

New

FA Pneumatic Hole Clamp



Model WKH

FA Pneumatic Hole Clamp

Model WKH



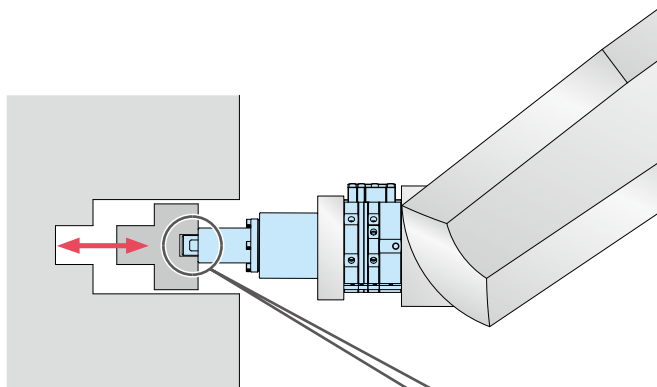
Gripper expands and pulls workpiece in.

Clamps the workpiece by holding its holes, allowing for 5 faces accessible.

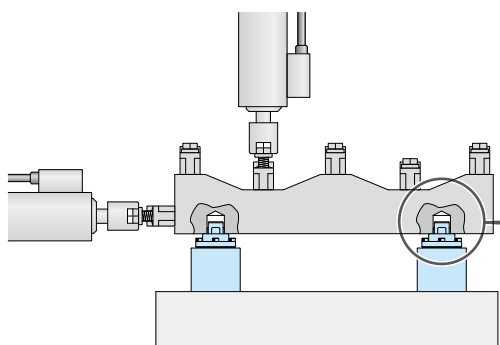
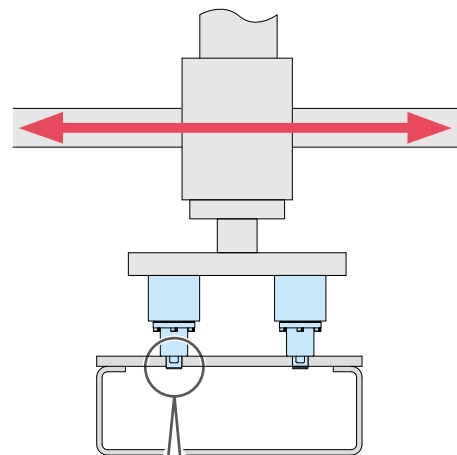
Light Weight, Smaller Footprint, and High-Power

PAT.

Transfer • Assembly with Robots



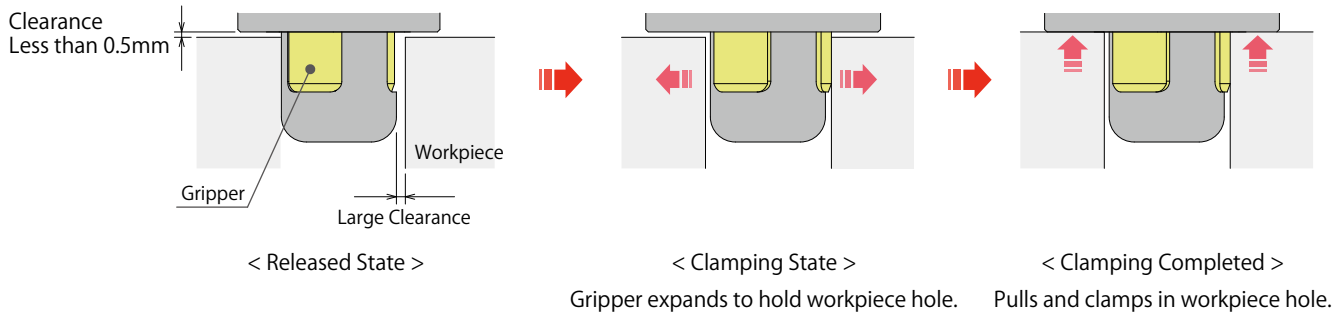
Transfer Equipment



Assembling Equipment



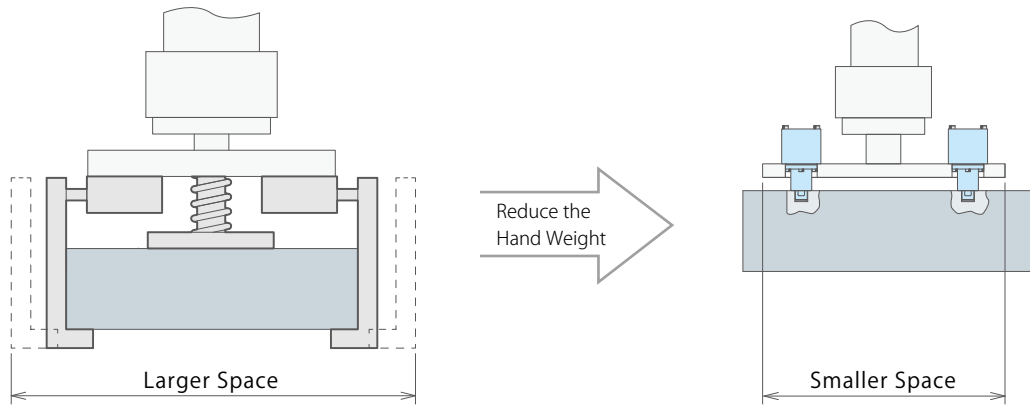
Action Description



Advantages

Transfer • Light Weight

Compact and light weight loading/lifting hand part enables to downsize transfer equipment.

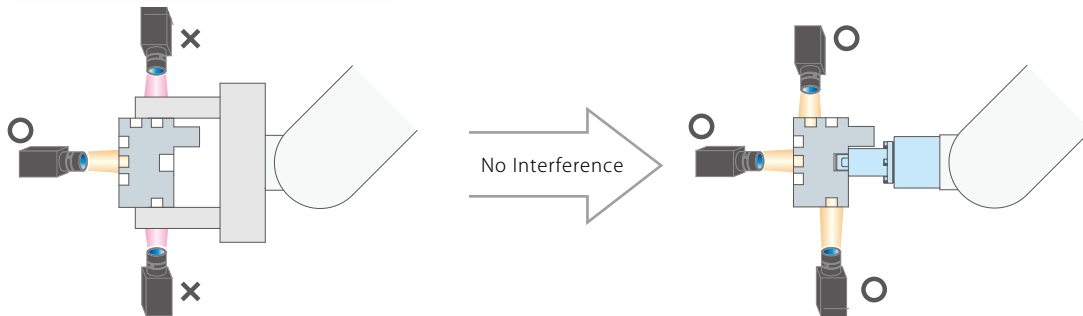


Loading/Lifting Hand with Parallel Hand/Linear Cylinder

Compact Hole Clamp with Powerful Gripping Force

No Interference

Able to access 5 faces of a workpiece and improves work efficiency.

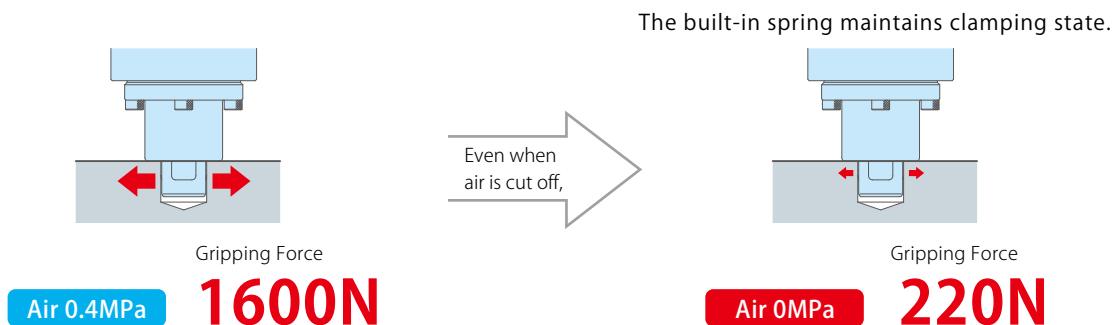


Interferes with the hand when holding a workpiece.

