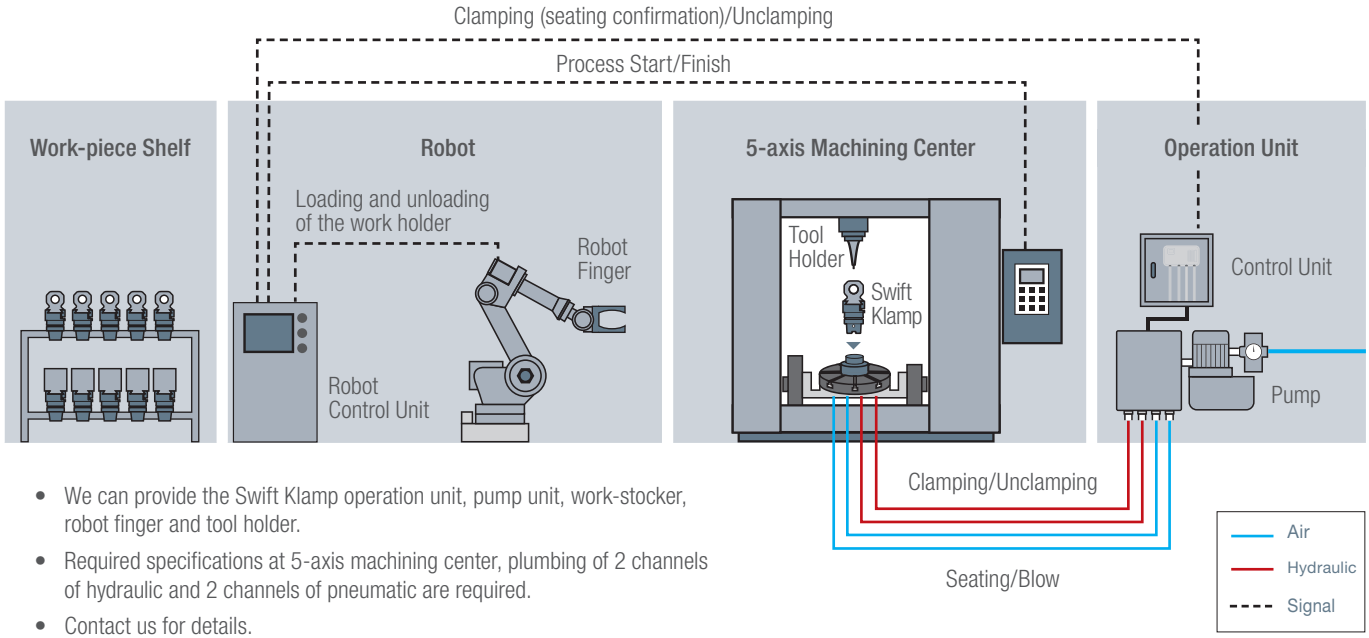
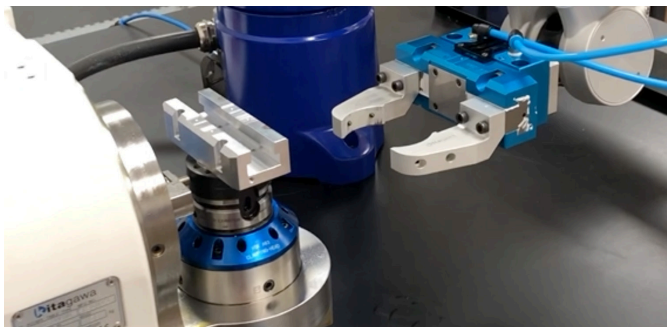
Overview of Automation

The System Development with the Systems Integrator



- We can provide the Swift Klamp operation unit, pump unit, work-stocker, robot finger and tool holder.
- Required specifications at 5-axis machining center, plumbing of 2 channels of hydraulic and 2 channels of pneumatic are required.
- Contact us for details.

