



# QUICK DIE CHANGE SYSTEMS

**General Catalog 2021**

Automatic Clamp

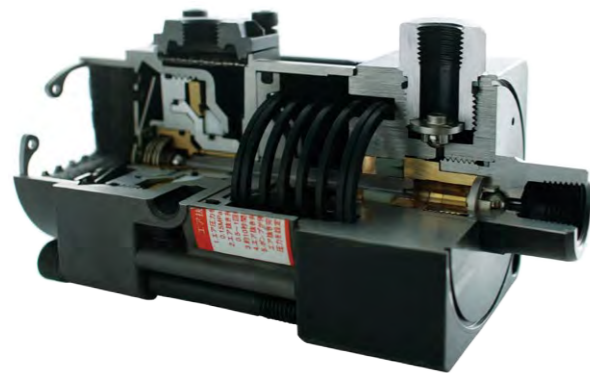
Hydraulic Unit

Operational Control Panel

Die Lifter

Pre-Roller

Press Load Monitor



Kosmek Quick Die Change Systems for press machines reduce die change time and increase productivity. We offer a wide range of products that are compatible with a variety of presses, dies and production applications.

# Harmony in Innovation

To one heart, advance forward.

## 【Harmony】

Harmonious company policy consists of compassionate team work, maintaining everlasting customer relations, and creating a family oriented, public serving, and eco-friendly mindset.

## 【Innovation】

Our ability to adapt to the needs of our customers stems from our passion for using new ideas, progressive thinking, problem solving, and creativity when faced with a challenge.

## 2021 KOSMEK Quick Die Change Systems

### General Catalog – INDEX –

Our specialists will help you find the most suitable system.

Please feel free to contact us. <http://www.kosmek.com>

### Automatic Clamp

**GA Piston Clamp**  
Clamps in the U-cut of the die.  
T-Slot Manual Slide Model



Model GA P.029

**GD Piston Clamp**  
Clamps in the U-cut of the die.  
T-Slot Automatic Slide Model



Model GD P.035

**GDL Piston Clamp** New  
Clamps in the U-cut of the die.  
T-slot automatic slide model.  
Link Slide Clamp for Upper Die

For space saving and interference prevention.



Details on another catalog.  
Please contact us for the details.

Model GDL

**GBB Lever Clamp**  
T-Slot Manual Slide Lever Clamp



Model GBB P.039

**GBE Lever Clamp**  
T-Slot Automatic Slide Lever Clamp



Model GBE P.051

**GBP Lever Clamp**  
Block-Fixed Lever Clamp  
No T-slot is required.



Model GBP P.063

**GN Piston Clamp**  
Clamps in the U-cut of the die.  
Swing Rod Clamp for Lower Die



Model GN P.075

**GHA Piston Clamp** New  
Clamps in the U-cut of the die.  
Swing Rod Clamp for Upper Die



Model GHA P.081

**GBC Lever Clamp**  
GBB lever clamp with longer stroke



Model GBC P.045

**GBF Lever Clamp**  
GBE lever clamp with longer stroke



Model GBF P.057


**GBQ Lever Clamp**  
GBP lever clamp with longer stroke



Model GBQ P.069


### Hydraulic Unit

**Hydraulic Unit**  
Powered by compressed air.




Model CP/CR/CP□/CQ□ P.089

**Pump Unit**  
Pump part of the hydraulic unit.



Model CB/CD/CC P.101


**Valve Unit**  
Valve part of the hydraulic unit.



Model BC/BH•MV P.105


### Operational Control Panel

**YP Operational Control Panel**  
User-Friendly Control Panel



Model YP P.113

**YAA Operational Control Panel** New  
User-Friendly Control Panel



Model YAA P.115

### Die Lifter

**RQA Die Lifter** New  
Hydraulic Free Roller Lifter Ball Model



Model RQA P.117

**RA Die Lifter**  
Hydraulic Die Lifter Roller Model



Model RA P.123

**RB Die Lifter**  
Spring Die Lifter Roller Model



Model RB P.141

### Pre-Roller


**Pre-Roller**  
Removable, Vertical Folding and Horizontal Folding Models



Model MR□ P.147

### Air Series

**HQA Piston Clamp** New  
Clamps in the U-cut of the die.  
T-Slot Manual Slide Model



Model HQA

**HQB Lever Clamp** New  
T-Slot Manual Slide Lever Clamp



Model HQB

**RQC Die Lifter** New  
Pneumatic Free Roller Lifter Ball Model



Model RQC

**Air Valve Unit**  
Controls pneumatic devices.



Model MV90/70/106

Air series are not listed on this catalog.  
Please contact us for further information.

Scan the QR code for Catalog Request and Inquiry  
[http://www.kosmek.co.jp/php\\_file/inquiry.php?lang=2](http://www.kosmek.co.jp/php_file/inquiry.php?lang=2)



### Accessories

**Press Load Monitor**  
Displays the press load.



Model YK P.195


**Accessories for Hyd. Series**  
Pressure Switch Model JBA  
Pressure Gauge Model JG□  
Manifold Model JX



P.199


### Cautions & Others

**Cautions**




P.203

**Other Products**  
Custom-made, welding, FA, robots, and other press related products.



P.207

**Company Profile**



P.221

## How to Select QDCS Products ?

Having a problem when selecting required products for QDCS installation ?

“Selection Lists” to choose the right QDCS products based on press machines you will introduce are available on our website.  
“Search Filters” also available for more specific model selection of Die Lifters and Pre-Rollers.

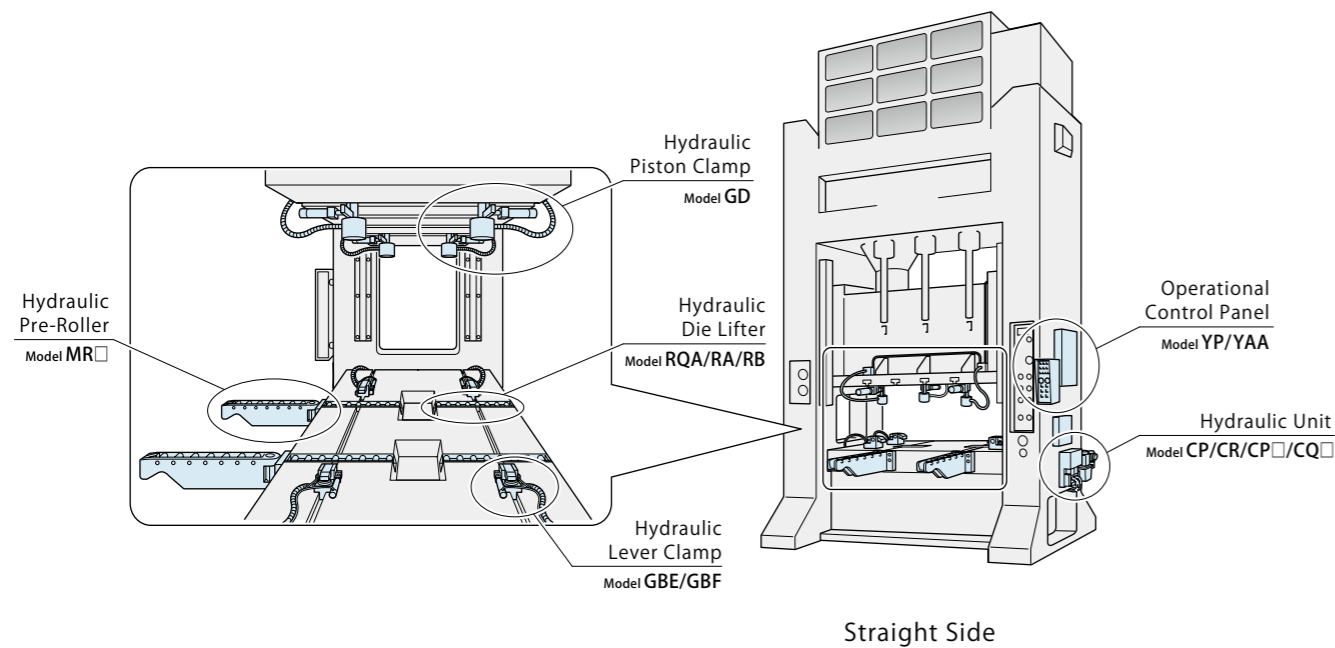
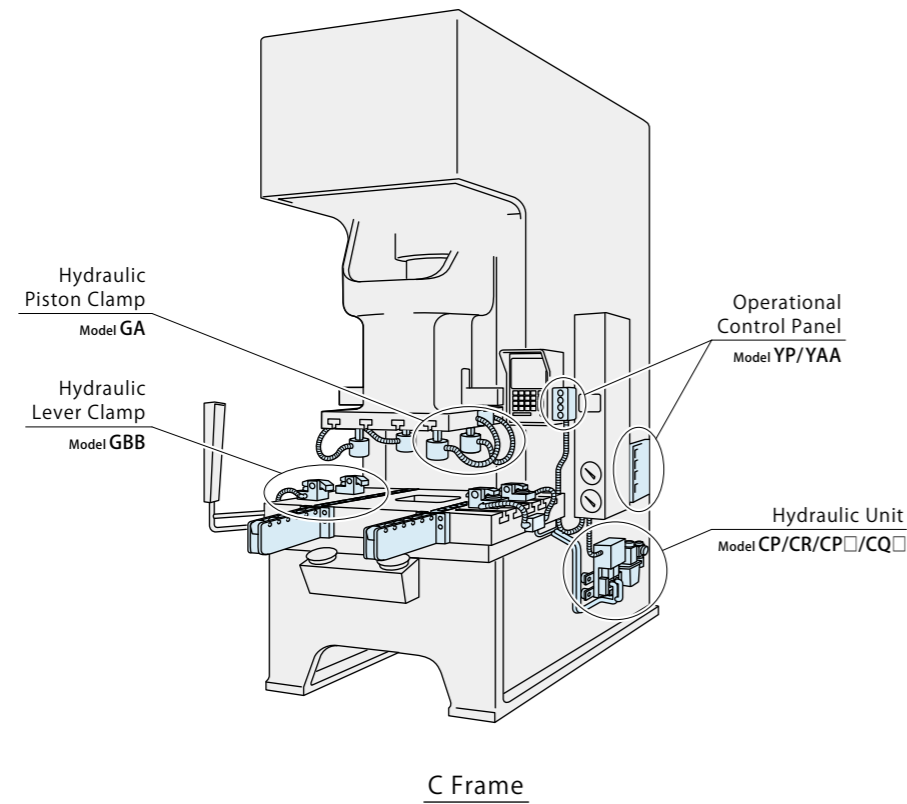
Please visit our website for further information.

### 3 Steps to Choose the Right Models !

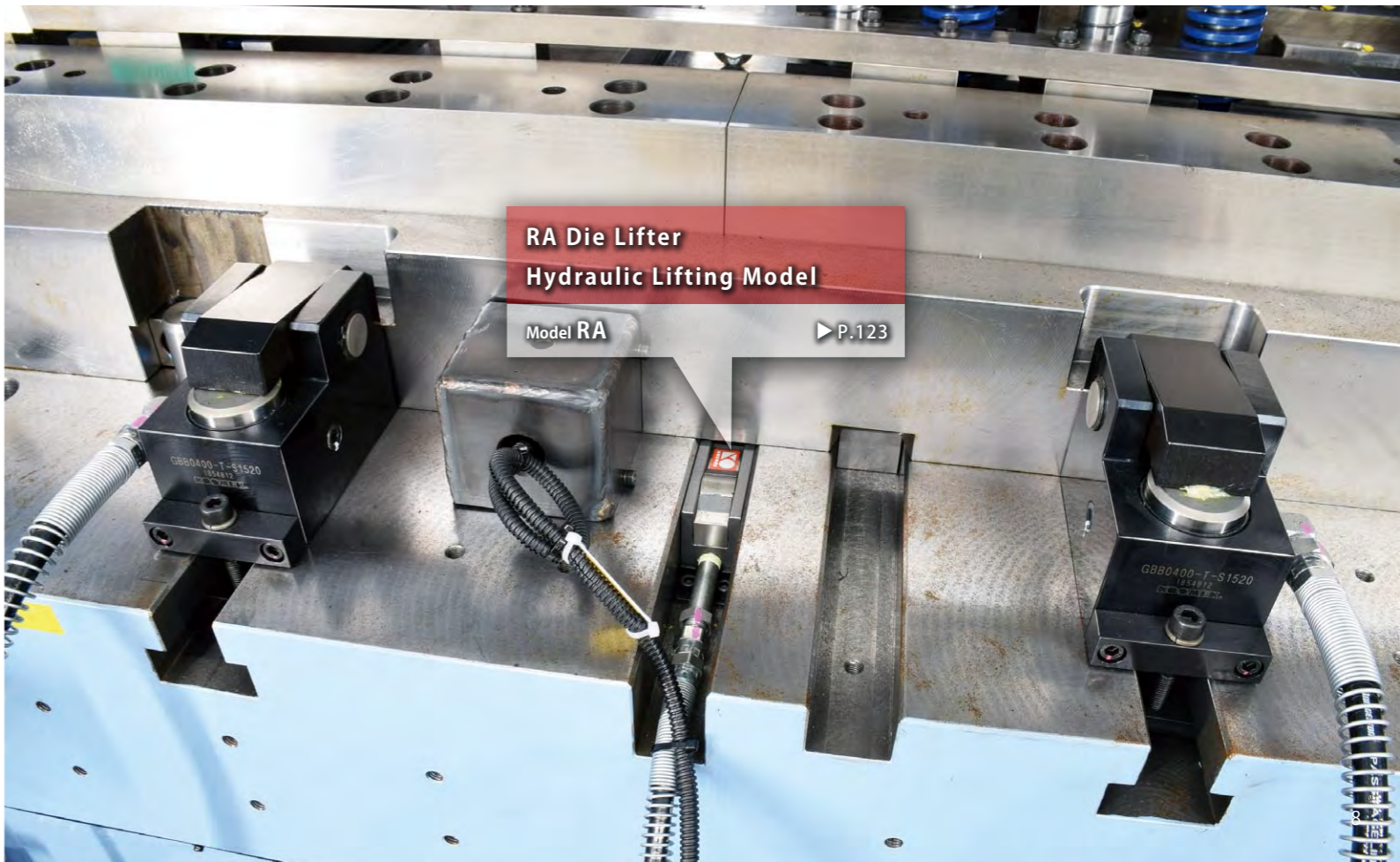
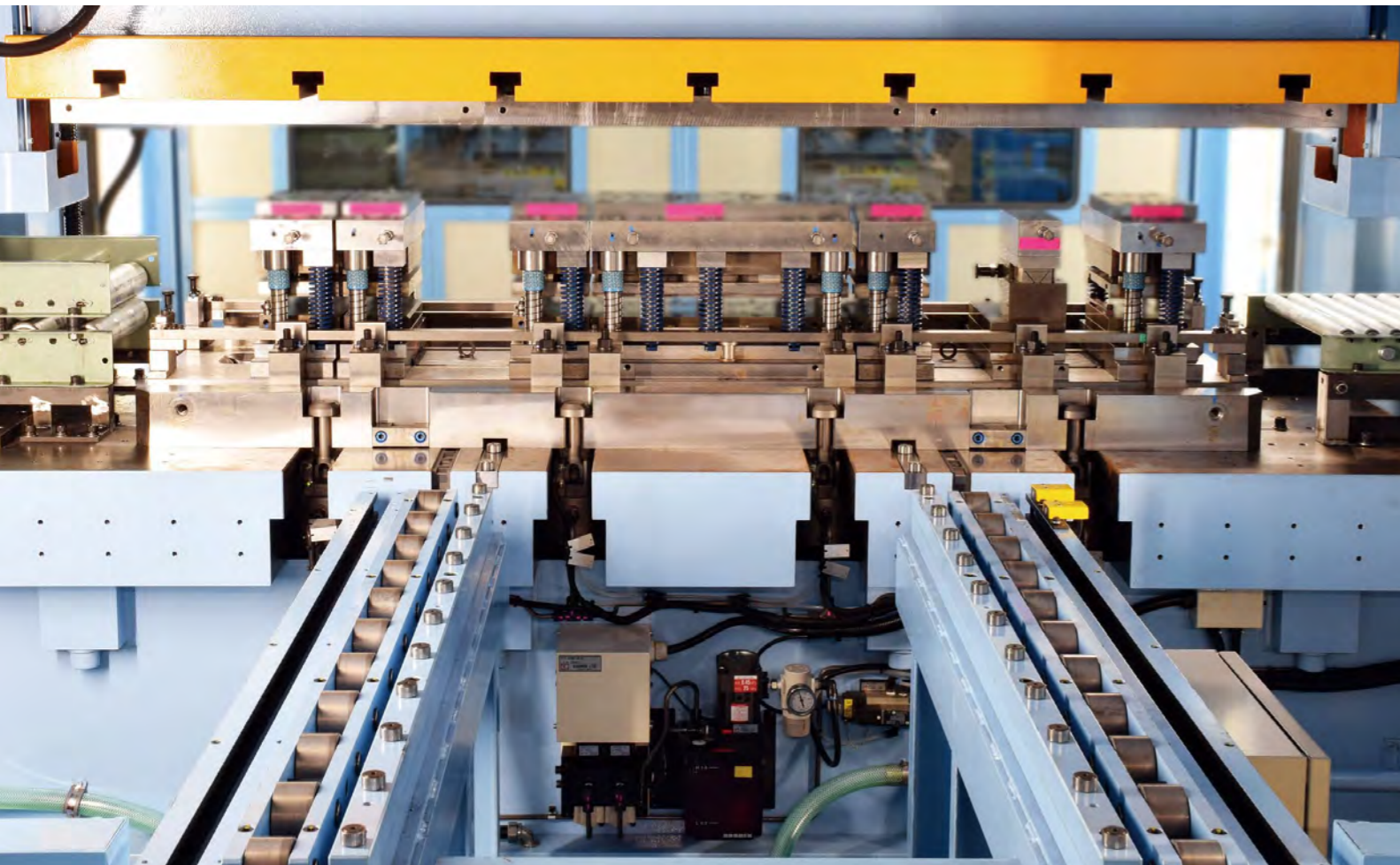
- Step.1 Check “QDCS Selection List by Press Machine Model”
- Step.2 Use “Search Filters” for more specific model selection of Die Lifter and Pre-Roller.
- Step.3 Contact us for systems with non-standard conditions.

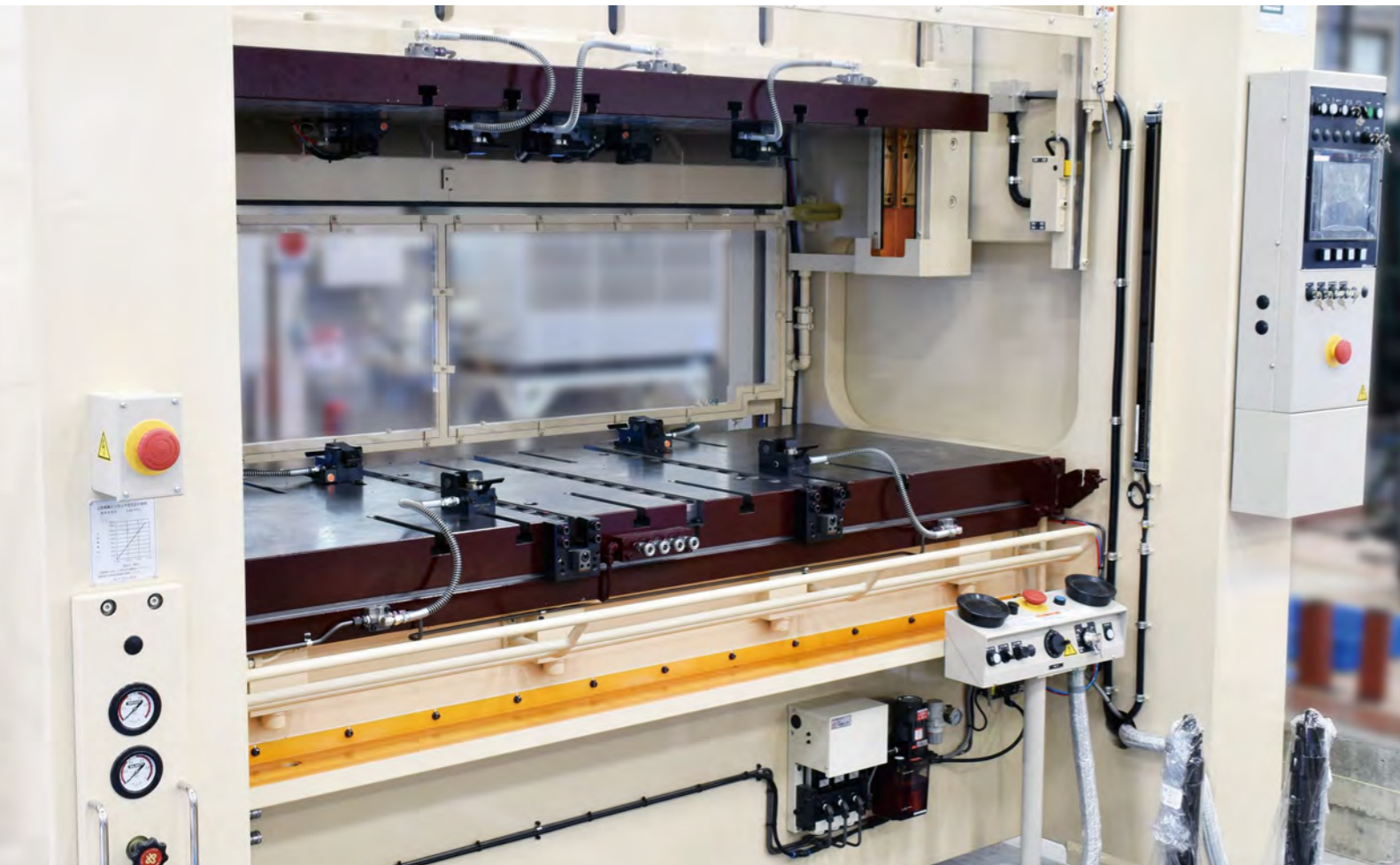


Scan the QR code to visit the web page for model selection : “What is QDCS ? ”  
<http://www.kosmek.co.jp/english/ap/qdcs/>





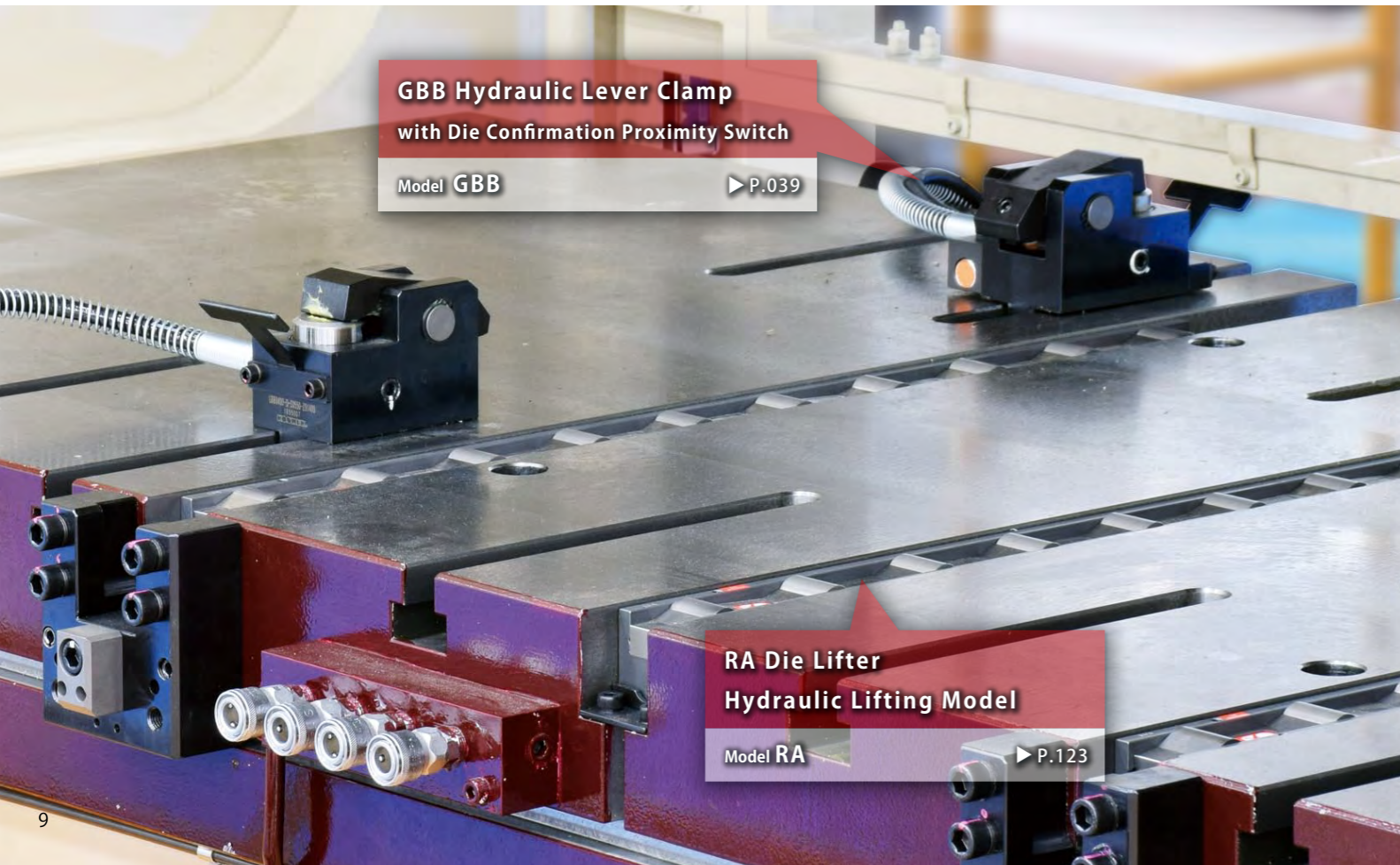




**GBE Hydraulic Lever Clamp  
T-Slot Automatic Slide Model**

Model GBE

▶ P.051



**GBB Hydraulic Lever Clamp  
with Die Confirmation Proximity Switch**

Model GBB

▶ P.039

**RA Die Lifter  
Hydraulic Lifting Model**

Model RA

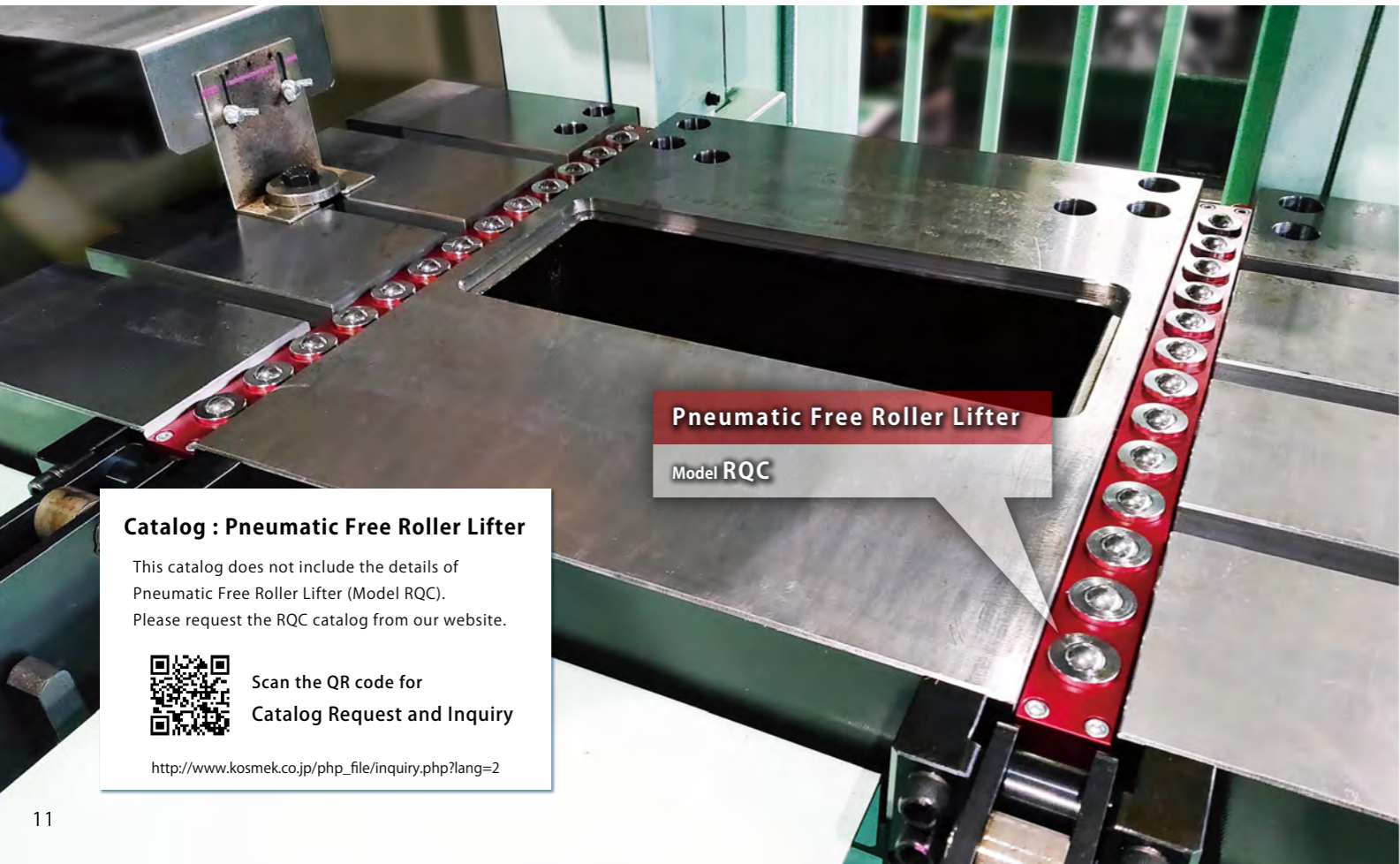
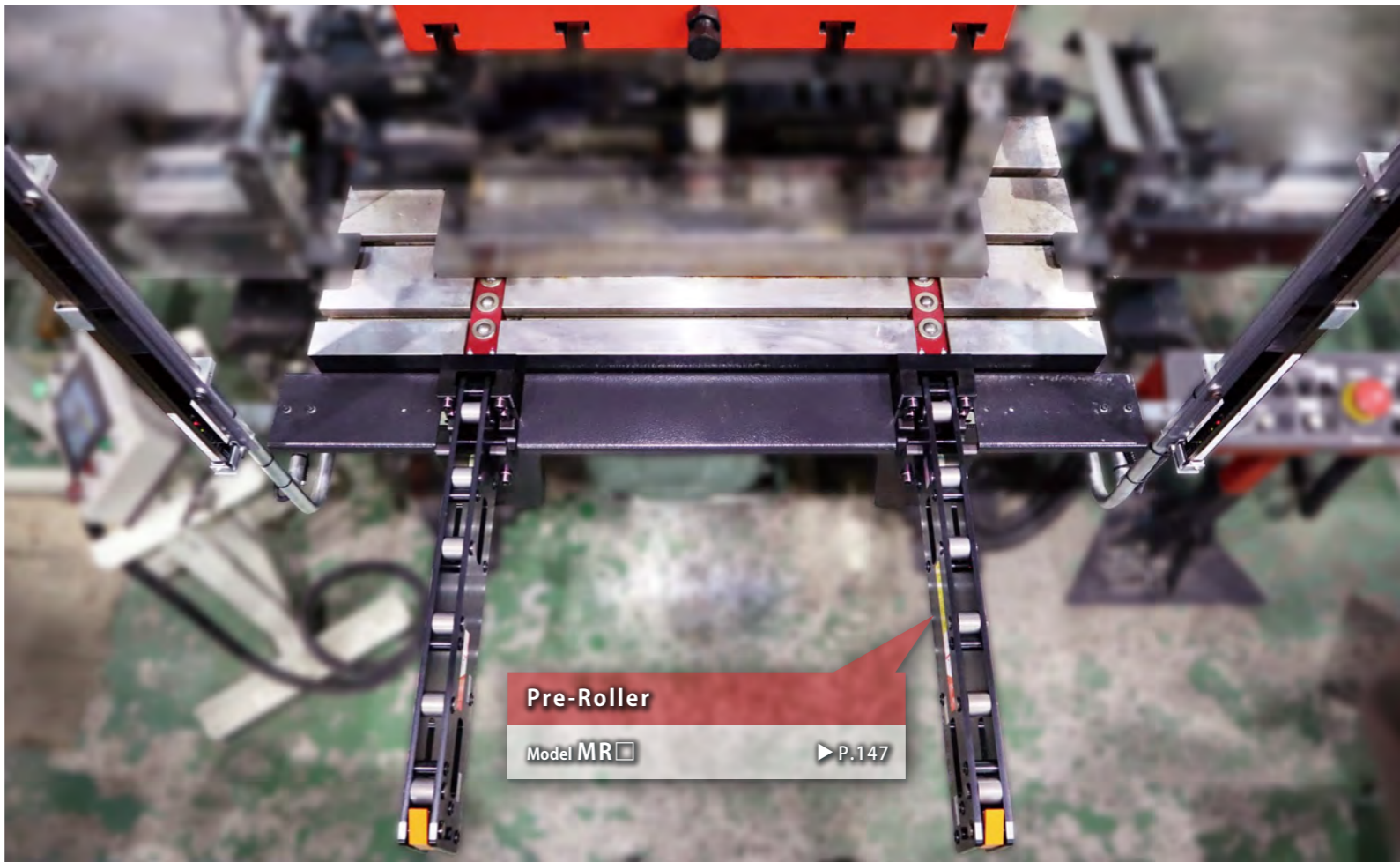
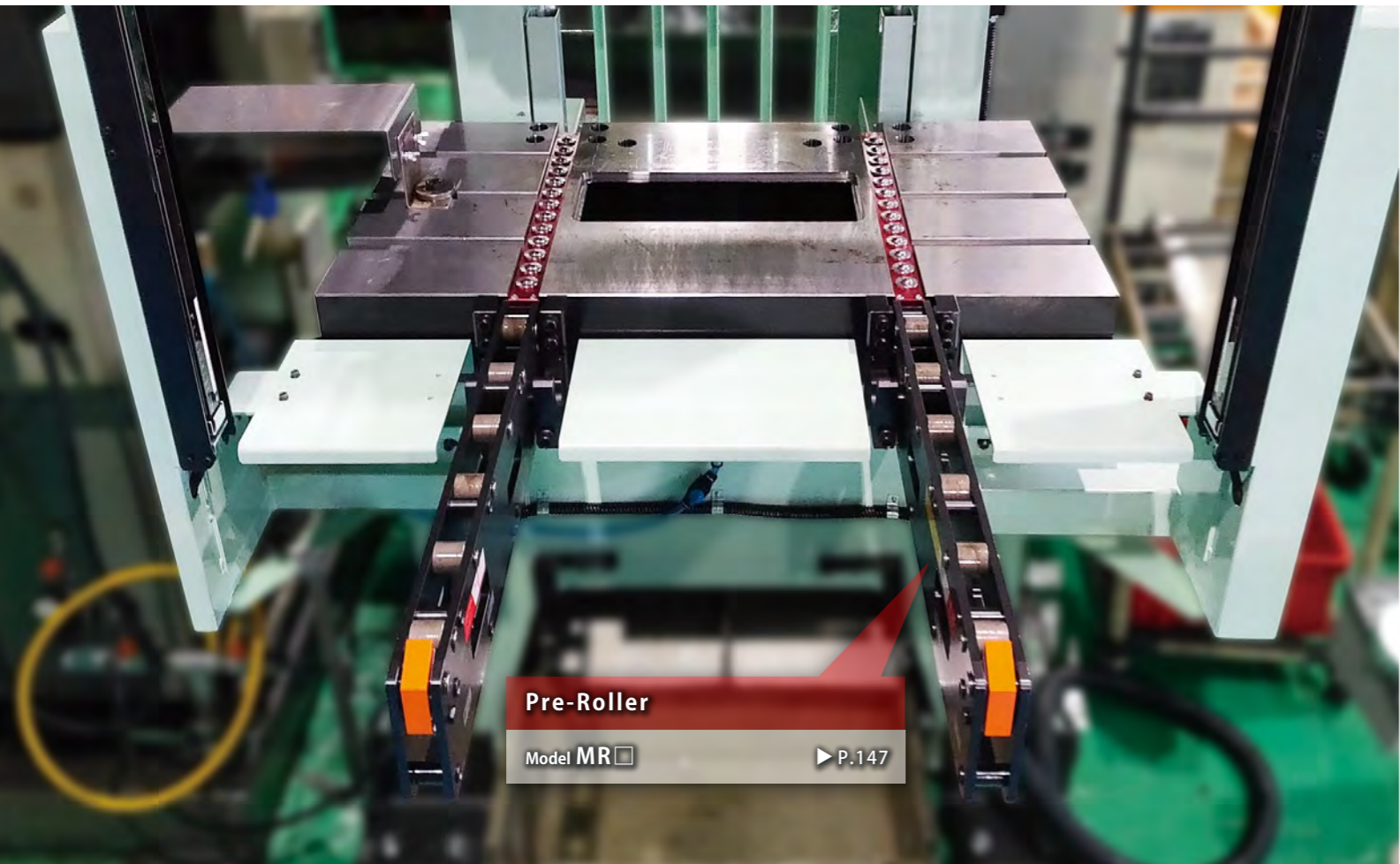
▶ P.123

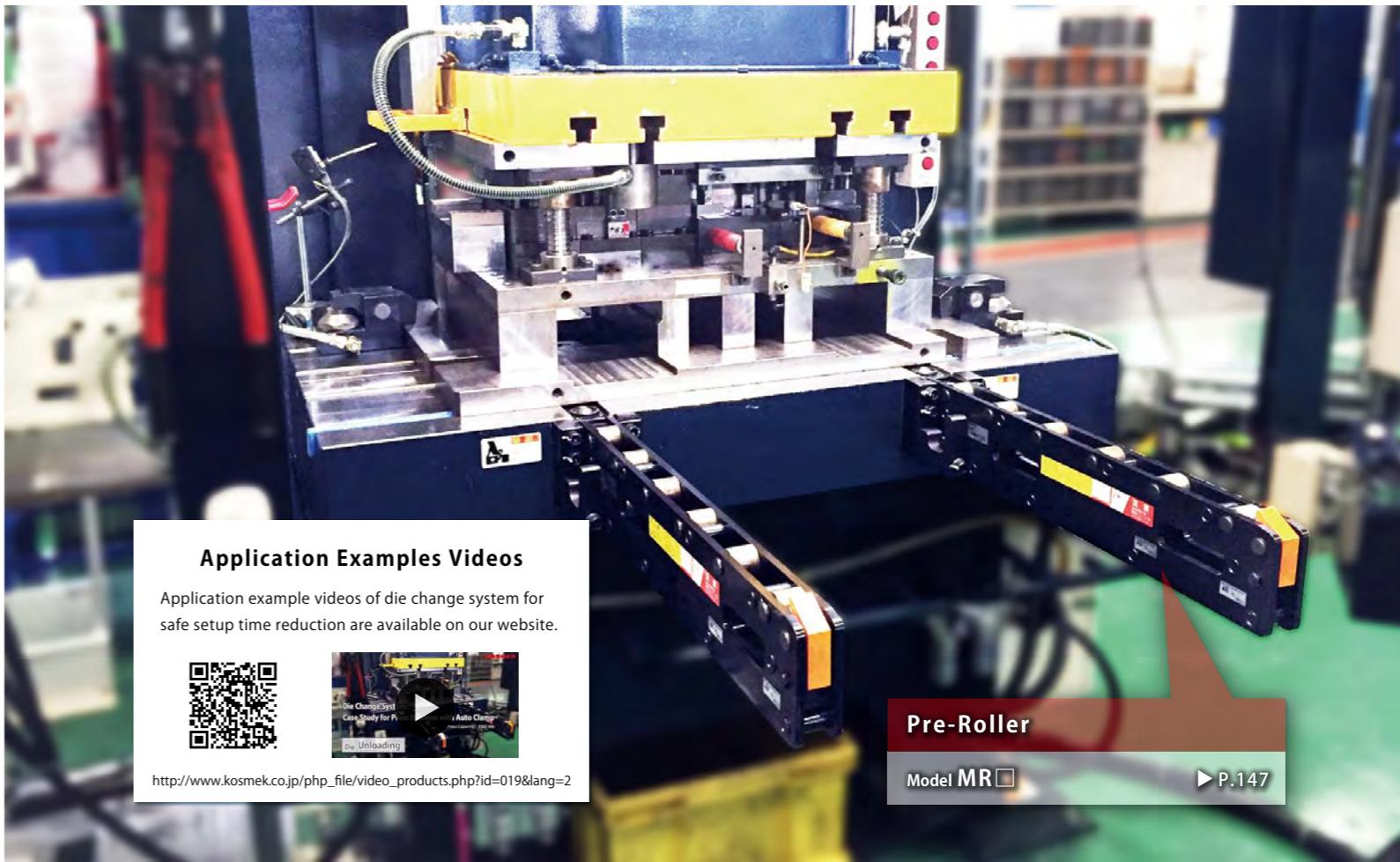


**Hydraulic Unit**

Model CP/CR/CP□/CQ□

▶ P.089





**Catalog :**  
**High-Power Pneumatic Die Clamp**

This catalog does not include the details of High-Power Pneumatic Die Clamps (Model HQA/HQB). Please request the product catalog from our website.



Scan the QR code for  
Catalog Request and Inquiry

[http://www.kosmek.co.jp/php\\_file/inquiry.php?lang=2](http://www.kosmek.co.jp/php_file/inquiry.php?lang=2)

# Quick Die Change Systems

Kosmek QDCS can effectively reduce die change time for stamping presses.

Automatic clamping replaces labor-intensive bolt tightening.

Loading / Unloading dies is safe and easy with die lifters and pre-rollers.

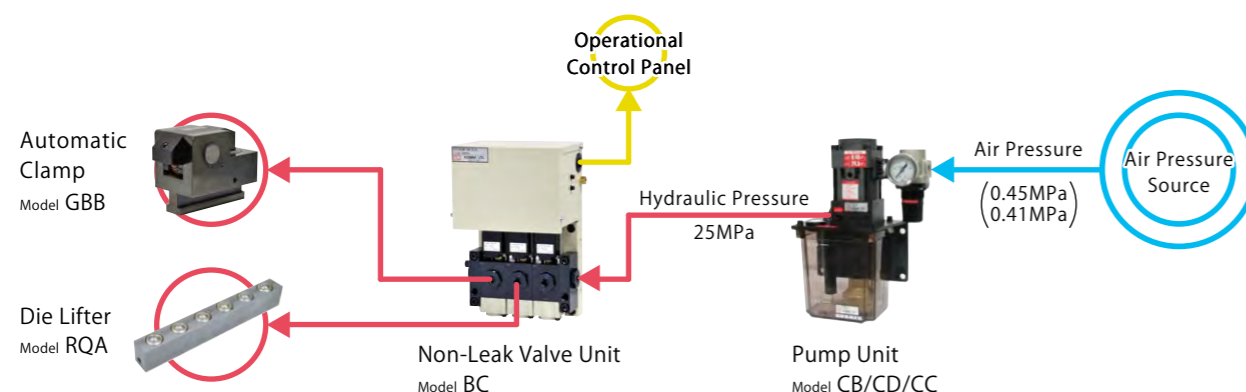
The operation panel has user-friendly push-button controls.

Operator error is prevented by the interlock circuit, and makes your workplace safer.



## ● Supplying Hydraulic Pressure

The Kosmek pump unit easily generates hydraulic pressure by using factory compressed air.



# Die Change Procedure

## Load the die.

Load the die with a crane or forklift. Pre-Rollers enable easy loading.

## Transfer the die to the bolster.

Transfer the die to the bolster. With Pre-Rollers and Die Lifters, minimal force is required to move the die. Die Lifters are set in the T-/U-slots. Die Lifter : Hydraulic Pressure **ON**

## Set the die on the bolster.

With push-button operation, the die lifter releases and the die makes contact with the bolster. Die Lifter : Hydraulic Pressure **OFF**

## Set the automatic clamps.

Set the slide to the bottom dead center. Slide automatic clamps on the T-slot and bring them near the die. Automatic Clamp : Hydraulic Pressure **OFF**

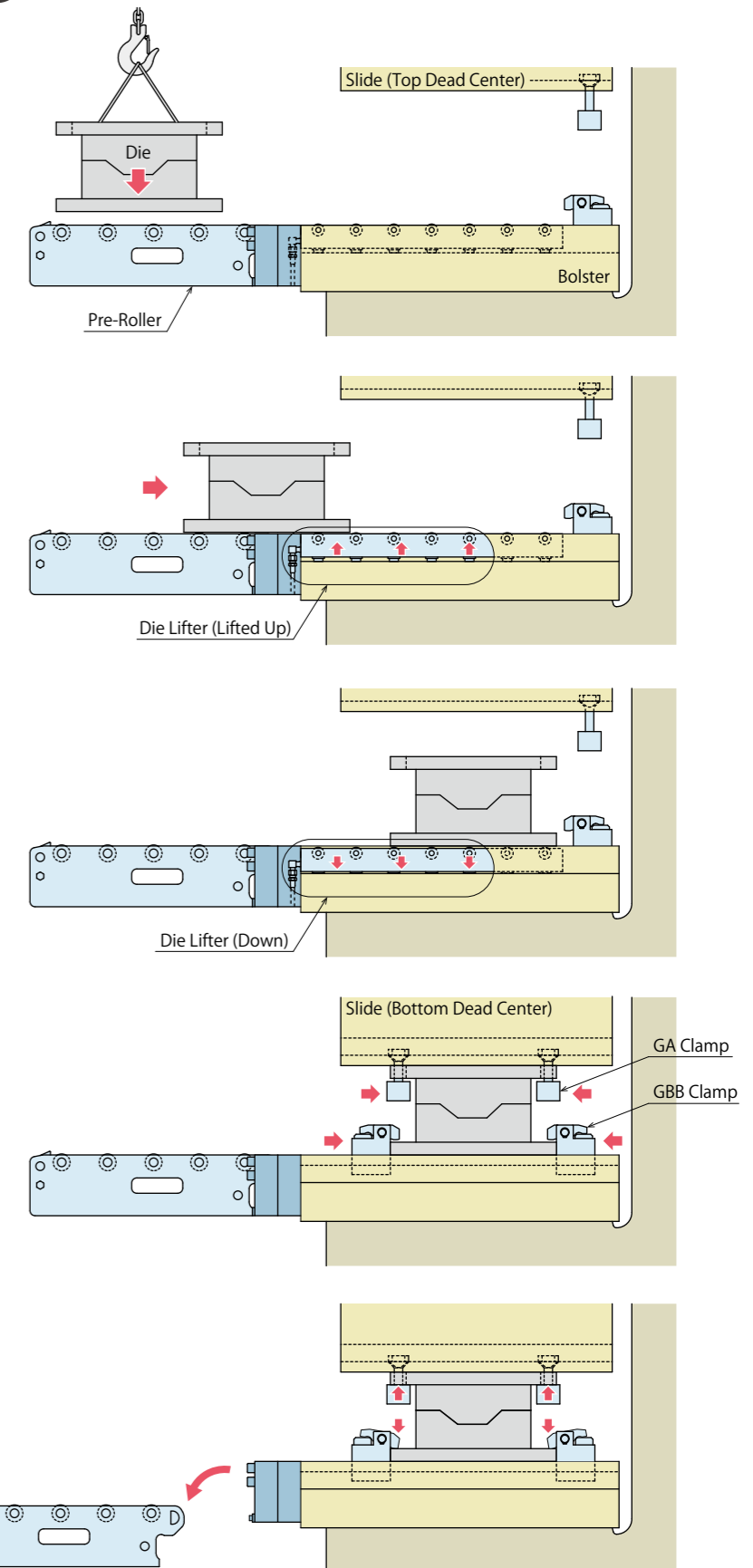
## Lock the die.

With a button operation, automatic clamps lock the die. After safety confirmation, the pre-roller can be removed. Automatic Clamp : Hydraulic Pressure **ON**

## Die Change Completed

## Unload the die.

With a button operation, automatic clamps release the die and it is easily unloaded.

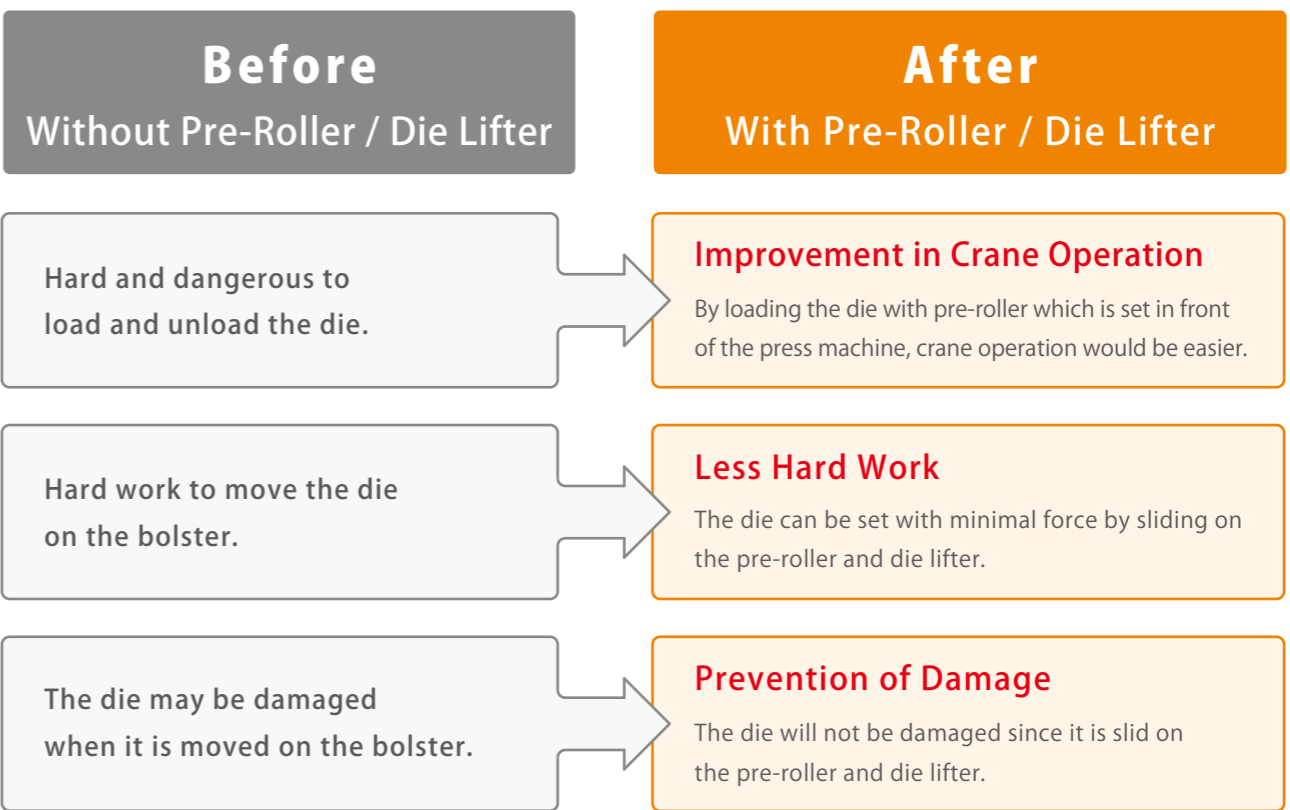


# Effects of Introducing QDCS

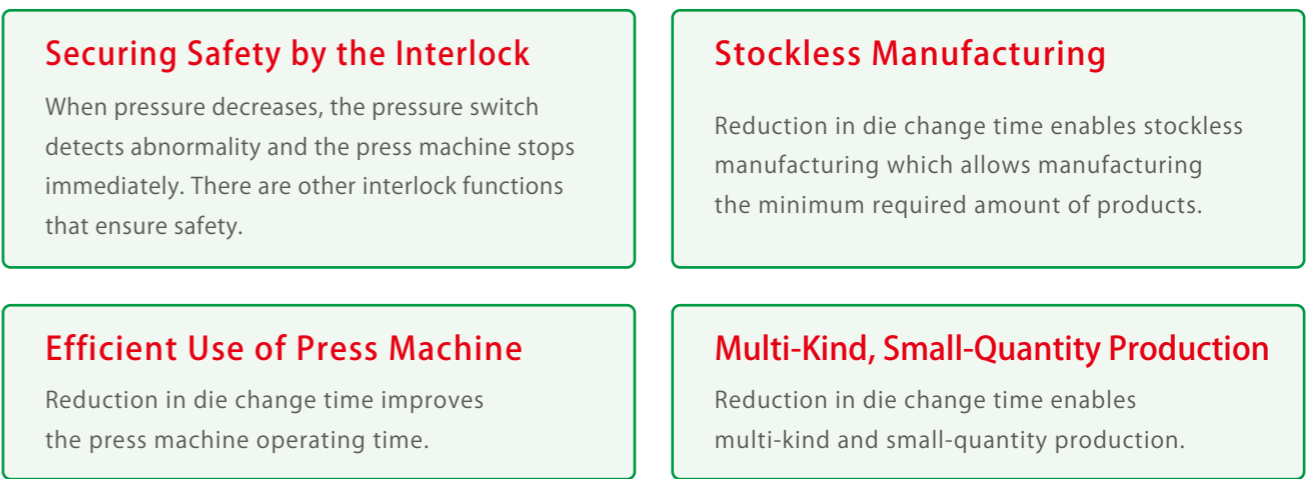
## Introducing Automatic Clamping



## Introducing Pre-Roller / Die Lifter



## Quick Die Change Systems Improve Safety • Productivity • Quality



## Improvement in Total Business Power

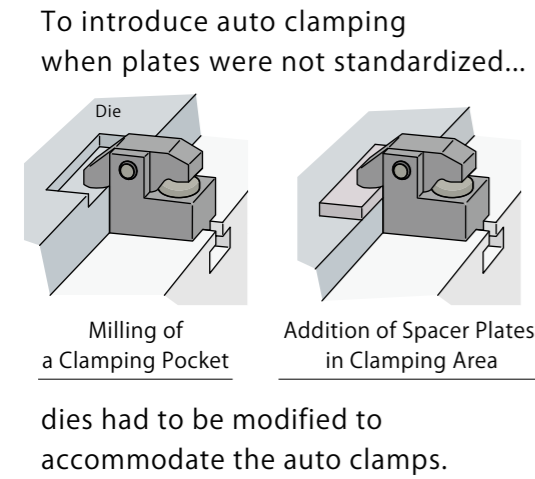
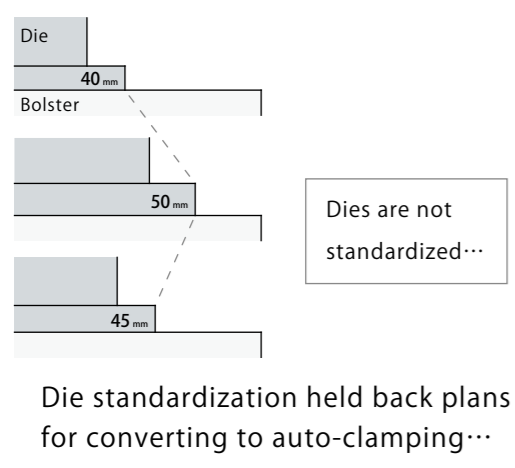
Revolutionary Long Stroke Design Means

# Die Variation Possible!!

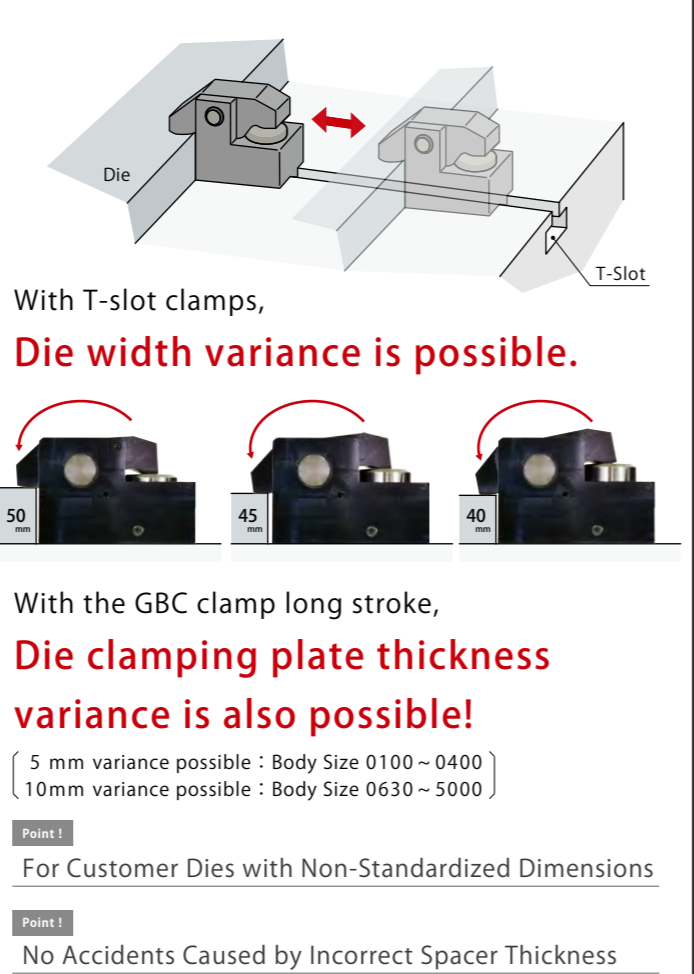
Presenting the World's First Long **Stroke Lever Clamp!**



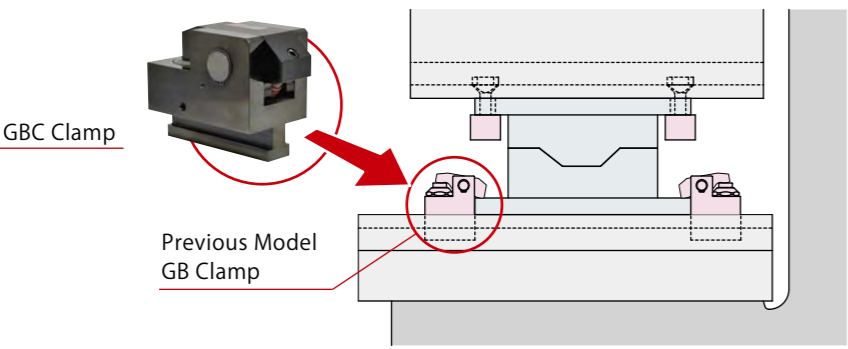
## In the Past...



## The Future is Now!



An existing system can be converted to a long stroke system by replacing only the clamps.



Announcing,  
for Kosmek's basic hydraulic clamp line,



# A Full Model Change!!

Disassembly and assembly possible **with only standard tools!**

Redesigned from the ground up with ease of maintenance in mind.

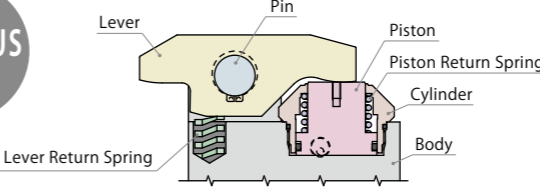
**NEW  
MODEL**



Point! Since no special tools are required,  
**no clamp-specific knowledge is required.**

Point! Since anyone can assemble and disassemble the clamp,  
**only a seal kit is needed to perform on-site maintenance.**

**PREVIOUS  
MODEL**



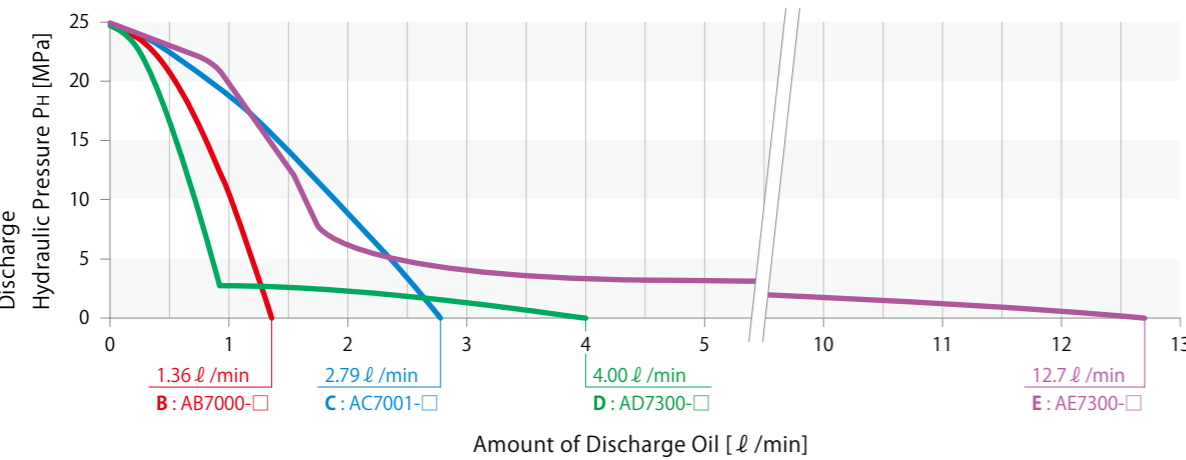
Disassembly and assembly of the lever and cylinder required special tools and jigs...

# Clamp Operation Time Reduction

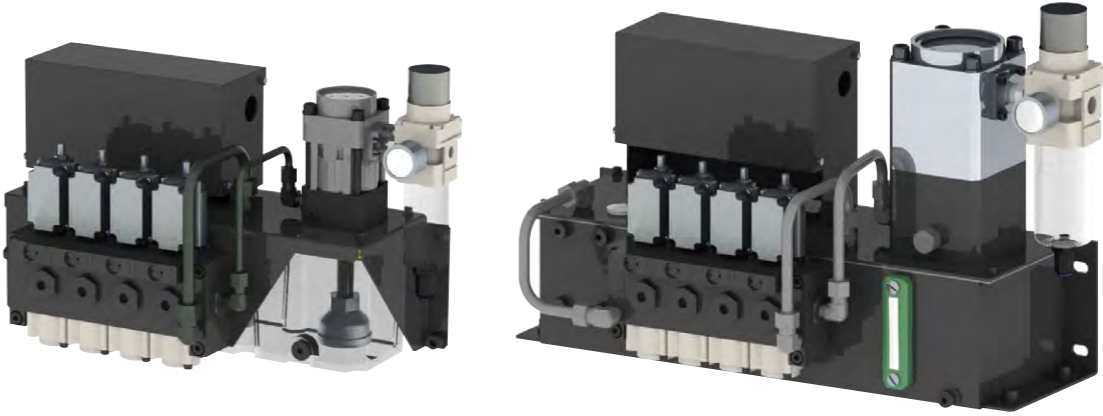
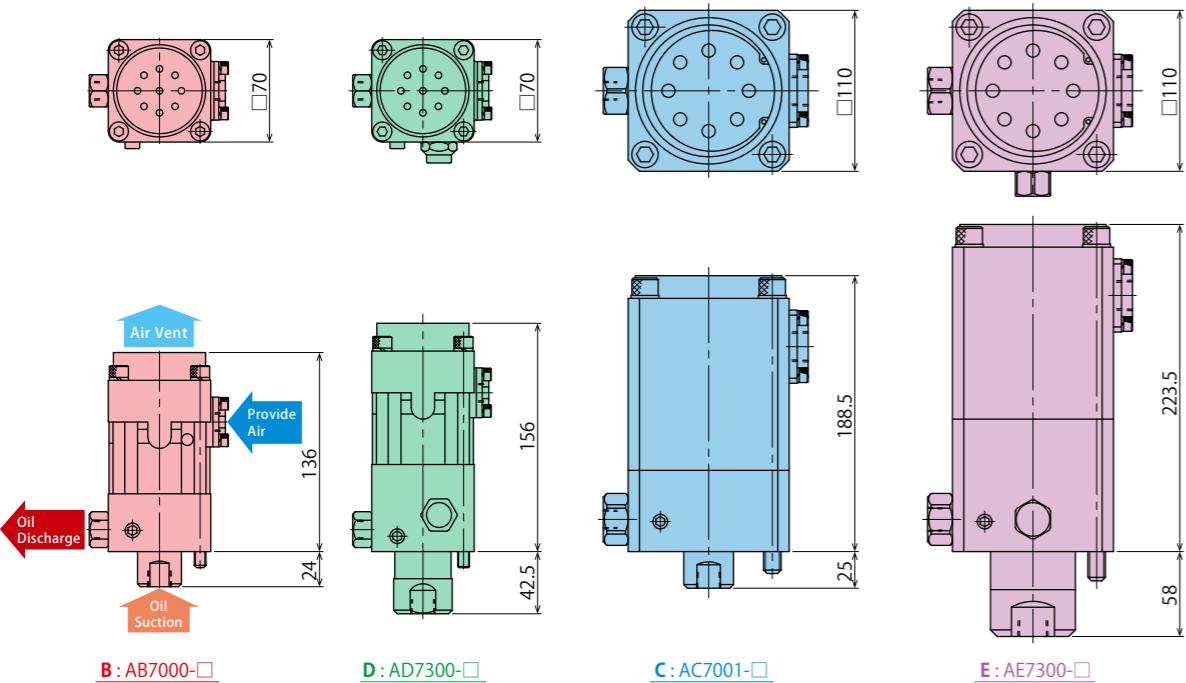
Point 1  
Newly Developed Large Flow Air-Hydraulic Combination Pump  
**Reduces 50% of Operation Time**<sup>※1</sup>  
(In comparison with other Kosmek products.)

※1. Reduced time varies depending on piping, etc.

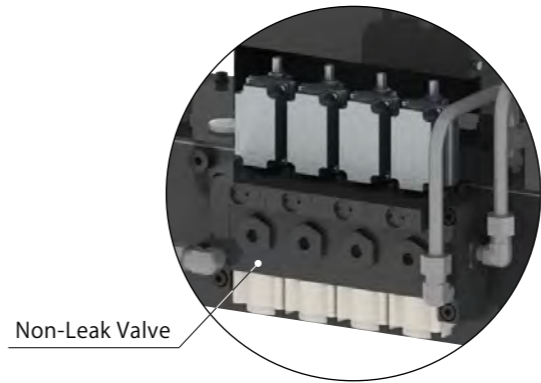
## Pump Performance Curve



Point 1  
High Performance and **Compact !**

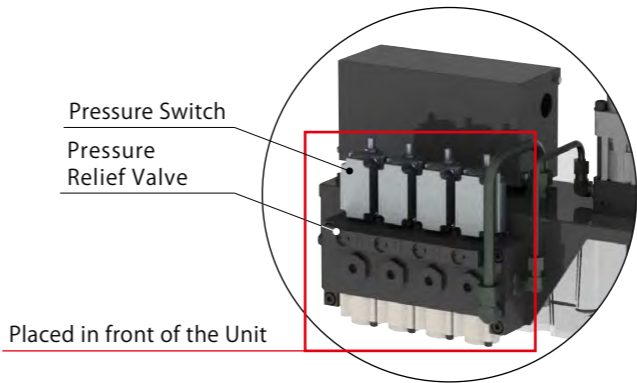


Point 1  
Larger Flow Rate **Higher Clamp Speed**



The Kosmek non-leak valve has been thoroughly revised. With a wider oil path, it has larger flow rate. Faster action speed reduces die change time.

Point 1  
By changing the layout  
**Maintenance has been improved**



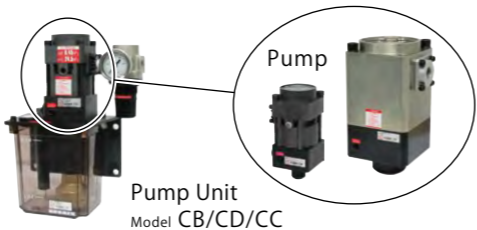
Placing the non-leak valve, pressure switch and pressure relief valve in front of the unit allows for easy mounting and dismounting.

# Safety of Systems

The safety of die clamping systems will be ensured by KOSMEK safety functions.

● **Prevention of Hydraulic Pressure Reduction**

When hydraulic pressure decreases, a balanced-type hydraulic and pneumatic pump immediately supplies additional hydraulic pressure.



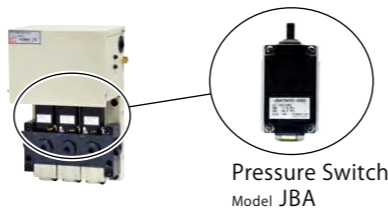
● **Maintains Hydraulic Pressure**

Even when air pressure is at zero, hydraulic pressure will be maintained by the non-leak valve.



● **Abnormal Detection by Pressure Switch**

In case of accident such as breakage of hydraulic hose, the pressure switch detects the reduction of hydraulic pressure and immediately stops the press machine.



● **Safety Measure by Various Interlock Functions**

Operation Panel / Control Unit has various interlock functions.

