

快速换装 工件夹具系统

QUICK-CHANGE
WORK HOLDER SYSTEM

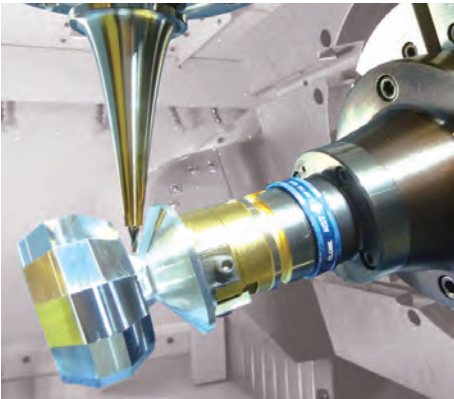


对应5轴加工中心的工件夹持系统

Workpiece clamping systems for 5-axis machines

缩短准备及加工时间,大幅降低生产成本!

Reduced set-up time and machining time
lead to drastically reduced production costs!

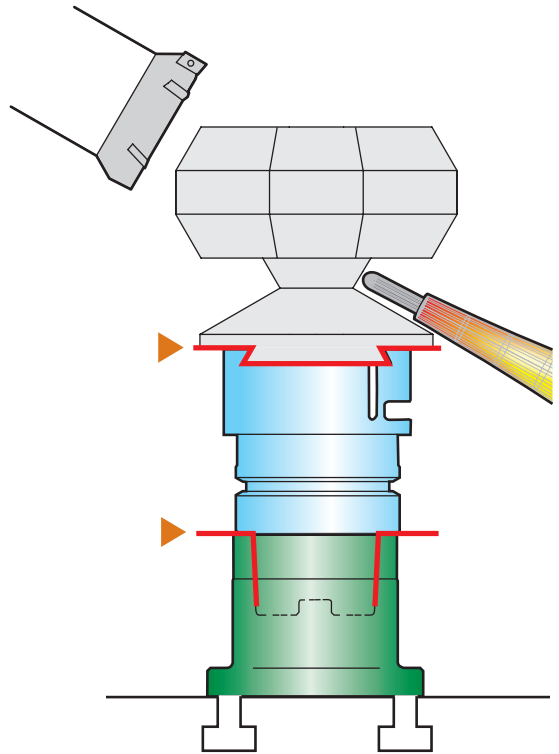


ISO-HSK

小巧
Compact

快速换装
Quick-change

强力夹持
Strong clamping



MST corporation
日本恩司迪公司



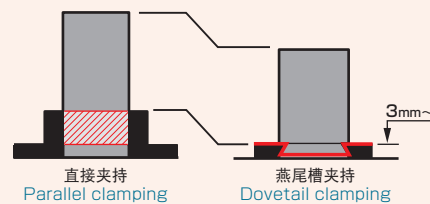
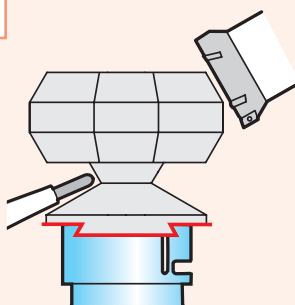
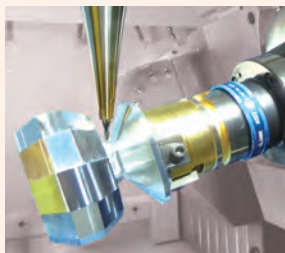
1204CF

工件夹具

WORK HOLDER



燕尾槽
Dovetail



直接夹持
Parallel clamping

燕尾槽夹持
Dovetail clamping

外形轻巧, 具有高接近性

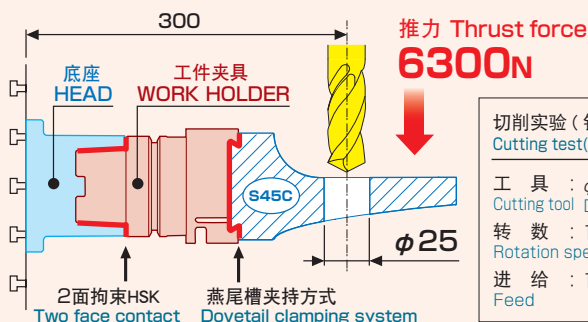
Quick-Change Work Holder achieves superior accessibility thanks to its compact body design.