Hydraulic Automatic Clamping Head (Automatic Exchange)

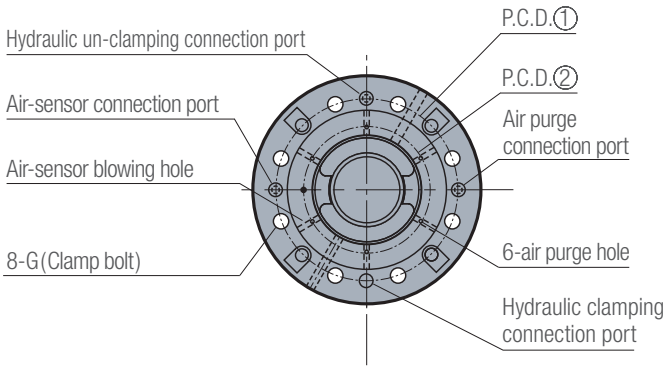


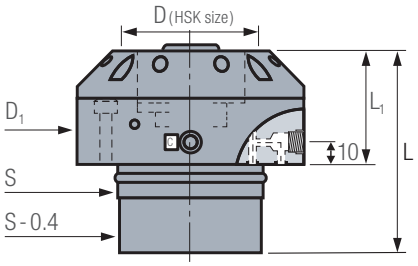
Work Holder

HSK-A40 AHK-A40-64

HSK-A63 AHK-A63-89

HSK-A100 AHK-A100-139



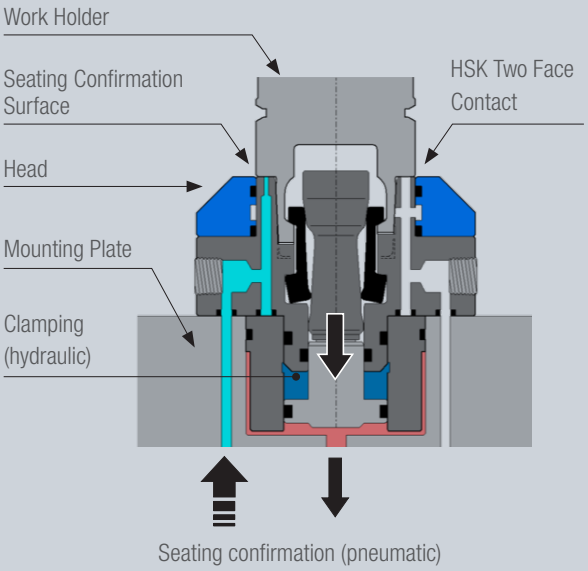


Part No.	HSK Type	L	ØD	ØD$_1$	ØS$_{(g6)}$	L$_1$	G	PCD$_1$	PCD$_2$	Clamping Force kN	Max Loading Weight	Kg
AHK-A40-64	HSK-A40	64	40	70	45	35	M5x20	55	35	6	50	1.1
AHK-A63-89	HSK-A63	89	63	100	65	50	M6x30	80	55	24	140	3.1
AHK-A100-139	HSK-A100	139	100	140	100	80	M8x45	120	88	55	640	9.7

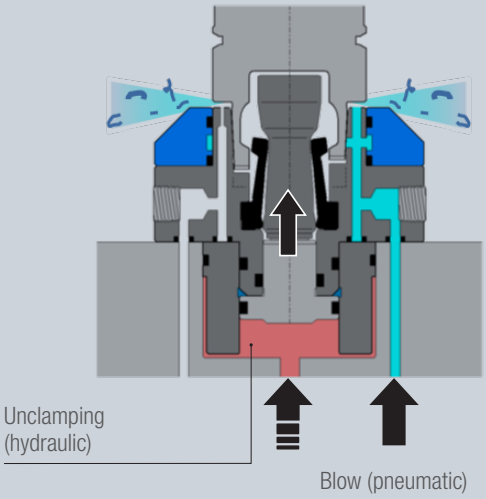
Note Hydraulic capacity: 3.5MPa

Hydraulic Automatic Clamping Head Specifications

Clamping



Unclamping



3.5MPa

Low-pressure hydraulic (3.5MPa) system for clamping/unclamping. Can be used with an air booster pump.