● **Control Example**

**Operating Condition of Releasing the Die**

Die Change Key Switch : **"ON"**  
Press Machine : **Stop**  
Press Slide : **Bottom Dead Center**

**Ready to Release the Die**

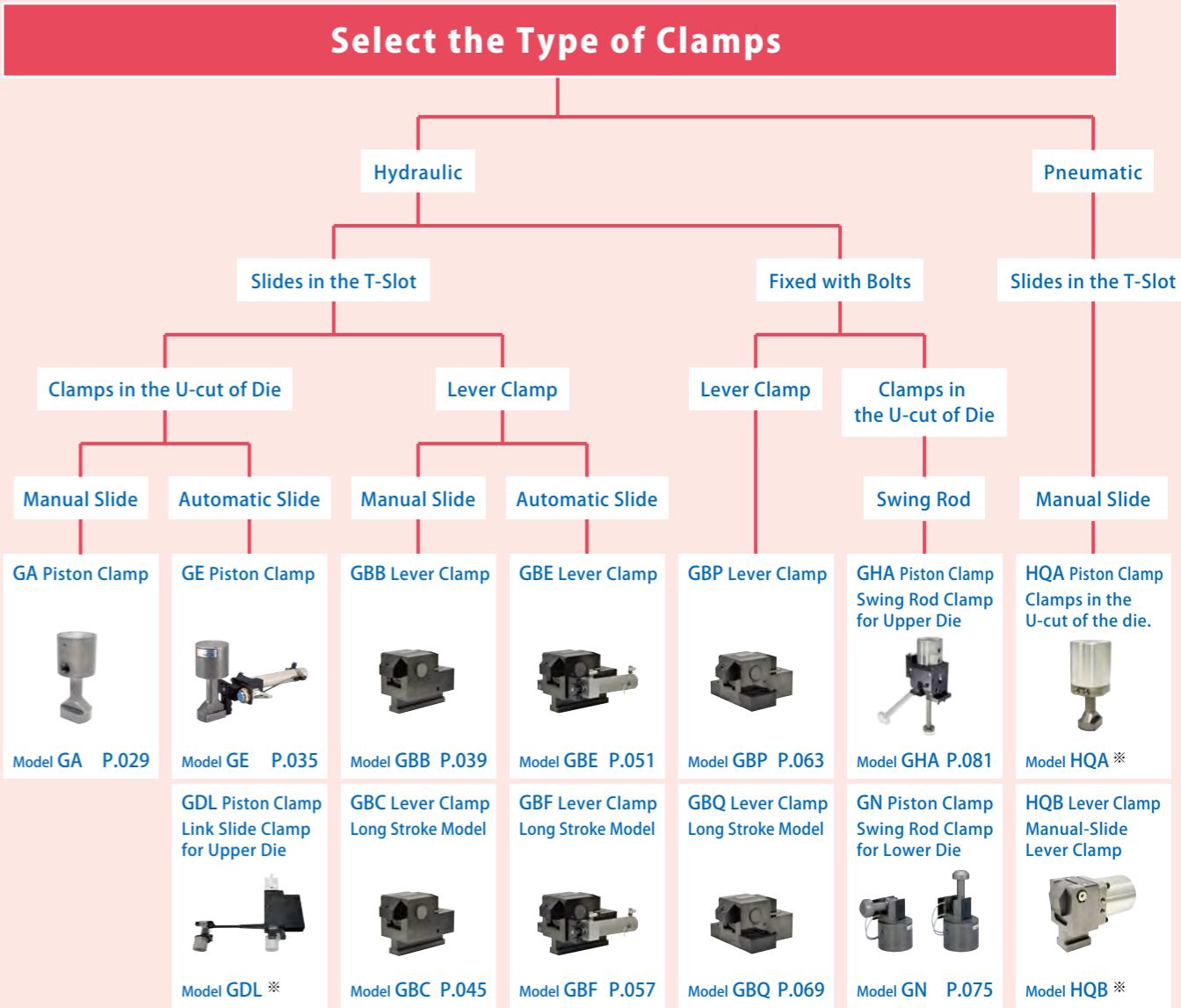
**Operating Condition of Press Machine**

Die Change Key Switch : **"OFF"**  
Hydraulic Clamp : **Lock**  
RA Hydraulic Die Lifter : **Down**

**Ready to Start the Press Machine**

- During press machine operation, die change systems cannot be operated when the key is pulled out.
- Unlike manually tightened clamp, when automatic clamps are unlocked, the press does not start working.

# Selecting Method



※ Not included in this catalog. Please contact us for details.

## Select the Number of Clamps

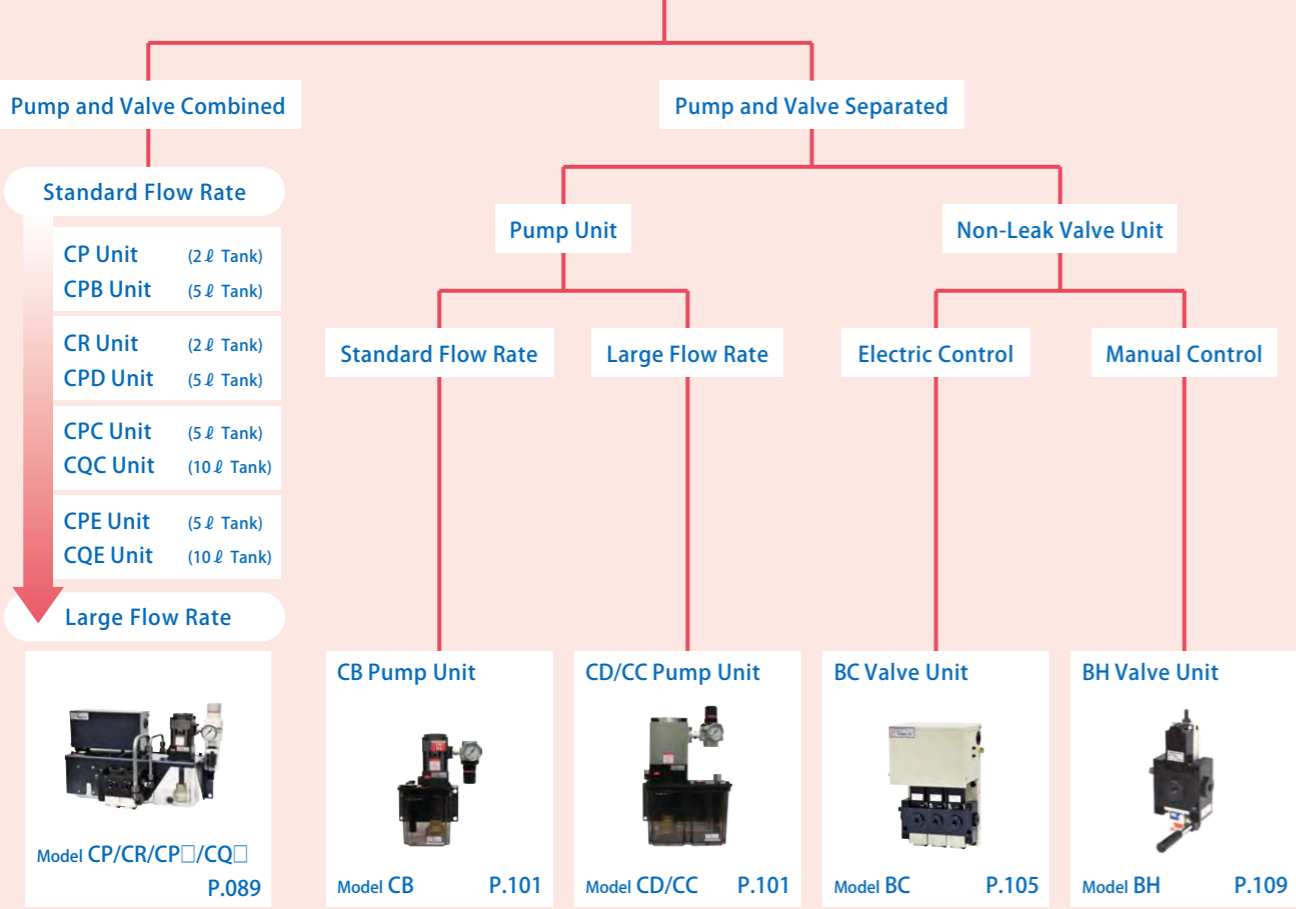
The number of clamps should be determined by considering the following points :  
• The weight, size and shape of the die • The number of slots of the bolster and the slide

## Select the Size of Clamps

The total clamping force should be more than 10% of the press capacity of upper and lower die.

$$\text{Clamping Force per Clamp} \times \text{The Number of Clamps} > \text{Press Capacity} \times 0.1$$

Select the Hydraulic Unit



Select the Number of Circuits and Circuit Symbols of the Unit

Select the number of circuits and circuit symbols considering specifications of die change system. Typical examples are shown below. There are various kinds of circuit symbols, and combination is freely selected. Contact us for more information.

System Structure Example	No. of Circuits	Circuit Symbols
Control either upper clamps or lower clamps	1	G <sup>※1</sup> C <sup>※2</sup> (Normal Open:1 circuit)
Control RQA/RA Die Lifter only	1	H <sup>※1</sup> D <sup>※2</sup> (Normal Close:1 circuit)
Control upper clamps and lower clamps individually	2	2G <sup>※1</sup> CC <sup>※2</sup> (Normal Open:2 circuits)
Control either upper clamps or lower clamps (normal open), and control RQA/RA Die Lifter separately (normal close)	2	GH <sup>※1</sup> CD <sup>※2</sup> (Normal Open:1 circuit) (Normal Close:1 circuit)
Control upper clamps and lower clamps individually (normal open), and control RQA/RA Die Lifter separately (normal close)	3	2GH <sup>※1</sup> CCD <sup>※2</sup> (Normal Open:2 circuits) (Normal Close:1 circuit)

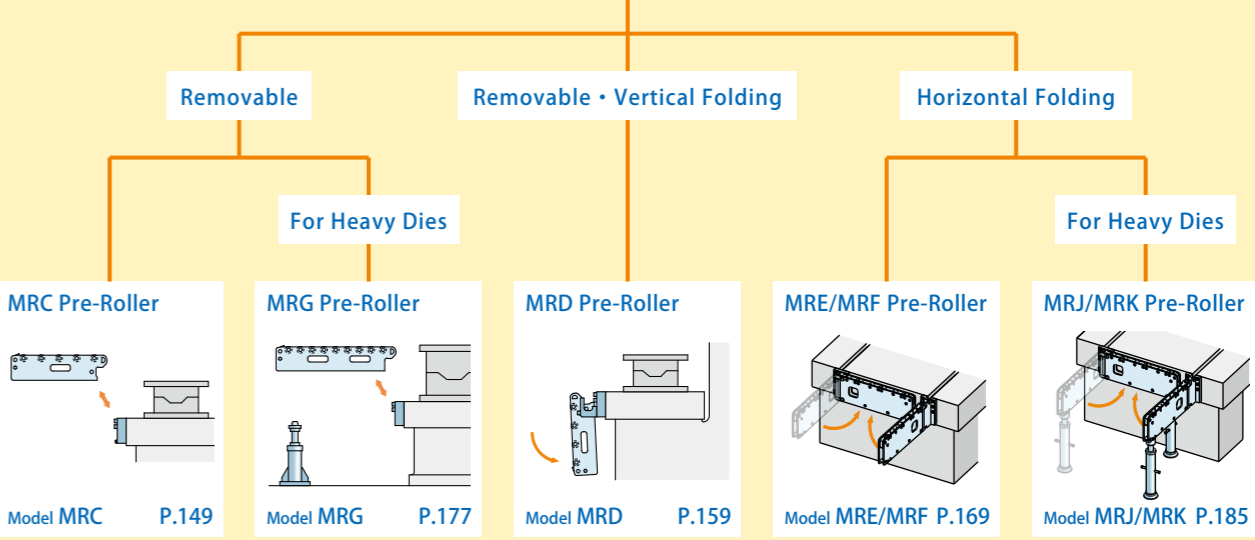
※1. When using CPB/CPD/CPC/CPE/CQC/CQE  
※2. When using CP/CR/BC/BH

Select the Die Lifter




※ Not included in this catalog. Please contact us for details.

Select the Pre-Roller



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<http://www.kosmek.co.jp/english/ap/qdcs/>

3 Steps to Choose the Right Models !

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- Step. 2 Use “Search Filters” for more specific model selection of Die Lifter and Pre-Roller.
- Step. 3 Contact us for systems with non-standard conditions.

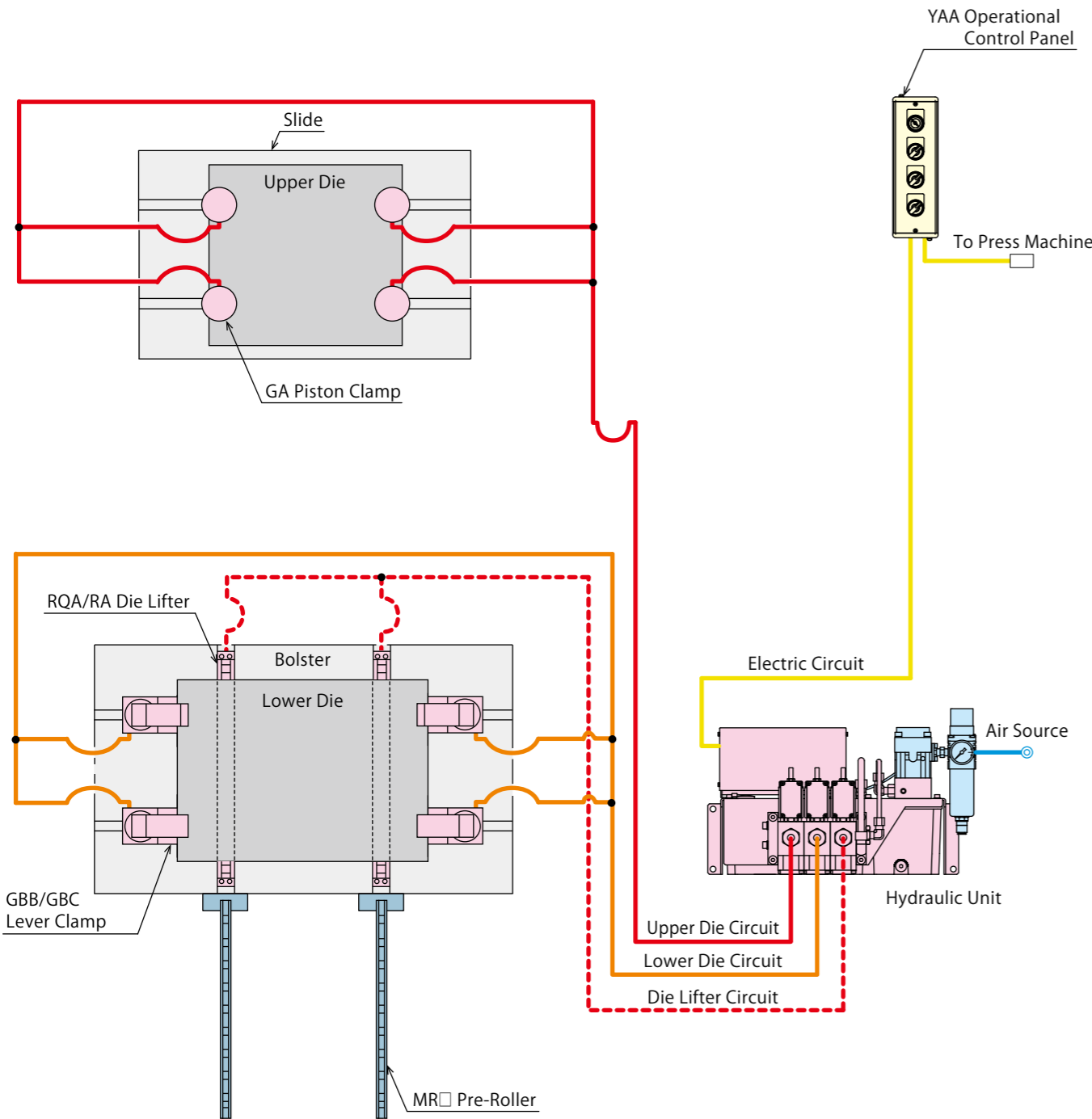
# System Structure Example

## ● System Structure Example ①

The basic structure with GA / GBB / GBC clamps that slide manually in the T-slot. This system is able to control upper die circuit, lower die circuit, and RQA / RA die lifter circuit individually by using 3-circuit type hydraulic unit.

Upper Clamp : GA Piston Clamp  
Lower Clamp : GBB / GBC Lever Clamp  
Loading / Unloading the Die : MR□ Pre-Roller + RQA / RA Die Lifter  
Hydraulic Source : CP□ Unit / CQ□ Unit

— Upper Die Hyd. Circuit  
— Lower Die Hyd. Circuit  
- - - Die Lifter Hyd. Circuit  
— Air Circuit  
— Electric Circuit

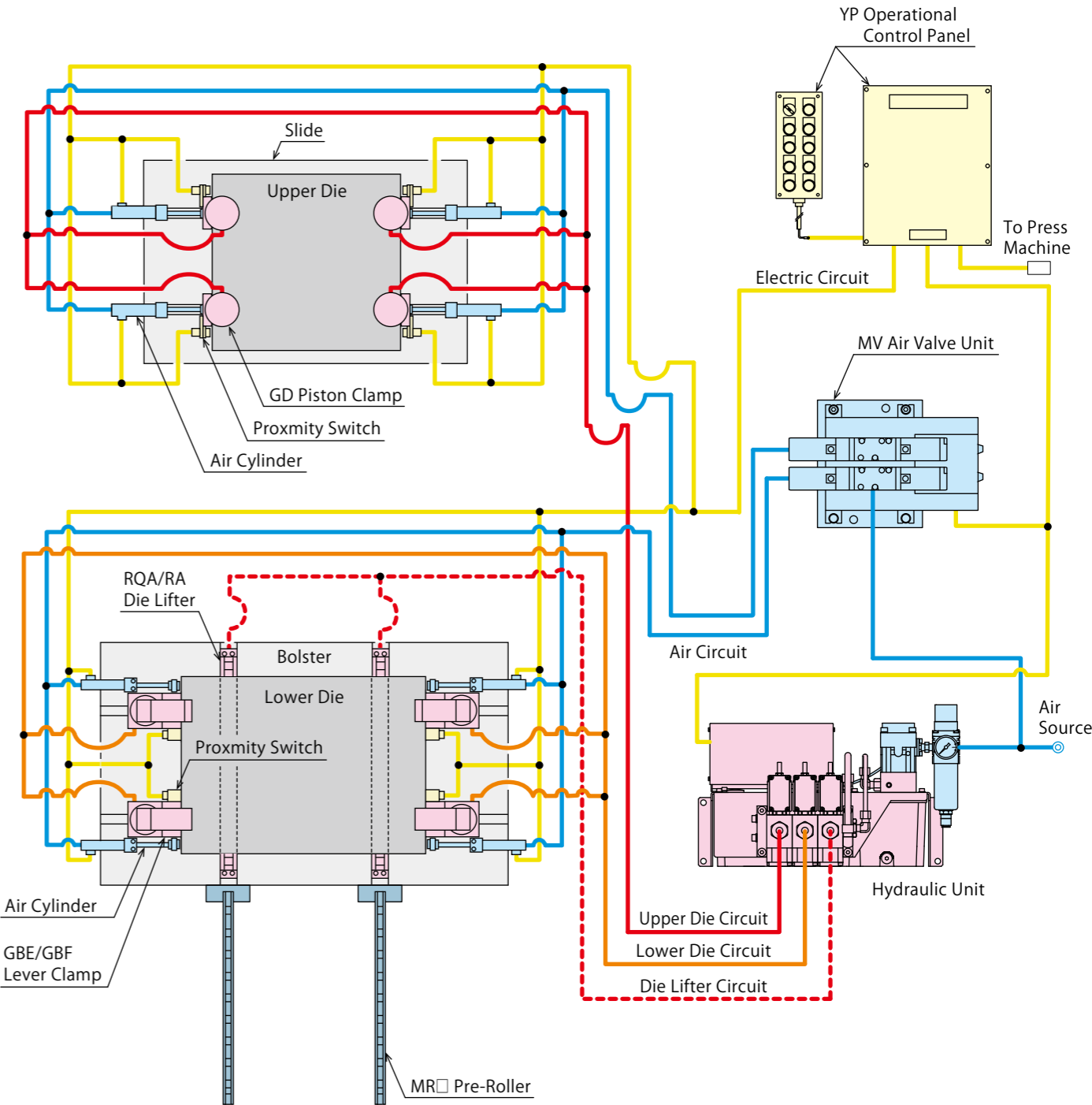


## ● System Structure Example ②

Auto-slide GD / GBE / GBF clamps enable to slide clamps and lock the die with button operation. The forward-end switch (proximity switch) detects that the die is locked securely, and the backward-end switch detects that the clamps are retracted. In case malfunction occurs in the air cylinder, even when the proximity switch detects the die is in place, the press machine does not start working by the interlock function unless the clamps conduct lock action. Most suitable when it is difficult to slide clamps manually, or for reduction of manual systems.

Upper Clamp : GD Piston Clamp  
Lower Clamp : GBE / GBF Lever Clamp  
Loading / Unloading the Die : MR□ Pre-Roller + RQA / RA Die Lifter  
Hydraulic Source : CP□ Unit / CQ□ Unit

— Upper Die Hyd. Circuit  
— Lower Die Hyd. Circuit  
- - - Die Lifter Hyd. Circuit  
— Air Circuit  
— Electric Circuit



# Hydraulic Piston Clamp

T-Slot Manual-Slide

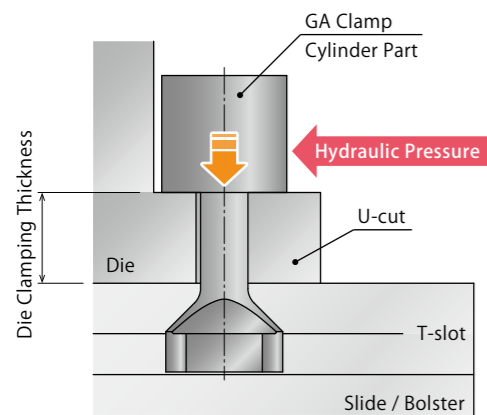
Model GA



## Manual-slide clamp locks in the U-cut of the die.

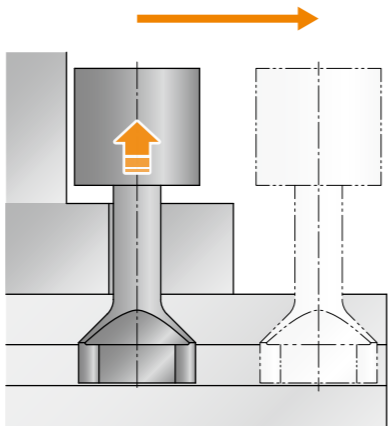
Single-acting cylinder with compact size.  
Space efficient for mounting.

### Action Description



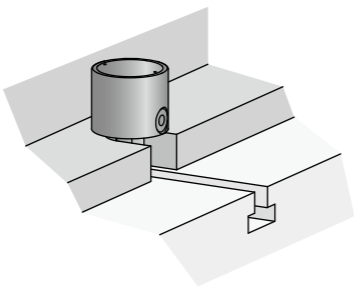
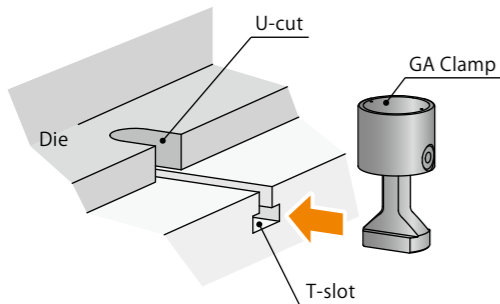
Locked State

When hydraulic pressure is supplied, the cylinder part actuates to lock the die.



Released State

When hydraulic pressure is released, the cylinder part conducts release action with built-in spring (the cylinder part is lifted up), which is the condition that GA clamp can slide in the T-slot.



※ We provide GA clamps according to die clamping thickness and T-slot dimensions.  
Please refer to the external dimensions for further information.

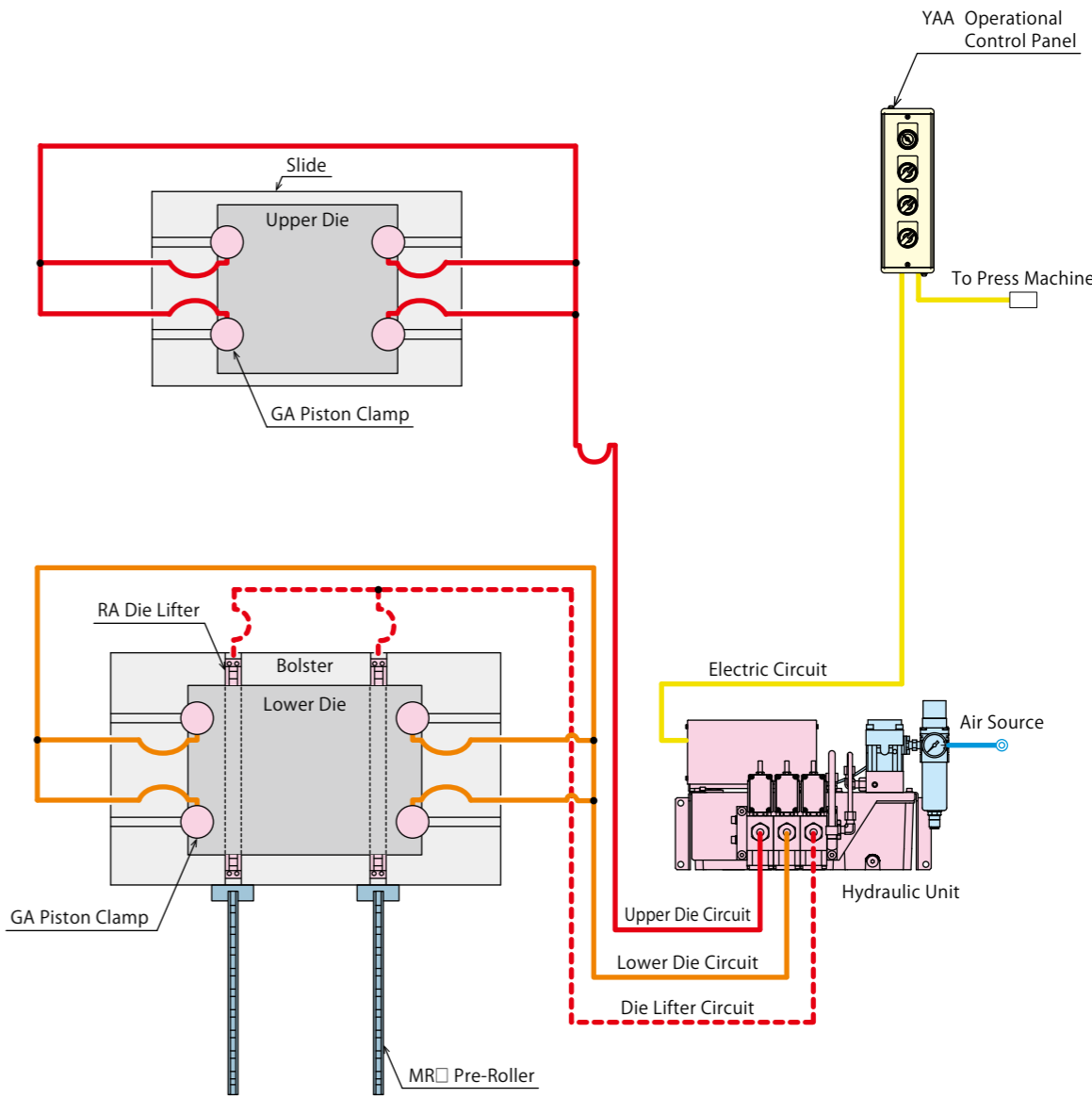
### System Structure Example

The basic structure with GA clamps that slide manually in the T-slot. This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using 3-circuit type hydraulic unit.

- Upper Clamp : GA Piston Clamp
- Lower Clamp : GA Piston Clamp
- Loading / Unloading the Die : MR□ Pre-Roller + RA Die Lifter
- Hydraulic Source : CP□ Unit / CQ□ Unit

- Upper Die Hyd. Circuit
- Lower Die Hyd. Circuit
- Die Lifter Hyd. Circuit
- Air Circuit
- Electric Circuit

We are able to provide different models of clamp for the upper die and lower die.  
Please contact us for further information.



Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

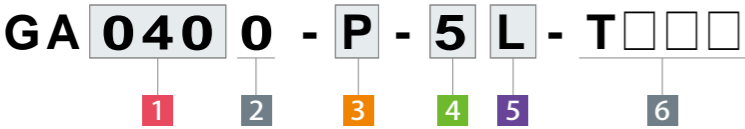
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

Model No. Indication



1
Clamping Force

010	: 10 kN	063	: 63 kN
016	: 16 kN	100	: 100 kN
025	: 25 kN	160	: 160 kN
040	: 40 kN	250	: 250 kN

2
Design No.

0
: Revision Number

3
Option
※ Please contact us for specifications and external dimensions.

Blank
: Standard

- A : Slide Rod (For U-Cut)
- B : Slide Rod (For Tap)
- F1 : Fixed Body (Embedded Option : 025 ~ 100)
- F2 : Fixed Body (Flange Option)
- H : Extra Height Rod
- N : NPT Port ※1
- P : Proximity Switch for Die Detection (040 or Larger) ※3
- S1 : Long Stroke (Full Stroke : 12.5mm)
- S2 : Long Stroke (Full Stroke : 20.0mm)
- T : T-Slot Locking
- V : High Temperature (0 ~ 120℃) ※2

Notes :

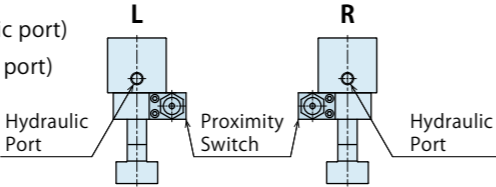
- ※1. Dimensions in the specification sheet and other documents are written in Inches.
- ※2. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.
- ※3. Only when selecting P : (Proximity Switch for Die Detection).

4
Proximity Switch Load Voltage (Current)
※3. Only when selecting P : (Proximity Switch for Die Detection).

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

5
Proximity Switch Mounting Position
※3. Only when selecting P : (Proximity Switch for Die Detection).

- L : As illustrated (Right side looking from the hydraulic port)
- R : As illustrated (Left side looking from the hydraulic port)



6
Production Number

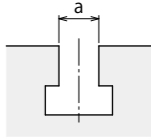
※ This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.

Specifications

Model No.		GA0100	GA0160	GA0250	GA0400	GA0630	GA1000	GA1600	GA2500
Clamping Force	kN	10	16	25	40	63	100	160	250
Working Pressure	MPa	25 (For Rated Clamp Force)							
Withstanding Pressure	MPa	37							
Full Stroke	mm	6	8	8	8	8	8	8	8
Clamp Stroke	mm	4	5	5	5	5	5	5	5
Extra Stroke	mm	2	3	3	3	3	3	3	3
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	2.5	5.7	8	13	21	31	54	76
Operating Temperature ※4	℃	0 ~ 70 (V : High temperature option is available for 0 ~ 120℃)							
Use Frequency ※5		20 Cycles / Day or less							
Usable Fluid ※6 ※7 ※8		General Hydraulic Oil Equivalent to ISO-VG-32							
Min. T-slot Width a (JIS) ※9	mm	8	10	12	16	18	22	28	36
Max. T-slot Width a (JIS) ※9	mm	20	24	32	42	42	54	54	54

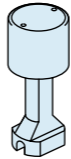
Notes :

- ※4. V : High Temperature Option is available for 0 ~ 120℃.
- ※5. Please contact us for more frequent use.
- ※6. Please contact us for fluids other than those mentioned on the list.
- ※7. If hydraulic viscosity is higher than specified, action time will be longer.
- ※8. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
- ※9. The dimensions are reference. They might be different depending on T-slot (T-leg) dimensions and others.



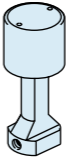
T-Slot

Options



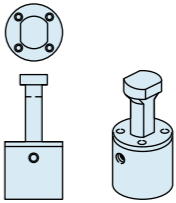
Slide Rod (For U-Cut)  
Put a stick into the U-cut to move the backside clamp (B: For Tap).

Model GA-A



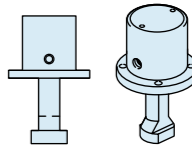
Slide Rod (For Tap)  
Move the clamp with a stick mounted in the thread part.

Model GA-B



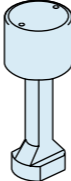
Fixed Body  
(Embedded Option : 025 ~ 100)

Model GA-F1



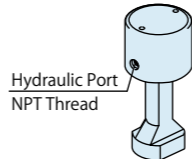
Fixed Body  
(Flange Option)

Model GA-F2



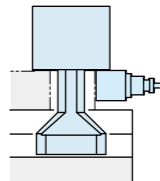
Extra Height Rod  
When d+h dimension is greater than standard.

Model GA-H



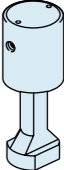
NPT Port

Model GA-N



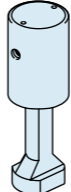
Proximity Switch for Die Detection (040 or Larger)  
Enables secure clamping.

Model GA-P



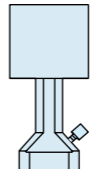
Long Stroke (Full Stroke : 12.5mm)  
When the variance in h dimension of a die is greater than standard.

Model GA-S1



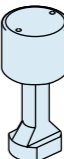
Long Stroke (Full Stroke : 20.0mm)  
When the variance in h dimension of a die is greater than standard.

Model GA-S2



T-Slot Locking  
Prevents clamp movement.

Model GA-T



High Temperature (0 ~ 120℃)

Model GA-V

Note :

- Specifications and external dimensions for these options are different from the standard model. Please contact us for further information.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GDB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

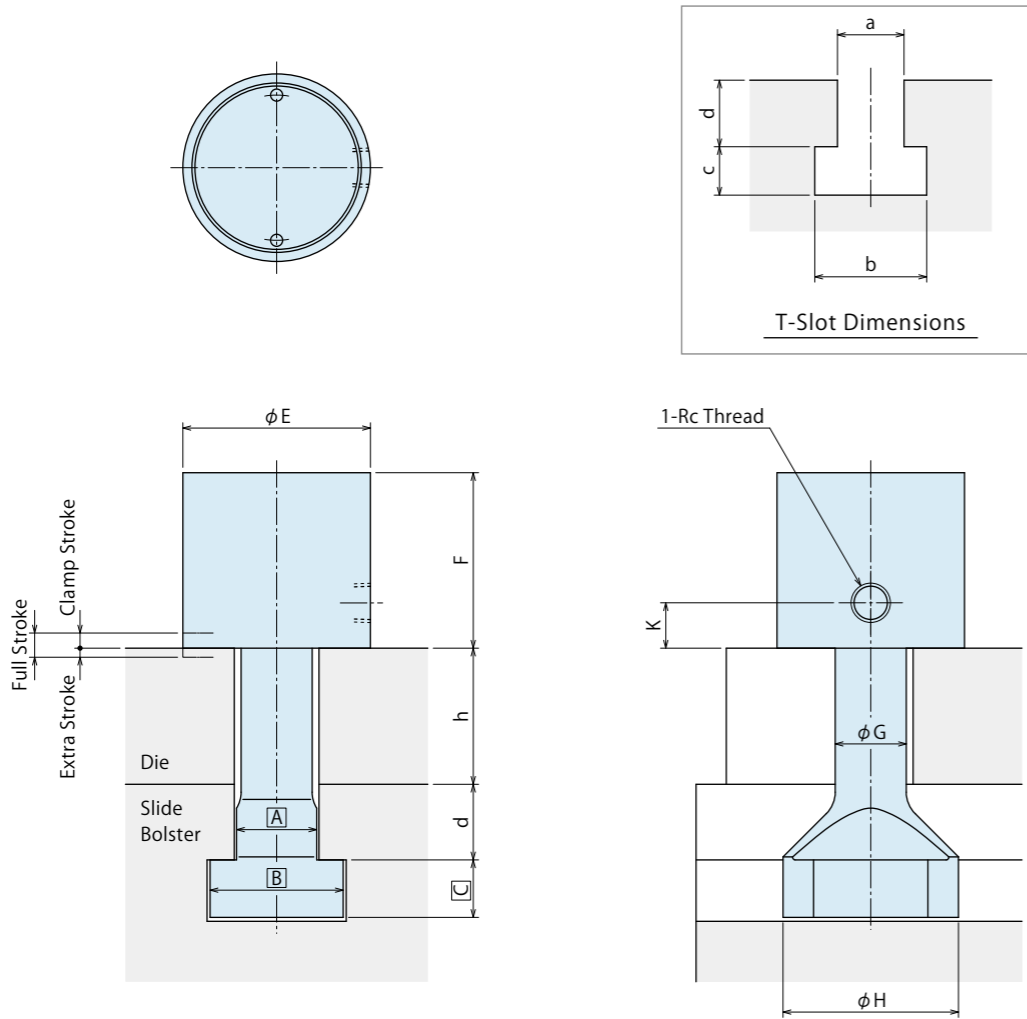
MV

Operational  
Control Panel

YP

YAA

External Dimensions
 The drawing shows the clamped condition of 3 Option “Blank: Standard” in the model No. indication.



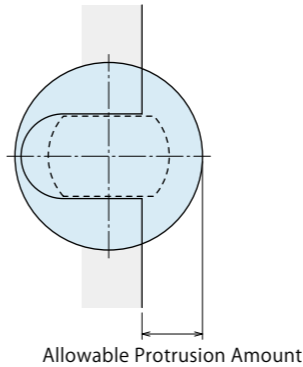
External Dimensions
 (mm)

Model No.	GA0100	GA0160	GA0250	GA0400	GA0630	GA1000	GA1600	GA2500
Full Stroke	6	8	8	8	8	8	8	8
Clamp Stroke ※1	4	5	5	5	5	5	5	5
Extra Stroke ※1	2	3	3	3	3	3	3	3
E	40	43	53	62	78	98	126	150
F	39	48	52	58	65	71	82	100
G	12	15	18.5	23.5	28.5	38.5	48.5	58.5
H	30	38	48	58	68	78	88	98
K	10	12	12	15	15	15	15	15
min. C	5	6	7	9.5	11	15	19	24
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
max. h+d	60	70	80	90	100	110	120	140
Weight kg	0.6	0.8	1.1	2	2.8	6	8	10

- Notes :
- This external dimensions are for 3 Option “Blank : Standard” in the Model No. Indication. Please contact us for external dimensions for options.
  - A, B, C dimensions are determined by Kosmek according to the T-slot dimensions.
  - When making an order, please indicate T-slot dimensions a, b, c, d and dimension h of die clamping thickness.
  - Please indicate the dimensions of a, b, c, d and h in 0.1mm increments.
  - When the dimension of h+d is higher than the standard, 3 Option H : Extra Height Rod should be chosen.
  - Do not exceed the clamp's capacity.
  - 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.

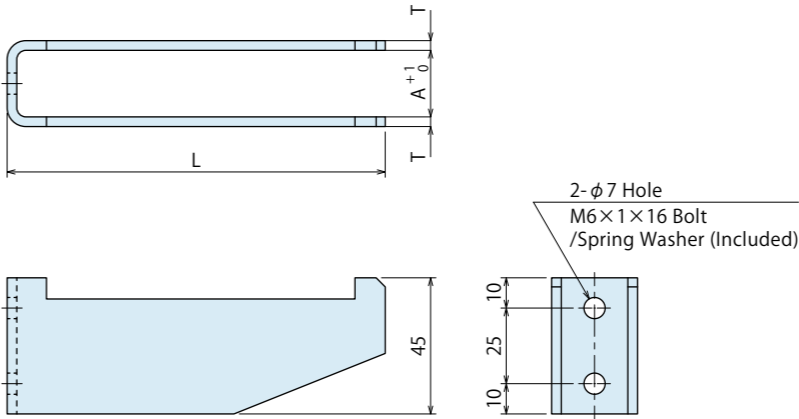
The Allowable Protrusion Amount of Cylinder

※ Please use the product within the allowable protrusion amount of cylinder when using clamps.



Model No.	Allowable Protrusion Amount (mm)
GA0100	13
GA0160	14
GA0250	17
GA0400	20
GA0630	26
GA1000	32
GA1600	42
GA2500	50

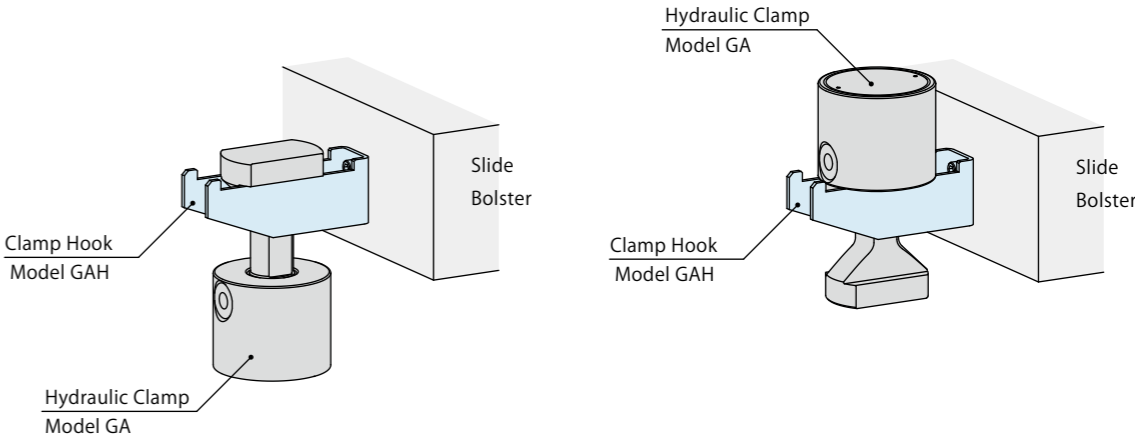
Accessory : GAH Clamp Hook



Model No.	GAH221	GAH281
Applicable Clamp Model No.	GA0160 ~ GA1000	GA0250 ~ GA1000
a (T-slot)	20 ~ 22	24 ~ 28
A	22	28
L	125	125
T	3.2	3.2

- Note :
- Please do not operate the press machine continuously with a clamp suspended from Clamp Hook. Clamp Hook should be used only during the die change.

Application Example



Clamp • Unit
Operational Control Panel
Die Lifter
Pre-Roller
Accessories
Cautions
Company Profile
Clamp
GA
GD
GDB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

# Hydraulic Piston Clamp

T-Slot Automatic-Slide

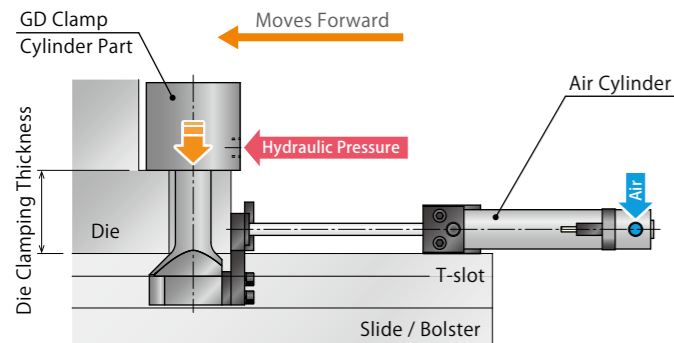
Model GD



## GA Clamp with an Air Cylinder

Most suitable for inaccessible area or non-operation side.  
Clamp movement is all automated.

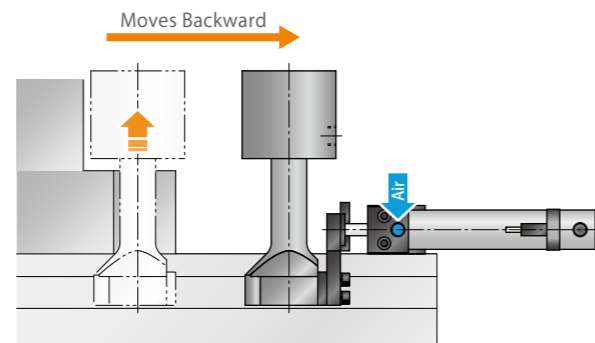
### Action Description



#### Locked State

GD clamp moves forward with air supply to the air cylinder. Supply hydraulic pressure after die detection of proximity switch, and the cylinder part clamps the die.

Forward-End Detection **ON**  
Backward-End Detection **OFF**



#### Released State

When hydraulic pressure is released, the cylinder part unclamps with built-in spring force. Supply air to the air cylinder and GD clamp moves backward automatically. (Backward-end detection switch detects that GD clamp moves backward.)

Forward-End Detection **OFF**  
Backward-End Detection **ON**

※ We provide GD clamps according to die clamping thickness and T-slot dimensions.  
Please refer to the external dimensions for further information.

### Model No. Indication

GD 040 0 - 75 - 5 L - H - T □ □ □

1 2 3 4 5 6 7

#### 1 Clamping Force

025 : 25 kN  
040 : 40 kN  
063 : 63 kN  
100 : 100 kN  
160 : 160 kN

#### 2 Design No.

0 : Revision Number

#### 3 Slide Stroke (Air Cylinder Stroke)

75 : Clamp Travel Distance = 75mm  
200 : Clamp Travel Distance = 200mm

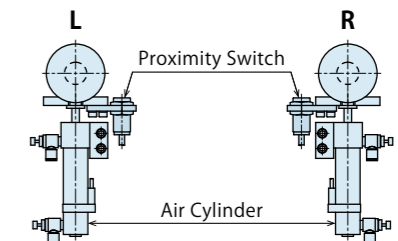
※ Selectable 3 Slide Stroke differs according to 1 Clamping Force. Please refer to the slide stroke on specifications.  
※ Extra distance should be considered when determining the travel distance.

#### 4 Switch Load Voltage (Current)

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

#### 5 Forward-End Detection (Proximity Switch) Mounting Position

L : As illustrated (Right side looking from the air cylinder)  
R : As illustrated (Left side looking from the air cylinder)



#### 6 Option ※ Please contact us for specifications and external dimensions.

Blank : Standard  
H : Extra Height Rod  
N : NPT Port ※1  
S1 : Long Stroke (Full Stroke : 12.5mm)  
S2 : Long Stroke (Full Stroke : 20.0mm)  
V : High Temperature (0 ~ 120℃) ※2

Notes :  
※1. Dimensions in the specification sheet and other documents are written in Inches.  
※2. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

#### 7 Production Number

※ This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

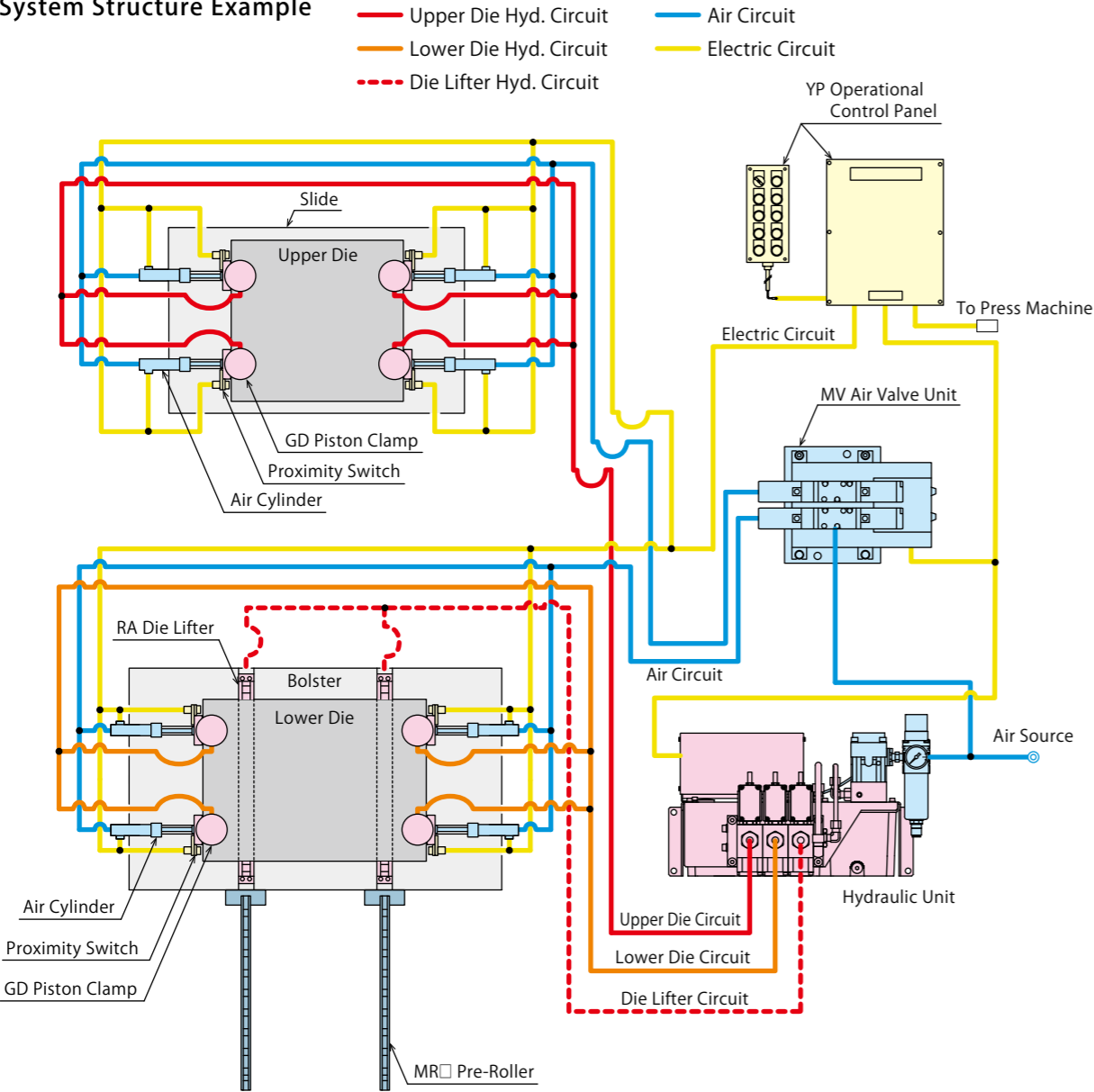
YP  
YAA

Specifications

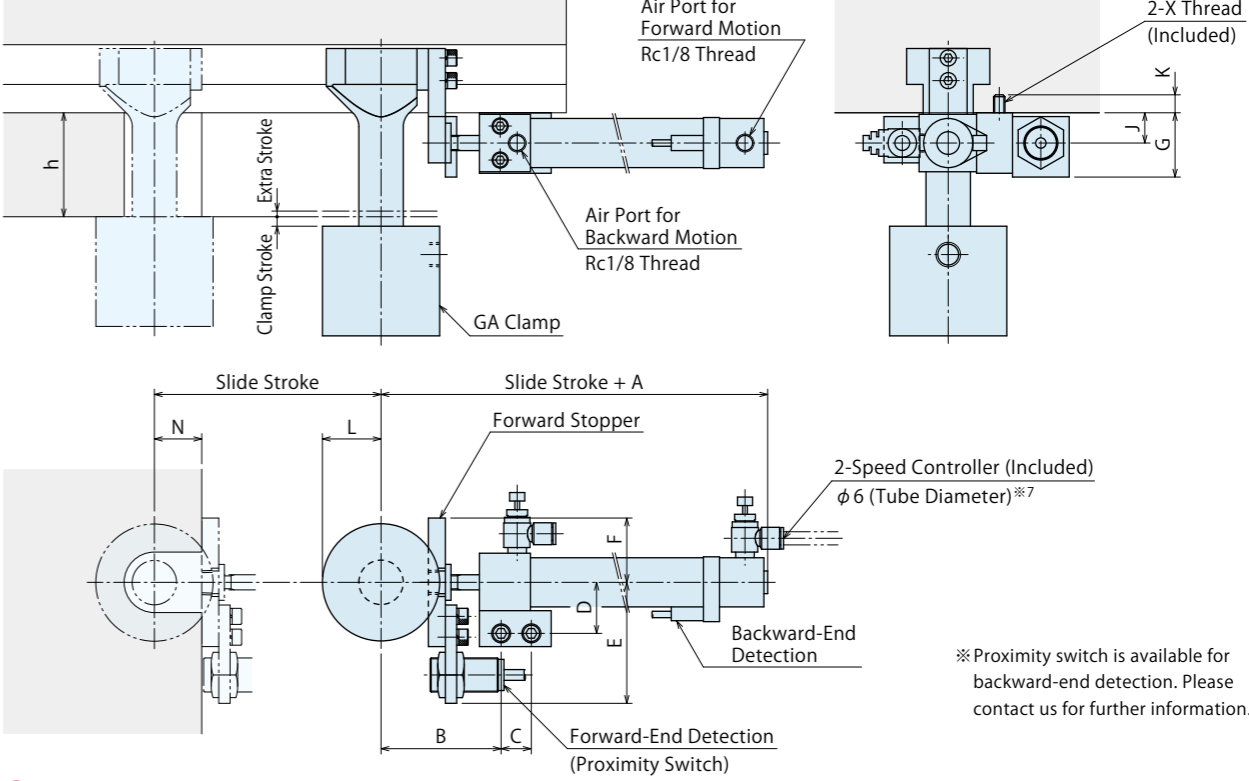
Model No.		GD0250	GD0400	GD0630	GD1000	GD1600
GA Clamp Model No.		GA0250	GA0400	GA0630	GA1000	GA1600
Clamping Force                      kN		25	40	63	100	160
Working Pressure                      MPa		25 (For Rated Clamp Force)				
Withstanding Pressure                      MPa		37				
Slide Stroke                      mm		75 ~ 150	75 ~ 150	100 ~ 150	100 ~ 200	125 ~ 200
Air Cylinder Driving Air Pressure※ <sup>1</sup> MPa		0.4 ~ 0.5				
Switch Voltage		AC100V / AC200V / DC24V				
Operating Temperature ※ <sup>2</sup> °C		0 ~ 70 (V : High temperature option is available for 0 ~ 120°C)				
Use Frequency ※ <sup>3</sup>		20 Cycles / Day or less				
Usable Fluid ※ <sup>4</sup> ※ <sup>5</sup> ※ <sup>6</sup>		General Hydraulic Oil Equivalent to ISO-VG-32				

- Notes :
- ※1. Air pressure less than 0.4MPa may lead to malfunction.
  - ※2. V : High temperature option is available for 0 ~ 120℃.
  - ※3. Please contact us for more frequent use.
  - ※4. Please contact us for fluids other than those mentioned on the list.
  - ※5. If hydraulic viscosity is higher than specified, action time will be longer.
  - ※6. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
1. Please refer to GA Clamp (P.029 ~ P.034) for details of clamp.

System Structure Example



External Dimensions
 The drawing shows 6 Option "Blank : Standard" in the model No. indication.



External Dimension List

Model No.	GD0250	GD0400	GD0630	GD1000	GD1600	
GA Clamp Model No.	GA0250	GA0400	GA0630	GA1000	GA1600	
Full Stroke	8	8	8	8	8	
Clamp Stroke ※8	5	5	5	5	5	
Extra Stroke ※8	3	3	3	3	3	
A	124.5	129.5	134.5	141.5	146.5	
B	58.5	63.5	68.5	74.5	79.5	
C	16	16	16	20	20	
D	27	27	27	35	35	
E	64	64	64	73	73	
F	34	34	34	43	43	
G	34	34	34	38	38	
J	16	16	16	16	16	
K	12	12	12	16	16	
L	26.5	31	39	49	63	
N	20	25	30	30	35	
X	M6×1	M6×1	M6×1	M8×1.25	M8×1.25	
min.h	35	35	35	40	40	
Weight ※9	kg	1.9	2.8	3.6	7.2	9.2

- Notes :
- ※7. For N : NPT Port the tube diameter of the speed controller is written in Inches.
  - ※8. If you would like to change the ratio of clamp stroke and extra stroke, please contact us for more information.
  - ※9. The weight is when the slide stroke of the air cylinder is 200mm.
  - 1. Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
  - 2. Do not set the proximity switch to the die surface near the U-cut, because it is used as forward-end detection.
  - 3. Clamp sliding surface should be smooth.
  - 4. Do not exceed the clamp's capacity.
  - 5. Specifications and contents in this catalog are subject to change without prior notice.
  - Ask for the approval drawing before deciding to purchase.
  - 6. Please refer to GA Clamp (P.029 ~ P.034) for details of clamp.

Standard Slide Stroke List

Model No.	Standard Slide Stroke (mm)				
	75	100	125	150	200
GD0250	○	○	○	○	
GD0400	○	○	○	○	
GD0630		○	○	○	
GD1000		○	○	○	○
GD1600			○	○	○

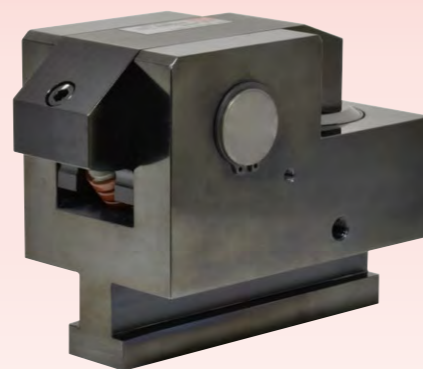
Note : 1. External dimensions are different when exceeding the standard stroke value written in the list. Please contact us separately.

Clamp • Unit	GA
Operational Control Panel	GD
Die Lifter	GBB
Pre-Roller	GBC
Accessories	GBE
Cautions	GBF
Company Profile	GBP
	GBQ
	GN
	GHA
Hydraulic Unit	CP
	CR
	CPB
	CPD
	CPC
	CPE
	CQC
	CQE
Pump Unit	CB
	CD
	CC
Valve Unit	BC
	BH
	MV
Operational Control Panel	YP
	YAA

# Hydraulic Lever Clamp

T-Slot Manual-Slide

Model GBB

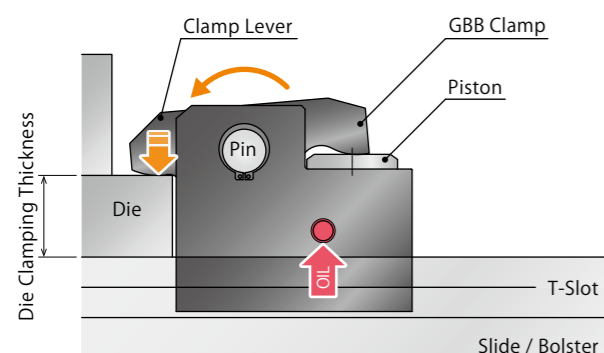


## No U-cut is required on the die.

Basic circuit structure with a single hydraulic circuit.

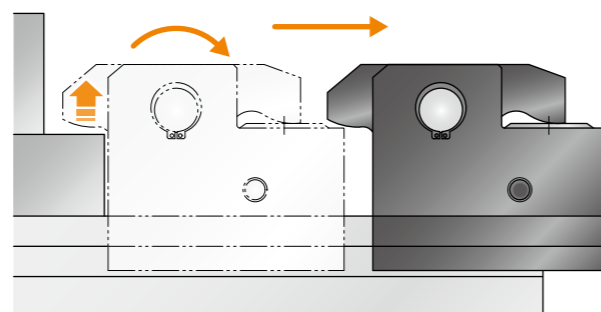
We provide a variety of options to meet your needs.

### Action Description



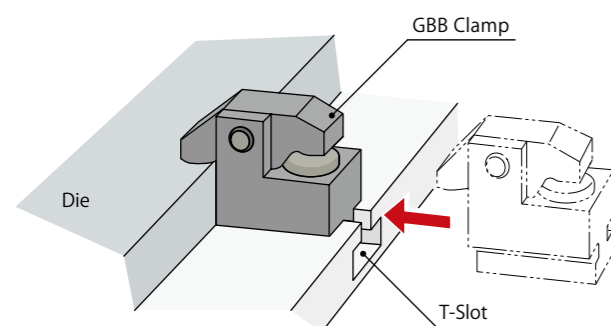
#### Locked State

When hydraulic pressure is supplied, the piston lifts up, and the clamp lever pivots on the pin and locks the die.



#### Released State

When hydraulic pressure is released, the piston descends with built-in spring force and the clamp lever returns to the released state. The clamp can now be moved in the T-slot.



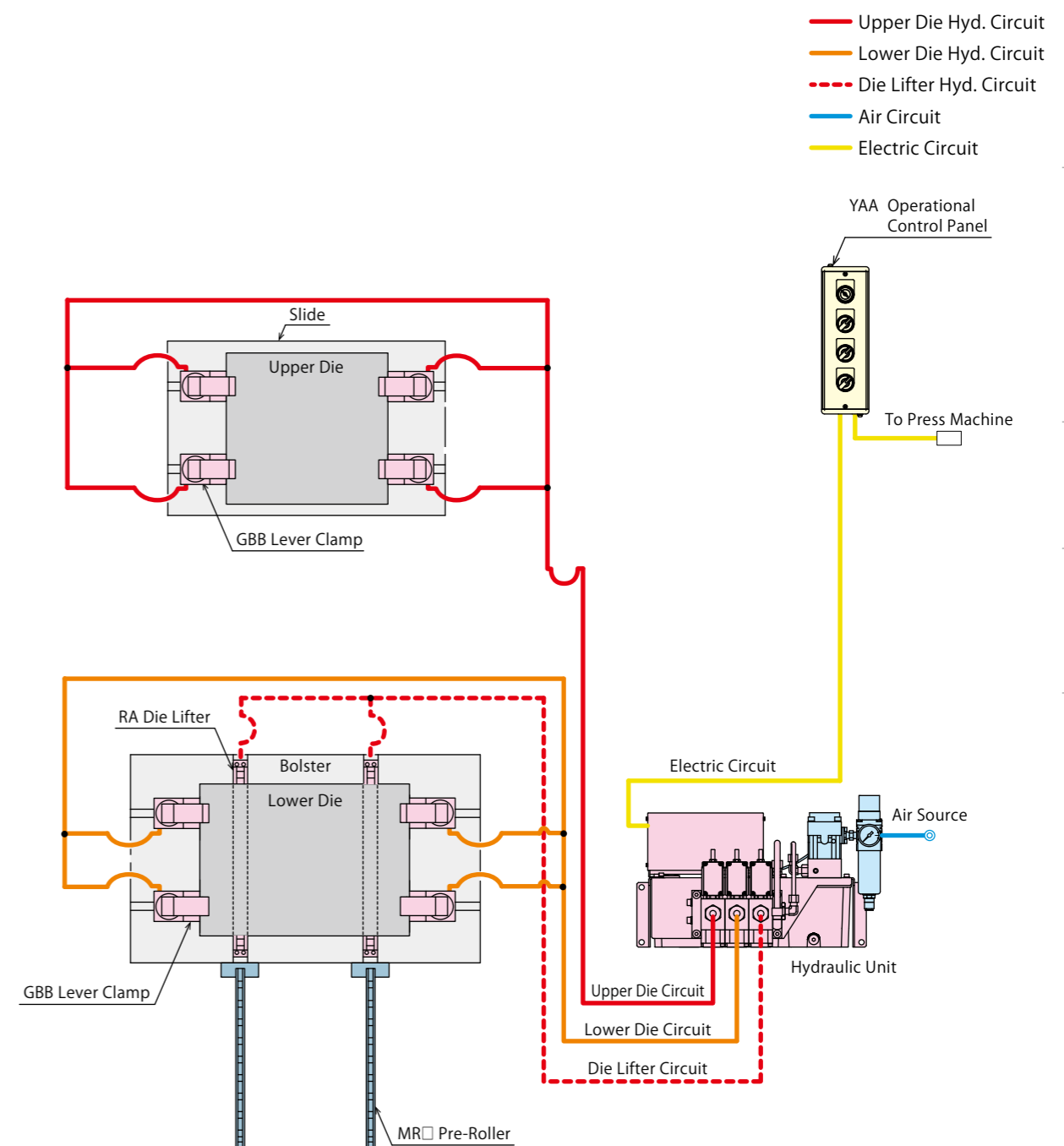
※ We provide GBB clamps according to die clamping thickness and T-slot dimensions. Please refer to the external dimensions for further information.

### System Structure Example

The basic structure with GBB clamps that slide manually in the T-slot. This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit.

Upper Clamp : GBB Lever Clamp  
Lower Clamp : GBB Lever Clamp  
Loading / Unloading the Die : MR□ Pre-Roller + RA Die Lifter  
Hydraulic Source : CP□ Unit / CQ□ Unit

We are able to provide different models of clamp for the upper die and lower die. Please contact us for further information.



Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

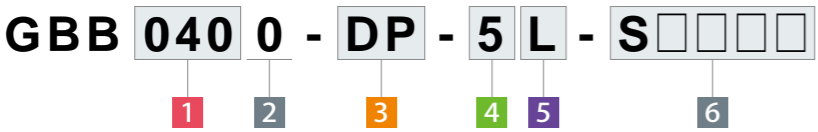
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

Model No. Indication



1 Clamping Force

- 010 : Clamping Force = 10kN
- 016 : Clamping Force = 16kN
- 025 : Clamping Force = 25kN
- 040 : Clamping Force = 40kN
- 063 : Clamping Force = 63kN
- 100 : Clamping Force = 100kN
- 160 : Clamping Force = 160kN
- 250 : Clamping Force = 250kN

2 Design No.

0 : Revision Number

3 Option ※ Please contact us for specifications and external dimensions.

- Blank : Standard
- A : Slide Rod (For U-Cut)
- B : Slide Rod (For Tap)
- D : With Handle (GBB0630 or larger)
- E : Reinforced Body
- H : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J : Low Lever (When h dimension is less than min. h dimension shown in the external dimension.)
- K : Rear Port
- L□ : Wide Lever (For U-Cut of Die) ※1
- M□ : For Die with Notch
- N : NPT Port ※2
- P : With Die Confirmation Proximity Switch (GBB0250 or larger) ※4
- R : Longer T-Leg Dimension D
- T : T-Slot Locking
- U□ : With Grease Nipple (GBB0400 or larger)
- V : High Temperature (0 ~ 120℃) ※3
- W : With Check Valve (GBB1000 or larger)
- X : With Cover
- Notes :  
※1. Please indicate the U-cut dimensions of the die.  
※2. Dimensions in the specification sheet and other documents are written in Inches.  
※3. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

4 Switch Load Voltage (Current) ※4. Only when selecting P (Proximity Switch for Die Detection).

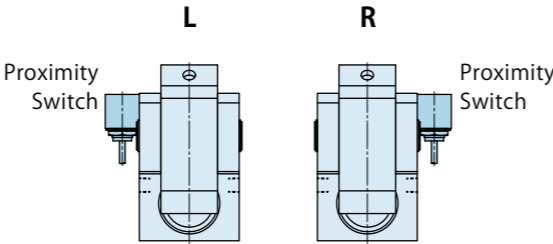
- 1 : AC100V
- 2 : AC200V
- 5 : DC24V (5 ~ 40mA)

5 Switch Mounting Position ※4. Only when selecting P (Proximity Switch for Die Detection).

- L : Left (Left Side as Seen from Clamp Back Side)
- R : Right (Right Side as Seen from Clamp Back Side)

6 Production Number

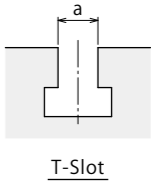
This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.



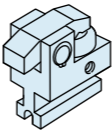
Specifications

Model No.	GBB0100	GBB0160	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500
Clamping Force	kN	10	16	25	40	63	100	250
Working Pressure	MPa	25 (For Rated Clamping Force)						
Withstanding Pressure	MPa	37						
Full Stroke	mm	6	7	7	7	8	8	8
Clamp Stroke	mm	3	3.5	3.5	3.5	4	4	4
Extra Stroke	mm	3	3.5	3.5	3.5	4	4	4
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	2.5	4.6	7.2	11.5	20.6	33.6	83.8
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							
Min. T-Slot Width a (JIS)※10 mm	10	12	14	18	22	24	28	36
Max. T-Slot Width a (JIS)※10 mm	20	24	32	42	42	54	54	54

- Notes :
- ※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.
- ※10. It shows reference dimensions. The dimension may differ from specification depending on T-slot (T-leg) dimension, dimension of clamp cylinder that sticks out of T-slot during lock action, or body material.

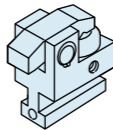


Option



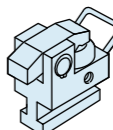
Slide Rod (For U-Cut)  
Put a stick into the U-cut to move the backside clamp (B: for tap).

Model GBB-A



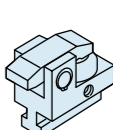
Slide Rod (For Tap)  
Move the clamp by a stick mounted in the thread part.

Model GBB-B



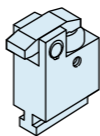
With Handle  
(GBB0630 or larger)

Model GBB-D



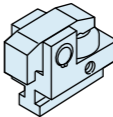
Reinforced Body

Model GBB-E



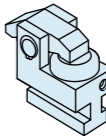
Extra Height Body

Model GBB-H



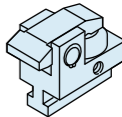
Low Lever

Model GBB-J



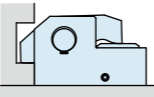
Rear Port

Model GBB-K



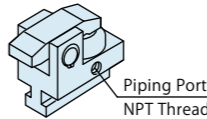
Wide Lever (For U-Cut of Die)

Model GBB-L□



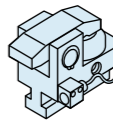
For Die with Notch

Model GBB-M□



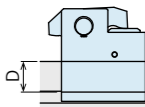
NPT Port

Model GBB-N



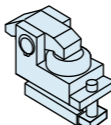
With Die Confirmation Proximity Switch

Model GBB-P



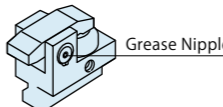
Longer T-Leg Dimension D

Model GBB-R



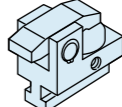
T-Slot Locking

Model GBB-T



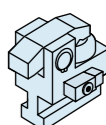
With Grease Nipple

Model GBB-U□



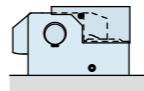
High Temperature 0 ~ 120 ℃

Model GBB-V



With Check Valve  
(GBB1000 or larger)

Model GBB-W



With Cover

Model GBB-X

Note :  
1 . Specifications and external dimensions for these options are different from the standard model. Please contact us for further information.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

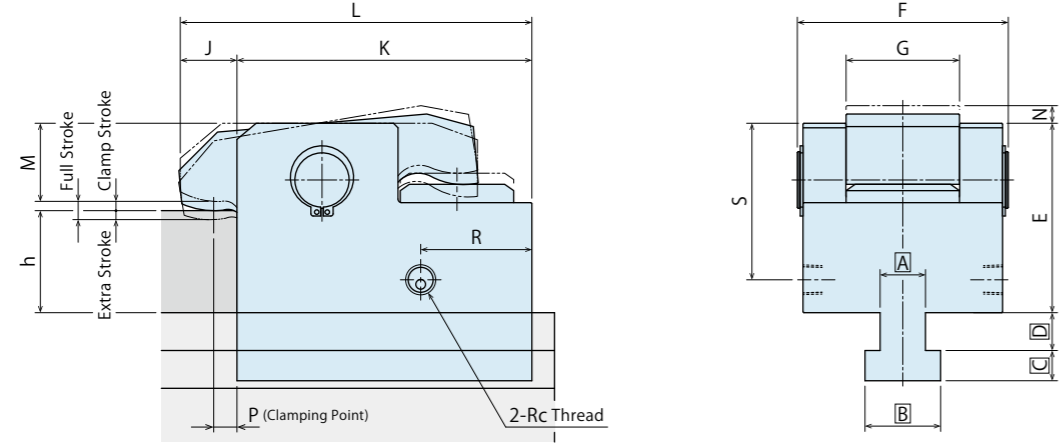
Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

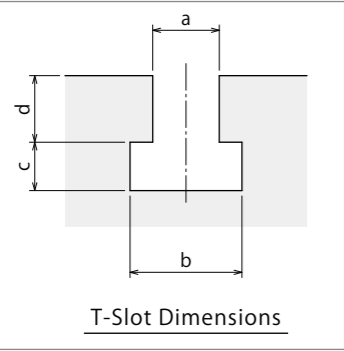
Operational Control Panel
YP
YAA

External Dimensions : GBB0100 ~ GBB2500

※ This drawing shows the standard model of GBB0100 ~ GBB2500. Contact us for external dimensions for options.