节省昂贵材料成本

Cost savings when working with expensive materials.

强力夹持实现高刚性加工

Achieves ultra-rigid machining thanks to its strong clamping force.



切削实验 (钻孔加工)
Cutting test (Drilling application)

工具 : $\phi 25$ 硬质合金钻头
Cutting tool Dia.25 Carbide drill

转数 : 1273min⁻¹
Rotation speed

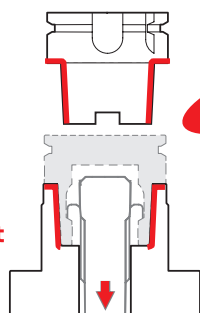
进给 : 190mm/min
Feed

HSK 接合面 interface

工件夹具同底座之间的结合面采用被广泛使用的ISO刀柄锥度 HSK-A型标准接口。

在实现自动化运行的简单工件交换方式的同时, 实现高弯曲刚性以及高定位精度。

We have adopted the world standard HSK-A type, time-proven tool holder shanks for the interface coupling between the work holder and the head. Superior bending rigidity and positioning accuracy are achieved despite the simple method of changing holders, which makes also automation possible.

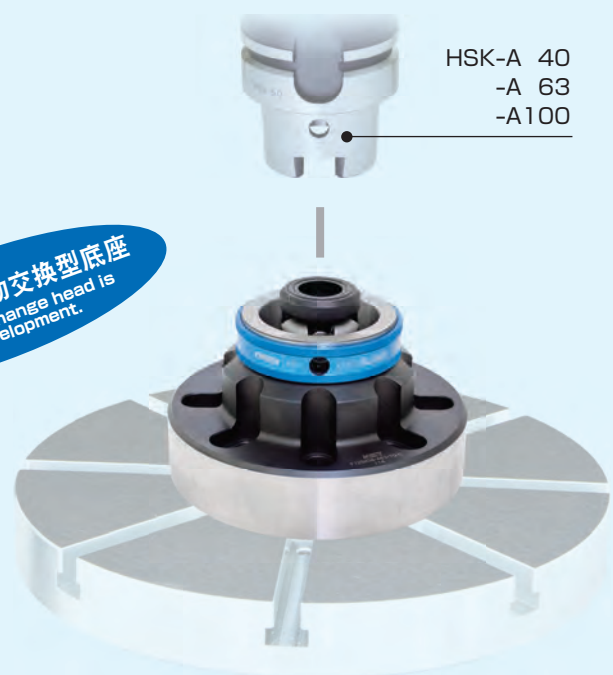


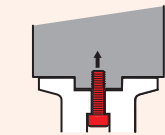
HSK-A

2面拘束
2-face contact

底座 HEAD

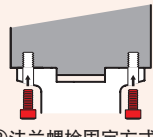
正在研发可自动交换型底座
Automatic exchange head is under development.





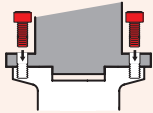
①中心螺栓固定方式
Center bolt type

使用中心锁紧螺栓从工件夹具锥度柄侧锁紧支持。
The center bolt clamps the workpiece from behind the work holder taper shank.



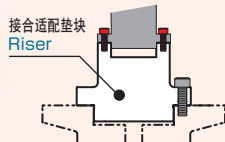
②法兰螺栓固定方式
Flange bolt type

对工件进行攻丝加工, 使用螺栓通过工件夹具的螺孔锁紧支持。
Bolts clamp the workpiece through the work holder bolt holes. Tapping is required on the workpiece.



③法兰螺纹固定方式
Flange tap type

对工件进行钻孔加工, 利用工件夹具的螺纹孔进行锁紧支持。
The workpiece is clamped using the thread on the work holder. Tapping is required on the workpiece.



④使用接合适配垫块
Using a riser

通过利用接合适配垫块可使用大径工件夹具支持小型工件。
The small workpiece is mounted using a riser with a large diameter holder.



