Pneumatic Hole Clamp

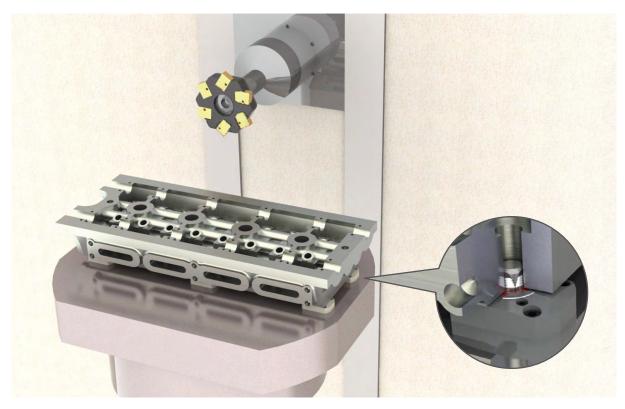
Model SWH



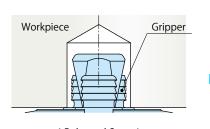
Expansion of gripper, pull and clamp in the workpiece hole

PAT.

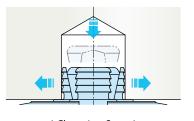
Interference free work holding concept



Action Description (Tip of Hole Clamp)

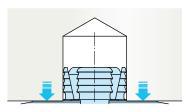


< Released State >
Loading/Unloading Workpiece



< Clamping State >
Gripper expands to hold workpiece hole.

%The alignment with hole (± 0.5 mm).



< Clamping Completed > Pulls down onto resting surface. %Creates a dig mark in the clamping hole.



High-Power Series

Pneumatic Series

Hydraulic Series Valve / Coupler

Hydraulic Unit Manual Operation

Accessories Cautions / Others

Pneumatic Hole Clamp SWH Pneumatic

Swing Clamp WHA Pneumatic

Link Clamp

Air Flow Control Valve

Locating Pin WM

BZW Pneumatic Expansio

WK

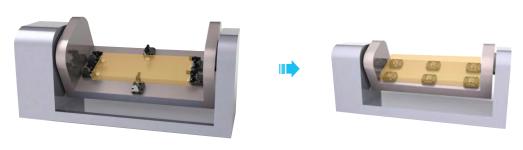
Advantages

To workpiece

- · Zero interference with 5 faces except clamping face.
- Possible to use standard length tool which provides better precision.
- Possible to enhance cutting parameters which leads to shorter cycle times.

To processing facility

- Fixture could be extremely downsized.
- Turn-table could be downsized.
- The movement of tool could be shorten.
- · For saving weight of fixture.
- Processing facility could be more simple.
- Good design for efficient swarf management and reduction in coolant usage.



<Before>

Clamping the outer side of the workpiece.

<After>

Using the hole clamps.

To processing line

- 5 faces processing makes it possible to put process together.
- Processing line is kept small and simple.
- Possible to enhance cutting parameters which leads to shorter cycle times.



<Before>

Big machining centers and long machining lines

<After>

Smaller machining centers and shorter machining lines.

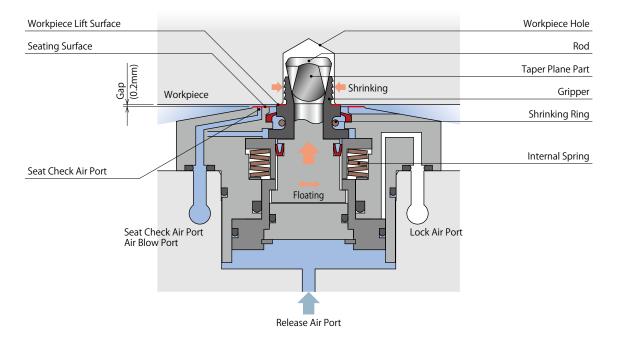
Action Description

Released State

When air pressure is supplied to the release port, the rod is lifted up and the gripper retracts.

(Gap is generated between workpiece bottom surface and seating surface.)