T-Slot Dimensions



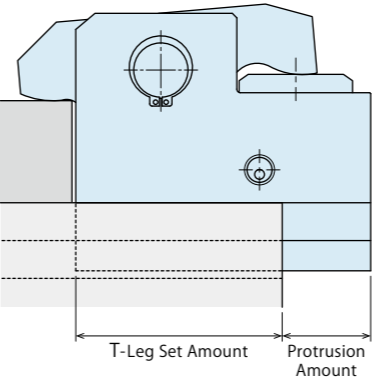
- Notes :
- 1. Do not exceed the clamping force on the specification.
  - 2. The specifications and contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

External Dimension List

Model No.	GBB0100	GBB0160	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500
Full Stroke	6	7	7	7	8	8	8	8
Clamp Stroke	3	3.5	3.5	3.5	4	4	4	4
Extra Stroke	3	3.5	3.5	3.5	4	4	4	4
min. E	42.5	49	58	66	81	105.5	122.5	144.5
F	43	53	63	73	93	103	124	152
G	20	26	32	38	50	53	60	73
J	15	17	19	22	25	30	30	30
K	58	70	84	105.5	130	159	199	240
L	73	87	103	127.5	155	189	229	270
M (h)	21.5 (20)	27.5 (20)	31.5 (25)	39.5 (25)	49.5 (30)	64 (40)	81 (40)	98 (45)
	16.5 (25)	22.5 (25)	26.5 (30)	34.5 (30)	44.5 (35)	59 (45)	76 (45)	93 (50)
	16.5 (30)	17.5 (30)	21.5 (35)	29.5 (35)	39.5 (40)	54 (50)	71 (50)	88 (55)
	16.5 (35)	17.5 (35)	21.5 (40)	29.5 (40)	34.5 (45)	49 (55)	66 (55)	83 (60)
	16.5 (40)	17.5 (40)	21.5 (45)	29.5 (45)	29.5 (50)	44 (60)	61 (60)	78 (65)
	-	-	21.5 (50)	29.5 (50)	29.5 (55)	44 (65)	61 (65)	78 (70)
	-	-	-	-	29.5 (60)	44 (70)	61 (70)	78 (75)
N	5.5	6.5	6.5	6.5	8	8	9	9.5
P	6	8	8	10	10	10	10	10
R	27	27	37	42	49	68	73	69.5
S	33.5	40	46	54	69	93.5	108.5	127.5
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
min. h	20	20	25	25	30	40	40	45
max. h	40	40	50	50	60	70	80	80
Weight ※1 kg	0.7	1.3	2.2	3.8	7.5	13	23	40

- Notes :
- ※ 1. It indicates the weight in case of min. E.
  - 1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
  - 2. Dimensions A, B, C and D are determined by Kosmek according to the T-slot dimensions.
  - 3. When making an order, please indicate T-slot dimensions a, b, c, d and die clamping thickness h.
  - 4. Please indicate the dimensions a, b, c, d and h in 0.1mm increments.

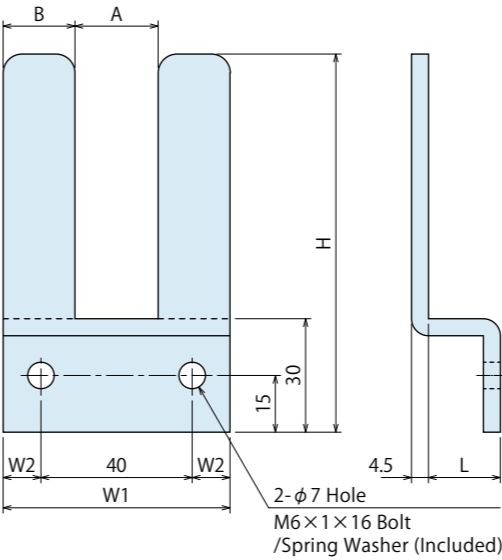
GBB Clamp The Allowable Protrusion Amount of Cylinder



Model No.	Min. T-Leg Set Amount	Allowable Protrusion Amount
GBB0100	40.5	17.5
GBB0160	49.0	21.0
GBB0250	59.0	25.0
GBB0400	73.5	32.0
GBB0630	91.0	39.0
GBB1000	114.0	45.0
GBB1600	142.0	57.0
GBB2500	170.5	69.5

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

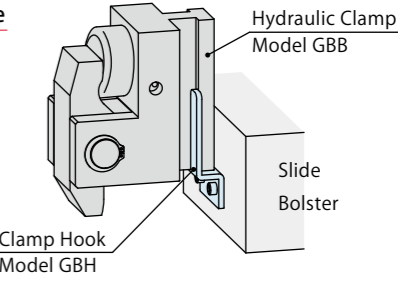
Accessory : GBH Clamp Hook



Model No.	GBH181	GBH221	GBH281
A	18	22	28
B	21	19	21
H	100	100	110
L	19	19	25
W1	60	60	70
W2	10	10	15

- Note :
- 1. Please do not operate the press machine continuously with clamp suspended from clamp hook. Clamp hook should be used only during the die change.

Application Example



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

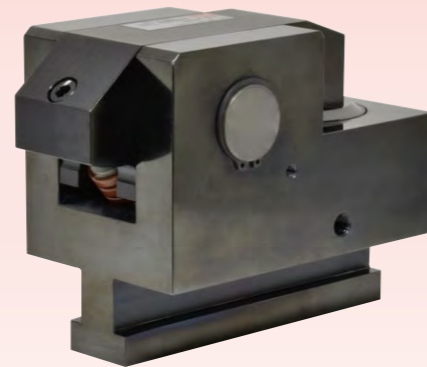
Operational  
Control Panel

YP  
YAA

# Hydraulic Lever Clamp

Longer Stroke / T-Slot Manual-Slide

Model GBC



**Longer stroke allows for variation in die clamping thicknesses.**

Single-acting clamp function simplifies circuit structure.  
We offer a wide range of options to meet your needs.

## Advantage

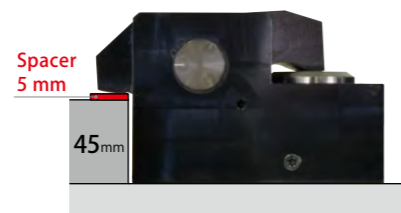
## Standard Clamp

Requires a spacer at the die clamping site in order to standardize the thickness.

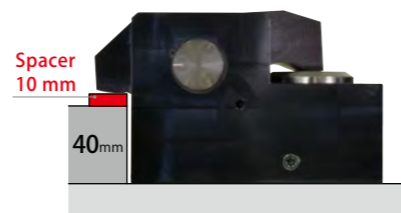
Clamping Thickness : 50mm



Clamping Thickness : 45mm



Clamping Thickness : 40mm



## GBC Clamp

Is able to clamp dies with a thickness variance up to 10 mm.  
There is no need to install spacers and no accidents caused by incorrect spacer thickness.

Clamping Thickness : 50mm



Clamping Thickness : 45mm



Clamping Thickness : 40mm



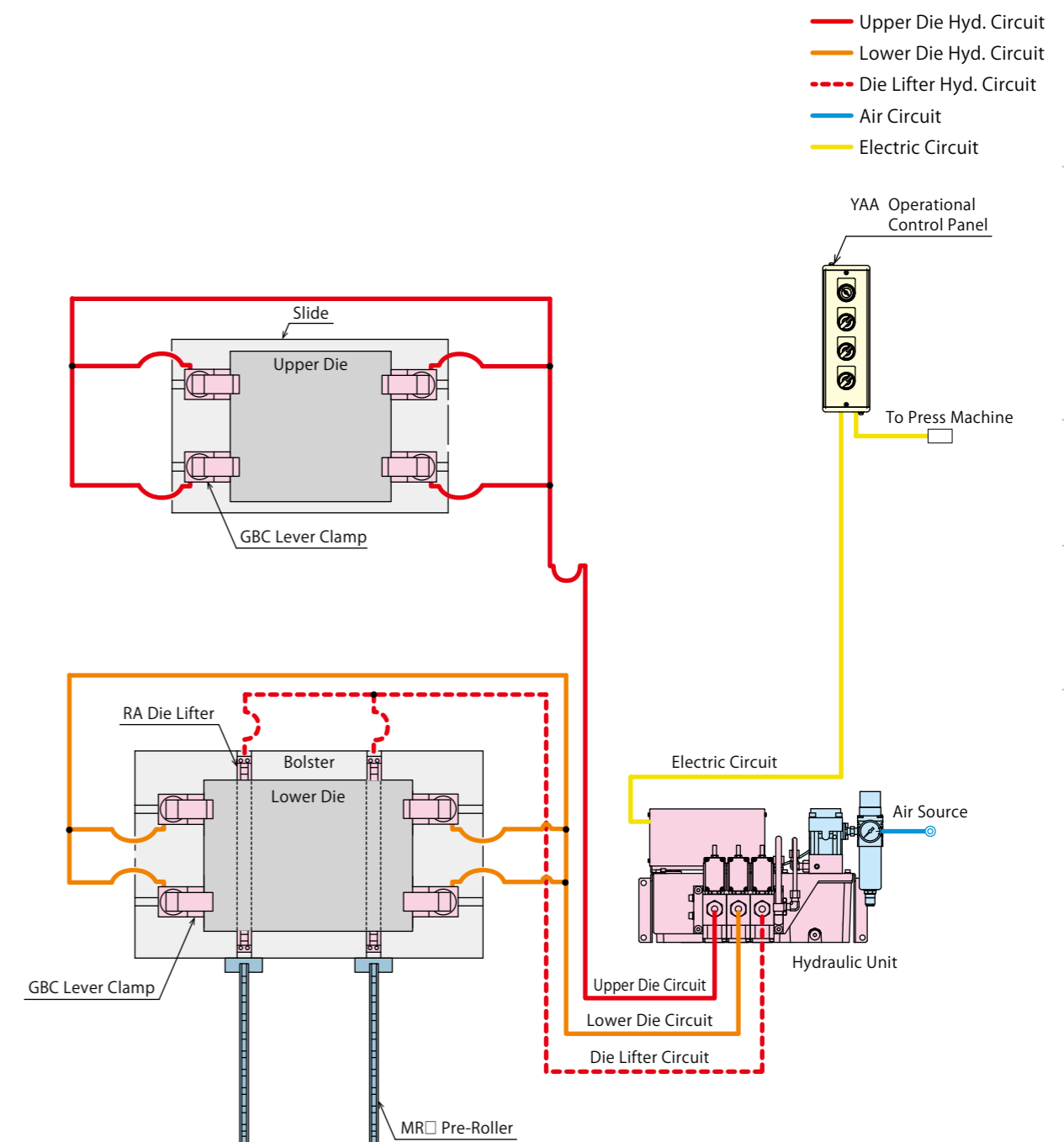
- Notes : 1. We provide GBC clamp according to the die clamping thickness and T-slot dimensions.  
Please refer to the external dimensions for further information.  
2. Variance in die clamping thickness varies depending on the clamp size.

## System Structure Example

The basic structure with GBC clamps that slide manually in the T-slot. This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit.

Upper Clamp : GBC Lever Clamp  
Lower Clamp : GBC Lever Clamp  
Loading / Unloading the Die : MR□ Pre-Roller + RA Die Lifter  
Hydraulic Source : CP□ Unit / CQ□ Unit

We are able to provide different models of clamp for the upper die and lower die.  
Please contact us for further information.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GDB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

● Model No. Indication

**GBC** **040** **0** - **DP** - **5** **L** - **S**        

1      2      3      4      5      6

1 Clamping Force

- 010** : Clamping Force = 10kN

**016** : Clamping Force = 16kN

**025** : Clamping Force = 25kN

**040** : Clamping Force = 40kN
- 063** : Clamping Force = 63kN

**100** : Clamping Force = 100kN

**160** : Clamping Force = 160kN

**250** : Clamping Force = 250kN

2 Design No.

**0** : Revision Number

3 Option ※ Please contact us for specifications and external dimensions.

- Blank** : Standard
- A** : Slide Rod (For U-Cut)
- B** : Slide Rod (For Tap)
- D** : With Handle (GBC0630 or larger)
- E** : Reinforced Body
- F**   : Lever Spacer <sup>※1</sup>
- H** : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J** : Low Lever (When h dimension is less than min. h dimension shown in the external dimension.) <sup>※1</sup>
- K** : Rear Port
- L**   : Wide Lever (For U-Cut of Die) <sup>※1 ※2</sup>
- N** : NPT Port <sup>※3</sup>
- P** : With Die Confirmation Proximity Switch (GBC0250 or larger) <sup>※5</sup>
- R** : Longer T-Leg Dimension D
- T** : T-Slot Locking
- U**   : With Grease Nipple (GBC0400 or larger)
- V** : High Temperature (0 ~ 120℃) <sup>※4</sup>
- W** : With Check Valve (GBC1000 or larger)
- X** : With Cover
- Notes : ※1. Cannot be combined with the low lever and the wide lever models. Please contact us for further information.

※2. Please indicate the U-cut dimensions of the die.

※3. Dimensions in the specification sheet and other documents are in inches.

※4. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

4 Switch Load Voltage (Current) ※5. Only when selecting **P** (With Die Confirmation Proximity Switch).

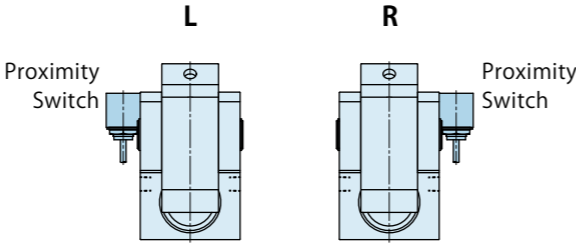
- 1** : AC100V
- 2** : AC200V
- 5** : DC24V (5 ~ 40mA)

5 Switch Mounting Position ※5. Only when selecting **P** (With Die Confirmation Proximity Switch).

- L** : Left (Left Side as Seen from Clamp Back Side)
- R** : Right (Right Side as Seen from Clamp Back Side)

6 Production Number

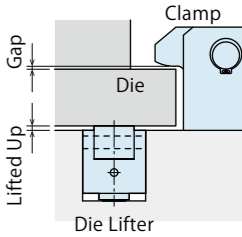
This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.



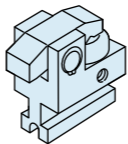
● Specifications

Model No.	GBC0100	GBC0160	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500
Clamping Force	kN	10	16	25	40	63	100	250
Working Pressure	MPa	25 (For Rated Clamping Force)						
Withstanding Pressure	MPa	37						
Full Stroke	mm	8	9	10	12	15	15.5	16
Clamp Stroke <sup>※6</sup>	mm	0.5	1	1.5	3.5	1	1.5	2
Extra Stroke	mm	7.5	8	8.5	8.5	14	14	14
Applicable Die Clamping Thickness Variation	mm	5	5	5	5	10	10	10
Cylinder Capacity (At Full Stroke) <sup>cm³</sup>		4	6	10	19	38	63	105
Operating Temperature <sup>※7</sup> °C	0 ~ 70 (V: High temperature option is available for 0 ~ 120°C)							
Use Frequency <sup>※8</sup>	20 Cycles / Day or less							
Usable Fluid <sup>※9 ※10 ※11</sup>	General Hydraulic Oil Equivalent to ISO-VG-32							
Min. T-Slot Width a (JIS) <sup>※12</sup> mm	10	12	14	18	22	24	28	36
Max. T-Slot Width a (JIS) <sup>※12</sup> mm	20	24	32	42	42	54	54	54

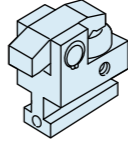
- Notes :
- ※6. For using GBC Clamp with Die Lifter, make sure there is a gap between the die and the clamp when Die Lifter is lifted up.
- ※7. Option **V** : High Temperature (0 ~ 120℃) is for operating in temperatures of 70℃ or more.
- ※8. Please contact us for more frequent use.
- ※9. Please contact us for fluids other than those mentioned on the list.
- ※10. If hydraulic viscosity is higher than specified, action time will be longer.
- ※11. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
- ※12. It shows reference dimensions. The dimension may differ from the list depending on T-slot (T-leg) dimension, dimension of clamp cylinder that sticks out of T-slot during lock action, body material and others.



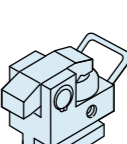
● Options

**A** 

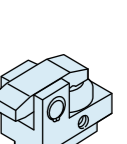
Slide Rod (For U-Cut)  
Put a stick into the U-cut to move the backside clamp (B: for tap).

**B** 

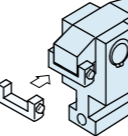
Slide Rod (For Tap)  
Move the clamp by a stick mounted in the thread part.

**D** 

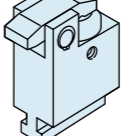
With Handle (GBC0630 or larger)

**E** 

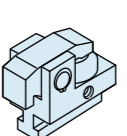
Reinforced Body

**F** 

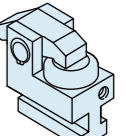
Lever Spacer

**H** 

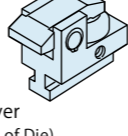
Extra Height Body

**J** 

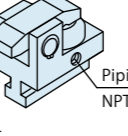
Low Lever

**K** 

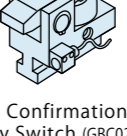
Rear Port

**L** 

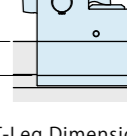
Wide Lever (For U-Cut of Die)

**N** 

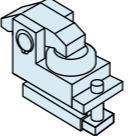
NPT Port

**P** 

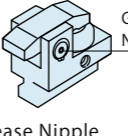
With Die Confirmation Proximity Switch (GBC0250 or larger)

**R** 

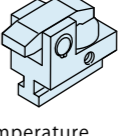
Longer T-Leg Dimension D

**T** 

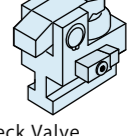
T-Slot Locking

**U** 

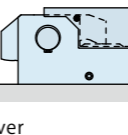
With Grease Nipple (GBC0400 or larger)

**V** 

High Temperature (0 ~ 120 °C)

**W** 

With Check Valve (GBC1000 or larger)

**X** 

With Cover

Note :  
1 . Specifications and external dimensions for these options are different from the standard model. Please contact us for further information.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GDB  
**GBC**  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

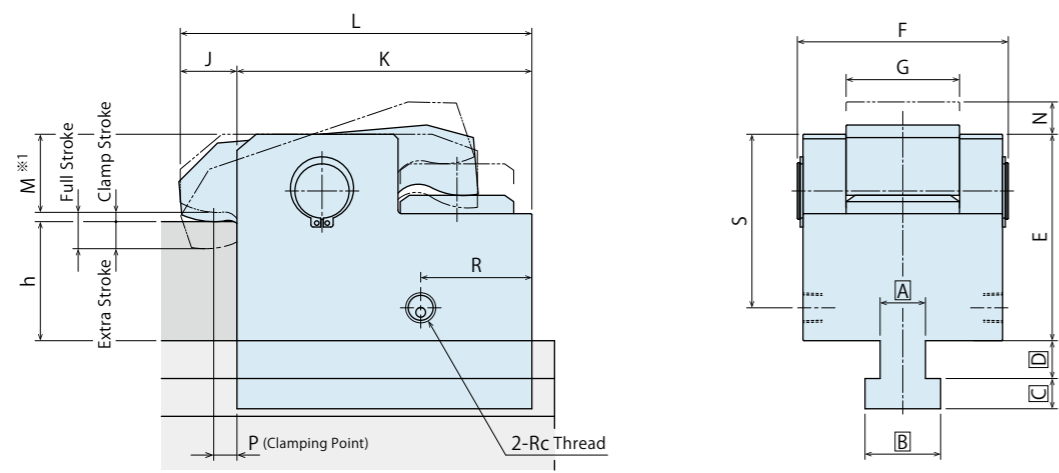
BC  
BH  
MV

Operational  
Control Panel

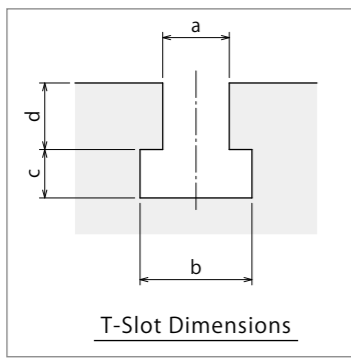
YP  
YAA

External Dimensions : GBC0100 ~ GBC2500

※ This drawing shows the standard model of GBC0100 ~ GBC2500.  
Contact us for external dimensions for options.



T-Slot Dimensions

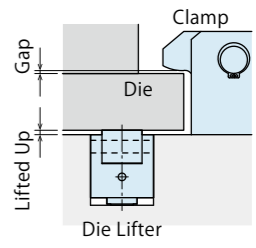


- Notes :
- 1. Do not exceed the clamping force on the specification.
  - 2. The specifications and contents in this catalog are subject to change without prior notice.  
Ask for the approval drawing before deciding to purchase.

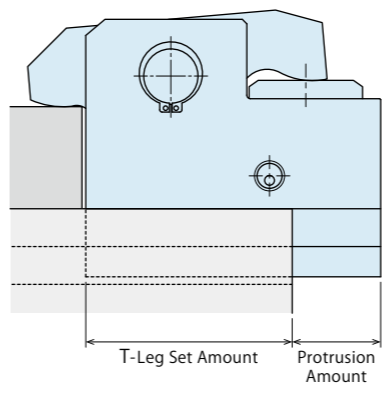
External Dimension List

Model No.	GBC0100	GBC0160	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500
Full Stroke	8	9	10	12	15	15.5	16	16
Clamp Stroke ※2	0.5	1	1.5	3.5	1	1.5	2	2
Extra Stroke	7.5	8	8.5	8.5	14	14	14	14
Applicable Die Clamping Thickness Variation	5	5	5	5	10	10	10	10
min. E	45.5	52	62	71	88.5	114	132.5	154.5
F	43	53	63	73	93	103	124	152
G	20	26	32	38	50	53	60	73
J	15	17	19	22	25	30	30	30
K	58	70	84	105.5	130	159	199	240
L	73	87	103	127.5	155	189	229	270
N	8	9	9.5	11	14.5	15	18	19
P ※3	6	8	8	10	10	10	10	10
R	27	27	37	42	49	68	73	69.5
S	36.5	43	50	59	76.5	102	118.5	137.5
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
min. h	20 ~ 25	20 ~ 25	25 ~ 30	25 ~ 30	30 ~ 40	40 ~ 50	40 ~ 50	45 ~ 55
max. h	35 ~ 40	35 ~ 40	45 ~ 50	45 ~ 50	50 ~ 60	60 ~ 70	70 ~ 80	70 ~ 80
Weight ※4 kg	0.8	1.4	2.4	4	8	14	24	42

- Notes :
- ※1. Dimension M (Lever Thickness) in the drawing varies depending on variation in dimension h (Die Clamping Thickness).  
Please contact us for further information.
  - ※2. For using GBC Clamp with Die Lifter, make sure there is a gap between the die and the clamp when the Die Lifter is lifted up.
  - ※3. Dimension P (Clamping Point) indicates when the dimension h (Die Clamping Thickness) is thick.
  - ※4. It indicates the weight in case of min. E.
    - 1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
    - 2. Dimensions A, B, C and D are determined by Kosmek according to the T-slot dimensions.
    - 3. When making an order, please indicate T-slot dimensions a, b, c, d and die clamping thickness h (including variation).
    - 4. Please indicate the dimensions a, b, c, d and h in 0.1mm increments.



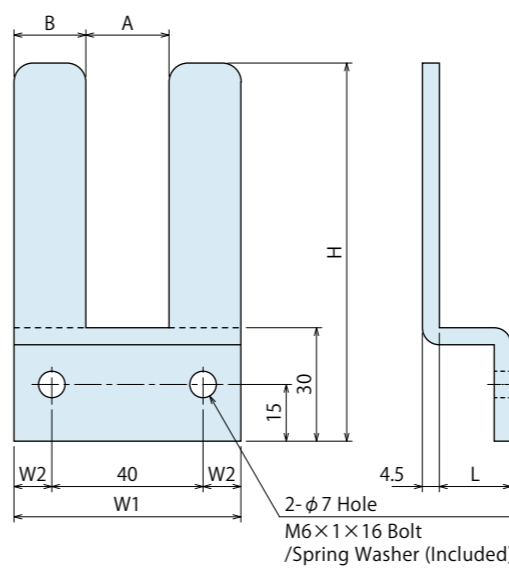
GBC Clamp The Allowable Protrusion Amount of Cylinder



Model No.	Min. T-Leg Set Amount	Allowable Protrusion Amount
GBC0100	40.5	17.5
GBC0160	49.0	21.0
GBC0250	59.0	25.0
GBC0400	73.5	32.0
GBC0630	91.0	39.0
GBC1000	114.0	45.0
GBC1600	142.0	57.0
GBC2500	170.5	69.5

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

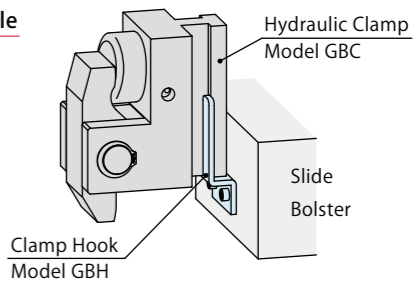
Accessory : GBH Clamp Hook



Model No.	GBH181	GBH221	GBH281
A	18	22	28
B	21	19	21
H	100	100	110
L	19	19	25
W1	60	60	70
W2	10	10	15

- Note :
- 1. Please do not operate the press machine continuously with clamp suspended from clamp hook. Clamp hook should be used only during the die change.

Application Example

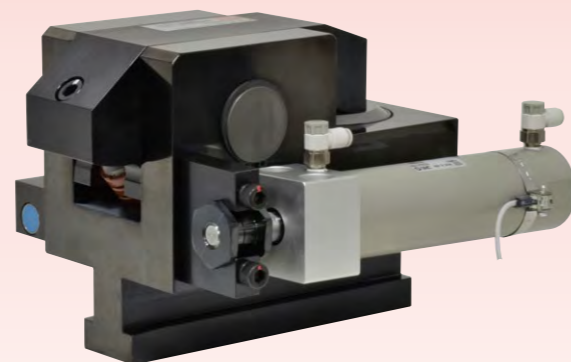


Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

# Hydraulic Lever Clamp

T-Slot Automatic-Slide

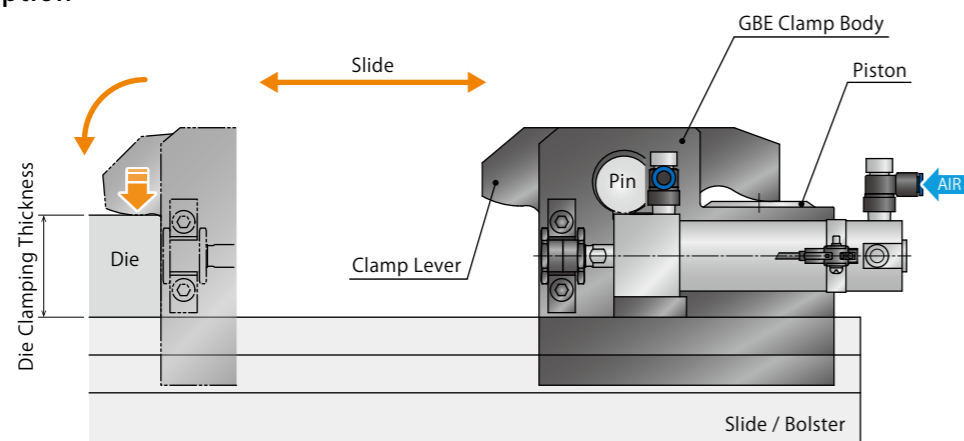
Model GBE



## GBB Clamp with an Air Cylinder

Most suitable for inaccessible area or non-operation side.  
Clamp movement is completely automated.

### Action Description



#### Locked State

GBE clamp moves forward with the air supply to the air cylinder. Hydraulic pressure is supplied after the proximity switch detects the die. The piston is lifted up, and the clamp lever pivots on the pin and locks the die.

Forward End Detection **ON**  
Backward End Detection **OFF**

#### Released State

When hydraulic pressure is released, the piston descends with built-in spring force and the clamp lever is in a released state. After that, air is supplied to the air cylinder and GBE clamp moves backward automatically. (The backward-end detection switch detects that the GBE clamp moves backward.)

Forward End Detection **OFF**  
Backward End Detection **ON**

※ We provide GBE clamps according to die clamping thickness and T-slot dimensions.  
Please refer to the external dimensions for further information.

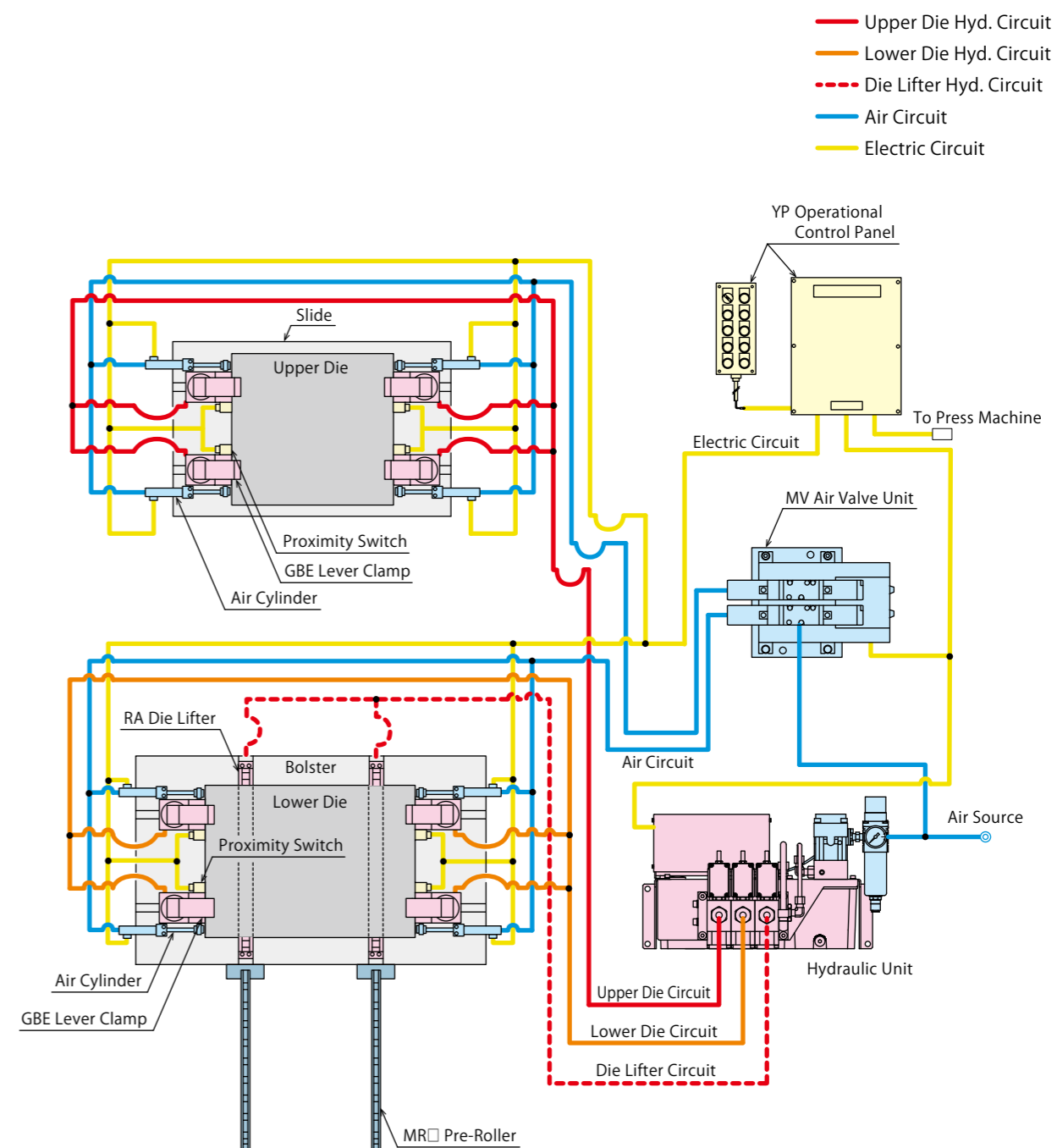
### System Structure Example

The basic structure with GBE clamps that slide automatically in the T-slot with the air cylinder.

This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit. Clamps are slid by the air valve unit.

Upper Clamp : GBE Lever Clamp  
Lower Clamp : GBE Lever Clamp  
Hydraulic Source : CP□ Unit / CQ□ Unit  
Air Valve Unit : MV30□3 Valve Unit

We are able to provide different models of clamp for the upper die and lower die.  
Please contact us for further information.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GBB

GBC

**GBE**

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

Operational  
Control Panel

YP

YAA

Model No. Indication

GBE 040 0 - 125 - 5 L - E - S□□□□

1

2

3

4

5

6

7

1 Clamping Force

- 025

: Clamping Force =25kN
- 040

: Clamping Force =40kN
- 063

: Clamping Force =63kN
- 100

: Clamping Force =100kN
- 160

: Clamping Force =160kN
- 250

: Clamping Force =250kN

2 Design No.

- 0

: Revision Number

3 Slide Stroke (Air Cylinder Stroke)

- 25

: Clamp Travel Distance = 25mm
- 300

: Clamp Travel Distance = 300mm
- ※

Selectable 3 Slide Stroke differs according to 1 Clamping Force.

Please refer to the slide stroke on specifications.
- ※

Extra distance should be considered when determining the travel distance.

4 Switch Load Voltage (Current)

- 1

: AC100V
- 2

: AC200V
- 5

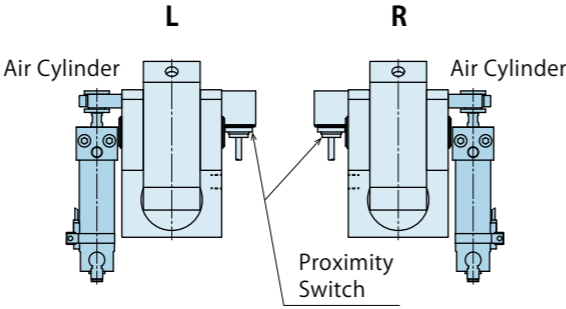
: DC24V (5 ~ 40mA)

5 Air Cylinder Mounting Position

- L

: Left (Left Side as Seen from Clamp Back Side)
- R

: Right (Right Side as Seen from Clamp Back Side)



6 Option ※ Please contact us for specifications and external dimensions.

- Blank

: Standard
- E

: Reinforced Body
- H

: Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J

: Low Lever (When h dimension is less than min. h dimension shown in the external dimension.)
- K

: Rear Port
- L□

: Wide Lever (For U-Cut of Die) ※1
- M□

: For Die with Notch
- N

: NPT Port ※2
- Q

: Double Cylinder
- R

: Longer T-Leg Dimension D
- S

: Special Spacer
- U□

: With Grease Nipple (GBE0400 or larger)
- V

: High Temperature (0 ~ 120°C) ※3

- Notes :

※1. Please indicate the U-cut dimensions of the die.

※2. Dimensions in the specification sheet and other documents are written in Inches.

※3. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

7 Production Number

※ This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.

Specifications

(mm)

Model No.	GBE0250	GBE0400	GBE0630	GBE1000	GBE1600	GBE2500
GBB Model No.	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500
Clamping Force	kN 25	40	63	100	160	250
Working Pressure	MPa	25 (For Rated Clamping Force)				
Withstanding Pressure	MPa	37				
Slide Stroke	mm	25 ~ 200	25 ~ 200	50 ~ 200	50 ~ 200	50 ~ 300
Air Cylinder Driving Air Pressure ※4	MPa	0.4 ~ 0.5				
Full Stroke	mm	7	7	8	8	8
Clamp Stroke	mm	3.5	3.5	4	4	4
Extra Stroke	mm	3.5	3.5	4	4	4
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	7.2	11.5	20.6	33.6	83.8
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				
Min. T-Slot Width a (JIS)※10	mm	14	18	22	24	28
Max. T-Slot Width a (JIS)※10	mm	32	42	42	54	54

- Notes :

※4. Air pressure less than 0.4MPa may lead to malfunction.

※5. Option V : High Temperature (0 ~ 120℃) is for operating in temperatures of 70℃ or more.

※6. Please contact us for more frequent use.

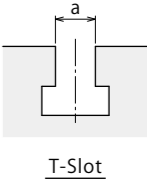
※7. Please contact us for fluids other than those mentioned on the list.

※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.

※10.It shows reference dimensions. The dimension may differ from the list depending on T-slot (T-leg) dimension, dimension of clamp cylinder that sticks out of T-slot during lock action, body material and others.

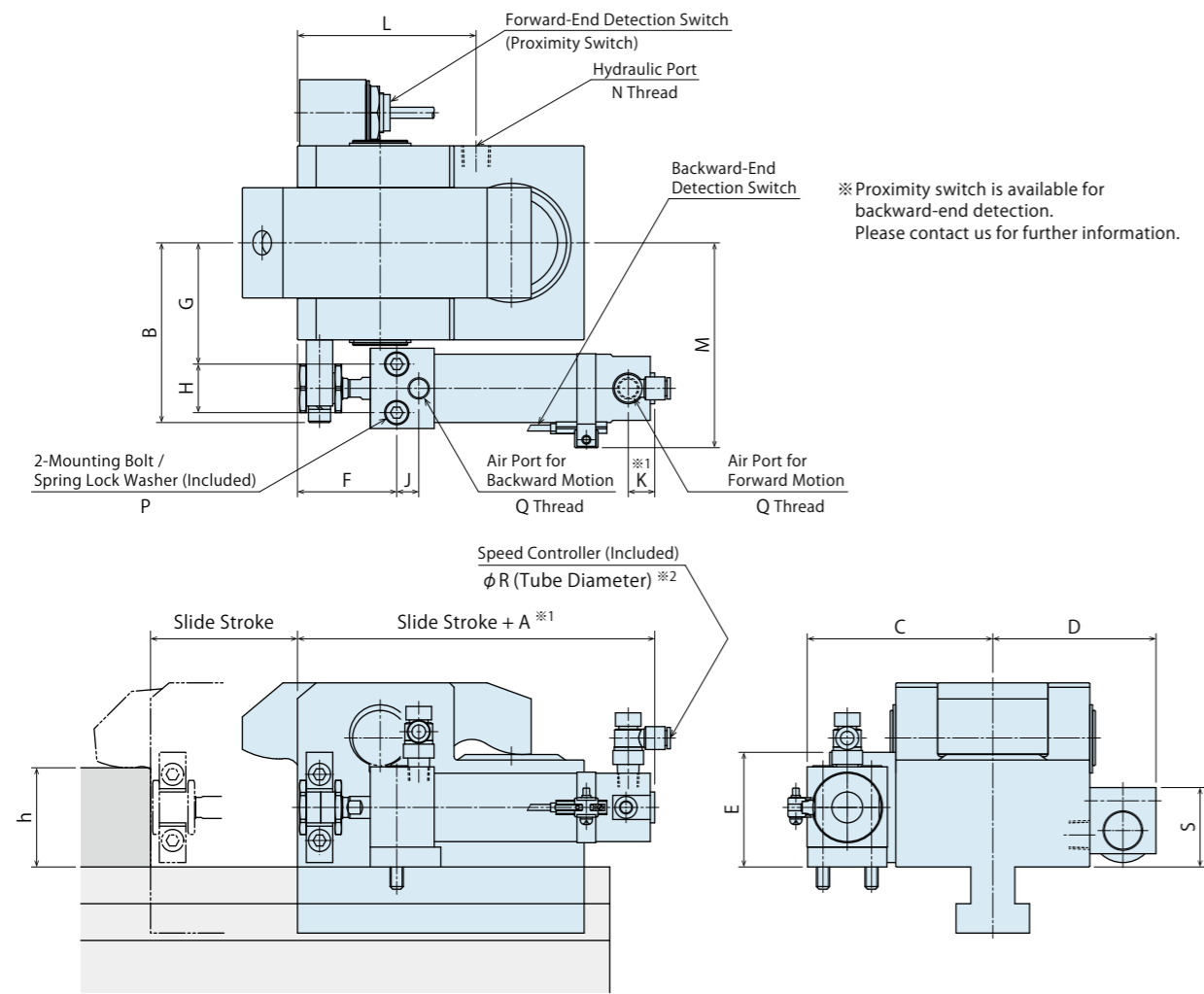
1. Please refer to GBB clamp pages (P.039 ~ P.044) for details of clamp body.



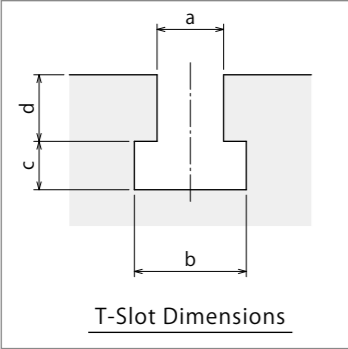
Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

External Dimensions

※ This drawing shows the standard model of GBE0250 ~ GBE2500 with Air Cylinder Mounting Position : L.  
Contact us for external dimensions for options. Please refer to GBB clamp pages (P.039 ~ P.044) for detailed dimensions of clamp body.



T-Slot Dimensions



- Notes :
- Do not exceed the clamping force on the specification.
  - The specifications and contents in this catalog are subject to change without prior notice.  
Ask for the approval drawing before deciding to purchase.

External Dimensions

(mm)

Model No.	GBE0250	GBE0400	GBE0630	GBE1000	GBE1600	GBE2500	
GBB Clamp Model No.	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500	
Full Stroke	7	7	8	8	8	8	
Clamp Stroke	3.5	3.5	4	4	4	4	
Extra Stroke	3.5	3.5	4	4	4	4	
A ※1	105	105	112	118	136	157	
B	60.5	65.5	81.5	92.5	112	137	
C	63.5	68.5	84.5	94.5	116.5	142	
D	59	64	74	78.5	88.5	102	
E	37	37	52	58	70.5	81	
F	39	39	45	46	56	64	
G	39	44	55	61	74	89	
H	18	18	22	24	32	41	
J	9	9	10	13	14	16	
K ※1	12	12	12	12	12	14	
L	75.5	93.5	81	91	126	170.5	
M	72.5	77.5	93	103.5	125	150.5	
N	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	
P	M5×0.8×40	M5×0.8×40	M6×1×50	M8×1.25×55	M10×1.5×70	M12×1.75×85	
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4	
R ※2	6	6	6	6	6	10	
S	40.5	40.5	36	36	36	36	
min. h	25	25	30	40	40	45	
max. h	50	50	60	70	80	80	
Weight ※3	kg	2.9	4.5	8.5	14.3	25	42.9

- Notes :
- Dimensions "A" and "K" will be different when exceeding the stroke value written in the standard slide stroke list. Please contact us.
  - For N : NPT Port, dimension "R" is written in inches.
  - It indicates the weight when the air cylinder slide stroke is 200mm.
    - If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
    - When making an order, please indicate T-slot dimensions a, b, c, d and die clamping thickness h.
    - Please indicate the dimensions a, b, c, d and h in 0.1mm increments.
    - Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
    - Do not set the proximity switch to the die surface near the U-slot, because it is used as forward-end detection.
    - Clamp sliding surface should be smooth.
    - Please refer to GBB clamp pages (P.039 ~ P.044) for unlisted dimensions.

Standard Slide Stroke List

Model No.	Standard Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GBE0250	○	○	○	○	○	○	○		
GBE0400	○	○	○	○	○	○	○		
GBE0630		○	○	○	○	○	○		
GBE1000		○	○	○	○	○	○		
GBE1600		○	○	○	○	○	○	○	○
GBE2500		○	○	○	○	○	○	○	○

- Note :
- Dimensions "A" and "K" will be different when exceeding the stroke value written in the list. Please contact us.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

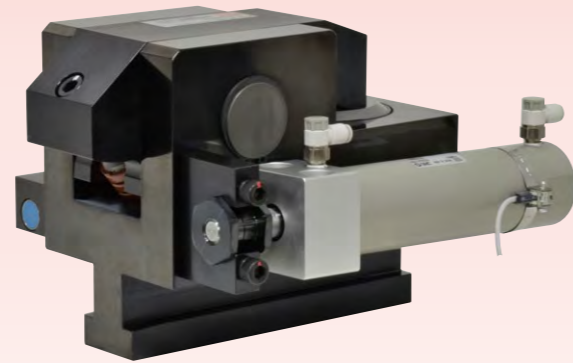
Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

# Hydraulic Lever Clamp

Longer Stroke / T-Slot Automatic-Slide

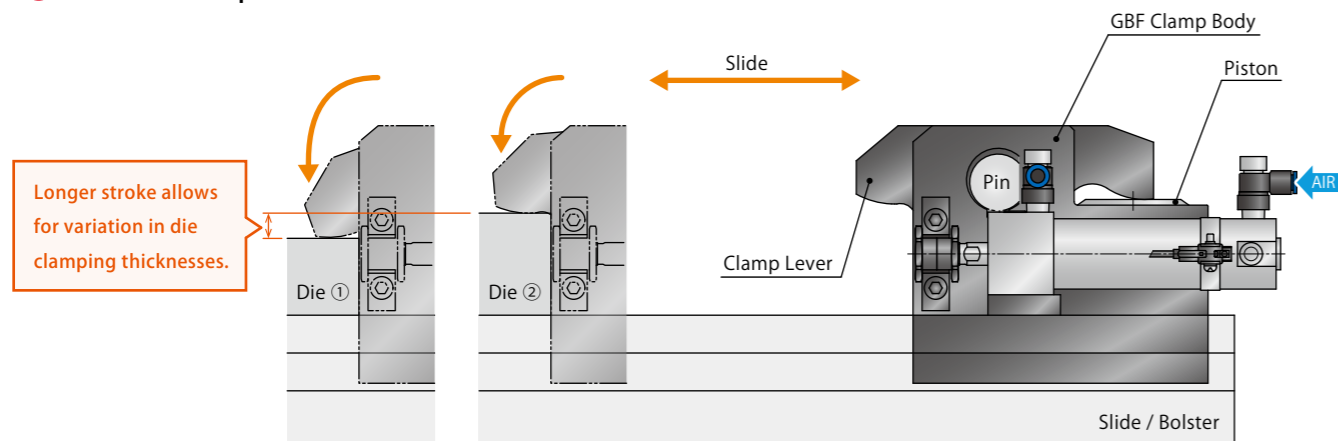
Model GBF



## GBC Clamp with an Air Cylinder

Automatic slide clamp with longer stroke allows for variation in die clamping thicknesses. Clamp movement is completely automated.

### Action Description



#### Locked State

GBF clamp moves forward with the air supply to the air cylinder. Hydraulic pressure is supplied after the proximity switch detects the die. The piston is lifted up, and the clamp lever pivots on the pin and locks the die.

Forward End Detection **ON**  
Backward End Detection **OFF**

#### Released State

When hydraulic pressure is released, the piston descends with built-in spring force and the clamp lever is in a released state. After that, air is supplied to the air cylinder and GBF clamp moves backward automatically. (The backward-end detection switch detects that the GBF clamp moves backward.)

Forward End Detection **OFF**  
Backward End Detection **ON**

- Notes :
1. We provide GBF clamp according to the die clamping thickness and T-slot dimensions. Please refer to the external dimensions for further information.
  2. Applicable Die Clamping Thickness Variation differs depending on the clamp size.

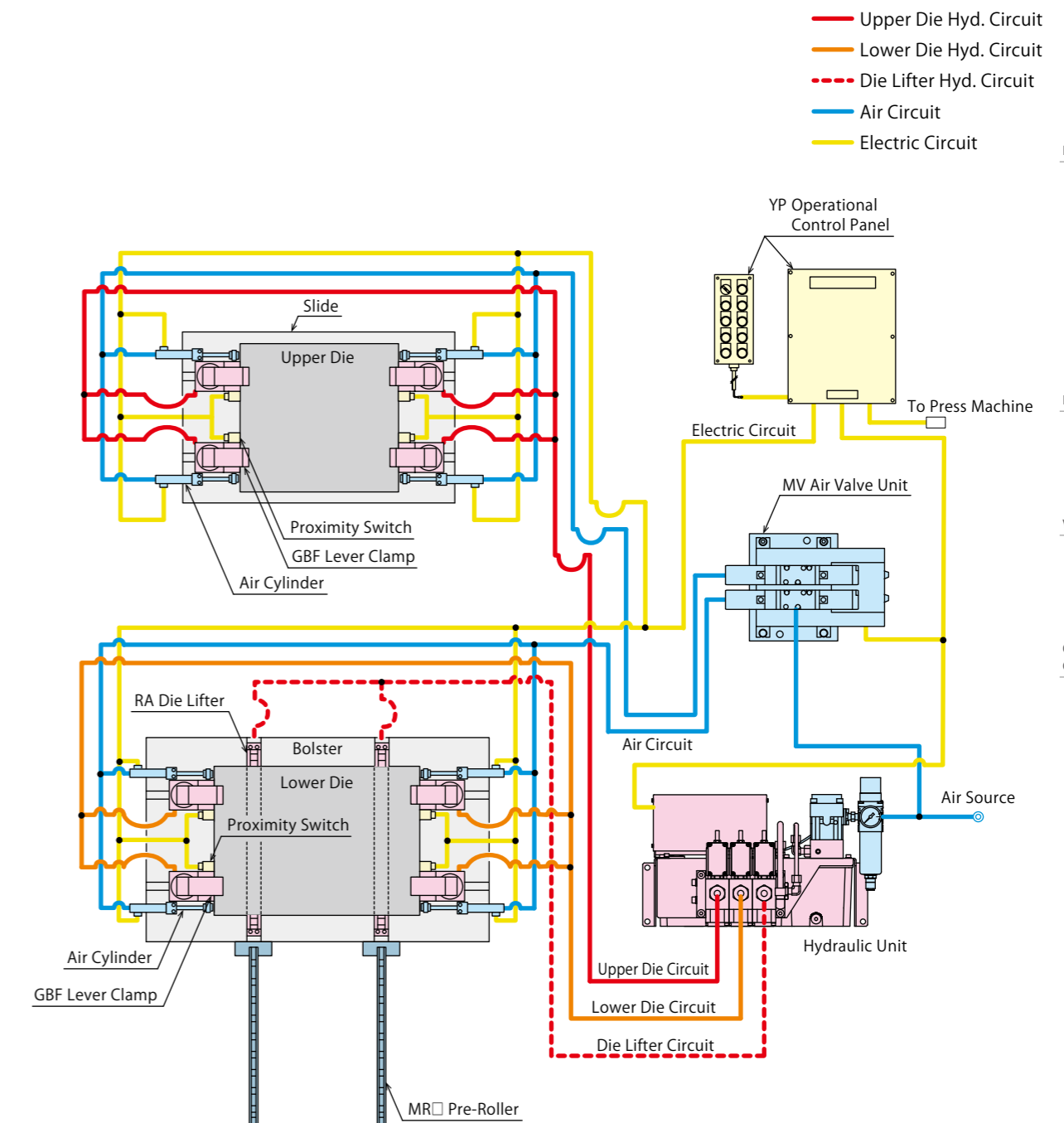
### System Structure Example

The basic structure with GBF clamps that slide automatically in the T-slot with the air cylinder.

This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit. Clamps are slid by the air valve unit.

Upper Clamp : GBF Lever Clamp  
Lower Clamp : GBF Lever Clamp  
Hydraulic Source : CP□ Unit / CQ□ Unit  
Air Valve Unit : MV30□3 Valve Unit

We are able to provide different models of clamp for the upper die and lower die. Please contact us for further information.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GDB  
GBC  
GBE  
**GBF**  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

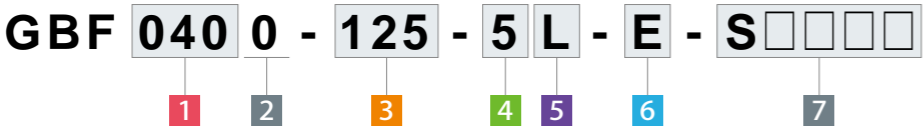
Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

Model No. Indication



1 Clamping Force

- 025

:

Clamping Force = 25kN
- 100

:

Clamping Force = 100kN
- 040

:

Clamping Force = 40kN
- 160

:

Clamping Force = 160kN
- 063

:

Clamping Force = 63kN
- 250

:

Clamping Force = 250kN

2 Design No.

- 0 : Revision Number

3 Slide Stroke (Air Cylinder Stroke)

- 25

:

Clamp Travel Distance = 25mm
- 300

:

Clamp Travel Distance = 300mm
- ※

Selectable 3

Slide Stroke differs according to 1

Clamping Force.

Please refer to the slide stroke on specifications.
- ※

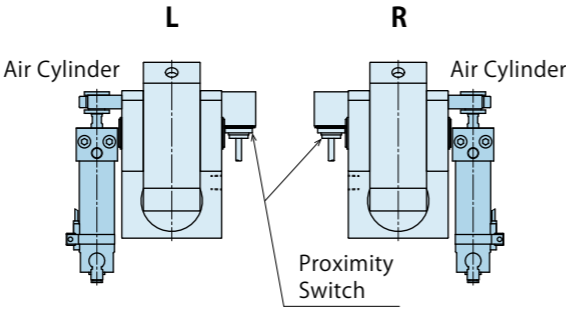
Extra distance should be considered when determining the travel distance.

4 Switch Load Voltage (Current)

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

5 Air Cylinder Mounting Position

- L : Left (Left Side as Seen from Clamp Back Side)
- R : Right (Right Side as Seen from Clamp Back Side)



6 Option
 ※ Please contact us for specifications and external dimensions.

- Blank : Standard
- E : Reinforced Body
- H : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J : Low Lever (When h dimension is less than min. h dimension shown in the external dimension.)
- K : Rear Port
- L□ : Wide Lever (For U-Cut of Die) ※<sup>1</sup>
- N : NPT Port ※<sup>2</sup>
- Q : Double Cylinder
- R : Longer T-Leg Dimension D
- S : Special Spacer
- U□ : With Grease Nipple (GBF0400 or larger)
- V : High Temperature (0 ~ 120°C) ※<sup>3</sup>
- Notes :
- ※1.

Please indicate the U-cut dimensions of the die.
- ※2.

Dimensions in the specification sheet and other documents are written in Inches.
- ※3.

Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

7 Production Number

This number represents the main specifications of the clamp such as the T-leg dimensions of the clamp and the die clamping thickness. After the specification is confirmed, we will create a number.

Specifications

Model No.	GBF0250	GBF0400	GBF0630	GBF1000	GBF1600	GBF2500
GBC Clamp Model No.	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500
Clamping Force	kN	25	40	63	100	160
Working Pressure	MPa	25 (For Rated Clamping Force)				
Withstanding Pressure	MPa	37				
Slide Stroke Range	mm	25 ~ 200	25 ~ 200	50 ~ 200	50 ~ 200	50 ~ 300
Air Cylinder Driving Air Pressure ※ <sup>4</sup>	MPa	0.4 ~ 0.5				
Full Stroke	mm	10	12	15	15.5	16
Clamp Stroke ※ <sup>5</sup>	mm	1.5	3.5	1	1.5	2
Extra Stroke	mm	8.5	8.5	14	14	14
Applicable Die Clamping Thickness Variation	mm	5	5	10	10	10
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	10	19	38	63	105
Operating Temperature ※ <sup>6</sup>	°C	0 ~ 70 (V: High temperature option is available for 0 ~ 120°C)				
Use Frequency ※ <sup>7</sup>		20 Cycles / Day or less				
Usable Fluid ※ <sup>8</sup> ※ <sup>9</sup> ※ <sup>10</sup>		General Hydraulic Oil Equivalent to ISO-VG-32				
Min. T-Slot Width a (JIS) ※ <sup>11</sup>	mm	14	18	22	24	28
Max. T-Slot Width a (JIS) ※ <sup>11</sup>	mm	32	42	42	54	54

Notes :

- ※4.

Air pressure less than 0.4MPa may lead to malfunction.
- ※5.

For using GBF Clamp with Die Lifter, make sure there is a gap between the die and the clamp when Die Lifter is lifted up.
- ※6.

Option V : High Temperature (0 ~ 120°C) is for operating in temperatures of 70°C or more.
- ※7.

Please contact us for more frequent use.
- ※8.

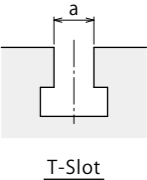
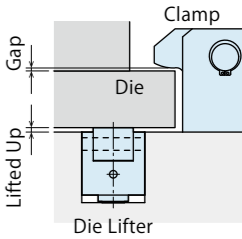
Please contact us for fluids other than those mentioned on the list.
- ※9.

If hydraulic viscosity is higher than specified, action time will be longer.
- ※10.

If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
- ※11.

It shows reference dimensions. The dimension may differ from the list depending on T-slot (T-leg) dimension, dimension of clamp cylinder that sticks out of T-slot during lock action, body material and others.
1.

Please refer to GBC clamp pages (P.045 ~ P.050) for details of clamp body.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

- GA
- GD
- GBB
- GBC
- GBE
- GBF
- GBP
- GBQ
- GN
- GHA

Hydraulic Unit

- CP
- CR
- CPB
- CPD
- CPC
- CPE
- CQC
- CQE

Pump Unit

- CB
- CD
- CC

Valve Unit

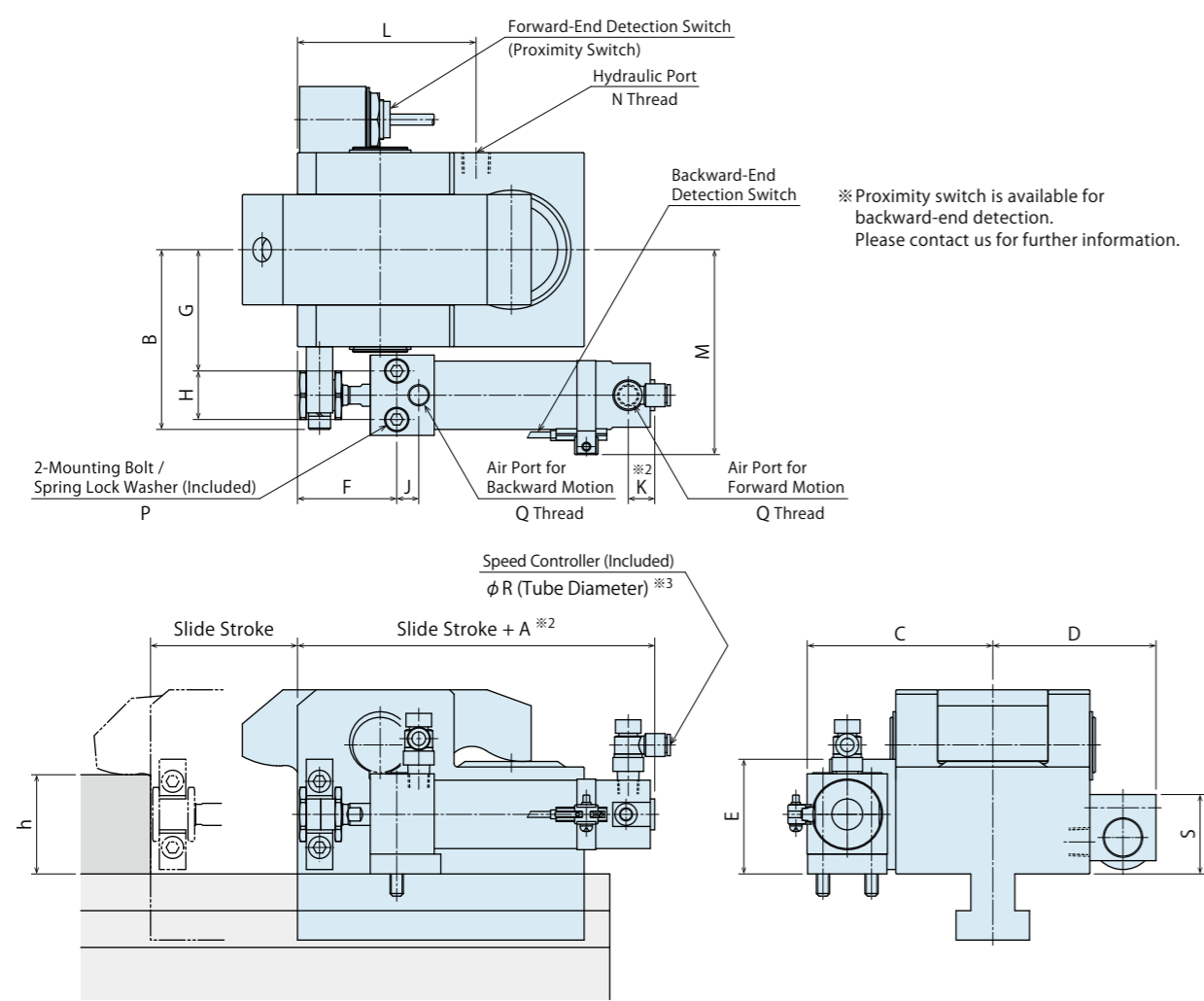
- BC
- BH
- MV

Operational  
Control Panel

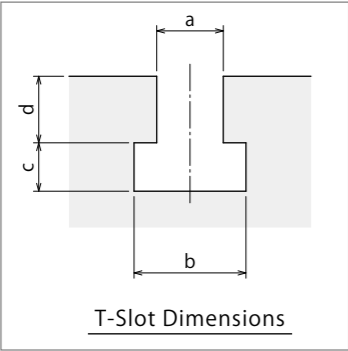
- YP
- YAA

External Dimensions

※ This drawing shows the standard model of GBF0250 ~ GBF2500 with Air Cylinder Mounting Position : L.  
 Contact us for external dimensions for options. Please refer to GBC clamp pages (P.045 ~ P.050) for detailed dimensions of clamp body.



T-Slot Dimensions



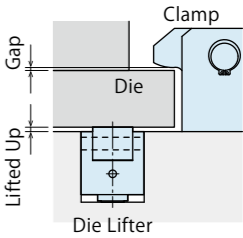
- Notes :
- Do not exceed the clamping force on the specification.
  - The specifications and contents in this catalog are subject to change without prior notice.  
Ask for the approval drawing before deciding to purchase.

External Dimensions

(mm)

Model No.	GBF0250	GBF0400	GBF0630	GBF1000	GBF1600	GBF2500
GBC Clamp Model No.	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500
Full Stroke	10	12	15	15.5	16	16
Clamp Stroke ※1	1.5	3.5	1	1.5	2	2
Extra Stroke	8.5	8.5	14	14	14	14
Applicable Die Clamping Thickness Variation	5	5	10	10	10	10
A ※2	105	105	112	118	136	157
B	60.5	65.5	81.5	92.5	112	137
C	63.5	68.5	84.5	94.5	116.5	142
D	59	64	74	78.5	88.5	102
E	37	37	52	58	70.5	81
F	39	39	45	46	56	64
G	39	44	55	61	74	89
H	18	18	22	24	32	41
J	9	9	10	13	14	16
K ※2	12	12	12	12	12	14
L	75.5	93.5	81	91	126	170.5
M	72.5	77.5	93	103.5	125	150.5
N	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
P	M5×0.8×40	M5×0.8×40	M6×1×50	M8×1.25×55	M10×1.5×70	M12×1.75×85
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4
R ※3	6	6	6	6	6	10
S	40.5	40.5	36	36	36	36
min. h	25	25	30	40	40	45
max. h	50	50	60	70	80	80
Weight ※4	kg 3.1	4.7	9	15.3	26	44.9

- Notes :
- For using GBF Clamp with Die Lifter, make sure there is a gap between the die and the clamp when Die Lifter is lifted up.
  - Dimensions "A" and "K" will be different when exceeding the stroke value written in the standard slide stroke list. Please contact us.
  - For N : NPT Port, dimension "R" is written in inches.
  - It indicates the weight when the air cylinder slide stroke is 200mm.
    - If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
    - When making an order, please indicate T-slot dimensions a, b, c, d and die clamping thickness h (including variation).
    - Please indicate the dimensions a, b, c, d and h in 0.1mm increments.
    - Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
    - Do not set the proximity switch to the die surface near the U-slot, because it is used as forward-end detection.
    - Clamp sliding surface should be smooth.
    - Please refer to GBC clamp pages (P.045 ~ P.050) for unlisted dimensions.



Standard Slide Stroke List

Model No.	Standard Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GBF0250	○	○	○	○	○	○	○		
GBF0400	○	○	○	○	○	○	○		
GBF0630		○	○	○	○	○	○		
GBF1000		○	○	○	○	○	○		
GBF1600		○	○	○	○	○	○	○	○
GBF2500		○	○	○	○	○	○	○	○

- Note :
- Dimensions "A" and "K" will be different when exceeding the stroke value written in the list. Please contact us.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

# Hydraulic Lever Clamp

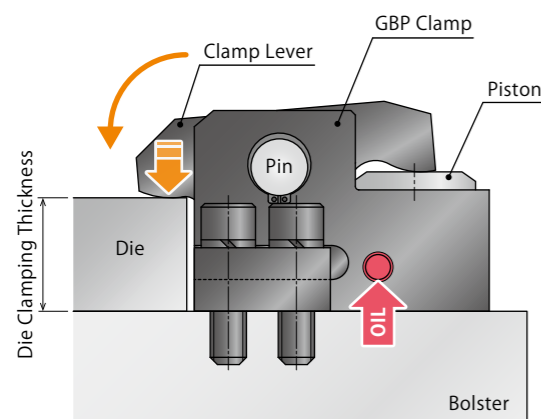
Block-Fixed

Model GBP



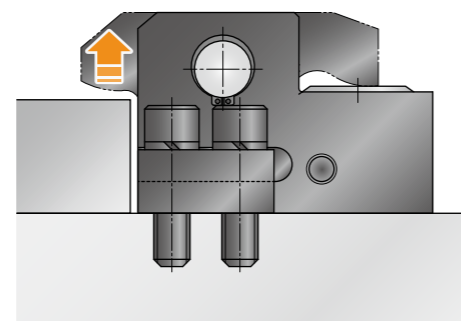
**Block-Fixed Lever Clamp. No T-slot is required.**  
Fixed with bolts and easy to install on a press without T-slots.

## Action Description



### Locked State

When hydraulic pressure is supplied, the piston lifts up, and the clamp lever pivots on the pin and locks the die.



### Released State

When hydraulic pressure is released, the piston descends with built-in spring force, and the clamp lever returns to the released state with the lever return spring.

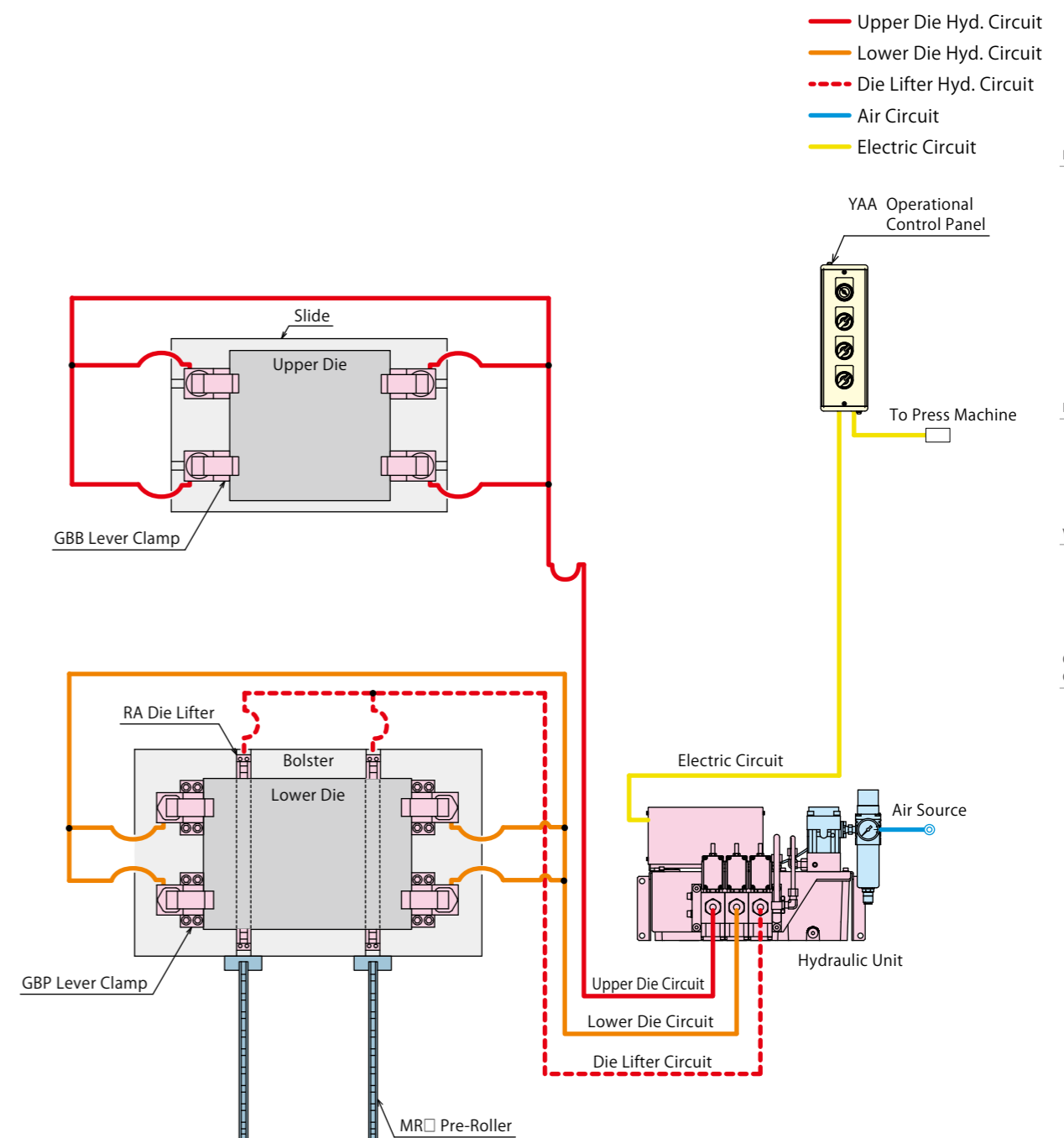
※ We provide GBP clamps according to die clamping thickness.  
Please refer to the external dimensions for further information.

