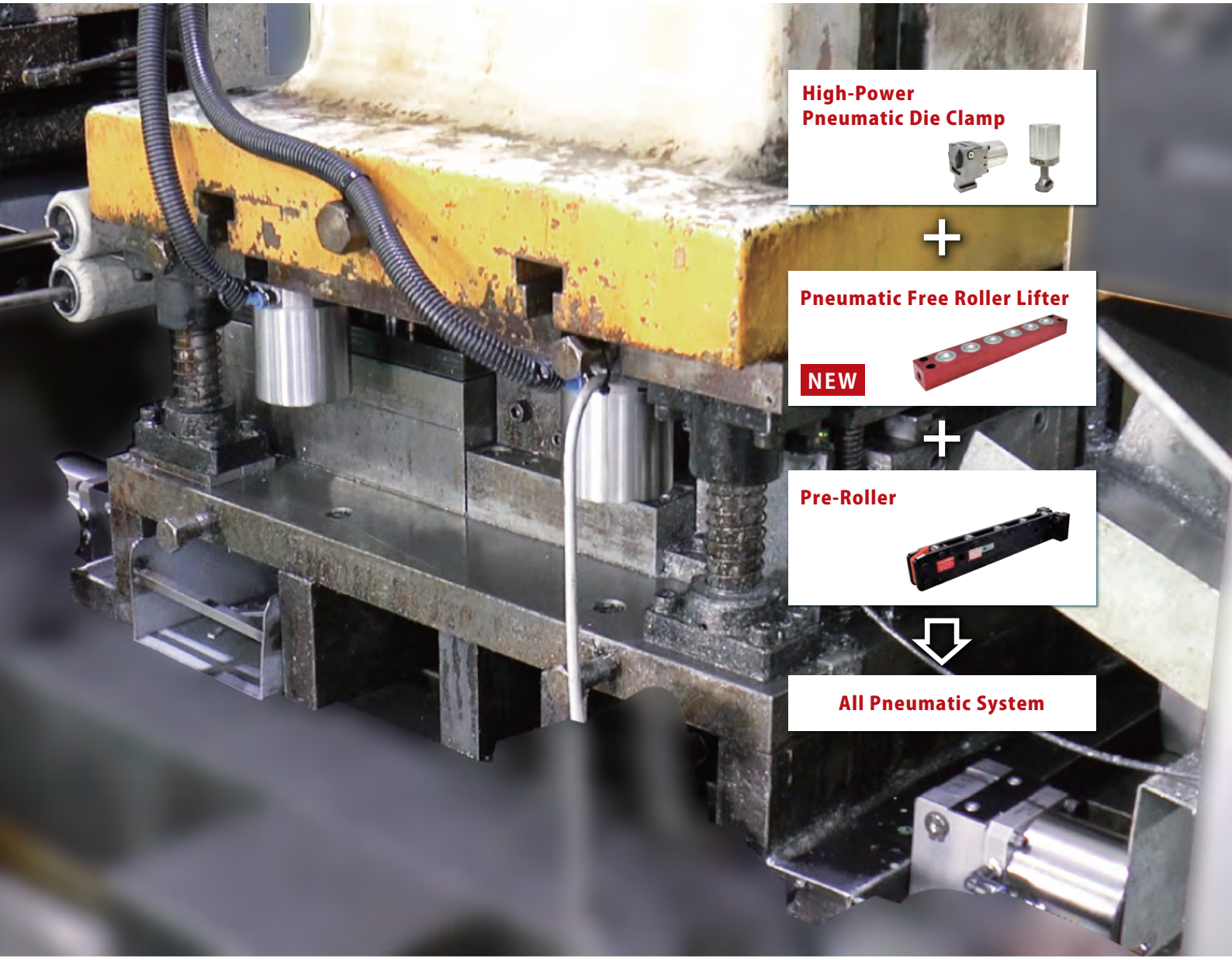
New

All Pneumatic Die Change System

Die Change with Pneumatic Devices Only!



KOSMEK
Harmony in Innovation

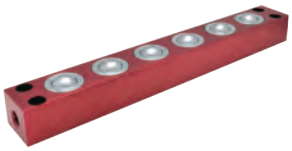
Quick Die Change with

High-Power Pneumatic Die Clamp

▶ P.03

+

NEW Pneumatic Free Roller Lifter



▶ P.19

+

Pre-Roller

For further information of other products, please order the complete catalog from our website.

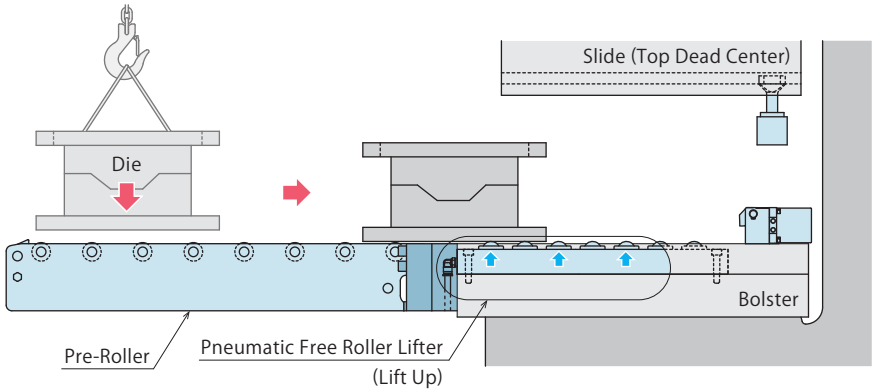
Scan this for
Catalog Request and Inquiry
http://www.kosmek.co.jp/php_file/inquiry.php?lang=2

Advantages of Die Change System

1. Load the Die

Safe Die Loading

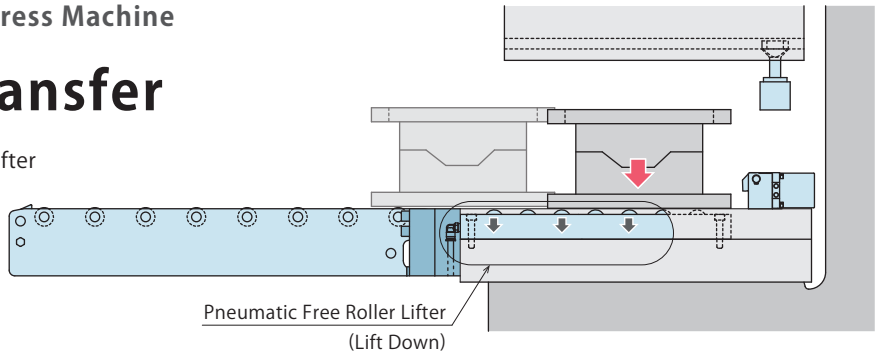
Pre-Roller enables easy and safe loading of a die to a press machine.



2. Transfer the Die into the Press Machine

Smooth Die Transfer

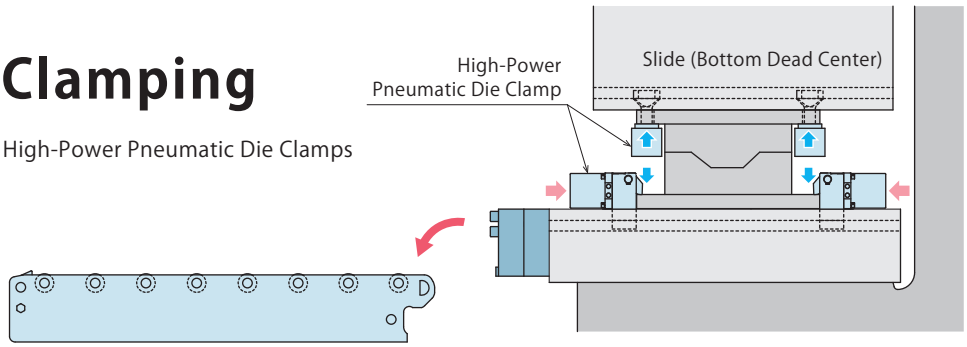
Pre-Roller and Pneumatic Free Roller Lifter enable to move a die flexibly with a light force.



3. Fix the Die

Secure Die Clamping

Safe clamping operation with High-Power Pneumatic Die Clamps from outside the machine.

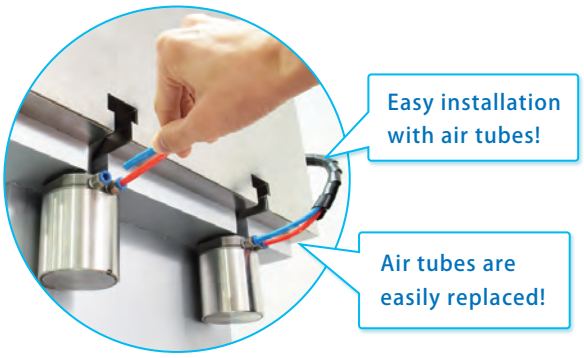


All Pneumatic System

Advantages of Pneumatic Systems

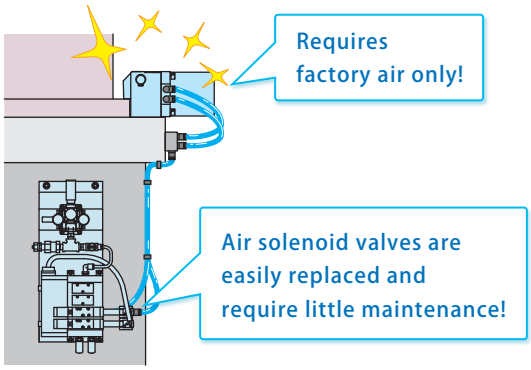
Reduce the Running Cost

Damages on the piping are easily replaced!
Valves are available on the market!
Recovery of equipment in short time!

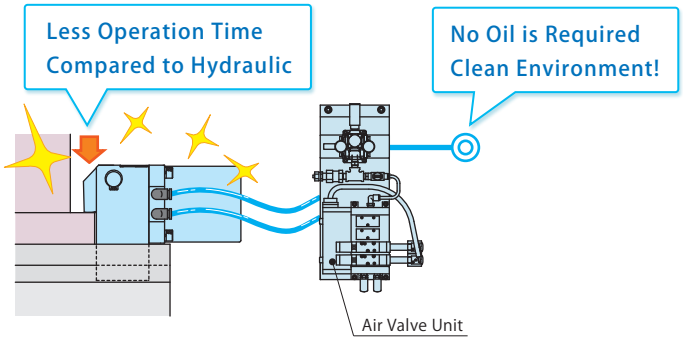


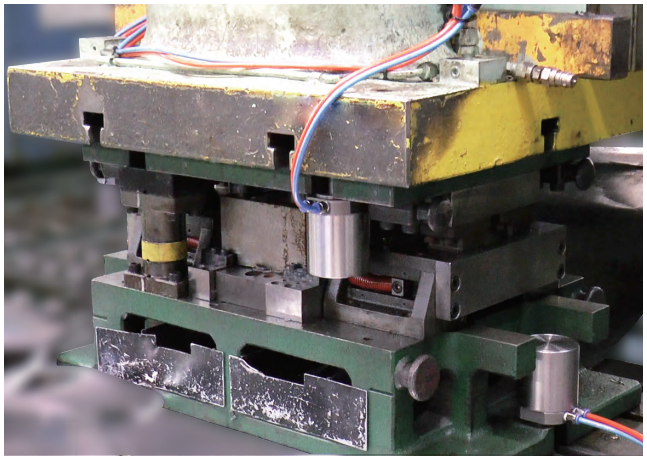
Energy Saving and Time Reduction

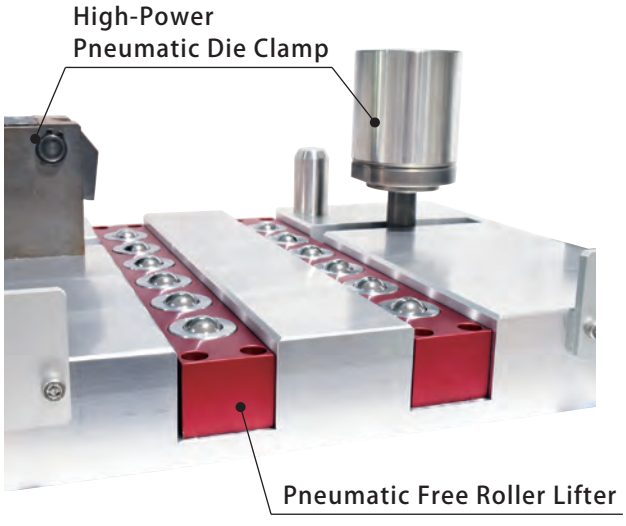
Keeps Your Factory Clean.
Also, since clamping action is faster than hydraulic, the die change time is drastically reduced.



Clean Environment Suitable for Press Machines of Electronic Component







All-Pneumatic Quick Die Change System

High-Power Pneumatic Die Clamp

T-Slot Manual Slide

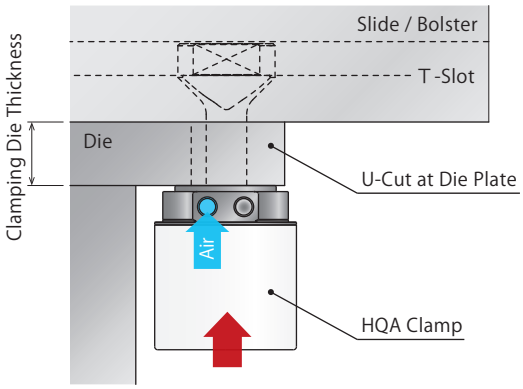
Model HQA

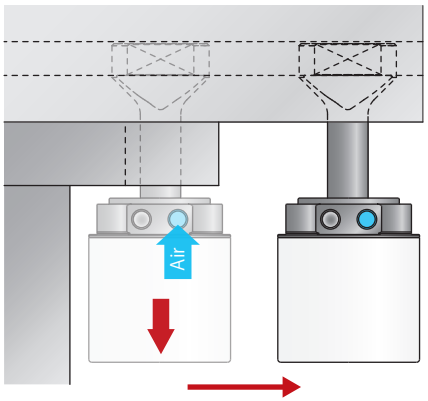
Model HQB

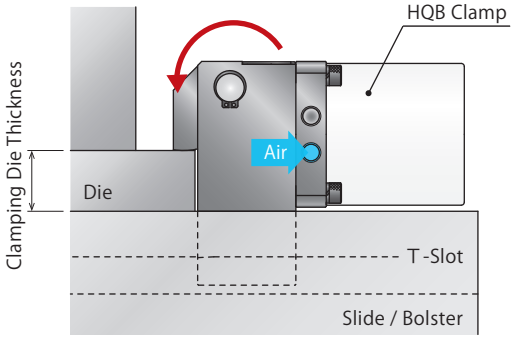
Slides in the T-slot and clamps the die.

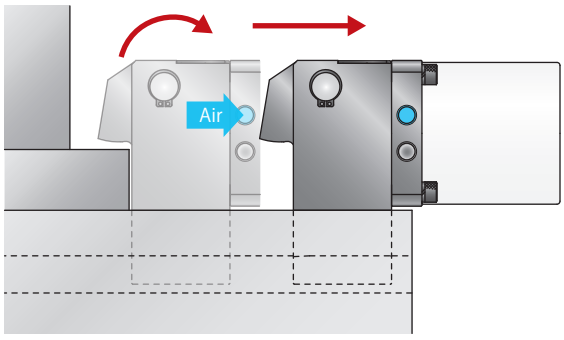
Compact Die Clamp without Hydraulic Pressure

Action Description









Lock Action

① Load the die.
② Slide the clamp forward in the T-slot.
③ By supplying lock air pressure, the clamp with mechanical lock secures the die.

