it possible for you to combine your machining centers with robots to create a fully-automated system.





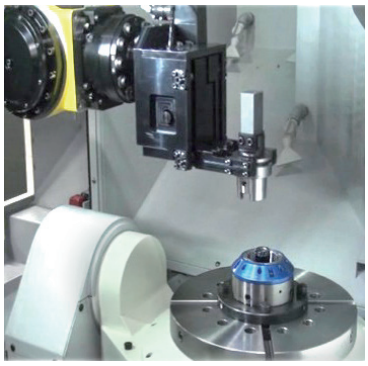
CODE	Interface	L	φD1	L1	Clamping force (kN)	Max. loading weight (kg)	Kg
F70S45 -A40 - 64	HSK-A40	64	70	35	6	50	1.1
F100S65 -A63 - 89	HSK-A63	89	100	50	24	140	3.1
F140S100-A100-139	HSK-A100	139	140	80	55	640	9.7

■Note
- Hydraulic pressure : 3.5MPa



The mounting plate is required.

- The mounting plate is an adapter for installation on the machine table and for connecting the hydraulic and pneumatic lines.
- Please provide us with a detailed drawing of your machine table and the plumbing drawing of your hydraulic and pneumatic lines. We can design and produce an exclusive mounting block, so please contact us for more information.



Fully-automated system

We can provide the following items to automate your system:
- **Control unit** - **Work-piece shelf** - **Robot finger**