## System Structure Example

The basic structure with GBP clamps which do not require T-slot by fixing with bolts. This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit.

Upper Clamp : GBB Lever Clamp  
Lower Clamp : GBP Lever Clamp  
Loading / Unloading the Die : MR□ Pre-Roller + RA Die Lifter  
Hydraulic Source : CP□ Unit / CQ□ Unit

We are able to provide different models of clamp for the upper die and lower die.  
Please contact us for further information.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

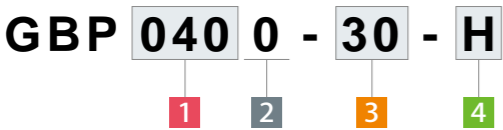
Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

● Model No. Indication



1 Clamping Force

- 010

:

Clamping Force = 10kN
- 016

:

Clamping Force = 16kN
- 025

:

Clamping Force = 25kN
- 040

:

Clamping Force = 40kN
- 063

:

Clamping Force = 63kN
- 100

:

Clamping Force = 100kN
- 160

:

Clamping Force = 160kN
- 250

:

Clamping Force = 250kN

2 Design No.

0 : Revision Number

3 Die Clamping Thickness

- 25

:

Die Clamping Thickness

h= 25mm
- 90

:

Die Clamping Thickness

h= 90mm

※ Selectable 3 Die Clamping Thickness differs according to 1 Clamping Force.

The Die Clamping Thickness should be between min. h and max. h indicated in the external dimension list.

4 Option ※ Please contact us for specifications and external dimensions.

- Blank

:

Standard
- G

:

Gasket Mounting
- H

:

Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J

:

Low Lever (When h dimension is less than min. h dimension shown in the external dimension.)
- K

:

Rear Port
- L□

:

Wide Lever (For U-Cut of Die) ※<sup>1</sup>
- M□

:

For Die with Notch
- N

:

NPT Port ※<sup>2</sup>
- U□

:

With Grease Nipple (GBP0400 or larger)
- V

:

High Temperature (0 ~ 120℃) ※<sup>3</sup>
- X

:

With Cover

- Notes :
- ※1. Please indicate the U-cut dimensions of the die.
- ※2. Dimensions in the specification sheet and other documents are written in Inches.
- ※3. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.
1. Specifications and external dimensions for these options are different from the standard model. Please contact us for further information.

● Specifications

Model No.		GBP0100	GBP0160	GBP0250	GBP0400	GBP0630	GBP1000	GBP1600	GBP2500
Clamping Force	kN	10	16	25	40	63	100	160	250
Working Pressure	MPa	25 (For Rated Clamping Force)							
Withstanding Pressure	MPa	37							
Full Stroke	mm	6	7	7	7	8	8	8	8
Clamp Stroke	mm	3	3.5	3.5	3.5	4	4	4	4
Extra Stroke	mm	3	3.5	3.5	3.5	4	4	4	4
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	2.5	4.6	7.2	11.5	20.6	33.6	53.8	83.8
Operating Temperature ※ <sup>4</sup>	℃	0 ~ 70 (V: High temperature option is available for 0 ~ 120℃)							
Use Frequency ※ <sup>5</sup>		20 Cycles / Day or less							
Usable Fluid ※ <sup>6</sup> ※ <sup>7</sup> ※ <sup>8</sup>		General Hydraulic Oil Equivalent to ISO-VG-32							

- Notes :
- ※4. Option V: High Temperature (0~120℃) is for operating in temperatures of 70℃ or more.
- ※5. Please contact us for more frequent use.
- ※6. Please contact us for fluids other than those mentioned on the list.
- ※7. If hydraulic viscosity is higher than specified, action time will be longer.
- ※8. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.

Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

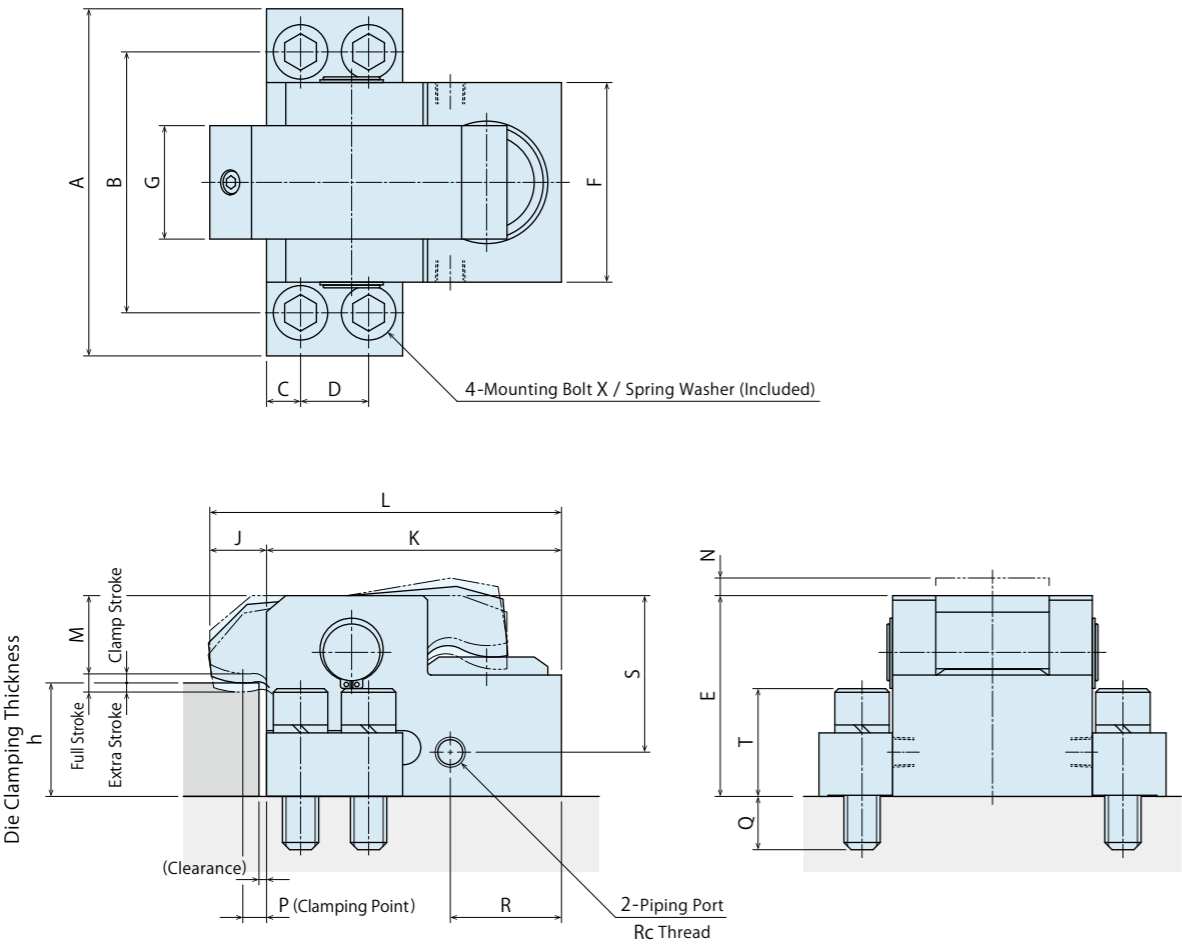
Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

External Dimensions

※ This drawing shows the standard model.  
Contact us for external dimensions for options.



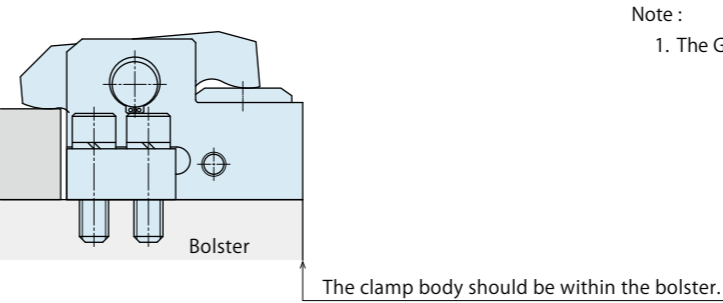
- Notes :
- 1. Do not exceed the clamping force on the specification.
  - 2. The specifications and contents in this catalog are subject to change without prior notice.  
Ask for the approval drawing before deciding to purchase.

External Dimension List

Model No.	GBP0100	GBP0160	GBP0250	GBP0400	GBP0630	GBP1000	GBP1600	GBP2500
Full Stroke	6	7	7	7	8	8	8	8
Clamp Stroke	3	3.5	3.5	3.5	4	4	4	4
Extra Stroke	3	3.5	3.5	3.5	4	4	4	4
A	72	90	106	123	153	180	219	270
B	53	66	78	92	115	129	155	199
C	8.5	10	12	13	15	18	22	30
D	15	18	20	26	30	36	46	50
min. E	47.5	54	63	71	86	110.5	132.5	149.5
F	38	48	58	68	88	97	117	144
G	20	26	32	38	50	53	60	73
J	15	17	19	22	25	30	30	30
K	58	70	84	105.5	130	159	199	240
L	73	87	103	127.5	155	189	229	270
M(h)	16.5 (25)	27.5 (25)	31.5 (30)	39.5 (30)	49.5 (35)	64 (45)	81 (50)	98 (50)
	16.5 (30)	22.5 (30)	26.5 (35)	34.5 (35)	44.5 (40)	59 (50)	76 (55)	93 (55)
	16.5 (35)	17.5 (35)	21.5 (40)	29.5 (40)	39.5 (45)	54 (55)	71 (60)	88 (60)
	16.5 (40)	17.5 (40)	21.5 (45)	29.5 (45)	34.5 (50)	49 (60)	66 (65)	83 (65)
	-	-	21.5 (50)	29.5 (50)	29.5 (55)	44 (65)	61 (70)	78 (70)
	-	-	-	-	29.5 (60)	44 (70)	61 (75)	78 (75)
	-	-	-	-	-	-	61 (80)	78 (80)
	-	-	-	-	-	-	-	78 (85)
max. N	5.5	6.5	6.5	6.5	8	8	9	9.5
p ※1	6	8	8	10	10	10	10	10
Q	12	14.5	20.5	23	23.5	29.5	33	43
R	7	9	10	12	49	68	73	69.5
S	38.5	45	51	54	69	93.5	108.5	127.5
T	26	30.5	36.5	41	47.5	60.5	71	87
X (Nominal × Pitch × Depth) (Designated Maker)	M8 × 1.25 × 30	M10 × 1.5 × 35	M12 × 1.75 × 45	M14 × 2 × 50 (Unbrako)	M16 × 2 × 55 (Unbrako)	M20 × 2.5 × 70 (Unbrako)	M24 × 3 × 80 (Unbrako)	M30 × 3.5 × 100 (Unbrako)
Clearance	1.5	1.5	2	2	2	2	2	2
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
min. h	25	25	30	30	35	45	50	50
max. h	40	40	50	50	60	70	80	90
Weight ※2 kg	0.8	1.4	2.4	4.1	8	13.6	24.8	41.5

- Notes :
- ※ 1. Dimension P (Clamping Point) indicates when dimension h (Die Clamping Thickness) is thick.
  - ※ 2. It indicates the weight in case of min. E.
    - 1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
    - 2. Mounting surface of the clamp should be smooth without any bumps. If the mounting surface has bumps or is not smooth, excessive stress will be applied on the clamp lever, leading to release error or deformation of the lever and the lever pin.

GBP Clamp    The Allowable Protrusion Amount



- Note :
- 1. The GBP clamp body should be within the bolster when mounting.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

# Hydraulic Lever Clamp

Longer Stroke / Block-Fixed

Model GBQ



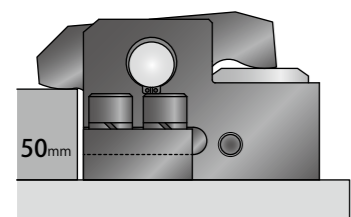
Longer stroke allows for variation in die clamping thicknesses.  
Fixed with bolts and easy to install on a press without T-slots.

Advantage

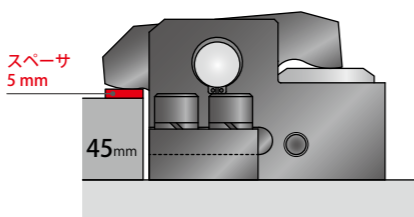
## Standard Clamp

Requires a spacer at the die clamping site in order to standardize the thickness.

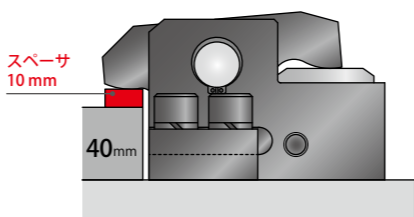
Clamping Thickness : 50mm



Clamping Thickness : 45mm



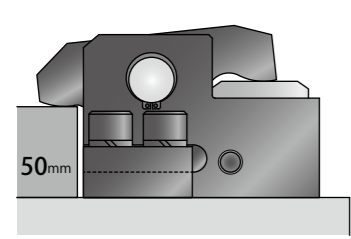
Clamping Thickness : 40mm



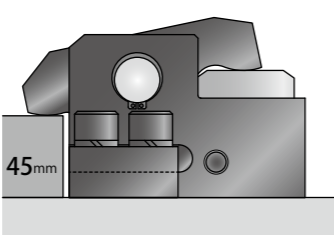
## GBQ Clamp

Is able to clamp dies with a thickness variance up to 10 mm.  
There is no need to install spacers and no accidents caused by incorrect spacer thickness.

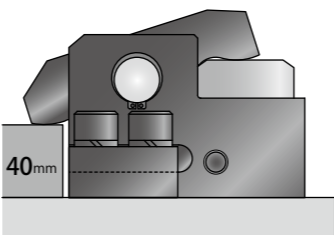
Clamping Thickness : 50mm



Clamping Thickness : 45mm



Clamping Thickness : 40mm



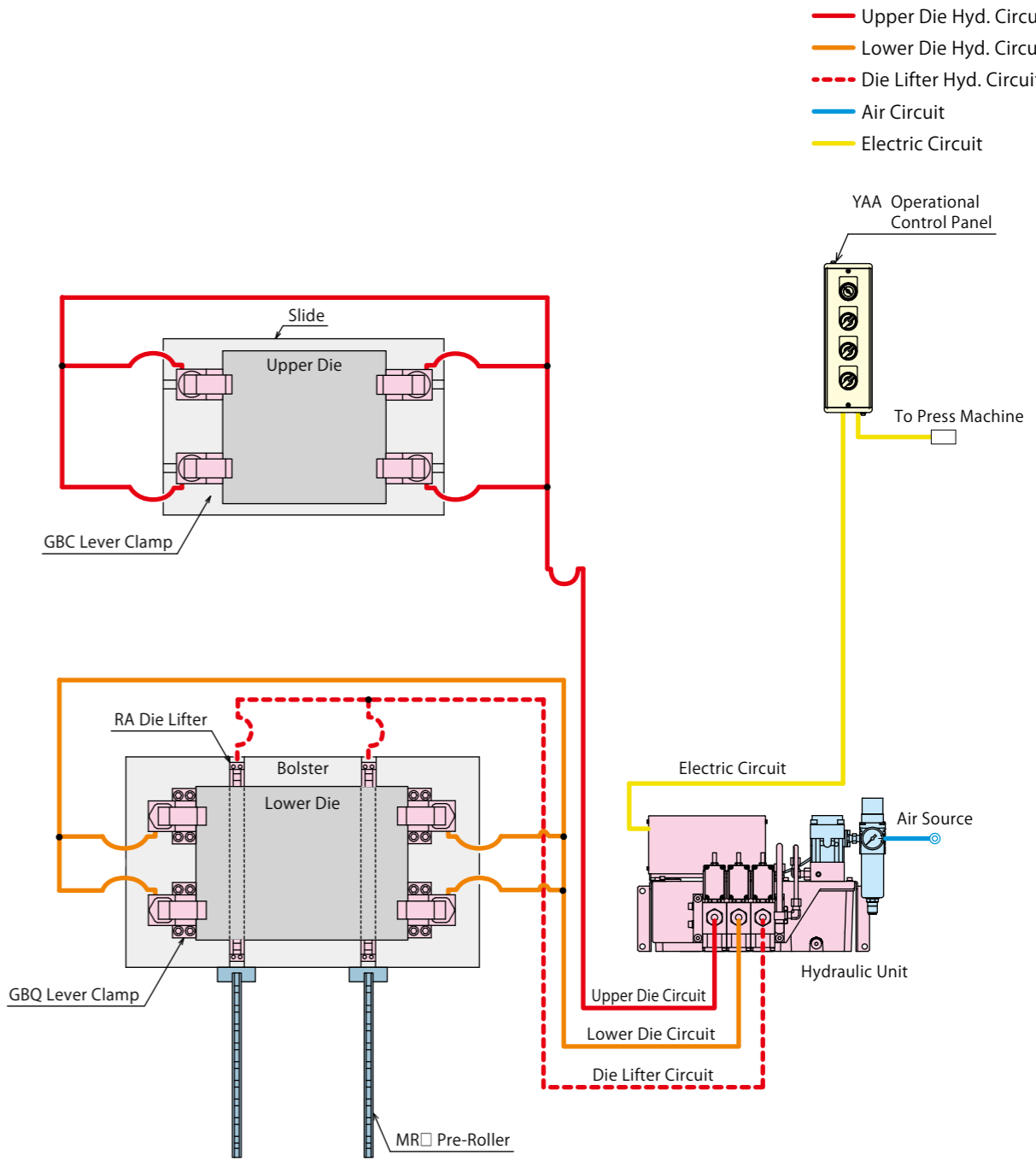
Notes : 1. We provide GBQ clamp according to the die clamping thickness and T-slot dimensions.  
Please refer to the external dimensions for further information.  
2. Variance in die clamping thickness varies depending on the clamp size.

System Structure Example

The basic structure with GBQ clamps which do not require T-slot by fixing with bolts. This system is able to control the upper die circuit, lower die circuit, and RA die lifter circuit individually by using a three-circuit hydraulic unit.

- Upper Clamp : GBC Lever Clamp
- Lower Clamp : GBQ Lever Clamp
- Loading / Unloading the Die : MR□ Pre-Roller + RA Die Lifter
- Hydraulic Source : CP□ Unit / CQ□ Unit

We are able to provide different models of clamp for the upper die and lower die.  
Please contact us for further information.

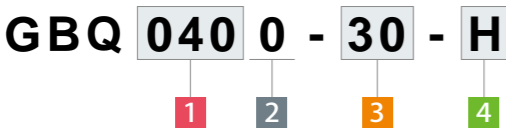


Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
<b>GBQ</b>
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

Model No. Indication



1 Clamping Force

- 010

: Clamping Force = 10kN
- 016

: Clamping Force = 16kN
- 025

: Clamping Force = 25kN
- 040

: Clamping Force = 40kN
- 063

: Clamping Force = 63kN
- 100

: Clamping Force = 100kN
- 160

: Clamping Force = 160kN
- 250

: Clamping Force = 250kN

2 Design No.

0 : Revision Number

3 Die Clamping Thickness

- 25

 : Die Clamping Thickness h= 25mm
- 90

 : Die Clamping Thickness h= 90mm

Notes :

- ※ It shows the maximum variance of the die clamping thickness.  
(Ex.) When the variance is 30mm ~ 40mm, it is "h=40".
- ※ Selectable 

3

 Die Clamping Thickness differs according to 

1

 Clamping Force.  
The Die Clamping Thickness should be between min. h and max. h indicated in the external dimension list.

4 Option ※ Please contact us for specifications and external dimensions.

- Blank

 : Standard
- F

 : Combined Use with Die Lifter <sup>※1</sup>
- G

 : Gasket Mounting
- H

 : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
- J

 : Low Lever (When h dimension is less than min. h dimension shown in the external dimension.)
- K

 : Rear Port
- L□

 : Wide Lever (For U-Cut of Die) <sup>※2</sup>
- N

 : NPT Port <sup>※3</sup>
- U□

 : With Grease Nipple (GBQ0400 or larger)
- V

 : High Temperature (0 ~ 120°C) <sup>※4</sup>
- X

 : With Cover

Notes :

- ※1. The external dimension is the same as standard model, but the ratio of clamp stroke and extra stroke is different.  
Please refer to the next page for detail.
- ※2. Please indicate the U-cut dimension of the die.
- ※3. Dimensions in the specification sheet and other documents are written in Inches.  
Only die clamping thickness is indicated by the symbol which is converted into millimeters.
- ※4. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.  
1. Please contact us for specifications and external dimensions for these options.

Specifications

Model No.		GBQ0100	GBQ0160	GBQ0250	GBQ0400	GBQ0630	GBQ1000	GBQ1600	GBQ2500
Clamping Force	kN	10	16	25	40	63	100	160	250
Working Pressure	MPa	25 (For Rated Clamping Force)							
Withstanding Pressure	MPa	37							
Full Stroke	mm	8	9	10	12	15	15.5	16	16
Clamp Stroke <sup>※5</sup>	mm	0.5	1	1.5	3.5	1	1.5	2	2
Extra Stroke <sup>※5</sup>	mm	7.5	8	8.5	8.5	14	14	14	14
Applicable Die Clamping Thickness Variation	mm	5	5	5	5	10	10	10	10
Cylinder Capacity (At Full Stroke)	cm <sup>3</sup>	4	6	10	19	38	63	105	160
Operating Temperature <sup>※6</sup>	℃	0 ~ 70 (V: High temperature option is available for 0 ~ 120°C)							
Use Frequency <sup>※7</sup>		20 Cycles / Day or less							
Usable Fluid <sup>※8</sup> <sup>※9</sup> <sup>※10</sup>		General Hydraulic Oil Equivalent to ISO-VG-32							

Notes :

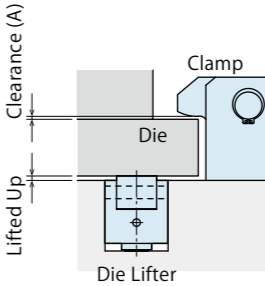
- ※5. When using it with Die Lifter, select Option **F** : Combined Use with Die Lifter.
- ※6. Option **V** : High Temperature (0~120°C) is for operating in temperatures of 70°C or more.
- ※7. Please contact us for more frequent use.
- ※8. Please contact us for fluids other than those mentioned on the list.
- ※9. If hydraulic viscosity is higher than specified, action time will be longer.
- ※10. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.

Relationship between Option F : Combined Use with Die Lifter and RQA/RA Die Lifter (mm)

Model No.		GBQ0100-F	GBQ0160-F	GBQ0250-F	GBQ0400-F	GBQ0630-F	GBQ1000-F	GBQ1600-F	GBQ2500-F
Full Stroke	mm	8	9	10	12	15	15.5	16	16
Min. Clamp Stroke	mm	3	3	3	4	4	4	4	4
Min. Extra Stroke	mm	2	2	2	3	2	2	2	2
Allowable Die Clamping Thickness Variation	mm	3	4	5	5	9	9.5	10	10
Clearance between GBQ Clamp Lever & RQA/RA Die Lifter at Lifted State (A)	RA0180	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5
	RA0220	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5
	RQA/RA0280	1	1	1	2	2	2	2	2
	RA0500	1	1	1	2	2	2	2	2
	RA0800	-	-	-	1	1	1	1	1

RQA/RA Die Lifter Lift-Up Stroke (mm)

Model No.	Lift-Up Stroke
RA0180	1.5
RA0220	1.5
RQA/RA0280	2
RA0500	2
RA0800	3



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GBB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

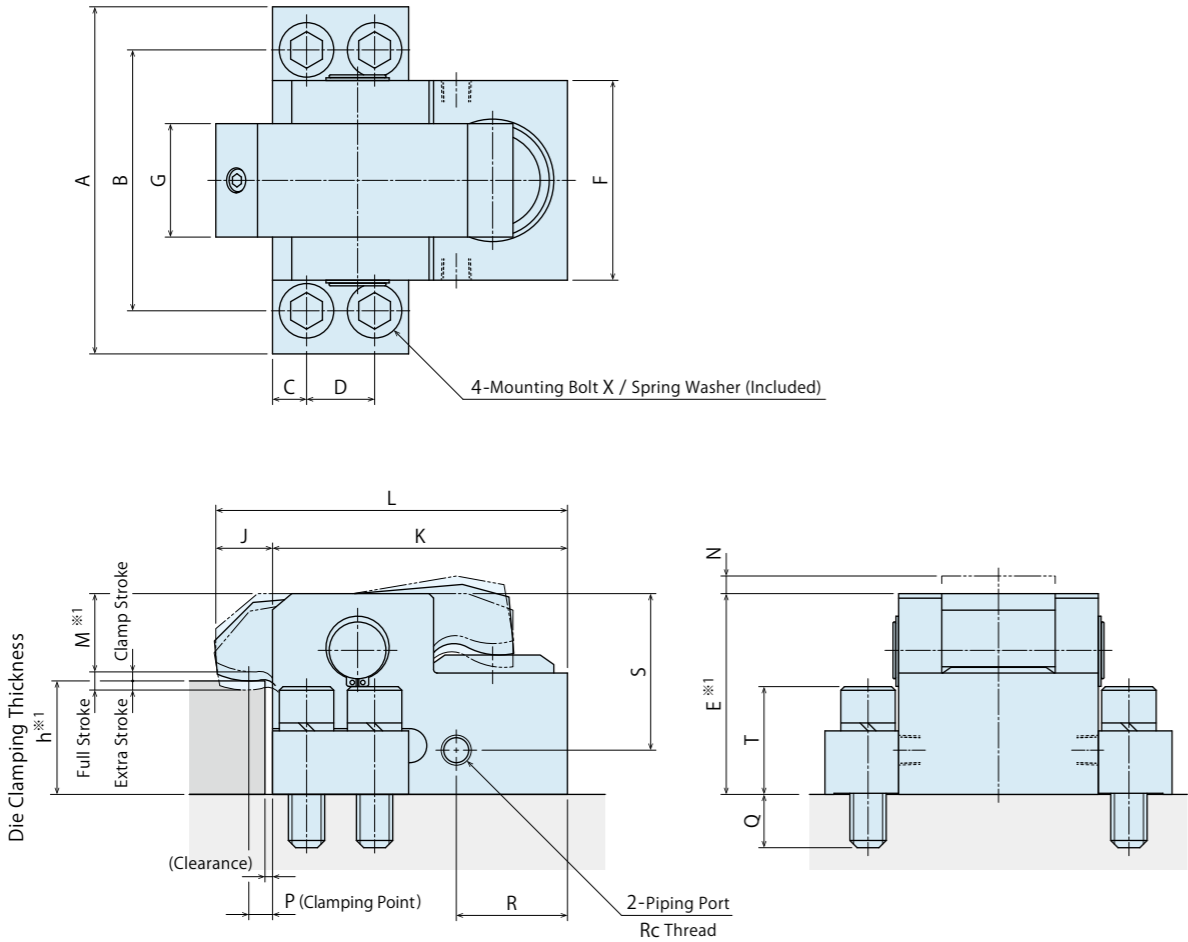
Operational  
Control Panel

YP

YAA

External Dimensions

※ This drawing shows the standard model.  
 Contact us for external dimensions for options.

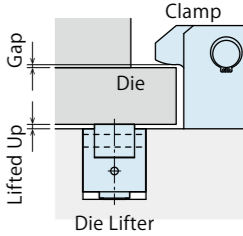


- Notes :
- Do not exceed the clamping force on the specification.
  - The specifications and contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

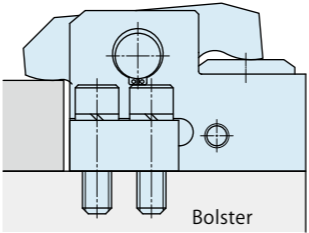
External Dimension List

Model No.	GBQ0100	GBQ0160	GBQ0250	GBQ0400	GBQ0630	GBQ1000	GBQ1600	GBQ2500
Full Stroke	8	9	10	12	15	15.5	16	16
Clamp Stroke <sup>※2</sup>	0.5	1	1.5	3.5	1	1.5	2	2
Extra Stroke	7.5	8	8.5	8.5	14	14	14	14
Applicable Die Clamping Thickness Variation	5	5	5	5	10	10	10	10
A	72	90	106	123	153	180	219	270
B	53	66	78	92	115	129	155	199
C	8.5	10	12	13	15	18	22	30
D	15	18	20	26	30	36	46	50
min. E <sup>※1</sup>	50.5	57	67	76	93.5	119	137.5	159.5
F	38	48	58	68	88	97	117	144
G	20	26	32	38	50	53	60	73
J	15	17	19	22	25	30	30	30
K	58	70	84	105.5	130	159	199	240
L	73	87	103	127.5	155	189	229	270
max. N	8	9	9.5	11	14.5	15	18	19
p <sup>※3</sup>	6	8	8	10	10	10	10	10
Q	12	14.5	20.5	23	23.5	29.5	33	43
R	7	9	10	12	49	68	73	69.5
S	41.5	48	55	59	76.5	102	118.5	137.5
T	26	30.5	36.5	41	47.5	60.5	71	87
X (Nominal × Pitch × Depth) (Designated Maker)	M8 × 1.25 × 30	M10 × 1.5 × 35	M12 × 1.75 × 45	M14 × 2 × 50 (Unbrako)	M16 × 2 × 55 (Unbrako)	M20 × 2.5 × 70 (Unbrako)	M24 × 3 × 80 (Unbrako)	M30 × 3.5 × 100 (Unbrako)
Clearance	1.5	1.5	2	2	2	2	2	2
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4
min. h	25	25	30	30	35	45	45	50
max. h	45	45	55	55	65	75	85	85
Weight <sup>※4</sup> kg	0.9	1.5	2.6	4.3	8.5	14.6	25	43.5

- Notes :
- Dimension M (Lever Thickness) and E (Total Height of the Clamp) in the drawing vary depending on dimension h (Die Clamping Thickness) and its variation. Please contact us for further information.
  - For using GBQ Clamp with Die Lifter, make sure there is a gap between the die and the clamp when Die Lifter is lifted up.
  - Dimension P (Clamping Point) indicates when the dimension h (Die Clamping Thickness) is thick.
  - It indicates the weight in case of min. E.
    - If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
    - Mounting surface of the clamp should be smooth without any bumps. If the mounting surface has bumps or is not smooth, excessive stress will be applied on the clamp lever, leading to release error or deformation of the lever and the lever pin.



GBQ Clamp
The Allowable Protrusion Amount



- Note :
- The GBQ clamp body should be within the bolster when mounting.
- The clamp body should be within the bolster.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

For Press Machine

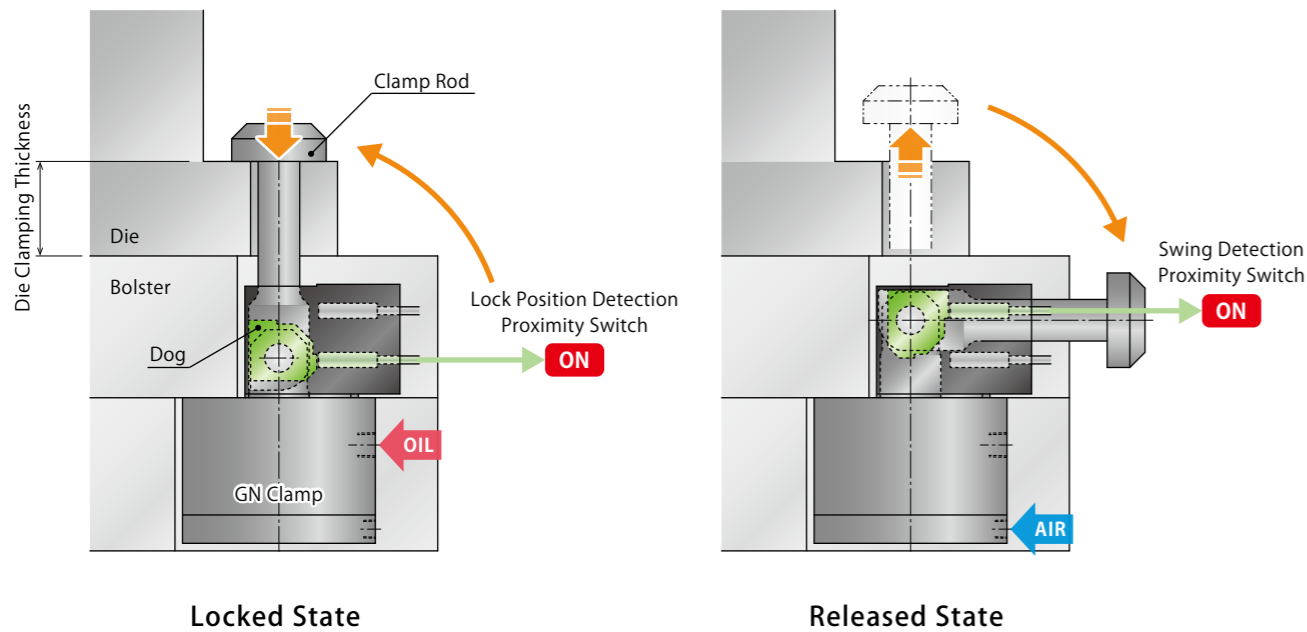
# Hydraulic Piston Clamp Swing Rod Clamp for Lower Die

Model GN



The rod swings away in a released state.  
Avoids interference during die loading/unloading. Clamps with hydraulic pressure + spring force, and releases with air pressure.

## Action Description



The clamp rod swings to the lock side with spring force. By supplying hydraulic pressure the clamp rod descends to lock the die. Lock Position Detection Proximity Switch and Pressure Switch detect the lock completion.

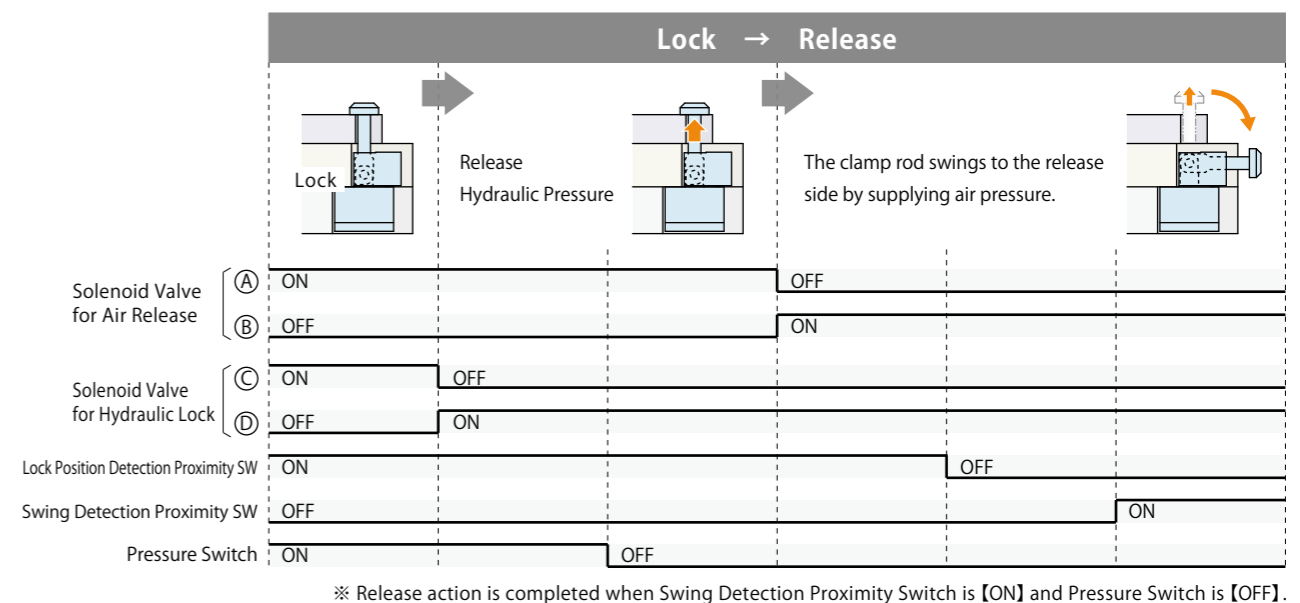
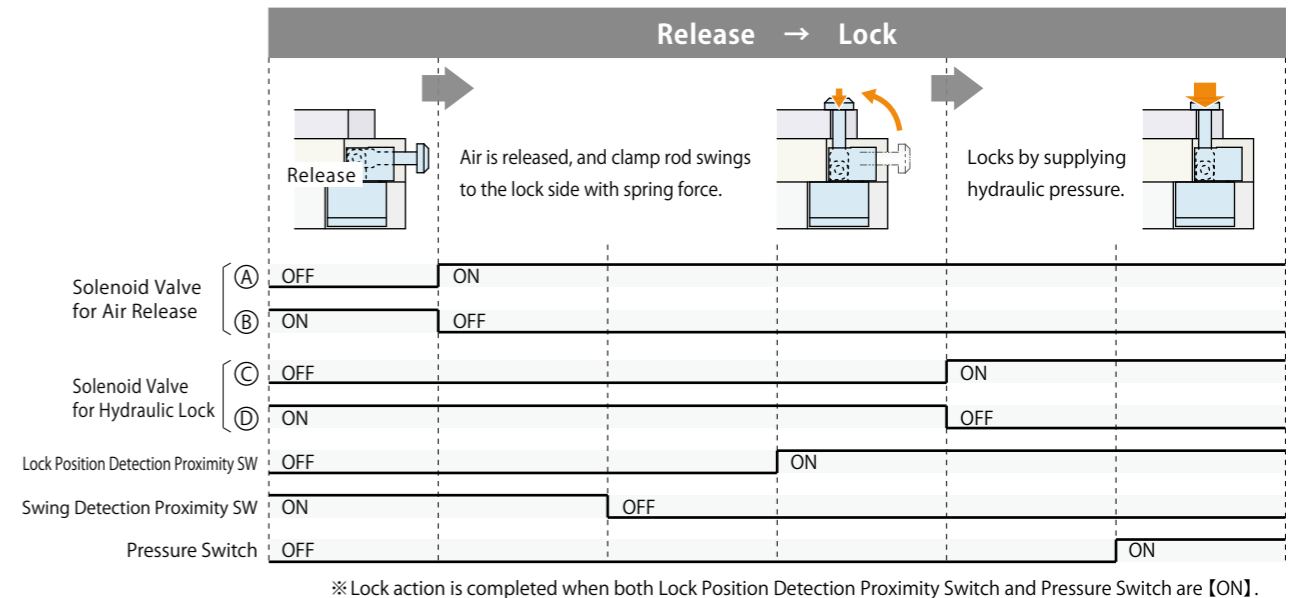
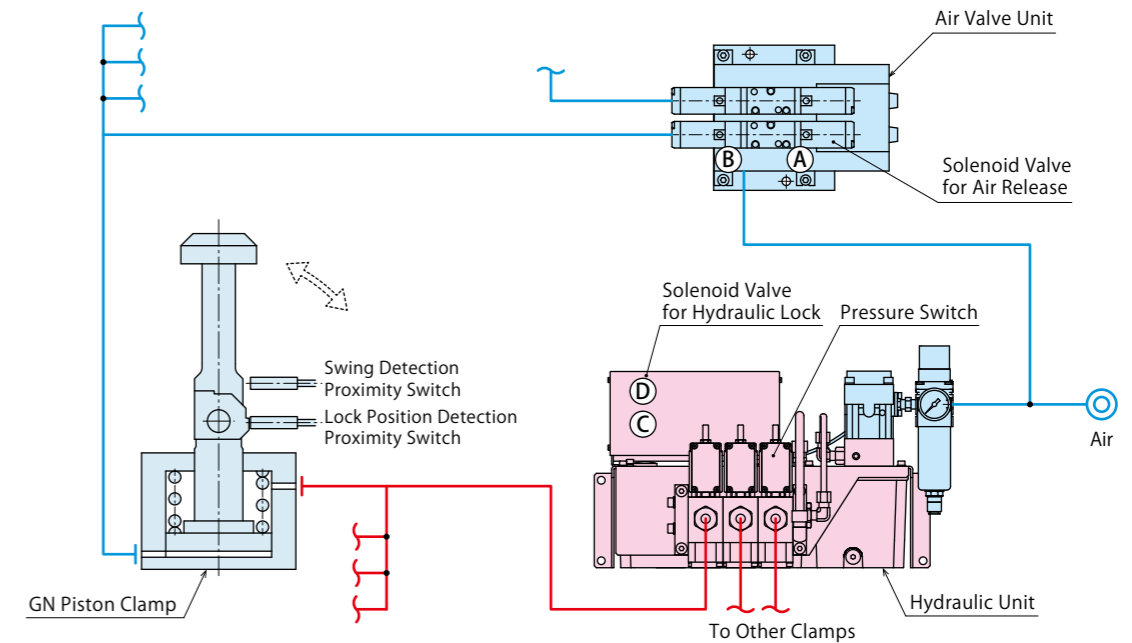
Lock Position Detection Proximity Switch **ON**  
Swing Detection Proximity Switch **OFF**

By releasing hydraulic pressure and supplying air pressure the clamp rod ascends and swings to the release side. Swing Detection Proximity Switch detects the release completion.

Lock Position Detection Proximity Switch **OFF**  
Swing Detection Proximity Switch **ON**

- ※ GN clamp is not applicable to an upper die or the place where the clamp rod faces downward.
- ※ We provide GN clamps according to die clamping thickness. Refer to the external dimensions for further information.

## Circuit Reference



Note :

- Although GN clamp is a hydraulic single-acting clamp, the unit circuit of the clamp is the **U** circuit because the clamp is controlled with double solenoid. When using GN clamp combining with other single-acting clamps, the clamp circuit should be **G** circuit. When using GN clamp combining with RQA/RA die lifters, the circuit should be **H** circuit. Please contact us for further information.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GDB  
GBC  
GBE  
GBF  
GBP  
GBQ  
**GN**  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

Model No. Indication

GN 040 1 - 35 - 5 - V

1 2 3 4 5

1 Clamping Force

025 : 25 kN  
040 : 40 kN  
063 : 63 kN  
100 : 100 kN

2 Design No.

1 : Revision Number

3 Die Clamping Thickness<sup>※1 ※2</sup>

25 : Die Clamping Thickness h= 25mm  
50 : Die Clamping Thickness h= 50mm

※1. The Die Clamping Thickness (h) can be selected from 25 ~ 50mm.  
※2. For 5 Option N : NPT Port, each dimension is written in inches in the specifications and other documents. However, the die clamping thickness is shown by mm value as a symbol.

4 Proximity Switch Load Voltage (Current)

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

5 Option

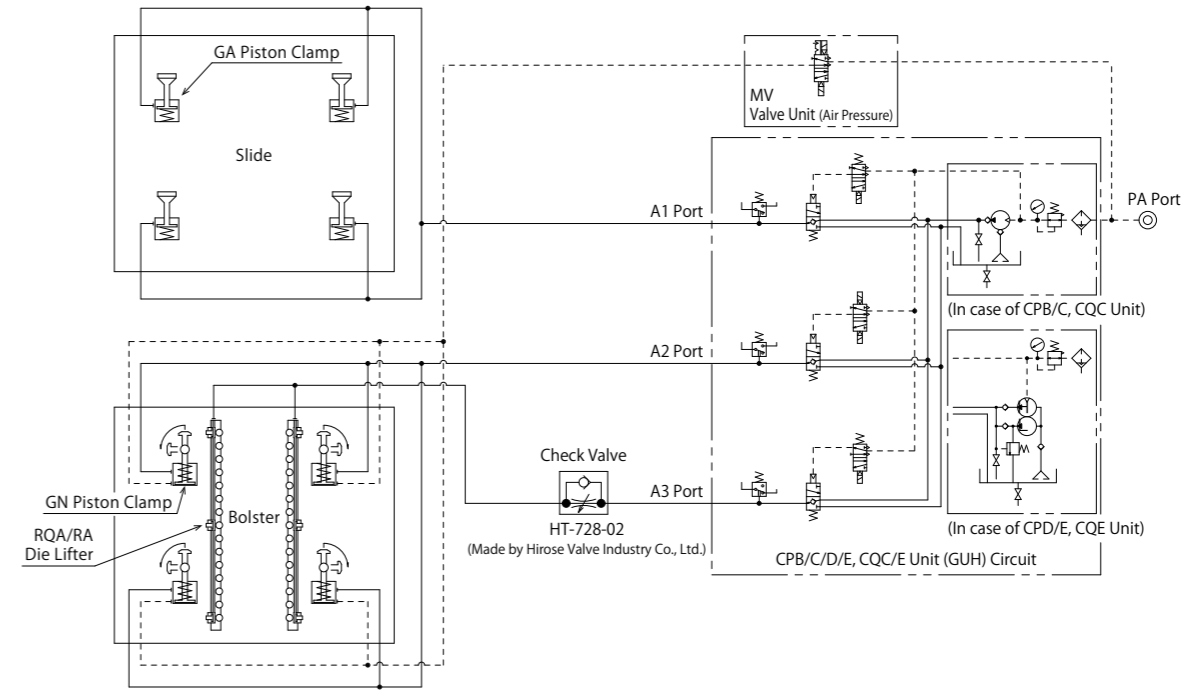
Blank : Standard  
N : NPT Port<sup>※3</sup>  
V : High Temperature (0 ~ 120°C)<sup>※4</sup>

※3. For Option N : NPT Port, each dimension is written in inches in the specifications and other documents.  
※4. Select the hydraulic unit with pressure relief valve when using under high temperature since there may be pressure fluctuation caused by temperature change.

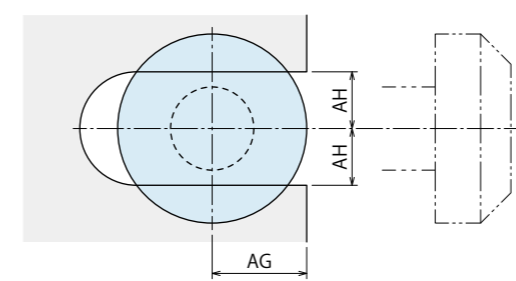
Specifications

Model No.		GN0251	GN0401	GN0631	GN1001
Clamping Force	kN	25	40	63	100
Working Pressure	MPa	25 (For Rated Clamping Force)			
Withstanding Pressure	MPa	37			
Full Stroke	mm	6	7.5	10	12
Clamp Stroke	mm	4	5	7	9
Extra Stroke	mm	2	2.5	3	3
Swing Angle		90°			
Cylinder Capacity	Lock	18.6	36	73.9	157.9
	cm <sup>3</sup> Release	27.4	53.5	115.5	241.8
Air Pressure for Swing Action	MPa	0.4 ~ 0.5			
Proximity Switch Voltage		AC100V / AC200V / DC24V			
Operating Temperature <sup>※5</sup>	°C	0 ~ 70 (V : High Temperature option is available for 0 ~ 120°C)			
Use Frequency <sup>※6</sup>		20 Cycles / Day or less			
Usable Fluid <sup>※7 ※8 ※9</sup>		General Hydraulic Oil Equivalent to ISO-VG-32			

Notes : ※5. Option V : High Temperature (0 ~ 120°C) is for operating in temperatures of 70°C 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. Hydraulic pressure for lock should be 25MPa , and air pressure for release should be 0.4 ~ 0.5MPa.  
2. GN clamp is not applicable to the upper die or the place where the clamp rod is downward.  
3. Combination Use of GN Piston Clamp, RQA/RA Die Lifter and Hydraulic Unit :  
When RQA/RA Die Lifter is in a lift-down state, back pressure is applied to the lock port of GN clamp so that the proximity switch may come off. When using GN Piston Clamp with RQA/RA Die Lifter and Hydraulic Unit, please install a check valve (Made by Hirose Valve : HT-728-02) to hydraulic piping of RQA/RA Die Lifter.



Die U-Cut Dimensions



	(mm)			
Model No.	GN0251	GN0401	GN0631	GN1001
AG	9 ~ 20	11 ~ 25	14 ~ 30	17 ~ 37.5
AH	max. 12	max. 16	max. 19	max. 23

Note :  
1. Please consider this drawing for U-Cut dimensions and locating accuracy of GN clamp and the die.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

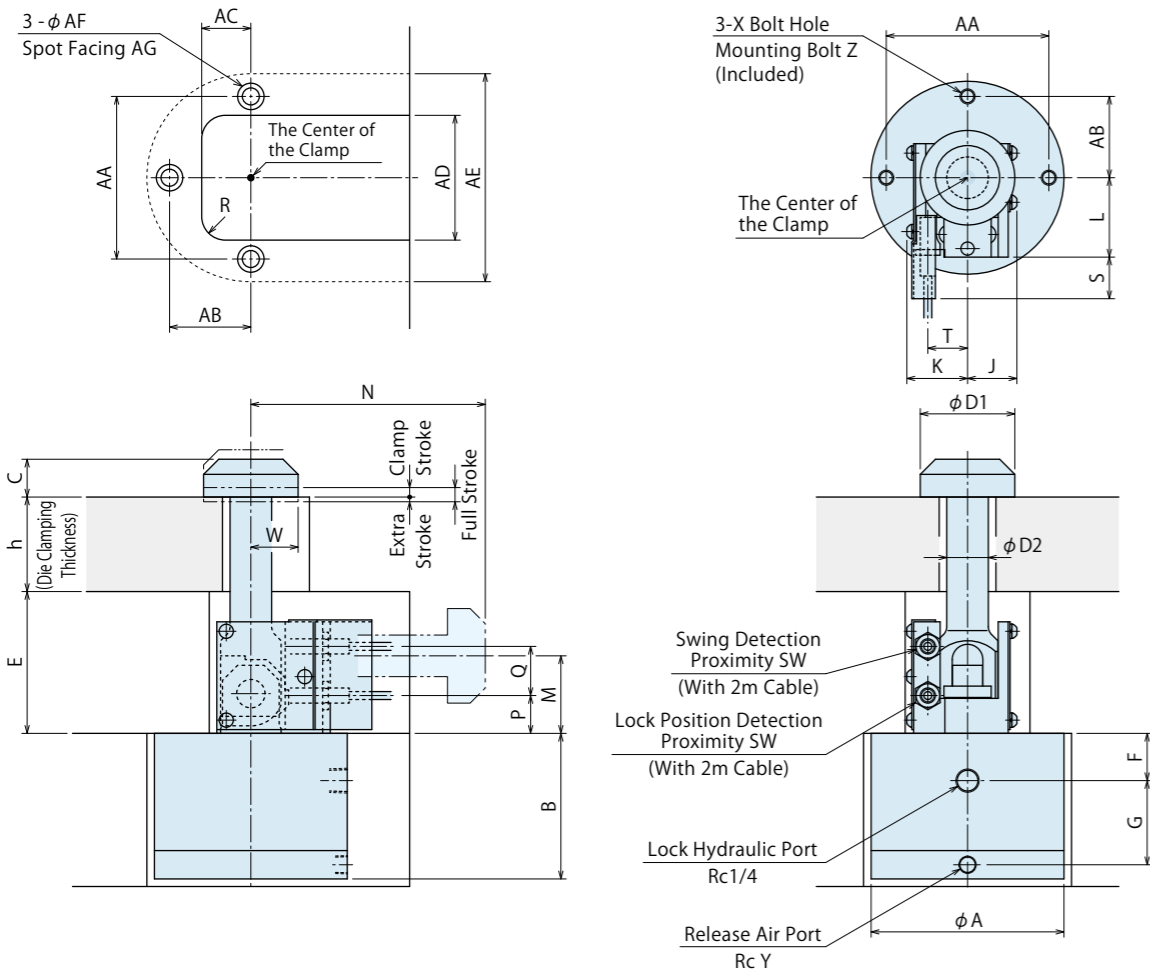
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

External Dimensions
 The drawing shows the clamped state of 5 Option “Blank : Standard” in Model No. Indication.



External Dimension List

Model No.	GN0251	GN0401	GN0631	GN1001
Full Stroke	6	7.5	10	12
Clamp Stroke	4	5	7	9
Extra Stroke	2	2.5	3	3
A	83	102	122	142
B	71.5	77	90.5	111
C	16	20	25	35
D1	40	50	60	75
D2	18	22	28	34
E	60	75	90	115
F	24	25	26.5	30
G	40	44.5	54	70
J	22.5	26	32.5	40
K	28.5	32	38.5	49
L	35	42	49	60
M	33.5	41	53	67
N	h+58.5	h+74	h+89	h+118
P	16.5	20	24	31
Q	21	26	34	39
R	10	12.5	15	17.5
S	18	22	24	17
T	18	21	26.5	35
W	20	25	30	37.5
X (Nominal×Pitch×Depth)	M6×1×12	M8×1.25×16	M8×1.25×16	M8×1.25×16
Y	Rc1/8	Rc1/8	Rc1/8	Rc1/4
Z (Nominal×Pitch×Depth)	M6×1×60	M8×1.25×75	M8×1.25×90	M8×1.25×115
AA	72	86	106	126
AB	36	43	53	63
AC	23	27	35	40
AD	58	67	84	104
AE	90	110	130	150
AF	7	9	9	9
AG	φ 11 Depth 7	φ 14 Depth 9	φ 14 Depth 9	φ 14 Depth 9
h ※1	25 ~ 50	25 ~ 50	25 ~ 50	25 ~ 50
Weight ※2	kg 3.8	6.0	10.2	16.5

Notes :

- The external dimensions are for 5 Option “Blank : Standard” in Model No. Indication. Please contact us for external dimensions for options.
- Clamp surface must be level with clamp mounting surface.
- Make sure that dust, sand, cutting chips or blank pieces do not enter the clamp.

※1. Allowance of die clamping thickness should be  $h \pm 0.5\text{mm}$ .

※2. It shows the weight when die clamping thickness (h) is 25mm.

Clamp • Unit
Operational Control Panel
Die Lifter
Pre-Roller
Accessories
Cautions
Company Profile
Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA
Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE
Pump Unit
CB
CD
CC
Valve Unit
BC
BH
MV
Operational Control Panel
YP
YAA

For Press Machine

# Hydraulic Piston Clamp Swing Rod Clamp for Upper Die

Model GHA



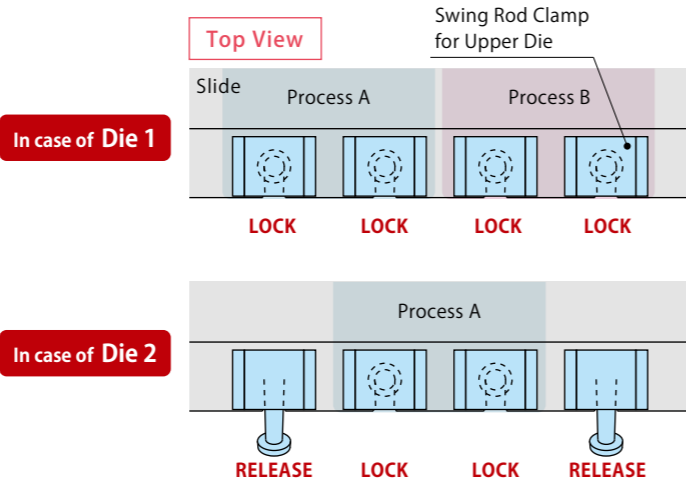
The rod swings away during die change.

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

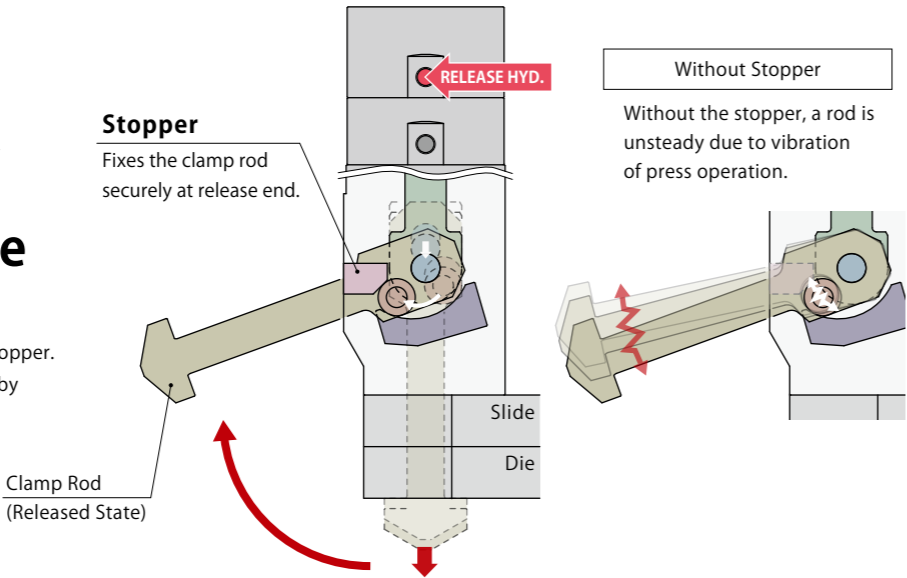
Sometimes a transfer press machine is operated with some clamps released depending on the number of processes. Kosmek Swing Rod Clamp is able to withstand the vibration of the press machine even in a released state.



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

## Stopper to hold clamp rod steady in a released state

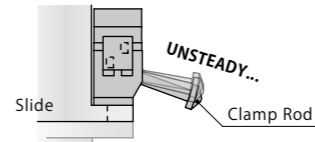
The released clamp rod is securely fixed by the stopper. This prevents chattering of a limit switch caused by vibration during press operation.



## For Stable Production

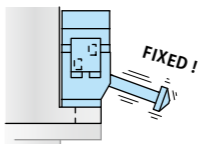
Stable production is possible by preventing interlock malfunctions caused by chattering of a limit switch.

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

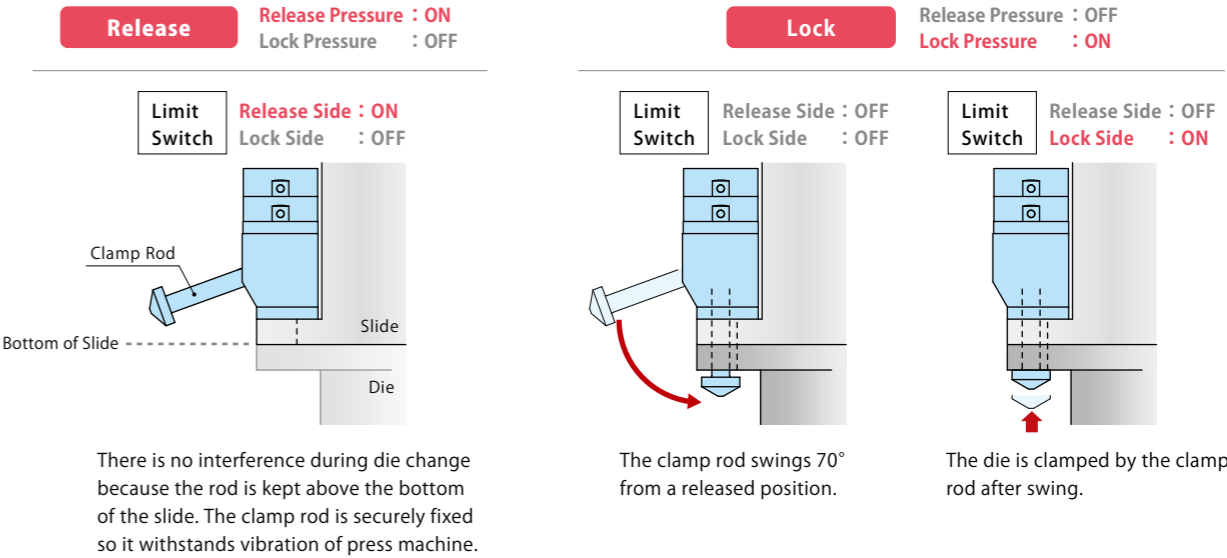


Limit switch turns ON and OFF repeatedly due to a clamp rod moved by vibration at every shot.

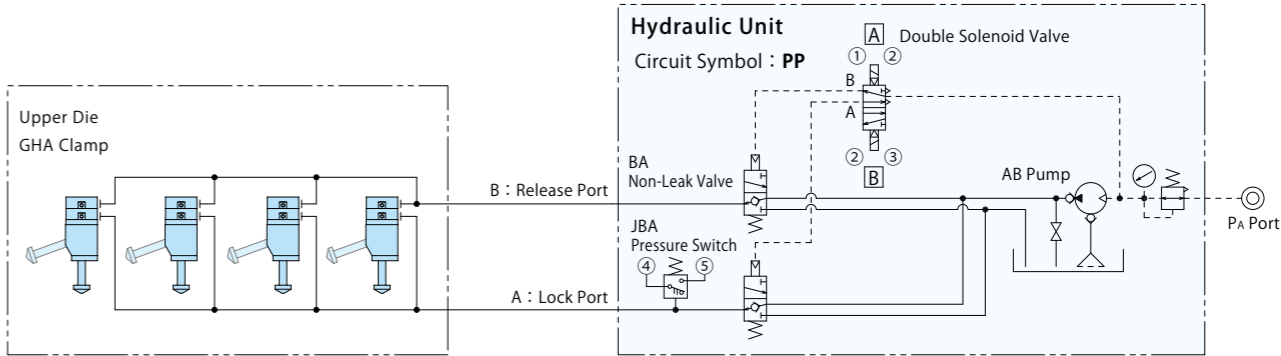
In case of GHA Clamp with a clamp rod fixed even in a released state !



● Action Description



● Circuit Example



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit

CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit

CB
CD
CC

Valve Unit

BC
BH
MV

Operational  
Control Panel

YP
YAA

Model No. Indication

GHA
025
0
- 70 -
50 -
V

1
Clamping Force

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

2
Design No.

0 : Revision Number

3
Die Clamping Thickness (Dimension h)<sup>※1</sup>

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<sup>※2</sup>  
V : High Temperature (0 ~ 120°C)<sup>※3</sup>

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	When Locked	17.6	31	49.5
Capacity	cm <sup>3</sup> 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 <sup>※4</sup>		70°		
Operating Temperature <sup>※5</sup>	°C	0 ~ 70 (V: High temperature option is available for 0 ~ 120°C)		
Use Frequency <sup>※6</sup>		20 Cycles / Day or less		
Usable Fluid <sup>※7 ※8 ※9</sup>		General Hydraulic Oil Equivalent to ISO-VG-32		

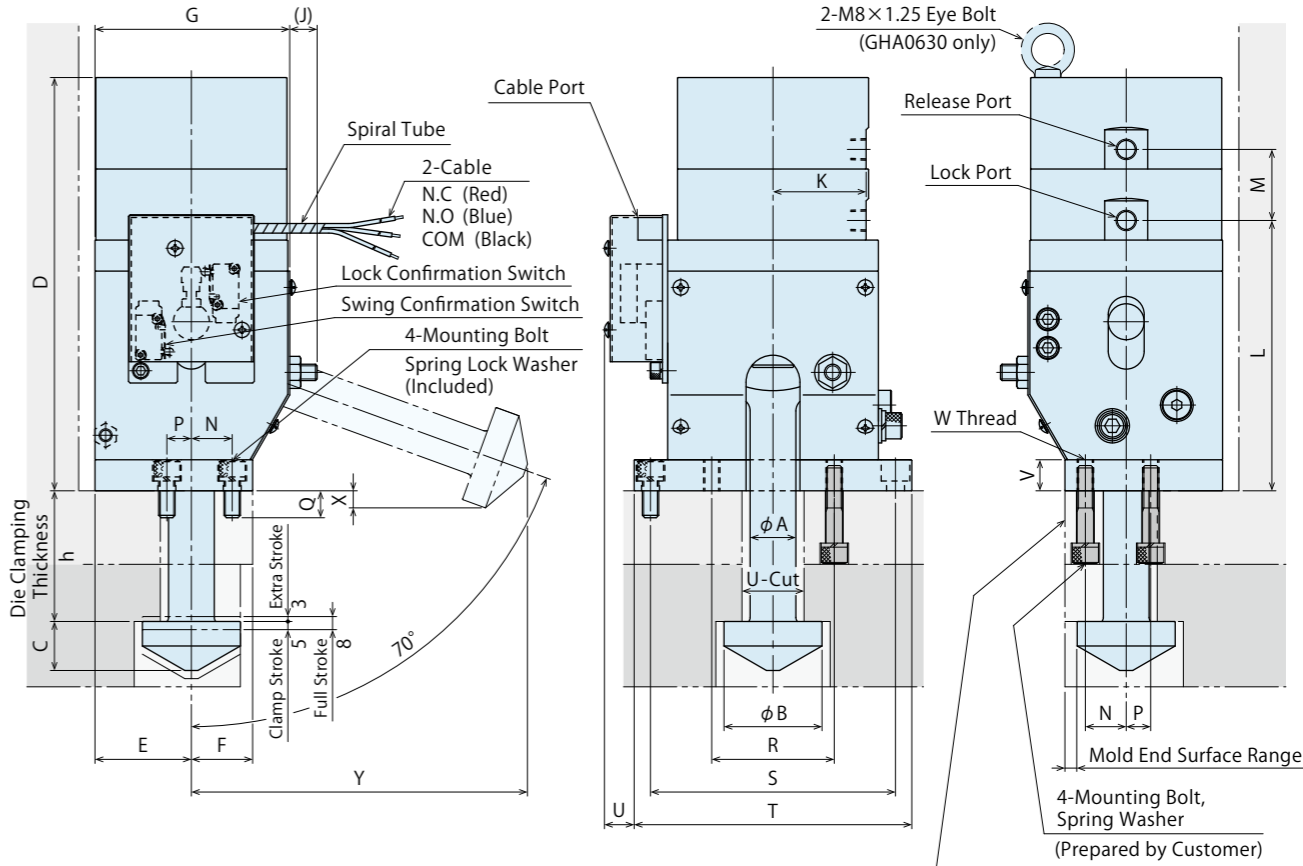
Notes :  
※4. Please contact us for other swing angles (70° or less).  
※5. Option V : High Temperature (0 ~ 120°C) is for operating in temperatures of 70° or more.  
※6. Please contact us for more frequent use.  
※7. Please contact us for fluids other than those mentioned on the list.  
※8. If hydraulic 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.



External Dimension List

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 <sup>※10</sup>	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

Note :  
※10. Allowance of die clamping thickness should be h ±0.5mm.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GGB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

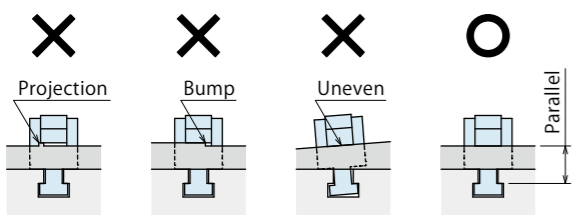
BC  
BH  
MV

Operational  
Control Panel

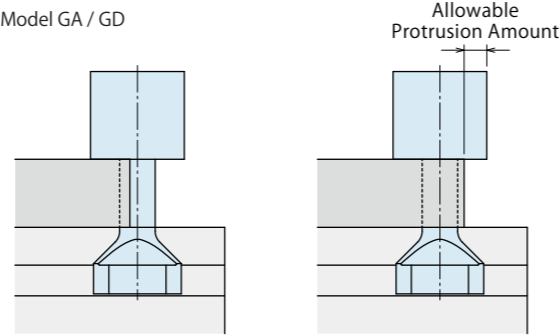
YP  
YAA

Cautions

Notes for Design

- Check Specifications
    - Please use each product according to its specifications.
    - Operating pressure is 25MPa.  
[In case of GN Clamp] Locking Hydraulic Pressure : 25MPa  
Releasing Air Pressure : 0.4 ~ 0.5MPa  
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. When required to reduce clamping force, use the product with lower operating pressure.
  - Check Die Clamping Thickness
    - Please check the die clamping thickness.  
Die clamping thickness of GN/GHA clamp should be  $h \pm 0.5\text{mm}$ .  
Using dies other than specified causes locking malfunction of die clamp leading to falling of a die and an injury.
  - Clamping surface and T-slot 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 and lever. This causes an accident and an injury.
- 
- Make sure that advance and retract actions of a clamp are smoothly conducted. (Model GD / GBE / GBF)
    - Please control air cylinder for slide with 2-position double solenoid (with detent).
    - Supply 0.4MPa or more air pressure to an air cylinder.
    - Please adjust the moving speed of a clamp with a speed controller to be fully stroked within 1 to 2 seconds.
    - Do not set the proximity switch to a die surface near U-cut, since it is used as forward-end detection.
    - The clamp sliding surface must be smooth (without any bumps).
  - Make sure that dust, sand, cutting chips or blank pieces do not enter a clamp.
    - Otherwise, the clamp does not operate smoothly and may be damaged.

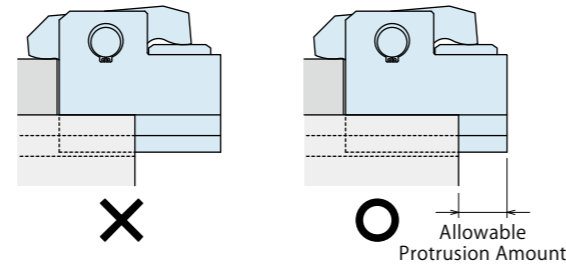
- When the clamp cylinder sticks out of U-cut or T-slot, please use it within the allowable protrusion amount.  
 U-Cut of the Die      · · · Model GA / GD  
 T-Slot of the Slider / Bolster      · · · Model GBB / GBE / GBC / GBF



Allowable Protrusion Amount

Model No.	Allowable Protrusion Amount (mm)
GA0100	13
GA0160	14
GA0250 / GD0250	17
GA0400 / GD0400	20
GA0630 / GD0630	26
GA1000 / GD1000	32
GA1600 / GD1600	42
GA2500	50

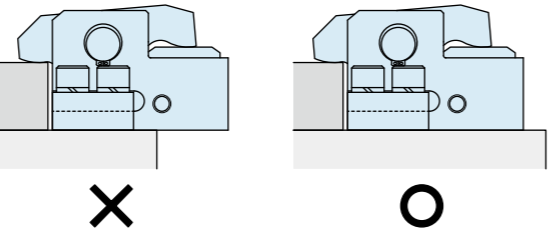
Model GBB / GBC / GBE / GBF



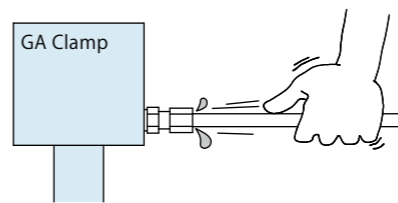
Allowable Protrusion Amount

Model No.	Allowable Protrusion Amount (mm)
GBB0100 / GBC0100	17.5
GBB0160 / GBC0160	21
GBB0250 / GBC0250 / GBE0250 / GBF0250	25
GBB0400 / GBC0400 / GBE0400 / GBF0400	32
GBB0630 / GBC0630 / GBE0630 / GBF0630	39
GBB1000 / GBC1000 / GBE1000 / GBF1000	45
GBB1600 / GBC1600 / GBE1600 / GBF1600	57
GBB2500 / GBC2500 / GBE2500 / GBF2500	69.5

- Be careful with a mounting position of a clamp. (Model GBP/GBQ only)
  - Make sure that the clamp body is set within the mounting surface. Otherwise, an excessive force will be applied to the clamp and it deforms the clamp or damages mounting bolt resulting in falling off of a die and an accident or an injury.