法兰式连接
Flange mounting



侧固式夹持
Side screw clamping



虎钳
Vise

快速进行工件换装与机外准备

Quick workpiece changing and off-line setup

仅需1支扳手就能轻松进行工件交换。可在机外进行准备工作, 只需事先将工件装载至夹具就可以立刻进行下一个加工。
Easy work holder changing using just a wrench. Off-line setup is possible, so you can start the next machining quickly when the workpiece is mounted to the work holder in advance.

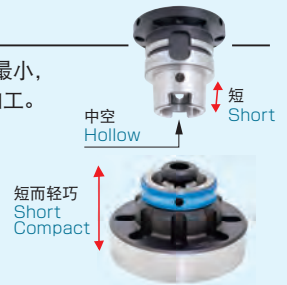


交换时间10秒
Change holders in just 10 seconds!

轻量·小巧

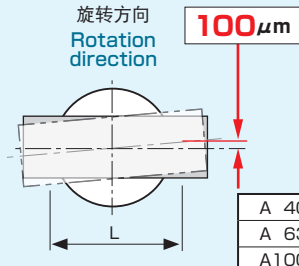
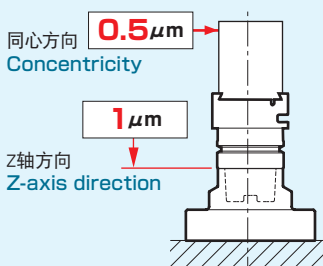
Light weight, Compact

轻量, 对机床工作台的负担降至最小, 适用于需要倾斜工作台的5轴加工。
The load on the machine table is minimal due to its light weight. It works for 5-axis machining, where the table tilts.

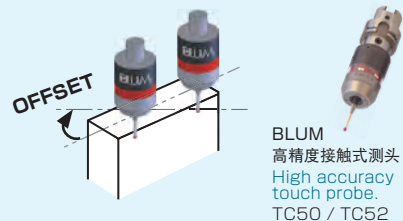


定位精度高 High positioning accuracy

无需熟练员工寻找工件坐标原点。Skilled operator set-up adjustment is not required.



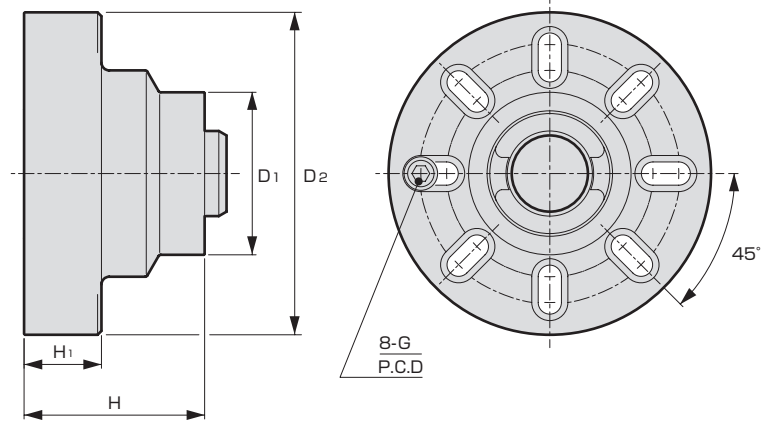
旋转方向的高精度定位可通过接触式测头简单进行快速补正。
You can easily offset the rotational direction position.



底座 Head



F125H34-A63-70



CODE	H	ϕD_1	ϕD_2	H ₁	G	P.C.D	紧固力 kN Clamping force	紧固扳手尺寸 Size of clamping wrench	紧固扭矩 N·m Clamping torque	KG
F100H21-A 40-50	50	50	100	25	M 6×30	55~ 85	10	3	4	1.7
F125H34-A 63-70	70	80	125	30	M 8×35	80~100	20	5	13	3.8
F200H53-A100-110	110	125	200	50	M12×50	125~160	30	8	40	13.9

- 选购品 • 适配器
- 标准附属品 • T型扳手 • 固定螺栓×4个
- 备注 • 安装时需要手动夹紧孔。 • 无法安装时请使用适配器。
• 可根据机床工作台具体情况承接最适合非标产品生产,详情请向弊司垂询。
- 注意事项 • 请使用强度区分在 8.8 以上的螺丝类产品。
- Option • Adapter
- Standard accessories • T-handle wrench • Fixing bolt×4 pcs.
- Note • The manual clamping hole is required for mounting. • Use the adapter, when you cannot mount it.
• Consult us about the custom-made products for your machining table.
- Caution • Use a bolt with more than 8.8 strength classification.