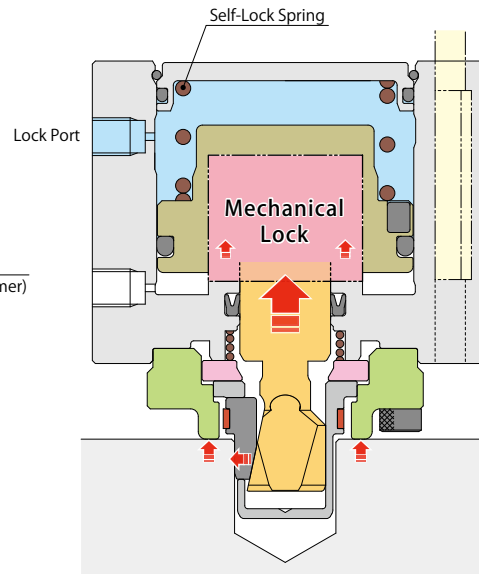
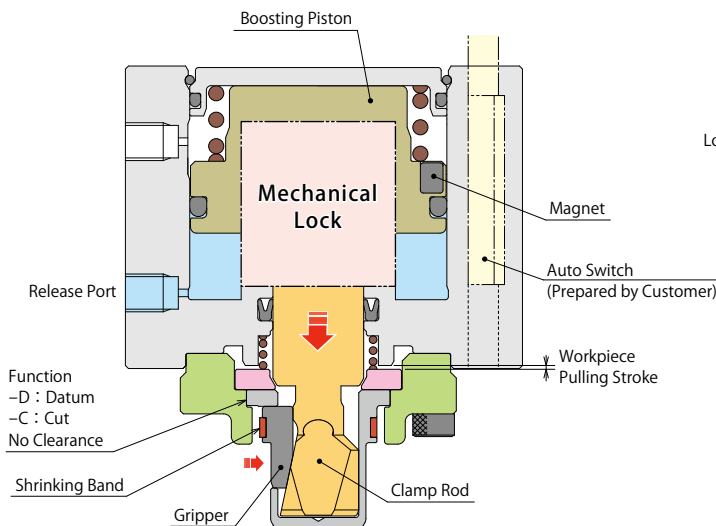
5 Faces Accessible with No Interference

High Power • Safety

Powerful gripping and clamping force with mechanical lock. The self-lock function with mechanical lock and internal spring will ensure safety even at 0MPa.

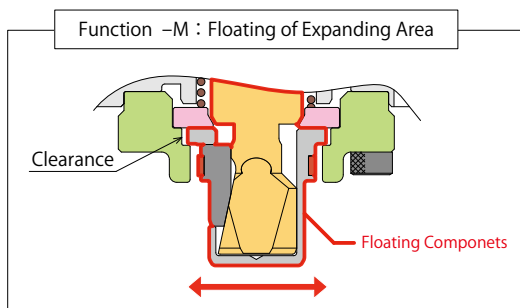


Action Description ※ This is a simplified drawing. The actual part components may be different.



■ When Loading / Unloading (Release)

- ① Air is supplied to the release port.
- ↓
- ② Air pressure releases the internal mechanical lock and moves the clamp rod forward. The gripper will be retracted.



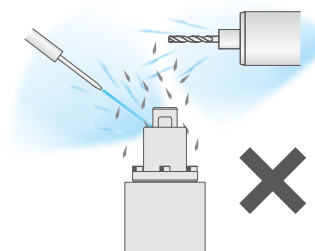
■ When Gripping / Clamping (Lock)

- ① Release air to the release port and supply air to the lock port.
- ↓
- ② The internal mechanical lock with self-locking spring force and air pressure powerfully pulls in the clamp rod. The gripper will be expanded.
- ↓
- ③ After the gripper holds a workpiece, the pulling force pulls in the workpiece onto the seating surface. (Clamping Force = Pulling Force toward Seating Surface)

[Caution]

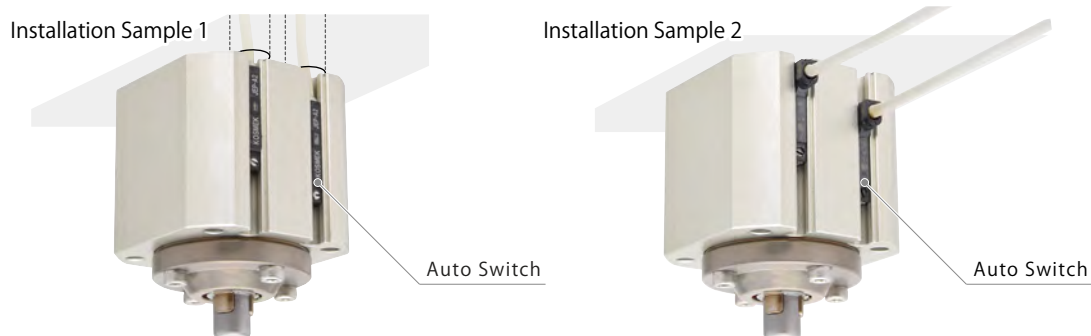
This product has no function that prevents foreign substances. Do not use under environment with coolant and cutting chips.

For such environment, choose the high-power pneumatic hole clamp (model SWE).



Auto Switch

The lock and release action can be detected by an auto switch (prepared by customer).

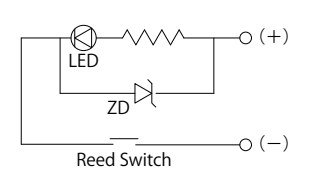
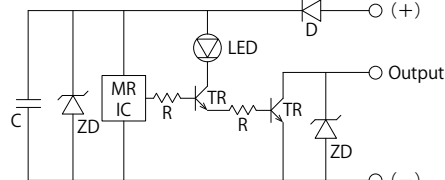
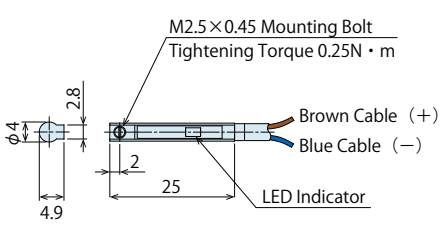
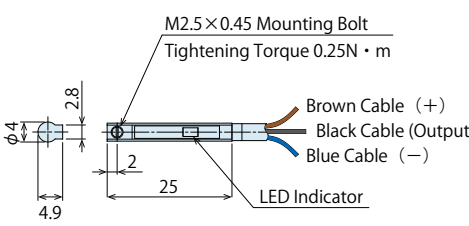


Note:

1. Depending on difference of workpiece hole diameter, the detection range of an auto switch can be insufficient.

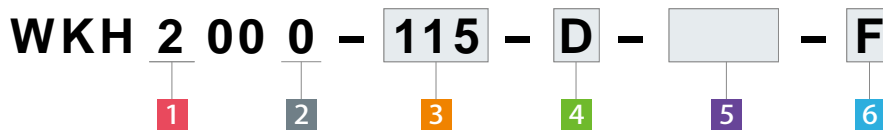
If using an auto switch, workpiece hole diameter difference should be within $\pm 0.1\text{mm}$.