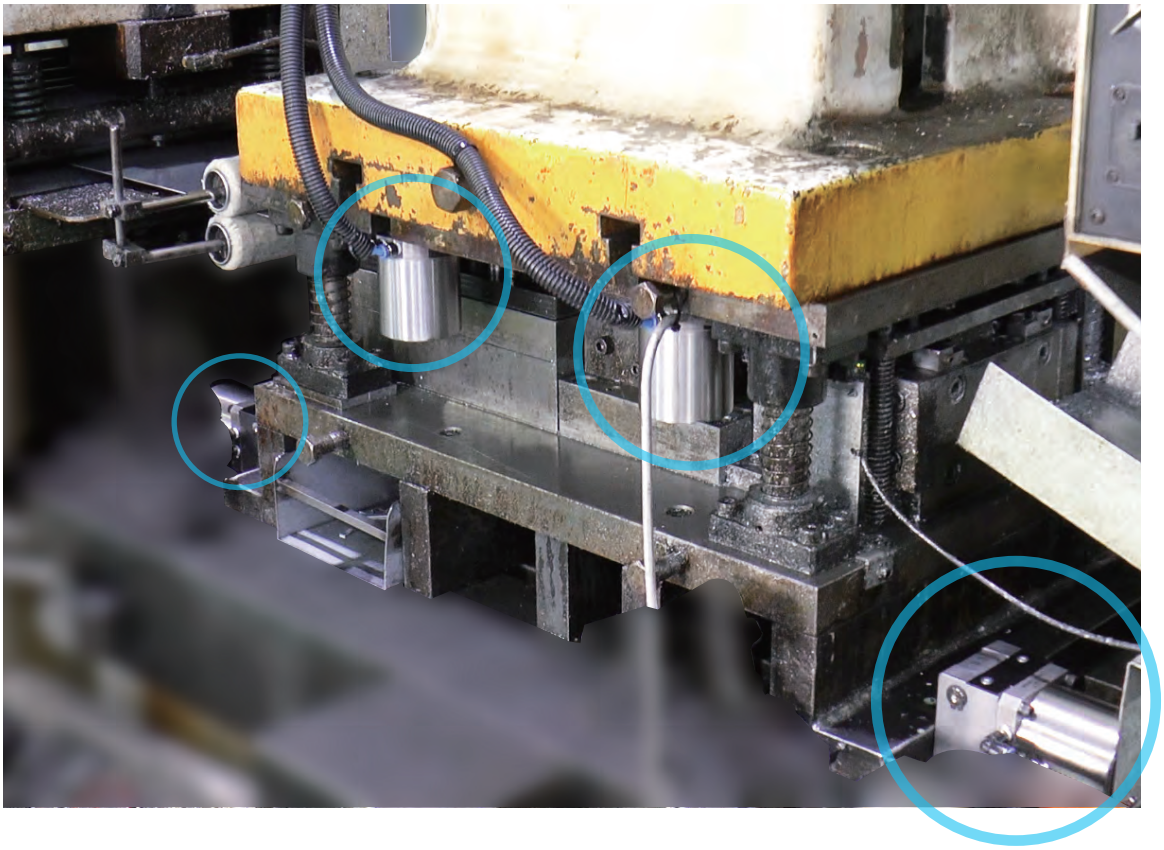
Release Action

① The lever is released when the pressure is released.
② Slide the clamp backward in the T-slot.
③ Unload the die.

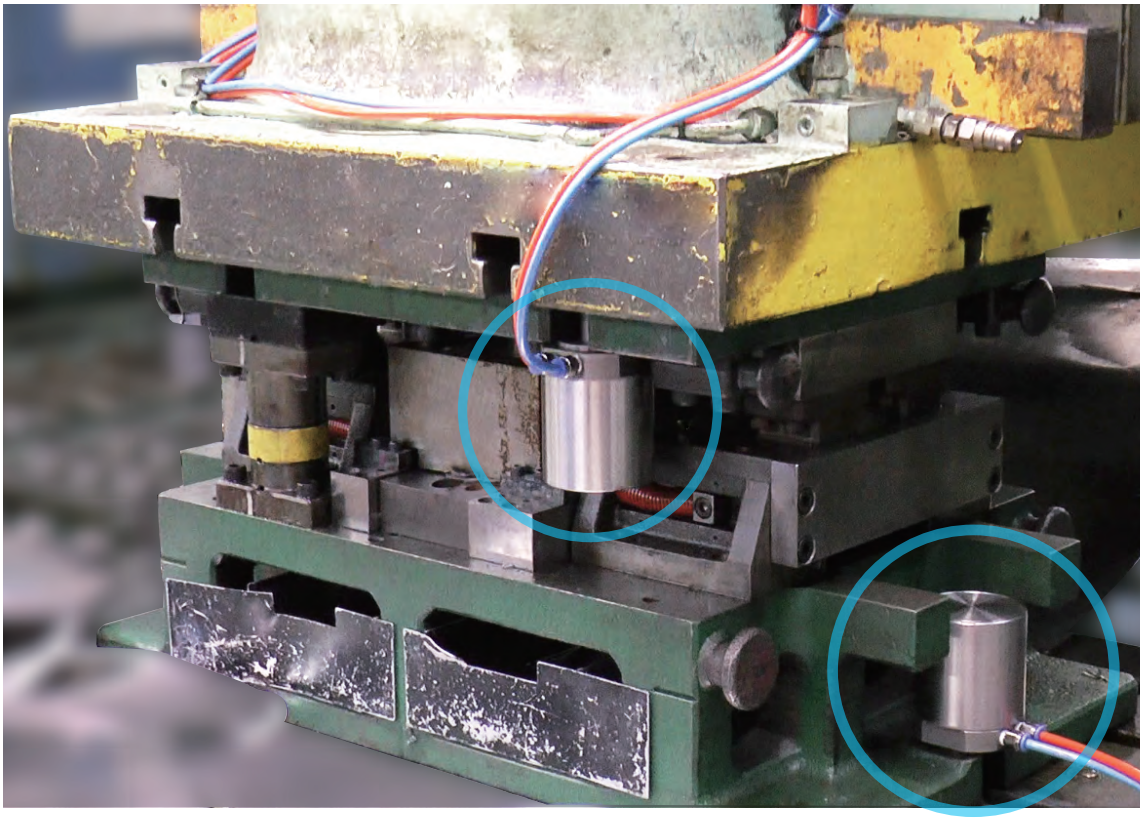
※ We provide HQA/HQB clamps according to the clamping die thickness and T-slot dimensions. Please refer to the external dimensions for details.

Application Examples

Progressive Die Upper Die：HQA Clamp×4 / Lower Die：HQB Clamp×4



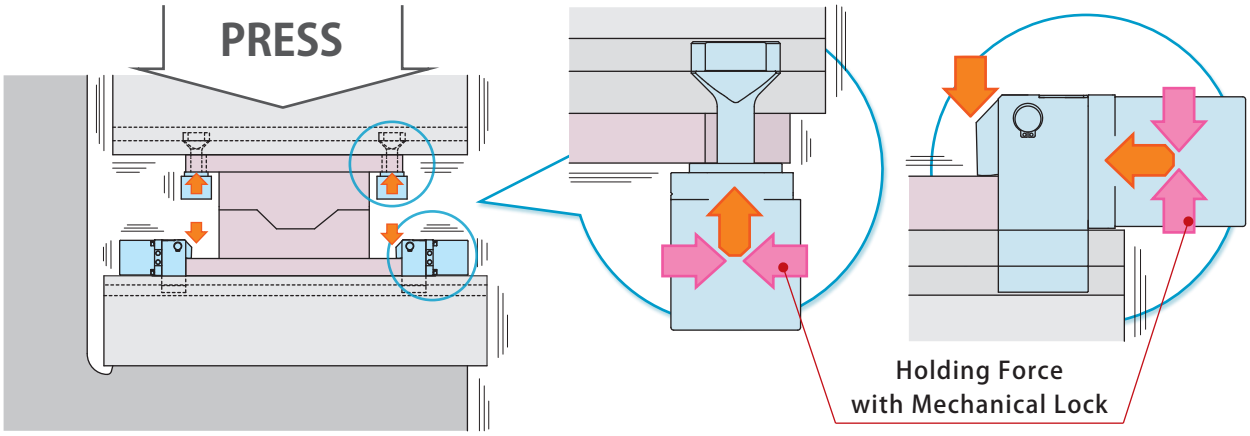
Single Die Upper Die：HQA Clamp×2 / Lower Die：HQA Clamp×2



The High-Power Pneumatic Die Clamp is

HIGH-POWER Pneumatic Series

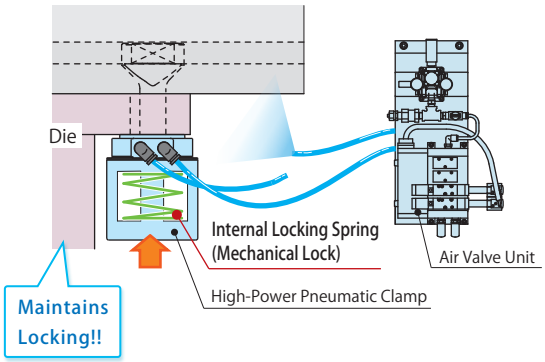
a HYBRID system using air pressure and a mechanical lock.



Advantages of High-Power Pneumatic Die Clamp

Self-Lock Function is built in the clamp.

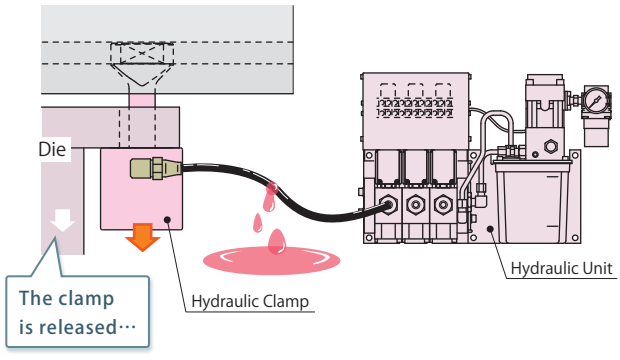
Even when air pressure is cut off, 20% of holding force will prevent falling of the die.



High-Power Pneumatic Die Clamp

With Self Lock Function

Even when air pressure leaks,
the clamp will stay locked with
the internal locking spring.



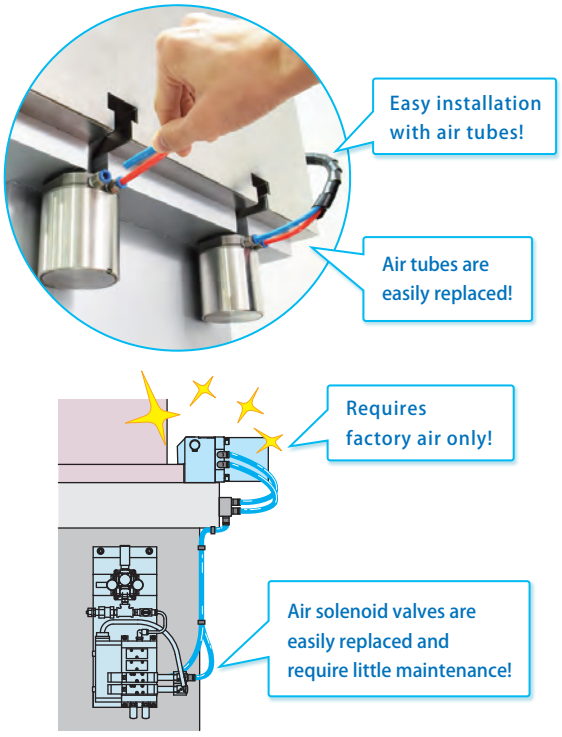
Hydraulic Clamp

No Self Lock Function

When hydraulic pressure leaks,
the clamp will be released due to
the spring release function.

Easier Maintenance

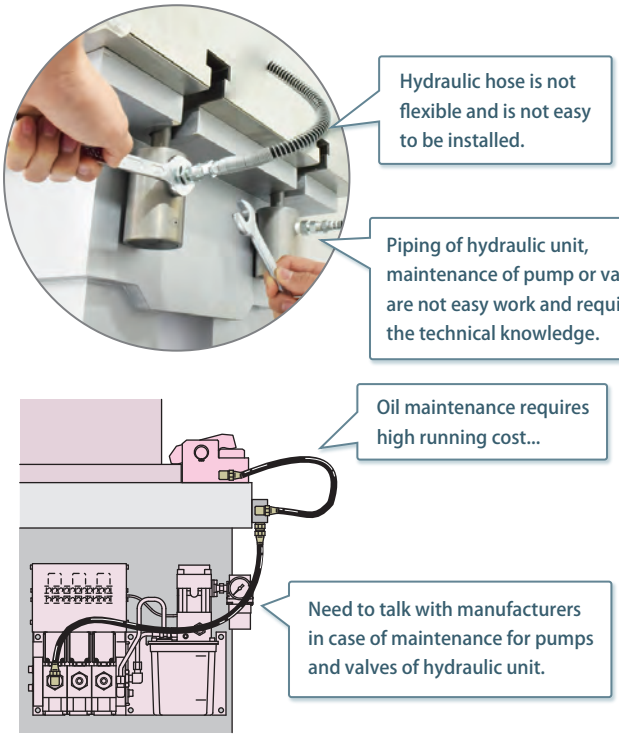
Drastically reduces the running cost since valves and other control devices are available on the market and easily replaced in case of trouble.



Pneumatic System

Short Time • Low Cost Maintenance

Damages on the piping are easily replaced!
Valves are available on the market!
Recovery of equipment in short time!



Hydraulic System

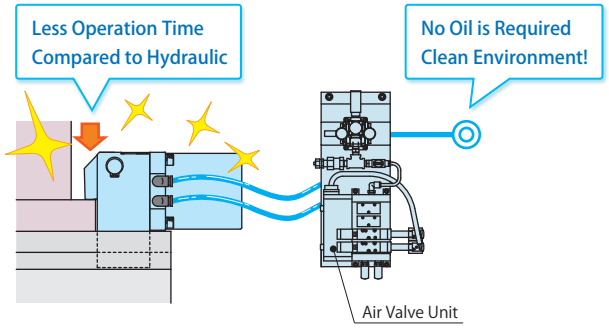
Long Time • High Cost Maintenance

Need to talk with manufacturers for replacement of hydraulic hose.
Require expensive pumps and valves in stock.

Energy Saving • Time Reduction

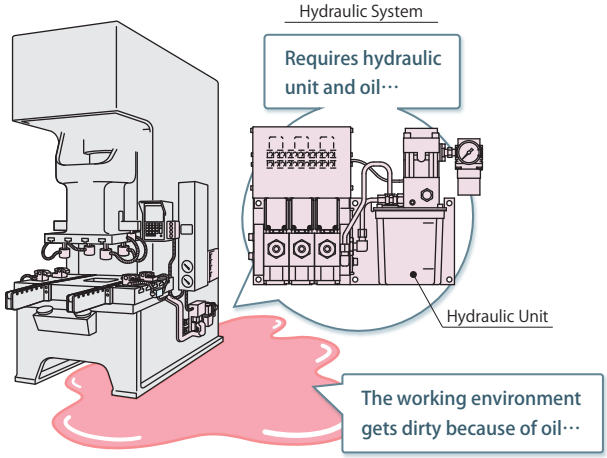
Keeps Your Factory Clean.
Also, since clamping action is faster than hydraulic, the die change time is drastically reduced.

Pneumatic System



Pneumatic Die Clamping System is suitable for press machines of electronic component.

Hydraulic System



Piston Clamp (Clamps at U-Cut of Die) : Model HQA

Model No. Indications

HQA **025** **0** - □ - □ □ - S□□□□□□

1 2 3 4 5 6

1 Clamping Force

010 : 10 kN **040** : 40 kN
025 : 25 kN **063** : 63 kN

2 Design No.

0 : Revision Number

3 Option

※ Please contact us for specifications, external dimensions and others.

Blank : Standard
H : Extra Height Rod
N : NPT Port ※1
P : Die Confirmation Proximity Switch (1 **040** or larger) ※2
T : T-Slot Locking
V : High Temperature (0 ~ 120℃)

Note :
※1. Dimensions in the specification sheet and other documents are in inches.

4 Proximity Switch Load Voltage (Current)

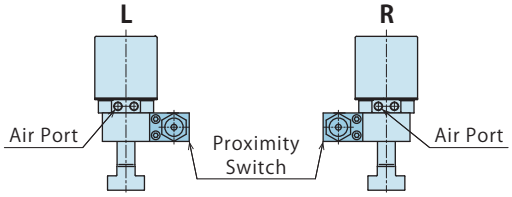
※2. Only when **P** : Die Confirmation Proximity Switch is chosen.

1 : AC100V **5** : DC24V (5~40mA)
2 : AC200V

5 Proximity Switch Mounting Position

※2. Only when **P** : Die Confirmation Proximity Switch is chosen.

