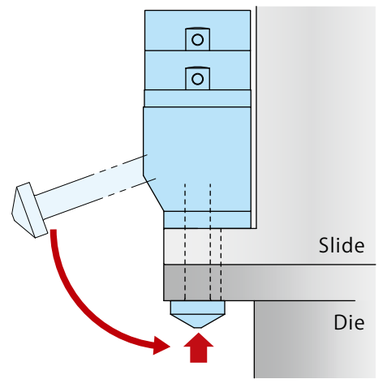
New

Hydraulic Piston Clamp for Press Machine

Swing Rod Clamp for Upper Die

Withstand Vibration of High-Speed Press

Model GHA



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- For Further Information on Unlisted Specifications and Sizes, Please call us.
- Specifications in this Leaflet are Subject to Change without Notice.

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For Press Machine

Hydraulic Piston Clamp

Swing Rod Clamp for Upper Die

Model **GHA**

The rod swings away during die change.

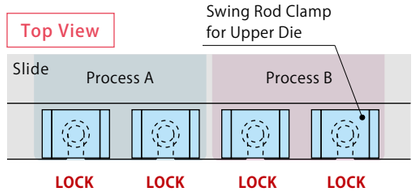
Swing Rod Clamp for Upper Die to Withstand Vibration of High-Speed Press

Features

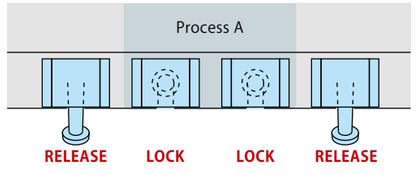
Withstands vibration of high-speed press even in a released state

Sometimes a transfer press machine is operated with some clamps released depending on the number of processes. Kosmek Swing Rod Clamp is able to withstand the vibration of the press machine even in a released state.

In case of Die 1



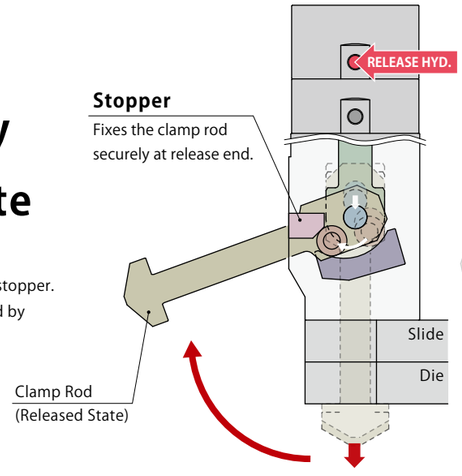
In case of Die 2



In case of Die 2, clamps can be in a released state during production.

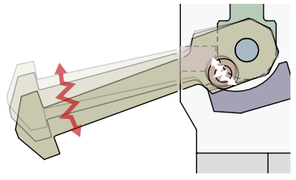
Stopper to hold clamp rod steady in a released state

The released clamp rod is securely fixed by the stopper. This prevents chattering of a limit switch caused by vibration during press operation.



Without Stopper

Without the stopper, a rod is unsteady due to vibration of press operation.

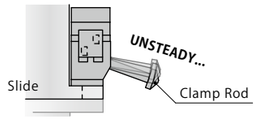


In case a clamp rod is not fixed in a released state...

Rod is unsteady due to vibration of press. ▶ Causes chattering of limit switch... ▶ Leads to interlock malfunctions... ▶ Causes unnecessary machine stops...

For Stable Production

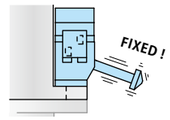
Stable production is possible by preventing interlock malfunctions caused by chattering of a limit switch.



Limit switch turns ON and OFF repeatedly due to a clamp rod moved by vibration at every shot.

In case of GHA Clamp with a clamp rod fixed even in a released state !

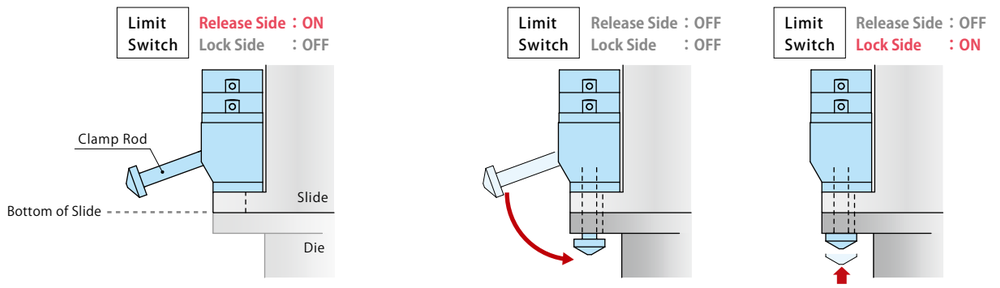
Rod keeps its position even under vibration. ▶ No malfunctions of limit switch ▶ No machine stops due to malfunction ▶ **Enables Stable Production !**