Applicable Auto Switch (When using an auto switch not made by Kosmek, check specifications of each manufacture.)

Auto Switch Model No.	JEP0000-A2	JEP0000-A2L	JEP0000-B2	JEP0000-B2L
Switch Type	Reed Auto Switch		Solid State Auto Switch	
Wiring Method	2-Wire		3-Wire	
Applicable Load	Relay, Programmable Logic Controller (PLC)			
Load Voltage / Load Current	Less than DC24V / 40mA Less than AC100V / 20mA		Less than DC10~24V / 100mA	
Internal Voltage Drop	Less than 3V		Less than 0.7V	
Operating Time	1ms		1ms	
Ambient Temperature	-10 ~ 70°C		-10 ~ 70°C	
Withstand Voltage	AC1500V (There should be no abnormalities in 1 min. application.)		AC2000V (There should be no abnormalities in 1 min. application.)	
Leakage Current	0		0	
Shock Resistance	30G		30G	
Enclosure Rating	IP67 (IEC Standard)		IP67 (IEC Standard)	
Protection Circuit	None		-	
Indicator Light	Red LED illuminates when turned ON		Red LED illuminates when turned ON	
Cable Length	1m	3m	1m	3m
Electric Circuit Diagram				
External Dimensions				

※ Please refer to the catalog on our website (<http://www.kosmek.co.jp/>) for further information.

● Model No. Indication



1 Body Size

2 : Standard

2 Design No.

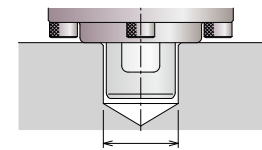
0 : Revision Number

3 Workpiece Hole Diameter (Workpiece Hole Code)

Workpiece Hole Code : Workpiece Hole Diameter $\phi d \pm 0.3$

※ Indicate the workpiece hole diameter ϕd in 0.5 increments from the allowable range in the list below.

※ When using with an auto switch, workpiece hole diameter difference should be within $\pm 0.1\text{mm}$.



Workpiece Hole Diameter $\phi d \pm 0.3$

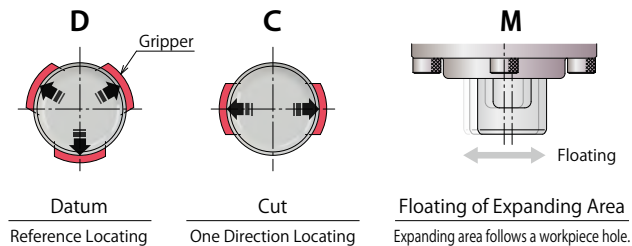
Workpiece Hole Code	060	065	070	075	080	085	090	095	100	105	110	115	120	125	130	135	140
Hole Diameter $\phi d \pm 0.3$ (mm)	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5	13	13.5	14

4 Functions

- D** : Datum (For Reference Locating)
- C** : Cut (For One Direction Locating)
- M** : Floating of Expanding Area (No Locating Function)

※ When using it with expansion locating pin (model WM, WK, VRA, VRC, VX, etc.) please choose Function **M**.

Workpiece Hole Code	060 ~ 085	090 ~ 140
Function D	Not Available	Available No. of Gripper : 3
Function C	Available No. of Gripper : 2	Available No. of Gripper : 2
Function M	Available No. of Gripper : 2	Available No. of Gripper : 3



※ When roughly locating with workpiece hole code 060~085, refer to P.11 "Clamp Installation".

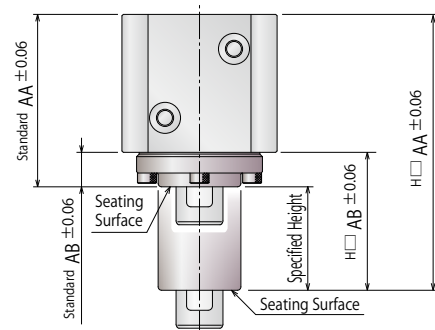
5 Seating Height Dimension

Blank : Standard Height

H [Seating Height] : Specifying Seating Height (In 10mm increments)

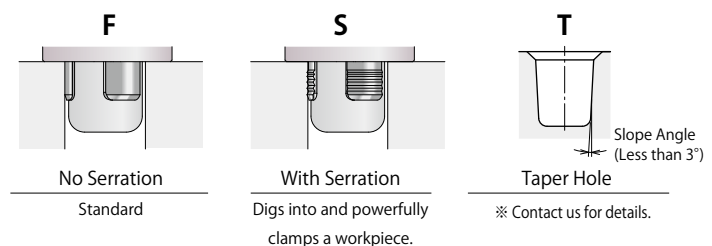
Symbol	Blank (Standard)	H10	H20	H30	H40	H50
AA	50	60	70	80	90	100
AB	10	20	30	40	50	60

(mm)



6 Shape of Gripper (Workpiece Hole)

- F** : No Serration (Standard)
- S** : With Serration
- T** : Taper Hole (With Serration) ※ Contact us for details.



Specifications

Model No.		WKH2000																
4 Workpiece Hole Code		060	065	070	075	080	085	090	095	100	105	110	115	120	125	130	135	140
Machine Part	Workpiece Hole Diameter $\phi d \pm 0.3$ mm	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5	13	13.5	14
	Hardness	Less than HB250 (When Selecting 6 S / T)																
Locating Repeatability		mm ± 0.020 (When Combining 4 D / C)																
Allowable Offset (Floating Clearance of Expanding Area) $\ast 1$		mm ± 0.2 (When Selecting 4 M)																
Workpiece Pulling Stroke		mm 0.5																
Cylinder Capacity	Release Side	cm ³ 8.4																
	(Empty Action) Lock Side	cm ³ 8.0																
Maximum Operating Pressure		MPa 0.5																
Minimum Release Pressure		MPa 0.2																
Withstanding Pressure		MPa 0.75																
Operating Temperature		°C 0 ~ 70																
Pressurizing Agent		Dry Air																
Mass		Please refer to External Dimensions for Mass.																

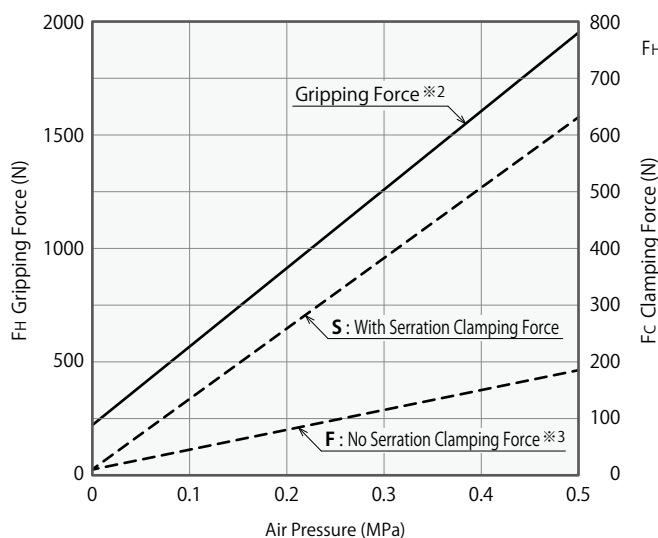
Note:

$\ast 1$. The expanding part of option M is an alignment. Clamping operation is conducted according to position of workpiece hole.