适配器 Adapter

请在底座无法安装到工作台时使用, 弊司另有可根据客户工作台条件进行追加加工的通用夹持用材料。并可非标生产专用适配器, 欢迎向弊司垂询。
In the case where you can't mount the head directly to your machining table, please use this adapter. We can supply an adapter blank that is customizable and also manufacture a special adapter just for you. For more information, please feel free to contact us.

CODE	Fig.	T	ϕD	ϕH	G ₁	G ₂	P.C.D	对应夹头尺寸 Applicable head size	KG
F160H32-A 40	1	20	160	32	M 5×20	M 6×20	80~125	A 40	2.6
50							A 63	2.4	
F200H32-A 40		25	200	32	M 8×25	M10×25	100~160	A 40	5
F200H50-A 63	2	30	250	50	M10×30	M12×30	140~200	A 63	4.7
F250H50-A 63				80					
F250H80-A100									

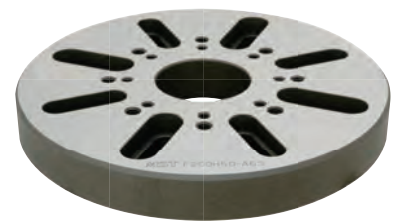


Fig. 1

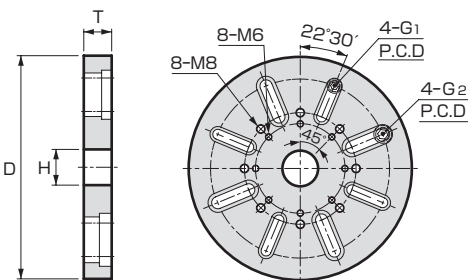
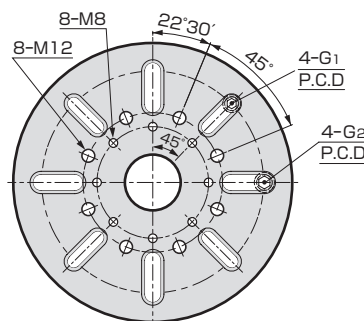
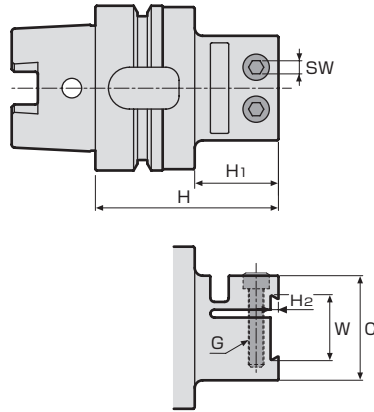


Fig. 2



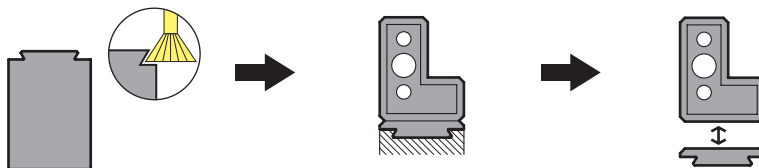
- 注意事项 • 请使用强度区分在8.8以上的螺丝类产品。
- Caution • Use a bolt with more than 8.8 strength classification.

燕尾槽 Dovetail



CODE	H	H ₁	φC	W	H ₂	G	SW	Kg
A 40-DOC 17.5-55	55	25	30	17.5	2	M 5	4	0.4
-DOC 25 -55		28	40	25		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
A 63-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
-DOC100 -85	85	40	140	100	10			7.7

工件加工顺序 Procedures for machining a workpiece

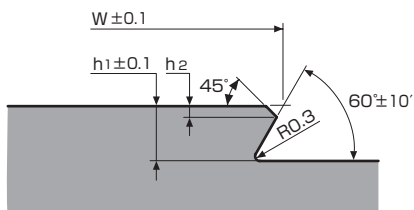


①事先在工件上加工燕尾槽的凸形状。
Pre-machining male dovetail on a workpiece.