Air Pressu	Seat Check Detection	
Release Air Pressure	Lock Air Pressure	(Air Sensor)
ON	OFF	OFF



Locked State

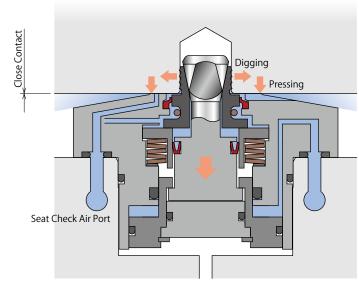
When air pressure is supplied to the lock port, the rod descends and the gripper expands along the taper plane.

(At this moment, because dish-spring is lifting the gripper, the gripper does not do pulling down action.)

When pulling force exceeds the internal spring force, pulling down force works after the gripper digs into workpiece. Then, it presses workpiece onto seating surface.

 $(Clamping\ force = Pressing\ force\ onto\ seating\ surface.)$

Air Pressu	Seat Check Detection	
Release Air Pressure	Lock Air Pressure	(Air Sensor)
OFF	ON	ON



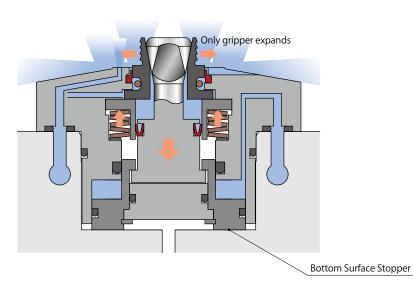


Operation without Workpiece

When air pressure is supplied to the lock port without the component, the gripper expands fully.

(Pulling down action is not operated because of internal spring force.)

Air Pressu	Seat Check Detection	
Release Air Pressure	Lock Air Pressure	(Air Sensor)
OFF	ON	OFF



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Pneumatic Hole Clamp

SWH

Pneumatic Swing Clamp

WHA

Pneumatic Link Clamp

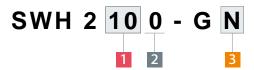
WCA

Air Flow Control Valve BZW

Pneumatic Expansion Locating Pin

WM WK

Model No. Indication



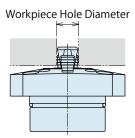
1 Workpiece Diameter (Standard)

 06
 : ϕ 6 $\frac{+0.70}{-0.30}$ mm
 10
 : ϕ 10 $\frac{+0.70}{-0.30}$ mm

 07
 : ϕ 7 $\frac{+0.70}{-0.30}$ mm
 11
 : ϕ 11 $\frac{+0.70}{-0.30}$ mm

 08
 : ϕ 8 $\frac{+0.70}{-0.30}$ mm
 12
 : ϕ 12 $\frac{+0.70}{-0.30}$ mm

 09
 : ϕ 9 $\frac{+0.70}{-0.30}$ mm
 13
 : ϕ 13 $\frac{+0.70}{-0.30}$ mm



2 Design No.

0 : Revision Number

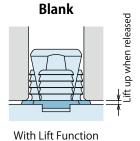
3 Workpiece Lifting Option

Blank : With Lift Function

N : With No Lift Function

Notes

When using locating cylinders (model VL, VM, VJ, VK, WM, WK, VX) please choose with no lift function model.
 (Please refer to layout sample and hydraulic and pneumatic circuit reference.)