Seating Detection Air

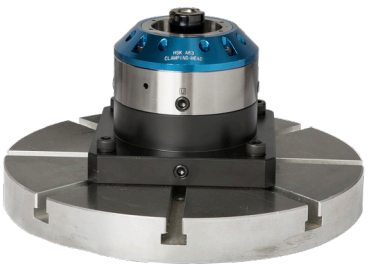
Detecting poor work holder seating

Air Blow

Prevents the intake of cutting chips into the head

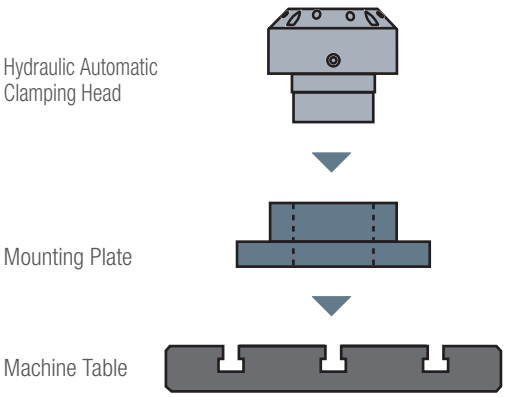
Mounting Plate

A mounting plate is required for the hydraulic clamping-type auto-head. The mounting plate is the adapter for installation on the machine table and for connecting the hydraulic and pneumatic lines.



Note
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 plate, so please contact us for more information.

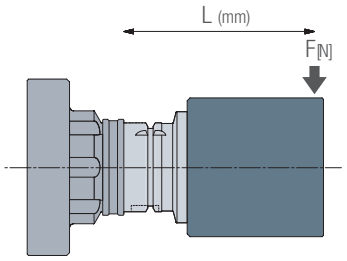
Seating confirmation

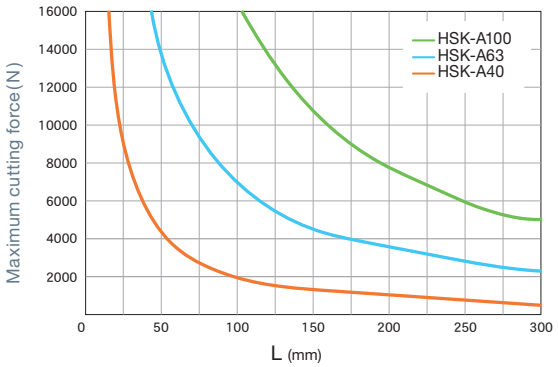


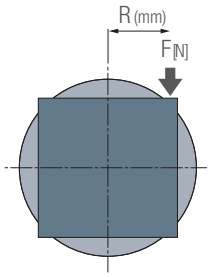
Technical Data

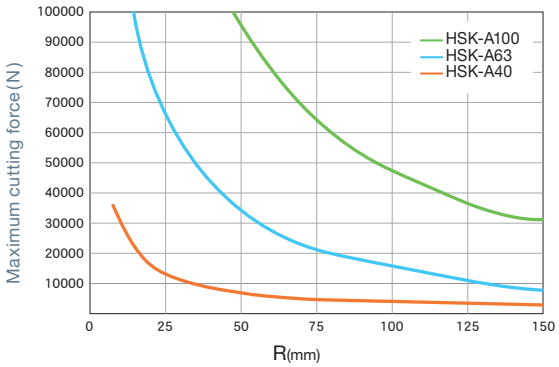
Maximum Cutting Force

Using the charts below, please confirm the machining load limits for your work-piece size (length L and dia R.). When you start machining using the Smart Grip, reduce the machining load 60~80% based upon the chart. Please choose the optimum work holder for your machining conditions.

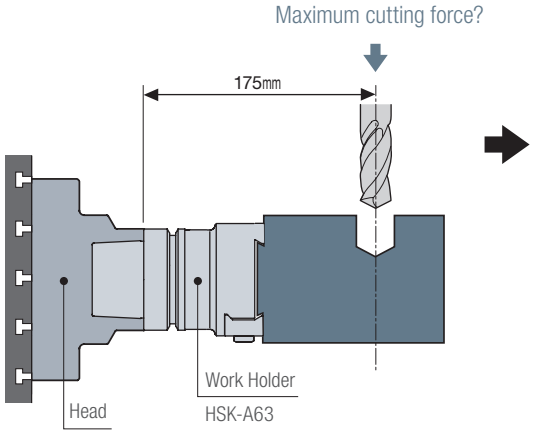


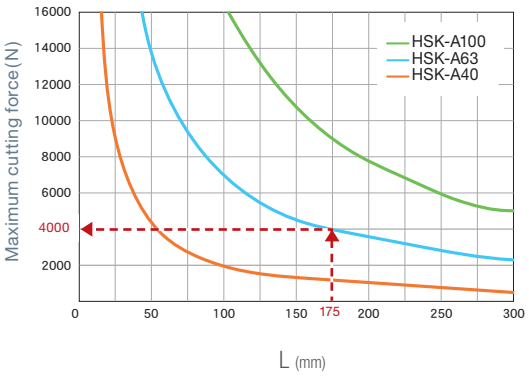






(ex.) The value of maximum cutting force





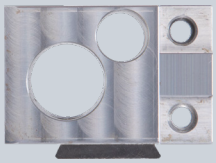
Please confirm the machining load limit value (N) of the HSK-A63 with L=175mm from the chart. Max. 4,000N (please start at 2,400~3,200N)