②接合燕尾槽的凹凸部，锁紧并进行加工。
Combines dovetail, tightening and machining.

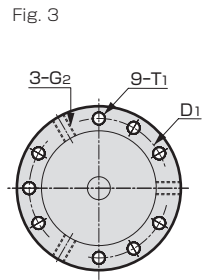
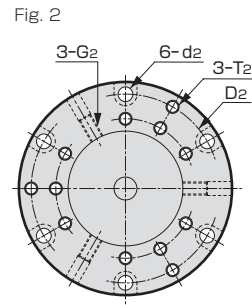
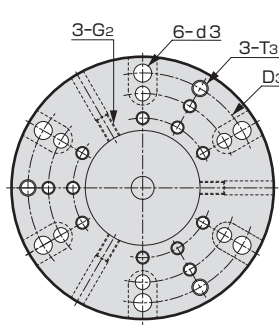
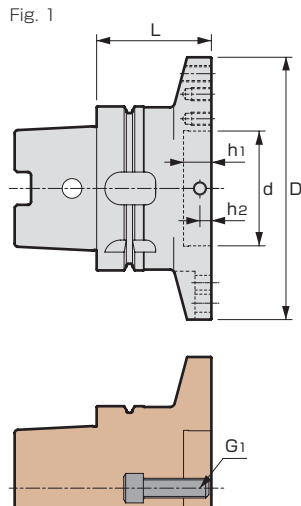
③去除不要的燕尾槽突出部分。
Cut off unnecessary portion.

燕尾槽工件详图 Details of dovetail dimensions



夹具类型 Holder type	h ₁	h ₂
DOC 17.5	2.5	0.5
DOC 25	3.5	0.7
DOC 35	5.5	
DOC 50		
DOC 70		
DOC100	10.5	

法兰式连接 Flange mounting

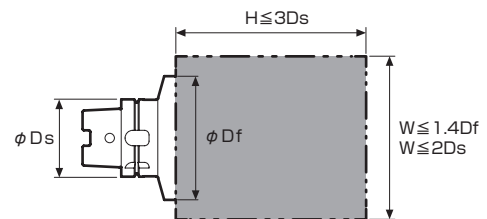


CODE	Fig.	L	ϕD	ϕD_1	ϕD_2	ϕD_3	ϕd	h1	h2	T1	T2	T3	ϕd_2	ϕd_3	G1	G2	Kg
A 40—FP 40—35	1	35	40	32	—	—	25	12	4	M4×6	—	—	—	—	M 6×15	M4×8	0.3
—FP 63—40	2	40	63	—	50	—	+0.053 +0.020	—	—	—	M5	—	5.5	—	M 6×20	—	0.5
A 63—FP 63—45	1	45	63	50	—	—	40	13	5	M5×8	—	—	—	—	M10×20	M6×10	0.9
—FP 85—50	2	50	85	—	73	—	+0.064 +0.025	—	—	—	M6	—	6.6	—	M10×25	—	1.2
—FP110—55	3	55	110	—	—	95	—	—	—	—	M6×9	M 8	9	M10×30	—	1.7	
A100—FP100—55	1	55	100	85	—	—	70	17	7	M8×12	—	—	—	—	M12×25	M8×16	3
—FP130—65	2	65	130	—	115	—	+0.076 +0.030	—	—	—	M8	—	9	—	M12×35	—	4.2
—FP160—70	3	70	160	—	—	140	—	—	—	—	M8×12	M10	11	M12×40	—	5.3	