Action Description

Release Release Pressure : ON / Lock Pressure : OFF

Lock Release Pressure : OFF / Lock Pressure : ON

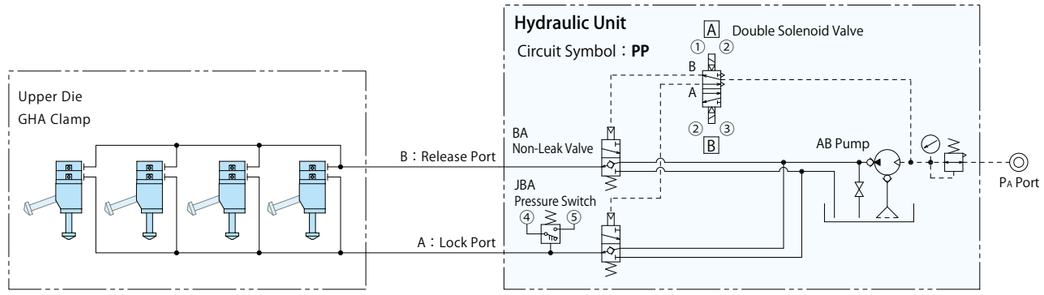


There is no interference during die change because the rod is kept above the bottom of the slide. The clamp rod is securely fixed so it withstands vibration of press machine.

The clamp rod swings 70° from a released position.

The die is clamped by the clamp rod after swing.

Circuit Example



Hydraulic Unit

Please refer to product catalogs on our website for details about hydraulic unit.

Hydraulic Unit
2ℓ Tank
Model CP/CR

http://www.kosmek.co.jp/php_file/eng_product_page.php?no=025_00_01&lang=2

Hydraulic Unit
5ℓ Tank
Model CPB/CPD /CPC/CPE

http://www.kosmek.co.jp/php_file/eng_product_page.php?no=217_00_01&lang=2

Model No. Indication

GHA 025 0 - 70 - 50 - V

1 2 3 4

1 Clamping Force

025 : 25 kN
040 : 40 kN
063 : 63 kN

2 Design No.

0 : Revision Number

3 Die Clamping Thickness (Dimension h) ※1

50 : Die Clamping Thickness (Dimension h) = 50 mm
〜
180 : Die Clamping Thickness (Dimension h) = 180 mm

Note :
※1. Selectable 3 Die Clamping Thickness (Dimension h) differs depending on 1 Clamping Force.
Please select from dimension h on the external dimension list.

4 Options

Blank : Standard
N : NPT Port ※2
V : High Temperature (0 ~ 120℃) ※3

Notes :
※2. Dimensions in the specification sheet and other documents are in inches.
Only die clamping thickness is indicated by the symbol in millimeters.
※3. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

Specifications

Model No.		GHA0250	GHA0400	GHA0630
Clamping Force (at 25MPa) kN		25	40	63
Cylinder Capacity cm3	When Locked	17.6	31	49.5
	When Released	4.3	6	9.6
Working Pressure MPa		25		
Withstanding Pressure MPa		37		
Full Stroke mm		8		
Clamp Stroke mm		5		
Extra Stroke mm		3		
Swing Angle ※4		70°		
Operating Temperature ※5 ℃		0 ~ 70 (**V**:High temperature option is available for 0 ~ 120℃)		
Use Frequency ※6		20 Cycles / Day or less		
Usable Fluid ※7 ※8 ※9		General Hydraulic Oil Equivalent to ISO-VG-32		