Installation Notes

- Check the Usable Fluid
    - Please use 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.
  - 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.)
  - 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.
  - 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.
      - Reduce hydraulic pressure to less than 2MPa.
      - Loosen the cap nut of pipe fitting closest to the clamp · RQA/RA die lifter by one full turn.
      - Shake the pipeline to loosen the outlet of pipe fitting.  
Hydraulic fluid mixed with air comes out.
- 
- Tighten the cap nut after bleeding.
  - It is more effective to release air at the highest point inside the circuit or at the end of the circuit.
- 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.

- Installation of the Product
  - After setting the clamp in the T-slot, use hexagonal socket bolts and tighten them with the following torque. (Model GD / GBE / GBF)

Model No.	Thread Size	Tightening Torque (N·m)
GD0250	M6×1	10
GD0400	M6×1	10
GD0630	M6×1	10
GD1000	M8×1.25	25
GD1600	M8×1.25	25

Model No.	Thread Size	Tightening Torque (N·m)
GBE0250 / GBF0250	M5×0.8	6.3
GBE0400 / GBF0400	M5×0.8	6.3
GBE0630 / GBF0630	M6×1	10
GBE1000 / GBF1000	M8×1.25	25
GBE1600 / GBF1600	M10×1.5	50
GBE2500 / GBF2500	M12×1.75	80

- Use hexagonal socket bolts and tighten them with the following torque. (Model GBP / GBQ / GN / GHA)

Model No.	Thread Size	Tightening Torque (N·m)
GBP0100 / GBQ0100	M8×1.25	25
GBP0160 / GBQ0160	M10×1.5	50
GBP0250 / GBQ0250	M12×1.75	80
GBP0400 / GBQ0400	M14×2	125
GBP0630 / GBQ0630	M16×2	200
GBP1000 / GBQ1000	M20×2.5	400
GBP1600 / GBQ1600	M24×3	630
GBP2500 / GBQ2500	M30×3.5	1250

Model No.	Thread Size	Tightening Torque (N·m)
GN0251	M6×1	12
GN0401	M8×1.25	30
GN0631	M8×1.25	30
GN1001	M8×1.25	30

Model No.	Thread Size	Tightening Torque (N·m)
GHA0250	M8×1.25	25
GHA0400	M8×1.25	25
GHA0630	M10×1.5	50

- Wiring of the Forward End Detection Switch
  - Make sure there is enough slack in the wire so that the clamp can complete the sliding action without putting tension on the wire.

Hydraulic Fluid List

Maker	ISO Viscosity Grade ISO-VG-32	
	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.

Clamp · Unit  
 Operational  
 Control Panel

Die Lifter  
 Pre-Roller

Accessories

Cautions  
 Company Profile

Clamp

GA

GD

GBB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

Operational  
 Control Panel

YP

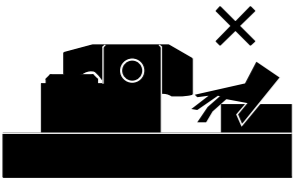
YAA


**Cautions**

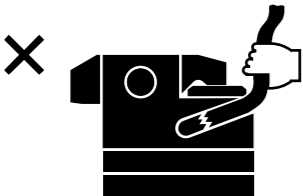

**Notes on Handling**

- 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.



- 5) When changing a die width, 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 (6)" on P.085 for the allowable protrusion amount.
- 6) 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.



※ Please refer to P.203 for common caution.
 • Speed Control Circuit of Hydraulic Cylinder & Notes
 • Maintenance / Inspection
 • Warranty

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

# Hydraulic Unit

2 ℓ Tank

Model CP

Model CR



## Air-Powered Hydraulic Unit

### 2 ℓ Tank for Space-Saving

CP/CR Unit is the united type of CB/CD Pump Unit and BC Non-Leak Valve Unit.

Suitable for hydraulic source of automatic clamps and die lifters.

#### Specifications

Model No.		CP20M1	CP20N1	CR2M31	CR2N31
Working Hydraulic Pressure		25 MPa			
Withstanding Pressure		37 MPa			
Tank Capacity		2 : 2 ℓ ( Actual Amount for Use 1.1 ℓ )			
Operating Temperature		0 ~ 70 °C			
Use Frequency		20 Cycles / Day or less Pressure Rising Time : 2.5 min. / Cycle or less			
Main Components	Pump	Model No.	AB7000-□		AD7300-□
		Set Discharge Pressure	25 MPa	22.5 MPa	25 MPa
		Discharge Volume Under No Load	1.36 ℓ /min	1.32 ℓ /min	4.00 ℓ /min
		Set Air Pressure	0.45 MPa	0.41 MPa	0.45 MPa
		Air Consumption	max. 0.4 m <sup>3</sup> (Normal)/min		
	Suction Filter	Model No.	JF1030		
		Filtration Degree	174 μm (100 Mesh)		
	Non-Leak Valve	Model No.	BA5011-0	BA5011-0	BA5011-0
			BA5R11-0	BA5R11-0	BA5R11-0
	Pressure Switch (for Clamp)	Model No.	JBA2700-0G		

- Notes : 1. If hydraulic oil with viscosity grade higher than listed on Hydraulic Fluid List (ISO-VG-32 or equivalent), action time will be longer.  
2. If using it at low temperature action time will be longer because of high viscosity of hydraulic oil.  
3. Be sure to set an automatic drain air filter when air contains a large amount of moisture, or air supplying pipe is located at the end.  
4. When setting a pressure gauge to hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge in order to prevent damage caused by pressure surging.  
5. Provide enough space at the bottom of the unit in consideration of hydraulic oil change.  
(Tank cleaning and suction strainer tightening become easier.)

#### Model No. Indication

C P 2 0 M 1 - C C D - 1 0 - □ □  
1 2 3 4 5 6 7 8 9

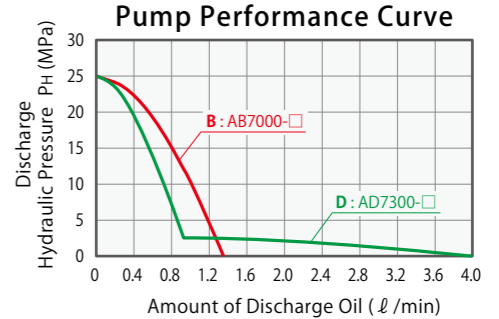
#### 1 Pump (Amount of Discharge Oil)

- P : AB Pump  
R : AD Pump

#### 2 Tank Capacity

- 2 : 2 ℓ (Actual Amount for Use 1.1 ℓ)

※ Please refer to Model CP□/CQ□ (P.093) for 5 ℓ /10 ℓ Tank.



#### 3 Working Pressure Code

When selecting 1 Pump P

- OM : 25MPa Supply Air Pressure=0.45MPa No Pressure Relief Valve  
ON : 25MPa Supply Air Pressure=0.41MPa With Pressure Relief Valve※2 ※3

When selecting 1 Pump R

- M3 : 25MPa Supply Air Pressure=0.45MPa No Pressure Relief Valve  
N3 : 25MPa Supply Air Pressure=0.41MPa With Pressure Relief Valve※2 ※3

#### 4 Design No.

- 1 : Revision Number

#### 5 Circuit Symbol ※ Please contact us for other types of circuits.

- C : For Clamp Single Solenoid Valve (Normal Open)  
D : For Die Lifter Single Solenoid Valve (Normal Close)  
U : For Clamp Double Solenoid Valve  
V : For Die Lifter Double Solenoid Valve  
G : For Clamp Single Solenoid Valve (Normal Open)※4  
H : For Die Lifter Single Solenoid Valve (Normal Close)※4  
PP : For Double Acting Clamp Double Solenoid Valve (2 Stations)  
R : Pressure Relief Valve ※2 ※3

- Notes : ※2. Select the hydraulic unit with pressure relief valve when using hydraulic clamps under high temperature or large temperature change since there may be pressure fluctuation caused by temperature change.  
※3. When choosing 3 Pressure Code ON, N3 : with pressure relief valve, please select R : Pressure Relief Valve at 5 Circuit Symbol after circuit symbol which requires pressure relief valve.  
(Ex.) When choosing three circuits C, C, D  
With three pressure relief valves on every circuit : CP20N1-CRCRDR-□-□  
With pressure relief valves only on C circuits : CP20N1-CRCRD-□-□  
No pressure relief valve on circuits : CP20M1-CCD-□-□  
※4. Please select 5 Circuit Symbol G, H only when using it with Circuit Symbol U.

#### 6 Control Voltage

- 1 : AC 100 V 4 : AC 220 V  
2 : AC 200 V 5 : DC 24 V  
3 : AC 110 V

#### 7 Fluid Code

- 0 : General Hydraulic Oil (Equivalent to ISO-VG-32)  
G : Water-Glycol (Tank is made of steel.)  
S : Silicon Oil

※ For fluids other than described above, please contact us.

#### 8 Option

- Blank : Standard (Air Regulator)  
D : With Filter Regulator (Auto-Drain Type)  
G : With Pressure Gauge (For Primary Pressure)  
H : With Piping Block (PH Port)  
Q : With Oil Level Switch

※ Please contact us for the details of option D, G, H and Q.

#### 9 Unit of Pressure Gauge

- Blank : MPa (Standard)  
N : PSI (used only in USA)/ NPT-Thread Fitting  
P : PSI (used only in USA)/ Rc-Thread Fitting

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR

CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

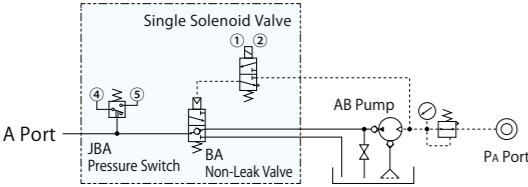
Operational  
Control Panel

YP  
YAA

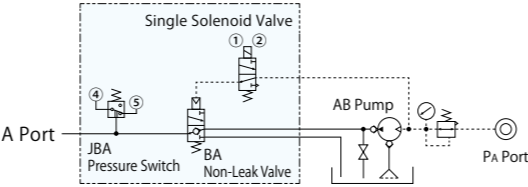
**Circuit Symbol / Main Circuit Examples** ※Please contact us for other circuits.

Circuit Symbol	Circuit Type (For Reference)	Number of Circuits	BA Valve Number of Connections	Air Solenoid Valve	Pressure Relief Valve	Pressure Switch
<b>C</b>	Clamp Circuit	1	1	Single Solenoid	—	○
<b>CR</b>		1	1	Single Solenoid	○	○
<b>CC</b>		2	2	Single Solenoid	—	○
<b>CRCR</b>		2	2	Single Solenoid	○	○
<b>U</b>		1	1	Double Solenoid	—	○
<b>PP</b>	Die Lifter Circuit	1	2	Double Solenoid	—	○
<b>D</b>		1	1	Single Solenoid	—	○
<b>V</b>		1	1	Double Solenoid	—	○

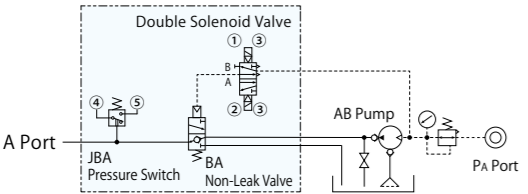
**C** Single Solenoid Valve for Clamp (Normal Open)



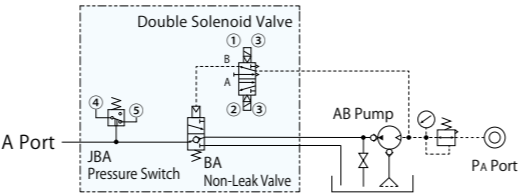
**D** Single Solenoid Valve for Die Lifter (Normal Close)



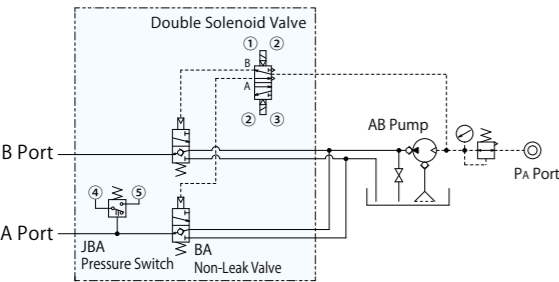
**U** Double Solenoid Valve for Clamp



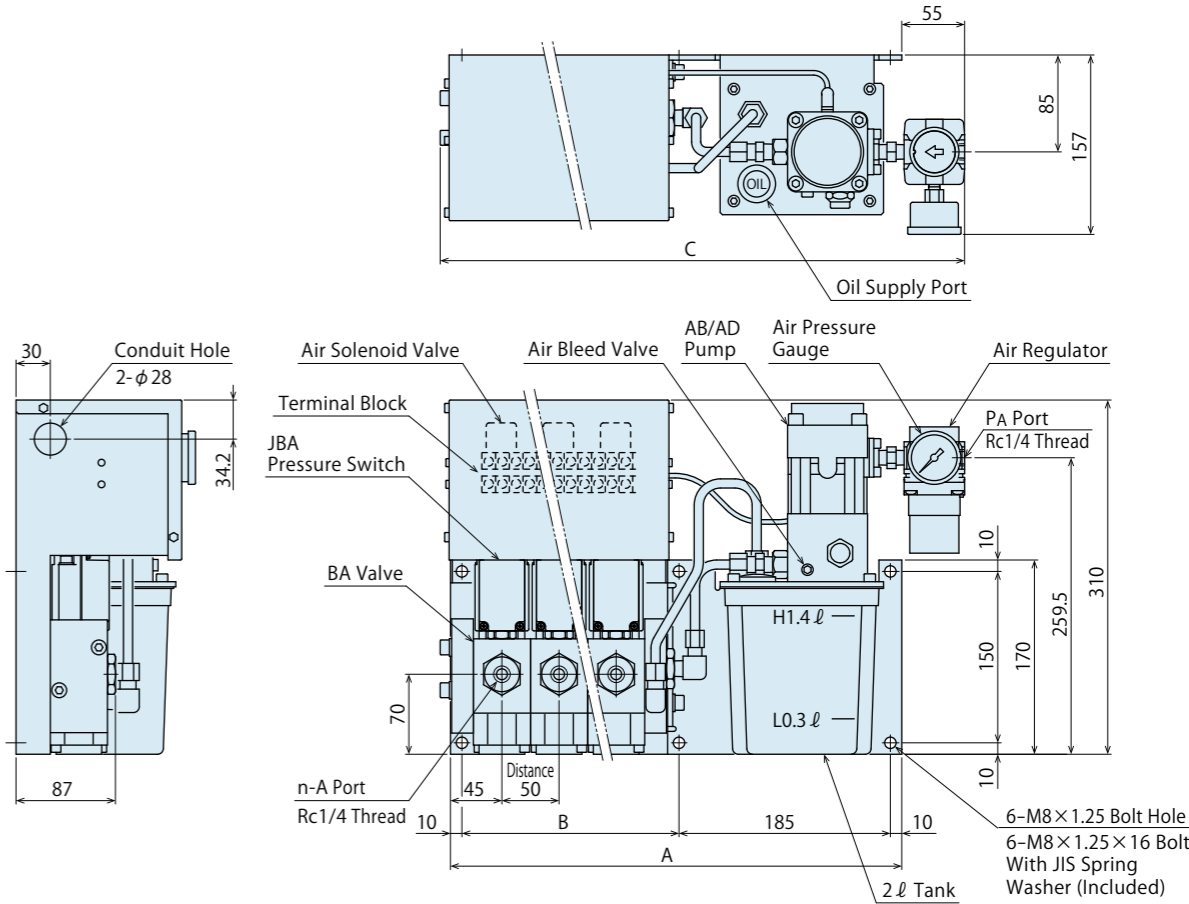
**V** Double Solenoid Valve for Die Lifter



**PP** Double Solenoid Valve for Double-Acting Clamp



**External Dimensions : CP / CR**



		(mm)			
Valve Number of Connection (n)		1 Connection	2 Connections	3 Connections	4 Connections
A		295	345	395	445
B		90	140	190	240
C		359	409	459	510
Weight	CP	12.5	15	17.5	20
	CR	13.5	16	18.5	21

Note :  
1. Please contact us for the specifications other than the drawing above :  
water-glycol type, with filter regulator, with hydraulic pressure switch, with piping block, with oil level switch.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

# Hydraulic Unit

5 ℓ / 10 ℓ Tank

Model CPB /CPD/CPC/CPE

Model CQC/CQE



## Converts Factory-Compressed Air into Hydraulic Pressure

Compact Hydraulic Unit Composed of Pump, Non-Leak Valve, Pressure Relief Valve, Pressure Switch and Oil Tank

### Applicable Product Models

GA GD GBB GBC GBE GBF GBP GBQ GHA  
RA RQA

### Energy Saving

The pump drives (consumes the air pressure) only during pressurization. After the pressurization, air pressure and hydraulic pressure reach equilibrium and the pump stops. Air consumption is zero after the pressurization is completed.

### Maintains Hydraulic Pressure with Non-Leak Valve

Non-leak valve (BA valve) maintains hydraulic pressure even when air supply is stopped. This prevents a die fall.

### Maintains Set Pressure with Pressure Relief Valve ※ Only when selecting the pressure relief valve.

Set pressure : 25MPa is maintained by Pressure Relief Valve (BR valve) even when hydraulic pressure increases during press machine operation.

### Pressure Supply when Hydraulic Pressure Decreases

The pump drives and supplies pressure when the hydraulic pressure in the circuit decreases because of temperature reduction etc. This ensures a constant clamping force.

### A Wide Range of Variations

Select a tank from 5 ℓ and 10 ℓ and a pump from four variations for the most suitable hydraulic unit according to the clamp system.

### Model No. Indication

C P B M 0 0 0 - 2GH - 1 -

#### 1 Unit

P : For Small/Medium Clamp (5 ℓ Tank)  
Q : For Large Clamp (10 ℓ Tank)

Notes :

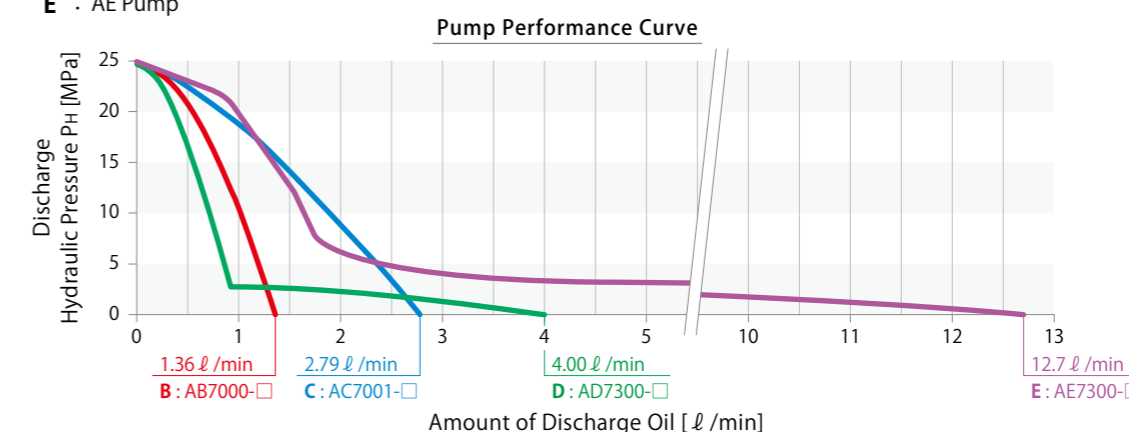
- Only 2 Pump Model C : AC pump and E : AE pump can be installed on Q : For Large Clamp Unit (10 ℓ Tank).
- Please refer to Model CP/CR (P.089) for 2 ℓ Tank.

#### 2 Pump Model

B : AB Pump  
D : AD Pump  
C : AC Pump  
E : AE Pump

Note :

- B : AB Pump and D : AD Pump can be selected only when selecting 1 Unit P : For Small/Medium Clamp (5 ℓ Tank).



#### 3 Pressure Code

M : Working Pressure 25MPa, Pressure Switch Set Pressure INC. 17.6MPa, DEC. 2.94MPa  
N : Working Pressure 25MPa, Pressure Switch Set Pressure INC. 17.6MPa, DEC. 2.94MPa with Pressure Relief Valve<sup>※1</sup>

#### 4 Fluid Code

0 : General Hydraulic Oil  
G : Water•Glycol (Iron Tank)  
S : Silicon Oil  
F : Fatty Acid Ester

#### 5 Design No.

0 : Revision Number

#### 6 Circuit Symbol (Indicate along with the number of circuits.)

G : For Clamp Single Solenoid Valve  
H : For Die Lifter Single Solenoid Valve  
PP : For Double-Acting Clamp Double Solenoid Valve (2 stations)  
R : With Pressure Relief Valve<sup>※1</sup>

Notes :<sup>※1</sup> Select the hydraulic unit with pressure relief valve when using hydraulic clamps under high temperature or large temperature change since there may be pressure fluctuation caused by temperature change.  
1. For R : Pressure Relief Valve, 3 Pressure Code is "N".

#### 7 Voltage Code

1 : AC100V (50/60Hz)  
2 : AC200V (50/60Hz)  
3 : AC110V (50/60Hz)  
4 : AC220V (50/60Hz)  
5 : DC24V

#### 8 Option

Blank : Standard  
C : +Common  
D : Digital Pressure Sensor  
E : Without Filter Regulator  
F : Manual-Drain Filter Regulator  
G : With Primary Pressure Gauge  
H : With Piping Block on the Left  
J : With Air Regulator  
K0 : With Pressure Gauge for Each Circuit (Without Primary Pressure Gauge)  
K1 : With Color Displayed Pressure Gauge for Each Circuit (Without Primary Pressure Gauge)  
KG0 : With Pressure Gauge for Each Circuit (With Primary Pressure Gauge)  
KG1 : With Color Displayed Pressure Gauge for Each Circuit (With Primary Pressure Gauge)  
L : With Pressure Switch Light  
N : Piping Port NPT Thread, Pressure Gauge in both PSI/MPa<sup>※2</sup>  
P : Pressure Gauge in both PSI/MPa  
Q0 : With Oil Level Switch (ON when Oil Level Drops)  
Q1 : With Oil Level Switch (OFF when Oil Level Drops)  
T : Iron Tank (CP□ : only 5 ℓ tank can be selected.)<sup>※3</sup>

Notes :

- Dimensions for 8 Option N : Piping Port NPT Thread in the specification sheet and other documents are written in inches.
- Iron Tank is the standard option for CQ□ : 10 ℓ Tank.
- Please contact us for specifications and external dimensions for these options.
- The external dimensions for 5 circuits and 6 circuits are different. Please contact us for further information.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

Specifications

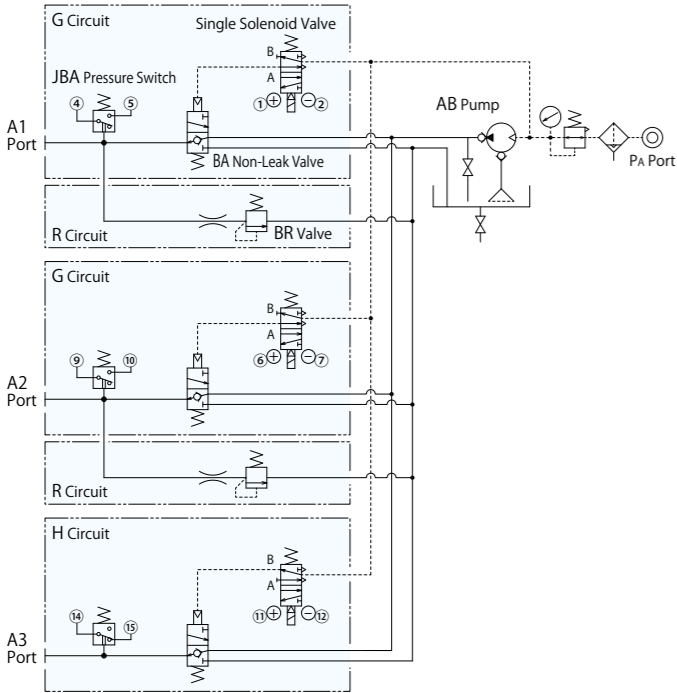
Model No.		CPBM	CPBN	CPDM	CPDN	CPCM	CPCN	CPEM	CPEN	CQCM	CQCN	CQEM	CQEN	
Working Hydraulic Pressure	MPa	25												
Withstanding Pressure	MPa	37												
Tank Capacity	ℓ	5 ℓ (Actual Amount for Use 3.7 ℓ : H.L.5 ℓ -L.L.1.3 ℓ ) ※1									10 ℓ (Actual Amount for Use 7 ℓ : H.L.10 ℓ -L.L.3 ℓ )			
Operating Temperature	℃	0 ~ 70												
Use Frequency		20 Cycles / Day or less    Pressure Rising Time : Less than 2.5 min. / Cycle												
Main Components	Pump	Model No.	AB7000-□		AD7300-□		AC7001-□		AE7300-□		AC7001-□		AE7300-□	
		Set Discharge Pressure    MPa	25	22.5	25	22.5	25	22.5	25	22.5	25	22.5	25	22.5
		Discharge Oil under No Load    ℓ /min	1.36	1.32	4.00	3.74	2.79	2.70	12.7	12.5	2.79	2.70	12.7	12.5
		Set Air Pressure    MPa	0.45	0.41	0.45	0.41	0.47	0.43	0.47	0.43	0.47	0.43	0.47	0.43
		Air Consumption    m³(normal)/min	max. 0.4		max. 0.4		max. 1.0		max. 1.0		max. 1.0		max. 1.0	
	Suction Filter	Model No.	JF1030		JF1030		JF1030		JF1040		JF1030		JF1040	
		Filtration Degree	174 μm (100 Mesh)											
	Non-Leak Valve	Model No.	BA5011-0	BA5011-0 BA5R11-0	BA5011-0	BA5011-0 BA5R11-0	BA5011-0	BA5011-0 BA5R11-0	BA5011-0 -Z00101 BA5R11-0 -Z00101	BA5011-0 -Z00101 BA5R11-0 -Z00102	BA5001-0	BA5001-0 BA5R01-0	BA5001-0 -Z00107 BA5R01-0 -Z00108	BA5001-0 -Z00107 BA5R01-0 -Z00108
		Pressure Switch (For Clamp)	Model No.	JBA2700-0G										
	Pressure Switch (For Die Lifter)	Operation Mode/Set Pressure MPa	Pressure Increase Detection / INC. 17.6											
		Model No.	JBA0700-0G											
	Pressure Relief Valve	Operation Mode/Set Pressure MPa	Pressure Decrease Detection / DEC. 2.94											
		Model No.	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0
	Set Pressure    MPa	-	25 + <sub>0</sub> <sup>2</sup>	-	25 + <sub>0</sub> <sup>2</sup>	-	25 + <sub>0</sub> <sup>2</sup>	-	25 + <sub>0</sub> <sup>2</sup>	-	25 + <sub>0</sub> <sup>2</sup>	-	25 + <sub>0</sub> <sup>2</sup>	

Notes :

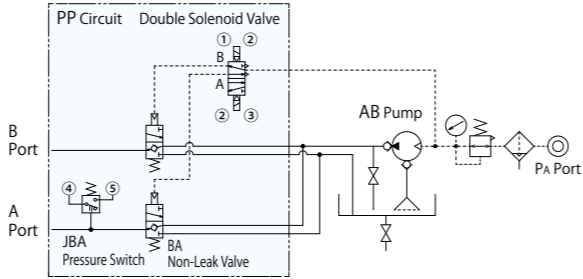
- ※ 1. Iron Tank Capacity is 5 ℓ (Actual Amount for Use 2.9 ℓ : H.L. 5.1 ℓ -L.L. 2.2 ℓ ).
- If hydraulic viscosity is higher than specified, action time will be longer. Please use hydraulic oil equivalent to ISO-VG-32.
  - If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
  - When setting a pressure gauge to a hydraulic circuit, install a damper or use an oil-filled (glycerin) pressure gauge in order to prevent damage caused by pressure surging.
  - Provide enough space at the top of the unit taking into consideration the maintenance of the pump.

Circuit Symbol

- Circuit symbol in case of CPBN0□0-2GRH-5.



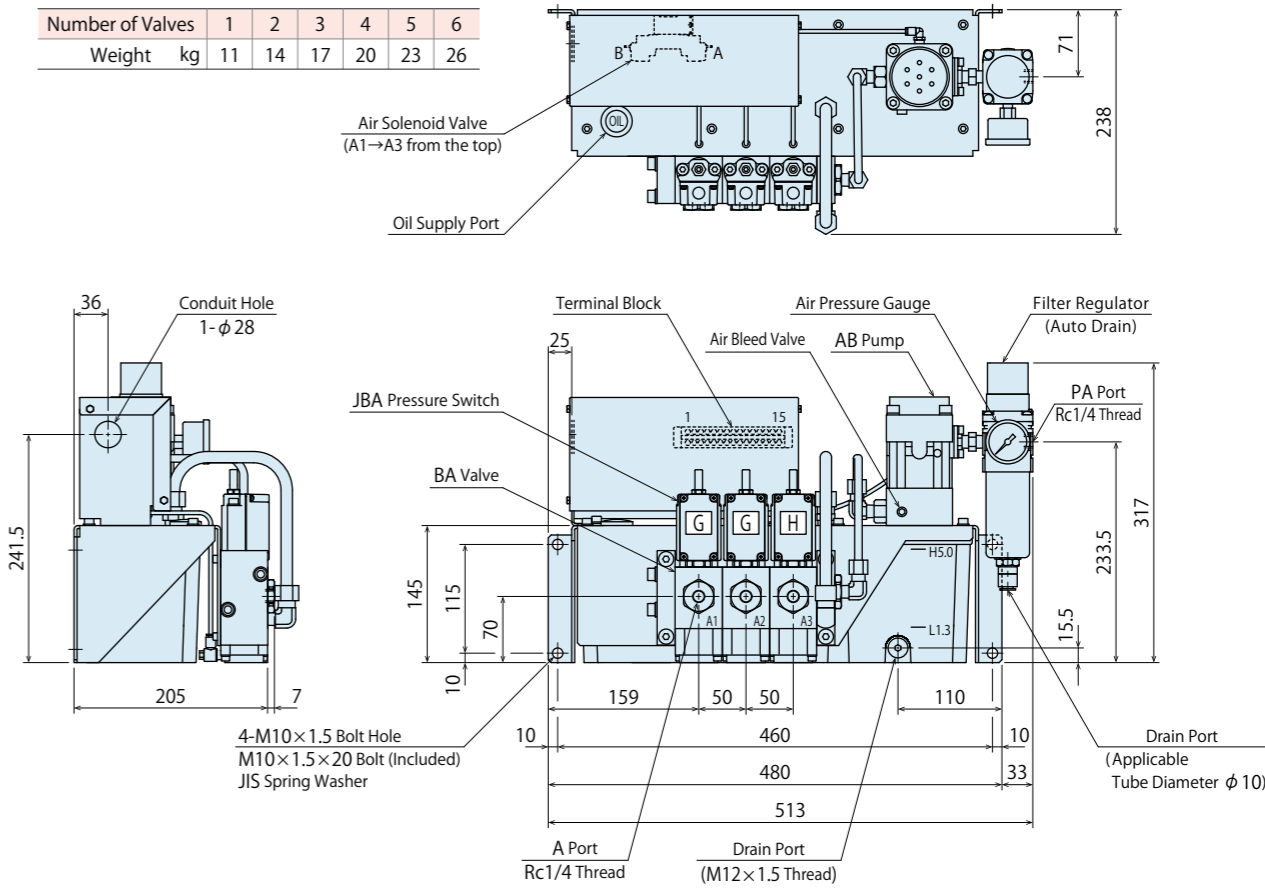
- Circuit symbol in case of CPBN0□0-PP-5.



External Dimensions : CPB

※ This drawing shows CPBM000-2GH standard model.  
Please contact us for external dimensions for options.

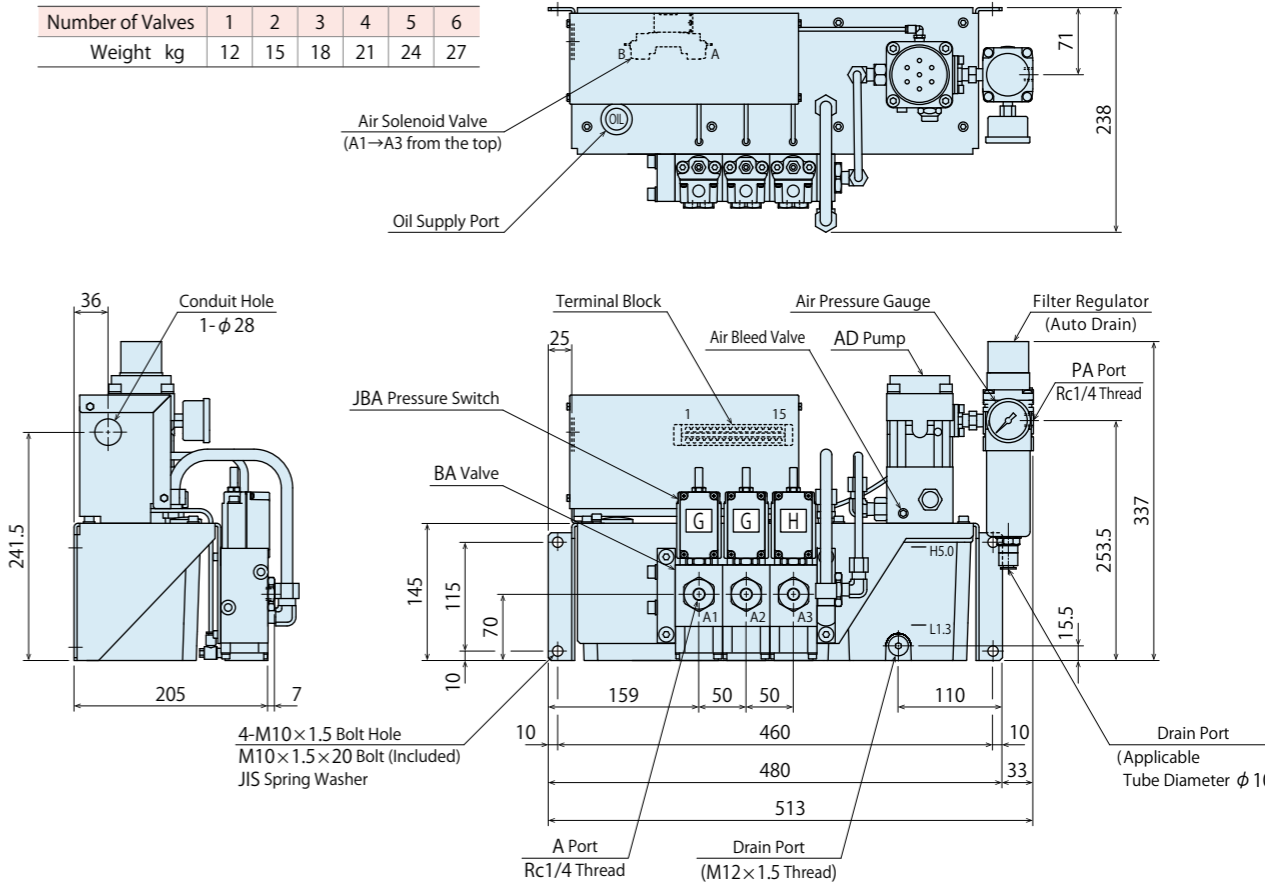
Number of Valves	1	2	3	4	5	6
Weight	kg 11	14	17	20	23	26



External Dimensions : CPD

※ This drawing shows CPDM000-2GH standard model.  
Please contact us for external dimensions for options.

Number of Valves	1	2	3	4	5	6
Weight	kg 12	15	18	21	24	27



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
**CPB**  
**CPD**  
**CPC**  
**CPE**  
**CQC**  
**CQE**

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

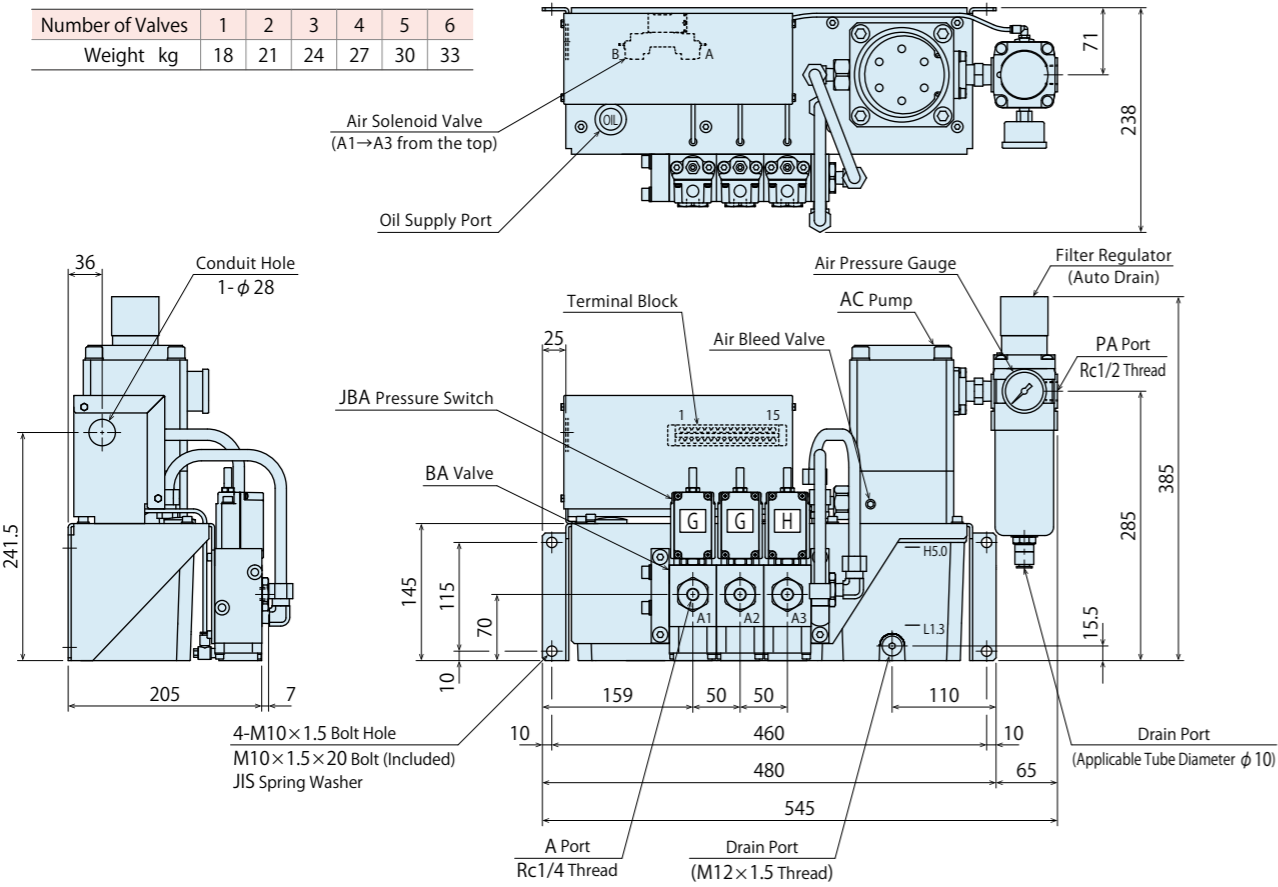
Operational  
Control Panel

YP  
YAA

External Dimensions : CPC

※ This drawing shows CPCM000-2GH standard model.  
Please contact us for external dimensions for options.

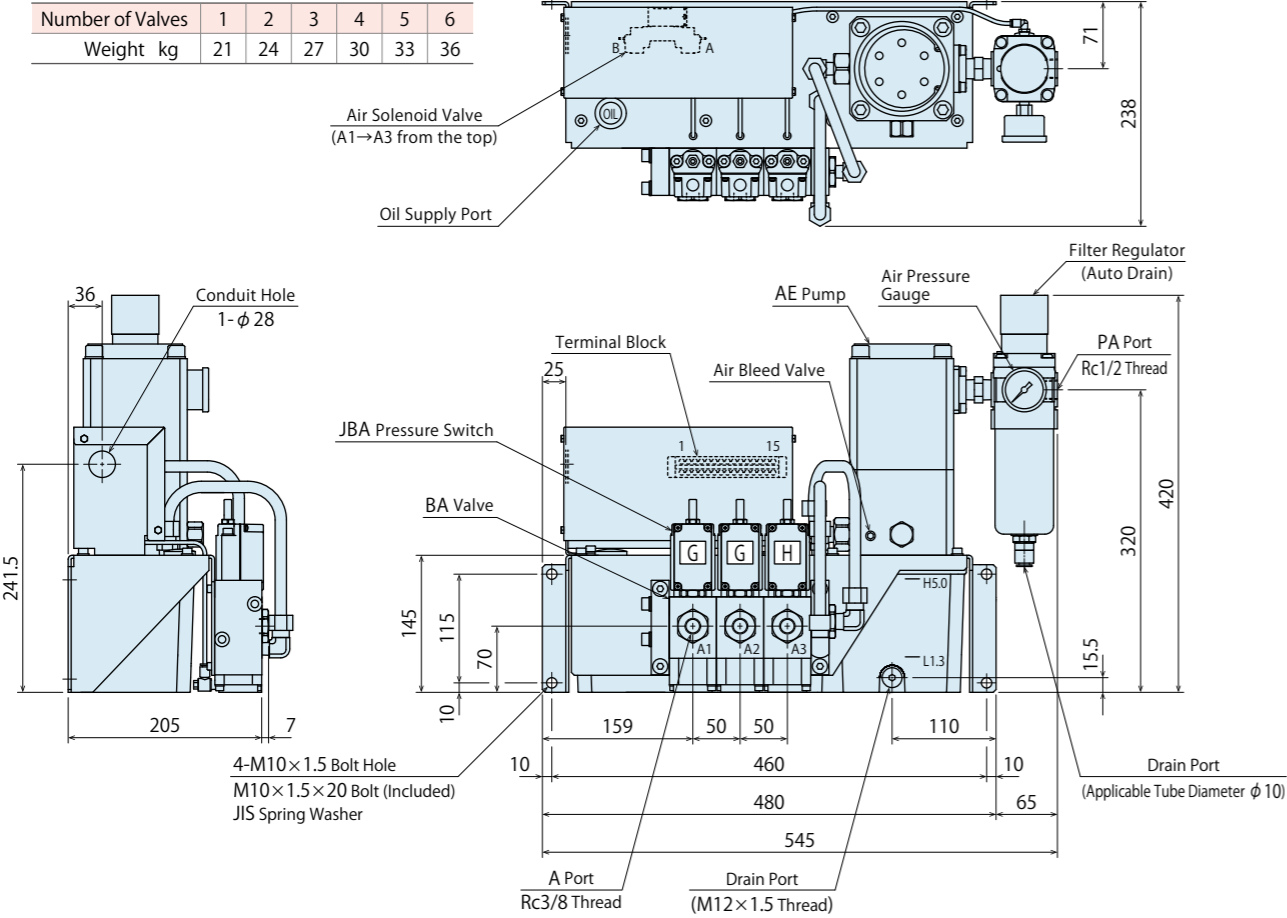
Number of Valves	1	2	3	4	5	6
Weight kg	18	21	24	27	30	33



External Dimensions : CPE

※ This drawing shows CPEM000-2GH standard model.  
Please contact us for external dimensions for options.

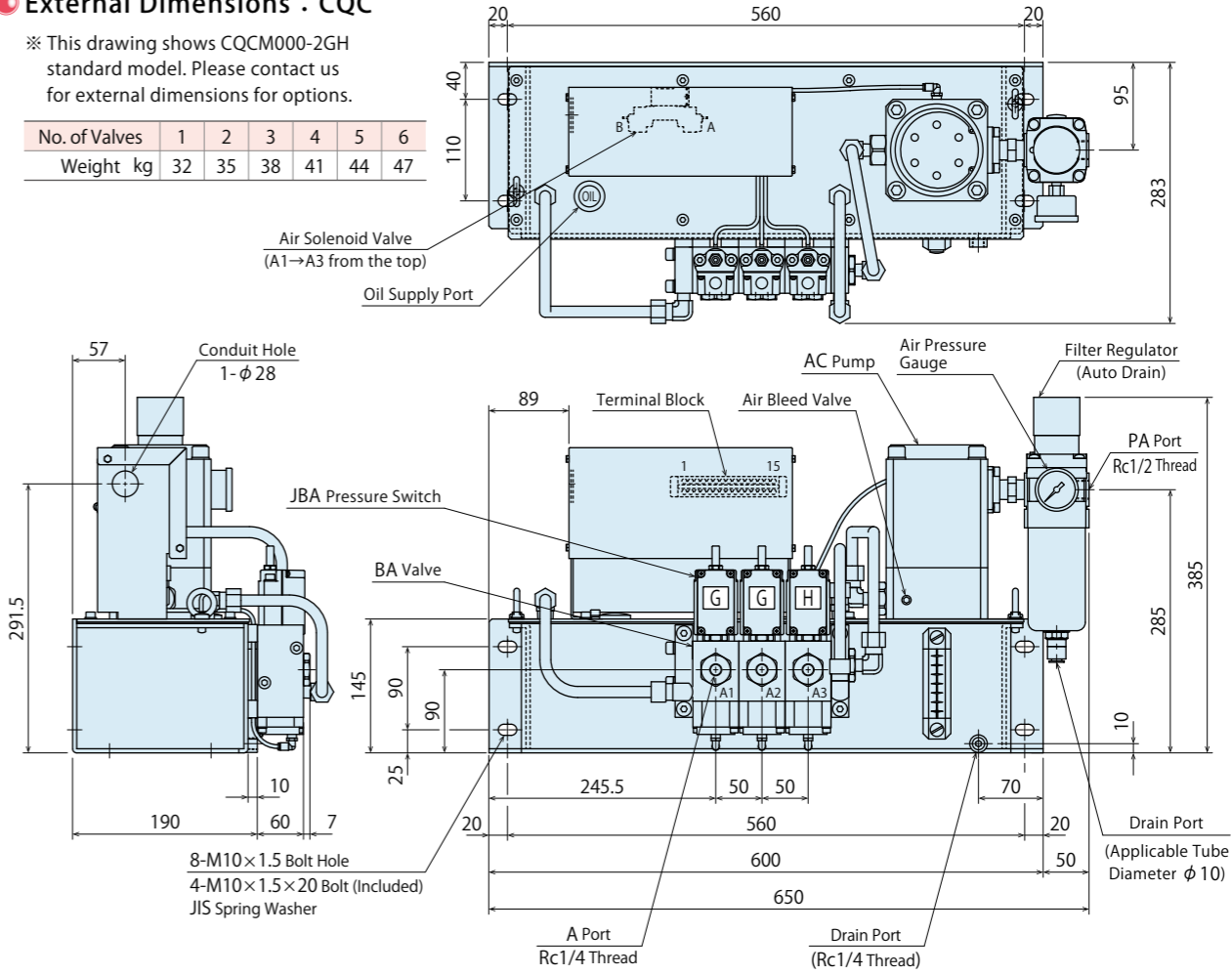
Number of Valves	1	2	3	4	5	6
Weight kg	21	24	27	30	33	36



External Dimensions : CQC

※ This drawing shows CQCM000-2GH standard model. Please contact us for external dimensions for options.

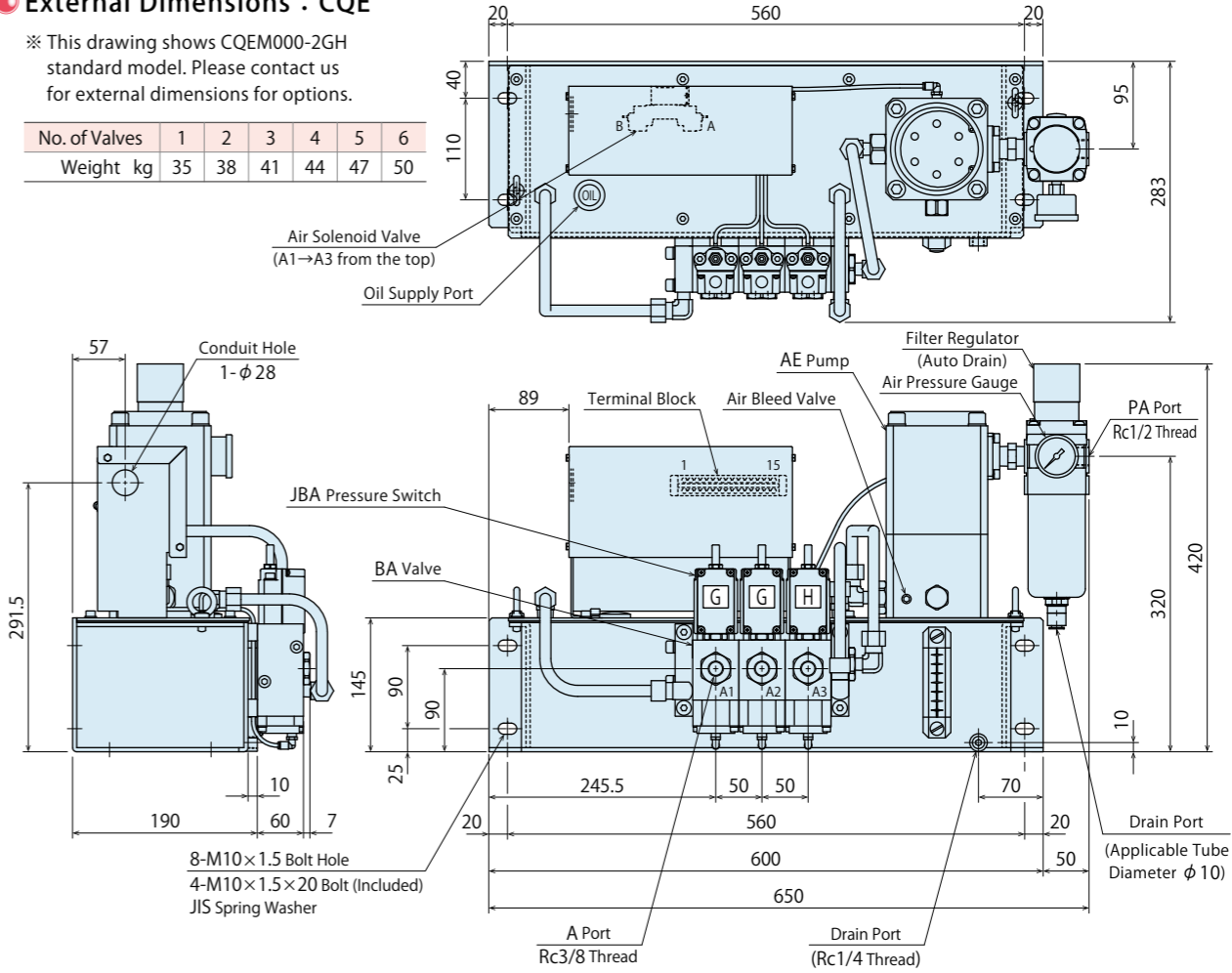
No. of Valves	1	2	3	4	5	6
Weight kg	32	35	38	41	44	47



External Dimensions : CQE

※ This drawing shows CQEM000-2GH standard model. Please contact us for external dimensions for options.

No. of Valves	1	2	3	4	5	6
Weight kg	35	38	41	44	47	50



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

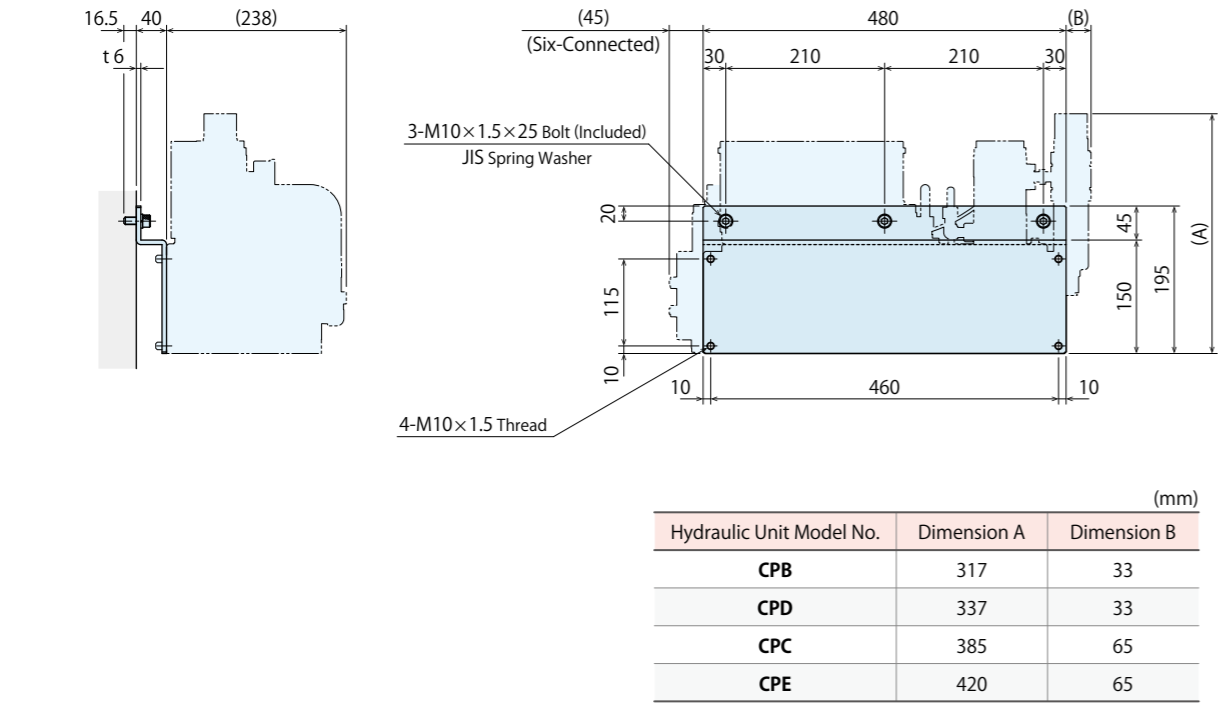
Valve Unit

BC  
BH  
MV

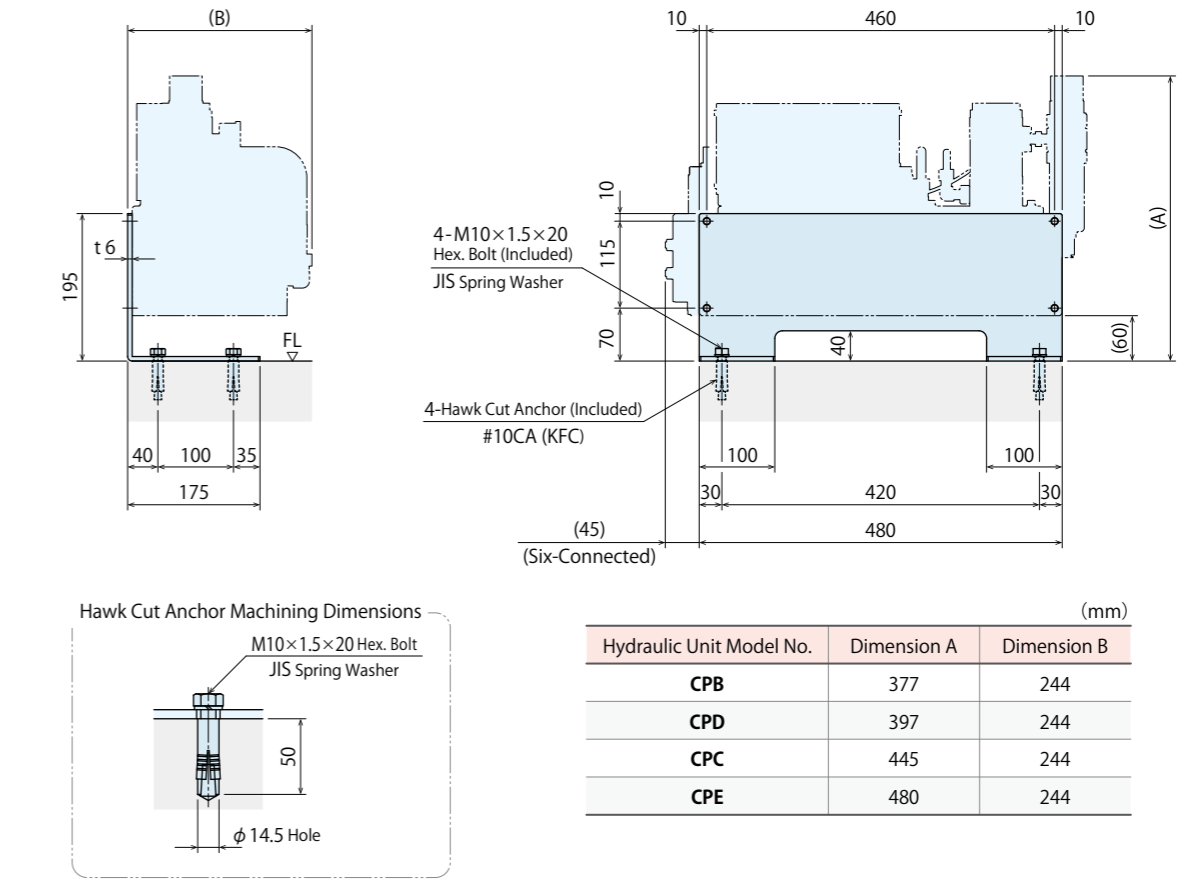
Operational  
Control Panel

YP  
YAA

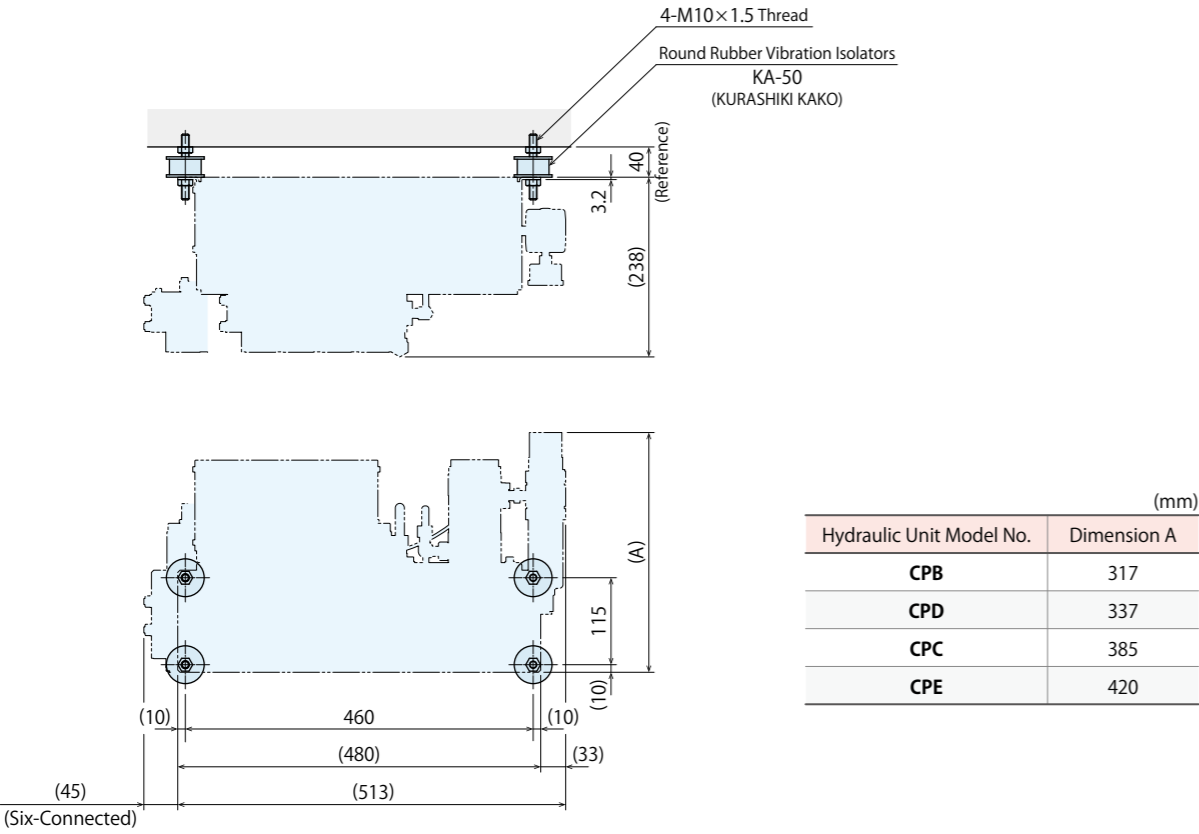
External Dimensions : CPSH000 (Wall Mounted)



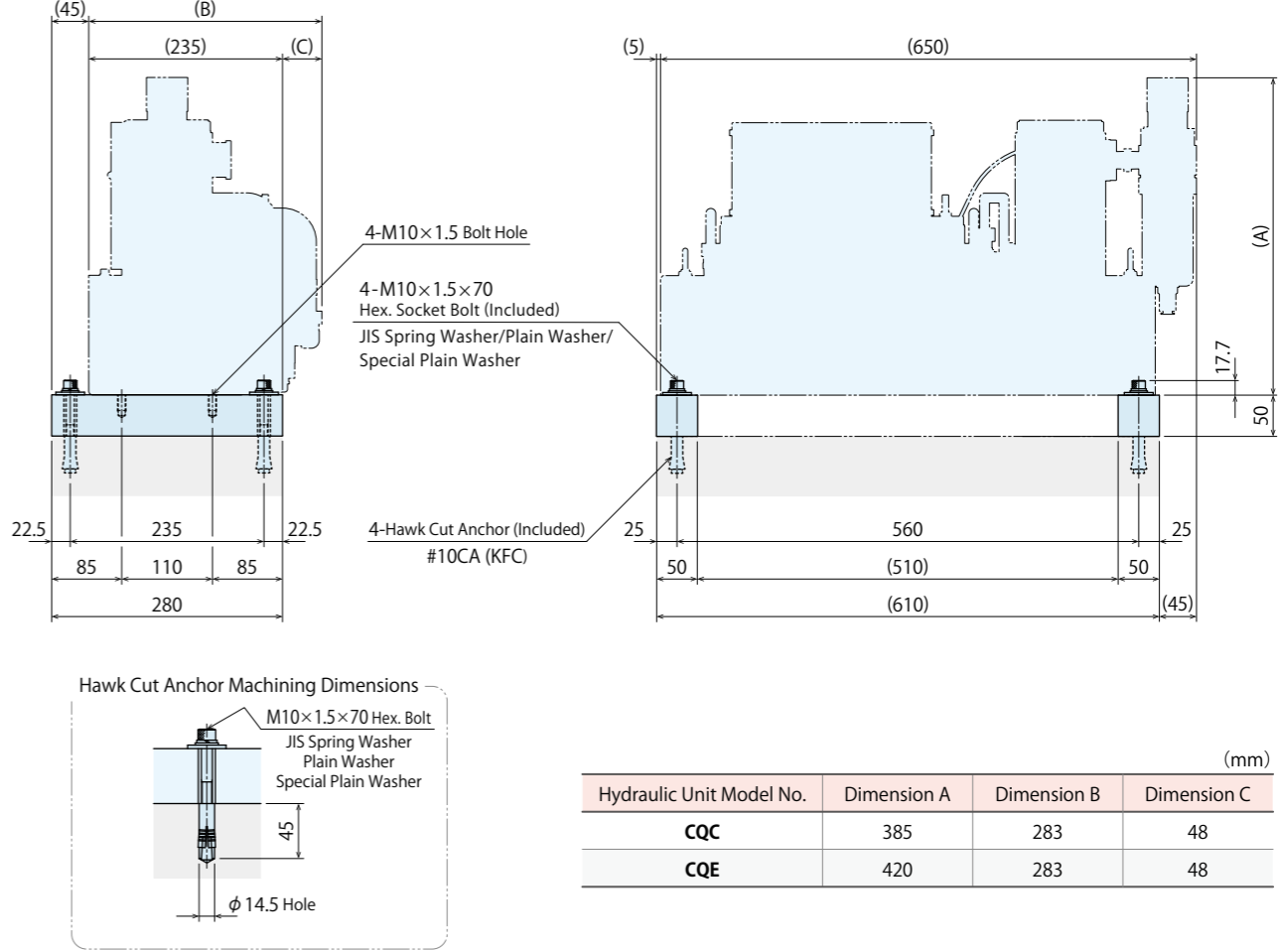
External Dimensions : CPSV000 (Floor Mounted)



External Dimensions : CPSR000 (Anti-Vibration Rubber)



External Dimensions : CQSV000 (Floor Mounted)



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

# Pump Unit

Model CB  
Model CD  
Model CC



Pump unit used in combination with BC / BH non-leak hydraulic valve unit.

Pump unit easily generates hydraulic pressure using factory compressed air.

## • Energy Saving

The pump drives only during pressurization. After the pressurization, air pressure and hydraulic pressure balance and the pump stops. Air consumption is zero after the pressurization is completed.

## • Prevention of Hydraulic Pressure Reduction

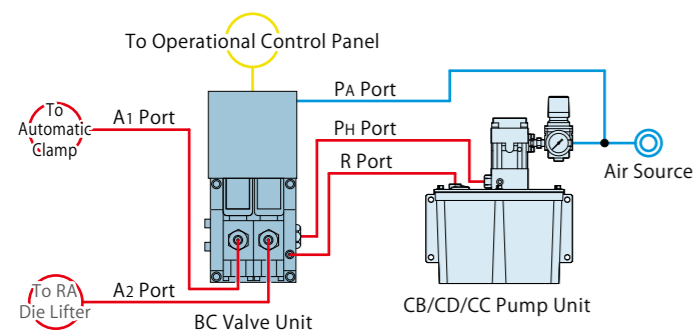
When hydraulic pressure decreases, a balanced-type hydraulic and pneumatic pump immediately supplies additional hydraulic pressure.

## • Free Layout

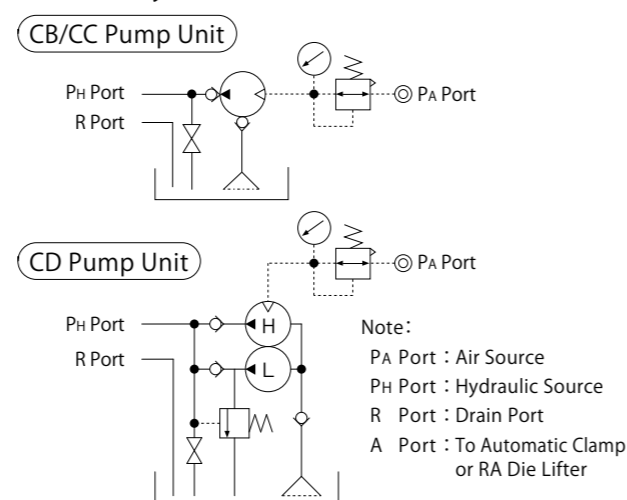
Hydraulic pressure is easily supplied and controlled with BC/BH Non-Leak Valve Unit. Since the pump unit and non-leak valve unit are separated, it is more free to layout than the united type CP/CR/CP□/CQ□ unit.

## • Application Example

The drawing shows when controlling automatic clamp and RA die lifter separately by using with 2-circuit BC valve unit.



## • Circuit Symbol



## Model No. Indication

C D 2 M3 0 - 0 - □ □  
1 2 3 4 5 6 7

### 1 Pump (Amount of Discharge Oil)

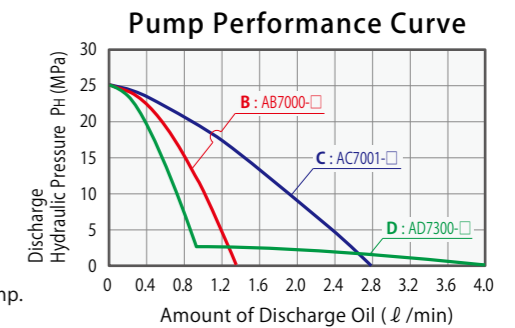
B : AB Pump  
D : AD Pump  
C : AC Pump

### 2 Tank Capacity

2 : 2 ℓ (Actual Amount for Use 1.1 ℓ) ※1  
5 : 5 ℓ (Actual Amount for Use 3.1 ℓ)

Note:

※1. 2 Tank Capacity 2 : 2 ℓ is only for 1 Pump B: AB Pump, D: AD Pump.



### 3 Working Pressure Code

In case of 1 Pump B OM : 25MPa Supply Air Pressure = 0.45MPa  
ON : 25MPa Supply Air Pressure = 0.41MPa Compatible with BC Valve Unit with Pressure Relief Valve※2  
In case of 1 Pump D M3 : 25MPa Supply Air Pressure = 0.45MPa  
N3 : 25MPa Supply Air Pressure = 0.41MPa Compatible with BC Valve Unit with Pressure Relief Valve※2  
In case of 1 Pump C OM : 25MPa Supply Air Pressure = 0.47MPa  
ON : 25MPa Supply Air Pressure = 0.43MPa Compatible with BC Valve Unit with Pressure Relief Valve※2

Note:

※2. Select the hydraulic unit with pressure relief valve when using hydraulic clamps under high temperature or large temperature change since there may be pressure fluctuation caused by temperature change.

### 4 Design No.

0 : Revision Number

### 5 Fluid Code

0 : General Hydraulic Oil (Equivalent to ISO-VG-32)  
G : Water-Glycol (Tank is made of steel.)  
S : Silicon Oil

※ Please contact us for fluids other than described above.

### 6 Option

Blank : Standard (Air Regulator)  
D : With Filter Regulator (Auto-Drain Type)  
Q : With Oil Level Switch

※ Please contact us for the details of option D and Q.