- 选 购 品
 - 接合适配垫块
 - 定位销
- 标准附属品
 - 中心螺栓(G1)×1个
 - 紧固螺丝(G2)×3个
 - M6非标小径螺栓(头部径为M5)×3个 (A63—FP85—50 / A63—FP110—55) ※无法使用一般的M6大头螺栓。
- 备 注
 - 使用中心螺栓夹持工件时,请使用G2紧固螺丝。
- 注 意 事 项
 - 请使用强度区分在8.8以上的螺丝类产品。
- Option
 - Riser
 - Positioner bos
- Standard accessories
 - Center screw(G1)×1 pc.
 - Set screw(G2)×3 pcs.
 - M6 special small head bolt(the head diameter size is the same as the M5 bolt.)×3 pcs. (A63—FP85—50 / A63—FP110—55) ※Regular M6 cap screw doesn't fit.
- Note
 - Use the G2 set screw when you use the center blot to clamp the workpiece.
- Caution
 - Use a bolt with more than 8.8 strength classification.

工件尺寸 Workpiece dimension

请充分考虑工件材质以及切削抵抗等因素,推荐事前进行试加工。
We recommend carrying out test cutting in advance taking the workpiece material and cutting force into consideration.

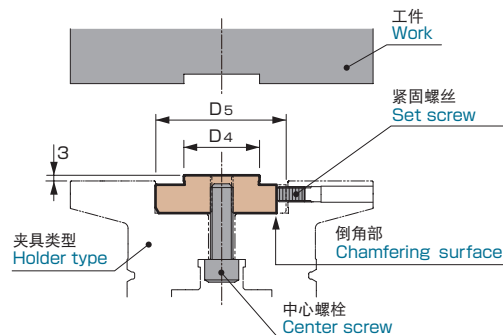


定位销 Positioner bos

请在需要进行中心定位时使用。
Use it when you need centering.

CODE	ϕD_4	ϕD_5	夹具类型 Holder type	Kg
IR15—A 40FP	15 0 -0.027	25	A 40	0.05
IR25—A 63FP	25 0 -0.033	40	A 63	0.1
IR40—A100FP	40 0 -0.039	70	A100	0.5

- 备 注
 - 请使用中心螺栓紧固固定。
 - 如需防止旋转,请在倒角部使用紧固螺丝进行固定。
- Note
 - Affix it with the center bolt.
 - When you do not want the workpiece to rotate, secure the chamfering surface using a set screw.



结合适配垫块 Riser


CODE	Fig.	ϕD	ϕD_1	ϕd	H ₁	H ₂	H	T ₁	G ₁	G ₂	G ₃	夹具类型 Holder type	对应工件尺寸 The adaptation of the workpiece size	
RS-A 63-A40	1	40	32	25 +0.053 +0.020	12	4	50	M4×6	M 6×20	M4× 8	M5×16	A 63-FP 63-45	A40	0.5
												-FP 85-50		
												-FP110-55		
RS-A100-A40	2	40	32	25 +0.053 +0.020	12	4	60	M4×6	M 6×20	M4× 8	M8×25	A100-FP100-55	A40	1.5
												-FP130-65		
												-FP160-70		
RS-A100-A63	1	63	50	40 +0.064 +0.025	13	5	55	M5×8	M10×20	M6×10	M8×25	A100-FP100-55	A63	1.7
												-FP130-65		
												-FP160-70		

Fig. 1

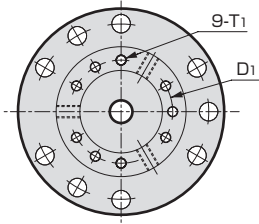
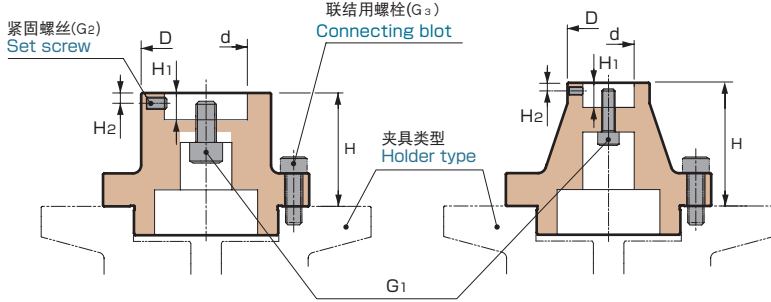
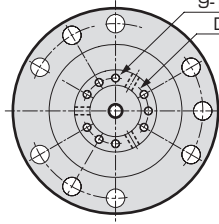