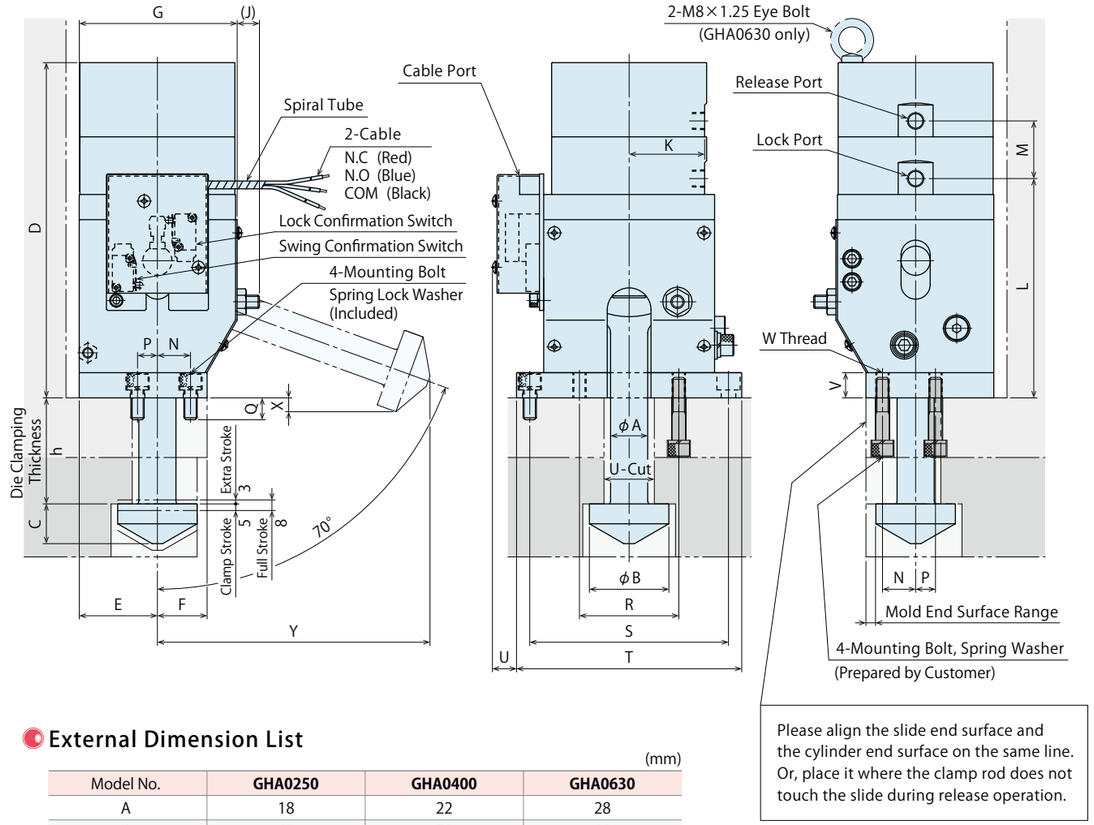
Notes :
※4. Please contact us for other swing angles (70° or less).
※5. Option **V** : High Temperature (0~120℃) is for operating in temperatures of 70° or more.
※6. Please contact us for more frequent use.
※7. Please contact us for fluids other than those mentioned on the list.
※8. If hydraulic viscosity is higher than specified, action time will be longer.
※9. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
1. For excessive operating speed, make sure to release air in a circuit and install a speed controller (meter-in).

Switch Specifications

Model No.	D2VW-01L2A-1M-0
Manufacturer	OMRON
Electrical Rating	0.1A-AC125V
	0.1A-DC30V
Cable Length m	1

External Dimensions

※ This drawing shows the locked state of the standard model.
Please contact us for external dimensions of options.



Please align the slide end surface and the cylinder end surface on the same line. Or, place it where the clamp rod does not touch the slide during release operation.

External Dimension List

(mm)

Model No.	GHA0250	GHA0400	GHA0630
A	18	22	28
B	40	50	60
C	20	25	30
D	188	216	253
E	38.5	47.5	59
F	30	32.5	37.5
G	78.2	96.2	119.2
J	12.8	13.8	16.8
K	36.5	45	57
L	121.5	144	165.5
M	32.5	37	43.5
N	20	20	25
P	10	15	15
Q	13	13	16.5
R	50	65	75
S	102	125	150
T	119	142	170
U	22.2	20.2	18.2
V	14	16	19
W	M8×1.25	M8×1.25	M10×1.5
X	3.8 ~ 27.8	5.2 ~ 32.6	10.5 ~ 44.7
Y	138.1 ~ 203.9	164.8 ~ 240	205.8 ~ 299.7
h	50 ~ 120	60 ~ 140	80 ~ 180
Mold End Surface Range	10	7.5	7.5
Mounting Bolt	M8×1.25×20	M8×1.25×20	M10×1.5×25
Lock Port	Rc1/8	Rc1/4	Rc1/4
Release Port	Rc1/8	Rc1/4	Rc1/4
U-Cut	24	32	38
Weight kg	7	10	18

Cautions

Notes for Design

1) Check Specifications
- Please use the product according to the specifications.
- Operating hydraulic pressure is 25MPa.
  Do not exceed the specified operating hydraulic pressure.
  Failure to do so may result in damage on the product, falling of a die and an injury. In order to reduce clamping force, use the product with lower operating pressure.

2) Check Die Clamping Thickness
- Please check the die clamping thickness.
  Using dies other than specified causes locking malfunction of die clamp leading to falling of a die and an injury.