### 7 Unit of Pressure Gauge

Blank : MPa (Standard)  
N : PSI (used only in USA)/ NPT-Thread Fitting  
P : PSI (used only in USA)/ Rc-Thread Fitting

## Specifications

Model No.		CB□0M0	CB□0N0	CD□M30	CD□N30	CC50M0	CC50N0	
Working Hydraulic Pressure		25 MPa						
Withstanding Pressure		37 MPa						
Tank Capacity		2 : 2 ℓ ( Actual amount for use 1.1 ℓ ) 5 : 5 ℓ ( Actual amount for use 3.1 ℓ )				5 : 5 ℓ (Actual amount for use 3.1 ℓ )		
Operating Temperature		0 ~ 70 °C						
Use Frequency		20 Cycles / Day or less      Pressure Rising Time : 2.5 min. / Cycle or less						
Main Components	Pump	Model No.	AB7000-□		AD7300-□		AC7001-□	
		Set Discharge Pressure	25 MPa	22.5 MPa	25 MPa	22.5 MPa	25 MPa	22.5 MPa
		Discharge Volume Under No Load	1.36 ℓ /min	1.32 ℓ /min	4.00 ℓ /min	3.74 ℓ /min	2.79 ℓ /min	2.70 ℓ /min
		Set Air Pressure	0.45 MPa	0.41 MPa	0.45 MPa	0.41 MPa	0.47 MPa	0.43 MPa
		Air Consumption	max. 0.4 m <sup>3</sup> (Normal)/min				max. 1.0 m <sup>3</sup> (Normal)/min	
	Suction Filter	Model No.	JF1030					
		Filtration Degree	174 μm (100 Mesh)					

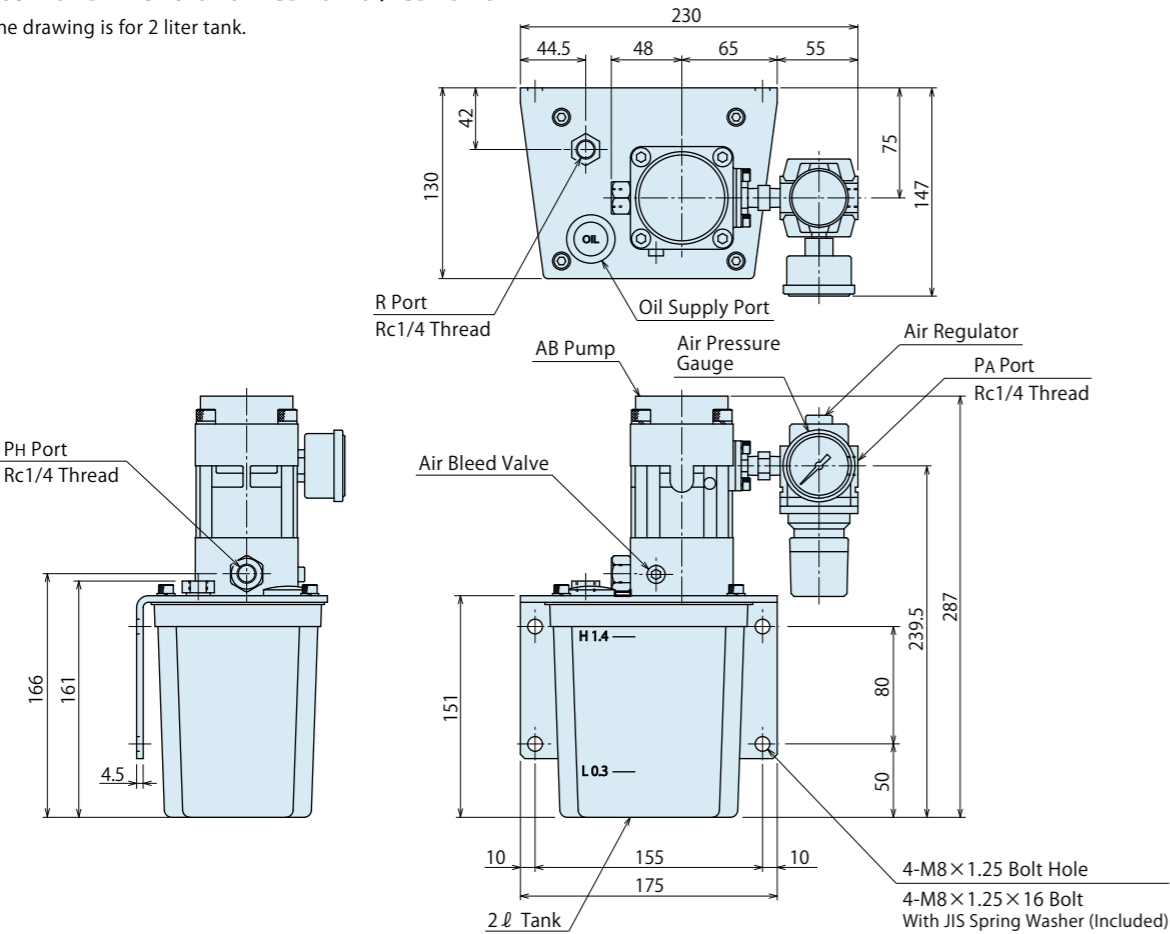
Model No.		CB2□0	CB5□0	CD2□0	CD5□0	CC5□0
Weight	ka	6	7.5	7	8.5	14

Model No.	CB2□0	CB5□0	CD2□0	CD5□0	CC5□0	
Weight	kg	6	7.5	7	8.5	14

- Notes :
1. If viscosity of hydraulic oil is higher than listed on Hydraulic Fluid List (ISO-VG-32 or equivalent), action time will be longer.
  2. If using at low temperature action time will be longer because of high viscosity of hydraulic oil.
  3. Be sure to set an automatic drain air filter when air contains a large amount of moisture, or air supplying pipe is located at the end.
  4. When setting a pressure gauge to hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge in order to prevent damage caused by pressure surging.
  5. Provide enough space at the bottom of the unit to change hydraulic oil. (Tank cleaning and suction strainer tightening become easier.)
  6. This product is not suitable for continuous operation (circulation / open circuit). Please use it for a closed circuit.
  7. A hydraulic valve NOT made by Kosmek cannot stop the pump due to internal leak of the valve, and it will shorten the operational life. Please use a valve made by Kosmek.

External Dimensions : CB20M0 / CB20N0

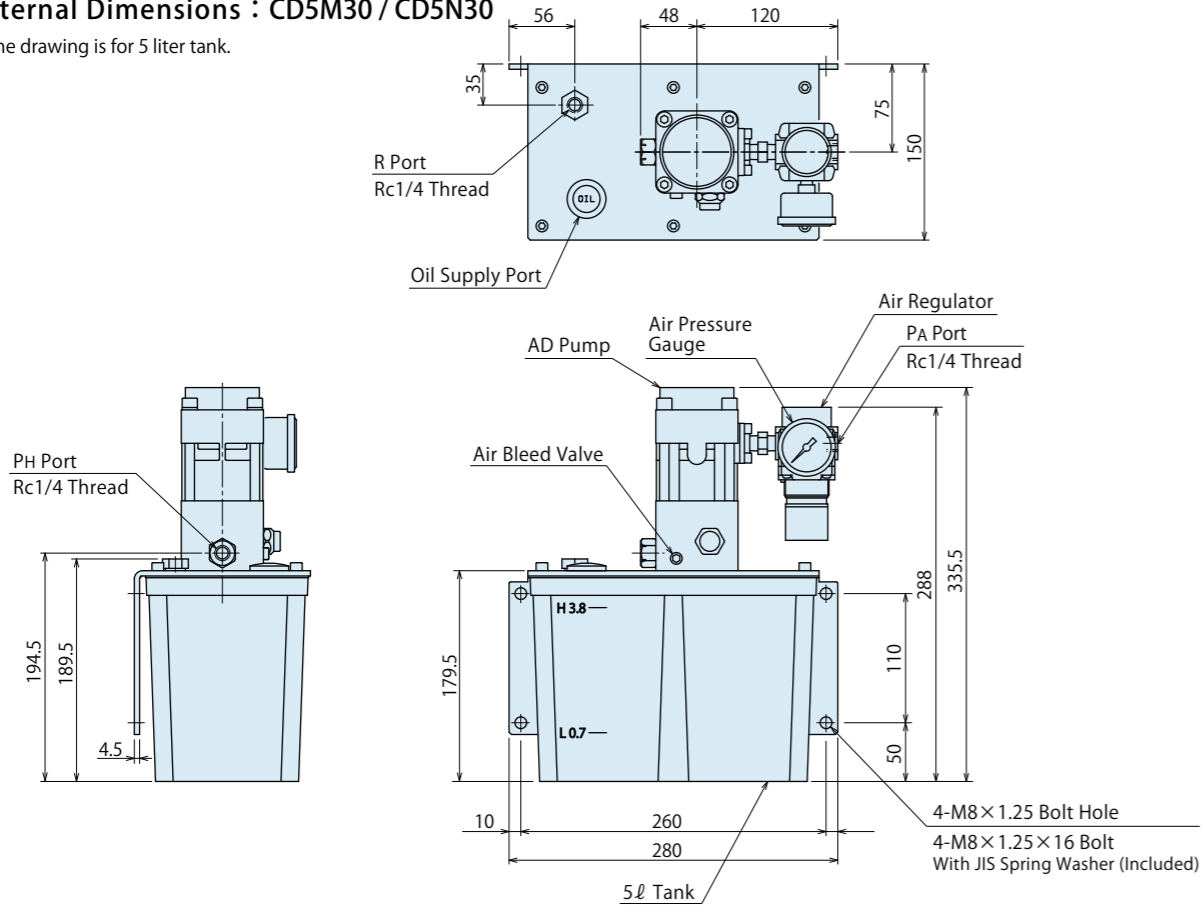
※ The drawing is for 2 liter tank.



Note :  
1. Please contact us for the specification other than the drawing above (5 l tank, water-glycol type, with filter regulator, with oil level switch).

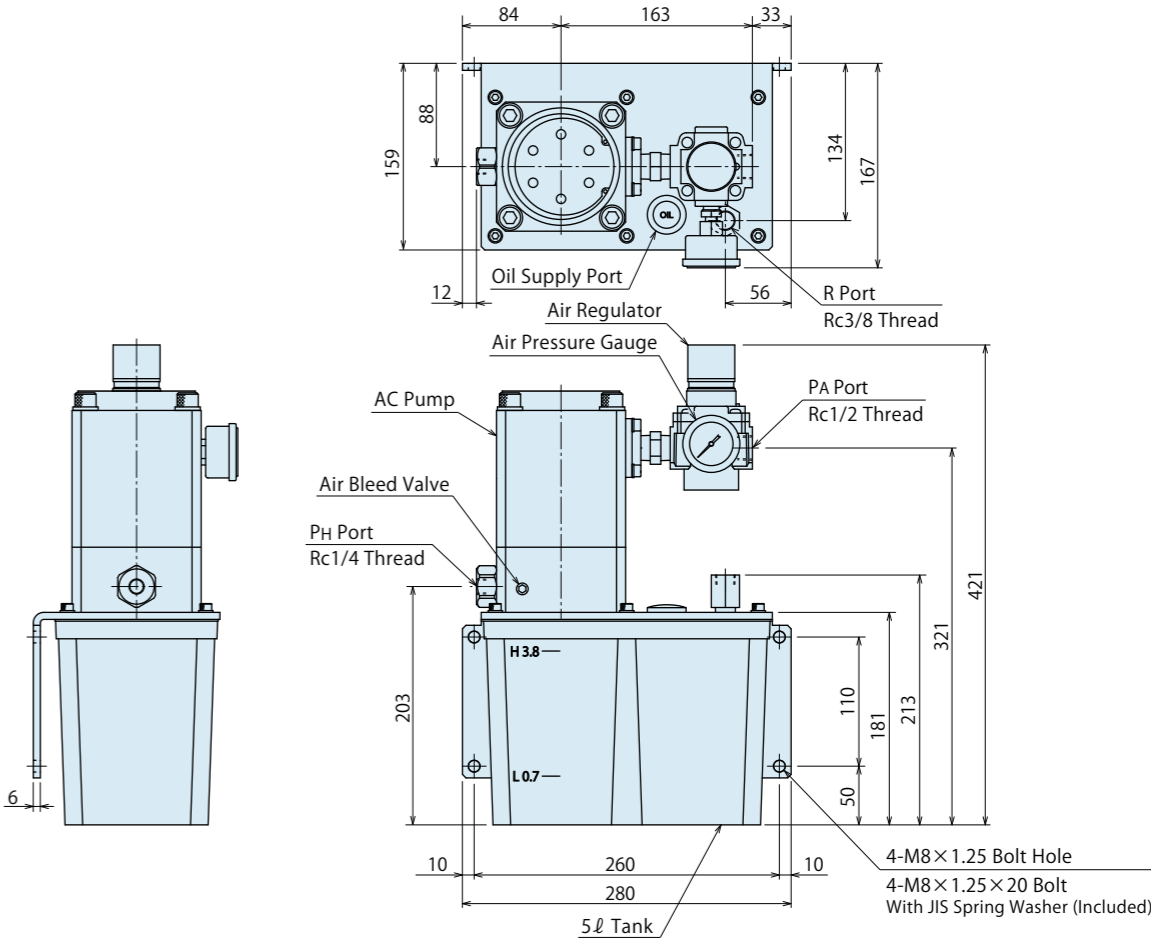
External Dimensions : CD5M30 / CD5N30

※ The drawing is for 5 liter tank.



Note :  
1. Please contact us for the specification other than the drawing above (2 l tank, water-glycol type, with filter regulator, with oil level switch).

External Dimensions : CC50M0 / CC50N0



Note :  
1. Please contact us for the specification other than the drawing above (water-glycol type, with filter regulator, with oil level switch).

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Clamp
GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit
CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit
CB
CD
CC

Valve Unit
BC
BH
MV

Operational Control Panel
YP
YAA

# Non-Leak Valve Unit

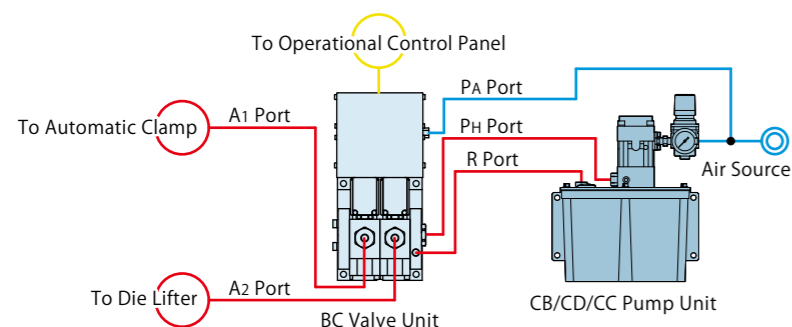
Model BC



Electric control type non-leak hydraulic valve unit.  
Various choices of circuits and combinations.

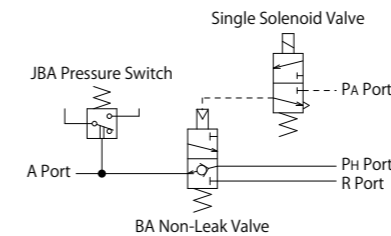
Directional control valve that actuates the non-leak valve by switching internal air solenoid valve with electric control.  
It maintains pressure and prevents a die from falling even when pressure supply is cut from hydraulic pressure source.

- Ensures safety with the pressure switch**  
 The pressure switch detects pressure reduction in case of accident such as hydraulic hose damage, and immediately stops a press machine.
- Maintains the set pressure with the pressure relief valve** ※ Only when selecting pressure relief valve option.  
 Even if oil temperature rises by continuous operation of the press machine, the pressure relief valve maintains the set pressure 25MPa.
- Free Layout**  
 Hydraulic pressure is easily supplied and controlled with CB/CD/CC Pump Unit.  
 Since the pump unit and non-leak valve unit are separated, it is more free to layout than the united type CP/CR/CP□/CQ□ unit.
- Application Example**  
 The drawing shows when controlling automatic clamp and die lifter separately by using with 2-circuit BC valve unit.

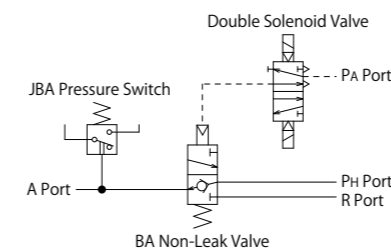


## Circuit Symbol

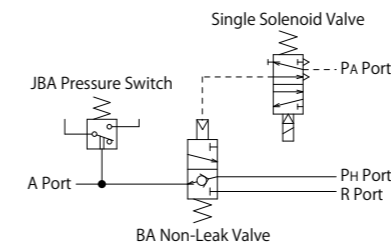
**C** : Single Solenoid Valve for Clamp (Normal Open)  
Clamp locks under non-power distribution.



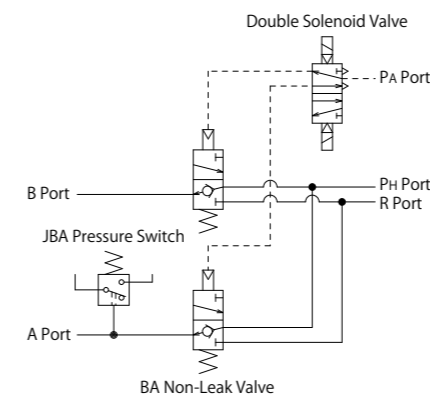
**U** : Double Solenoid Valve for Clamp  
Clamp maintains the condition under non-power distribution.



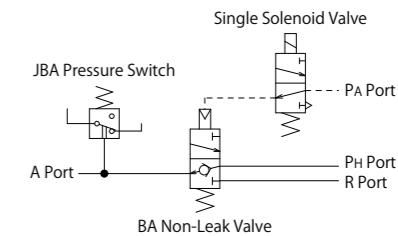
**G** : Single Solenoid Valve for Clamp (Normal Open)  
Clamp locks under non-power distribution.  
Select this option when using it with **U** circuit.



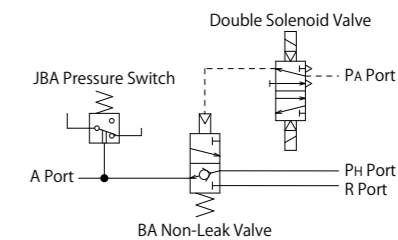
**PP** : Double Solenoid Valve for Double-Acting Clamp  
Clamp maintains the condition under non-power distribution.



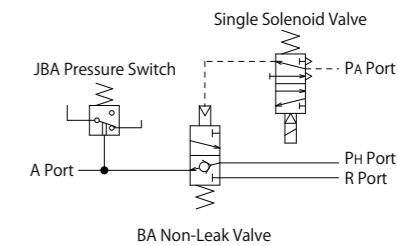
**D** : Single Solenoid Valve for Die Lifter (Normal Close)  
Die lifter retracts under non-power distribution.



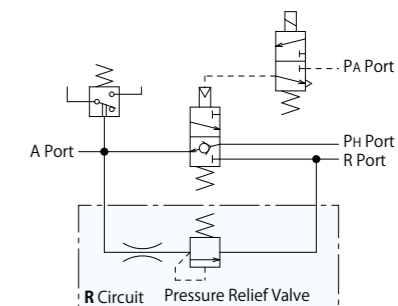
**V** : Double Solenoid Valve for Die Lifter  
Die lifter maintains the condition under non-power distribution.



**H** : Single Solenoid Valve for Die Lifter (Normal Close)  
Die lifter retracts under non-power distribution.  
Select this option when using it with **U** circuit.



**R** : Pressure Relief Valve  
Pressure relief valve maintains the set pressure :  $25 \pm 2$  MPa even when oil temperature rises. The drawing below shows the state that **R** circuit (with pressure relief valve) is combined with **C** circuit.



- Notes:
- PA Port: Air Source, PH Port: Hydraulic Source, R Port: Drain Port, A/B Port: To Automatic Clamp or RA Die Lifter
  - Filters are built in PH and A/B port.
  - Please contact us for circuits other than shown in the drawings.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA
GD
GBB
GBC
GBE
GBF
GBP
GBQ
GN
GHA

Hydraulic Unit

CP
CR
CPB
CPD
CPC
CPE
CQC
CQE

Pump Unit

CB
CD
CC

Valve Unit

BC
BH
MV

Operational  
Control Panel

YP
YAA

● Model No. Indication



1 Working Pressure Code

- M : 25 MPa Without Pressure Relief Valve  
N : 25 MPa With Pressure Relief Valve※1※2

2 Design No.

- 1 : Revision Number

3 Circuit Symbol

- C : Single Solenoid Valve for Clamp (Normal Open)  
D : Single Solenoid Valve for Die Lifter (Normal Close)  
U : Double Solenoid Valve for Clamp  
V : Double Solenoid Valve for Die Lifter  
G : Single Solenoid Valve for Clamp (Normal Open) ※3  
H : Single Solenoid Valve for Die Lifter (Normal Close) ※3  
PP : Double Solenoid Valve for Double-Acting Clamp (2 stations)  
R : Pressure Relief Valve ※1※2

Notes:

- ※1. Select the hydraulic unit with pressure relief valve when using hydraulic clamps under high temperature or large temperature change since there may be pressure fluctuation caused by temperature change.  
※2. When selecting 1 Working Pressure Code N : With pressure relief valve, please select 3 Circuit Symbol R:Pressure relief valve after circuit symbol which requires pressure relief valve.  
(Ex.) When selecting three circuits C, C, D  
With pressure relief valve on every circuit : BC00N1-CRCRDR-□-□  
With pressure relief valves only on C circuits : BC00N1-CRCRD-□-□  
No pressure relief valve on circuits : BC00M1-CCD-□-□  
※3. Please select 3 Circuit Symbol G, H only when using it with circuit symbol U.

4 Control Voltage

- 1 : AC 100 V      4 : AC 220 V  
2 : AC 200 V      5 : DC 24 V  
3 : AC 110 V

5 Fluid Code

- O : General Hydraulic Oil (Equivalent to ISO-VG-32)  
G : Water-Glycol  
S : Silicon Oil

6 Option

- Blank : Standard (Piping Block on the Right)  
GR : Primary Pressure Gauge on the Right (Piping Block on both side)  
GL : Primary Pressure Gauge on the Left (Piping Block on both side)  
H : Piping Block on both side (PH Port)

7 Unit of Pressure Gauge

- Blank : MPa (Standard)  
N : PSI (used only in USA)/ NPT-Thread Fitting  
P : PSI (used only in USA)/ Rc-Thread Fitting

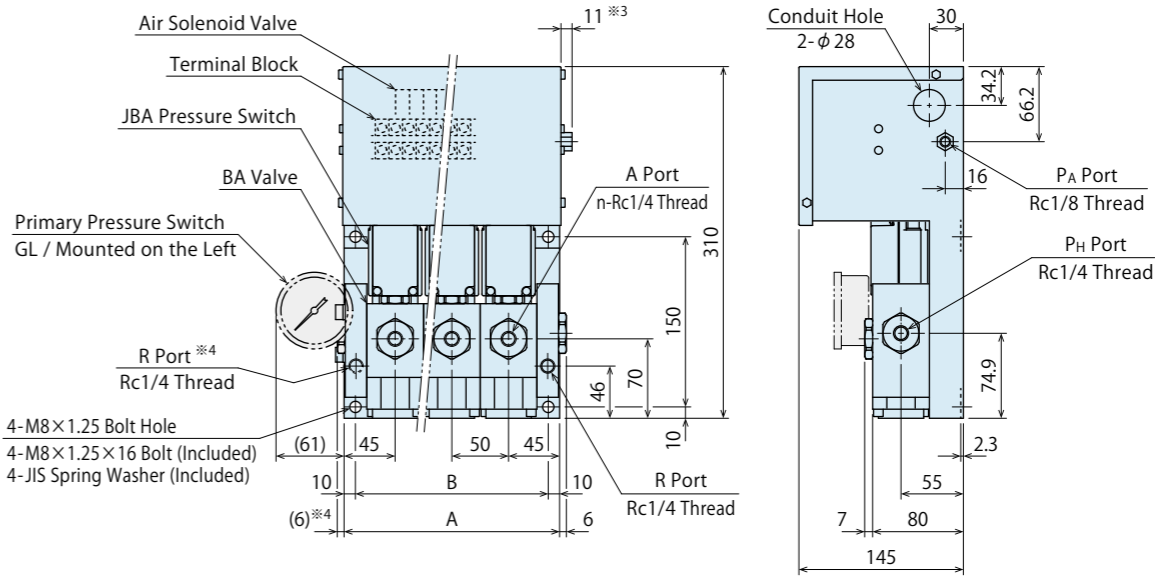
● Specifications

Model No.		BC00M1-□-□-□	BC00N1-□R-□-□
Working Hydraulic Pressure		25 MPa	
Withstanding Pressure		37 MPa	
Operating Temperature		0 ~ 70 °C	
Use Frequency		2.5 min. / Cycle or less	20 Cycles / Day or less
Main Components	Non-Leak Valve	Model No.	BA5011-0
		Orifice	12.6 mm <sup>2</sup> (PH Port → A Port)    52.8 mm <sup>2</sup> (A Port → R Port)
	Pressure Switch (for Clamp)	Model No.	JBA2700-0G
		Operation Mode / Set Pressure	Pressure Increase Detection / INC. 17.6 MPa
	Pressure Switch (for Die Lifter)	Model No.	JBA0700-0G
		Operation Mode / Set Pressure	Pressure Decrease Detection / DEC. 2.94 MPa
Pressure Relief Valve	Model No.	-	BR5N11-0
	Set Pressure	-	25 <sup>+2</sup> / <sub>0</sub> MPa

Notes:

1. Please contact us for other special fluids.  
2. If fluid viscosity is higher than specified, action time will be longer.  
3. If using it at low temperature action time will be longer because of high viscosity of hydraulic oil.  
4. Be sure to set an automatic drain air filter when air contains a large amount of moisture, or air supplying pipe is located at the end.  
5. Operating pressure should be no more than working hydraulic pressure in the specification.  
If using it at higher temperature than working hydraulic pressure, it leads to damage.

● External Dimensions



(mm)				
Number of Valve Connections (n)	1	2	3	4
A	90	140	190	240
B	70	120	170	220
Weight	kg	6	8.8	11.2 13.6

Notes:

- ※3. It shows the dimension in case of Circuit Symbol U, V, G, H.  
※4. It shows the dimension in case of Option H: piping block on both side (PH port).

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GBB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

Operational  
Control Panel

YP

YAA

# Non-Leak Valve Unit

Model BH



## Manual Control Non-Leak Hydraulic Valve Unit Most Suitable for Manual Control of RQA/RA Die Lifter

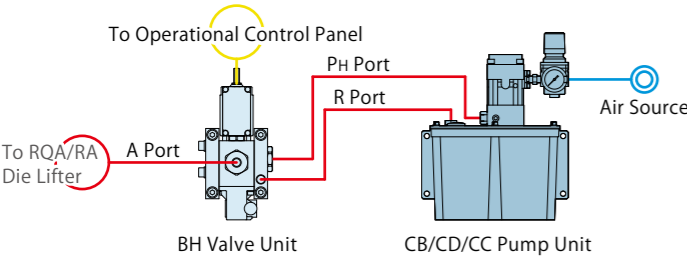
Directional control valve actuates non-leak valve with the lever.  
Even if pressure supply is cut from hydraulic pressure source,  
it maintains pressure until switching the lever.

• Ensures safety with the pressure switch

The pressure switch detects pressure reduction in case of accident such as hydraulic hose damage, and immediately stops the press machine.

• Application Example

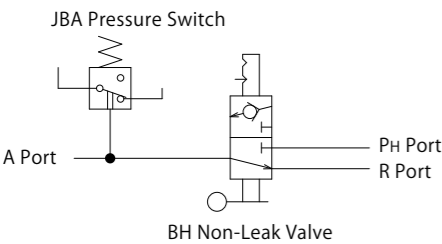
The drawing shows when controlling RQA/RA Die Lifter  
by using BH Valve Unit and CB/CD/CC Pump Unit.



• Circuit Symbol

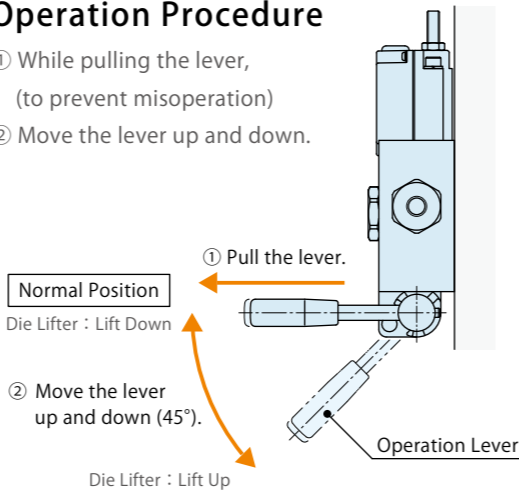
D : For Die Lifter (Normal Close)

When the lever is in a normal position, the die lifter is lifted down.



• Operation Procedure

- ① While pulling the lever,  
(to prevent misoperation)
- ② Move the lever up and down.



Notes :

- 1. PH Port : Hydraulic Pressure Source  
R Port : Drain Port  
A Port : To RQA/RA Die Lifter
- 2. PH port and A port are equipped with a built-in filter.

• Model No. Indication

BH00 **M** **1** - **D** - **0** - **GR** **P**

1 2 3 4 5 6

1 Working Pressure Code

M : 25 MPa

2 Design No.

1 : Revision Number

3 Circuit Symbol

D : For Die Lifter (Normal Close)

4 Fluid Code

- O : General Hydraulic Oil (Equivalent to ISO-VG-32)
- G : Water - Glycol
- S : Silicon Oil

5 Option

- Blank : Standard (Piping Block on the Right)
- GR : Primary Pressure Gauge on the Right (Piping Block on both sides)
- GL : Primary Pressure Gauge on the Left (Piping Block on both sides)
- H : Piping Block on both sides (PH Port)

6 Unit of Pressure Gauge

- Blank : MPa (Standard)
- N : PSI (used only in USA)/ NPT-Thread Fitting
- P : PSI (used only in USA)/ Rc-Thread Fitting

• Specifications

Model No.	BH00M1-D-□-□	
Working Hydraulic Pressure	25 MPa	
Withstanding Pressure	37 MPa	
Operating Temperature	0 ~ 70 °C	
Main Components	Non-Leak Valve	Model No.
	Orifice	BH5101-0
		12.6 mm <sup>2</sup> (PH Port → A Port) 52.8 mm <sup>2</sup> (A Port → R Port)
	Pressure Switch (For Die Lifter)	Model No.
	Operation Mode / Set Pressure	JBA0700-0G Pressure Decrease Detection / DEC. 2.94 MPa

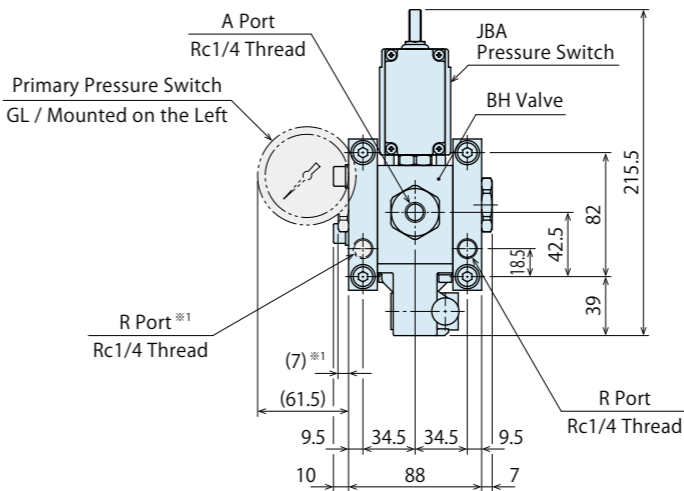
Notes:

- 1. Please contact us for other special fluids.
- 2. If fluid viscosity is higher than specified, action time will be longer.
- 3. If using it at low temperature action time will be longer because of high viscosity of hydraulic oil.
- 4. Be sure to set an automatic drain air filter when air contains a large amount of moisture, or air supplying pipe is located at the end.
- 5. Operating pressure should be no more than working hydraulic pressure in the specification.  
If using it at higher pressure than the pressure range, it leads to damage.

• External Dimensions

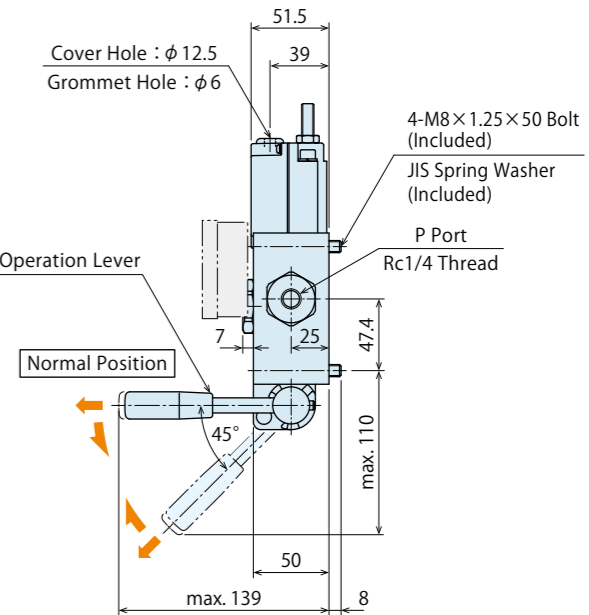
※ This drawing shows BH00M1-D.

Number of Valve Connections	1	2	3
Weight	kg	3.9	6.3



Note:

※1. It shows the dimensions in case of Option H: piping block on both sides (PH port).



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GBB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

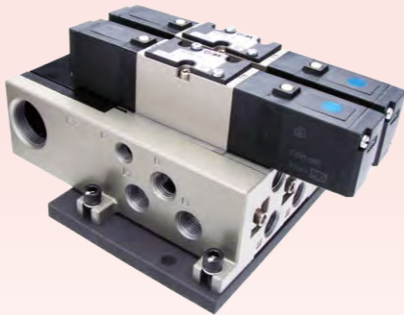
Operational  
Control Panel

YP

YAA

# Air Valve Unit

Model MV30



## Electric Control Air Valve Unit: Most Suitable for Controlling Air Cylinder of Automatic-Slide Clamps

Air directional control valve actuates by electric control. Most suitable for controlling air cylinder attached to auto-slide clamp which slides in the T-slot automatically.

### Model No. Indication

**MV30 2 3 - SS - 5 - N**

1 2 3 4 5

#### 1 Size ※ Please contact us when using a large number of clamps.

- 1 : For Small / Medium Clamp
- 2 : For Large Clamp

#### 2 Design No.

- 3 : Revision Number

#### 3 Circuit Symbol ※ Please contact us when using more than 4 circuits.

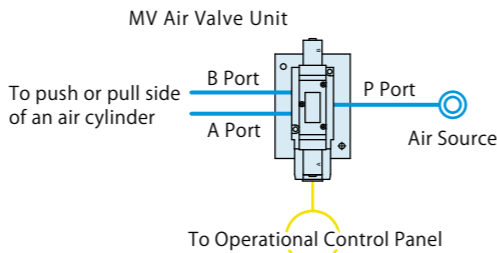
- N** : GN Clamp Release Circuit (Solenoid Valve:2 Position Double)
- S** : Slider Circuit (Solenoid Valve:3 Position Exhaust Center)
- T** : Slider Circuit (Solenoid Valve:2 Position Double)

#### ● Circuit Symbol Example

Symbol	Circuit Type	Application Example
S	1 Slider Circuit	Upper or Lower Die Only
SS	2 Slider Circuits	Upper + Lower Die, or Cross Circuit
SSS	3 Slider Circuits	Upper Cross Circuit + Lower Die Circuit

### ● Application Example

The drawing shows when controlling push side and pull side of air cylinders with MV Air Valve Unit.



#### 4 Valve Control Voltage

- 1 : AC 100 V      4 : AC 220 V
- 2 : AC 200 V      5 : DC 24 V
- 3 : AC 110 V

#### 5 Option

- Blank** : Standard
- C** : Negative Common
- N** : NPT Thread ※1
- R** : With Silencer
- S** : Solenoid Valve with Light and Surge Voltage Suppressor

Note:  
※1. When selecting 5 Option N:NPT thread, each dimension of specifications and other documents is described in inches.

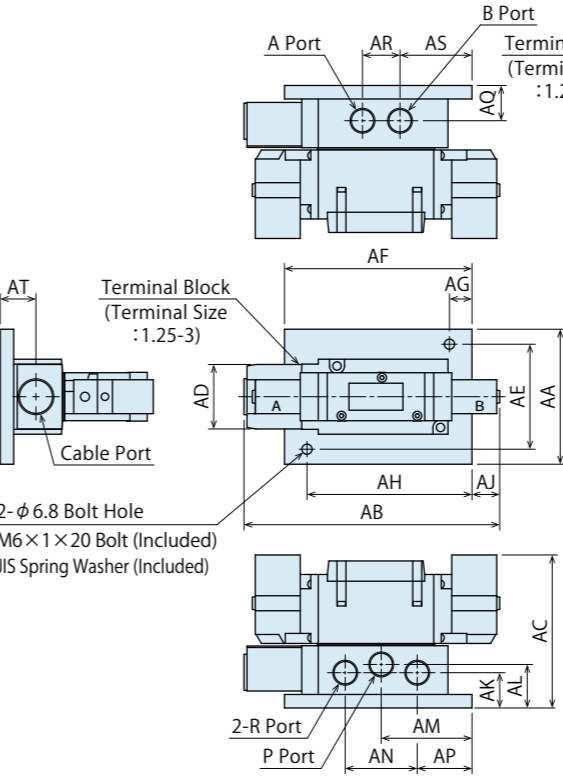
### ● Specifications

Model No.	MV3013	MV3023
Type	Metal Seal / 5 Port • Pilot Operated	
Position and Number of Solenoids	In case of 3 N, T 2-Position Double In case of 3 S 3-Position Exhaust Center	
Effective Sectional Area	mm <sup>2</sup> 15	36
Usable Fluid	Dry Air ※2	
Maximum Operating Pressure	MPa 1.0	
Withstanding Pressure	MPa 1.5	
Usable Fluid Temperature	°C -10 ~ +60	
Oil Supply	Not Required	
Protective Structure	Dust Proof	
Solenoid Model No. (SMC Model No.)	In case of 3 N, T VFS2200 In case of 3 S VFS2400	VFS3200 VFS3400

Note :  
※2. Please supply filtered clean dry air.

### ● External Dimensions

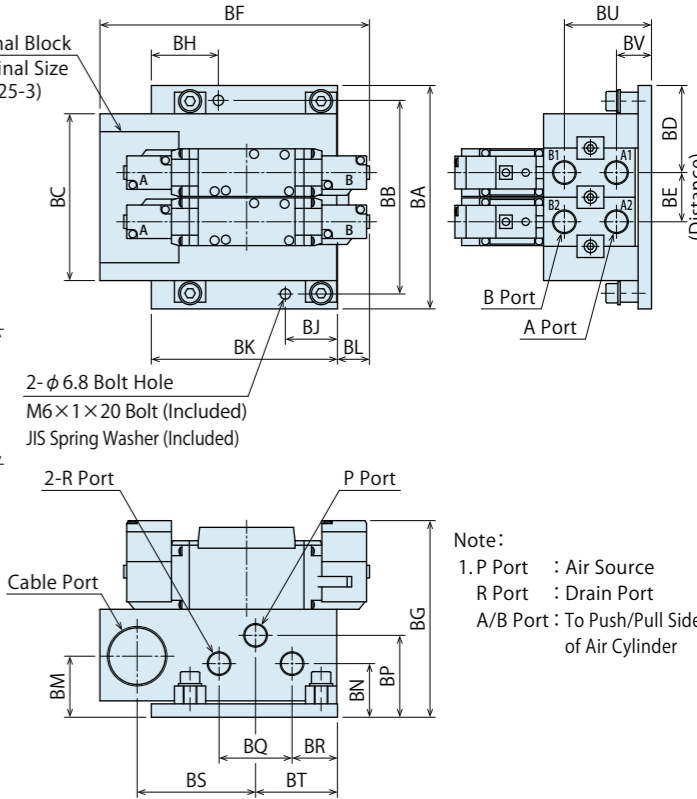
#### ● 1 Circuit



Model No.	MV3013	MV3023
Number of Control Circuits	1	1
AA	75	90
AB	166.5	170.5
AC	74	102
AD	43	43
AE	55	70
AF	100	125
AG	10	15
AH	90	110
AJ	36	18.5
AK	31	23.5
AL	20	29
AM	42	60.5
AN	28	48
AP	28	36.5
AQ	20.5	23.5
AR	20	25
AS	32	48
AT	21.5	23.8
P Port	Rc 1/4	Rc 3/8
R Port	Rc 1/8	Rc 3/8
A Port	Rc 1/4	Rc 3/8
B Port	Rc 1/4	Rc 3/8
Cable Port	G 1/2	G 1/2

#### ● 2 or 3 Circuits

※ This drawing shows when using 2 circuits.



Model No.	MV3013	MV3023
Number of Control Circuits	2	3
BA	120	150
BB	105	135
BC	88	116
BD	46	47
BE	28	33
BF	187.5	181
BG	90.5	132
BH	40	45
BJ	30	35
BK	100	125
BL	34.5	21.5
BM	36	41
BN	25.5	36
BP	39.5	55
BQ	29	49
BR	26.5	30.5
BS	87.5	79.5
BT	41	55
BU	46.5	58.5
BV	20.5	23.5
P Port	Rc 1/4	Rc 1/2
R Port	Rc 1/4	Rc 1/2
A Port	Rc 1/4	Rc 3/8
B Port	Rc 1/4	Rc 3/8
Cable Port	G 3/4	G1 1/4

Note:  
1. P Port : Air Source  
R Port : Drain Port  
A/B Port : To Push/Pull Side of Air Cylinder

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

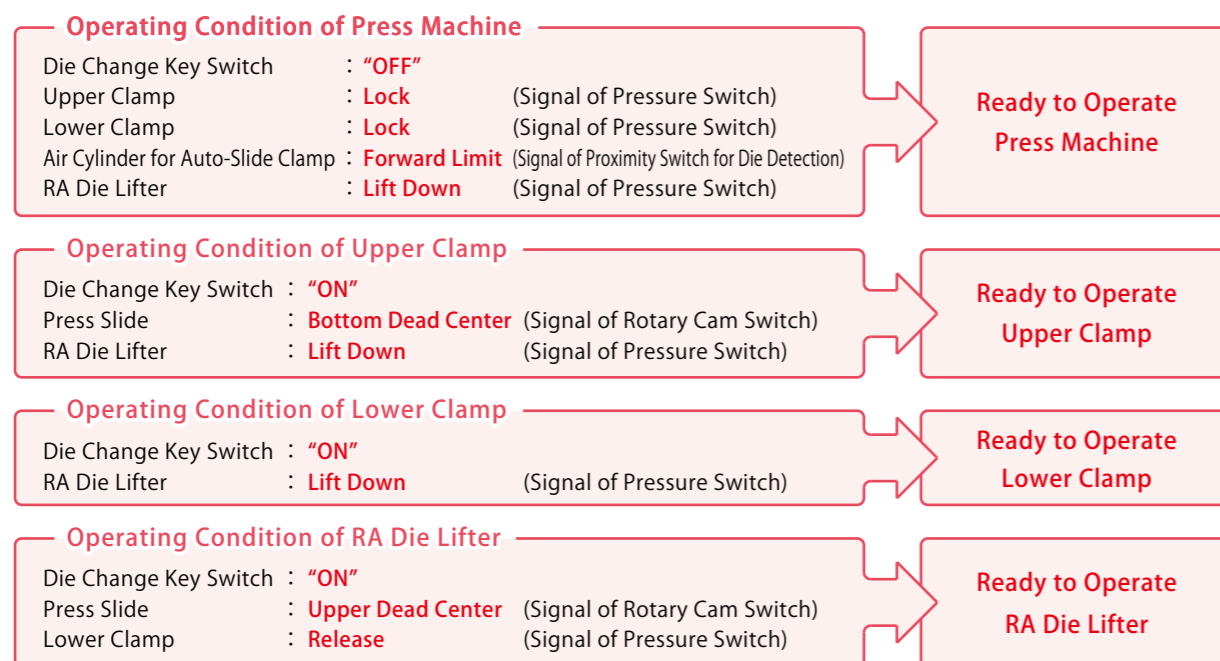
# Operational Control Panel

Model YP



## User-Friendly Operational Control Panel for Die Change Prevents misoperation with the interlock function.

### Ensures Safety with Various Interlock Functions



#### Model No. Indication

YP **105** **0** -   

1      2      3

#### 1 Circuit Construction

Please refer to the circuit construction list.

#### 2 Design No.

0 : Revision Number

#### 3 Special Symbol

Please contact us.

Possible to provide the name plate of operation button with another language and others.

#### Specifications

Model No.	YP□
Type	Operation Panel and Control Panel Separated Type
Power Supply Voltage	AC 100 V • 50 / 60 Hz
Power Supply Capacity	5 A
Operation Switch Power Supply	Circuit Protector (Inside Control Panel)
Die Change Selector Switch	Key Switch
Each Operation Switch	Lighted Type Push Button Switch
Standard Paint Color (Operation Panel • Control Panel)*1	Munsell Number : 5Y8.4/0.5

Notes :

※1. When specifying paint color, please indicate by Munsell number or sample color.

Special costs involved with non-standard color.

1. When using YP operational control panel, electric remodeling on press side should be conducted by customer.

2. We provide name plate with other languages such as English. Please contact us for more information.

#### Circuit Construction List

Model No.	Upper Die		Lower Die		Die Lifter	Hydraulic Unit Circuit Symbol	
	Front	Back	Front	Back		CP/CR	CP□/CQ□
YP1000	Clamp		Clamp		-	CC	2G
YP1010	Clamp		Clamp		Die Lifter	CCD	2GH
YP1020	Clamp	Clamp + Slider*2	Clamp		-	CC	2G
YP1030	Clamp	Clamp + Slider*2	Clamp		Die Lifter	CCD	2GH
YP1040	Clamp + Slider*2		Clamp		-	CC	2G
YP1050	Clamp + Slider*2		Clamp		Die Lifter	CCD	2GH
YP1060	Clamp	Clamp + Slider*2	Clamp	Clamp + Slider*2	-	CC	2G
YP1070	Clamp	Clamp + Slider*2	Clamp	Clamp + Slider*2	Die Lifter	CCD	2GH
YP1080	Clamp + Slider*2		Clamp	Clamp + Slider*2	-	CC	2G
YP1090	Clamp + Slider*2		Clamp	Clamp + Slider*2	Die Lifter	CCD	2GH
YP1100	Clamp + Slider*2		Clamp + Slider*2		-	CC	2G
YP1110	Clamp + Slider*2		Clamp + Slider*2		Die Lifter	CCD	2GH

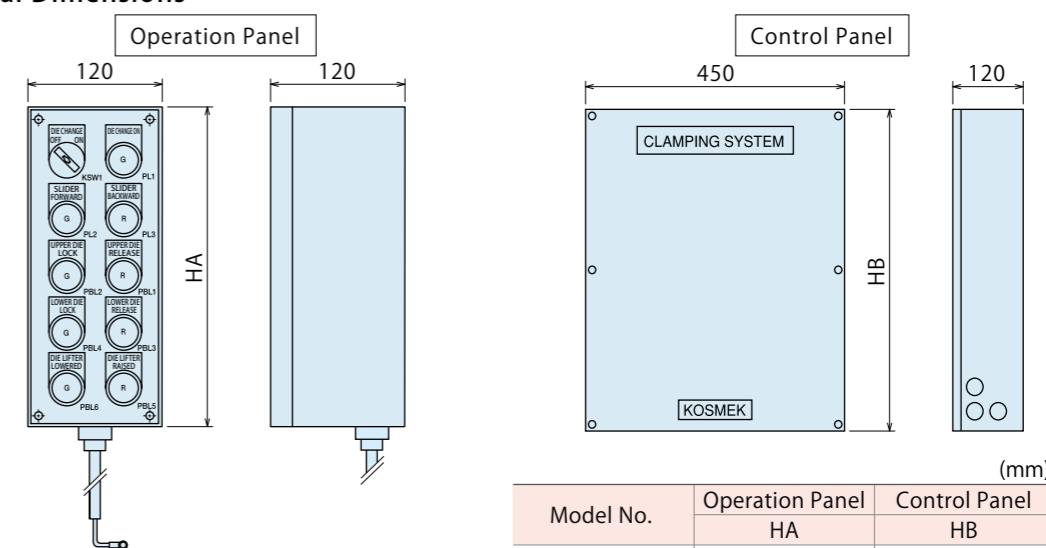
Notes :

※2. "Slider" indicates the air cylinder used for GD/GBE/GBF automatic slide clamp.

The number of sliders that standard operation panel / control unit can control is less than four for each upper and lower clamp.

Please contact us for controlling more than four sliders.

#### External Dimensions



Model No.	Operation Panel	Control Panel
	HA	HB
YP1000	230	350
YP1010	230	350
YP1020	230	530
YP1030	280	530
YP1040	230	530
YP1050	280	530
YP1060	230	530
YP1070	280	530
YP1080	230	530
YP1090	280	530
YP1100	230	530
YP1110	280	530

Clamp • Unit  
Operational  
Control PanelDie Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA

GD

GBB

GBC

GBE

GBF

GBP

GBQ

GN

GHA

Hydraulic Unit

CP

CR

CPB

CPD

CPC

CPE

CQC

CQE

Pump Unit

CB

CD

CC

Valve Unit

BC

BH

MV

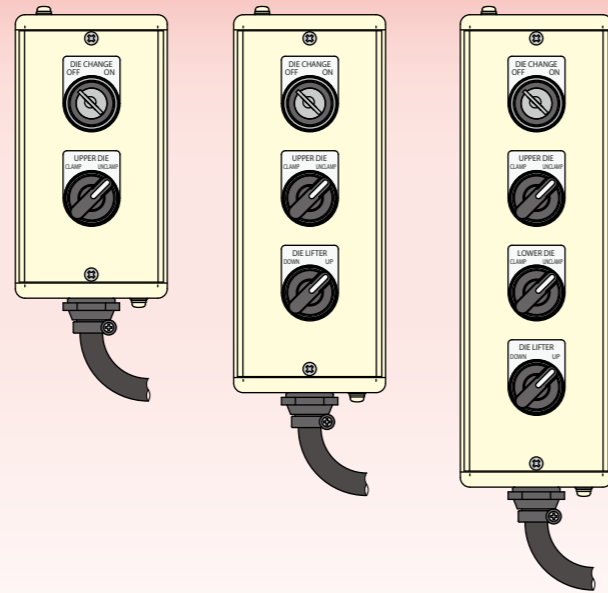
Operational  
Control Panel

YP

YAA

# Operational Control Panel

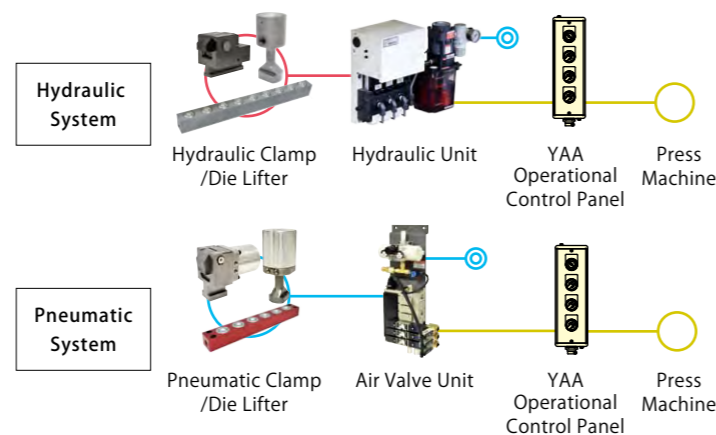
Model YAA



## Operational Control Panel with User-Friendly Controls Prevents misoperation with the interlock function.

### Simple Switch Operation to Control Die Change System

United type of operation panel and control panel.  
Implements a more simplistic and compact design than YP model.



#### Model No. Indication

**YAA** **100** **0** - **LR** -

1 2 3 4

#### 1 Series Number

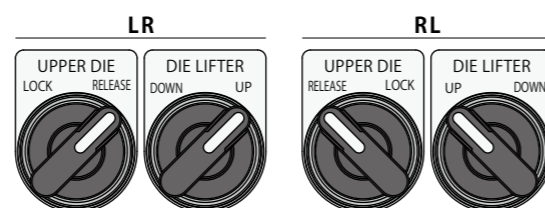
- 100** : 1 Upper Die Circuit
- 010** : 1 Lower Die Circuit
- 001** : 1 Die Lifter Circuit
- 110** : 1 Upper Die Circuit / 1 Lower Die Circuit
- 101** : 1 Upper Die Circuit / 1 Die Lifter Circuit
- 011** : 1 Lower Die Circuit / 1 Die Lifter Circuit
- 111** : 1 Upper Die Circuit / 1 Lower Die Circuit / 1 Die Lifter Circuit

#### 2 Design No.

- 0** : Revision Number

#### 3 Operating Direction of Switch (Plate Label)

- LR** : Left : LOCK (DOWN) Right : RELEASE (UP) [Standard]
- RL** : Left : RELEASE (UP) Right : LOCK (DOWN)
- CU** : Left : CLAMP (DOWN) Right : UNCLAMP (UP)
- UC** : Left : UNCLAMP (UP) Right : CLAMP (DOWN)



#### 4 Language ※ Contact us for other languages.

- Blank** : Japanese
- N** : English
- C** : Chinese

#### Specifications

Model No.	YAA
Type	Operation and Control Panel United Type
Die Change Selector Switch	Key Switch 90° - 2 Notch (Stop Manually at Each Position)
Each Selector Switch	Selector Switch 90° - 2 Notch (Stop Manually at Each Position)
Operating Temperature Range	-25 ~ 50 °C (No freezing allowed)
Paint Color	Munsell Number : 5Y7/1 (JEM Standard Panel Color)

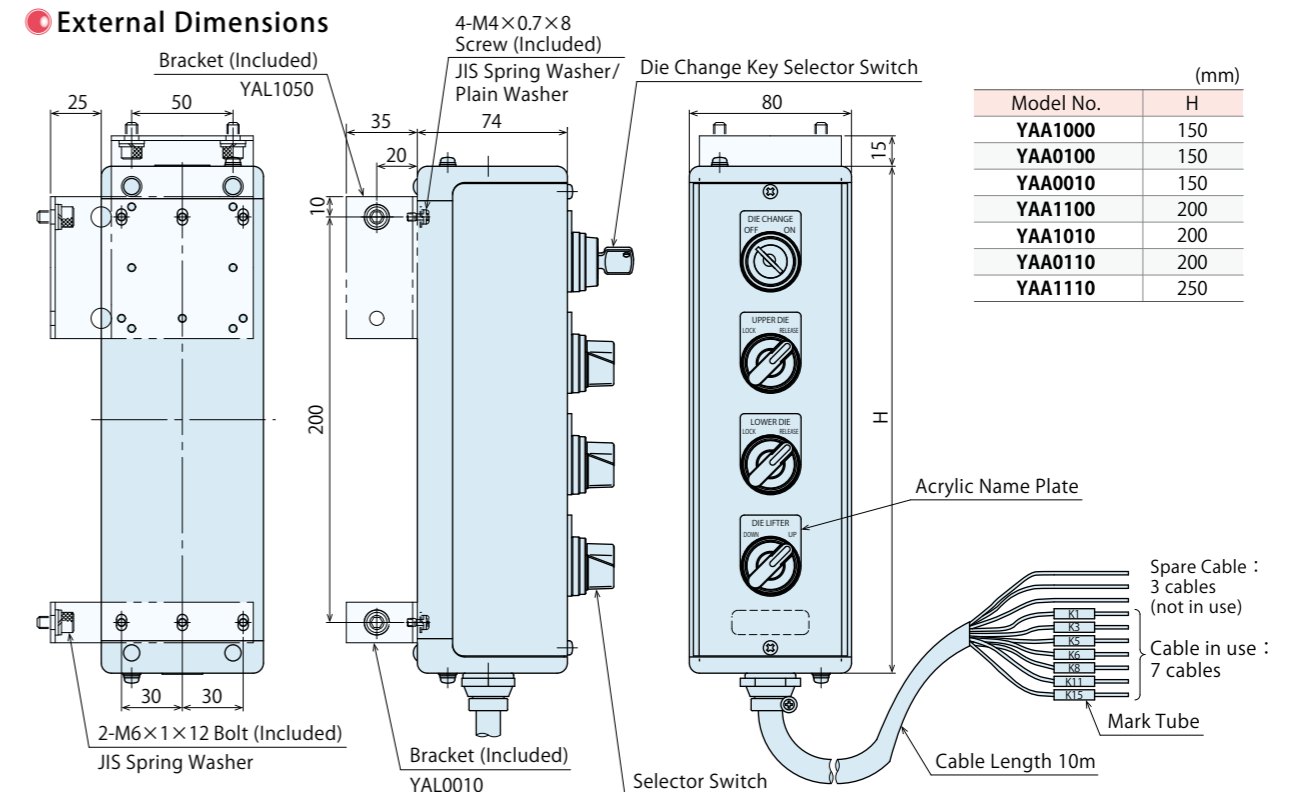
- Notes : 1. When using YAA Operation Control Panel, electric remodeling on press side should be conducted by customer.  
2. Please contact us for specifications that are not listed on the model no. indication and the specifications.  
3. Please contact us for an automatic slide model.

#### Interlock Input and Output

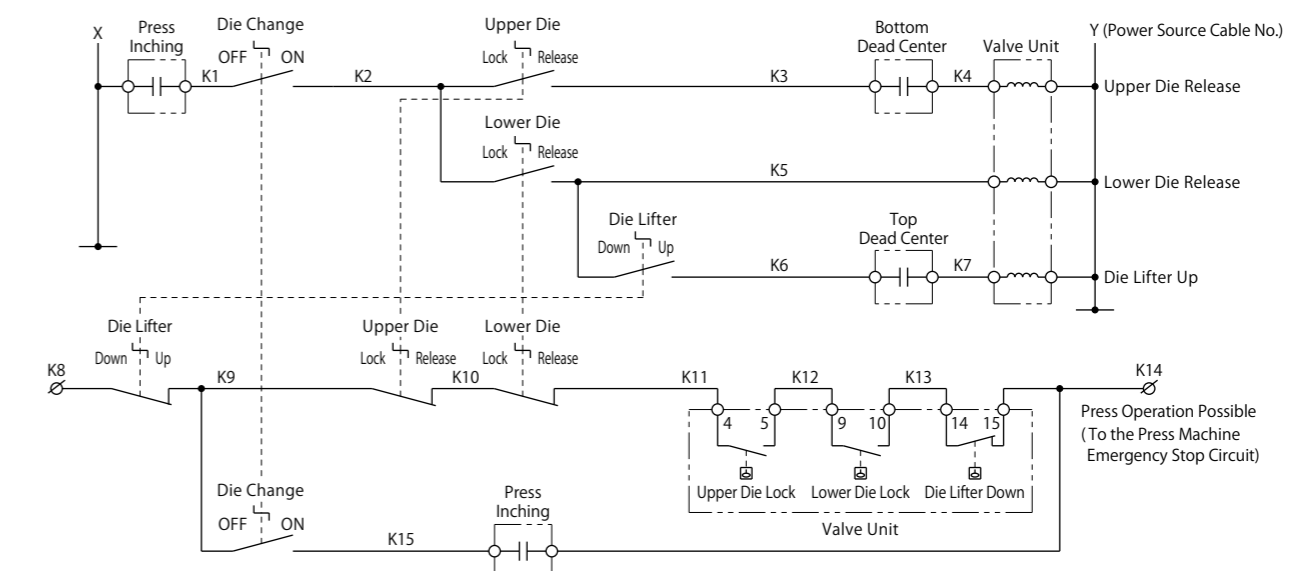
Press Machine Output	Content
Bottom Dead Center	Confirms a bottom dead center signal to allow clamp operation.
Top Dead Center	Confirms a top dead center signal to allow die lifter operation.
Inching	Confirms a press inching signal to allow die change.
Press Machine Input	Content
Emergency Stop	Makes an emergency stop of a press machine in case hydraulic pressure for clamp is decreased.

- Notes : 4. When the machine power or the condition such as "Inching", "Bottom Dead Center" is turned off, the clamp will be in a locked state.  
5. This model cannot be used when using GBP or GBD clamp for an upper die because conditions cannot be arranged.

#### External Dimensions



#### Electric Circuit Example ※ This is an electric circuit diagram example in case of YAA1110.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Clamp

GA  
GD  
GBB  
GBC  
GBE  
GBF  
GBP  
GBQ  
GN  
GHA

Hydraulic Unit

CP  
CR  
CPB  
CPD  
CPC  
CPE  
CQC  
CQE

Pump Unit

CB  
CD  
CC

Valve Unit

BC  
BH  
MV

Operational  
Control Panel

YP  
YAA

# Hydraulic Free Roller Lifter

Model RQA



## Smooth Die Movement on the Bolster of Press Machine

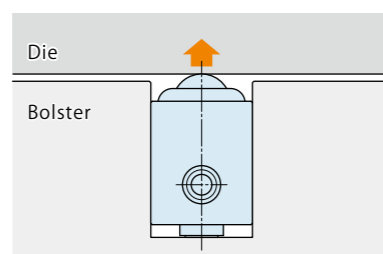
Able to move a die flexibly with light force.

**LIFT UP** HYD : SUPPLY

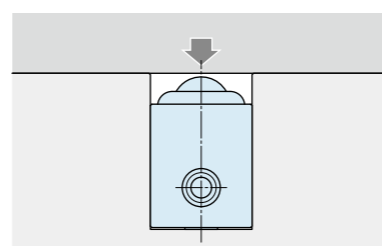
**LIFT DOWN** HYD : RELEASE

## Lift and Move a Die with Light Force

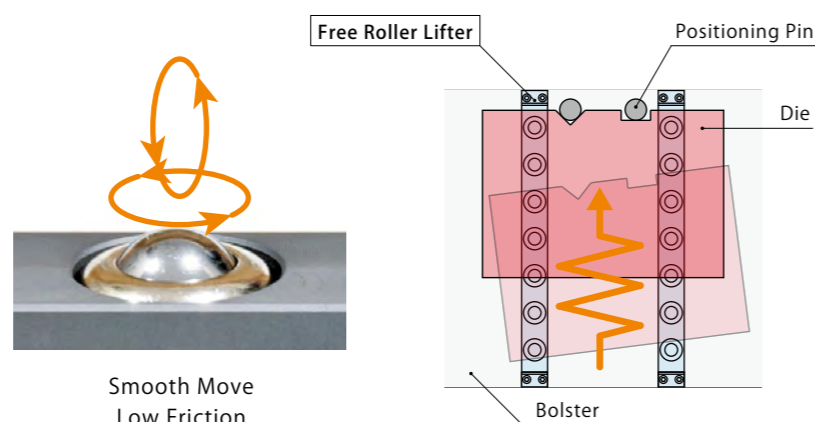
When loading/unloading a die,  
it is able to move the die smoothly  
by supplying hydraulic pressure.



During production, the die can be  
lowered to the bolster surface by  
stopping hydraulic supply.



## The Ball Moves 360° Flexibly

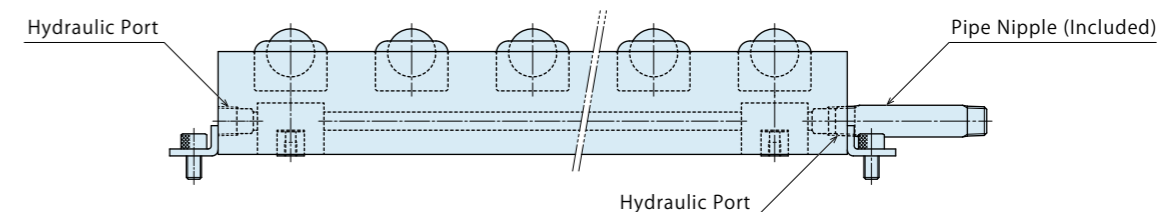


Smooth Move  
Low Friction

**Option** ※ Please contact us for a combination of options.

### D:Hydraulic Ports on Both Ends

When requiring a hydraulic ports on both ends.

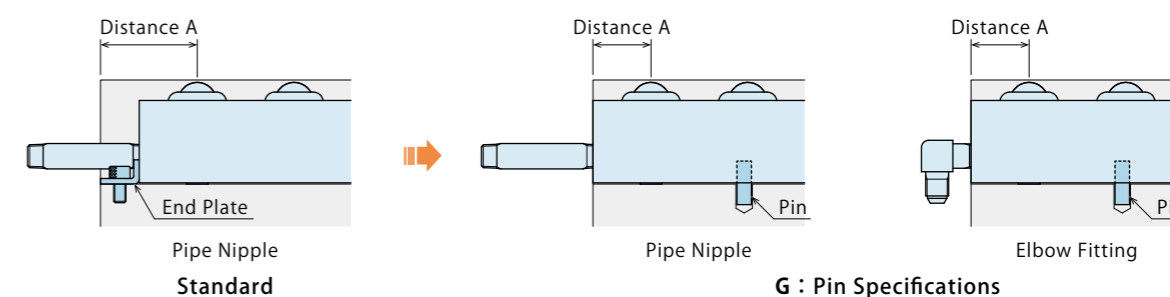


※ The size of two ports is common and the same as standard.

### G:Pin Specifications

Fix the die lifter with the pin on the bottom.

- For shortening the distance A: from the end of a bolster or a scrap hole to the first roller.
- When not using the end plate in order to prevent contaminants from entering in the slot.



**G : Pin Specifications**

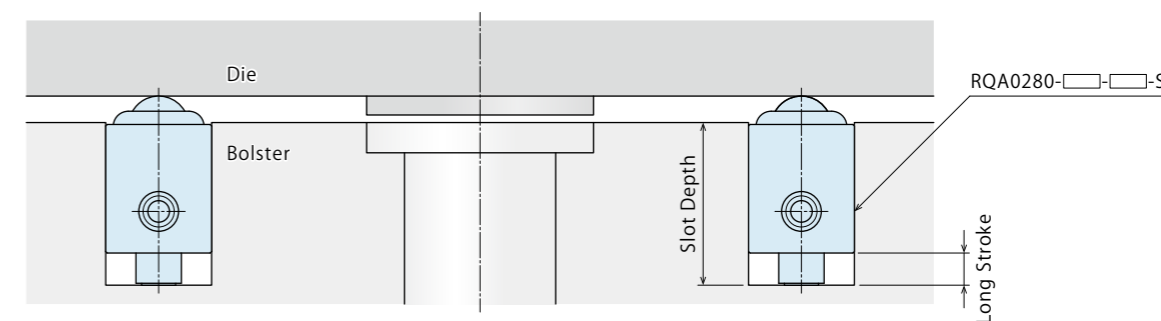
### N:Hydraulic Port NPT Thread

In case of using NPT thread to a hydraulic port.

### S:Long Stroke

In case of increasing lifting stroke because of fit part or projection between the bolster and die.

※ Please contact us for further information. (Applicable slot depth is different from the standard model.)



### V:High Temperature (0 ~ 120℃)

For high temperature environment.

- Retractable die lifter option with accessory : RAT stopper is also available. (Refer to P.136)



Clamp • Unit  
Operational  
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MRC

MRD

MRE/MRF

MRG

MRJ/MRK

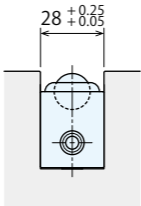
Model No. Indication

RQA 028 0 - 600 - P38 - D

1 2 3 4 5

1 Applicable Slot Width

028 : Applicable Slot Width 28<sup>+0.25</sup>/<sub>+0.05</sub> mm



2 Design No.

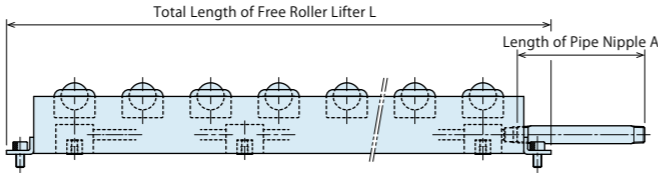
0 : Revision Number

3 Total Length of Free Roller Lifter L

3 Total Length of Free Roller Lifter differs between

5 Option : Standard and Pin Specification.

Refer to each external dimension list for details.



4 Length of Pipe Nipple A

Blank : Elbow Fitting (Only for 5 Option G: Pin Specification)

50 : Standard Length of Pipe Nipple 50mm

75 : Standard Length of Pipe Nipple 75mm

100 : Standard Length of Pipe Nipple 100mm

125 : Standard Length of Pipe Nipple 125mm

150 : Standard Length of Pipe Nipple 150mm

P 25 ~ 149 : Special Length of Pipe Nipple 25 ~ 149mm ※1

E : No Pipe Nipple

Note :

※1. Special length of pipe nipple can be set within the range of 25 ~ 149mm in 1mm increments (except for the standard length of pipe nipple).

(Ex.) 50 : Length of pipe nipple is 50mm.

P49 : Length of pipe nipple is 49mm.

5 Option ※ Please contact us for specifications and external dimensions of options.

Blank : Standard

D : Hydraulic Port on Both Ends

G : Pin Specification ※2

N : Hydraulic Port NPT Thread

S : Long Stroke ※3

V : High Temperature (0 ~ 120℃)

Notes :

※2. In case of 5 Option G : Pin Specification, it is able to select 4 Length of Pipe Nipple Blank : Elbow Fitting. If pipe nipple is required, select 4 Length of Pipe Nipple.

※3. In case of 5 Option S : Long Stroke, the applicable slot depth is different from the standard model. Please contact us for further information.

Specifications

Model No.			RQA0280
Applicable Slot Width		mm	28 <sup>+0.25</sup> <sub>+0.05</sub>
Applicable Slot Depth		mm	43 <sup>+0.5</sup> <sub>0</sub>
Full Stroke		mm	3
Lift-Up Stroke		mm	2
Allowable Die Weight per Steel Ball ※4 ※5	Die Material : SS400	kg	55
	Die Material : S45C • FC250	kg	70
Lifting Force (per Cylinder)		kN	5
Lift Cylinder Capacity (per Cylinder)		cm <sup>3</sup>	0.6
Hydraulic Port			Rc1/8 Thread
Operating Hydraulic Pressure		MPa	25
Operating Temperature		℃	0 ~ 70 ( V : High Temp. 0 ~ 120℃)
Use Frequency			20 cycles or less / day
Usable Fluid			General Hyd. Oil Equivalent to ISO-VG-32

Notes :

※4. The number of steel balls and lift 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.