N

With no Lift Function

KOSMEK Harmony in Innovation

Specifications

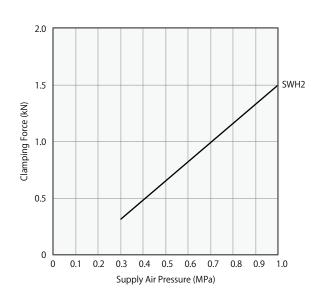
	Model No					SW	H2			
	(Workpiece H	ole Diameter: Standard)	060	070	080	090	100	110	120	130
Part	Workpiece	Workpiece Hole Diam. ≠d mm		7 +0.70 -0.30	8 +0.70 -0.30	9 +0.70 -0.30	10 +0.70 -0.30	11+0.70	12 +0.70 -0.30	13 +0.70 -0.30
Machine Part	Hardness					HB250	or less			
Mac	Slope And	gle				3° o	r less			
	Clamp	When Released mm	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	Diam.	Empty Action mm	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3
	Clamping	orce Formula *1 kN				F = 1.70 ×	CP - 0.20			
	Allowable Offset (Floating Clearance of Expanding Area) mm			±0.5						
	Full Stroke mm			4.5						
	Pulling Stroke	of Machine Part mm	1.2							
tions	Lifting Force of Machine Part **3 mm			0.2						
ifica	Work Lift Force **3 kN		0.1							
Clamp Specifications	Cylinder Capac	ity Release cm ³				9.	6			
mp	(Empty Actio	n) Lock cm³		8.3						
Ö	Max. Opera	ing Pressure *4 MPa	0.8			1.	0			
	Min. Opera	ting Pressure **4 MPa	0.3			0.	3			
	Withstandir	ig Pressure **4 MPa	1.2	1.2						
	Usable Flu	ıid		Dry Air						
	Recommend	Air Blow Pressure MPa		0.4~0.5						
	Operating	g Temperature °C				0~	70			
	Mass	kg		0.72						

Notes

- * 1. Clamping force shows pressing force against the seating surface. F: Clamping Force (kN), P: Supply Air Pressure (MPa).
- ** 2. The clamping part is an adjusting structure and the clamping operation is done by locating the workpiece hole. The numerical value in the table shows the amount of tolerance value of one clamp. Please consider the clamp installation distance accuracy and distance accuracy of the component hole when used with another location clamp / location cylinder, or when using more than two of these products.
- *3. The lift stroke and the lift force are functions only for lifting options (Standard model).
- * 4. Only in the case of SWH2060; Maximum operating pressure, Minimum operating pressure and design pressure are different from others.

Performance Curve

	Clamping Force (kN) Non-Usable Range (■						ge (
Model No.	SWH2							
Supply Air Pressure (MPa)	060	060 070 080 090 100 110 120 13						130
1.0	_	- 1.50						
0.9	-	- 1.33						
0.8				1.	16			
0.7				0.9	99			
0.6				0.0	32			
0.5				0.6	55			
0.4				0.4	48			
0.3				0.3	31			
Clamping Force Formula ^{※5} (kN)			F=	1.70>	< P – ().20		
Max. Operating Pressure (MPa)	0.8 1.0							



Notes

- - 1. This graph shows the relationship between clamping force (kN) and supply air pressure (MPa).
 - 2. Clamping force shows pressing force against the seating surface.
 - 3. If the hole around area of workpiece is thin, there is a case that expansion force may deform workpiece hole, and results not perform well. Please make sure to test the clamping function before using and adjust to the appropriate supply of pressure.
 - 4. The maximum operating air pressure is 1.0MPa and minimum operating pressure is 0.3MPa. SWH2060 only: The maximum operating air pressure is 0.8MPa and minimum operating pressure is 0.3MPa.

Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others

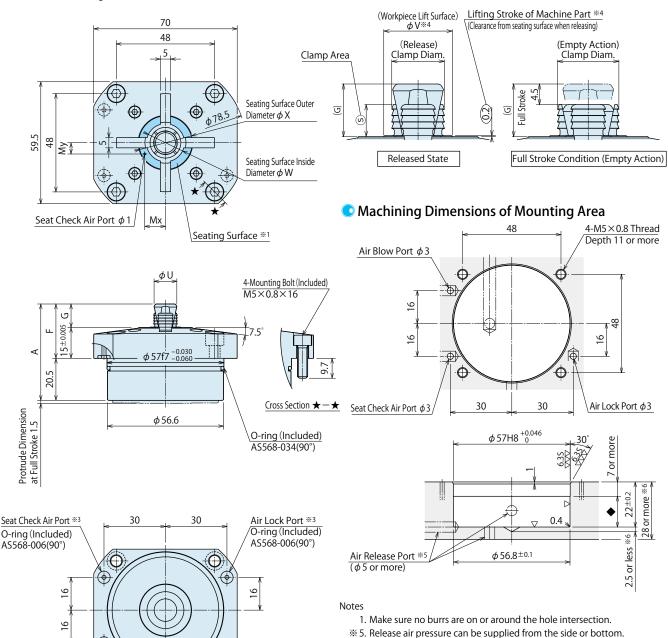
Pneumatic Hole Clamp SWH Pneumatic Swing Clamp WHA Pneumatic Link Clamp WCA Air Flow Control Valve BZW