3) Die clamping surface must be parallel with die mounting surface.
- If a clamping surface is not even or parallel, excessive force will be applied to the clamp, deforming the clamp body, lever and pins. This causes falling of clamp and die leading to an injury.

4) Make sure that dust, sand, cutting chips or blank pieces do not enter the clamp.
- Clamp does not operate smoothly and may be damaged.

Installation Notes

1) Check the Usable Fluid
- Please use the appropriate fluid by referring to the Hydraulic Fluid List.
- If viscosity grade of hydraulic oil is higher than ISO-VG-32, action time becomes longer.
- If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.

2) Procedure before Piping
- Pipelines, piping connectors and others should be cleaned by thorough flushing.
  Dust and cutting chips in the circuit may lead to fluid leakage and malfunction. (There is no filter that prevents contamination.)

3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screw direction.
  Pieces of the sealing tape can lead to oil leakage and malfunction.
  Please implement piping construction in a clear environment to prevent anything getting in products.

4) Air Bleeding of the Hydraulic Circuit
- If the hydraulic circuit has excessive air, the action time may become very long. If air enters the circuit after connecting the hydraulic port or under the condition of no air in the oil tank, please perform the following steps.

① Reduce hydraulic pressure to less than 2MPa.
② Loosen the cap nut of pipe fitting closest to the clamp by one full turn.
③ Shake the pipeline to loosen the outlet of pipe fitting.
Hydraulic fluid mixed with air comes out.
④ Tighten the cap nut after bleeding.
⑤ It is more effective to release air at the highest point inside the circuit or at the end of the circuit.

5) Checking Looseness and Retightening
- At the beginning of the machine installation, the bolt and nut may be tightened lightly. Check the looseness and re-tighten as required.

6) Installation of the Product
- Use hexagonal socket bolts and tighten them with the following torque.

Model No.	Thread Size	Tightening Torque (N·m)
GHA0250	M8	25
GHA0400	M8	25
GHA0630	M10	50

Hydraulic Fluid List

ISO Viscosity Grade ISO-VG-32

Maker	Anti-Wear Hydraulic Oil	Multi-Purpose Hydraulic Oil
Showa Shell Sekiyu	Tellus S2 M 32	Morlina S2 B 32
Idemitsu Kosan	Daphne Hydraulic Fluid 32	Daphne Super Multi Oil 32
JX Nippon Oil & Energy	Super Hyrando 32	Super Mulpus DX 32
Cosmo Oil	Cosmo Hydro AW32	Cosmo New Mighty Super 32
ExxonMobil	Mobil DTE 24	Mobil DTE 24 Light
Matsumura Oil	Hydol AW-32	
Castrol	Hyspin AWS 32	

Note : Please contact manufacturers when customers require products in the list above.

Notes on Handling

1) Shutting down of the machine should be done without load applied to the clamp.
- Failure to do so results in a die fall and an injury.
- For press machine use, make sure to stop the slide at bottom dead point.

2) It should be operated by qualified personnel.
- Hydraulic products, machines and devices should be operated and maintained by qualified personnel.

3) Do not operate or remove the product unless the safety protocols are ensured.

① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.

② Before removing the product, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the hydraulic circuits.

③ After stopping the product, do not remove until the temperature drops.

④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.

4) Do not touch a clamp (cylinder) while it is working.
Otherwise, your hands may be injured due to clinching.

5) Hold the clamp body when moving and removing the clamp.
- Pulling on hydraulic hose or air tube leads to a clamp fall and an injury. Also, rivet part of the hose will be loosened leading to fluid leakage.

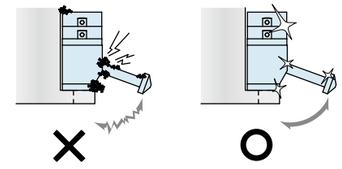
6) Do not disassemble or modify.
- If the product is taken apart or modified, the warranty will be voided even within the warranty period.

7) Do not pour water or oil over the product.
- Failure to do so causes malfunctions and deterioration of the product leading to an accident.

Maintenance and Inspection

1) Removal of the Product and Shut-off of Pressure Source
- Before removing the product, make sure that safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
- Make sure there is no abnormality in the bolts and respective parts before restarting.

2) Regularly clean the area around the product.
- If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning and fluid leakage.



3) If disconnecting by couplers, air bleeding should be carried out on a regular basis to avoid air mixed in the circuit.

4) Regularly tighten pipe line, mounting bolt, nut, snap ring, cylinder and others to ensure proper use.

5) Make sure the hydraulic fluid has not deteriorated.

6) Make sure there is a smooth action without an irregular noise.
- Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.

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

8) Please contact us for overhaul and repair.

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 operated 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 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.