L : Right Side as Seen from Air Port
R : Left Side as Seen from Air Port



6 Production Number

※ This number represents the main specification of the clamp's T-slot stem and the clamping height. After the specification is confirmed, we will create a number.

Specifications

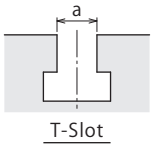
Model No.			HQA0100	HQA0250	HQA0400	HQA0630
Clamp Capacity	Holding Force kN	Air Pressure at 0.4 ~ 0.8 MPa	**10**	**25**	**40**	**63**
		Air Pressure at 0 MPa	2	5	8	12.6
	Clamping Force kN	Air Pressure at 0.8 MPa	2.5	6.3	10	15.8
		Air Pressure at 0.7 MPa	2.2	5.6	8.9	14
		Air Pressure at 0.6 MPa	2.0	4.9	7.8	12.3
		Air Pressure at 0.5 MPa	1.7	4.2	6.7	10.6
		Air Pressure at 0.4 MPa	1.4	3.5	5.6	8.8
		Air Pressure at 0 MPa	0.25	0.63	1.0	1.58
Full Stroke		mm	4	4	6	6
Cylinder Capacity	cm3	Lock	29	77	188	279
		Release	30	78	191	284
Air Pressure		MPa	0.4 ~ 0.8			
Withstanding Pressure		MPa	1.0			
Usable Fluid			Dry Air			
Operating Temperature ※3		℃	0 ~ 70 (**V** High Temperature：0 ~ 120)			
Use Frequency ※4			20 cycles or less / day			
Minimum T-Slot Width a (JIS) ※5		mm	8	12	16	18

Notes :

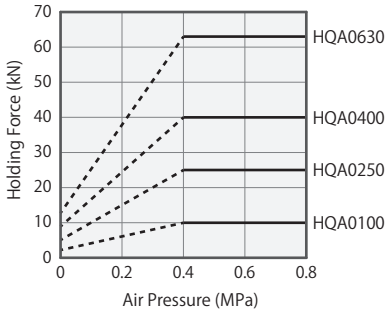
※3. Option **V**：High Temperature for operating temperature 0~120℃.

※4. Please contact us for more frequent use.

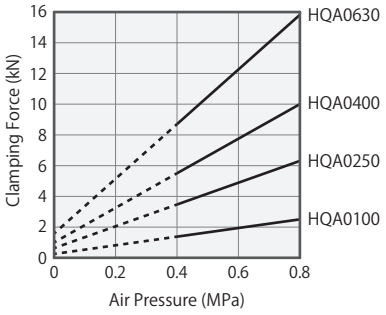
※5. It shows reference dimensions. The dimension may differ from specification depending on T-slot (T-leg) dimension.



Holding Force Curve

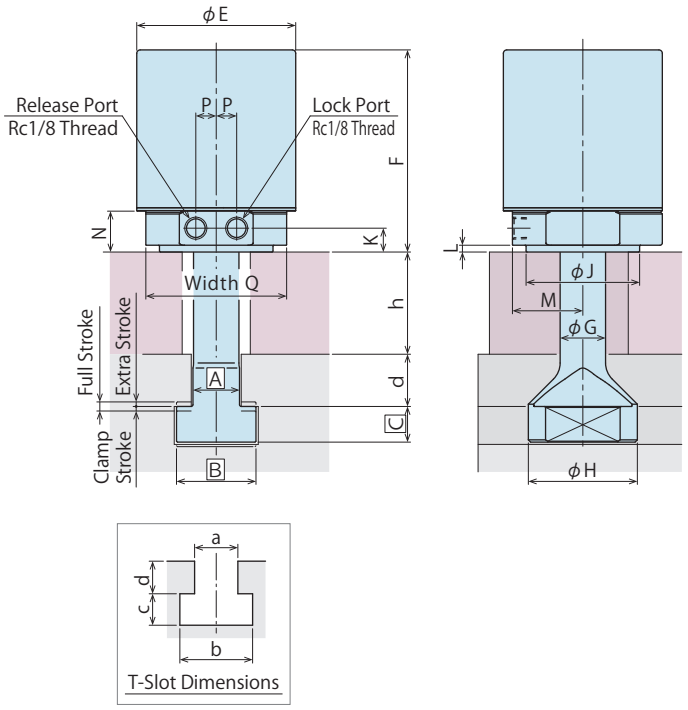


Clamping Force Curve



Piston Clamp (Clamps at U-Cut of Die) : Model HQA

External Dimensions



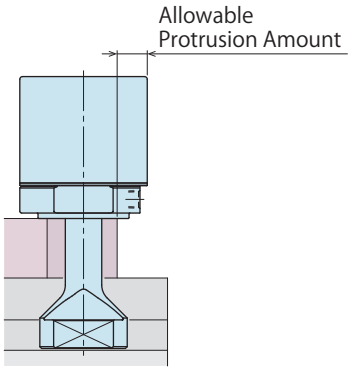
(mm)

Model No.	HQA0100	HQA0250	HQA0400	HQA0630
Full Stroke	4	4	6	6
Clamp Stroke※1	2	2	3	3
Extra Stroke※1	2	2	3	3
E	50	70	90	108
F	77	89	126	128
G	15	20	25	30
H	30	48	58	68
J	38	50	60	78
K	9	10.5	10.5	10.5
L	2	3	3	3
M	20	31	39	48
N	16	18	18	18
P	8	9	15	16.5
Q	40	62	-	-
min.C	5	7	9.5	11
max.h+d	60	80	90	100
Weight※2 kg	0.9	2.2	4.7	7

Notes : 1. The drawing shows the clamped condition of 3 Option "**Blank** : Standard" in the model No. indication.
Please contact us for external dimensions for options.
2. A B C dimensions are determined by Kosmek according to the T-slot dimensions.
3. When making an order, please indicate a, b, c, d dimensions of T-slot and h dimensions of die clamping thickness.
4. Please indicate the dimensions of a, b, c, d and h in 0.1mm increments.
5. When the dimension of h+d is higher than the standard, 3 Option **H** : Extra Height Rod should be chosen.
6. Do not exceed the clamp's capacity.
7. Specifications/Contents in this catalog are subject to change without prior notice.
Ask for the approval drawing before deciding to purchase.

※1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us separately.
※2. The weight shows in case of max.h+d.

Allowable Protrusion Amount when Locking



Model No.	Allowable Protrusion Amount (mm)
HQA0100	18
HQA0250	25.5
HQA0400	34
HQA0630	41

Note :
1. The dimensions on the list are for reference.
The dimensions may differ from specification depending on T-slot (T-leg) dimension or body material.

Accessory : HQAH Clamp Hook

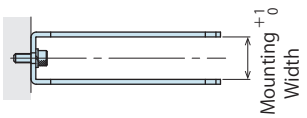
Model No. Indication

HQAH 18 0

1 2

1 Mounting Width

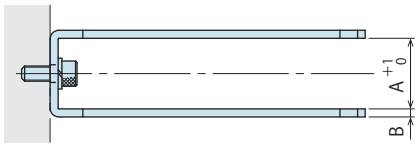
12 : Mounting Width 12 mm
18 : Mounting Width 18 mm
22 : Mounting Width 22 mm
28 : Mounting Width 28 mm
32 : Mounting Width 32 mm
36 : Mounting Width 36 mm
42 : Mounting Width 42 mm

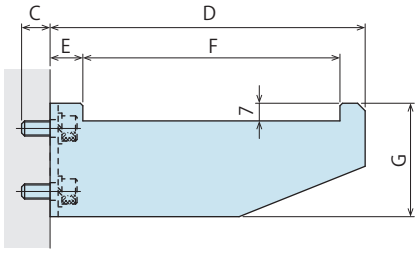


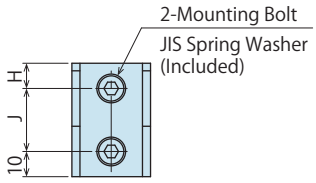
2 Design No.

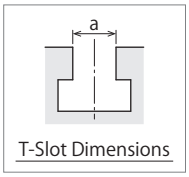
0 : Revision Number

External Dimensions





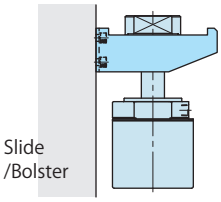


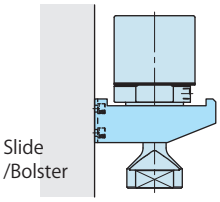


(mm)

Model No.	Weight kg	A	B	C	D	E	F	G	H	J	Mounting Bolt	Applicable T-Slot a	Applicable Clamp Model No.
HQAH120	0.1	12	2.3	8.4	80	13	57	40	10	20	M5×0.8×12	12	HQA0100/0250
HQAH180	0.2	18	3.2	11.3	100		77	45		25	M6×1×16	16	HQA0100/0250/0400
												18	HQA0100/0250/0400/0630
HQAH220	0.2	22			125		102					20	
HQAH280	0.3	28										22	HQA0250/0400/0630
HQAH320	0.4	32	4.5	10	150		127					24~28	
HQAH360	0.4	36										28~32	
HQAH420	0.5	42		9.5				50	15		M8×1.25×16	32~36	
												42	HQA0400/0630

Application Examples





Notes :
1. This clamp hook shows when using the standard HQA clamp.
2. Please do not operate a press machine continuously with a clamp suspended from clamp hook. The clamp hook should be used only during die change.
3. Material : SS400, Surface Finishing : Alkaline Blackening

Lever Clamp (No U-Cuts Required) : Model HQB

Model No. Indications

HQB 025 0 - □ - □ □ - S□□□□□□

1 2 3 4 5 6

1 Clamping Force

010 : 10 kN **040** : 40 kN
025 : 25 kN **063** : 63 kN

2 Design No.

0 : Revision Number

3 Option

※ Please contact us for specifications, external dimensions and others.

Blank : Standard
H : Extra Height Rod
J : Low Lever
N : NPT Port ※1
P : Die Confirmation Proximity Switch (**1040** or larger) ※2
V : High Temperature (0 ~ 120℃)

Note :
※1. Dimensions in the specification sheet and other documents are in inches.

4 Proximity Switch Load Voltage (Current)

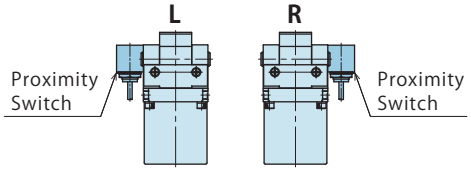
※2. Only when **P** : Die Confirmation Proximity Switch is chosen.

1 : AC100V **5** : DC24V (5~40mA)
2 : AC200V

5 Proximity Switch Mounting Position

※2. Only when **P** : Die Confirmation Proximity Switch is chosen.

L : Left Side as Seen from Back Side of Clamp
R : Right Side as Seen from Back Side of Clamp



6 Production Number

※ This number represents the main specification of the clamp's T-slot stem and the clamping height.
After the specification is confirmed, we will create a number.

Specifications

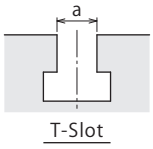
Model No.			HQB0100	HQB0250	HQB0400	HQB0630
Clamp Capacity	Holding Force kN	Air Pressure at 0.4 ~ 0.8 MPa	**10**	**25**	**40**	**63**
		Air Pressure at 0 MPa	2	5	8	12.6
	Clamping Force kN	Air Pressure at 0.8 MPa	2.5	6.3	10	15.8
		Air Pressure at 0.7 MPa	2.2	5.6	8.9	14
		Air Pressure at 0.6 MPa	2.0	4.9	7.8	12.3
		Air Pressure at 0.5 MPa	1.7	4.2	6.7	10.6
		Air Pressure at 0.4 MPa	1.4	3.5	5.6	8.8
		Air Pressure at 0 MPa	0.25	0.63	1.0	1.58
Full Stroke		mm	4	4	6	6
Cylinder Capacity cm³		Lock	29	77	188	279
		Release	30	78	191	284
Air Pressure		MPa	0.4 ~ 0.8			
Withstanding Pressure		MPa	1.0			
Usable Fluid			Dry Air			
Operating Temperature ※3		℃	0 ~ 70 (**V** High Temperature：0 ~ 120)			
Use Frequency ※4			20 cycles or less / day			
Minimum T-Slot Width a (JIS) ※5		mm	10	14	18	22

Notes :

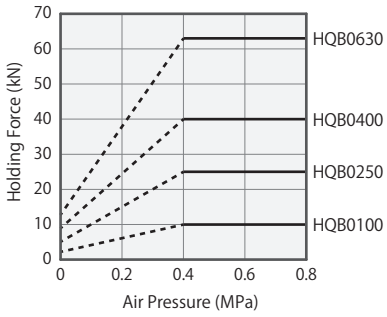
※3. Option **V**：High Temperature for operating temperature 0~120℃.

※4. Please contact us for more frequent use.

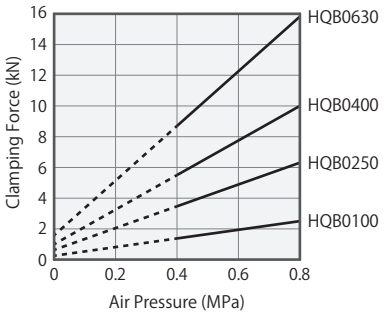
※5. It shows reference dimensions. The dimension may differ from specification depending on T-slot (T-leg) dimension.



Holding Force Curve

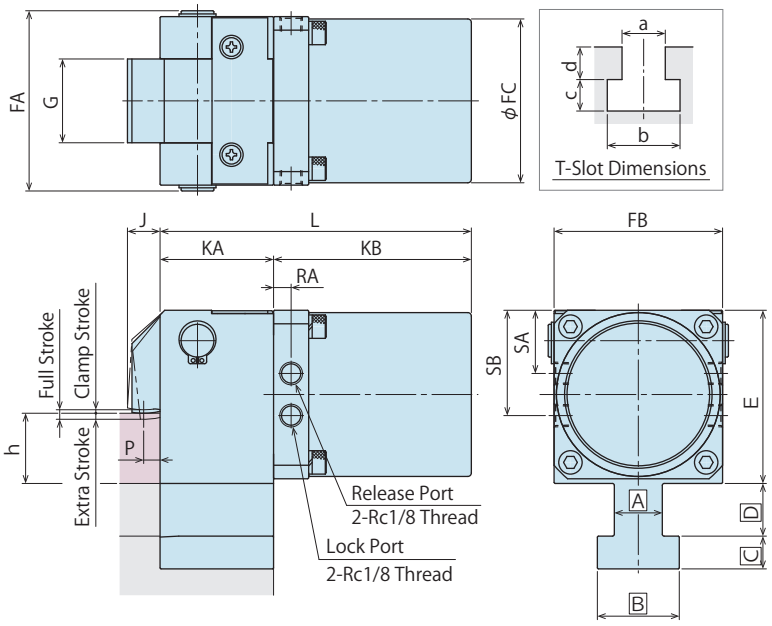


Clamping Force Curve



Lever Clamp (No U-Cuts Required) : Model HQB

External Dimensions



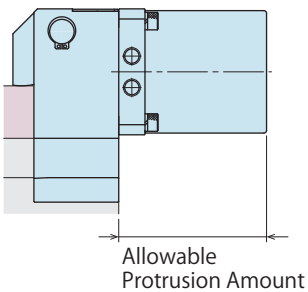
(mm)

Model No.	HQB0100	HQB0250	HQB0400	HQB0630
Full Stroke	4	4	6	6
Clamp Stroke ※1	1.5	1.5	2	2
Extra Stroke ※1	2.5	2.5	4	4
min.E	53	74	93	115.5
FA	55	77	95	117
FB	50	72	90	112
FC	50	70	90	108
G	24.8	35.8	44.8	55.8
max. J	14	15	22	24
KA	35	48.5	59	71
KB	75	84.5	123	125
L	110	133	182	196
P	6	7	7.5	9
RA	7.5	7.5	7.5	7.5
SA	17	27	30	41
SB	33	45	60	74
min.h	15	20	25	30
max.h	30	40	50	60
min.h (In case of 3 J)	10	15	20	25
Weight ※2 kg	1.6	3.8	7.9	13.4

Notes : 1. The drawing shows the clamped condition of 3 Option "**Blank**: Standard" in the model No. indication.
Please contact us for external dimensions for options.
2. A B C D dimensions are determined by Kosmek according to the T-slot dimensions.
3. When making an order, please indicate a, b, c, d dimensions of T-slot and h dimensions of die clamping thickness.
4. Please indicate the dimensions of a, b, c, d and h in 0.1mm increments.
5. When it is lower than the min. h, 3 Option **J** : Low Lever should be chosen.
When it is higher than the max. h, 3 Option **H** : Extra Height Body should be chosen.
6. Do not exceed the clamp's capacity.
7. Specifications/Contents in this catalog are subject to change without prior notice.
Ask for the approval drawing before deciding to purchase.