Fig. 2

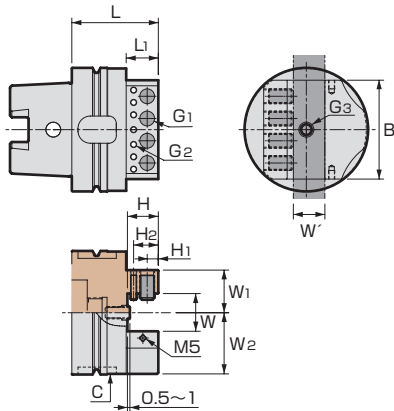


RS-A63-A40


- 标准附属品
 - 中心螺栓 (G₁) × 1 个
 - 紧固螺丝 (G₂) × 3 个
 - 固定螺栓 (G₃) × 3 个
- 备注
 - 使用中心螺栓夹持工件时, 请使用 G₂ 紧固螺丝。
- 注意事项
 - 请使用强度区分在 8.8 以上的螺丝类产品。
- Standard accessories
 - Center screw (G₁) × 1 pc.
 - Set screw (G₂) × 3 pcs.
 - Fixing bolt (G₃) × 3 pcs.
- Note
 - Use the G₂ set screw when you use the center bolt to clamp the workpiece.
- Caution
 - Use a bolt with more than 8.8 strength classification.

侧固式夹持 Side screw


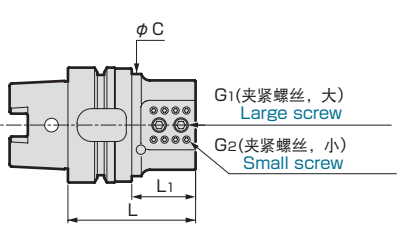
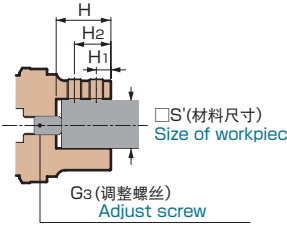
单面紧固夹持 Single side clamping




- 标准附属品
 - 夹紧螺丝 (G₁) (凹端) × 2 个
- 备注
 - 请根据实际目的选择夹紧螺丝 (大, G₁)。
- 注意事项
 - 请使用强度区分在 8.8 以上的螺丝类产品。
- Standard accessories
 - Screw with cup point (G₁) (Dimple edge) × 2 pcs.
- Note
 - Choose the clamping screw (G₁) for your application.
- Caution
 - Use a bolt with more than 8.8 strength classification.

CODE	W	W'	W ₁	W ₂	B	L	L ₁	ϕC	H	H ₁	H ₂	G ₁	G ₂	
A 40-SCS10-40	10.5	5 ~ 10	11.5	12.5	30	40	11	39	10	4.5	-	-	M 6	0.3
A 63-SCS10-55			20	23.5										
-SCS20-55	20.5	15 ~ 20	25	28.5	80	70	26	99	25	9	20	M12	3.5	
A100-SCS10-70	10.5	5 ~ 10	24.5	29										
-SCS20-70	20.5	15 ~ 20	29.5	34										
-SCS30-70	30.5	25 ~ 30	34.5	39										3.6