The value in the table shows the offset amount of single clamp. Please consider the pitch accuracy of each clamp mounting hole and each workpiece machining hole when using with another location clamp / location cylinder, or when using more than two of these products.

Gripping Force • Clamping Force Curve

Model No.		WKH2000	
6 Shape of Gripper		F : No Serration	S : With Serration
Gripping Force $\ast 2$	N		
	Air Pressure 0.5 MPa	1950	
	Air Pressure 0.4 MPa	1600	
	Air Pressure 0.3 MPa	1260	
	Air Pressure 0.2 MPa	910	
	Air Pressure 0 MPa	220	
Calculation Formula $\ast 4$		$F_H = 3460 \times P + 220$	
Clamping Force $\ast 3$ (Workpiece Pulling Force)	N		
	Air Pressure 0.5 MPa	185	630
	Air Pressure 0.4 MPa	150	505
	Air Pressure 0.3 MPa	115	380
	Air Pressure 0.2 MPa	80	260
	Air Pressure 0 MPa	10	10
Calculation Formula $\ast 4$		$F_c = 350 \times P + 10$	$F_c = 1240 \times P + 10$



Notes:

1. This graph shows the relationship among supply air pressure, gripping force and clamping force.
2. Gripping force shows the expanding force acting perpendicular to the clamp's center axis. Clamping force shows the pressing force against the seating surface.
3. Thin wall around the workpiece hole can be deformed by clamping action, gripping force and clamping force will not fill the specification.

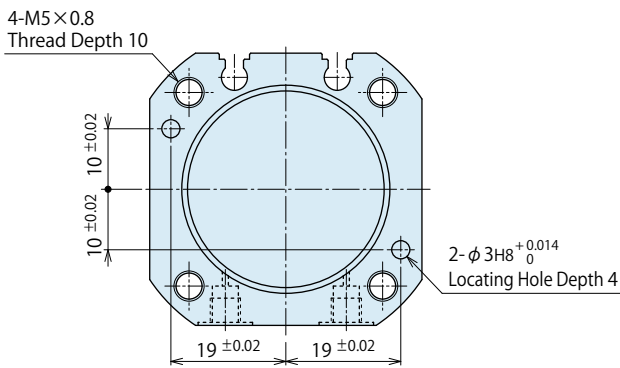
$\ast 2$. Gripping force shows the calculated value when the friction coefficient of expanding area is $\mu 0.15$.

$\ast 3$. Clamping force of F: No Serration shows the calculated value when the friction coefficient of workpiece and gripper is $\mu 0.1$.

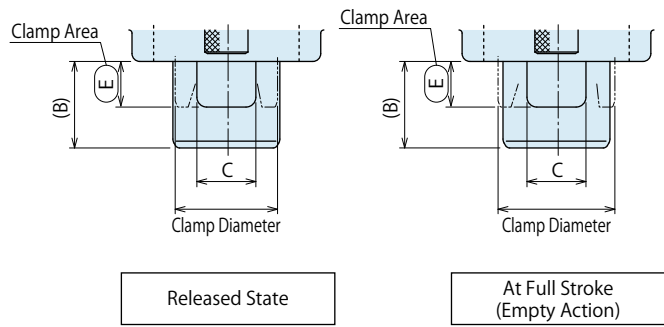
$\ast 4$. F_H : Gripping Force (N), F_c : Clamping Force (N),
P: Supply Air Pressure (MPa).

External Dimensions

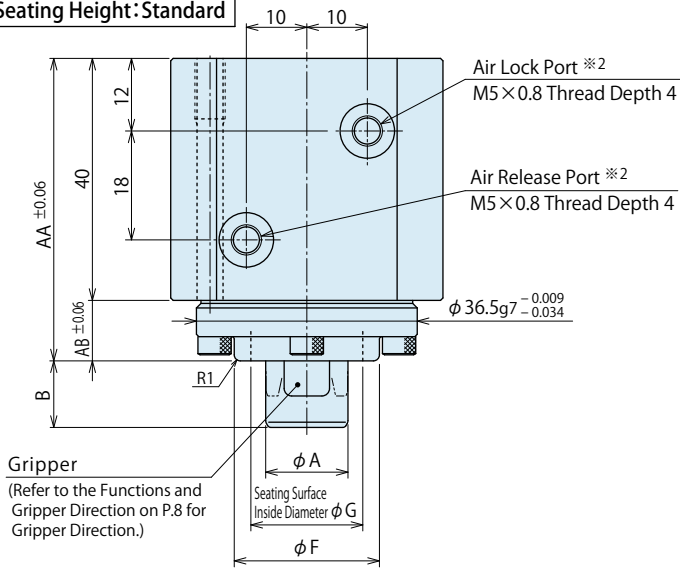
※ The drawing shows the released state of WKH2000-□-D-F.



※ Expanding Area Detail

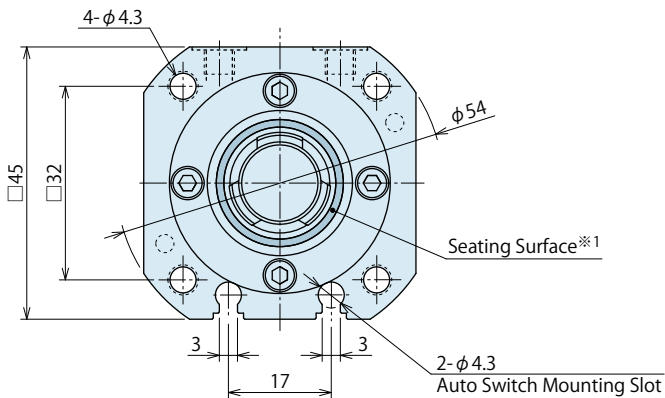
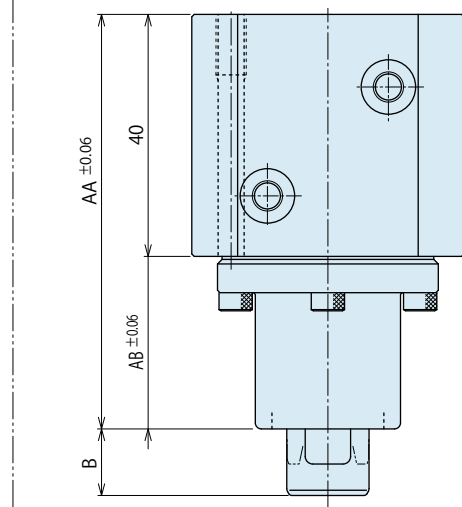


Seating Height: Standard



Gripper
(Refer to the Functions and Gripper Direction on P.8 for Gripper Direction.)

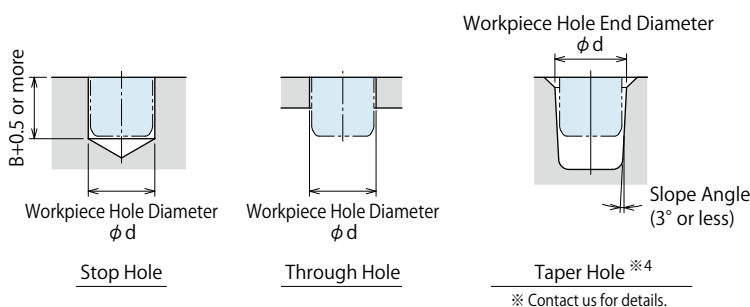
Specified Seating Height: H□ ※3



Notes:

1. Mounting bolts are not provided. Please prepare them according to the mounting position. (Refer to Clamp Installation on P.12)
- ※1. The workpiece must be resting on all seating surfaces when clamping. Otherwise the workpiece can be deformed by the clamping force.
- ※2. The name of each port is marked on the port. (LOCK: Air Lock Port, RELEASE: Air Release Port)
- ※3. Please refer to Seating Height: Standard for dimensions that is not shown.