※1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us separately.
※2. The weight shows in case of min.h.

Allowable Protrusion Amount when Locking



Model No.	Allowable Protrusion Amount (mm)
HQB0100	75
HQB0250	84.5
HQB0400	123
HQB0630	125

Note :
1. The dimensions on the list are for reference.
The dimensions may differ from specification depending on T-slot (T-leg) dimension or body material.

Accessory：HQBH Clamp Hook

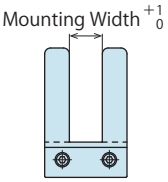
Model No. Indication

HQBH 18 0

1 2

1 Mounting Width

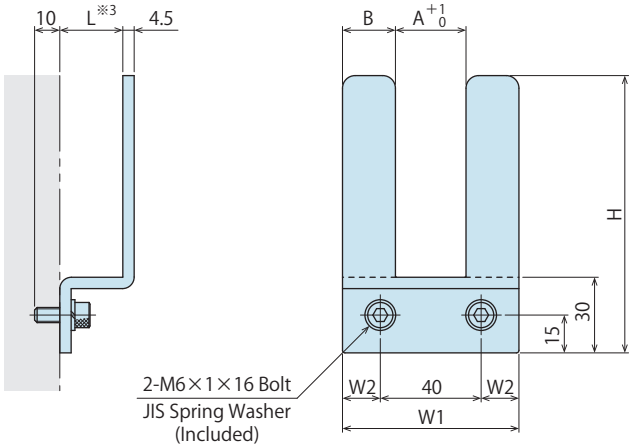
12 : Mounting Width 12 mm
16 : Mounting Width 16 mm
18 : Mounting Width 18 mm
22 : Mounting Width 22 mm
28 : Mounting Width 28 mm
32 : Mounting Width 32 mm

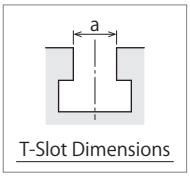


2 Design No.

0 : Revision Number

External Dimensions

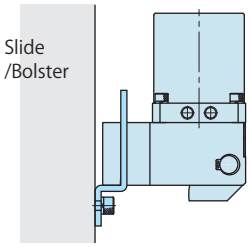




(mm)

Model No.	Weight kg	A	B	H	L※3	W1	W2	Applicable T-Slot a	Applicable Clamp Model No.
HQBH120	0.1	12	19	80	16	50	8	12	HQB0100
HQBH160	0.1	16	17					16	HQB0100/0250
HQBH180	0.2	18	21	100	19	60	10	18	HQB0100/0250/0400
HQBH220	0.2	22	19					20	
								22	HQB0250/0400/0630
HQBH280	0.3	28	21	110	25	70	15	24~28	
HQBH320	0.3	32	21.5	115		75		28~32	

Application Examples



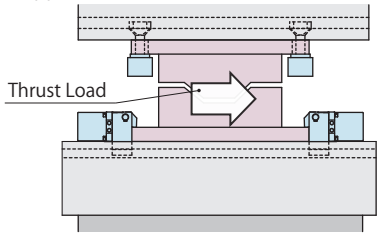
Notes :
1. This clamp hook shows when using the standard HQB clamp.
2. Please do not operate a press machine continuously with a clamp suspended from clamp hook. The clamp hook should be used only during die change.
3. Material：SPC, Surface Finishing：Alkaline Blackening

※3. Do not use this clamp hook in case the dimension L is smaller than clamp T-leg dimension C.

Cautions

Notes for Design

1) Check specifications.
- Please use each product according to the specifications.
- Do not exceed the specified operating pressure.
  Falling down of the die due to the damage on clamps leads to injury. In order to reduce clamping force, use them with lower operating pressure.
- The ambient operating temperature of clamp should be 70℃ or less. (For High Temperature Model, it should be 120℃ or less.)
- When selecting the clamping force, consider the thrust load which is applied on the die.

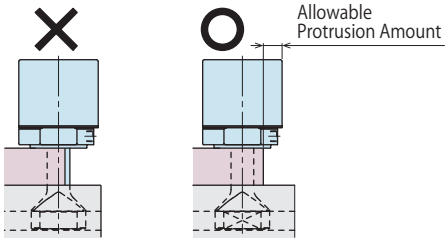


2) Check clamping die thickness.
- Please check the clamping die thickness.
  If using dies other than specified, clamps cannot conduct locking action normally leading to injury.

3) Check T-slot dimensions.
- Please check the T-slot dimensions.
  If T-slot dimensions are different from the specification, clamps cannot conduct locking action normally leading to injury.

4) When the clamp cylinder sticks out of U-slot or T-slot, please use it within the allowable protrusion amount. Otherwise, excessive force is applied to the clamp and it deforms the clamp or damages mounting bolt resulting in falling off of the clamp and injury.
Sticks out from the U-cut of the die. ・・・Model HQA
Sticks out from T-slot of the slider / bolster. ・・・Model HQB

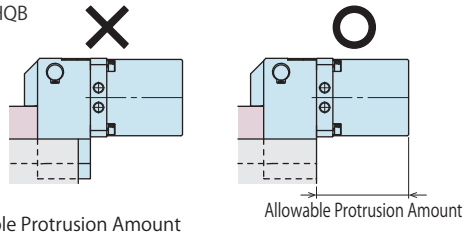
Model HQA



Allowable Protrusion Amount

Model No.	Allowable Protrusion Amount (mm)
HQA0100	18
HQA0250	25.5
HQA0400	34
HQA0630	41

Model HQB

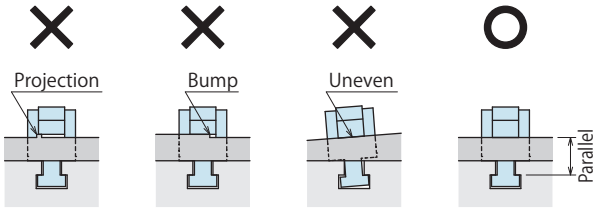


Allowable Protrusion Amount

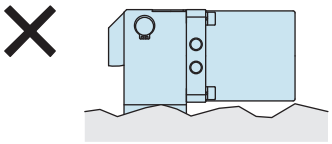
Model No.	Allowable Protrusion Amount (mm)
HQB0100	75
HQB0250	84.5
HQB0400	123
HQB0630	125

※. The dimensions on the list are for reference.
The dimensions may differ from specification depending on T-slot (T-leg) dimension or body material.

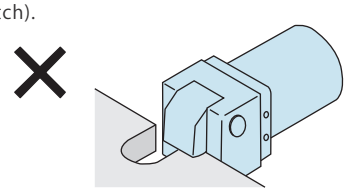
5) Die clamping surface and T-slot must be parallel to mounting surface of the die.
- If clamping surface is not even or parallel, excessive force is applied to the clamp and it deforms main body and lever of the clamp resulting in falling off of the clamp and injury.



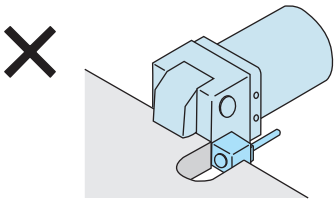
6) In case of Using HQB Clamp
- The clamp sliding surface must be smooth (without any bumps). Otherwise the clamp does not slide properly.



- Make sure there is no notch such as U-cut on the clamping part of the die.
  Otherwise, clamps cannot conduct locking action normally leading to injury. Please contact us for clamping a die with U-cut (notch).



7) In case of using HQB-P Clamp (with Die Confirmation Proximity Switch)
- Make sure there is no notch such as U-cut on the die surface where the die confirmation proximity switch contacts. Otherwise the die confirmation proximity switch does not operate properly.



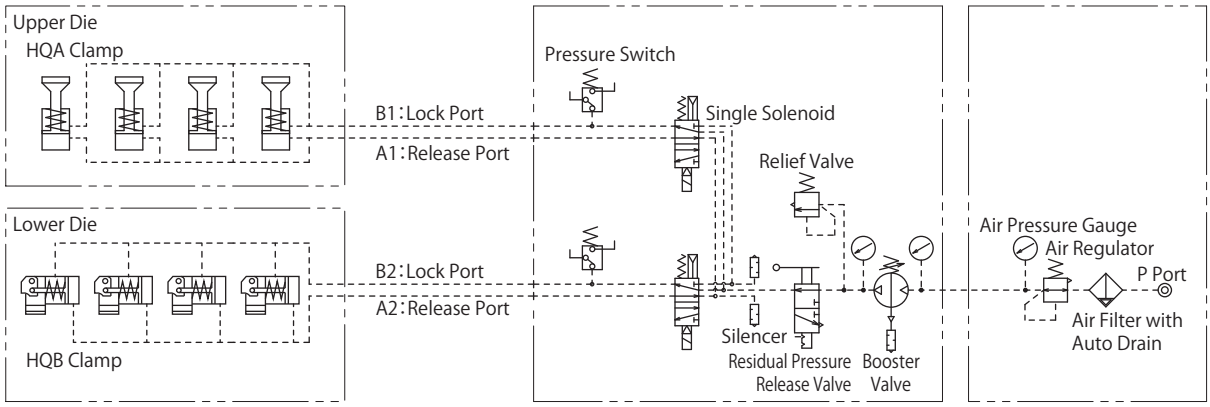
8) In case of using with Die Lifter
- Do not lift up the die lifter while in clamp locked state.
- When unloading the die, lift up the die lifter after setting the clamp aside.

9) Do not use with spring die lifter.
- Clamp cannot be locked properly due to the lifting force of the spring die lifter.

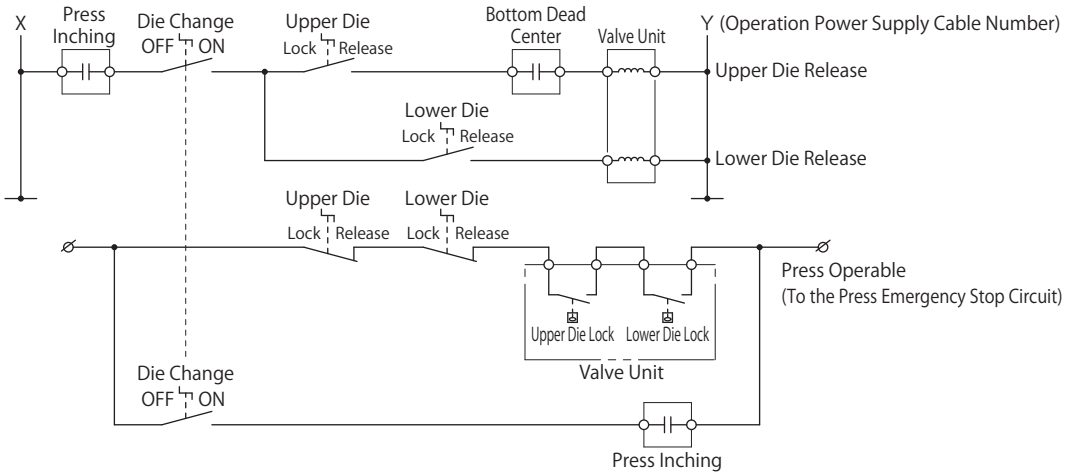
10) Notes for Circuit Design

- Be careful with the circuit design. Please design the air・electric circuit properly and review the circuit design in advance in order to avoid malfunction or breakage of the device.
- Refer to the circuit diagram below for designing by customer.

【Air Circuit Example】



【Electric Circuit Example】

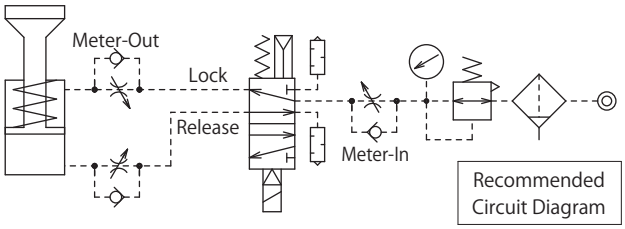


Cautions

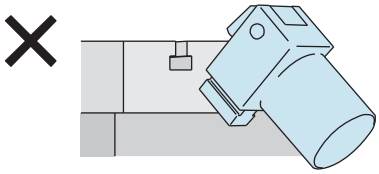
Installation Notes

1) Check the fluid to use.
- Please supply filtered clean dry compressed air. (Install the drain removing device such as an aftercooler and air dryer, etc.)
  Since the initial lubricant is applied, oil supply with a lubricator etc. is unnecessary. If oil is supplied with a lubricator, the product ability decreases and the clamp operation under low pressure and low speed may be unstable due to the loss of the initial lubricant.

2) Operating Speed Adjustment
- Install a speed control valve (meter-out) and gradually control the flow rate from the low-speed side (small flow) to the designated speed. Controlling from the high-speed side (large flow) causes excessive surge pressure or overload to the clamp leading to damage of a machine or device.



3) Clamp Fall Prevention
- Make sure the clamp does not fall from T-slot.
  Falling of the clamp leads to injury.



4) Preparation for 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.)

5) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screwing direction.
  When piping, be careful that contaminants such as sealing tape do not enter in products. Pieces of the sealing tape can lead to air leaks and malfunction.

6) Piping and Wiring
- For piping and wiring, make sure not to damage air tubes and electric wires when a clamp moves forward and backward.

7) When supplying air pressure with coupler, it is better to change the color of tube or coupler type in order not to connect lock air and release air opposite to each other.

Notes on Handling

1) Shutting down of the machine should be done without load applied to the clamp.
- This can result in the dropping of a die.
- When using the product for a press machine, make sure to stop the machine with the slide at bottom dead point.

2) It should be operated by qualified personnel.
- The pneumatic equipment should be operated and maintained by qualified personnel.

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

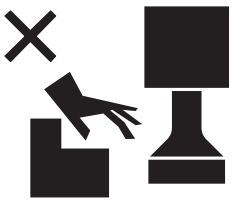
① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.

② Before the product is removed, 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 air circuits.

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

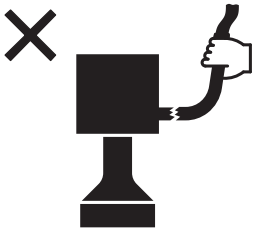
④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.

4) Do not touch clamps while they are working.
- Otherwise, your hands may be injured.



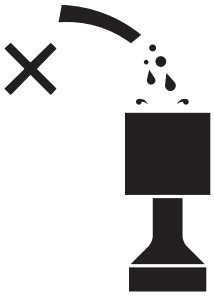
5) When changing the width of the die, make sure to check the allowable protrusion amount.
- If using it with beyond allowable protrusion amount, excessive force is applied to the clamp which deforms or damages the clamp resulting in falling off of the die and accident or injury.
  Please refer to "Notes for design No.4 (P.15)" for the allowable protrusion amount.

6) Please hold the main body of the clamp when moving or removing.
- If pulling on air tube, the clamp will fall off leading to injury.
  Also, rivet part of the hose will be loosened leading to air leakage.



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

8) Please do not pour water / oil over the product.
- It may lead to malfunction or deterioration of the product and cause an accident.



9) Make sure not to connect lock air and release air opposite to each other when supplying air pressure by connecting/disconnecting the coupler.
- Operate lock/release action after connecting/disconnecting the coupler to make sure that the clamp operates properly.

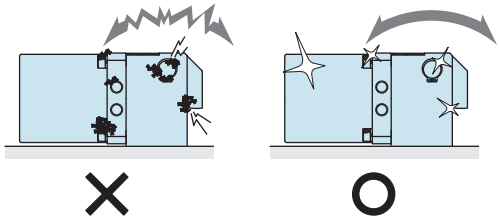
10) Do not apply load on the clamp when air pressure drops to 0MPa.
- In case of air source trouble the clamp has holding force with mechanical lock even when air pressure drops to 0MPa. However, do not apply load on the clamp at this state.