This work-piece clamping system maximizes the performance of your 5-axis machining center

The HSK interface (between the head and the work-holder) and the dovetail clamping (between the work-holder and the work-piece) create a compact design with less interference and high rigidity for metalworking applications

- The rigid system developed for metalworking applications.
- No interference and superior accessibility.
- Handling the work-piece is easy using a general-purpose robot.

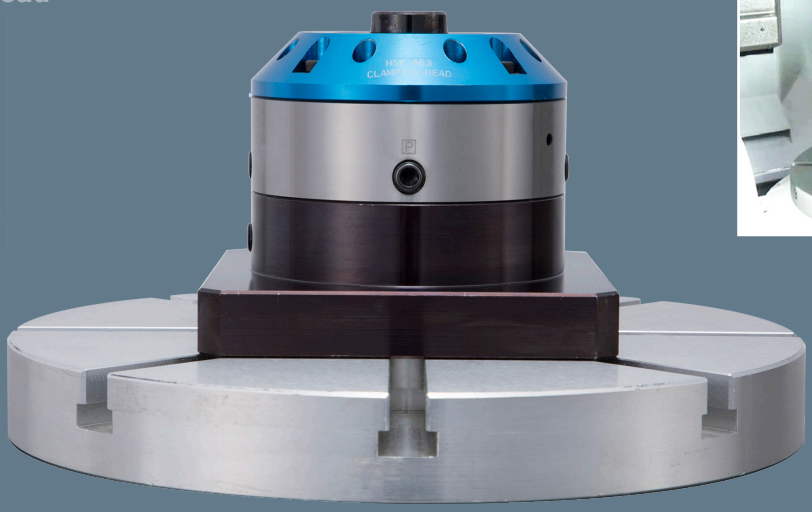
2-Face Clamping Work-Piece

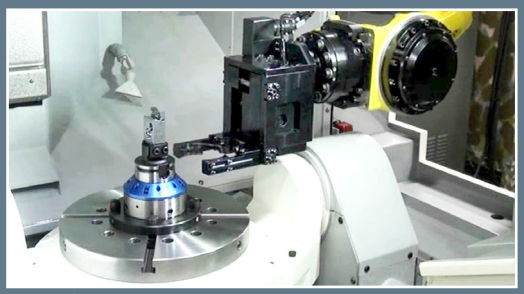


Dovetail Clamping Work-Holder

Supports Various Work-Piece Shapes