Workpiece (Pallet) Hole Dimensions

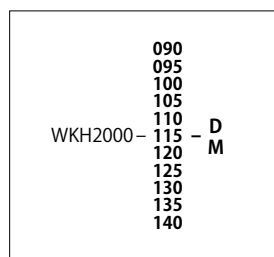


Notes:

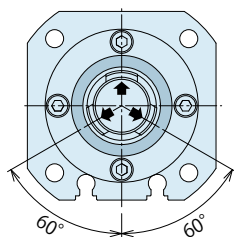
1. Thin wall around the workpiece hole can be deformed by clamping action, gripping force and clamping force will not fill the specification. Please make sure to test the clamping function before using and adjust to the appropriate supply of pressure.
- ※4. When clamping a taper hole, please indicate the detailed dimensions of a clamp hole (including tolerance).

※ Contact us for details.

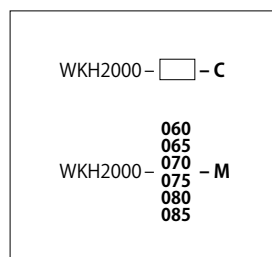
Functions and Gripper Direction



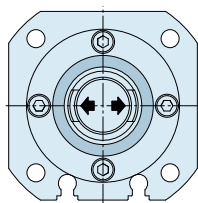
Number of Gripper: 3 (120° Interval)



➡ shows the expanding direction of the gripper.



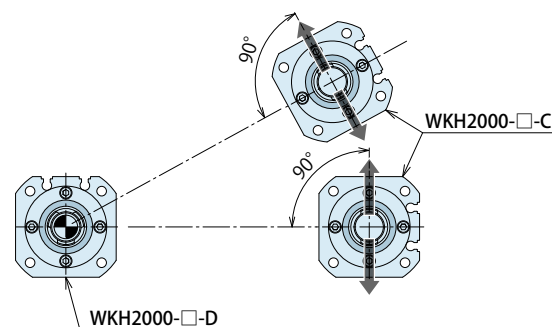
Number of Gripper: 2



Mounting Direction of WKH2000-□-C

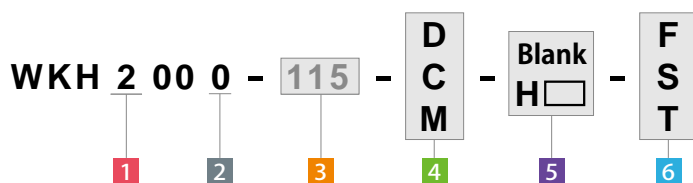
When locating with workpiece hole code **090 ~ 140**

※ The expanding direction of WKH2000□-C must be vertical toward the line connecting the centers of WKH2000□-D and WKH2000□-C.



➡ shows the expanding direction of the gripper.

Model No. Indication



- 1 Body Size
- 2 Design No.
- 3 Workpiece Hole Diameter (Workpiece Hole Code)
- 4 Functions
- 5 Seating Height Dimension
- 6 Shape of Gripper (Workpiece Hole)

External Dimensions

(mm)

Model No.		WKH2000																
4 Workpiece Hole Code		060	065	070	075	080	085	090	095	100	105	110	115	120	125	130	135	140
Workpiece Hole Diameter ϕd		6 ± 0.3	6.5 ± 0.3	7 ± 0.3	7.5 ± 0.3	8 ± 0.3	8.5 ± 0.3	9 ± 0.3	9.5 ± 0.3	10 ± 0.3	10.5 ± 0.3	11 ± 0.3	11.5 ± 0.3	12 ± 0.3	12.5 ± 0.3	13 ± 0.3	13.5 ± 0.3	14 ± 0.3
Clamp Diameter	At Release	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5	13	13.5
	At Idle	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3	14.8
Workpiece Pulling Stroke		0.5																
A		5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6
B		8	8	8	8	8	8	9.5	9.5	9.5	11	11	11	11	11	11	11	11
C		2	2	2.5	2.5	3	3	4.5	4.5	5	5	5.5	5.5	6	6	6.5	6.5	7.5
E		3.3	3.3	3.3	3.3	3.3	3.3	4.3	4.3	4.3	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
F		15	16	16	17	17	17	19	20	20	21	21	22	22	23	23	24	24
G		9.5	10.5	10.5	11.5	11.5	12.5	13.5	14.5	14.5	15.5	15.5	16.5	16.5	17.5	17.5	18.5	18.5
4 Function D Locating Repeatability		Not Available							± 0.020									
4 Function M Allowable Offset (Floating Clearance of Expanding Area) ※5		± 0.2																

Note: ※ 5. The expanding part of option M is an alignment, and clamping operation is conducted according to position of workpiece hole.

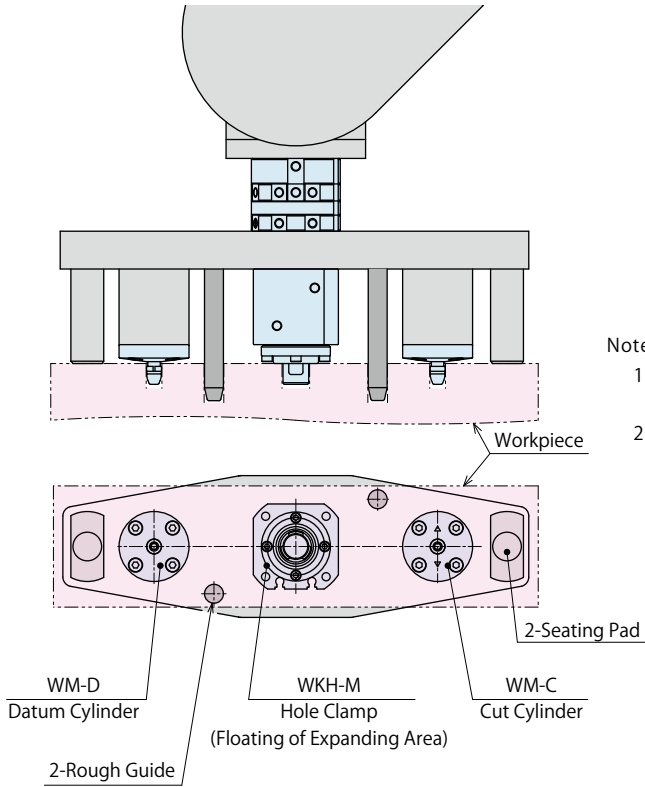
The value in the table shows the offset amount of single clamp. Please consider the pitch accuracy of each clamp mounting hole and each workpiece machining hole when using with another location clamp / location cylinder, or when using more than two of these products.