External Dimension

*This drawing shows the released state of SWH.

Expanding Area Detail

(2.5mm) is for when the material is \$50C.



Note

Air Blow Port *3

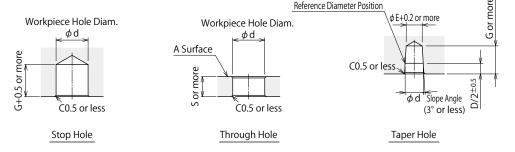
O-ring (Included) AS568-006(90°)

> **1. The workpiece must be resting on all seating surfaces when clamping. If this is not done the work piece can become deformed by the clamping force.

4-M6 Screw *2 for Jack

- \divideontimes 2. Screw jack is used when removing hole clamp. Remove mounting bolt. Insert jack bolt and tighten evenly to lift it.
- ※3. The name of each port is marked in the flange surface of this work piece. (AIR: Air lock port、FC: Seat check air port、BLOW: Air blow port) Air is always recommended to be supplied to the air blow port and seat check port.
- *4. This numerical value is only of the lifting option (standard).

Workpiece Hole Dimension



Notes

- 1. When there is a thin wall around the workpiece hole, the work hole could be deformed by the clamping operation. The clamping force does not fill the specification value.
 - Please make sure to test the clamping function before using and adjust to the appropriate supply of pressure.
- 2. If the clamp head pops out from the surface of workpiece A, please take into account so that there is no interference to the clamp during the machining workpiece.

External Dimensions and Machining Dimensions for Mounting

_				<i>J</i>						
	Model N	0.				SW	′H2			
	(Workpiece	Hole Diameter: Standard)	060	070	080	090	100	110	120	130
Part	Workpiece	Hole Diameter ϕ d mm	6 +0.70 -0.30	7 ^{+0.70} _{-0.30}	8 +0.70 -0.30	9 +0.70 -0.30	10 +0.70 -0.30	11 ^{+0.70} _{-0.30}	12 +0.70	13 +0.70 -0.30
Machine	Hardnes	S	·	HB250 or less						
Mac	Slope Ar	igle		3° or less						
пр	Clamp	When Releasing (Max.) mm	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
Clamp	Diam.	Empty Action (Min.) mm	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3
of	Allowabl (Floating Clear	e Offset ^{※7} ance of Expanding Area) mm	±0.5							
Specifications	Full Strol	ke mm		4.5						
scific	Pulling Stro	ke of Machine Part mm				1.2				
Spe	Lifting Strok	e of Machine Part **8 mm				0	.2			

									(mm)
	Model No.				SW	/H2			
(1	Workpiece Hole Diameter: Standard)	060	070	080	090	100	110	120	130
	А	4	4.5		45.5			47	
	F	2	24	25			26.5		
	G		9		10			11.5	
	Mx	7.5	8	8.4	8.8	9.3	9.7	10.1	10.6
	Му	4	4.2	4.5	4.7	5	5.2	5.5	5.7
	S	5	5.5		6			7	
	U	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	V	9	10	11	12	13	14	15	16
W	SWH-G: Workpiece Lift Function	12.5	13.5	14.5	15.5	16.5	17.5	18.5	19.5
۷V	SWH-GN: Without Workpiece Lift Function	10	11	12	13	14	15	16	17
	X	20	21	22	23	24	25	26	27

Notes

- ※ 7. The clamping part is an adjusting structure and the clamping operation is done by locating the work hole. The numerical value in the table shows the amount of tolerance of one clamp.
 - Please consider the clamp installation distance accuracy and the workpiece hole distance accuracy when using with another locating clamp / locating cylinder, or using more than two of these products.
- $\ensuremath{\%\,8}.$ The lift stroke and the lift force are functions only for lifting option (Standard).