11) Do not supply lock air and release air simultaneously.
- It leads to damage and decline of the clamp capacity.

Maintenance/Inspection

1) Removal of the Product and Shut-off of Pressure Source
- Before the product is removed, make sure that safety devices are in place. Shut off the pressure source and make sure 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 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) Regularly tighten pipes, bolts, snap rings, etc. to ensure proper use.

4) Make sure to supply filtered clean dry air.

5) Make sure there is a smooth action without an irregular noise or air leakage.
- Especially when it is restarted after being 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.

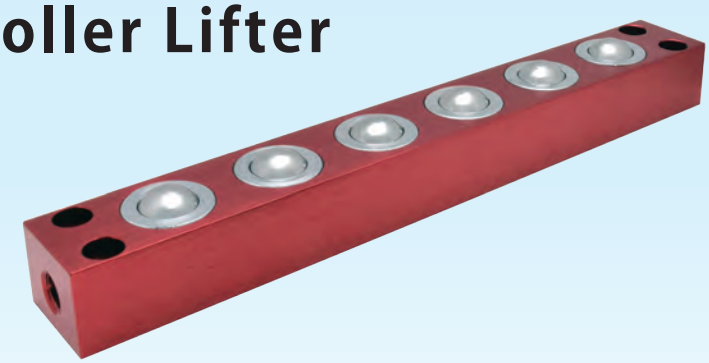
7) Please contact us for overhaul and repair.

※ Please refer to P.37 for common cautions. ・Warranty

All-Pneumatic Quick Die Change System

Pneumatic Free Roller Lifter

Model RQC



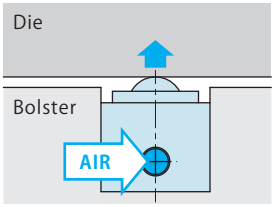
Easy to Transfer and Locate a Die

Die Lifter without Hydraulic Pressure

Pneumatic Force to Lift and Move a Die with Light Force

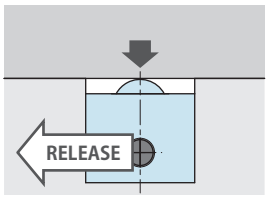
LIFT UP AIR : ON

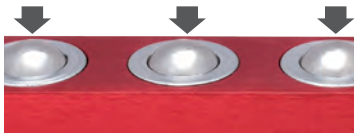
The ball lifts up by supplying air pressure.



LIFT DOWN AIR : OFF

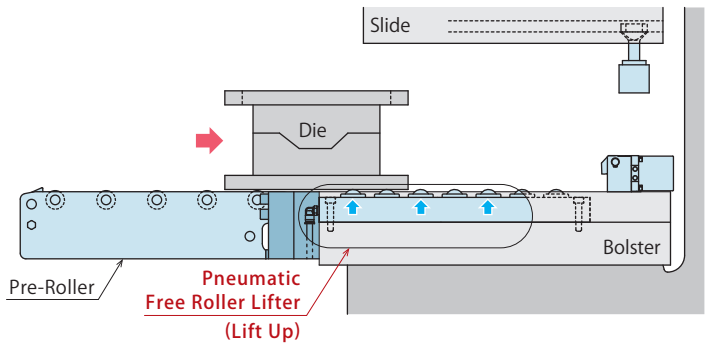
The ball lifts down with die weight by releasing air pressure.





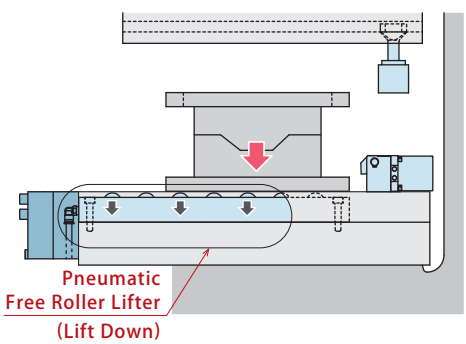
Loading/Unloading a Die

The balls lift up the die.
It enables to move the die into the press machine with light force.



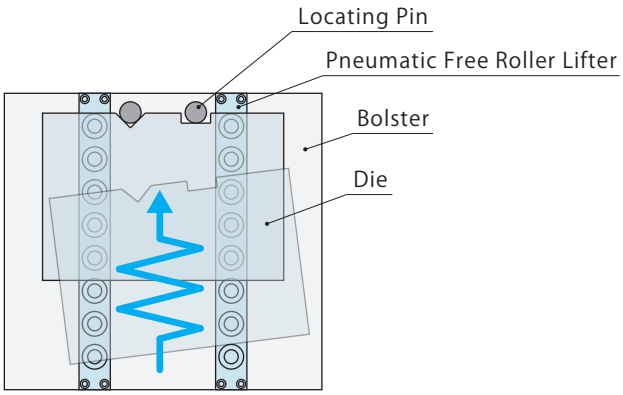
Die Loaded

After loading, the balls lift down.
The die is in contact with the bolster.



The Ball Moves 360° Flexibly

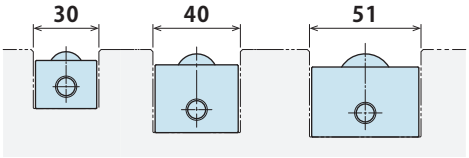
Able to move a die easily to the locating point.



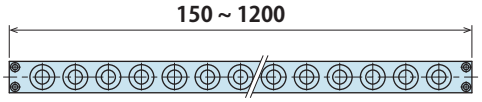
82 Options Available for Various Usage

Can be used for various methods such as transferring a workpiece, pallet and others.

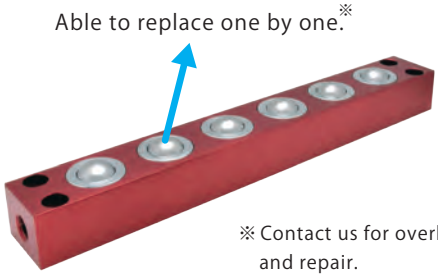
Slot Width : Three Options



Total Length : 150 ~ 1200mm



Simple Maintenance : Each Lift Cylinder is Built Separately

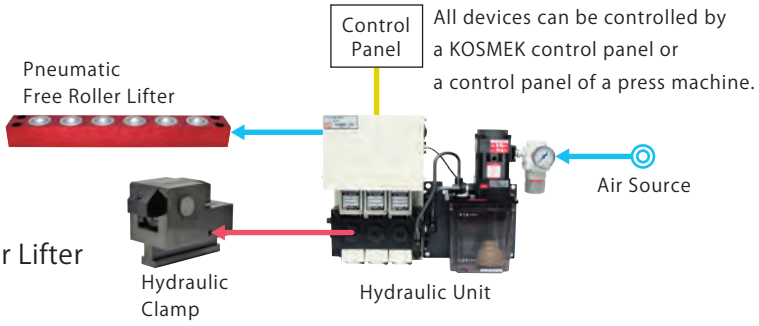


※ Contact us for overhaul and repair.

Also Suitable for the Use with Hydraulic Clamps

Hydraulic clamps and pneumatic Free Roller Lifter can be controlled together.

Contact us for further information.

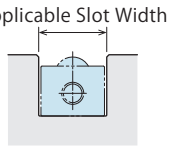


Model No. Indication

RQC 030 0 - 300
1 2 3

1 Applicable Slot Width

030 : Applicable Slot Width 30 $^{\pm 0.5}$ mm
040 : Applicable Slot Width 40 $^{\pm 0.5}$ mm
051 : Applicable Slot Width 51 $^{\pm 0.5}$ mm

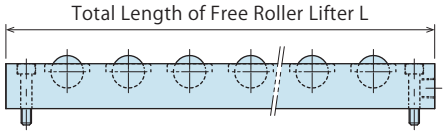


2 Design No.

0 : Revision Number

3 Total Length of Free Roller Lifter L

Please specify based on the external dimension list.



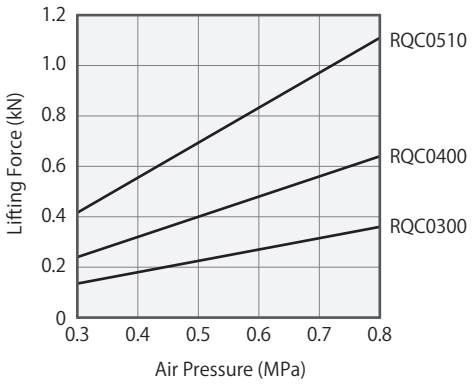
Specifications

Model No.		RQC0300	RQC0400	RQC0510
Applicable Slot Width	mm	30 $^{\pm 0.5}$	40 $^{\pm 0.5}$	51 $^{\pm 0.5}$
Applicable Slot Depth	mm	27 $^{\pm 0.1}$	38 $^{\pm 0.2}$	40 $^{\pm 0.2}$
Full Stroke	mm	3	4	4
Lift-Up Stroke	mm	2	2	2
Cylinder Capacity (per Cylinder) ※1	cm3	1.36	3.22	5.54
Operating Pressure Range	MPa	0.3 ~ 0.8		
Withstanding Pressure	MPa	1.0		
Usable Fluid		Dry Air		
Operating Temperature ※2	℃	0 ~ 70		

Lifting Force (per Cylinder) ※1 ※3

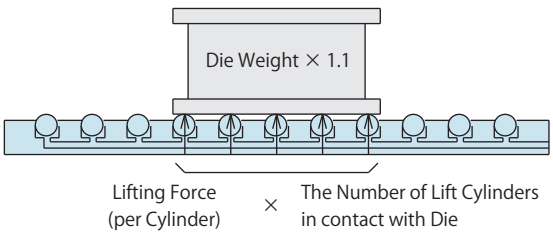
(kN)

Model No.	RQC0300	RQC0400	RQC0510
at Air Pressure 0.8 MPa	0.36	0.64	1.11
at Air Pressure 0.7 MPa	0.32	0.56	0.97
at Air Pressure 0.6 MPa	0.27	0.48	0.83
at Air Pressure 0.5 MPa	0.23	0.40	0.69
at Air Pressure 0.4 MPa	0.18	0.32	0.55
at Air Pressure 0.3 MPa	0.14	0.24	0.42



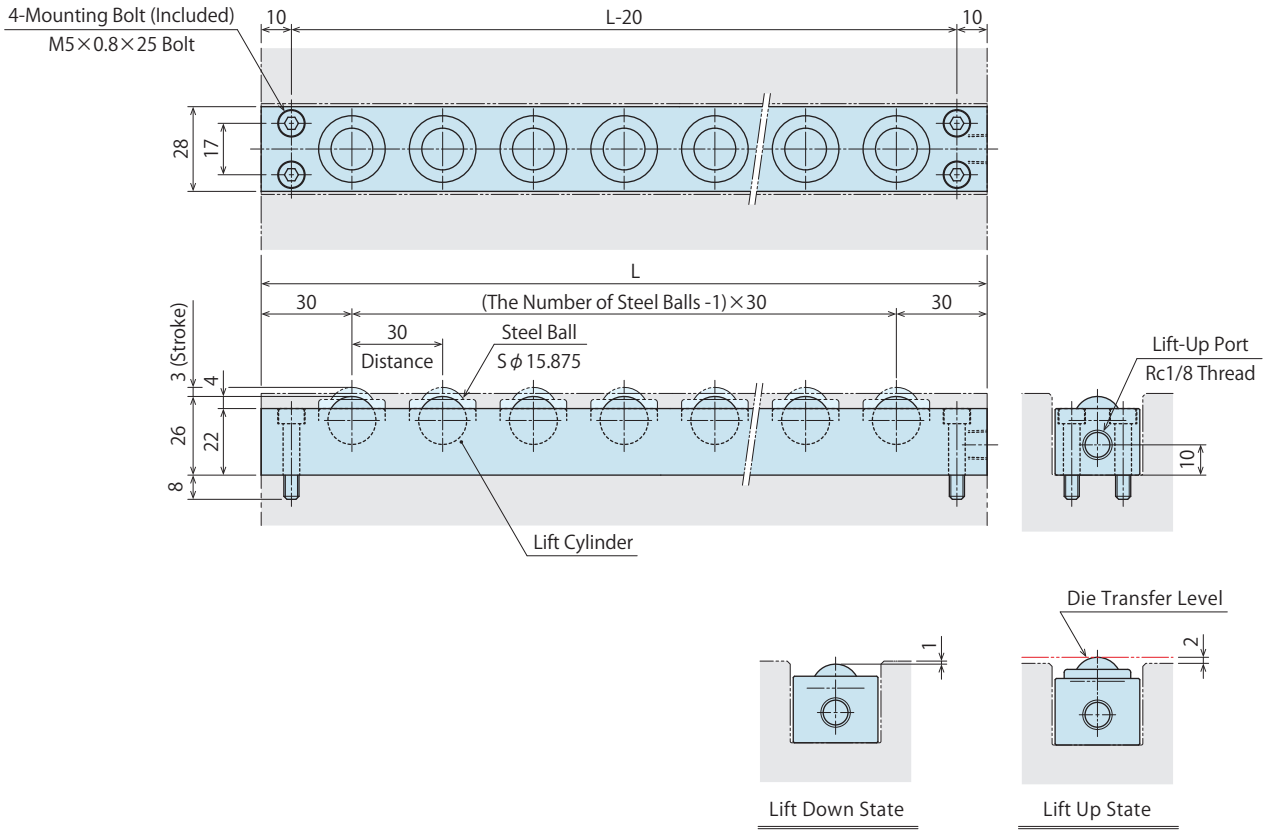
Notes :
※1. The number of cylinders per Free Roller Lifter varies depending on the total length of the Free Roller Lifter. Please refer to each external dimension list for details.
※2. Please contact us in case the operating temperature is higher than 70℃.
※3. It shows the lifting force per cylinder.
Check the number of cylinders in contact with the die.

Die Weight × 1.1 ≦ Lifting Force (per Cylinder) × The Number of Lift Cylinders in contact with Die



External Dimensions：RQC0300-□

※ This drawing shows the down state of RQC0300.