5 Seating Height Dimension	(mm)					
	Standard Seating Height Blank	H10	H20	H30	H40	H50
AA	50	60	70	80	90	100
AB	10	20	30	40	50	60
Mass kg	0.30	0.32	0.34	0.36	0.38	0.40

● Sample 1 (Layout and Circuit)

Combination Use with Pneumatic Expansion Locating Pin (model WM) for High Accuracy Locating (Repeatability : 3 μm)

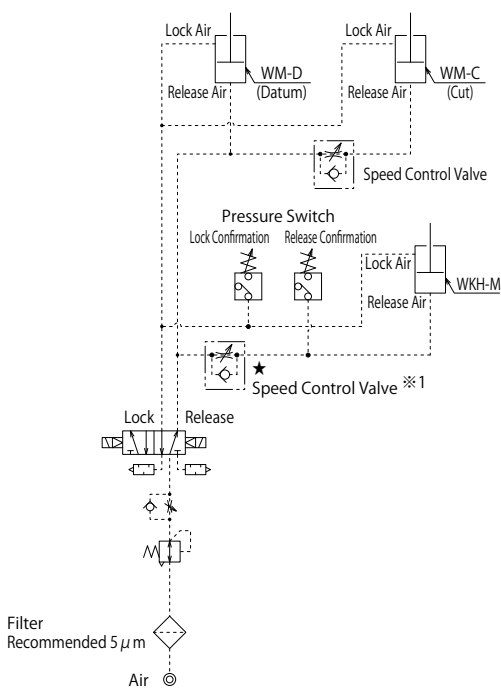
※ This drawing shows a layout sample of WKH-M (FA Pneumatic Hole Clamp) and WM (Pneumatic Expansion Locating Pin).



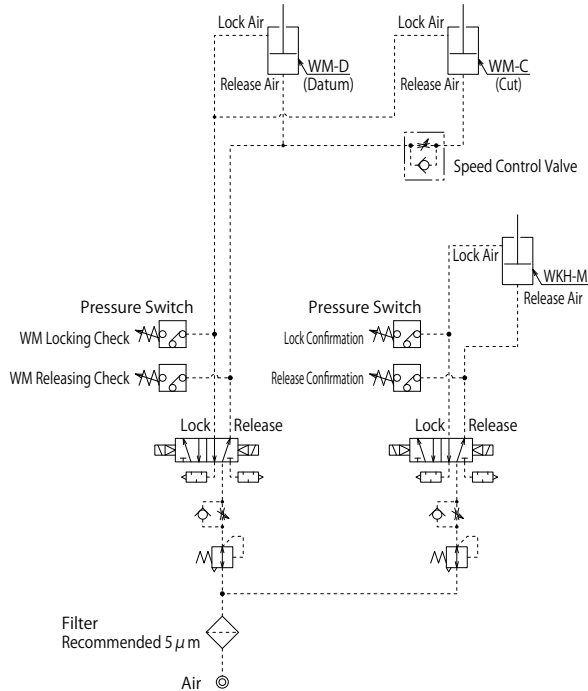
Notes:

1. When loading/unloading a workpiece, install two or more rough guides in order to prevent damage to a clamping part.
2. When using with WM (Pneumatic Expansion Locating Pin), choose Function : M Floating of Expanding Area for FA Pneumatic Hole Clamp.

When Controlled with One Solenoid Valve



When Controlled with Two Solenoid Valves



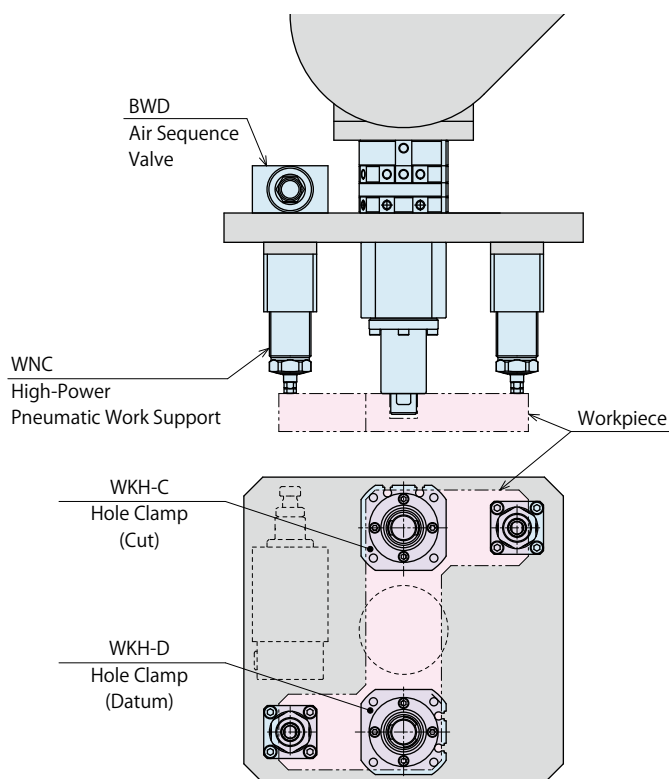
Note:

- ※ 1. Please use solenoid valve to make a sequence operation that WKH (Hole Clamp) starts working after WM (Pneumatic Expansion Locating Pin) completes the movement. When unable to use solenoid valve, please prepare flow control valve with check valve at ★(1 part) to adjust sequencing speed. If WKH operates before WM, there is a possibility for the equipment to be damaged due to a thrust load on WKH.

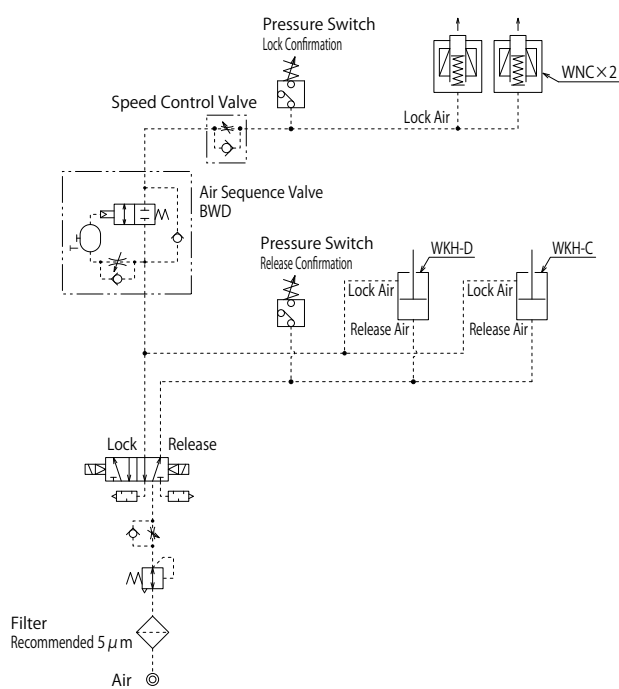
Sample 2 (Layout and Circuit)

Combination Use with High-Power Pneumatic Work Support (model WNC) for Workpiece Inclination Prevention During Transfer
 When the gravity center of a workpiece is unbalanced, it could damage a clamp or drop a workpiece affected by inertia moment due to high-speed transfer (sudden stop). Use work supports, etc. when designing a system.

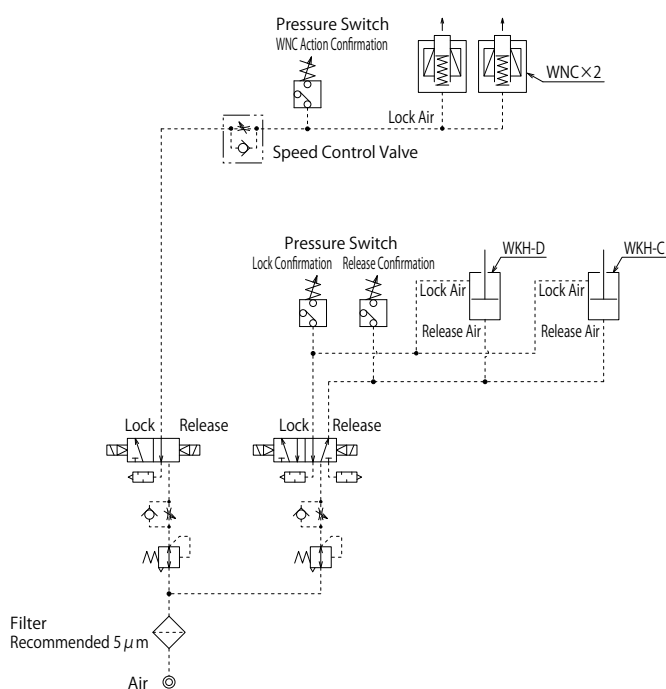
※ This drawing shows a layout sample of WKH-D/C (FA Pneumatic Hole Clamp), WNC (High-Power Pneumatic Work Support) and BWD (Air Sequence Valve).