High-Power

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Pneumatic Hole Clamp

SWH

Pneumatic Swing Clamp WHA

Pneumatic

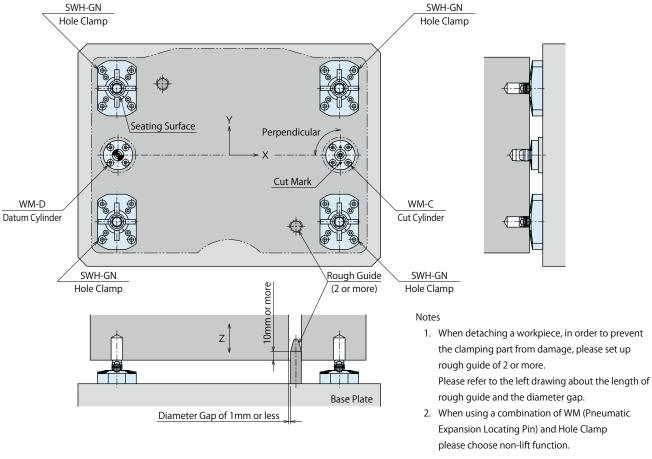
Link Clamp

Air Flow Control Valve

Pneumatic Expansion Locating Pin

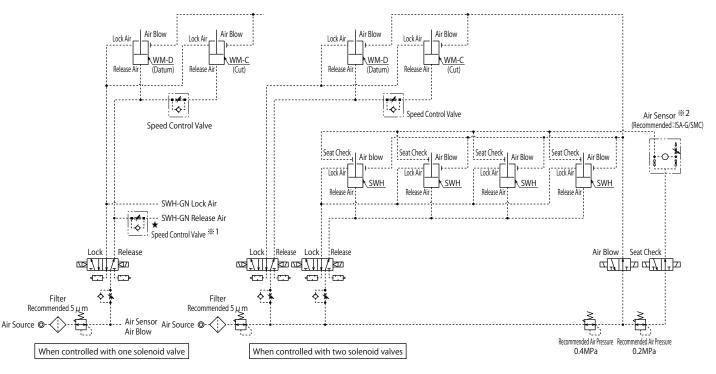
Mounting Layout Sample

** The following figure shows a layout sample of SWH-GN (Hole Clamp) and WM (Pneumatic Expansion Locating Pin).



Pneumatic Circuit Reference

* This drawing shows a combination circuit reference of SWH-GN (Hole Clamp) and WM (Pneumatic Expansion Locating Pin).



Notes

- ※1. When using with other location clamps / location cylinders, make a sequence operating circuit. After the location cylinder activated, make sure to activate hole clamp by using a solenoid valve. When unable to use solenoid valve, please prepare flow control valve with check valve at ★(1 piece) to adjust sequencing speed. If SWH hole clamp operates before WM location cylinder, there is a possibility for the the equipment to be damaged due to a thrust load on SWH hole clamp.
- *2. To reach required accuracy in setting air sensor, please install air sensor for each individual clamp.
 - 1. Activation of WM-D (Datum) should be approximately simultaneous or earlier than the WM-C (Cut).

Layout Sample Circuit Reference Features Action Model No. Performance External Specifications Cautions Advantages Description Indication Dimensions Curve





High-Power Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Pneumatic Hole Clamp SWH

Pneumatic Swing Clamp

WHA

Pneumatic Link Clamp

Air Flow Control Valve

BZW

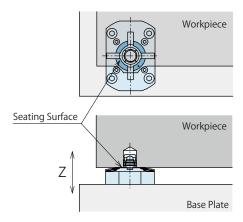
Pneumatic Expansion Locating Pin

WM WK

Cautions

Notes for Design

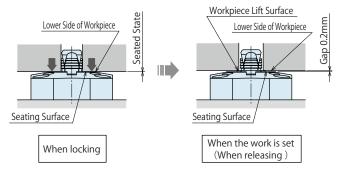
- 1) Check Specifications
- Please use each product according to the specifications.
- This equipment is clamped and released by air pressure.
- 2) Working Reference Plate (Seating Surface) Z axis.
- The upper surface of the flange of this equipment is the seating surface of the work piece and locates in the Z direction.