External Dimension List

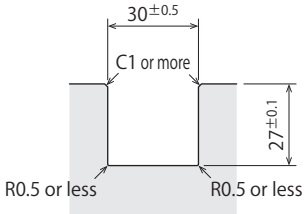
Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0300-150	150	0.4	4
RQC0300-180	180	0.5	5
RQC0300-210	210	0.6	6
RQC0300-240	240	0.7	7
RQC0300-270	270	0.7	8
RQC0300-300	300	0.8	9
RQC0300-330	330	0.9	10
RQC0300-360	360	1.0	11
RQC0300-390	390	1.1	12
RQC0300-420	420	1.1	13
RQC0300-450	450	1.2	14
RQC0300-480	480	1.3	15
RQC0300-510	510	1.4	16
RQC0300-540	540	1.5	17
RQC0300-570	570	1.5	18
RQC0300-600	600	1.6	19
RQC0300-630	630	1.7	20
RQC0300-660	660	1.8	21

Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0300-690	690	1.9	22
RQC0300-720	720	2.0	23
RQC0300-750	750	2.0	24
RQC0300-780	780	2.1	25
RQC0300-810	810	2.2	26
RQC0300-840	840	2.3	27
RQC0300-870	870	2.4	28
RQC0300-900	900	2.4	29
RQC0300-930	930	2.5	30
RQC0300-960	960	2.6	31
RQC0300-990	990	2.7	32
RQC0300-1020	1020	2.8	33
RQC0300-1050	1050	2.8	34
RQC0300-1080	1080	2.9	35
RQC0300-1110	1110	3.0	36
RQC0300-1140	1140	3.1	37
RQC0300-1170	1170	3.2	38
RQC0300-1200	1200	3.2	39

Note :

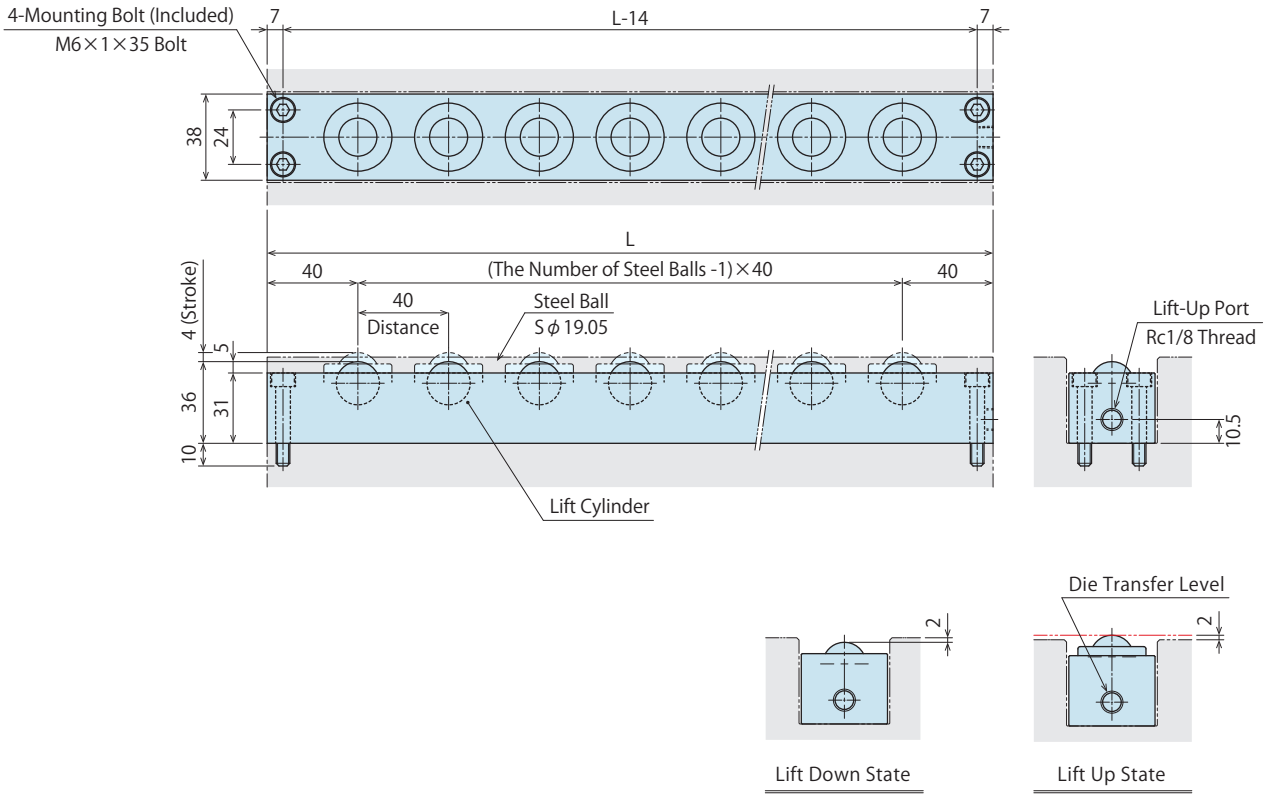
1. Lift cylinders are descended by die weight. The lift cylinders not in contact with a die do not go down even when air is released.

Machining Dimensions of Mounting Area



External Dimensions：RQC0400-□

※ This drawing shows the down state of RQC0400.



External Dimension List

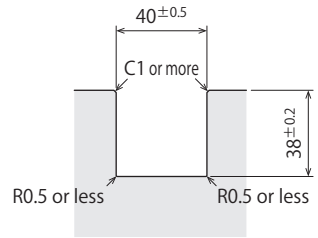
Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0400-200	200	1.0	4
RQC0400-240	240	1.2	5
RQC0400-280	280	1.4	6
RQC0400-320	320	1.6	7
RQC0400-360	360	1.8	8
RQC0400-400	400	2.0	9
RQC0400-440	440	2.3	10
RQC0400-480	480	2.5	11
RQC0400-520	520	2.7	12
RQC0400-560	560	2.9	13
RQC0400-600	600	3.1	14
RQC0400-640	640	3.3	15
RQC0400-680	680	3.5	16

Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0400-720	720	3.7	17
RQC0400-760	760	3.9	18
RQC0400-800	800	4.1	19
RQC0400-840	840	4.4	20
RQC0400-880	880	4.6	21
RQC0400-920	920	4.8	22
RQC0400-960	960	5.0	23
RQC0400-1000	1000	5.2	24
RQC0400-1040	1040	5.4	25
RQC0400-1080	1080	5.6	26
RQC0400-1120	1120	5.8	27
RQC0400-1160	1160	6.0	28
RQC0400-1200	1200	6.2	29

Note :

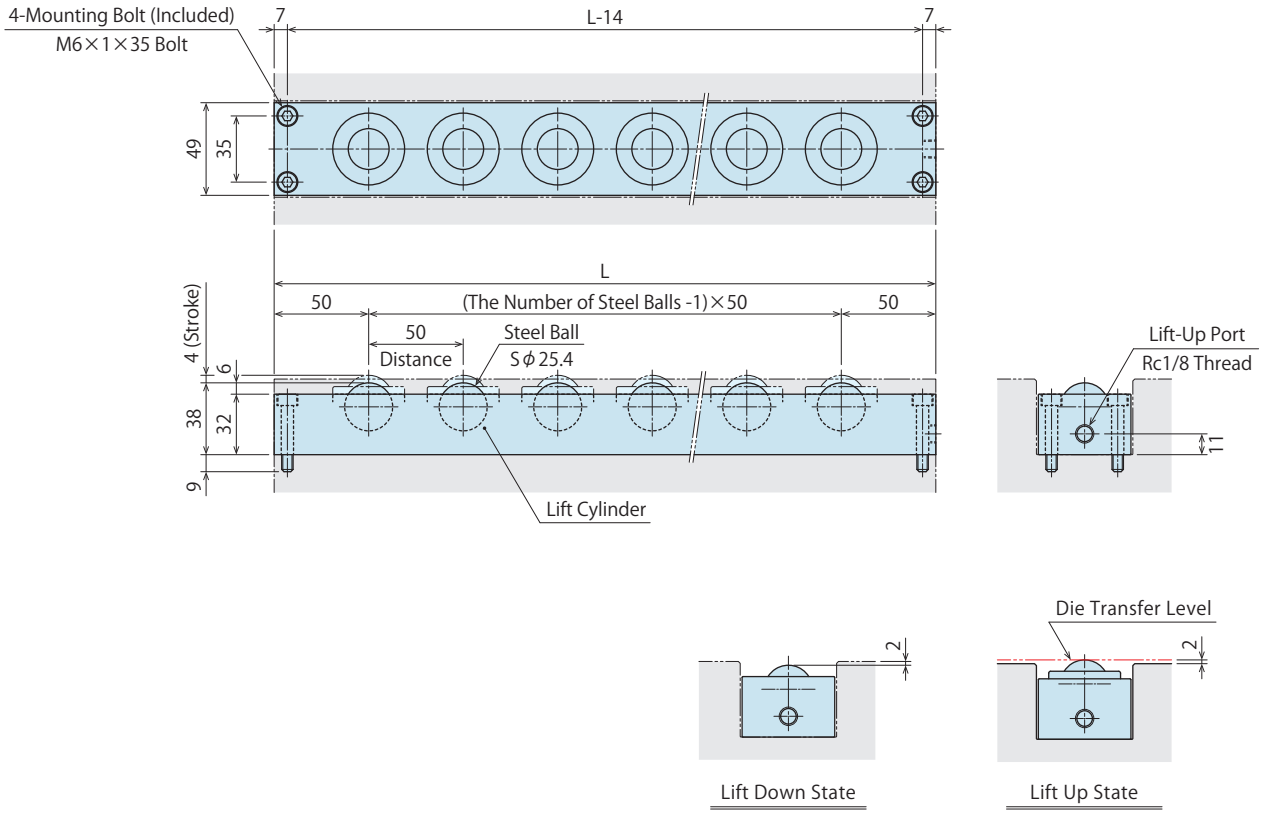
1. Lift cylinders are descended by die weight. The lift cylinders not in contact with a die do not go down even when air is released.

Machining Dimensions of Mounting Area



External Dimensions：RQC0510-□

※ This drawing shows the down state of RQC0510.



External Dimension List

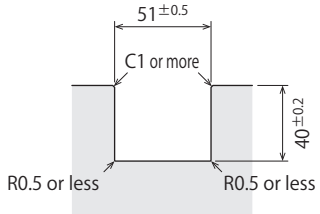
Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0510-250	250	1.7	4
RQC0510-300	300	2.0	5
RQC0510-350	350	2.4	6
RQC0510-400	400	2.8	7
RQC0510-450	450	3.1	8
RQC0510-500	500	3.5	9
RQC0510-550	550	3.8	10
RQC0510-600	600	4.2	11
RQC0510-650	650	4.6	12
RQC0510-700	700	4.9	13

Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls and Lift Cylinders
RQC0510-750	750	5.3	14
RQC0510-800	800	5.6	15
RQC0510-850	850	6.0	16
RQC0510-900	900	6.4	17
RQC0510-950	950	6.7	18
RQC0510-1000	1000	7.1	19
RQC0510-1050	1050	7.4	20
RQC0510-1100	1100	7.8	21
RQC0510-1150	1150	8.2	22
RQC0510-1200	1200	8.5	23

Note :

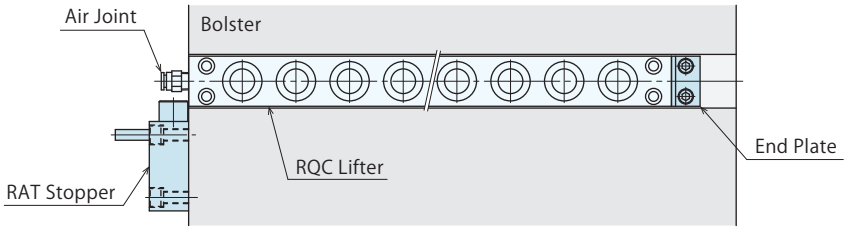
1. Lift cylinders are descended by die weight. The lift cylinders not in contact with a die do not go down even when air is released.

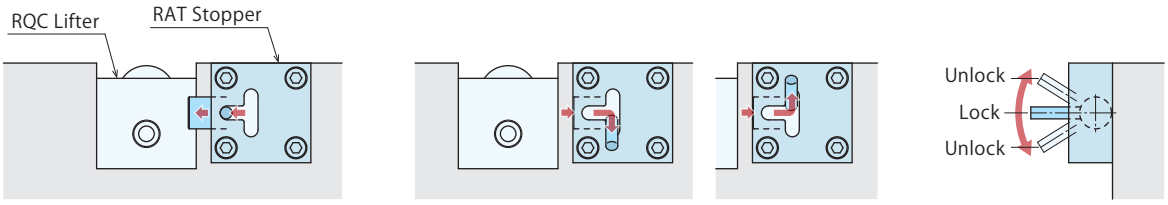
Machining Dimensions of Mounting Area



Accessory：Retractable Lifter

Enables manual operation of the stopper.
When locking the stopper, it prevents RQC Lifter from coming out of the bolster.
When unlocking the stopper, RQC Lifter is freely loaded and unloaded.





Lock (Manual)

Prevents RQC Lifter from coming out

Unlock (Manual)

Able to load / unlock RQC Lifter

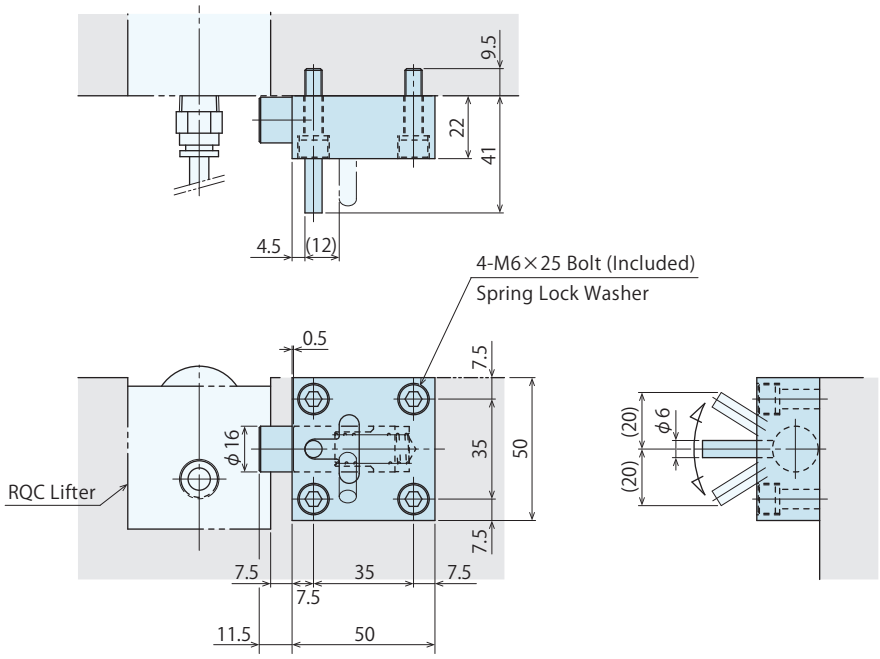
Notes :

1. Mounting bolts included in RQC Lifter are not used for the retractable lifter.
2. The retractable lifter is used in combination with RAT Stopper and End Plate.