When Controlled with One Solenoid Valve



When Controlled with Two Solenoid Valves



Note:

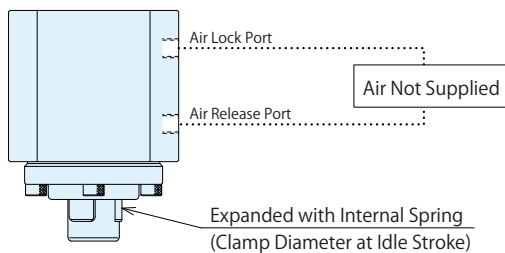
- ※1. Please use solenoid valve or BWD (Air Sequence Valve) to make a sequence operation that WKH (Hole Clamp) starts working after WNC (High-Power Pneumatic Work Support) completes the movement. If WKH operates before WNC, there is a possibility for the equipment to be damaged due to a thrust load on WKH.

Cautions

Notes for Design

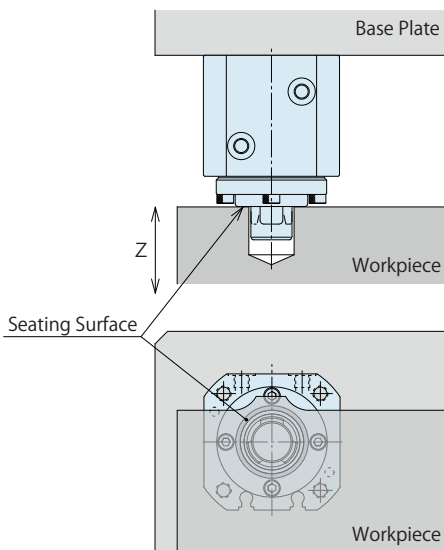
1) Check Specifications

- Please use each product according to its specifications.
- This product is air double action clamp which locks with air pressure and spring force (gripping and clamping) / releases with air pressure. Even when air is not supplied to either lock or release port, the built-in spring maintains clamped state (clamp diameter is expanded).
- ① Gripping and clamping force at zero pressure is lower than those when air is supplied. For using at zero pressure, please refer to P.6 Gripping · Clamping Force Curve : Air Pressure 0 MPa.
- ② Supply the release air when loading/unloading a workpiece. Otherwise the workpiece contacts the grippers leading to damage to workpiece or clamp.



2) Working Reference Plate (Seating Surface) Z Axis

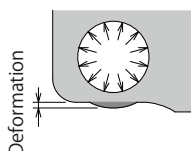
- The upper surface of the flange of this product is the seating surface of workpiece and locates in Z direction.



A workpiece must be resting on all seating surfaces when clamping. If not, calculate contacting pressure with clamping force and seating area not to deform a workpiece.

3) Wall Thickness around Workpiece Hole

- Thin wall around the workpiece hole can be deformed by clamping action, gripping and clamping force does not fill the specification. Please conduct clamping test and adjust to proper air pressure before use. If clamping force is insufficient, workpiece may fall out.



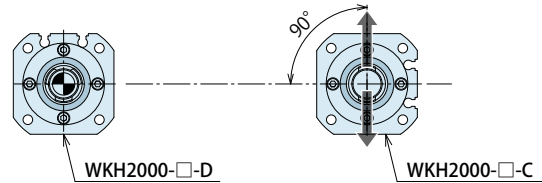
4) Clamp Installation

- When Using Functions -D/C

-C : Cut locates the orientation using -D : Datum as a reference. Therefore, it is required to determine the phase of -C : Cut when mounting.

When locating with workpiece hole code **090 ~ 140**
(When using Function -D and -C together)

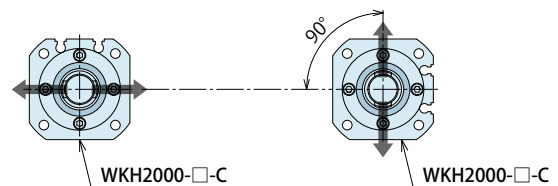
The expanding direction of WKH2000□-C must be vertical toward the line connecting the centers of WKH2000□-D and WKH2000□-C.



➡ shows the expanding direction of the gripper.

When roughly locating with workpiece hole code **060 ~ 085**
(When using Function -C and -C together)

Rotate 90° of the expanding direction of two clamps toward the line connecting the centers of two WKH2000□-C. (Accuracy is not guaranteed since there is no reference locating.)



➡ shows the expanding direction of the gripper.

- When Using Functions -M : Floating of Expanding Area

-M has the floating function ($\pm 0.2\text{mm}$).

Please consider the pitch accuracy of each clamp mounting hole and each workpiece machining hole when using with another location clamp / location cylinder, or when using more than two of these products.

5) Clamping Force

- Clamping force shows pressing force against the seating surface. Please conduct clamping test and adjust to proper air pressure before use.

When using in a state that the clamping force is insufficient, the workpiece may fall out.

6) Workpiece hole size, slope angle and workpiece hardness should be within the range of the specification.

When workpiece hole diameter is larger than specification.	The amount of the diameter expansion is insufficient and the clamping force does not satisfy the specification.
When using it with insufficient clamping force.	Leads to fall out of the workpiece.
When workpiece hole diameter is smaller than specification.	Detaching of the workpiece becomes difficult and could lead to damage.
When workpiece hole depth is shallow.	Could lead to abnormal seating and damage.
When workpiece hole taper is larger than standard.	The load concentrates on the gripper point when clamping and could lead to damage.
When workpiece hole is harder than specified.	Gripper does not dig into work enough and it cannot clamp securely.

7) Horizontal Locating

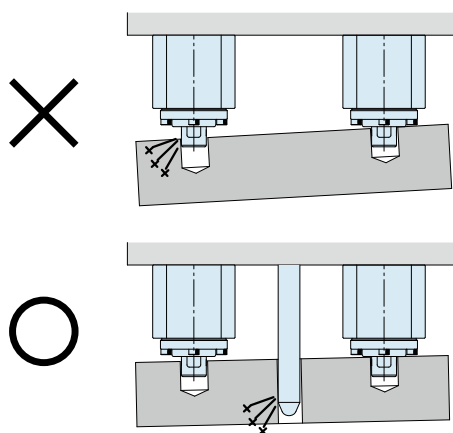
- When a workpiece is set, please make sure there is no lifting or slope of the workpiece. If the clamping operation is done with lifting or slope of the workpiece, it will lead to possible damage of a clamp and deformation of the workpiece hole.

8) Please detach a workpiece with all clamps fully released.

- When detaching a workpiece during lock or release operation, it may cause damage to the clamp or cause the workpiece to fall.

9) Please set up rough guides.

- When detaching a workpiece with slope it may cause the damage to the clamp or cause the workpiece to fall.