双面紧固夹持 Double side clamping


夹紧螺丝 (G₁, G₂)
Screw with cup point




凹端
Dimple edge




标准附属品
Standard accessories



圆端
Round edge



尖端
Sharp edge



凹凸端
Jagged edge

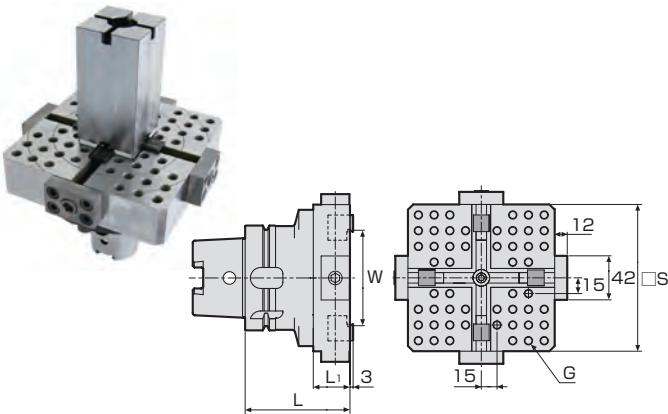
CODE	□S'	L	L ₁	φC	H	H ₁	H ₂	G ₁	G ₂	G ₃	kg
A 40-SCD20-55	15~20	55	30	49	25	11	—	M 8×16	M4×12	M10	0.5
A 63-SCD20-65		65									1.2
-SCD25-70	20~25	70	35	56	30	8	20				1.3
-SCD30-70	25~30		44	62	35	9	24	M10×20	M5×12		1.4
-SCD40-85	35~40	85	52	76	45	12	30	M12×20	M6×12		1.9
A100-SCD20-70	15~20	70	30	49	25	11	—	M 8×16	M4×12		3
-SCD25-75	20~25	75	35	56	30	8	20				3.4
-SCD30-80	25~30	80		62	35	9	24	M10×20	M5×12		3.5
-SCD40-90	35~40	90	45	76	45	12	30	M12×20	M6×12		3.9

■ 选购品 ● 夹紧螺丝 (圆端, 尖端, 凹凸端)
■ 标准附属品 ● 夹紧螺丝(大, G₁) (凹端) × 4 个
■ 备注 ● 请根据实际目的选择夹紧螺丝(大, G₁)。
■ 注意事项 ● 请使用强度区分在8.8以上的螺丝类产品。

■ Option ● Screw with cup point(Round edge, Sharp edge, Jagged edge)
■ Standard accessories ● Large screw(G₁)(Dimple edge)×4 pcs.
■ Note ● Choose the clamping screw (G₁) for your application.
■ Caution ● Use a bolt with more than 8.8 strength classification.

虎钳 Vise

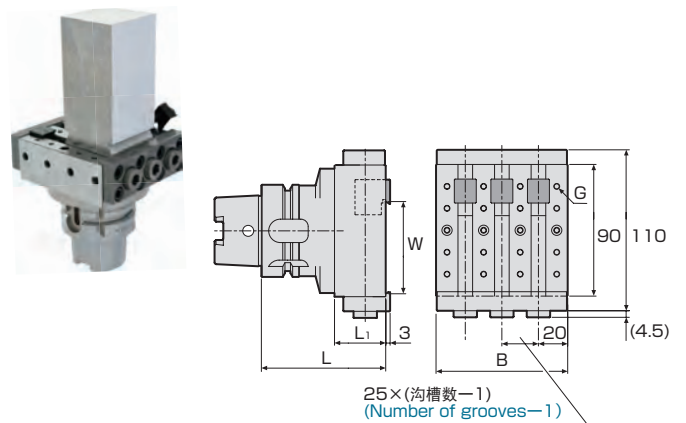
虎钳A Vise A



CODE	□S	W	G	L	L ₁	kg
A 63-DOV110I	110	36 ~ 80	24-M8 深度10 depth	90	35	5.7
A100-DOV140I	140	36 ~ 110	52-M8 深度10 depth	100		9.9

- 标准附属品** ● 8mm 六角扳手
■ 备注 ● 事先加工的燕尾槽工件专用夹具。请根据需要使用虎钳上的螺纹孔。
■ Standard accessories ● 8mm hex wrench
■ Note ● Dedicated work holder for dove tail pre-machined workpiece. Please use screw hole on the top face as necessary.

虎钳B Vise B



CODE	沟槽数 Number of grooves	B	W	G	L	L ₁	kg
A 63-DOV 90	3	90	15~70	20-M4 深度6 depth	85	35	3.8
A100-DOV140	5	140		30-M4 深度6 depth	100		7.7

- 标准附属品** ● 8mm 六角扳手
■ 备注 ● 事先加工的燕尾槽工件专用夹具。请根据需要使用虎钳上的螺纹孔。
■ Standard accessories ● 8mm hex wrench
■ Note ● Dedicated work holder for dove tail pre-machined workpiece. Please use screw hole on the top face as necessary.