When clamping, make sure all seating surfaces are touching work piece. When the work piece is not touching the seating surface area, please refer to the outline dimension chart and calculate clamping force, seating area and contacting pressure not to deform the work piece.

3) Seating Check Mechanism

 Work piece is pressed against the seating surface by lock (clamp) operation and the seating check is detected.



In case of using lift-up function option(Model: SWH \square 0-GN), when work is set (before supplying the lock air pressure), the work piece is lifted up by a built-in spring. There will be a gap of 0.2mm between the workpiece bottom surface and the seating surface.

4) Clamp Installation

 The clamping part of this equipment has the adjusting mechanism (±0.5mm).

When using two or more location clamps, location cylinders, etc., please consider the accuracy between clamping installation distance accuracy of the holes.

5) Clamping Force

 Clamping force shows power of pressing force against the seating surface.

Please do trial testing and adjust to proper pneumatic pressure. When using in a state that the clamping force is insufficient, the work piece may fallout.

6) Please use work hole size and workspace hardness within the range of the specification.

When the work 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 insufficient clamping force.	Leads to fallout of the work piece.
When the work hole diameter is smaller than specification.	Detaching of the work piece becomes difficult and could lead to damage.
When the work hole depth is shallow.	Could lead to abnormal seating and damage.
When the work piece hole taper is larger than standard.	The load concentrates on the gripper point when clamping and could lead to damage.
When the workpiece is harder than specified.	Gripper does not dig into work enough reliable clamping cannot be achieved.

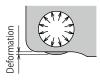
7) Workpiece Hole Material Thickness

 When there is a thin wall around the work piece hole, the work hole could be deformed by the clamping operation.

The clamping force does not fill the specification.

Please do trial testing and adjust to proper pneumatic pressure.

When using in a state that the clamping force is insufficient, the work piece may fallout.



- 8) Air Blow Port and Seating Check Port
- Air is always recommended to be supplied to the air blow port and the seating check port. Using the product without air supply, this will lead to contaminants entering and leading to malfunction.

9) Release Condition

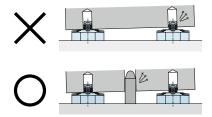
When releasing, it lifts up the work piece which is normal.
 When using in a horizontal application, it's recommended to install work fallout preventions and other temporary stop mechanisms.

10) Horizontal Locating

When the work piece is set, please make sure that there is no lifting or slope of the work piece.

If the clamping operation is done with lifting or slope of the work piece, it will lead to possible damage of the work hole.

- 11) Please detach work piece with all clamps released completely.
- When detachment of the work piece during lock operation or release operation, it will lead to deformation and clamping damage of the work piece hole.
- 12) Please set up rough guides.
- When detachment of the work piece with slope it may will lead work piece or clamping damage and work piece fallout.



Please prepare rough guides when using with the other location clamps and location cylinders.

Please consider the distance between hole clamps installation tolerance and work piece hole distance tolerance.



Notes on installation

- 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.

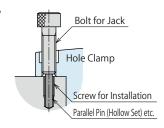
The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.

- 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. Wrapping in the wrong direction will cause leaks and malfunction.
- Pieces of the sealing tape can lead to air leaks and malfunction.
- When piping, be careful that contaminant such as sealing tape does not enter in products.
- 4) Mounting the Body
- When mounting the product use all hexagon socket bolts (with tensile strength of 12.9) and tighten them with the torque shown in the chart below.

Tighten them evenly to prevent twisting or jamming.