Please set up rough guides considering the pitch accuracy of location clamp / location cylinder mounting hole and each workpiece machining hole when using with another location clamp / location cylinder, etc.

10) For Use of Auto Switch

- Depending on difference of workpiece hole diameter, the detection range of an auto switch can be insufficient.

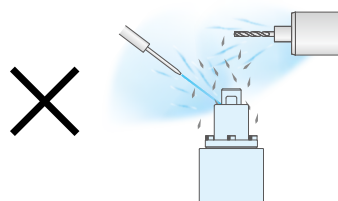
If using an auto switch, workpiece hole diameter difference should be within $\pm 0.1\text{mm}$.

11) Fall Prevention Measures

- In case of accident such as detachment of a workpiece, please prepare fall prevention measures for safety.

12) Operating Environment

This product has no function that prevents foreign substances. Do not use under environment with coolant and cutting chips. For such environment, choose the high-power pneumatic hole clamp (model SWE).



● Installation Notes

1) Check the fluid to use.

- Please supply filtered clean dry air.
- Oil supply with a lubricator etc. is unnecessary.

2) Procedure before Piping

- The pipeline, piping connector and fixture circuits should be cleaned and flushed thoroughly. The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
- There is no filter provided with this product for prevention of contaminants in the air circuit.

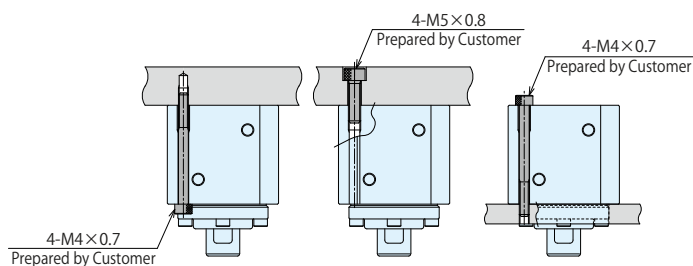
3) Applying Sealing Tape

- Wrap with tape 1 to 2 times following the screwing direction.
- Pieces of the sealing tape may lead to air leaks and malfunction.
- In order to prevent a foreign substance from going into the product during the piping work, it should be carefully cleaned before working.

4) Mounting Hole Clamp

- When mounting the product use four hexagon socket bolts (with tensile strength of A2-70 or more) and tighten them with the torque shown in the chart below. Tightening with greater torque than recommended can depress the seating surface or break the bolt.

Model No.	Thread Size	Tightening Torque (N·m)
WKH2000	M4×0.7	2.5
	M5×0.8	5.0



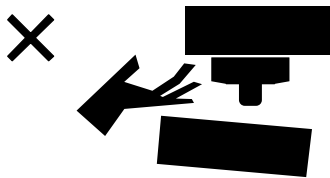
5) Port Position of Hole Clamp

- The name of each port is marked on the flange surface. Be careful with the mounting direction of piping. (LOCK : Air Lock Port, RELEASE : Air Release Port)

Cautions

● Notes on Handling

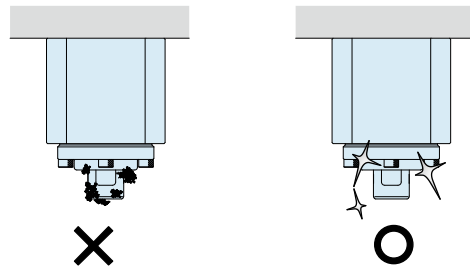
- 1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
 - ② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
 - ③ After stopping the machine, do not remove until the temperature cools down.
 - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 3) Do not touch workpieces (pallets) or clamps while they are working. Otherwise, your hands may be injured due to clinching.



- 4) When transferring a workpiece, make sure the safety of environment in case of a workpiece detachment.
- 5) Do not disassemble or modify.
 - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.
 - Powerful spring is built in inside which is very dangerous.

● Maintenance and Inspection

- 1) Removal of Product and Shut-Off of Pressure Source
 - Please remove the product after the preventative devices are in place, the pressure source and power source are shut off, and no pressure exists in the air circuit.
 - Make sure there is no abnormality in the bolts and respective parts before restarting.
- 2) Regularly clean the clamping part and seating surface.
 - If operating with dirt adhering to the clamping part, it will lead to damage to a product and workpiece detachment due to gripping force and clamping force shortage, defective operation, and air leaks, etc.



- 3) Regularly tighten pipe line and mounting bolt to ensure proper use.
- 4) Clamping force will be decreased due to friction of a gripper surface caused by repeated operation. Replacement period differs depending on operating pressure, workpiece material, and shape of hole. When you find friction on gripper surface, the gripper needs to be replaced. Please contact us for replacement.
- 5) Make sure there is smooth action and no air leaks.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated properly.

- 6) The products should be stored in the cool and dark place without direct sunshine or moisture.

- 7) Please contact us for overhaul and repair.
 - Powerful spring is built in inside which is very dangerous.

● Warranty

1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope

- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense. Defects or failures caused by the following are not covered.

- ① If the stipulated maintenance and inspection are not carried out.
- ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
- ③ If it is used or handled in an inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
- ④ If the defect is caused by reasons other than our responsibility.
- ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts expenses or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components)

Damages from direct result of a product defect shall be excluded from the warranty.

Product Line-Up

We have various types of hydraulic and pneumatic products.
Please let us know your requirements, and we will make it happen.



Expansion Locating Pin

model VRA / VRC / WM

Zero Clearance Between Expansion Pin and Reference Hole
Locating Repeatability : 3 μm



Pneumatic Sensor Pin

model WWA

Detects workpieces within wide stroke range. Only single air circuit is required.
Detects and distinguishes different fixture plates with an air catch sensor.



HIGH-POWER
Pneumatic
Series

High-Power Pneumatic Work Support

model WNC

Contacts a workpiece with slight spring force and powerfully locks the plunger with wedge function.
Prevents dislocation and deformation caused by load from pushing direction.



Air Sequence Valve

model BWD

Activates multiple air actuators in sequence. Delay time is 1 ~ 10 seconds.
Suitable for environment where the electric use is not allowed or when the number of ports is limited.



Pneumatic Robotic Hand

model WPH / WPP / WPQ

Compact Parallel Robotic Hand with High-Gripping Force
Three-Jaw Chuck and Two-Jaw Chuck Robotic Hand with High Gripping Force and Wider Stroke

KOSMEK
Harmony in Innovation

HEAD OFFICE 1-5, 2-Chome, Murotani, Nishi-ku, Kobe 651-2241
TEL.+81-78-991-5162 FAX.+81-78-991-8787

BRANCH OFFICE (U.S.A.) KOSMEK (U.S.A.) LTD.
1441 Branding Avenue, Suite 110, Downers Grove, IL 60515 USA
TEL.+1-630-241-3465 FAX.+1-630-241-3834

BRANCH OFFICE (INDIA) KOSMEK LTD - INDIA
F 203, Level-2, First Floor, Prestige Center Point,
Cunningham Road, Bangalore -560052 India
TEL.+81-80-3565-7481

THAILAND REPRESENTATIVE OFFICE 67 Soi 58, RAMA 9 Rd., Suanluang, Suanluang, Bangkok 10250
TEL. +66-2-715-3450 FAX. +66-2-715-3453

- FOR FURTHER INFORMATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.
- SPECIFICATIONS IN THIS LEAFLET ARE SUBJECT TO CHANGE WITHOUT NOTICE.



<http://www.kosmek.co.jp>