Stopper

Model：**RAT500**

Applicable Models ：RQC0300/RQC0400/RQC0510
Weight ：0.5 kg

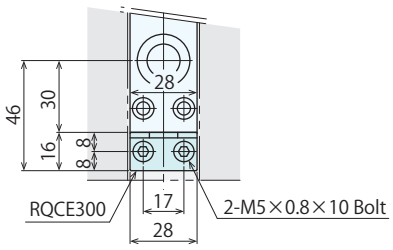


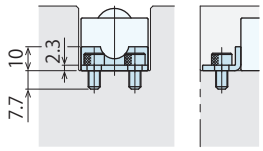
End Plate

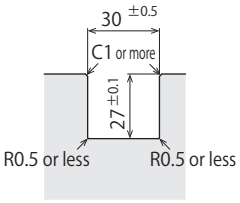
Slot-Mounted End Plate

Model : **RQCE300**

Applicable Model : RQC0300
Weight : 0.1 kg

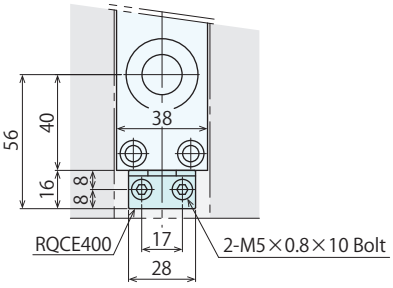


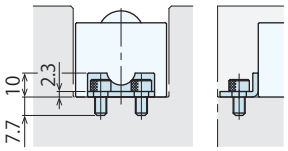


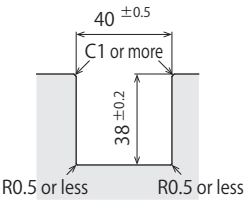


Model : **RQCE400**

Applicable Model : RQC0400
Weight : 0.1 kg

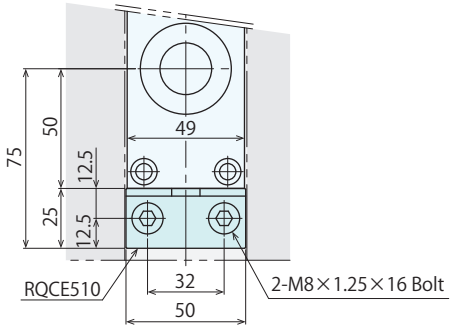


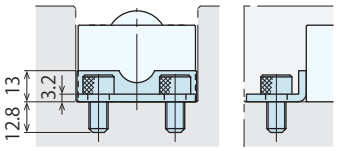


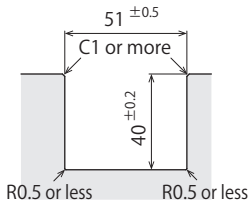


Model : **RQCE510**

Applicable Model : RQC0510
Weight : 0.1 kg



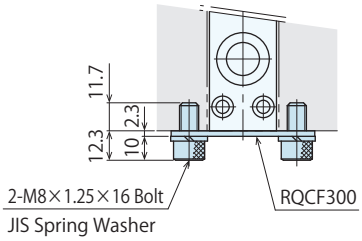


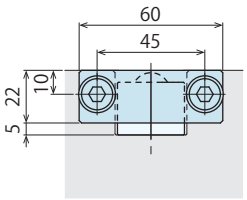


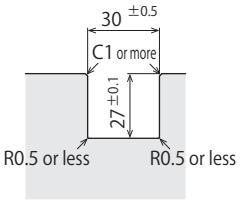
Edge-Mounted End Plate

Model : **RQCF300**

Applicable Model : RQC0300
Weight : 0.1 kg

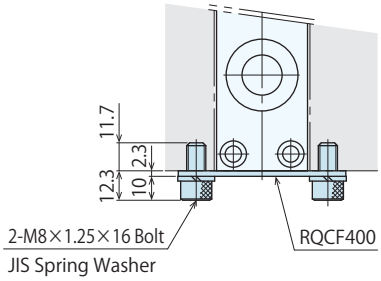


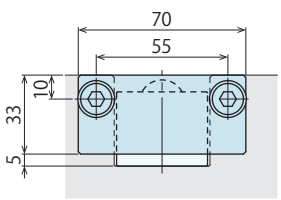


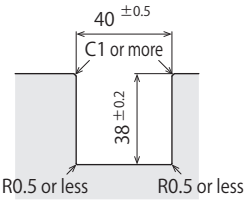


Model : **RQCF400**

Applicable Model : RQC0400
Weight : 0.1 kg

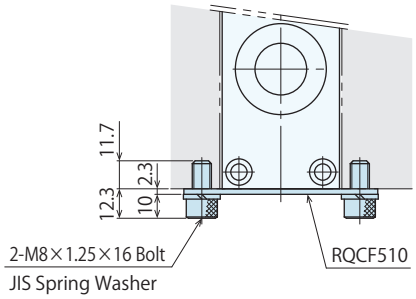


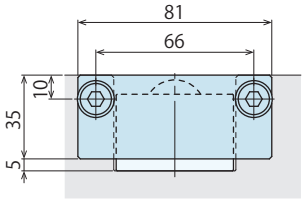


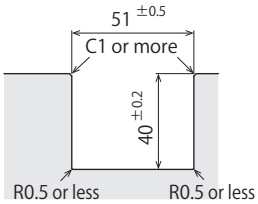


Model : **RQCF510**

Applicable Model : RQC0510
Weight : 0.1 kg







Cautions

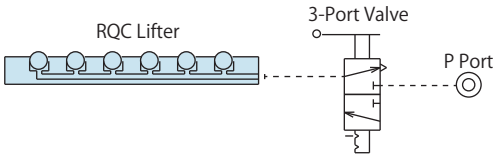
Notes for Design

1) Check Specifications

- Please use the product according to the specifications.
- Operating air pressure is 0.3 ~ 0.8MPa. Withstanding pressure is 1MPa. Operate within the specified condition. Failure to do so may result in damage on RQC Lifter, falling of a die and an injury.
- The ambient operating temperature should be 70℃ or less. (Please contact us for higher temperature.)

2) Notes for Circuit Designing

- Refer to the following for air circuit.
  Lifting up of RQC Lifter is performed by air pressure. The air needs to be released when lifting down, so use a valve with three or more ports. Improper circuit design may lead to malfunctions and damages.



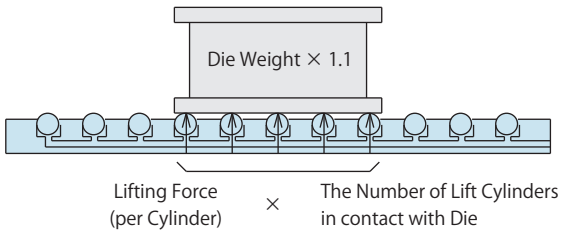
3) Contact Surface of Die and Steel Balls

- The die surface in contact with steel balls may be dented by tens of μm.

4) Check the lifting force and the number of cylinders.

- Lifting force on the specification is for one cylinder (one steel ball). Check the number of cylinders in contact with a die before use. Cylinders go down if lifting force is insufficient and it is unable to transfer a die. The lifting force will decrease when steel balls are not in contact with a die due to spot facing hole on the backside of the die.

Die Weight × 1.1 ≦ Lifting Force (per Cylinder)
× The Number of Lift Cylinders in contact with Die



5) Lift Cylinders Descended by Die Weight

- The lift cylinders not in contact with a die do not go down even when air is released.

Installation Notes

1) Check the fluid to use.

- Please supply filtered clean dry compressed air. (Install the drain removing device such as an aftercooler and air dryer, etc.)
  Since the initial lubricant is applied, oil supply with a lubricator etc. is unnecessary. If oil is supplied with a lubricator, the product ability decreases and the operation under low pressure and low speed may be unstable due to the loss of the initial lubricant.

2) Preparation for 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 and cause serious damage inside RQC Lifter. (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. When piping, be careful that contaminants such as sealing tape do not enter in products. Pieces of the sealing tape can lead to air leaks and malfunction.

4) Trial Operation Method

- Avoid supplying large air flow right after the installation.
  The operating time will be very fast and RQC Lifter may be seriously damaged. Please install the speed controller (meter-in) near the air source and gradually supply air pressure.

5) Installation of RQC Lifter

- Use the attached hexagonal socket bolts and tighten them with the following torque.

Model No.	Bolt Size	Tightening Torque (N・m)
RQC0300	M5×0.8	6.3
RQC0400	M6×1	10
RQC0510	M6×1	10

Notes on Handling

1) Shutting down of the machine should be done after air pressure of RQC Lifter is released.
- When RQC Lifter is lifted, a die will move and fall off leading to an accident.

2) It should be operated by qualified personnel.
- The pneumatic equipment 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 the product is removed, 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 air circuits.

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

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

4) Do not touch RQC Lifter while it is working.
- Otherwise, your hands may be injured.

5) Hold the RQC Lifter itself when Moving or Removing
- If pulling on the hose, RQC Lifter may fall off leading to an accident. Also, rivet part of the hose will be loosened leading to fluid leakage.

6) Do not disassemble or modify.
- If the equipment 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.
- It may lead to malfunction or deterioration of the product causing an accident.

Maintenance / 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 source and make sure no pressure exists in the air circuit.
- Make sure there is no trouble/issue in the bolts and respective parts before restarting.

2) Regularly tighten pipes to ensure proper use.

3) Regularly check that the supply air pressure is in the range of the operating pressure.

4) Make sure to supply filtered clean dry air.

5) Make sure steel balls moves smoothly without an irregular noise.

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) Regularly tighten the mounting bolts to ensure proper use.

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.

※ Please refer to P.37 for common cautions. • Warranty

All-Pneumatic Quick Die Change System

Air Valve Unit

Model MV

Automatic Model and Manual Model

Suitable for Controlling High-Power Pneumatic Die Clamp and Pneumatic Free Roller Lifter

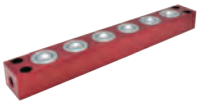
Lineup

- In case of using high-power pneumatic die clamp and pneumatic Free Roller Lifter together
- In case of using high-power pneumatic die clamp only
- In case of using pneumatic Free Roller Lifter only and requiring boosting pressure

Model HQA/HQB
High-Power
Pneumatic Die Clamp

+

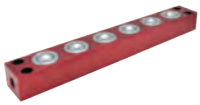
Model RQC
Pneumatic Free Roller Lifter



→ **Model MV90**
Air Valve Unit
Electric Control
with Boosting Valve
▶ P.31

- In case of using pneumatic Free Roller Lifter only and not requiring boosting pressure

Model RQC
Pneumatic Free Roller Lifter

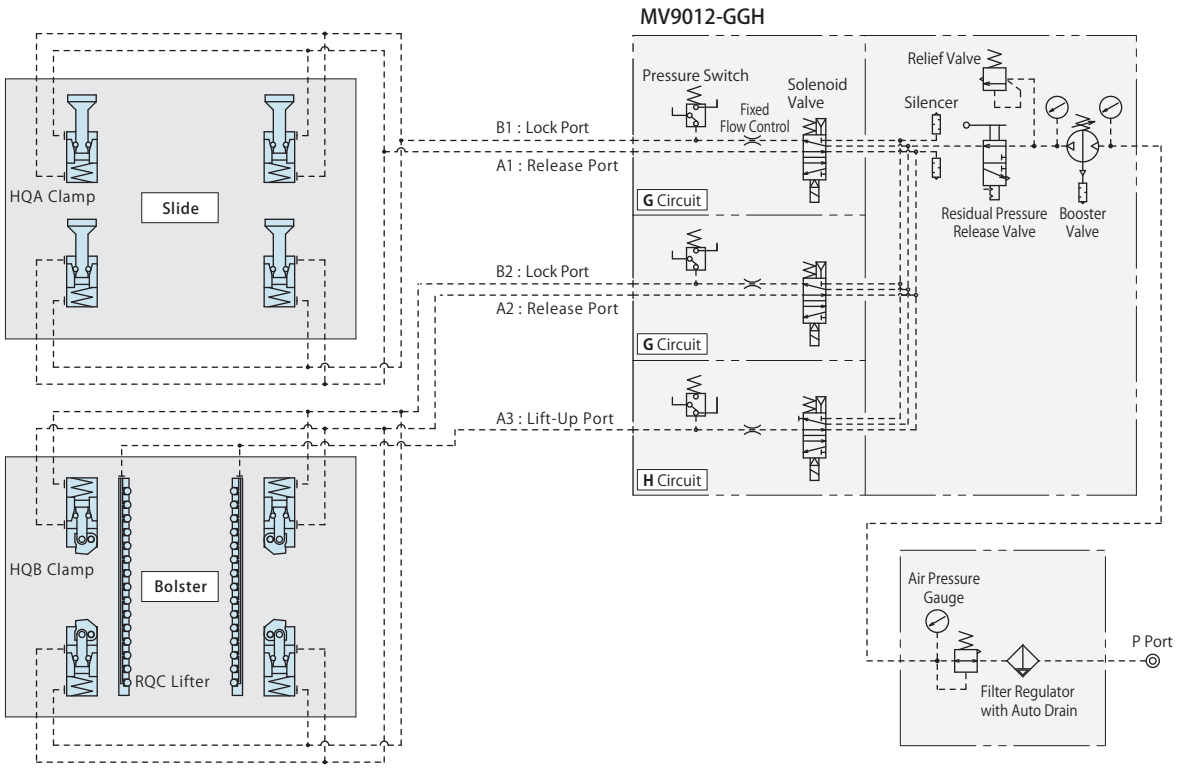


→ **Model MV70**
Air Valve Unit
Electric Control
▶ P.33

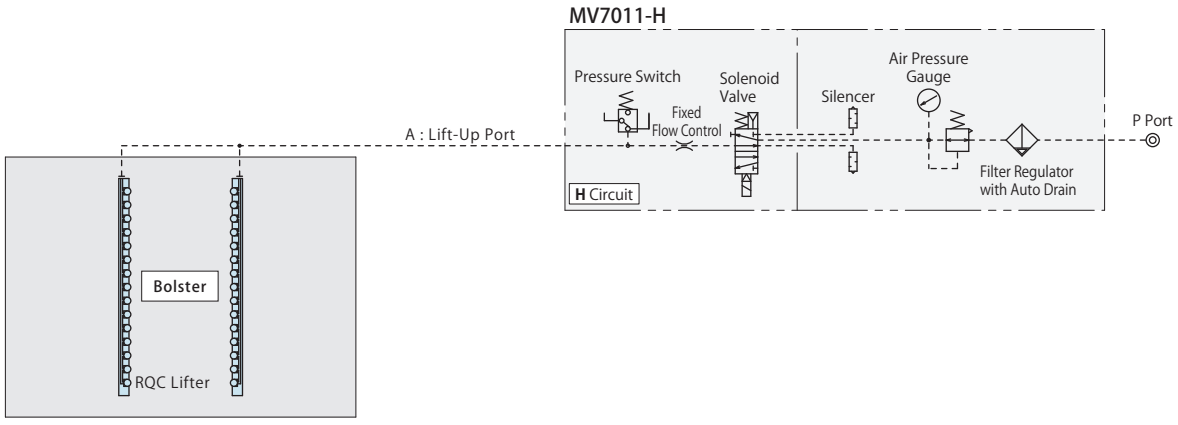
→ **Model MV106**
Air Hand Valve
Manual Operation
▶ P.35

Circuit Sample

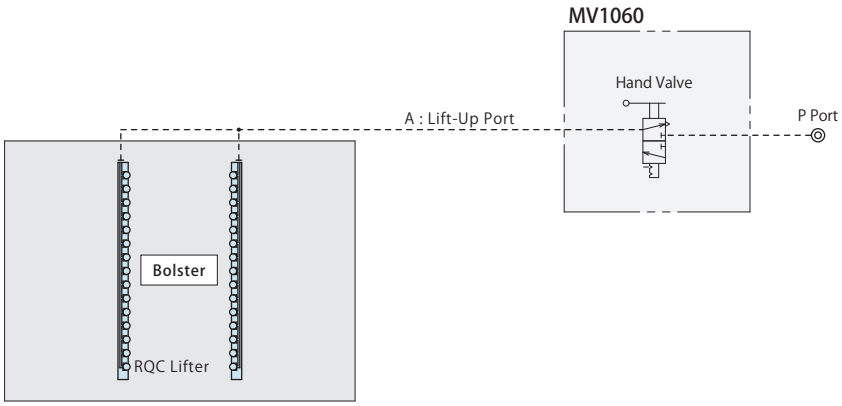
Model MV90



Model MV70



Model MV106



Model No. Indication

MV901 **2** - **GG** - **1** - **4** - ☐

1 2 3 4 5

1 Design No.

2 : Revision Number

2 Circuit Symbol

G : Clamp Circuit (In case of using High-Power Pneumatic Die Clamp)

H : Die Lifter Circuit (In case of using Pneumatic Free Roller Lifter)

Combination Samples

Circuit Symbol	Circuit Content
G	One Clamp Circuit
GG	Two Clamp Circuits
GGH	Two Clamp Circuits, One Die Lifter Circuit

3 Control Voltage

1 : AC100V

2 : AC200V

5 : DC24V

4 Operating Air Pressure (Incoming Side)

3 : 0.3 MPa

4 : 0.4 MPa

5 Option

Blank : Standard

K : Air Pressure Gauge with Color Range

N : NPT Port ※1

P : Air Pressure Gauge in both PSI/MPa

S : Solenoid Valve with Light and Surge Voltage Suppressor

Note:

※1. In case of 5 **N**: NPT Port, the dimensions in the specification sheet and other documents are in inches.

Specifications

Model No.		**MV9012**
Valve		Metal Seal / Five-Port Pilot Operated
Position・Number of Solenoid		Two-Position Single Solenoid
Piping Port Size		Rc1/4
Min. Passage Area	mm^2	15
Usable Fluid		Dry Air
Max. Operating Pressure of Clamp・Lifter	MPa	0.8
Incoming Supply Air Pressure	MPa	0.3 ~ 0.4
Fluid Temperature	℃	-10 ~ +60
Oil Supply		No Oil Supply
Protection		Dust-Proof

Components ※ In case of MV9012-GGH.