Model No.	Thread Size	Tightening Torque (N·m)
SWH2	M5×0.8	6.3

 When detaching, please use screw for the jack (the installation bolt hole: four places), and detach without damage to the screw. The right picture shows the case in which the parallel pin (hollow set) is put in the screw hole without damage to the screw.



- 5) Port Position of the Hole Clamp
- The name of each port is marked on the flange surface of the equipment.

Be careful of installation direction.

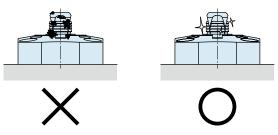
(AIR: Air Lock Port、FC: Seating Check Port、BLOW: Air Blow Port) Release pressure is supplied from the bottom of cylinder.

- 6) Please use air blow circuit with outside diameter ϕ 6 (inside diameter ϕ 4) or larger.
- To do an effective air blow, it is recommended to use air piping with outside diameter ϕ 6 (inside diameter ϕ 4) or larger.

Maintenance and Inspection | SWH Model

- 1) Please refer to P.1045 for general maintenance.
- 2) Please clean the clamping part regularly.
- There is an air blow mechanism in this equipment and cutting chips and coolant can be removed. However, as it may be hard to remove clinging cutting chip and sludge, etc., please confirm there is no foreign body when work piece is set.

If operating with dirt adhering to the clamping part, it will lead to work fallout due to clamping force shortage, defective operation, and air leaks, etc.



Even with general cleaning on exterior of hole clamp, there may be contaminants within internal parts of the component. If repair is needed please call us.

If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.

3) Continuous use will result in wear of the gripper and creating less clamping force.

Whenever the wear is found replacement of the gripper is needed. Depending on operating pressure, work piece material and hole shape etc., the timing of replacement will differ due to those dependent conditions.

Please contact us.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Pneumatic Hole Clamp

Pneumatic Swing Clamp WHA

Pneumatic Link Clamp

WCA

Air Flow Control Valve BZW

Pneumatic Expansion Locating Pin

WM WK

* Please refer to P.1045 for common cautions.

Notes on Handling

 Maintenance/Inspection Warranty

Cautions

Notes on Handling

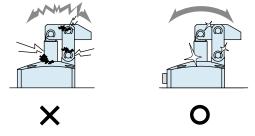
- 1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured
- ① The machine and equipment can only be inspected or prepared when it 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.
- Make sure there is no abnormality in the bolts and respective parts
 before restarting the machine or equipment.
- 3) Do not touch clamps (cylinder) while clamps (cylinder) is working. Otherwise, your hands may be injured due to clinching.



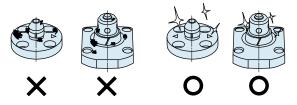
- 4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
- 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.
- Make sure there is no abnormality in the bolts and respective parts before restarting.
- 2) Regularly clean the area around the piston rod and plunger.
- If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage and air leaks.



- 3) Please clean out the reference surface regularly (taper reference surface and seating surface) of locating machine .(VS/VT/VL/VM/VJ/VK/WVS/WM/WK/VX)
- Location products, except VX/VXF model, can remove contaminants with cleaning functions.
 When installing pallets makes sure there is no thick sludge like substances on pallets.
- Continuous use with dirt on components will lead to locating functions not work properly, leaking and malfunction.



- If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.
- 5) Regularly tighten nuts, bolts, pins, cylinders and pipe line to ensure proper use.
- 6) Make sure the hydraulic fluid has not deteriorated.
- 7) Make sure there is smooth action and no abnormal noise.
- Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 8) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 9) Please contact us for overhaul and repair.

Installation Notes (For Hydraulic Series) Hydraulic Fluid List Notes on Hydraulic Cylinder Speed Control Circuit Notes on Handling Maintenance/Inspection Warranty



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 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.
- ② Parts or replacement expenses due to parts consumption and deterioration.

(Such as rubber, plastic, seal material and some electric components.)