HSK Interface Head

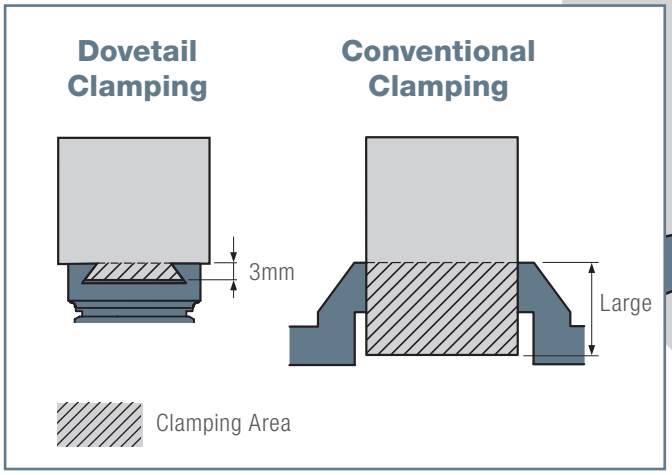


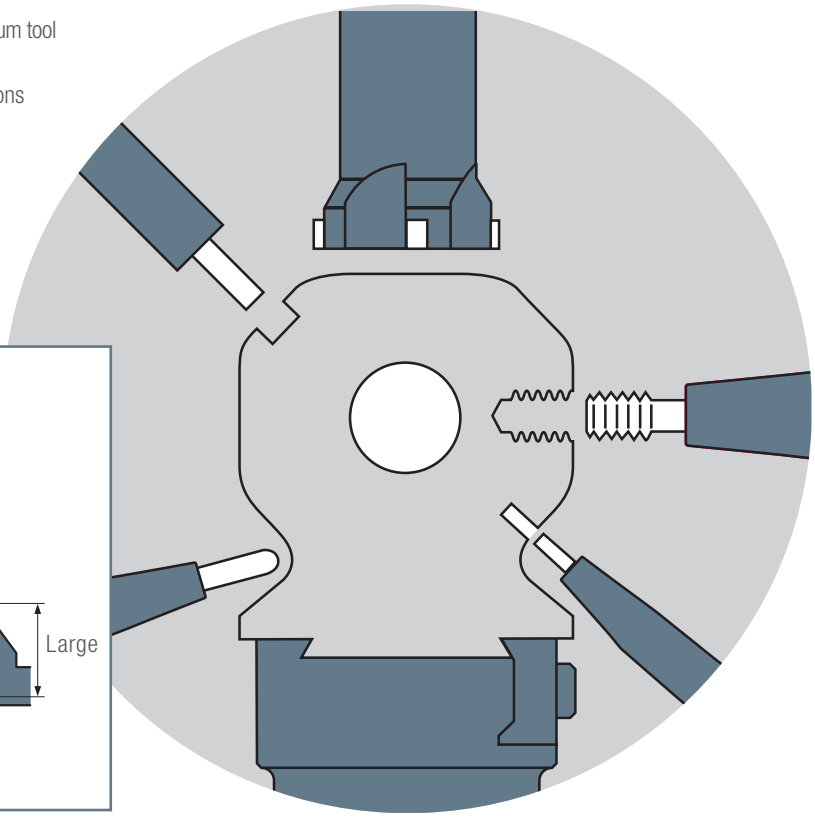


Dovetail Clamping System

Strong Clamping with Small Clamping Area

- By minimizing the clamping surface of the work-piece, optimum tool holder accessibility is possible.
- It allows stable and heavy machining from various directions without the work-piece rising.





HSK Interface

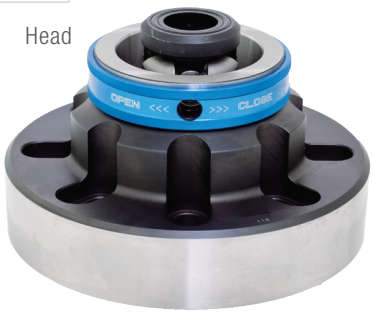
Strong Clamping

- Uses the HSK-A type, time-proven tool holder shank to connect the head and the work-piece holder.

Work-Holder

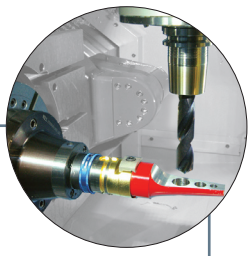
HSK Type	Clamping Force kN
HSK-A40	10
HSK-A63	20
HSK-A100	30