Product Name	Model No.	Maker
Filter Regulator	AW20-02BCG-A	SMC
Boosting Valve	VBA10A-02GN	SMC
Relief Valve	NSV-302K10	TACO
Residual Pressure Release Valve	HV02-6	PISCO
Manifold with Control Unit	VV5FS2-01T1-061-02	SMC
Solenoid Valve	VFS2100-☐F	SMC
Silencer	AN20-02	SMC
Pressure Switch (for **G** Circuit)	APS-6D-W	CKD
Pressure Switch (for **H** Circuit)	IS3000-02	SMC

Note :

1. Each pressure is set before shipment.

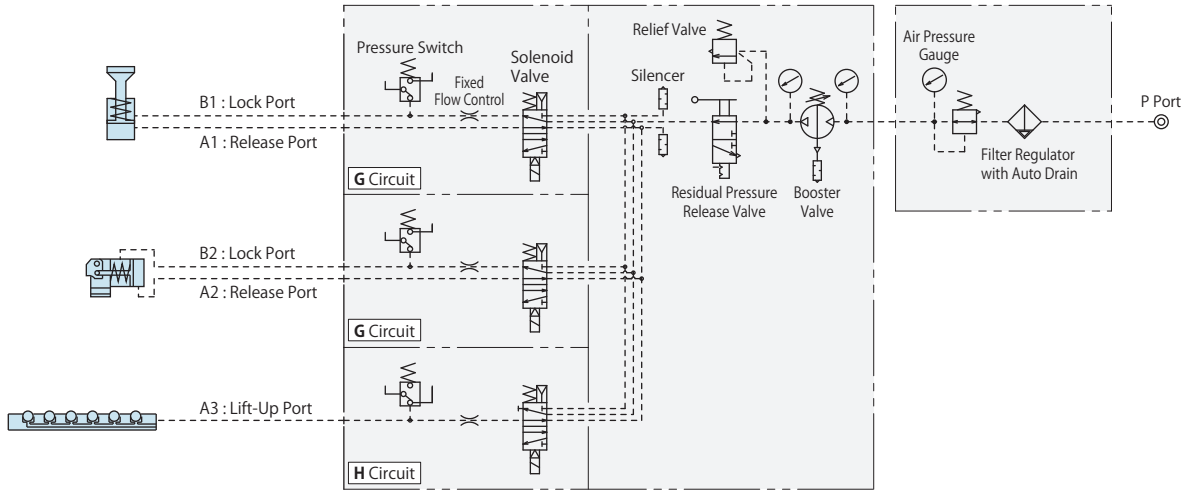
(MPa)

4 Operating Air Pressure	**3**	**4**
Incoming Side Pressure (Filter Regulator)	0.3	0.4
Outgoing Side Pressure (Boosting Valve)	0.6	0.8
Pressure Switch (for **G** Circuit)	INC.0.4	INC.0.5
Pressure Switch (for **H** Circuit)	DEC.0.15	DEC.0.15
Relief Valve	0.65	0.85

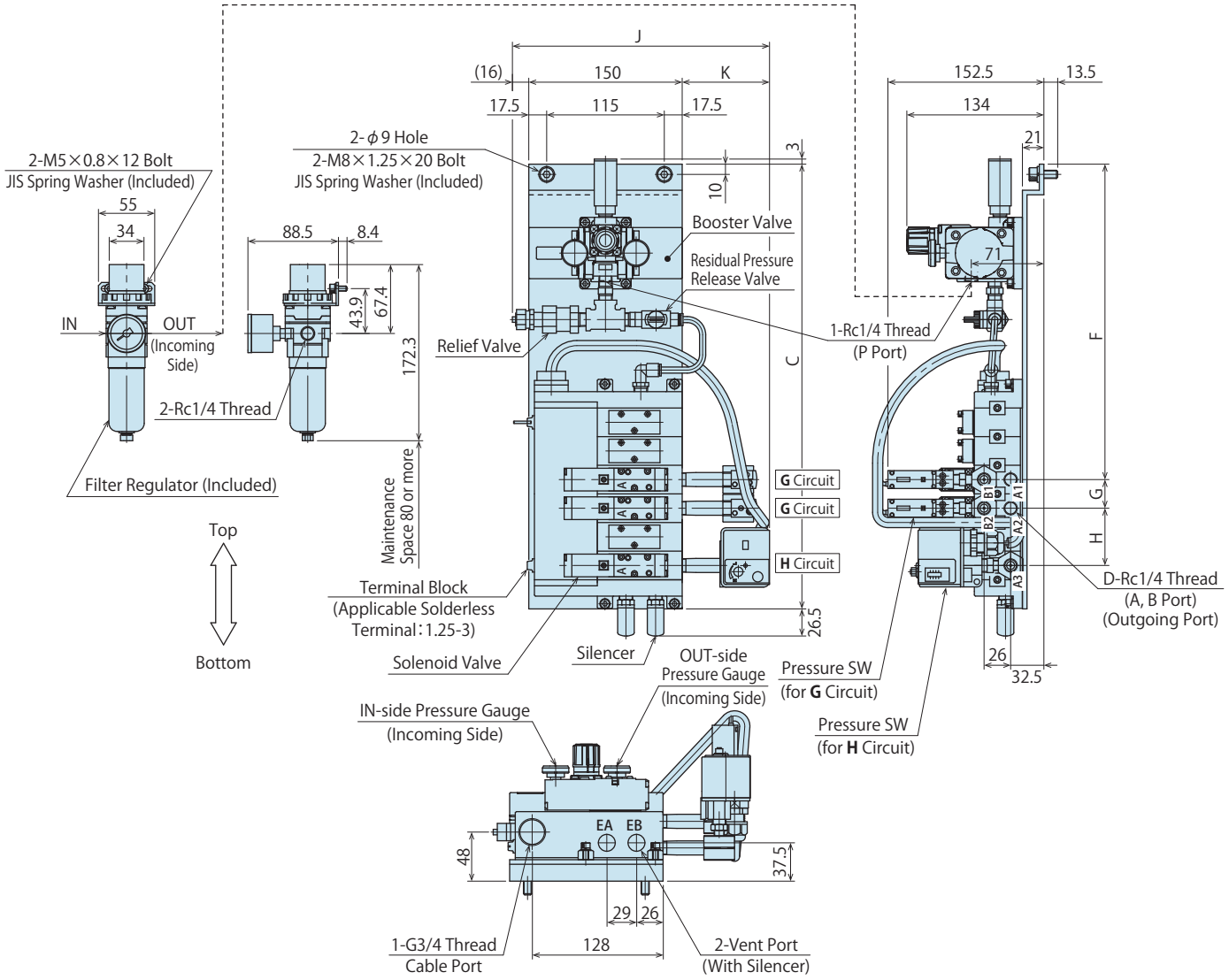
Before use, check with the pressure gauge of boosting valve that the incoming/outgoing pressure is set as shown above.

2. Use a residual pressure release valve when releasing outgoing pressure for maintenance, etc. (When operating a clamp, the residual pressure release valve must be closed.)

Circuit Diagram ※ In case of MV9012-GGH.



External Dimensions ※ In case of MV9012-GGH.



External Dimension List

(mm)

Circuit Symbol	C	D	F	G	H	J	K	Weight kg
G	323	2	280.5	-	-	239.2	73.2	5.7
GG	379	4	308.5	28	-	239.2	73.2	6.5
GGH	435	5	308.5	28	56	252	86	7.3

Notes :

1. Follow the top and bottom directions when mounting.
2. Pipes or others to connect the filter regulator and booster valve are prepared by customer.
3. Use a stainless steel pipe or nylon tube/hose, etc. for air piping to prevent rust.

Model No. Indication

MV701 1 - H - 5 - 4 - ☐

1 2 3 4 5

1 Design No.

1 : Revision Number

2 Circuit Symbol

H : Die Lifter Circuit (In case of using Pneumatic Free Roller Lifter)

Combination Samples

Circuit Symbol	Circuit Content
H	One Die Lifter Circuit
HH	Two Die Lifter Circuits

3 Control Voltage

1 : AC100V
2 : AC200V
5 : DC24V

4 Operating Air Pressure

3 : 0.3 MPa
4 : 0.4 MPa
5 : 0.5 MPa

5 Option

Blank : Standard
K : Air Pressure Gauge with Color Range
N : NPT Port ※1
P : Air Pressure Gauge in both PSI/MPa
S : Solenoid Valve with Light and Surge Voltage Suppressor

Note:
※1. In case of 5 **N**:NPT Port, the dimensions in the specification sheet and other documents are in inches.

Specifications

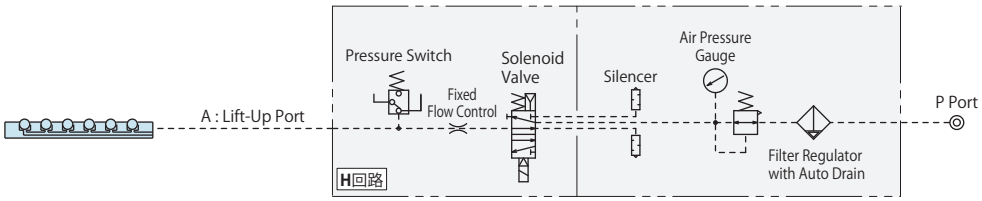
Model No.		**MV7011**
Valve		Metal Seal / Five-Port Pilot Operated
Position・Number of Solenoid		Two-Position Single Solenoid
Piping Port Size		Rc1/4
Effective Cross Section Area	mm^2	12.5
Usable Fluid		Dry Air
Max. Operating Pressure	MPa	0.5
Fluid Temperature	℃	-10 ~ +60
Oil Supply		No Oil Supply
Protection		Dust-Proof
Recommended Air Tube Outer Diam.	mm	ϕ6

Components ※ In case of MV7011-H.

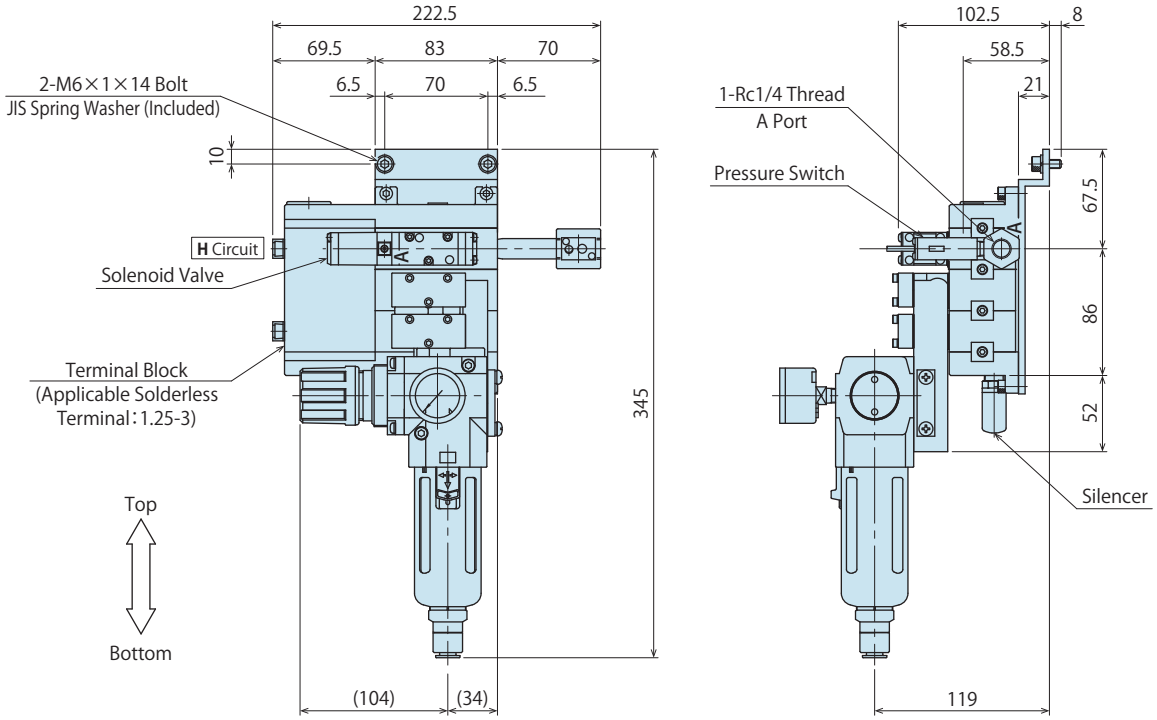
Product Name	Model No.	Maker
Manifold with Control Unit	VV5FS2-01T1-031-02-F	SMC
Solenoid Valve	VFS2100-☐F	SMC
Silencer	AN20-02	SMC
Pressure Switch	IS10-01S-X350	SMC

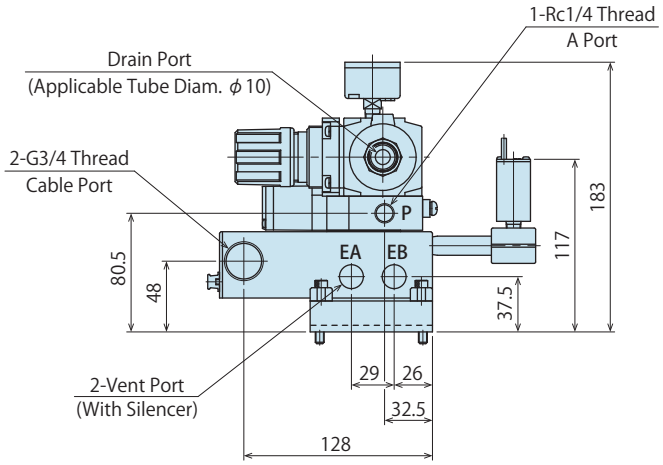
Note :
1. Pressure switch is set with DEC.0.15MPa before shipment.

Circuit Diagram ※ In case of MV7011-H.



External Dimensions ※In case of MV7011-H. The weight of MV7011-H is 4kg.





Notes :

1. Follow the top and bottom directions when mounting.
2. Use a stainless steel pipe or nylon tube/hose, etc. for air piping to prevent rust.

Model No. Indication

MV106 0

1

1 Design No.

0 : Revision Number

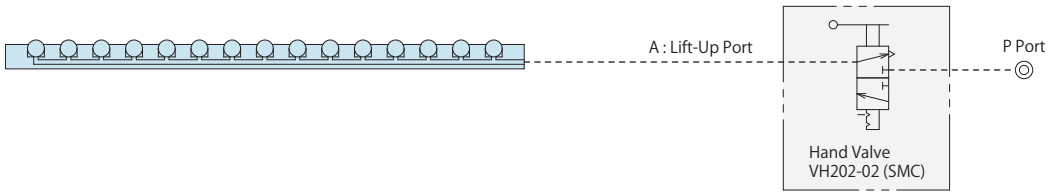
Specifications

Model No.		MV1060
Piping Port Size		Rc1/4
Usable Fluid		Dry Air
Max. Operating Pressure	MPa	1.0
Fluid Temperature	℃	-5 ~ +60
Oil Supply		No Oil Supply
Weight	kg	0.4

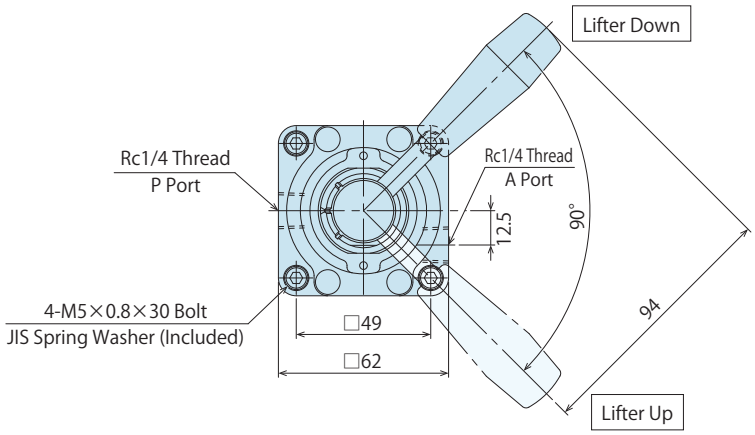
Note :

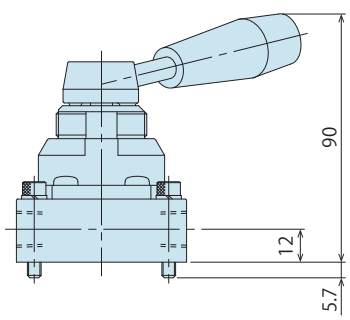
1. This product is for die lifter circuit.

Circuit Diagram



External Dimensions



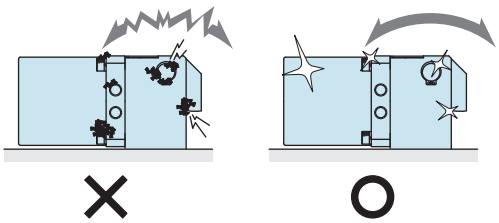


Cautions

● Maintenance・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 circuit.
- Make sure there is no trouble/issue 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) Regularly tighten pipe, mounting bolt, snap ring and others to ensure proper use.

4) Make sure to supply filtered clean dry air.

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

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.

● 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 Failure caused by the use of the non-confirming state at the user's discretion.
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.

Application Example Videos

Best-Selling Hydraulic Die Change System
Application example videos available on our website.

http://www.kosmek.co.jp/php_file/video_products.php?id=019&lang=2

KOSMEK Products for Press Machines

Application examples with press machine related
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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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