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

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Cautions

Installation Notes (For Hydraulic Series)

Hydraulic Fluid List

Notes on Hydraulic Cylinder Speed Control Circuit

Notes on Handling

Maintenance/ Inspection

Warranty

Company Profile

Company Profile

Our Products

History

Index

Search by Alphabetical Order

Sales Offices



Sales Offices

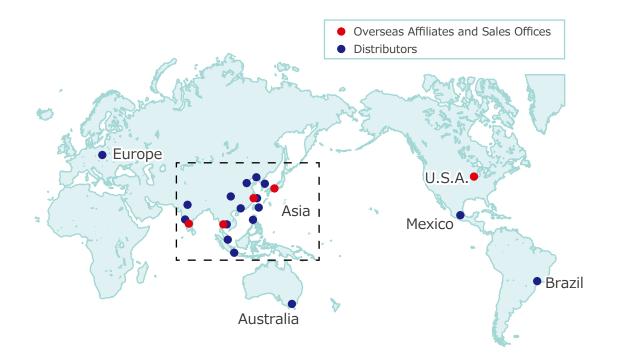
Sales Offices across the World

Japan	TEL. +81-78-991-5162	FAX. +81-78-991-8787
Overseas Sales	KOSMEK LTD. 1-5, 2-chome, Murotani, Nis 〒651-2241 兵庫県神戸市西区室谷2丁目1番5	, , , , , , , , , , , , , , , , , , , ,
USA	TEL. +1-630-241-3465	FAX. +1-630-241-3834
KOSMEK (USA) LTD.	1441 Branding Avenue, Suite 110, Downe	ers Grove, IL 60515 USA
China	TEL.+86-21-54253000	FAX.+86-21-54253709
KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	21/F, Orient International Technology Building, 中国上海市浦东新区向城路58号东方国际科技大	No.58, Xiangchen Rd, Pudong Shanghai 200122., P.R.China 厦21F室 200122
India	TEL.+91-9880561695	
KOSMEK LTD - INDIA	F 203, Level-2, First Floor, Prestige Center	Point, Cunningham Road, Bangalore -560052 India
Thailand	TEL. +66-2-715-3450	FAX. +66-2-715-3453
Thailand Representative Office	67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu	ang, Bangkok 10250, Thailand
Taiwan (Taiwan Exclusive Distributor)	TEL. +886-2-82261860	FAX. +886-2-82261890
Full Life Trading Co., Ltd. 盈生貿易有限公司	16F-4, No.2, Jian Ba Rd., Zhonghe District, New 台湾新北市中和區建八路2號 16F - 4(遠東世紀原	. ,
Philippines (Philippines Exclusive Distributor)	TEL.+63-2-310-7286	FAX. +63-2-310-7286
G.E.T. Inc, Phil.	Victoria Wave Special Economic Zone Mt. Apo Building	g, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
Europe (Europe Exclusive Distributor)	TEL. +43-463-287587-10	FAX. +43-463-287587-20
KOS-MECH GmbH	Schleppeplatz 2 9020 Klagenfurt Austria	
Indonesia (Indonesia Exclusive Distributor)	TEL. +62-21-5818632	FAX. +62-21-5814857
P.T PANDU HYDRO PNEUMATICS	Ruko Green Garden Blok Z- II No.51 Rt.005 Rw.00	08 Kedoya Utara-Kebon Jeruk Jakarta Barat 11520 Indonesia

Sales Offices in Japan

Head Office Osaka Sales Office	TEL.078-991-5115	FAX.078-991-8787
Overseas Sales	〒651-2241 兵庫県神戸	市西区室谷2丁目1番5号
Tolaro Colos Offico	TEL.048-652-8839	FAX.048-652-8828
Tokyo Sales Office	〒331-0815 埼玉県さい	たま市北区大成町4丁目81番地
Nagova Salos Offico	TEL.0566-74-8778	FAX.0566-74-8808
Nagoya Sales Office	〒446-0076 愛知県安城	表 表 表 表 表 表 表 表 表 表 表 表 表 表 表 表 表 表 表
Fukuaka Salas Offica	TEL.092-433-0424	FAX.092-433-0426
Fukuoka Sales Office		

Global Network



Asia Detailed Map