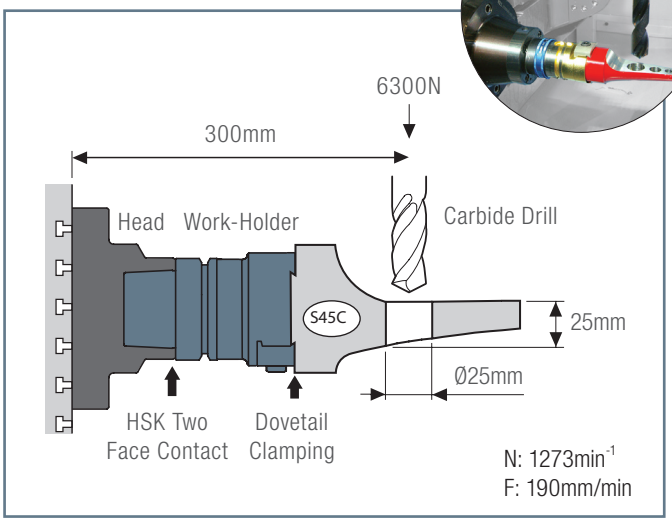
Head



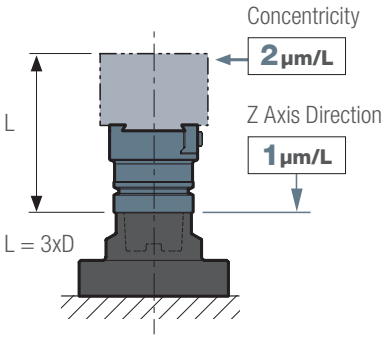
Superior Bending Rigidity

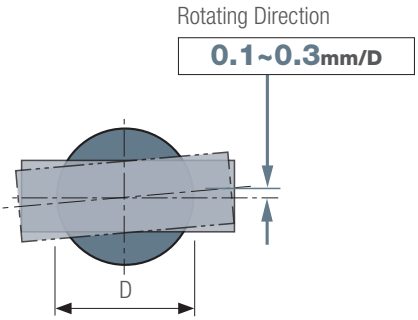
- The dovetail clamping work-holder with the HSK head works with heavy-duty milling.





High Positioning Accuracy



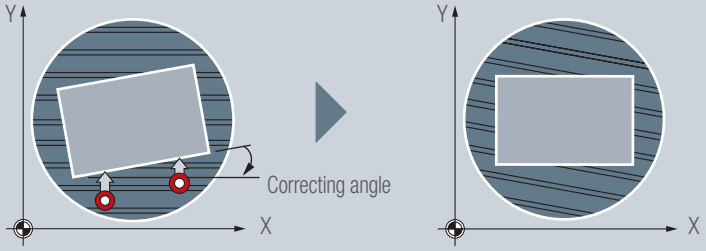


	D
HSK-A40	40
HSK-A63	63
HSK-A100	100

Offsetting the work-piece position in the rotating direction using a touch probe

- Measuring two locations along the work-piece side face using a touch probe enables you to offset the machine table angle easily.

BLUM high accuracy touch probe



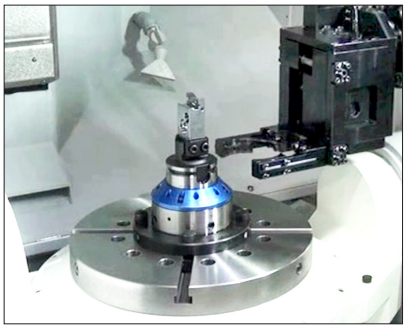
Quick Work-piece Changing (Manual Clamping Head)

Off-line setup in advance allows quick work-piece changing, minimizing machine downtime.

For Automation (Hydraulic Automatic Clamping Head)

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

Hydraulic Automatic Clamping Head



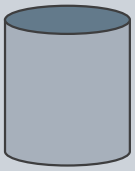
Work-piece Clamping & Mounting Options

The Swift Klamp System:

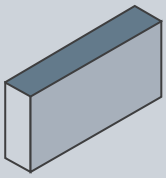
Workpiece Options

Dovetail (max. ☐ 200mm)

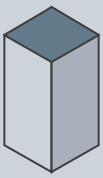
Large Diameters (max. 200mm)



Rectangular (max.depth 30mm)



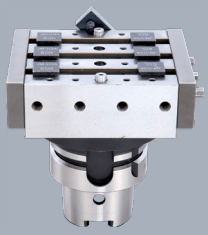
Square (max. 40mm)



Small diameters (max. 25mm)

Workholder Options

Dovetail Clamping
Page 9



Dovetail Vise
Pages 9-10

Flange Clamping
Pages 14-15

Side Clamp A
Page 16

Side Clamp B

Collet Holder

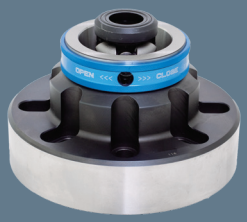
Direct Clamping

Dovetail Clamping
Page 19

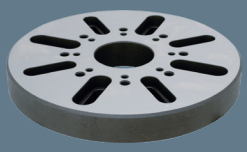
Flange Clamping
Page 19

Head Options

Manual Clamping



Manual Clamping Head
Page 8

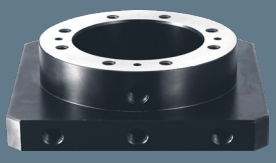


Mounting Plate

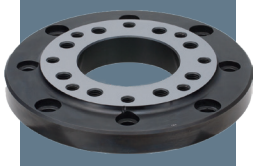
HSK-A40
HSK-A63
HSK-A100

Automatic Clamping

Hydraulic Automatic Clamping Head
Pages 17-18



Mounting Plate



Mounting Plate

Machine Table