※5. Allowable die weight is based on the hardness of bottom of die (contact surface of steel ball).

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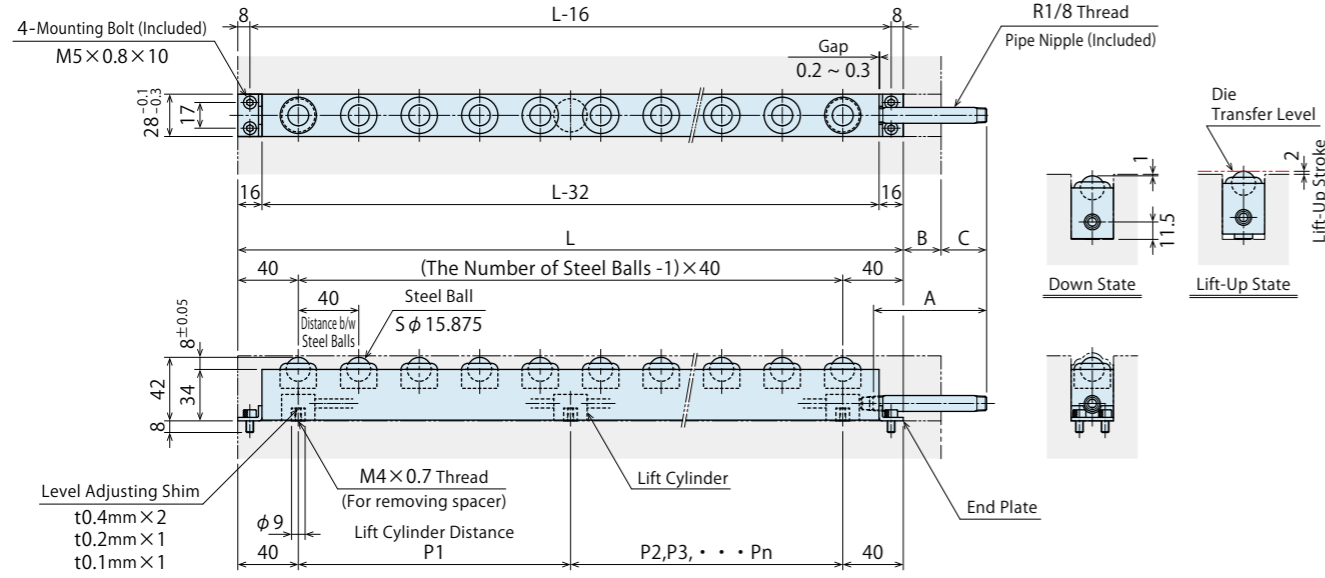
MRE/MRF

MRG

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External Dimensions : RQA0280-□-□ (Standard)

※ This drawing shows the down state of the standard model of RQA0280.



External Dimension List

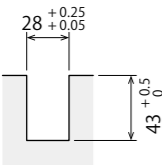
Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls	Allowable Die Weight (kg) ※1		Lift Cylinder		Lift Cylinder Distance (mm)			
				Die Material ※2				P1	P2	P3	P4
				S5400	S45C	Qty.	Lifting Force (kN)				
RQA0280-200-□	200	1.3	4	220	280	2	10	120			
RQA0280-240-□	240	1.6	5	275	350	2	10	160			
RQA0280-280-□	280	1.9	6	330	420	2	10	200			
RQA0280-320-□	320	2.2	7	385	490	2	10	240			
RQA0280-360-□	360	2.5	8	440	560	2	10	280			
RQA0280-400-□	400	2.8	9	495	630	2	10	320			
RQA0280-440-□	440	3.1	10	550	700	3	15	180	180		
RQA0280-480-□	480	3.4	11	605	770	3	15	200	200		
RQA0280-520-□	520	3.7	12	660	840	3	15	220	220		
RQA0280-560-□	560	4.0	13	715	910	3	15	240	240		
RQA0280-600-□	600	4.2	14	770	980	3	15	260	260		
RQA0280-640-□	640	4.5	15	825	1050	3	15	280	280		
RQA0280-680-□	680	4.8	16	880	1120	3	15	300	300		
RQA0280-720-□	720	5.1	17	935	1190	3	15	320	320		
RQA0280-760-□	760	5.4	18	990	1260	4	20	225	230	225	
RQA0280-800-□	800	5.7	19	1045	1330	4	20	240	240	240	
RQA0280-840-□	840	6.0	20	1100	1400	4	20	250	260	250	
RQA0280-880-□	880	6.3	21	1155	1470	4	20	265	270	265	
RQA0280-920-□	920	6.6	22	1210	1540	4	20	280	280	280	
RQA0280-960-□	960	6.9	23	1265	1610	4	20	290	300	290	
RQA0280-1000-□	1000	7.2	24	1320	1680	4	20	305	310	305	
RQA0280-1040-□	1040	7.5	25	1375	1750	5	25	240	240	240	240
RQA0280-1080-□	1080	7.8	26	1430	1820	5	25	250	250	250	250
RQA0280-1120-□	1120	8.1	27	1485	1890	5	25	260	260	260	260
RQA0280-1160-□	1160	8.4	28	1540	1960	5	25	270	270	270	270
RQA0280-1200-□	1200	8.7	29	1595	2030	5	25	280	280	280	280

Notes :

※1. The allowable die weight is for when a die rests on all Steel Balls.

※2. The allowable die weight of die material : FC250 is the same as S45C.

U-Slot Dimensions



Projection of Pipe Nipple C ※3

Length of Pipe Nipple A	B	Projection on Pipe Nipple C ※3
50	0 ~ 16	12 ~ 28
75	17 ~ 41	
100	42 ~ 66	
125	67 ~ 91	
150	92 ~ 116	

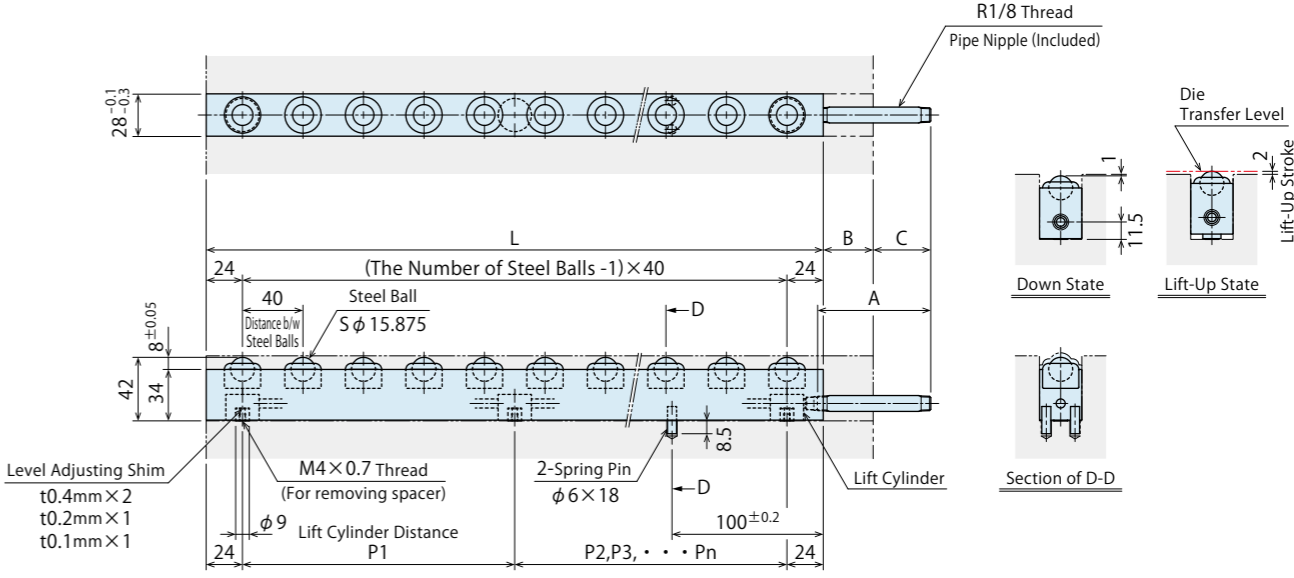
Note :

※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread.

Calculation Formula : C = A-B-22

External Dimensions : RQA0280-□-□-G (Pin Model)

※ This drawing shows the down state of the pin model of RQA0280.



External Dimension List

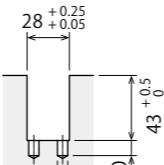
Model No.	Total Length of Free Roller Lifter L (mm)	Weight (kg)	Number of Steel Balls	Allowable Die Weight (kg) ※1		Lift Cylinder		Lift Cylinder Distance (mm)			
				Die Material ※2				P1	P2	P3	P4
				S5400	S45C	Qty.	Lifting Force (kN)				
RQA0280-168-□-G	168	1.3	4	220	280	2	10	120			
RQA0280-208-□-G	208	1.6	5	275	350	2	10	160			
RQA0280-248-□-G	248	1.9	6	330	420	2	10	200			
RQA0280-288-□-G	288	2.2	7	385	490	2	10	240			
RQA0280-328-□-G	328	2.5	8	440	560	2	10	280			
RQA0280-368-□-G	368	2.8	9	495	630	2	10	320			
RQA0280-408-□-G	408	3.1	10	550	700	3	15	180	180		
RQA0280-448-□-G	448	3.4	11	605	770	3	15	200	200		
RQA0280-488-□-G	488	3.7	12	660	840	3	15	220	220		
RQA0280-528-□-G	528	4.0	13	715	910	3	15	240	240		
RQA0280-568-□-G	568	4.2	14	770	980	3	15	260	260		
RQA0280-608-□-G	608	4.5	15	825	1050	3	15	280	280		
RQA0280-648-□-G	648	4.8	16	880	1120	3	15	300	300		
RQA0280-688-□-G	688	5.1	17	935	1190	3	15	320	320		
RQA0280-728-□-G	728	5.4	18	990	1260	4	20	225	230	225	
RQA0280-768-□-G	768	5.7	19	1045	1330	4	20	240	240	240	
RQA0280-808-□-G	808	6.0	20	1100	1400	4	20	250	260	250	
RQA0280-848-□-G	848	6.3	21	1155	1470	4	20	265	270	265	
RQA0280-888-□-G	888	6.6	22	1210	1540	4	20	280	280	280	
RQA0280-928-□-G	928	6.9	23	1265	1610	4	20	290	300	290	
RQA0280-968-□-G	968	7.2	24	1320	1680	4	20	305	310	305	
RQA0280-1008-□-G	1008	7.5	25	1375	1750	5	25	240	240	240	240
RQA0280-1048-□-G	1048	7.8	26	1430	1820	5	25	250	250	250	250
RQA0280-1088-□-G	1088	8.1	27	1485	1890	5	25	260	260	260	260
RQA0280-1128-□-G	1128	8.4	28	1540	1960	5	25	270	270	270	270
RQA0280-1168-□-G	1168	8.7	29	1595	2030	5	25	280	280	280	280

Notes :

※1. The allowable die weight is for when a die rests on all Steel Balls.

※2. The allowable die weight of die material : FC250 is the same as S45C.

U-Slot Dimensions



Projection of Pipe Nipple C ※3

Length of Pipe Nipple A	B	Projection on Pipe Nipple C ※3
50	0 ~ 32	12 ~ 44
75	33 ~ 57	
100	58 ~ 82	
125	83 ~ 107	
150	108 ~ 132	

Note :

※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread.

Calculation Formula : C = A-B-6

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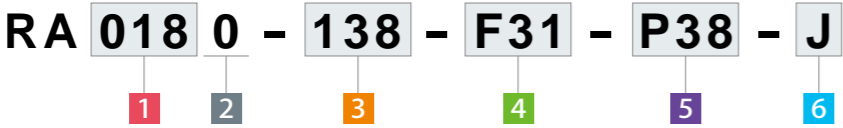
MRJ/MRK

MRJ/MRK

MRJ/MRK

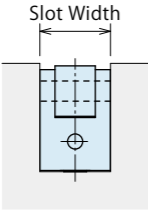


Model No. Indication



1 Applicable Slot Width

- 018 : Slot Width 18<sup>+0.25</sup><sub>+0.05</sub> mm
- 022 : Slot Width 22<sup>+0.25</sup><sub>+0.05</sub> mm
- 028 : Slot Width 28<sup>+0.25</sup><sub>+0.05</sub> mm
- 050 : Slot Width 50<sup>+0.25</sup><sub>+0.05</sub> mm
- 080 : Slot Width 80<sup>+0.25</sup><sub>+0.05</sub> mm



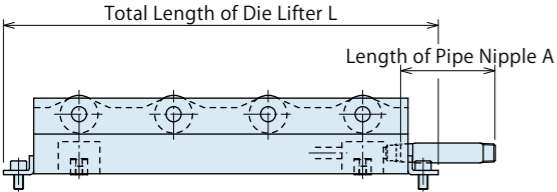
2 Design No.

- 0 : Revision Number

3 Total Length of Die Lifter

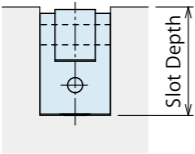
Selectable 3 Total Length of Die Lifter differs depending on 1 Applicable Slot Width and 6 Option G:Pin Specifications.

Please refer to external dimensions for details.



4 Applicable Slot Depth

- Blank : For 1 Slot Width 028, 050, 080 ※1
- For 1 Slot Width 018
  - F31 : Slot Depth 31<sup>+0.5</sup><sub>0</sub> mm
  - F34 : Slot Depth 34<sup>+0.5</sup><sub>0</sub> mm
- For 1 Slot Width 022
  - F36 : Slot Depth 36<sup>+0.5</sup><sub>0</sub> mm
  - F39 : Slot Depth 39<sup>+0.5</sup><sub>0</sub> mm



Note :  
※1. The slot depth of 1 Slot Width 028, 050, 080 is fixed for each size, so 4 Slot Depth cannot be selected.

5 Length of Pipe Nipple

- Blank : Elbow Fitting (Only for 6 G:Pin Specifications)※3
- 50 : Standard Length of Pipe Nipple 50 mm
- 75 : Standard Length of Pipe Nipple 75 mm
- 100 : Standard Length of Pipe Nipple 100 mm
- 125 : Standard Length of Pipe Nipple 125 mm
- 150 : Standard Length of Pipe Nipple 150 mm
- P25~149 : Special Length of Pipe Nipple 25 ~ 149 mm※2
- E : No Pipe Nipple

Note: ※2.Special length can be set within the range of 25-149mm in 1mm increments except for the standard length of pipe nipple.  
(Ex.) 50 : When length of pipe nipple is 50mm  
P45 : When length of pipe nipple is 45mm

6 Option

- Blank : Standard
- D : Hydraulic Ports on Both Ends
- G : Pin Specifications ※3
- J : Crowning Roller
- N : Hydraulic Port NPT Thread
- S : Long Stroke ※4
- V : High Temperature (0~ 120℃)

Notes :  
※3. When selecting 6 Option G:Pin Specifications, 5 Length of Pipe Nipple Blank:Elbow Fitting can be selected. If pipe nipple is required, select 5 Length of Pipe Nipple.  
※4. When selecting 6 Option S:Long Stroke, the applicable slot depth is different from the standard model.  
Please contact us for further information.

Specifications

Model No.			RA0180	RA0220	RA0280	RA0500	RA0800
Applicable Slot Width			mm 18 <sup>+0.25 +0.05</sup>	mm 22 <sup>+0.25 +0.05</sup>	mm 28 <sup>+0.25 +0.05</sup>	mm 50 <sup>+0.25 +0.05</sup>	mm 80 <sup>+0.25 +0.05</sup>
Applicable Slot Depth ※4 ※5			mm 31 <sup>+0.5 0</sup> 34 <sup>+0.5 0</sup>	mm 36 <sup>+0.5 0</sup> 39 <sup>+0.5 0</sup>	mm 43 <sup>+0.5 0</sup>	mm 53 <sup>+0.5 0</sup>	mm 80 <sup>+0.5 0</sup>
Full Stroke			mm 2.2	mm 2.2	mm 3	mm 3	mm 4
Lift-Up Stroke			mm 1.5	mm 1.5	mm 2	mm 2	mm 3
Allowable Die Weight per Roller	※6 ※7 Die Material	Flat Roller ※8	kg 25	kg 45	kg 80	kg 200	kg 500
		Crowning Roller※8	kg 17.5	kg 30	kg 50	kg 110	kg -
	Die Material	Flat Roller ※8	kg 45	kg 80	kg 140	kg 350	kg 800
		S45C・FC250	Crowning Roller※8	kg 30	kg 50	kg 90	kg 200
Lifting Force (per Cylinder)			kN 2.2	kN 3.8	kN 5	kN 11.3	kN 25
Cylinder Capacity (per Cylinder)			cm <sup>3</sup> 0.2	cm <sup>3</sup> 0.34	cm <sup>3</sup> 0.6	cm <sup>3</sup> 1.4	cm <sup>3</sup> 4.1
Hydraulic Port			Rc1/8 Thread			Rc1/4 Thread	
Working Hydraulic Pressure			MPa 25				
Operating Temperature			℃ 0 ~ 70 ( <b>V</b> : High Temperature 0 ~ 120℃)				
Use Frequency			20 Cycles / Day or less				

Notes :  
※5. RA0180 and RA0220 are available with two choices of slot depths.  
※6. The number of rollers and cylinders per die lifter varies depending on the total length of the die lifter. Please refer to the external dimensions.  
※7. Allowable die weight is based on the hardness of bottom of die (contact surface of roller).  
※8. Flat Roller : 6 Option Blank, D, G, N, S, V  
Crowning Roller : 6 Option J

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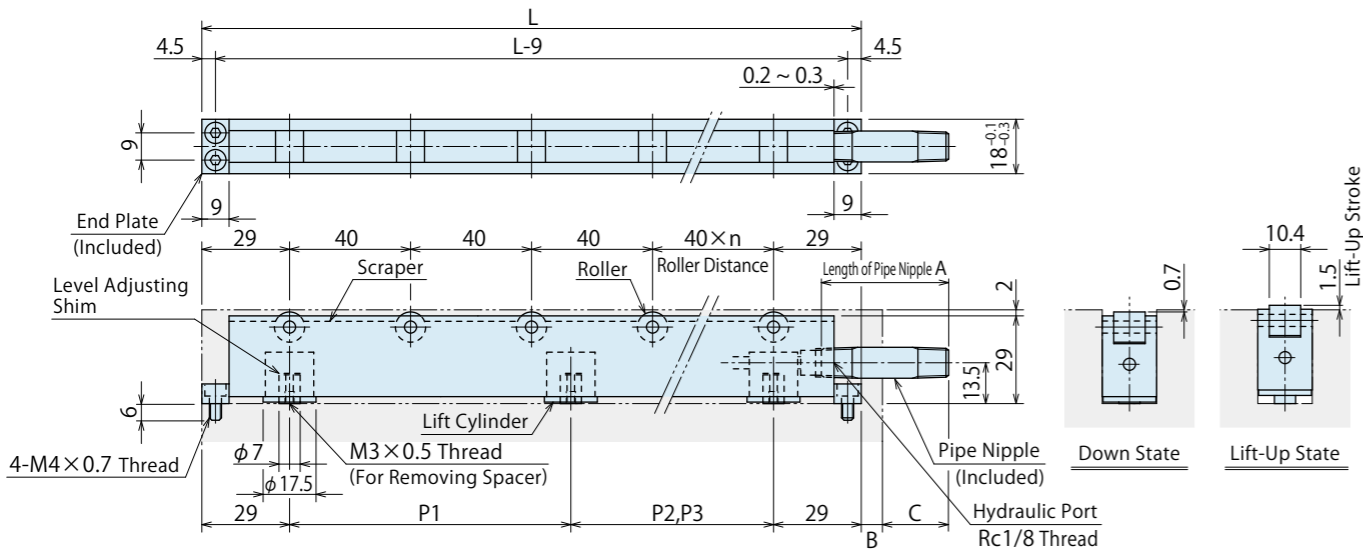
MRE/MRF

MRG

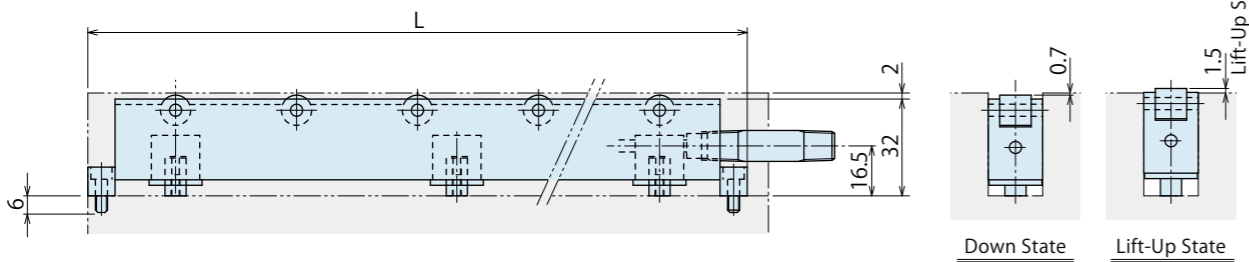
MRJ/MRK

RA0180 : Standard

External Dimensions : RA0180-□-F31-□



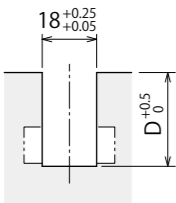
External Dimensions : RA0180-□-F34-□ ※ Dimensions not listed are the same as RA0180-□-F31-□.



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)※1				Lift Cylinder Qty.	Lifting Force (kN)	Lift Cylinder Distance (mm)		
				Flat Roller S5400※2	Flat Roller S45C※2	Crowning Roller S5400※2	Crowning Roller S45C※2			P1	P2	P3
RA0180-138-F□-□	138	0.4	3	75	135	52.5	90	2	4.4	80		
RA0180-178-F□-□	178	0.6	4	100	180	70	120			120		
RA0180-218-F□-□	218	0.7	5	125	225	87.5	150			160		
RA0180-258-F□-□	258	0.8	6	150	270	105	180			200		
RA0180-298-F□-□	298	1.0	7	175	315	122.5	210			240		
RA0180-338-F□-□	338	1.1	8	200	360	140	240			280		
RA0180-378-F□-□	378	1.3	9	225	405	157.5	270	3	6.6	160	160	
RA0180-418-F□-□	418	1.4	10	250	450	175	300			180	180	
RA0180-458-F□-□	458	1.5	11	275	495	192.5	330			200	200	
RA0180-498-F□-□	498	1.7	12	300	540	210	360			220	220	
RA0180-538-F□-□	538	1.8	13	325	585	227.5	390			240	240	
RA0180-578-F□-□	578	2.0	14	350	630	245	420			260	260	
RA0180-618-F□-□	618	2.1	15	375	675	262.5	450	4	8.8	185	190	185
RA0180-658-F□-□	658	2.2	16	400	720	280	480			200	200	200
RA0180-698-F□-□	698	2.4	17	425	765	297.5	510			210	220	210

Machining Dimensions of Mounting Area



Model No.	Slot Depth D (mm)
RA0180-□-F31-□	31
RA0180-□-F34-□	34

Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

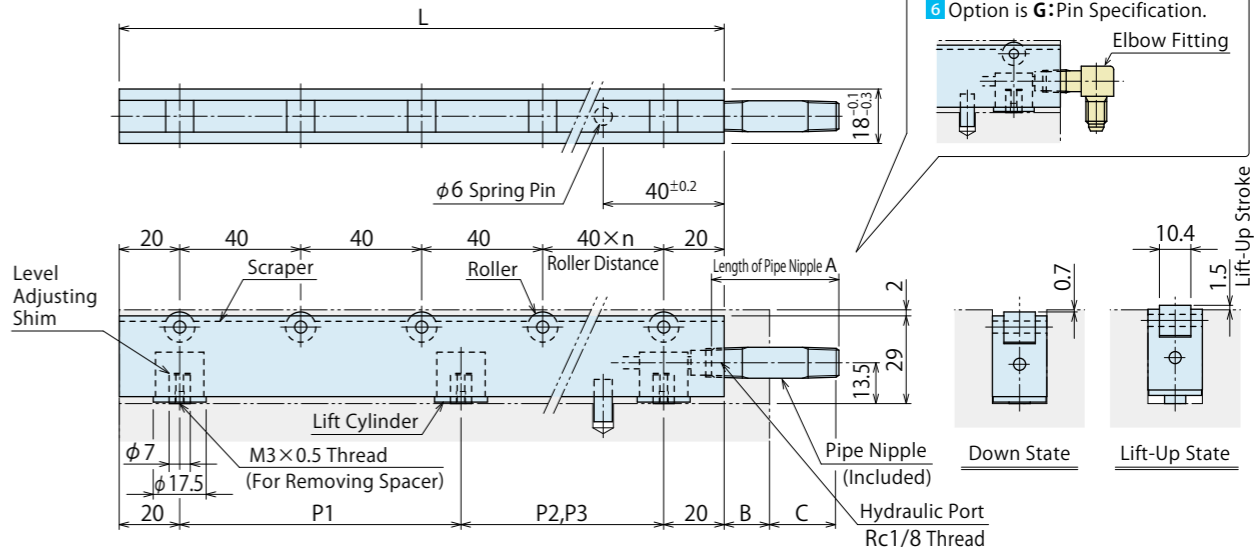
Length of Pipe Nipple A	B	Projection on Pipe Nipple C※3
50	0 ~ 23	12 ~ 35
75	24 ~ 48	
100	49 ~ 73	
125	74 ~ 98	12 ~ 36
150	99 ~ 123	

Notes:

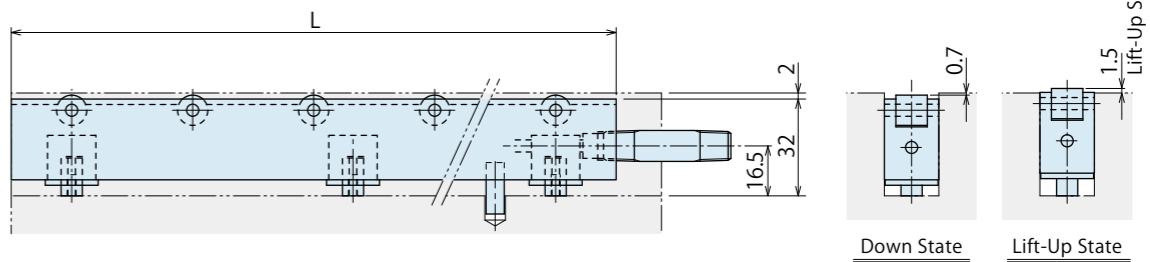
- ※1. The allowable die weight is for when the die rests on all rollers.
- ※2. The material. Allowable die weight of material : FC250 is same as S45C.
- ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-15

RA0180 : Pin Specifications

External Dimensions : RA0180-□-F31-□-G



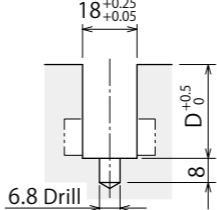
External Dimensions : RA0180-□-F34-□-G ※ Dimensions not listed are the same as RA0180-□-F31-□-G.



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)※1				Lift Cylinder Qty.	Lifting Force (kN)	Lift Cylinder Distance (mm)		
				Flat Roller S5400※2	Flat Roller S45C※2	Crowning Roller S5400※2	Crowning Roller S45C※2			P1	P2	P3
RA0180-120-F□-□-G	120	0.4	3	75	135	52.5	90	2	4.4	80		
RA0180-160-F□-□-G	160	0.6	4	100	180	70	120			120		
RA0180-200-F□-□-G	200	0.7	5	125	225	87.5	150			160		
RA0180-240-F□-□-G	240	0.8	6	150	270	105	180			200		
RA0180-280-F□-□-G	280	1.0	7	175	315	122.5	210			240		
RA0180-320-F□-□-G	320	1.1	8	200	360	140	240			280		
RA0180-360-F□-□-G	360	1.3	9	225	405	157.5	270	3	6.6	160	160	
RA0180-400-F□-□-G	400	1.4	10	250	450	175	300			180	180	
RA0180-440-F□-□-G	440	1.5	11	275	495	192.5	330			200	200	
RA0180-480-F□-□-G	480	1.7	12	300	540	210	360			220	220	
RA0180-520-F□-□-G	520	1.8	13	325	585	227.5	390			240	240	
RA0180-560-F□-□-G	560	2.0	14	350	630	245	420			260	260	
RA0180-600-F□-□-G	600	2.1	15	375	675	262.5	450	4	8.8	185	190	185
RA0180-640-F□-□-G	640	2.2	16	400	720	280	480			200	200	200
RA0180-680-F□-□-G	680	2.4	17	425	765	297.5	510			210	220	210

Machining Dimensions of Mounting Area



Model No.	Slot Depth D (mm)
RA0180-□-F31-□-G	31
RA0180-□-F34-□-G	34

Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

Length of Pipe Nipple A	B	Projection on Pipe Nipple C※3
50	0 ~ 32	12 ~ 44
75	33 ~ 57	
100	58 ~ 82	
125	83 ~ 107	12 ~ 36
150	108 ~ 132	

Notes:

- ※1. The allowable die weight is for when the die rests on all rollers.
- ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
- ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-6

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

MRD

MRE/MRF

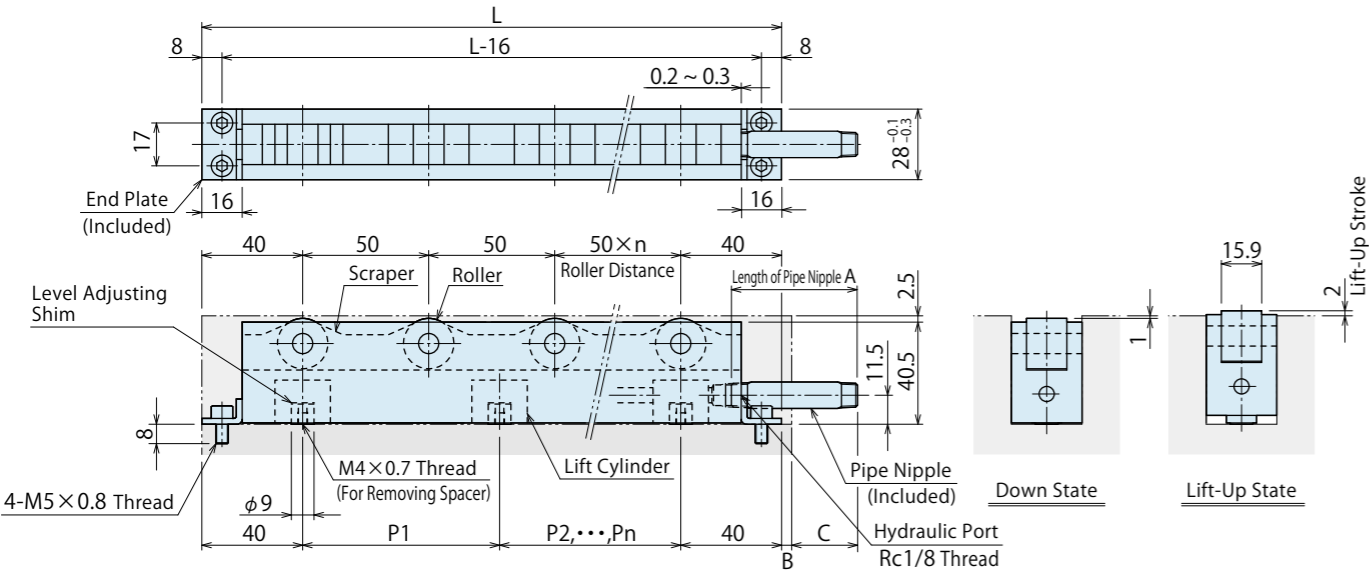
MRG

MRJ/MRK



RA0280 : Standard

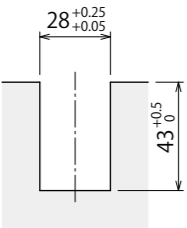
External Dimensions : RA0280-□-□



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg) <sup>*1</sup>				Lift Cylinder		Lift Cylinder Distance (mm)						
				Flat Roller		Crowning Roller		Qty.	Lifting Force (kN)	P1	P2	P3	P4	P5	P6	P7
				SS400 <sup>*2</sup>	S45C <sup>*2</sup>	SS400 <sup>*2</sup>	S45C <sup>*2</sup>									
RA0280-180-□	180	1.1	3	240	420	150	270	2	10	100						
RA0280-230-□	230	1.4	4	320	560	200	360			150						
RA0280-280-□	280	1.8	5	400	700	250	450			200						
RA0280-330-□	330	2.1	6	480	840	300	540			250						
RA0280-380-□	380	2.5	7	560	980	350	630			300						
RA0280-430-□	430	2.9	8	640	1120	400	720	3	15	175	175					
RA0280-480-□	480	3.2	9	720	1260	450	810			200	200					
RA0280-530-□	530	3.6	10	800	1400	500	900			225	225					
RA0280-580-□	580	3.9	11	880	1540	550	990			165	170	165				
RA0280-630-□	630	4.3	12	960	1680	600	1080			180	190	180				
RA0280-680-□	680	4.6	13	1040	1820	650	1170	4	20	200	200	200				
RA0280-730-□	730	5.0	14	1120	1960	700	1260			215	220	215				
RA0280-780-□	780	5.4	15	1200	2100	750	1350			175	175	175	175			
RA0280-830-□	830	5.7	16	1280	2240	800	1440			185	190	190	185			
RA0280-880-□	880	6.1	17	1360	2380	850	1530			200	200	200	200			
RA0280-930-□	930	6.4	18	1440	2520	900	1620	5	25	170	170	170	170	170		
RA0280-980-□	980	6.8	19	1520	2660	950	1710			180	180	180	180	180		
RA0280-1030-□	1030	7.1	20	1600	2800	1000	1800			190	190	190	190	190		
RA0280-1080-□	1080	7.5	21	1680	2940	1050	1890			200	200	200	200	200		
RA0280-1130-□	1130	7.9	22	1760	3080	1100	1980			175	175	175	175	175	175	
RA0280-1180-□	1180	8.2	23	1840	3220	1150	2070	6	30	180	185	185	185	185	180	
RA0280-1230-□	1230	8.6	24	1920	3360	1200	2160			190	190	195	195	190	190	
RA0280-1280-□	1280	8.9	25	2000	3500	1250	2250			200	200	200	200	200	200	
RA0280-1330-□	1330	9.3	26	2080	3640	1300	2340			175	180	180	180	180	180	175
RA0280-1380-□	1380	9.6	27	2160	3780	1350	2430			185	186	186	186	186	186	185
RA0280-1430-□	1430	10.0	28	2240	3920	1400	2520	7	35	190	194	194	194	194	194	190
RA0280-1480-□	1480	10.3	29	2320	4060	1450	2610			200	200	200	200	200	200	200

Machining Dimensions of Mounting Area



Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

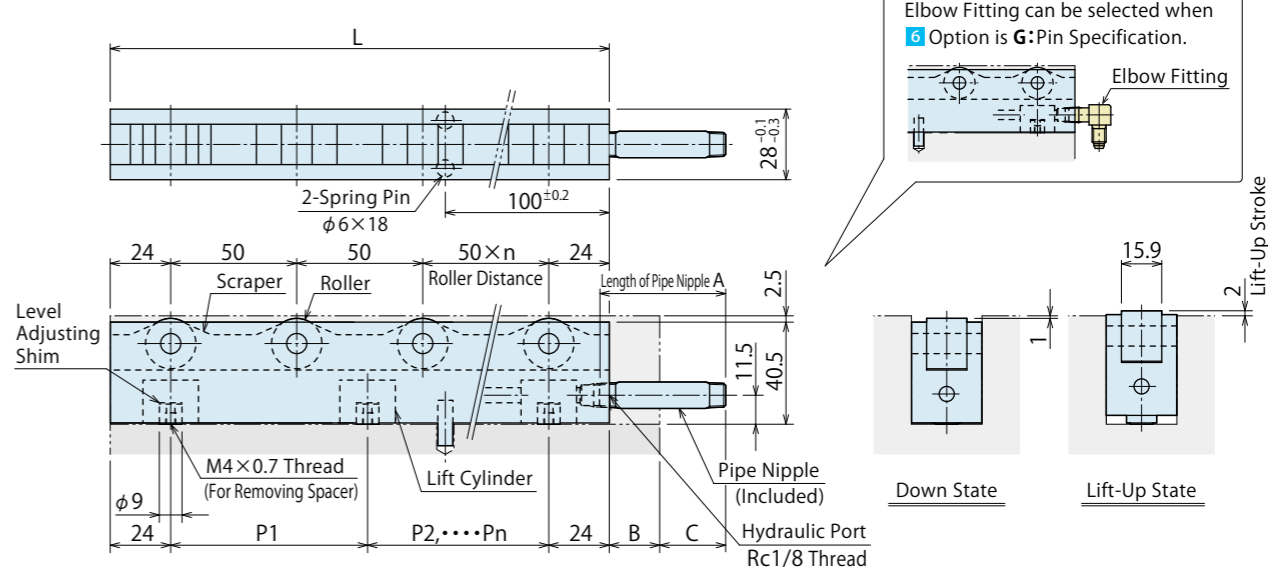
Length of Pipe Nipple A	B	Projection on Pipe Nipple C※3
50	0 ~ 16	12 ~ 28
75	17 ~ 41	
100	42 ~ 66	
125	67 ~ 91	12 ~ 36
150	92 ~ 116	

Notes:

- ※1. The allowable die weight is for when the die rests on all rollers.
- ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
- ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-22

RA0280 : Pin Specifications

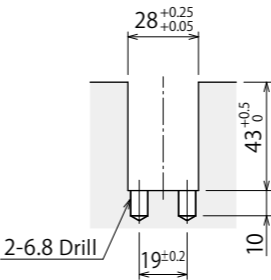
External Dimensions : RA0280-□-□-G



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)*1				Lift Cylinder		Lift Cylinder Distance (mm)						
				Flat Roller		Crowning Roller		Qty.	Lifting Force (kN)	P1	P2	P3	P4	P5	P6	P7
				SS400*2	S45C*2	SS400*2	S45C*2									
RA0280-148-□-G	148	1.1	3	240	420	150	270	2	10	100						
RA0280-198-□-G	198	1.4	4	320	560	200	360			150						
RA0280-248-□-G	248	1.8	5	400	700	250	450			200						
RA0280-298-□-G	298	2.1	6	480	840	300	540			250						
RA0280-348-□-G	348	2.5	7	560	980	350	630			300						
RA0280-398-□-G	398	2.9	8	640	1120	400	720	3	15	175	175					
RA0280-448-□-G	448	3.2	9	720	1260	450	810			200	200					
RA0280-498-□-G	498	3.6	10	800	1400	500	900			225	225					
RA0280-548-□-G	548	3.9	11	880	1540	550	990			165	170	165				
RA0280-598-□-G	598	4.3	12	960	1680	600	1080			180	190	180				
RA0280-648-□-G	648	4.6	13	1040	1820	650	1170	4	20	200	200	200				
RA0280-698-□-G	698	5.0	14	1120	1960	700	1260			215	220	215				
RA0280-748-□-G	748	5.4	15	1200	2100	750	1350			175	175	175	175			
RA0280-798-□-G	798	5.7	16	1280	2240	800	1440			185	190	190	185			
RA0280-848-□-G	848	6.1	17	1360	2380	850	1530			200	200	200	200			
RA0280-898-□-G	898	6.4	18	1440	2520	900	1620	5	25	170	170	170	170	170		
RA0280-948-□-G	948	6.8	19	1520	2660	950	1710			180	180	180	180	180		
RA0280-998-□-G	998	7.1	20	1600	2800	1000	1800			190	190	190	190	190		
RA0280-1048-□-G	1048	7.5	21	1680	2940	1050	1890			200	200	200	200	200		
RA0280-1098-□-G	1098	7.9	22	1760	3080	1100	1980			175	175	175	175	175	175	
RA0280-1148-□-G	1148	8.2	23	1840	3220	1150	2070	6	30	180	185	185	185	185	180	
RA0280-1198-□-G	1198	8.6	24	1920	3360	1200	2160			190	190	195	195	190	190	
RA0280-1248-□-G	1248	8.9	25	2000	3500	1250	2250			200	200	200	200	200	200	
RA0280-1298-□-G	1298	9.3	26	2080	3640	1300	2340			175	180	180	180	180	180	175
RA0280-1348-□-G	1348	9.6	27	2160	3780	1350	2430			185	186	186	186	186	186	185
RA0280-1398-□-G	1398	10.0	28	2240	3920	1400	2520	7	35	190	194	194	194	194	194	190
RA0280-1448-□-G	1448	10.3	29	2320	4060	1450	2610			200	200	200	200	200	200	200

Machining Dimensions of Mounting Area



Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

Length of Pipe Nipple A	B	Projection on Pipe Nipple C※3
50	0 ~ 32	12 ~ 44
75	33 ~ 57	
100	58 ~ 82	
125	83 ~ 107	12 ~ 36
150	108 ~ 132	

Notes:

- ※1. The allowable die weight is for when the die rests on all rollers.
- ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
- ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-6

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

MRD

MRE/MRF

MRG

MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

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MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

MRJ/MRK

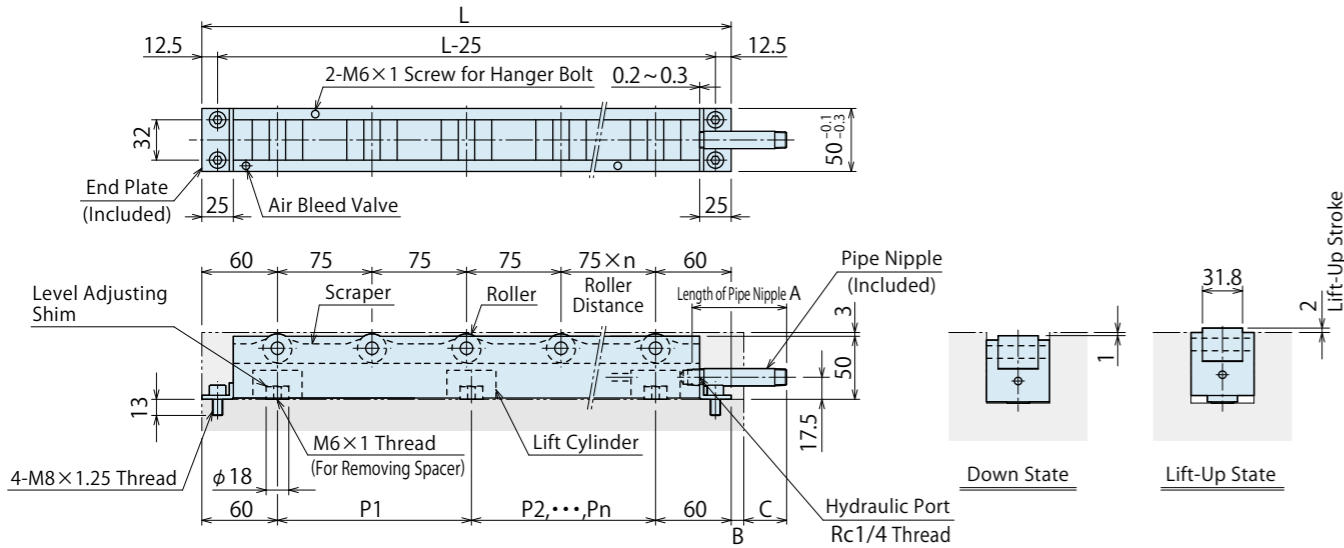
MRJ/MRK

MRJ/MRK

MRJ/MRK

RA0500 : Standard

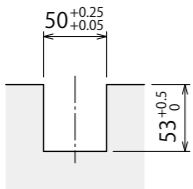
External Dimensions : RA0500-□-□



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)※1				Lift Cylinder		Lift Cylinder Distance (mm)						
				Flat Roller		Crowning Roller		Qty.	Lifting Force (kN)	P1	P2	P3	P4	P5	P6	P7
				SS400※2	S45C※2	SS400※2	S45C※2									
RA0500-195-□	195	2.3	2	400	700	220	400	2	22.6	75						
RA0500-270-□	270	3.4	3	600	1050	330	600			150						
RA0500-345-□	345	4.6	4	800	1400	440	800			225						
RA0500-420-□	420	5.7	5	1000	1750	550	1000	3	33.9	300						
RA0500-495-□	495	6.8	6	1200	2100	660	1200			375						
RA0500-570-□	570	8.0	7	1400	2450	770	1400			225	225					
RA0500-645-□	645	9.1	8	1600	2800	880	1600	4	45.2	262.5	262.5					
RA0500-720-□	720	10.2	9	1800	3150	990	1800			300	300					
RA0500-795-□	795	11.4	10	2000	3500	1100	2000			225	225	225				
RA0500-870-□	870	12.5	11	2200	3850	1210	2200	5	56.5	250	250	250				
RA0500-945-□	945	13.6	12	2400	4200	1320	2400			275	275	275				
RA0500-1020-□	1020	14.8	13	2600	4550	1430	2600			225	225	225	225			
RA0500-1095-□	1095	15.9	14	2800	4900	1540	2800	6	67.8	240	247.5	247.5	240			
RA0500-1170-□	1170	17.0	15	3000	5250	1650	3000			262.5	262.5	262.5	262.5			
RA0500-1245-□	1245	18.2	16	3200	5600	1760	3200			280	282.5	282.5	280			
RA0500-1320-□	1320	19.3	17	3400	5950	1870	3400	7	79.1	240	240	240	240	240		
RA0500-1395-□	1395	20.5	18	3600	6300	1980	3600			255	255	255	255			
RA0500-1470-□	1470	21.6	19	3800	6650	2090	3800			270	270	270	270			
RA0500-1545-□	1545	22.7	20	4000	7000	2200	4000	8	90.4	237.5	237.5	237.5	237.5	237.5		
RA0500-1620-□	1620	23.9	21	4200	7350	2310	4200			250	250	250	250	250		
RA0500-1695-□	1695	25.0	22	4400	7700	2420	4400			262.5	262.5	262.5	262.5	262.5		
RA0500-1770-□	1770	26.1	23	4600	8050	2530	4600			235	236	236	236	236	235	
RA0500-1845-□	1845	27.3	24	4800	8400	2640	4800			245	247	247	247	247	247	245

Machining Dimensions of Mounting Area



Projection on Pipe Nipple C

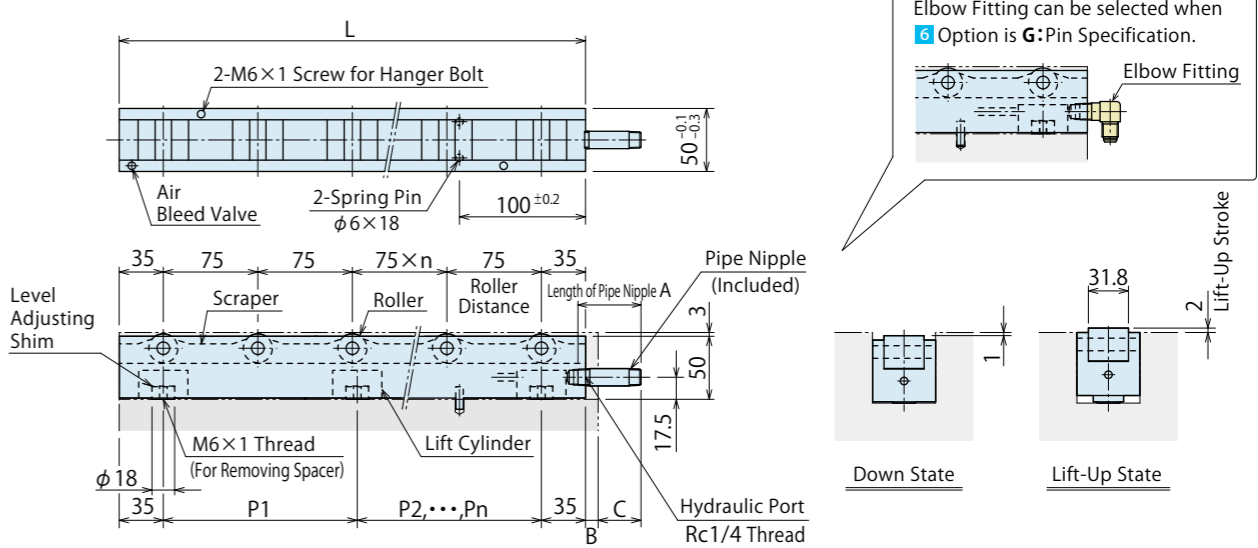
Select the length of pipe nipple based on required projection on pipe nipple.

Length of Pipe Nipple A	B	Projection on Pipe Nipple C <sup>※3</sup>
50	0	16
75	1 ~ 25	16 ~ 40
100	26 ~ 50	
125	51 ~ 75	
150	76 ~ 100	

- Notes:
- ※1. The allowable die weight is for when the die rests on all rollers.
  - ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
  - ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-34

RA0500 : Pin Specifications

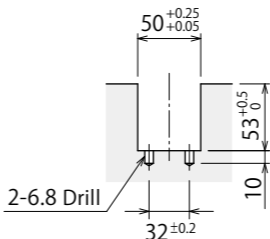
External Dimensions : RA0500-□-□-G



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg) <sup>*1</sup>				Lift Cylinder		Lift Cylinder Distance (mm)						
				Flat Roller		Crowning Roller		Qty.	Lifting Force (kN)	P1	P2	P3	P4	P5	P6	P7
				SS400 <sup>*2</sup>	S45C <sup>*2</sup>	SS400 <sup>*2</sup>	S45C <sup>*2</sup>									
RA0500-220-□-G	220	3.4	3	600	1050	330	600	2	22.6	150						
RA0500-295-□-G	295	4.6	4	800	1400	440	800			225						
RA0500-370-□-G	370	5.7	5	1000	1750	550	1000			300						
RA0500-445-□-G	445	6.8	6	1200	2100	660	1200	3	33.9	375						
RA0500-520-□-G	520	8.0	7	1400	2450	770	1400			225	225					
RA0500-595-□-G	595	9.1	8	1600	2800	880	1600			262.5	262.5					
RA0500-670-□-G	670	10.2	9	1800	3150	990	1800	4	45.2	300	300					
RA0500-745-□-G	745	11.4	10	2000	3500	1100	2000			225	225	225				
RA0500-820-□-G	820	12.5	11	2200	3850	1210	2200			250	250	250				
RA0500-895-□-G	895	13.6	12	2400	4200	1320	2400	5	56.5	275	275	275				
RA0500-970-□-G	970	14.8	13	2600	4550	1430	2600			225	225	225	225			
RA0500-1045-□-G	1045	15.9	14	2800	4900	1540	2800			240	247.5	247.5	240			
RA0500-1120-□-G	1120	17.0	15	3000	5250	1650	3000	6	67.8	262.5	262.5	262.5	262.5			
RA0500-1195-□-G	1195	18.2	16	3200	5600	1760	3200			280	282.5	282.5	280			
RA0500-1270-□-G	1270	19.3	17	3400	5950	1870	3400			240	240	240	240	240		
RA0500-1345-□-G	1345	20.5	18	3600	6300	1980	3600	7	79.1	255	255	255	255	255		
RA0500-1420-□-G	1420	21.6	19	3800	6650	2090	3800			270	270	270	270	270		
RA0500-1495-□-G	1495	22.7	20	4000	7000	2200	4000			237.5	237.5	237.5	237.5	237.5	237.5	
RA0500-1570-□-G	1570	23.9	21	4200	7350	2310	4200	8	90.4	250	250	250	250	250		
RA0500-1645-□-G	1645	25.0	22	4400	7700	2420	4400			262.5	262.5	262.5	262.5	262.5	262.5	
RA0500-1720-□-G	1720	26.1	23	4600	8050	2530	4600			235	236	236	236	236	236	235
RA0500-1795-□-G	1795	27.3	24	4800	8400	2640	4800			245	247	247	247	247	247	245

Machining Dimensions of Mounting Area



Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

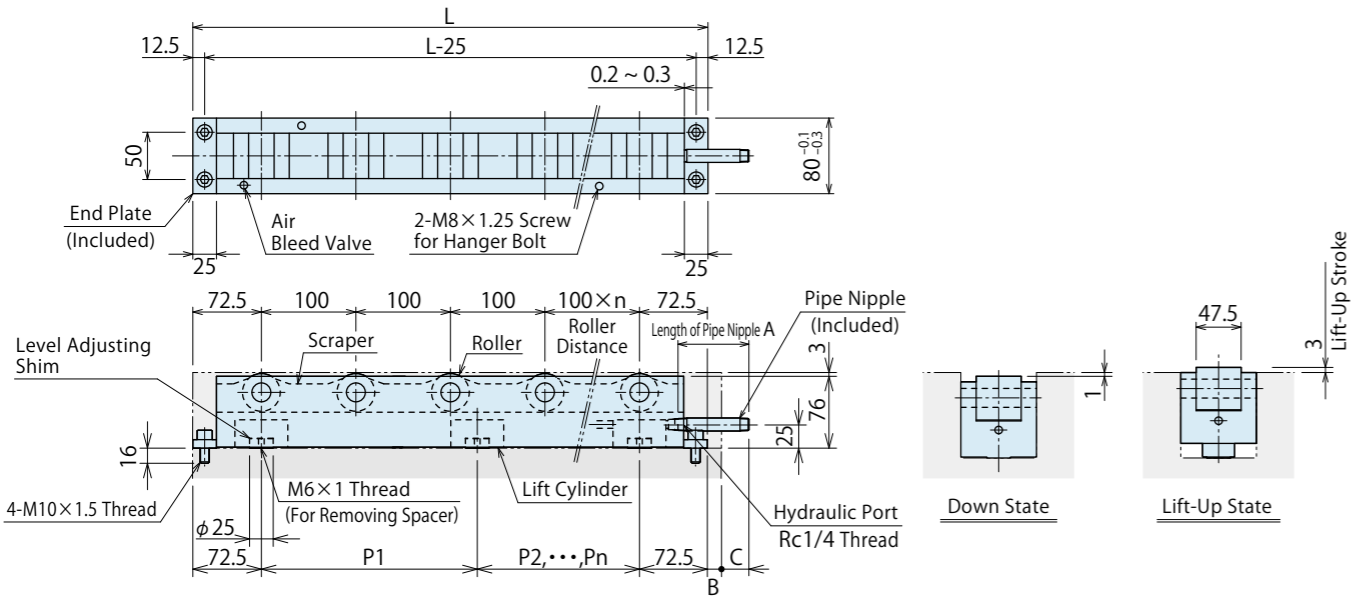
Length of Pipe Nipple A	B	Projection on Pipe Nipple C <sup>※3</sup>
50	0 ~ 25	16 ~ 41
75	26 ~ 50	16 ~ 40
100	51 ~ 75	
125	76 ~ 100	
150	101 ~ 125	

- Notes:
- ※1. The allowable die weight is for when the die rests on all rollers.
  - ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
  - ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-9

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

RA0800 : Standard

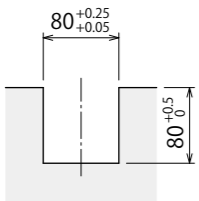
External Dimensions : RA0800-□-□



External Dimension List

Model No.	Total Length of Die Lifter L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)※1		Lift Cylinder Qty.	Lifting Force (kN)	Lift Cylinder Distance (mm)				
				SS400※2	S45C※2			P1	P2	P3	P4	P5
RA0800-445-□	445	15.1	4	2000	3200	2	50	300				
RA0800-545-□	545	18.8	5	2500	4000			400				
RA0800-645-□	645	22.5	6	3000	4800	3	75	500				
RA0800-745-□	745	26.3	7	3500	5600			300	300			
RA0800-845-□	845	30.0	8	4000	6400	4	100	350	350			
RA0800-945-□	945	33.7	9	4500	7200			400	400			
RA0800-1045-□	1045	37.5	10	5000	8000	5	125	300	300	300		
RA0800-1145-□	1145	41.2	11	5500	8800			330	340	330		
RA0800-1245-□	1245	44.9	12	6000	9600	6	150	360	380	360		
RA0800-1345-□	1345	48.7	13	6500	10400			300	300	300	300	
RA0800-1445-□	1445	52.4	14	7000	11200	5	125	325	325	325	325	
RA0800-1545-□	1545	56.2	15	7500	12000			350	350	350	350	
RA0800-1645-□	1645	59.9	16	8000	12800	6	150	300	300	300	300	300
RA0800-1745-□	1745	63.6	17	8500	13600			320	320	320	320	320
RA0800-1845-□	1845	67.4	18	9000	14400			340	340	340	340	340

Machining Dimensions of Mounting Area



Projection on Pipe Nipple C

Select the length of pipe nipple based on required projection on pipe nipple.

Length of Pipe Nipple A	B	Projection on Pipe Nipple C※3
50	0	16
75	1 ~ 25	
100	26 ~ 50	
125	51 ~ 75	16 ~ 40
150	76 ~ 100	

Notes:

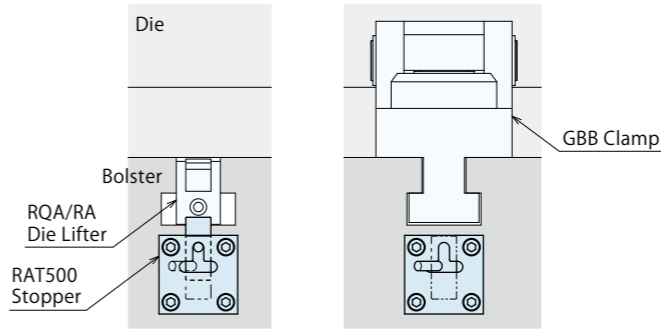
- ※1. The allowable die weight is for when the die rests on all rollers.
- ※2. Die material. Allowable die weight of material : FC250 is same as S45C.
- ※3. Tolerance of projection on pipe nipple C is ±1.5mm depending on screwing amount of R thread. Calculation formula : C=A-B-34

Accessory : Stopper

When locked, RAT Stopper prevents the die lifter from coming out of the bolster.

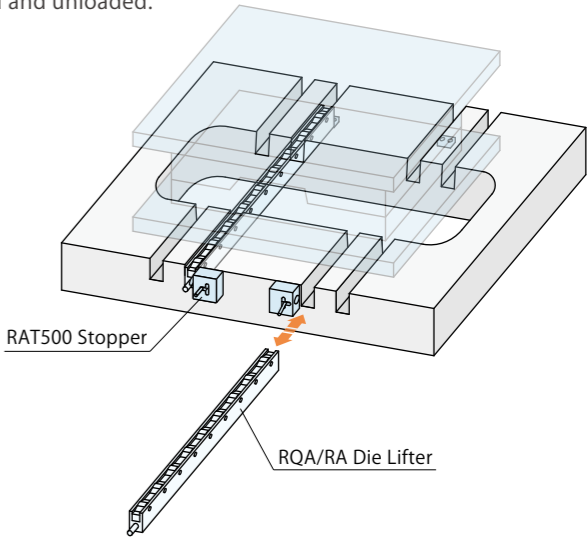
When the stopper is unlocked, the die lifter can be freely loaded and unloaded.

- When sharing a die lifter with several press machines.
- When changing slots depending on the width of the die.
- For prevention of die dropping into a scrap hole.
- When sharing T-slot with die lifter and automatic clamp.



Set the die lifter when loading / unloading the die.

Set automatic clamp when locking the die.

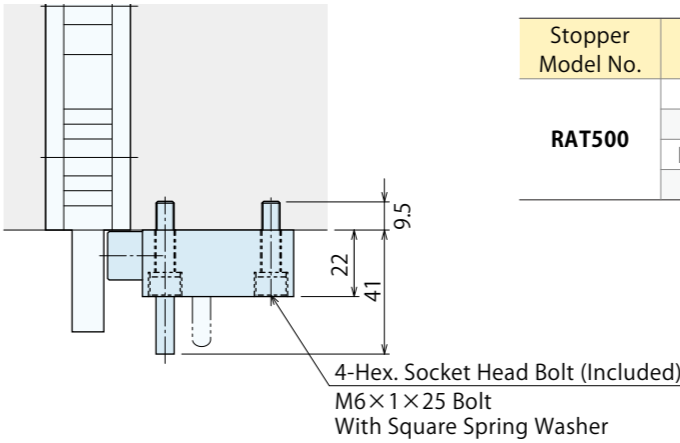


Model No. Indication

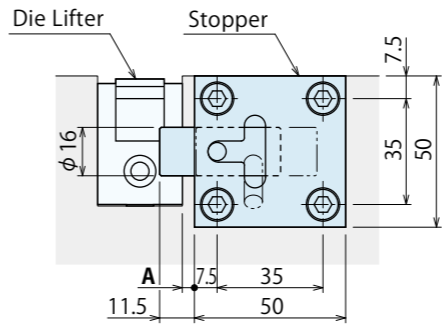
RAT50 0

Design No.  
(Revision Number)

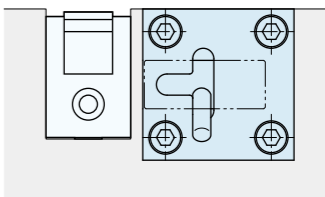
External Dimensions and Machining Dimensions of Mounting Area



Stopper Model No.	Die Lifter Model No.	Dimension A (mm)	Weight (kg)
RAT500	RA0180	9	0.5
	RA0220	7	
	RQA/RA0280	4	
	RA0500	0	



When the stopper is locked.  
Prevents die lifter from coming out



When the stopper is unlocked.  
Able to load / unload the die lifter

Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

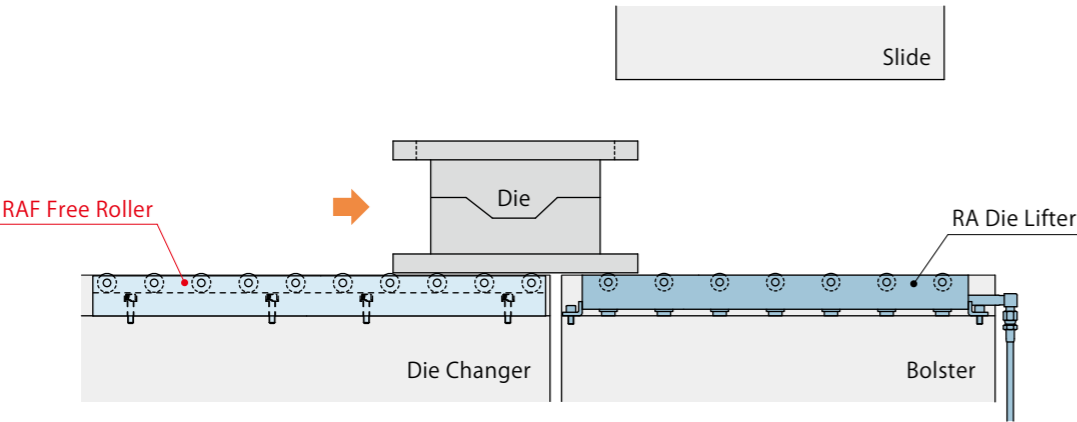
RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

● Free Roller

Free roller which does not require hydraulic pressure is always lifted up.  
Suitable for specific applications where rollers do not have to be down.



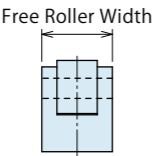
● Model No. Indication

RAF 28 0 - 230

1 2 3

1 Free Roller Width

- 28 : Free Roller Width 28 mm
- 50 : Free Roller Width 50 mm
- 80 : Free Roller Width 80 mm

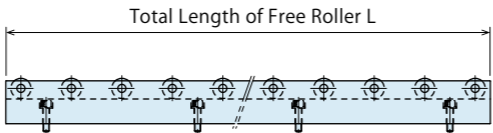


2 Design No.

0 : Revision Number

3 Total Length of Free Roller

3 Total Length of Free Roller that you can choose depends on 1 Free Roller Width.  
Refer to external dimensions for further information.



● Specifications

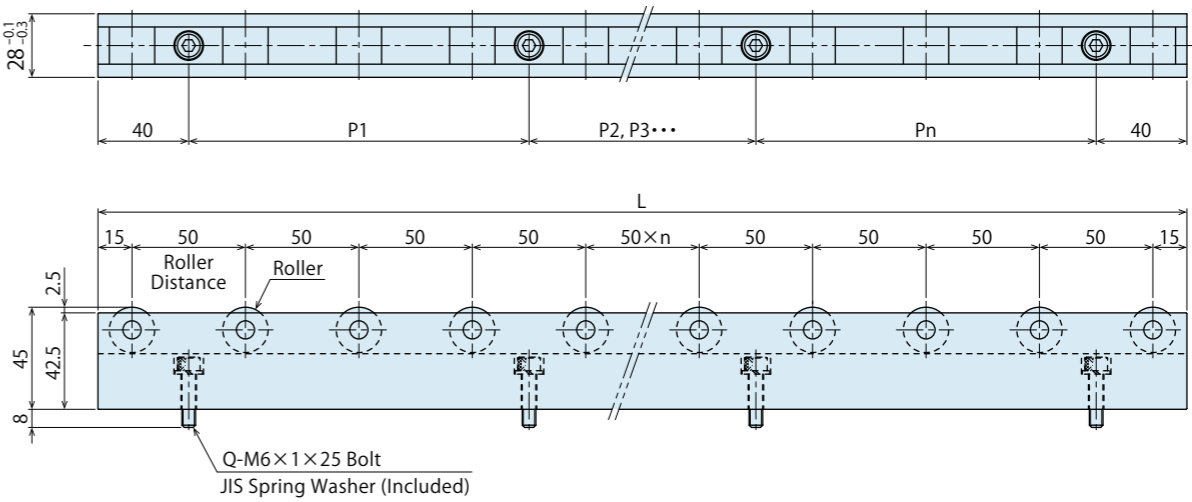
Model No.			RAF280	RAF500	RAF800
Allowable Die Weight per Roller ※1, ※2	Die Material SS400	kg	80	200	500
	Die Material S45C・FC250	kg	140	350	800
Operating Temperature		℃	0 ~ 70		

Notes:

※1. The number of rollers per free roller depends on the total length of free roller.  
Refer to the external dimensions for further information.

※2. Allowable die weight is based on the hardness of bottom of die (contact surface of roller).

● External Dimensions:RAF280-□



● External Dimension List

Model No.	Total Length of Free Roller L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg)※1		Number of Mounting Bolts Q	Mounting Bolt Distance (mm)				
				Die Material SS400	Die Material S45C・FC250		P1	P2	P3	P4	P5
RAF280-230	230	1.8	5	400	700	2	150				
RAF280-280	280	2.2	6	480	840		200				
RAF280-330	330	2.6	7	560	980		250				
RAF280-380	380	3.0	8	640	1120		300				
RAF280-430	430	3.4	9	720	1260	3	150	200			
RAF280-480	480	3.8	10	800	1400		200	200			
RAF280-530	530	4.1	11	880	1540		200	250			
RAF280-580	580	4.5	12	960	1680		250	250			
RAF280-630	630	4.9	13	1040	1820	4	250	300			
RAF280-680	680	5.3	14	1120	1960		300	300			
RAF280-730	730	5.7	15	1200	2100		200	250	200		
RAF280-780	780	6.1	16	1280	2240		250	250	250		
RAF280-830	830	6.5	17	1360	2380	5	250	250	250		
RAF280-880	880	6.9	18	1440	2520		250	300	250		
RAF280-930	930	7.3	19	1520	2660		250	300	300		
RAF280-980	980	7.7	20	1600	2800		300	300	300		
RAF280-1030	1030	8.0	21	1680	2940	6	200	250	250	250	
RAF280-1080	1080	8.4	22	1760	3080		250	250	250	250	
RAF280-1130	1130	8.8	23	1840	3220		250	250	300	250	
RAF280-1180	1180	9.2	24	1920	3360		250	300	300	250	
RAF280-1230	1230	9.6	25	2000	3500	6	250	300	300	300	
RAF280-1280	1280	10.0	26	2080	3640		300	300	300	300	
RAF280-1330	1330	10.4	27	2160	3780		250	250	250	250	250
RAF280-1380	1380	10.8	28	2240	3920		250	250	300	250	250
RAF280-1430	1430	11.2	29	2320	4060	6	250	250	300	300	250
RAF280-1480	1480	11.6	30	2400	4200		250	300	300	300	250

Note:

※1. The allowable die weight is for when a die rests on all rollers.

Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

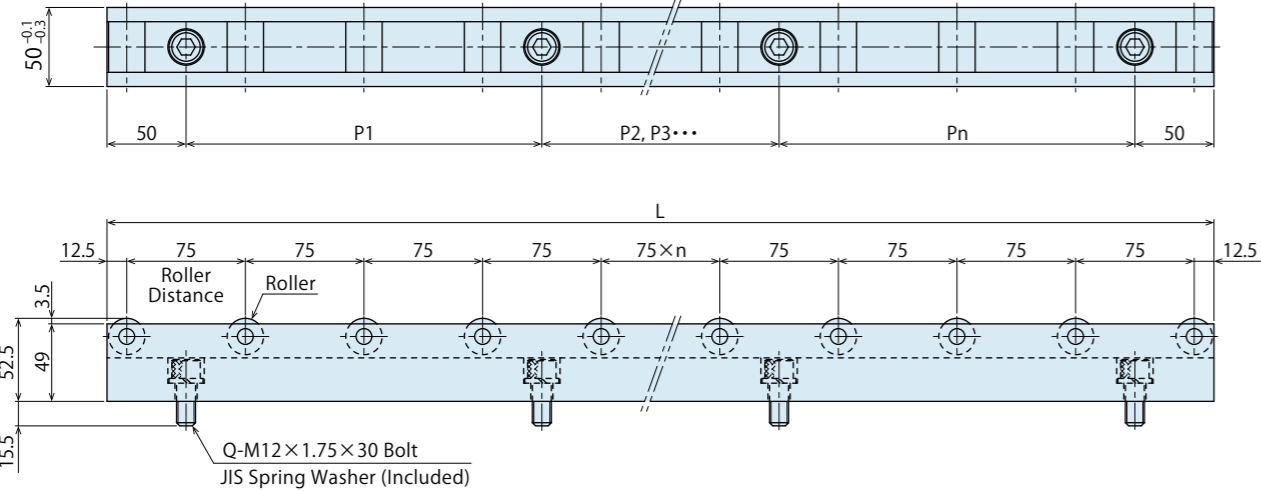
Die Lifter

RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

● External Dimensions:RAF500-□

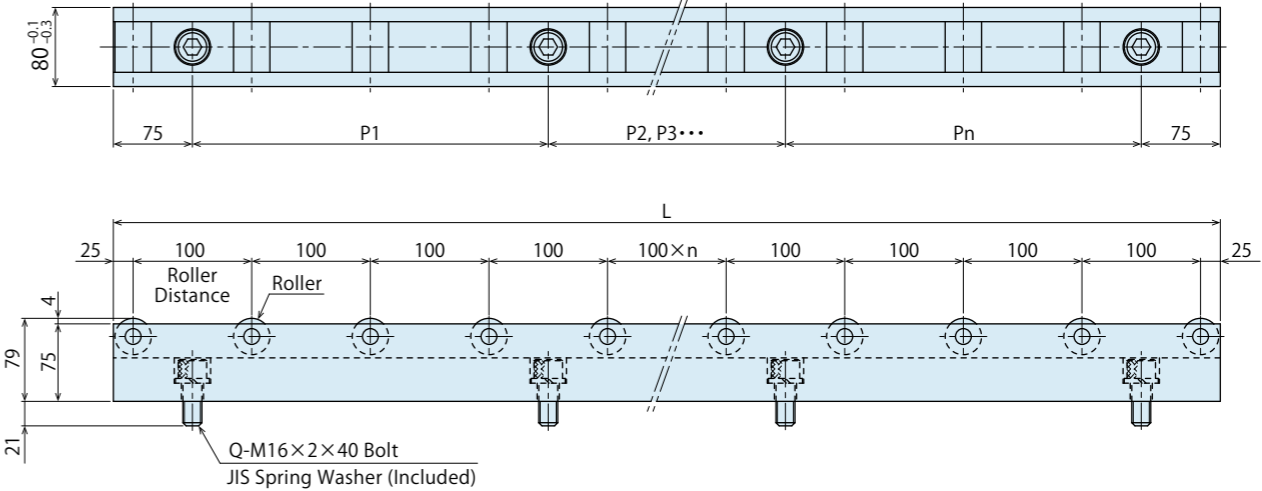


● External Dimension List

Model No.	Total Length of Free Roller L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg) <sup>※1</sup>		Number of Mounting Bolts Q	Mounting Bolt Distance (mm)					
				Die Material SS400	Die Material S45C・FC250		P1	P2	P3	P4	P5	P6
RAF500-250	250	3.9	4	800	1400	2	150					
RAF500-325	325	5.0	5	1000	1750		225					
RAF500-400	400	6.1	6	1200	2100		300					
RAF500-475	475	7.3	7	1400	2450	3	150	225				
RAF500-550	550	8.4	8	1600	2800		225	225				
RAF500-625	625	9.5	9	1800	3150		225	300				
RAF500-700	700	10.7	10	2000	3500	4	300	300				
RAF500-775	775	11.8	11	2200	3850		225	225	225			
RAF500-850	850	12.9	12	2400	4200		225	300	225			
RAF500-925	925	14.1	13	2600	4550	5	225	300	300			
RAF500-1000	1000	15.2	14	2800	4900		300	300	300			
RAF500-1075	1075	16.3	15	3000	5250		225	225	300	225		
RAF500-1150	1150	17.5	16	3200	5600	6	225	300	300	225		
RAF500-1225	1225	18.6	17	3400	5950		225	300	300	300		
RAF500-1300	1300	19.7	18	3600	6300		300	300	300	300		
RAF500-1375	1375	20.9	19	3800	6650	7	225	225	300	300	225	
RAF500-1450	1450	22.0	20	4000	7000		225	300	300	300	225	
RAF500-1525	1525	23.2	21	4200	7350		225	300	300	300	300	
RAF500-1600	1600	24.3	22	4400	7700	8	300	300	300	300	300	
RAF500-1675	1675	25.4	23	4600	8050		225	225	300	300	300	225
RAF500-1750	1750	26.6	24	4800	8400		225	300	300	300	300	225
RAF500-1825	1825	27.7	25	5000	8750	9	225	300	300	300	300	300
RAF500-1900	1900	28.8	26	5200	9100		300	300	300	300	300	300

Note:  
※1. The allowable die weight is for when a die rests on all rollers.

● External Dimensions:RAF800-□



● External Dimension List

Model No.	Total Length of Free Roller L (mm)	Weight (kg)	Number of Rollers	Allowable Die Weight (kg) <sup>※1</sup>		Number of Mounting Bolts Q	Mounting Bolt Distance (mm)				
				Die Material SS400	Die Material S45C・FC250		P1	P2	P3	P4	P5
RAF800-450	450	17.0	5	2500	4000	2	300				
RAF800-550	550	20.8	6	3000	4800		400				
RAF800-650	650	24.5	7	3500	5600	3	200	300			
RAF800-750	750	28.3	8	4000	6400		300	300			
RAF800-850	850	32.0	9	4500	7200		300	400			
RAF800-950	950	35.7	10	5000	8000	4	400	400			
RAF800-1050	1050	39.5	11	5500	8800		300	300	300		
RAF800-1150	1150	43.2	12	6000	9600		300	400	300		
RAF800-1250	1250	46.9	13	6500	10400	5	300	400	400		
RAF800-1350	1350	50.7	14	7000	11200		400	400	400		
RAF800-1450	1450	54.4	15	7500	12000		300	300	400	300	
RAF800-1550	1550	58.1	16	8000	12800	6	300	400	400	300	
RAF800-1650	1650	61.9	17	8500	13600		300	400	400	400	
RAF800-1750	1750	65.6	18	9000	14400		400	400	400	400	
RAF800-1850	1850	69.3	19	9500	15200	6	300	300	400	400	300

Note:  
※1. The allowable die weight is for when a die rests on all rollers.

Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

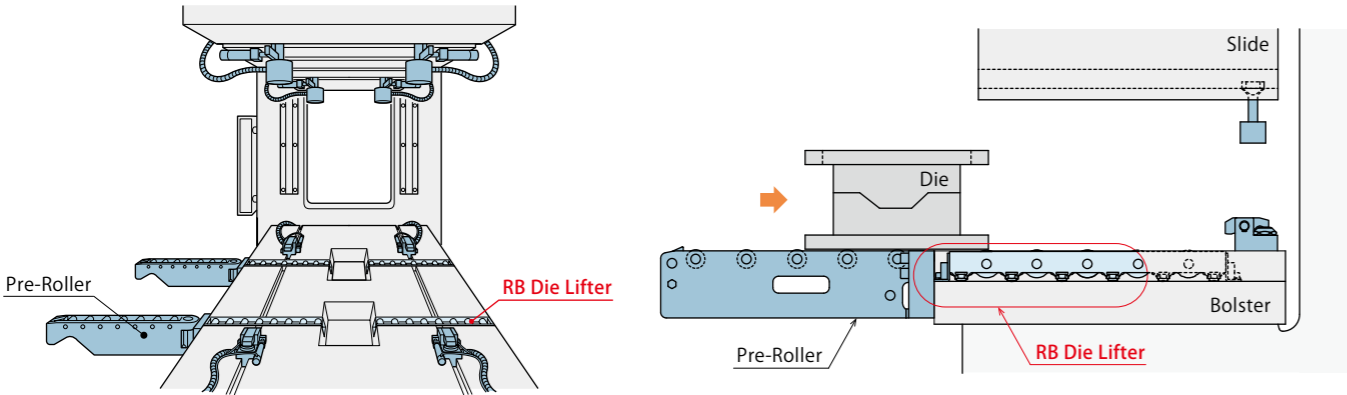
# Spring Die Lifter

Model RB

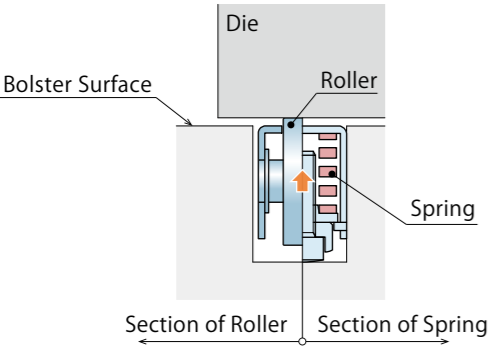


Set in the T-slot or U-slot. Easy to load and unload the die with spring lifting rollers.

The rollers of Die Lifter makes die loading easier.  
No hydraulic supply is required.

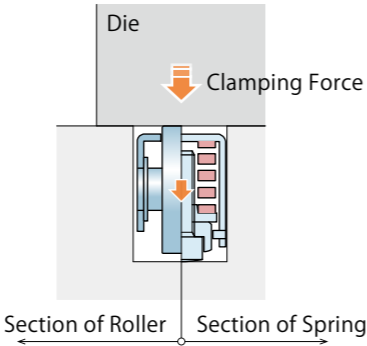


### Action Description



LIFT UP

Die lifter lifts up by spring force.  
The rollers are above the bolster surface,  
making die loading/unloading smooth.



LIFT DOWN

Die lifter moves down by clamping  
force which locks the die.  
The rollers are under the bolster  
so the die contacts the bolster.

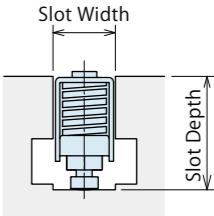
### Model No. Indication

RB 22 2 0 - V145

1 2 3 4

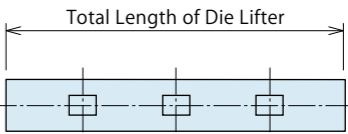
#### 1 Applicable Slot Width

- 22 : Slot Width 22 mm
- 24 : Slot Width 24 mm
- 28 : Slot Width 28 mm
- 32 : Slot Width 32 mm



#### 2 Total Length of Die Lifter

- 2 : Total Length of Die Lifter 200 mm
- 3 : Total Length of Die Lifter 300 mm



#### 3 Design No.

- 0 : Revision Number

#### 4 Option

- Blank : Standard
- V : High Temperature (0 ~ 200°C)
- 145 : Total Length of Die Lifter 145 mm※1 ※2 ( Only when choosing 2 Total Length of Die Lifter 2 : 200 mm )
- 245 : Total Length of Die Lifter 245 mm※1 ※2 ( Only when choosing 2 Total Length of Die Lifter 3 : 300 mm )

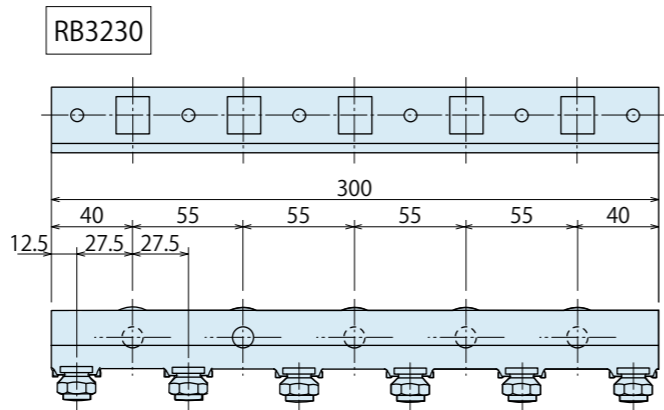
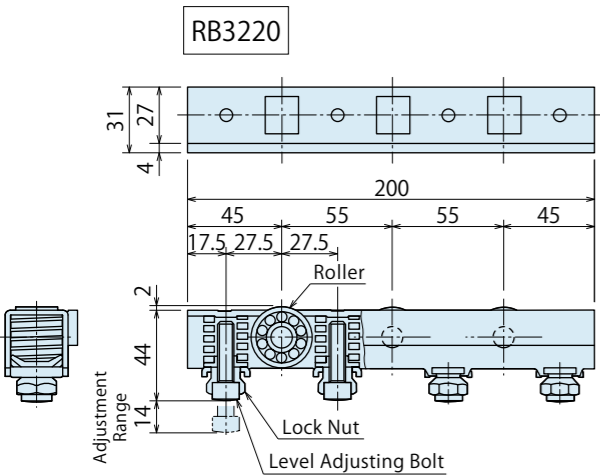
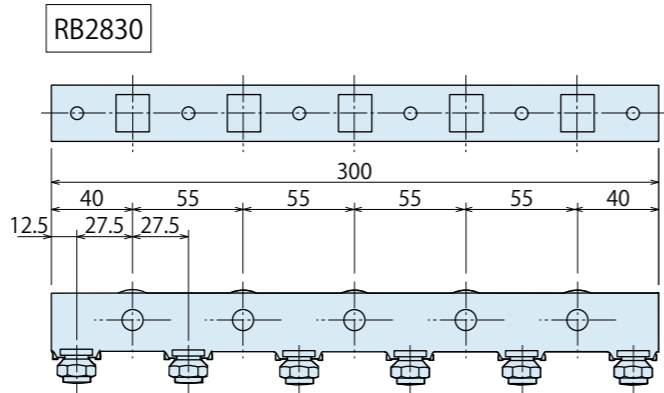
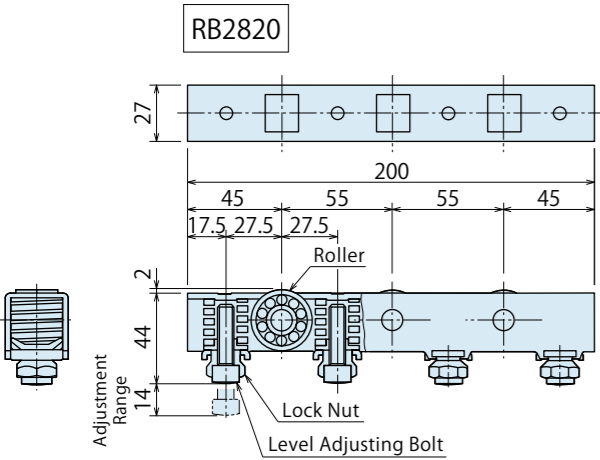
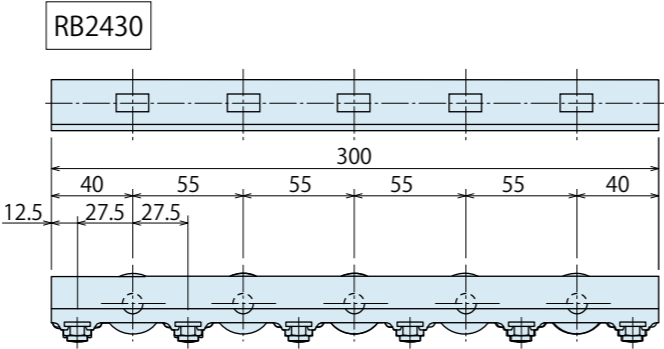
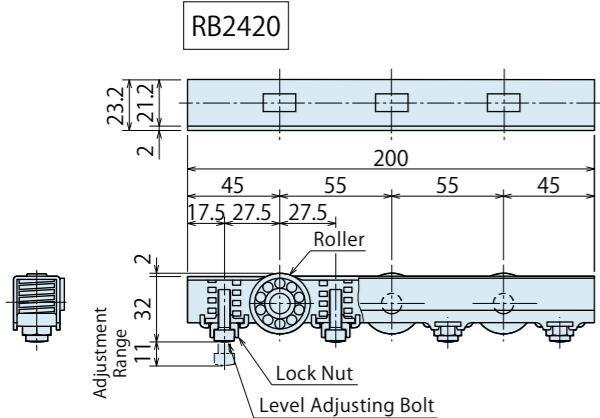
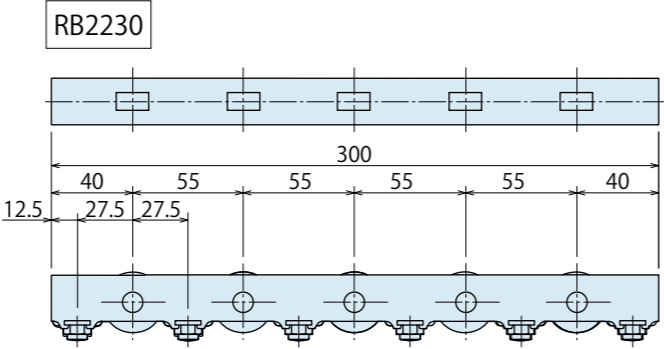
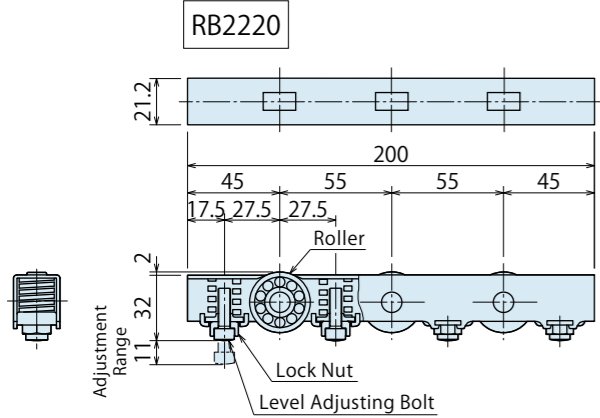
Notes:

- ※1. For 4 Option 145 and 245, even when specifications and other documents are written in inch, the model number of the total length will be written in millimeter.
- ※2. Please contact us for the external dimensions of 4 Option 145 and 245.  
1. End plate is not provided. Please refer to "Accessories" on P.144.

### Specifications

Model No.	RB2220	RB2230	RB2420	RB2430	RB2820	RB2830	RB3220	RB3230
Applicable Slot Width	mm	22	24	28	32			
Applicable Slot Depth	mm	32 ~ 43	44 ~ 58					
Total Length of Die Lifter	mm	200	300	200	300	200	300	300
Number of Rollers (per Die Lifter)		3	5	3	5	3	5	5
Number of Lift Springs (per Die Lifter)		4	6	4	6	4	6	6
Lifting Force (per Die Lifter)	kN	1.5	2.2	1.5	2.2	2.9	4.4	2.9
Operating Temperature	°C	0 ~ 110 ( V : High Temperature 0 ~ 200 °C )						
Weight	kg	0.4	0.7	0.5	0.8	0.8	1.3	0.9

External Dimensions



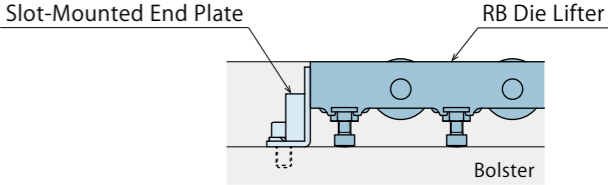
Accessories : Slot-Mounted End Plate

Model No. Indication

**RBE 21 0 - 43**

1 Width

- 21 : Width 21 mm (Applicable Die Lifter RB22□0)
- 23 : Width 23 mm (Applicable Die Lifter RB24□0)
- 27 : Width 27 mm (Applicable Die Lifter RB28□0)
- 31 : Width 31 mm (Applicable Die Lifter RB32□0)



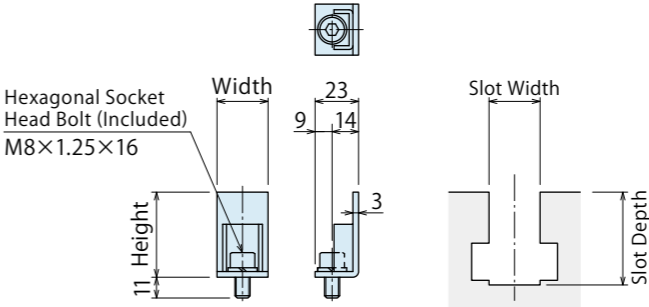
2 Design No.

0 : Revision Number

3 Height

- 43 : Height 43 mm (For 1 Width 21, 23)
- 45 : Height 45 mm (For 1 Width 27)
- 58 : Height 58 mm (For 1 Width 27, 31)

External Dimensions



Model No. Slot-Mounted End Plate		RBE210-43	RBE230-43	RBE270-45	RBE270-58	RBE310-58
Model No. Applicable Die Lifter		RB22□0	RB24□0	RB28□0		RB32□0
Width	mm	21	23	27	27	31
Height ※ <sup>1</sup>	mm	43	43	45	58	58
Applicable Slot Width	mm	22	24	28		32
Applicable Slot Depth	mm	32 ~ 43		44 ~ 58		
Weight	kg	0.1	0.1	0.1	0.1	0.1

Note:

※1. Please cut the end plate height according to applicable slot depth.

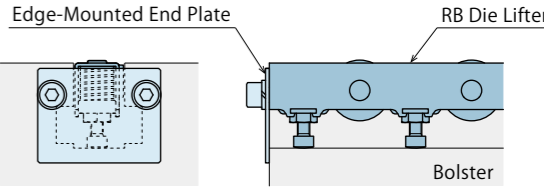
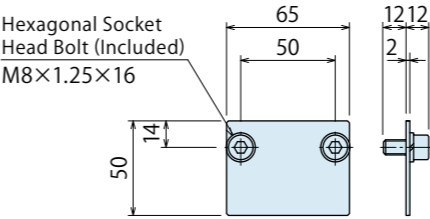
Accessory : Edge-Mounted End Plate

Model No. Indication

**RBF00 0**

Design No.  
(Revision Number)

External Dimensions



Notes:

- 1. Edge-Mounted End Plate can be used in all sizes of RB die lifter.
- 2. Weight : 0.1kg

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

MRD

MRE/MRF

MRG

MRJ/MRK

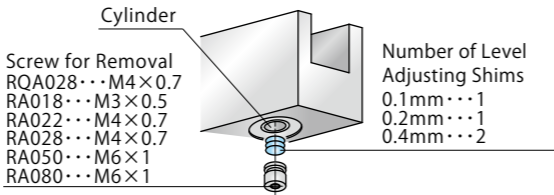
Cautions

Notes for Design

- 1) Check Specifications
  - Working pressure of RQA/RA Die Lifter is 25MPa, and maximum operating pressure is 27MPa.
  - Please use the product according to each specification of RQA/RA/RB Die Lifter and RAF Roller.
- 2) Check Die Weight
  - Please use the product within the allowable die weight range. If weight of the die exceeds the allowable range, the bottom of the die may be damaged and it may cause lifting failure.
- 3) Check the positions of scrap hole and cylinders (only for RQA/RA Die Lifter).
  - If the bolster has a scrap hole, make sure that cylinders on the bottom of RQA/RA Die Lifter are not on the space of the scrap hole. If cylinders are on a scrap hole, RQA/RA Die Lifter will be damaged resulting in malfunction and/or dangerous working conditions.
- 4) Check the positions of scrap hole and mounting bolts (only for RAF Roller).
  - If the bolster has a scrap hole, make sure that mounting bolts of RAF Roller are not on the space of the scrap hole.

Installation Notes

- 1) Check the fluid to use (for RQA/RA Die Lifter Only)
  - Please refer to Hydraulic Fluid List and use the appropriate fluid.
- 2) Procedure before Piping (for RQA/RA Die Lifter Only)
  - The pipeline and piping connector should be cleaned by thorough flushing.
- 3) Use Hydraulic Hose for Piping (for RQA/RA Die Lifter Only)
  - Please use a hydraulic hose since hydraulic connection port moves up and down.
- 4) Level Adjustment
  - Set the die lifter into U-slot (T-slot) and adjust the level according to dimensions when moving upward and downward. Please refer to the external dimensions for U-slot (T-slot) dimensions and setting of level adjustment. If the level is not adjusted, the load may not be uniformly distributed, which could damage the die and die lifter. Use the level adjusting shims to adjust the RQA/RA roller level, and use the level adjusting bolt to adjust the RB roller level and fasten the level adjusting bolt with a lock nut tightened with 5.9 - 9.8 N · m of torque.



- 5) Air Bleeding within Hydraulic Circuit (for RQA/RA Die Lifter Only)
  - Excessive air in the hydraulic circuit will slow the reaction time and may result in continuous idling of the pump. After installing the hydraulic circuit, or if the pump runs out of oil, be sure to release the air from the nipple in the case of RQA028 and RA018/022/028, or from the air bleed valve in the case of RA050/080.

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) The product should be operated by qualified personnel.
- 2) 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.

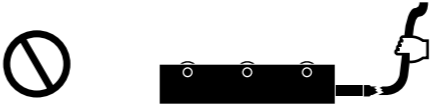
② Before removing the product, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the hydraulic circuits.

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.
- 3) Do not disassemble or modify.
  - If the product is taken apart or modified, the warranty will be voided even within the warranty period.
- 4) Do not touch die lifters while they are working.
  - Otherwise, your hands may be injured.



- 5) Hold the main body of RQA/RA Die Lifter when moving and removing.
  - If pulling on the hose, RQA/RA Die Lifter may fall off leading to accident. Also, rivet part of the hose will be loosened leading to fluid leakage.



- 6) 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 / Inspection

- 1) Removal of Product
  - Before removing the product, make sure that safety devices and preventive devices are in place.
  - Make sure there is no trouble/issue in the bolts and respective parts before restarting.
- 2) Make sure that the steel balls move smoothly and do not make noises.
- 3) Please contact us for overhaul and repairs.
- 4) Regularly tighten pipe lines to ensure proper use.
- 5) Regularly check that the supply hydraulic pressure is in the range of the operating pressure.
- 6) Make sure hydraulic fluid is not deteriorated.
- 7) 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.
- 8) Regularly tighten the mounting bolts of the end plate to ensure proper use.
- 9) The products should be stored in the cool and dark place without direct sunshine or moisture.

※ Refer to P.203 for common cautions.

• Notes on Installation

• Notes on Handling

• Hydraulic Fluid List

• Maintenance / Inspection

• Speed Control Circuit of Hydraulic Cylinder & Notes

• Warranty

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

# Pre-Roller

Model MRC

Model MRD

Model MRE/MRF

Model MRG/MRH

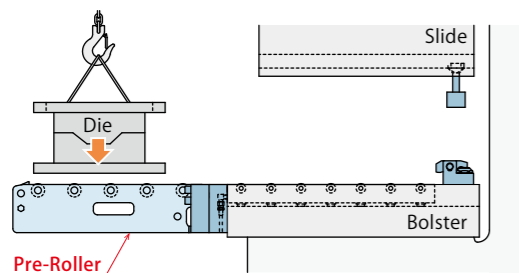
Model MRJ/MRK/MRL



Mounted on the front of the press. Allows the die to roll from the front of the press onto the bolster.

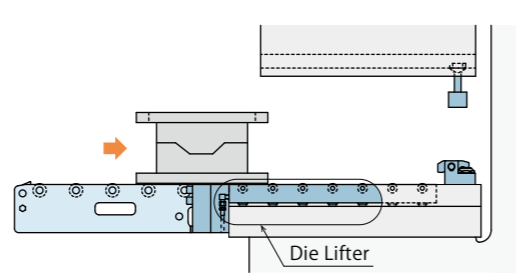
## ● Loading the Die

Load the die with a crane or forklift.  
Pre-Rollers set in front of a press machine enable easy transfer of the die.

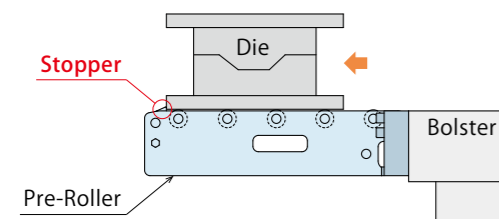


## ● Move the Die to the Bolster

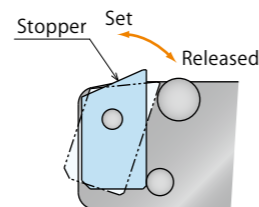
Move the die to the bolster.  
Pre-Roller and Die Lifter allow the die to roll onto the bolster with a minimal force.



## ● The stopper prevents the die from falling.

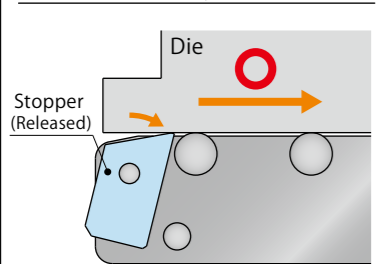


By pushing the stopper until the end, the stopper will be released.

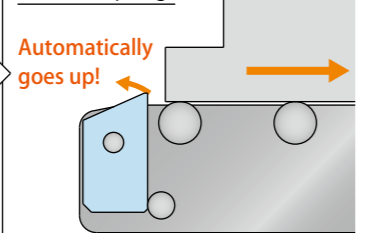


※ When using the stopper, it must be returned to the set position manually.

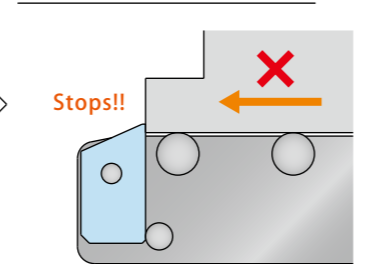
When loading the die, the stopper is pressed down by the die weight.



After the die passes over the stopper, it automatically goes up with the internal spring.



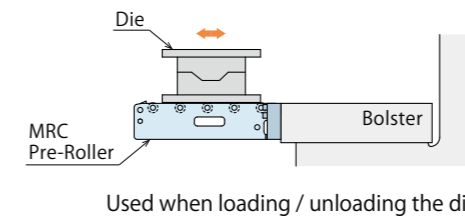
In case of reverse travel, the stopper prevents the die from falling.



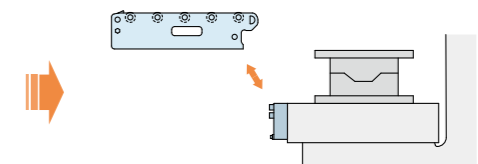
## ● Line-up

## Five Types of Frame Storages

### Removable Model MRC

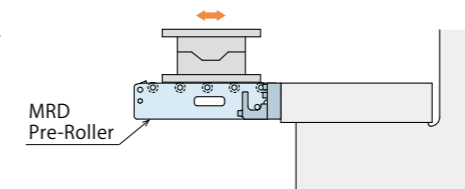


Used when loading / unloading the die.

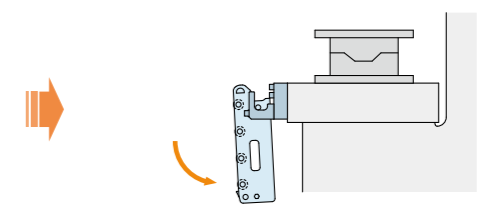


Can be removed when it is not in use.  
※ While the press machine is operating, please remove the pre-roller frame.

### Removable / Vertical Folding Model MRD

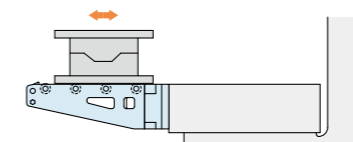


Used when loading / unloading the die.

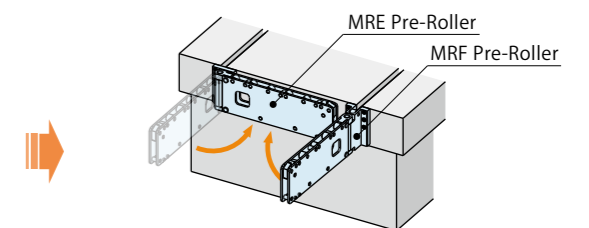


Can be removed or folded when it is not in use.  
※ While the press machine is operating, please remove or fold the pre-roller frame.

### Horizontal Folding Model MRE/MRF

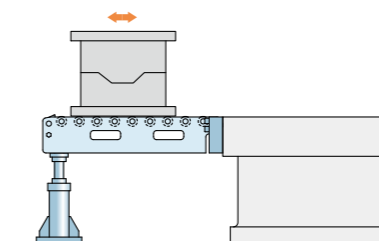


Used when loading / unloading the die.

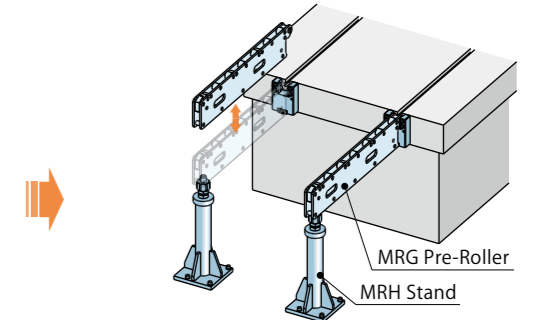


Can be folded horizontally when it is not in use.  
※ While the press machine is operating, please fold the pre-roller frame.

### Removable with Stand Model MRG

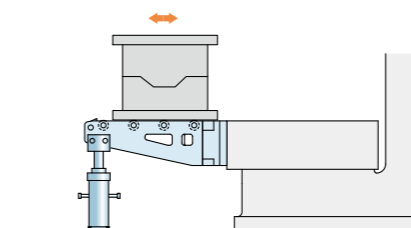


Used when loading / unloading the die.  
With stand it is suitable for heavy dies.

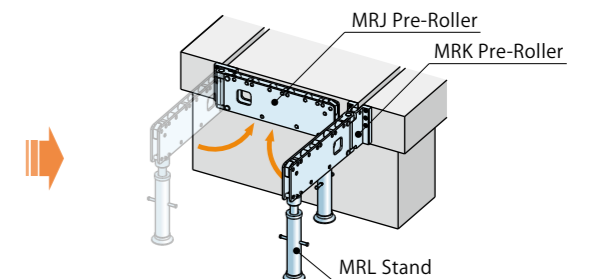


Can be removed when it is not in use.  
※ While the press machine is operating, please remove the pre-roller frame.

### Horizontal Folding with Stand Model MRJ/MRK



Used when loading / unloading the die.  
With stand it is suitable for heavy dies.



Can be folded horizontally when it is not in use.  
※ While the press machine is operating, please keep the stand off the floor and fold the pre-roller frame.

Clamp • Unit  
Operational  
Control PanelDie Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

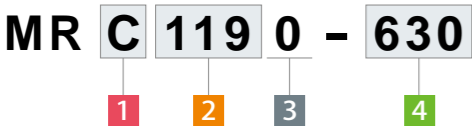
MRD

MRE/MRF

MRG

MRJ/MRK

Model No. Indication



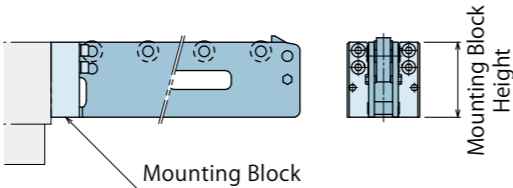
1 Frame Storage Method

- C : Removable P.149
- D : Removable・Vertical Folding P.159
- E : Horizontal Folding (Inside Arm) P.169
- F : Horizontal Folding (Outside Arm) P.169
- G : Removable (with Stand) P.177
- J : Horizontal Folding (with Stand) (Inside Arm) P.185
- K : Horizontal Folding (with Stand) (Outside Arm) P.185



2 Mounting Block Height (Pre-Roller Height)

- 075 : Mounting Block Height 75 mm
- 119 : Mounting Block Height 119 mm
- 150 : Mounting Block Height 150 mm
- 190 : Mounting Block Height 190 mm



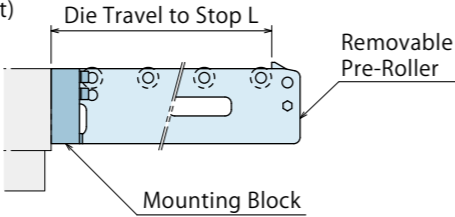
3 Design No.

- 0 : Revision Number

4 Die Travel L ・ Mounting Block Model No.

Dimensions : Die Travel L (Distance that the die can be pulled out)  
(Please refer to the specifications)

- B : Mounting Block



Compatible Mounting Blocks

Pre-Roller Model No.	Mounting Block Model No.	Mounting Block Weight (kg)
MRC0750-□	MRC0750-B	1.2
MRC1190-□	MRC1190-B	3.4
MRC1500-□	MRC1500-B	4.6
MRC1900-□	MRC1900-B	6.9

Note:  
1. MRC Pre-Roller and MRC-B Mounting Block are sold separately.  
Order by the model number and the quantity of each product.

Specifications

MRC0750-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
				at Roller A	at Point B
MRC0750-200	3.0	3	200	850	1020
MRC0750-250	3.5	3	250	650	800
MRC0750-315	4.3	4	315	500	620
MRC0750-355	4.8	4	355	450	560
MRC0750-400	5.3	5	400	400	500
MRC0750-450	5.8	5	450	350	440
MRC0750-500	6.4	6	500	300	380
MRC0750-560	7.1	6	560	270	340
MRC0750-630	8.0	7	630	240	310

MRC1190-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
				at Roller A	at Point B
MRC1190-315	6.7	3	315	1500	1840
MRC1190-355	7.6	4	355	1300	1610
MRC1190-400	8.4	4	400	1100	1370
MRC1190-450	9.4	5	450	950	1190
MRC1190-500	10.3	5	500	800	1010
MRC1190-560	11.3	6	560	700	890
MRC1190-630	12.4	6	630	650	830
MRC1190-710	14.0	7	710	500	640
MRC1190-800	15.5	7	800	450	580
MRC1190-850	16.5	8	850	400	510
MRC1190-900	17.5	8	900	350	450
MRC1190-950	18.6	9	950	300	380
MRC1190-1000	19.5	9	1000	250	320

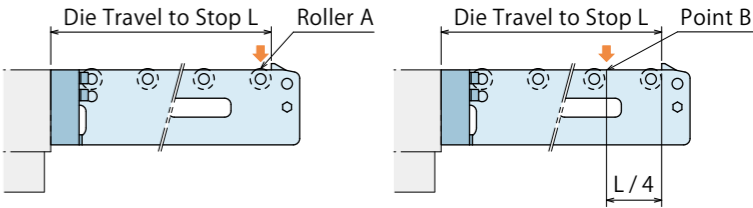
MRC1500-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
				at Roller A	at Point B
MRC1500-400	9.9	4	400	1500	1870
MRC1500-450	11.2	5	450	1350	1700
MRC1500-500	12.3	5	500	1200	1520
MRC1500-560	13.4	6	560	1050	1330
MRC1500-630	14.8	6	630	900	1150
MRC1500-710	16.8	7	710	800	1020
MRC1500-800	18.7	7	800	700	900
MRC1500-850	20.0	8	850	600	770
MRC1500-900	21.1	8	900	550	710
MRC1500-950	22.4	9	950	500	640
MRC1500-1000	23.5	9	1000	450	580

MRC1900-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
				at Roller A	at Point B
MRC1900-400	11.9	4	400	2000	2500
MRC1900-450	13.4	5	450	1800	2260
MRC1900-500	14.8	5	500	1600	2020
MRC1900-560	15.9	6	560	1400	1780
MRC1900-630	17.8	6	630	1250	1600
MRC1900-710	20.2	7	710	1100	1410
MRC1900-800	22.6	7	800	950	1220
MRC1900-850	24.2	8	850	850	1100
MRC1900-900	25.6	8	900	800	1030
MRC1900-950	27.2	9	950	750	970
MRC1900-1000	28.6	9	1000	700	910

Note:  
※1. Maximum loading weight per pre-roller.  
at Roller A : When load extends to Roller A.  
at Point B : When load extends to distance L/4 from stopper.



Clamp・Unit  
Operational  
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Die Lifter  
Pre-Roller

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Die Lifter

RQA

RA

RB

Pre-Roller

MRC

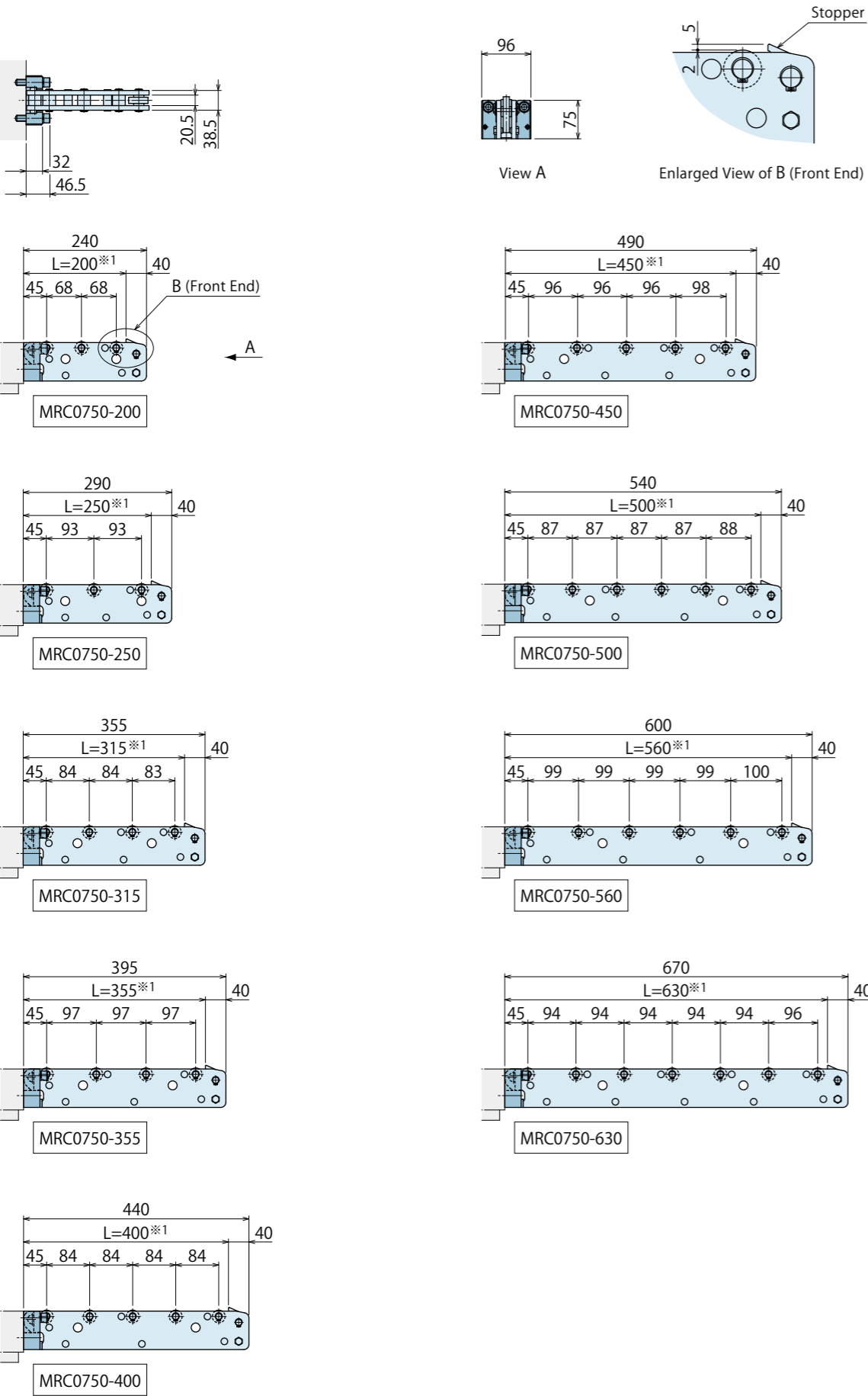
MRD

MRE/MRF

MRG

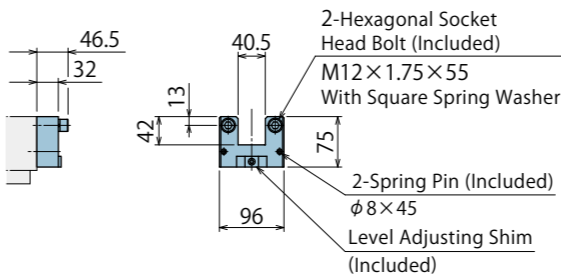
MRJ/MRK

External Dimensions : Removable Pre-Roller (MRC0750-□)

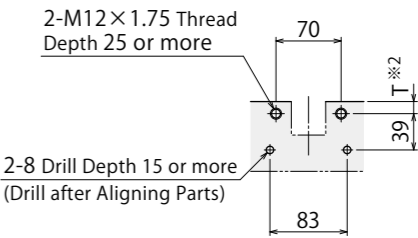


Note:  
※1. It shows the die travel L.

External Dimensions :  
Mounting Block (MRC0750-B)



Machining Dimensions :  
Block Mounting Area



(mm)

Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.

Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
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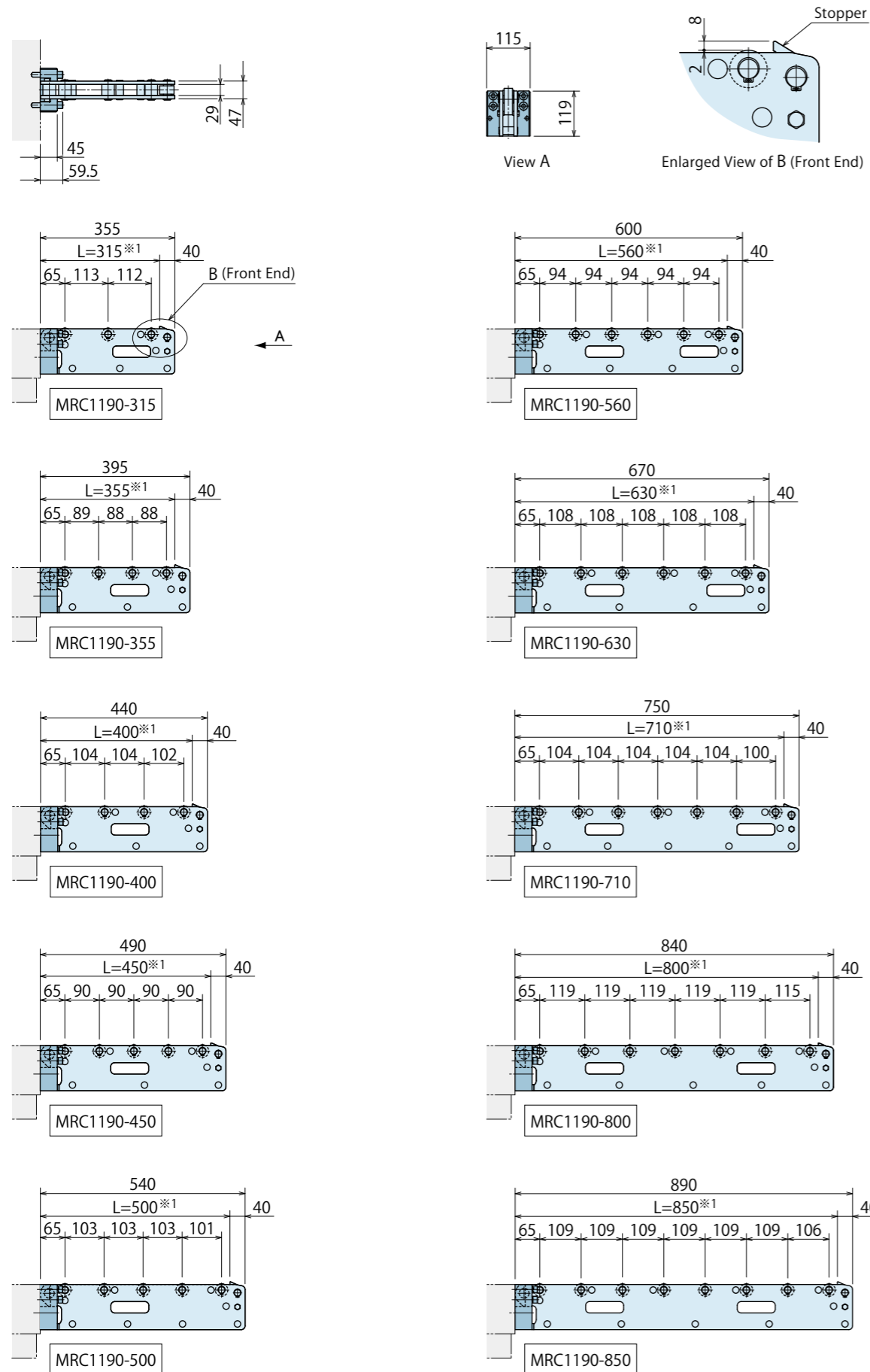
Die Lifter

RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

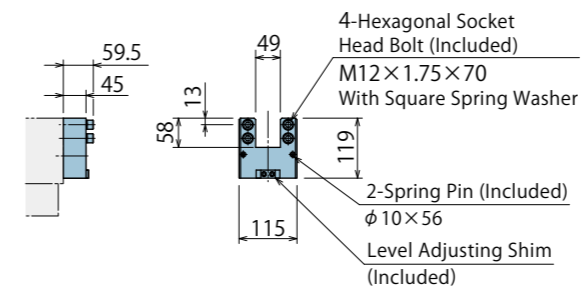
External Dimensions : Removable Pre-Roller (MRC1190-□)



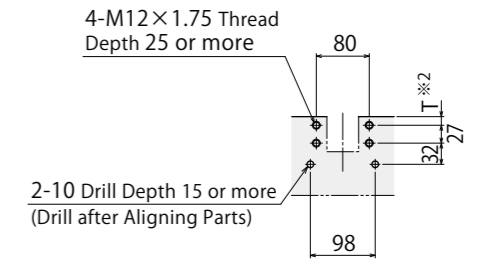
Note:

- ※1. It shows the die travel L.

● External Dimensions :  
Mounting Block (MRC1190-B)



### ● Machining Dimensions : Block Mounting Area



Die Lifter		Dimension T*2
Model No.	Lift-Up Stroke	
<b>RA018/022</b>	1.5	13.5
<b>RA028/050</b>	2	13
<b>RQA028</b>		
<b>RQC030/040/051</b>		

Note:

※2. Dimension T should be processed according to Die Lifter which is used with the block.

### Clamp • Unit Operational Control Panel

## Die Lifter Pre-Roller

## Accessories

**Cautions**  
**Company Profile**

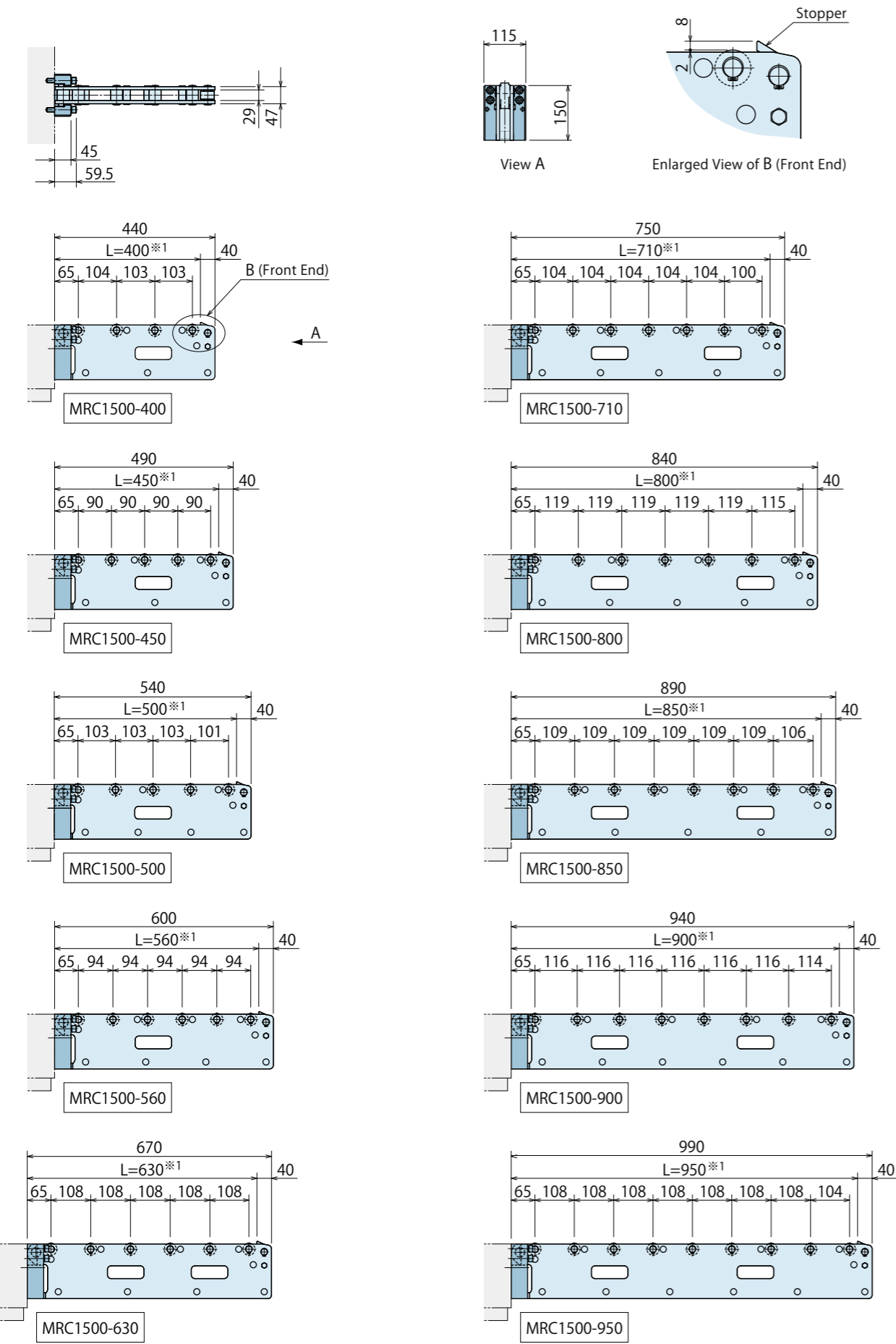
## Die Lifter

RQA
RA
RB

## Pre-Roller

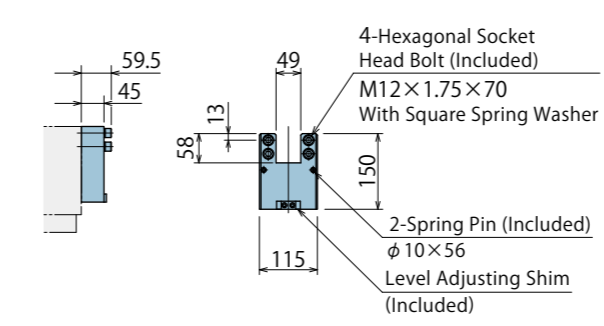
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

External Dimensions : Removable Pre-Roller (MRC1500-□)

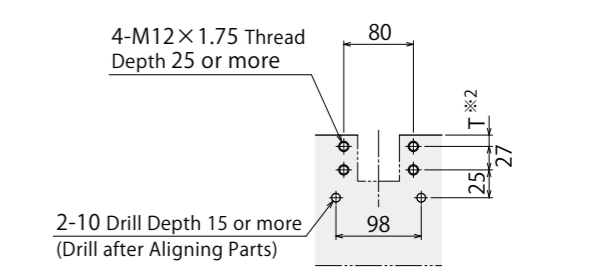


Note:  
※1. It shows the die travel L.

External Dimensions :  
Mounting Block (MRC1500-B)



Machining Dimensions :  
Block Mounting Area



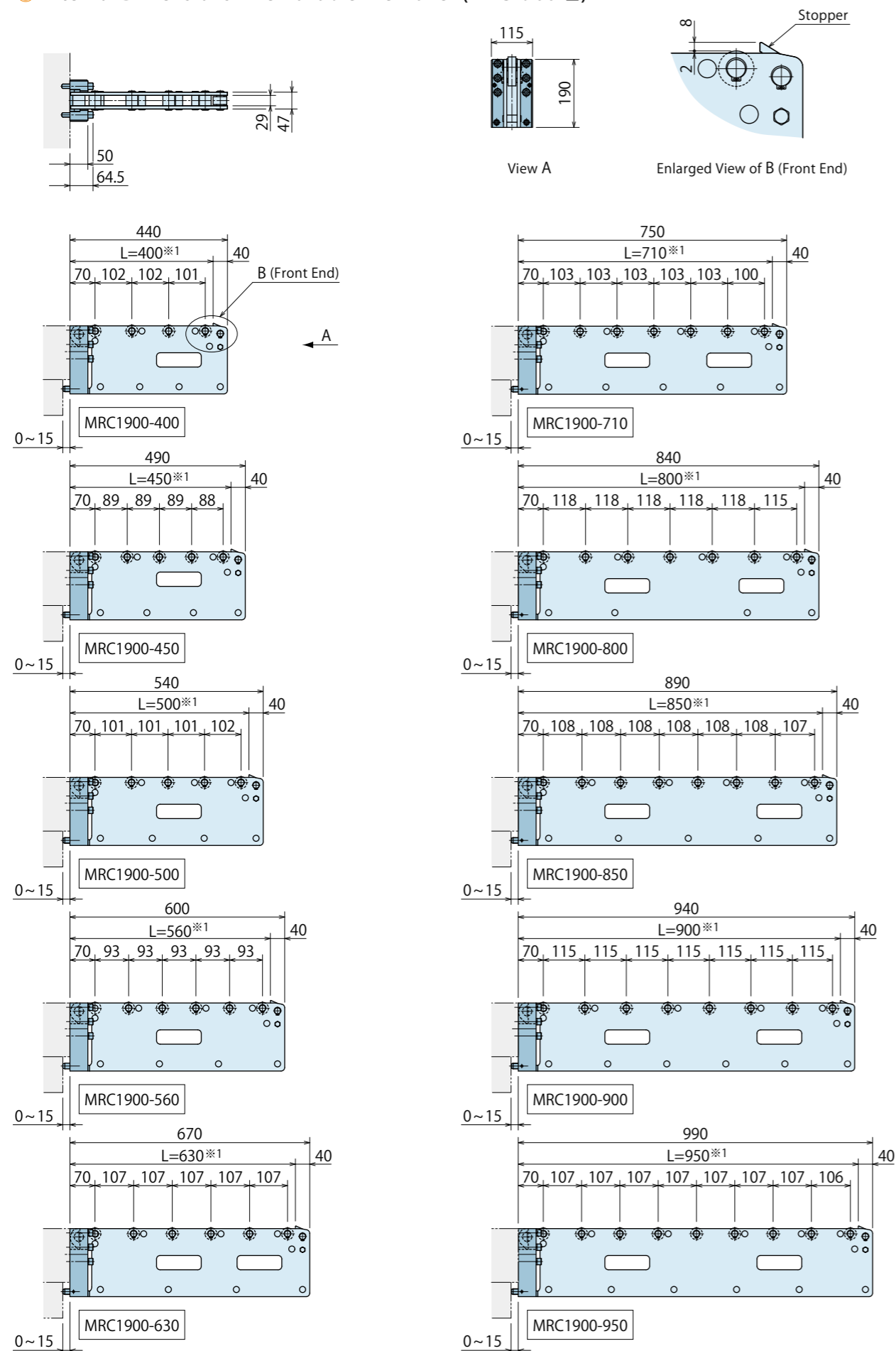
(mm)

Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.

Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
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Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

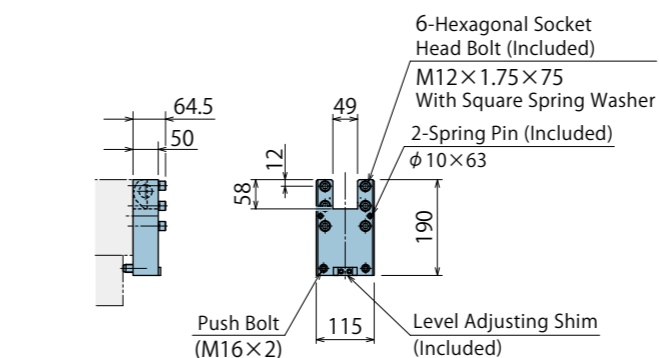
External Dimensions : Removable Pre-Roller (MRC1900-□)



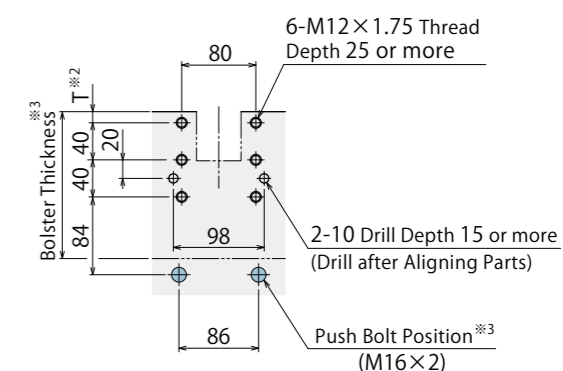
Note:

- ※1. It shows the die travel L.

● External Dimensions :  
Mounting Block (MRC1900-B)



### ● Machining Dimensions : Block Mounting Area



Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
<b>RA018/022</b>	1.5	12.5
<b>RA028/050</b>	2	12
<b>RQA028</b>		
<b>RQC030/040/051</b>		

Notes :

※2. Dimension T should be processed according to Die Lifter which is used with the block.

※3. Use a push bolt when the bolster thickness is 160mm or less.

**Clamp • Unit  
Operational  
Control Panel**

## Die Lifter Pre-Roller

## Accessories

**Cautions**  
**Company Profile**

## Die Lifter

RQA
RA
RB

Pre-Roller

MRC
MRD
MRE/MRF
MRG
MRJ/MRK

Model No. Indication



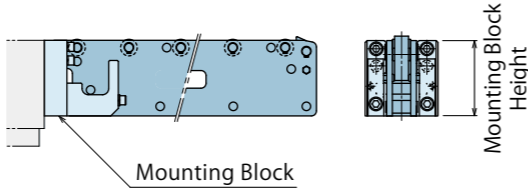
1 Frame Storage Method

- C : Removable P.149
- D : Removable•Vertical Folding P.159
- E : Horizontal Folding (Inside Arm) P.169
- F : Horizontal Folding (Outside Arm) P.169
- G : Removable (with Stand) P.177
- J : Horizontal Folding (with Stand) (Inside Arm) P.185
- K : Horizontal Folding (with Stand) (Outside Arm) P.185



2 Mounting Block Height (Pre-Roller Height)

- 075 : Mounting Block Height 75 mm
- 119 : Mounting Block Height 119 mm
- 150 : Mounting Block Height 150 mm
- 190 : Mounting Block Height 190 mm



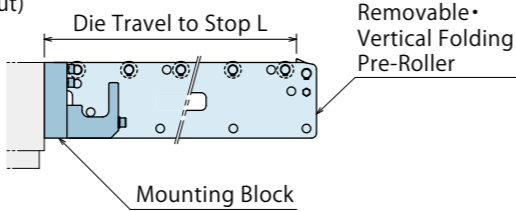
3 Design No.

- 0 : Revision Number

4 Die Travel L • Mounting Block Model No.

Dimensions : Die Travel L (Distance that the die can be pulled out)  
(Please refer to the specifications)

- B : Mounting Block



Compatible Mounting Blocks

Pre-Roller Model No.	Mounting Block Model No.	Mounting Block Weight (kg)
MRD0750-□	MRD0750-B	1.7
MRD1190-□	MRD1190-B	5.0
MRD1500-□	MRD1500-B	6.0
MRD1900-□	MRD1900-B	8.3

Note:  
1. MRD Pre-Roller and MRD-B Mounting Block are sold separately.  
Order by the model number and the quantity of each product.

Specifications

- MRD0750-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg) <sup>※1</sup>	
				at Roller A	at Point B
MRD0750-200	3.0	3	200	850	1020
MRD0750-250	3.5	3	250	650	800
MRD0750-315	4.3	4	315	500	620
MRD0750-355	4.8	4	355	450	560
MRD0750-400	5.3	5	400	400	500
MRD0750-450	5.8	5	450	350	440
MRD0750-500	6.4	6	500	300	380
MRD0750-560	7.1	6	560	270	340
MRD0750-630	8.0	7	630	240	310

- MRD1190-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg) <sup>※1</sup>	
				at Roller A	at Point B
MRD1190-315	6.7	3	315	1500	1840
MRD1190-355	7.6	4	355	1300	1610
MRD1190-400	8.4	4	400	1100	1370
MRD1190-450	9.4	5	450	950	1190
MRD1190-500	10.3	5	500	800	1010
MRD1190-560	11.3	6	560	700	890
MRD1190-630	12.4	6	630	650	830
MRD1190-710	14.0	7	710	500	640
MRD1190-800	15.5	7	800	450	580
MRD1190-850	16.5	8	850	400	510
MRD1190-900	17.5	8	900	350	450
MRD1190-950	18.6	9	950	300	380
MRD1190-1000	19.5	9	1000	250	320

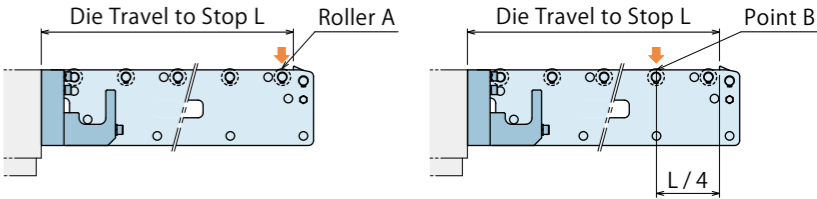
- MRD1500-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg) <sup>※1</sup>	
				at Roller A	at Point B
MRD1500-400	9.9	4	400	1500	1870
MRD1500-450	11.2	5	450	1350	1700
MRD1500-500	12.3	5	500	1200	1520
MRD1500-560	13.4	6	560	1050	1330
MRD1500-630	14.8	6	630	900	1150
MRD1500-710	16.8	7	710	800	1020
MRD1500-800	18.7	7	800	700	900
MRD1500-850	20.0	8	850	600	770
MRD1500-900	21.1	8	900	550	710
MRD1500-950	22.4	9	950	500	640
MRD1500-1000	23.5	9	1000	450	580

- MRD1900-□

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg) <sup>※1</sup>	
				at Roller A	at Point B
MRD1900-400	11.9	4	400	2000	2500
MRD1900-450	13.4	5	450	1800	2260
MRD1900-500	14.8	5	500	1600	2020
MRD1900-560	15.9	6	560	1400	1780
MRD1900-630	17.8	6	630	1250	1600
MRD1900-710	20.2	7	710	1100	1410
MRD1900-800	22.6	7	800	950	1220
MRD1900-850	24.2	8	850	850	1100
MRD1900-900	25.6	8	900	800	1030
MRD1900-950	27.2	9	950	750	970
MRD1900-1000	28.6	9	1000	700	910

Note:  
※1. Maximum loading weight per pre-roller.  
at Roller A : When load extends to Roller A.  
at Point B : When load extends to distance L/4 from stopper.



Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

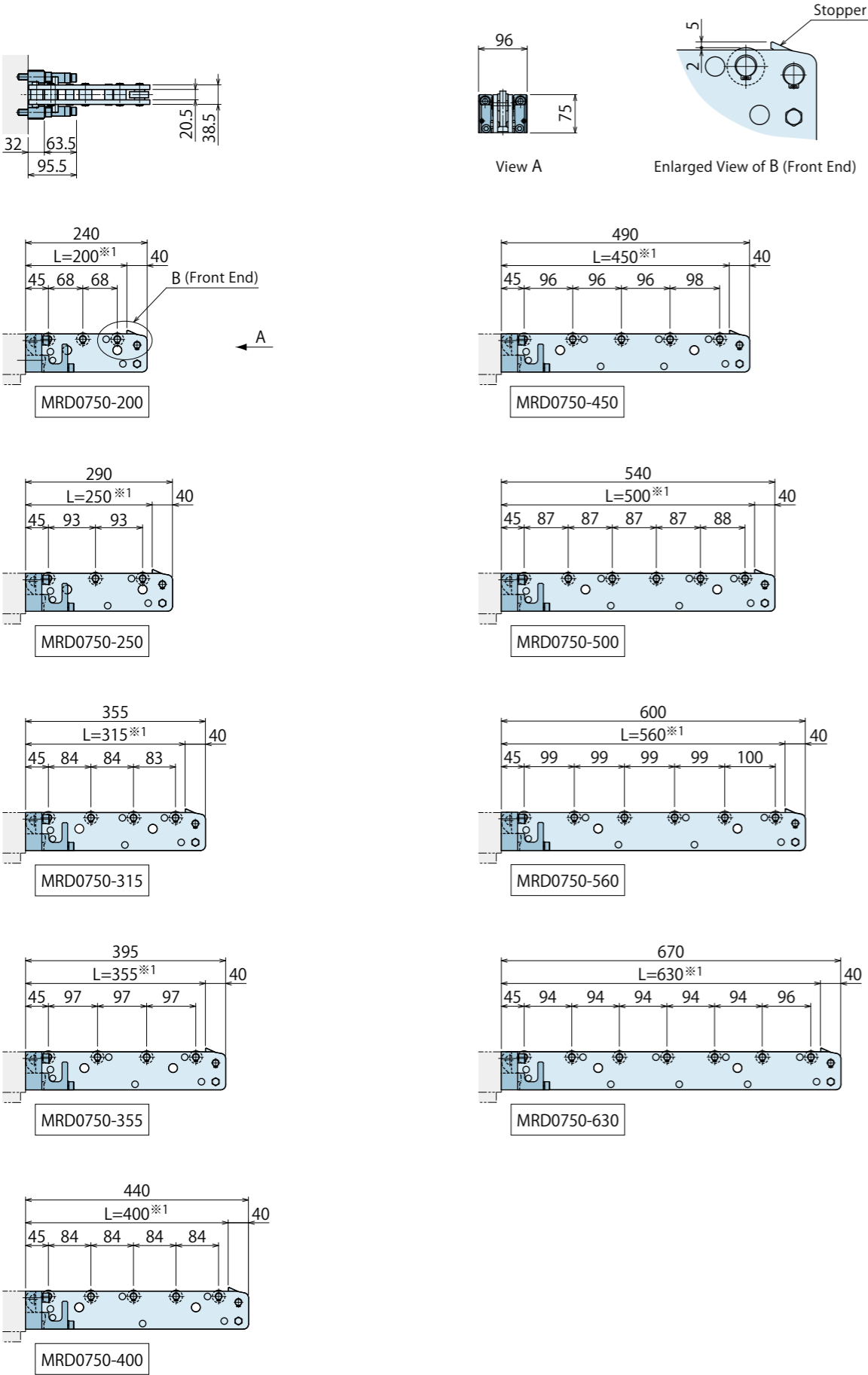
MRD

MRE/MRF

MRG

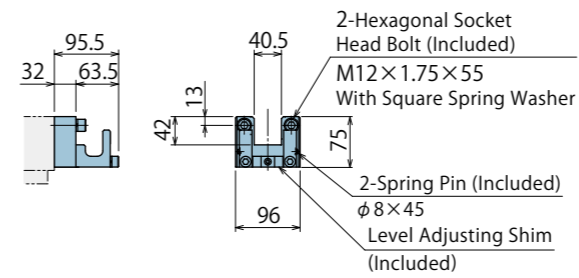
MRJ/MRK

External Dimensions : Removable • Vertical Folding Pre-Roller (MRD0750-□)

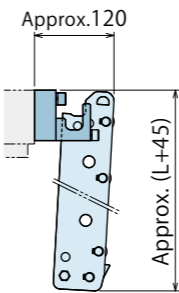


Note:  
※1. It shows the die travel L.

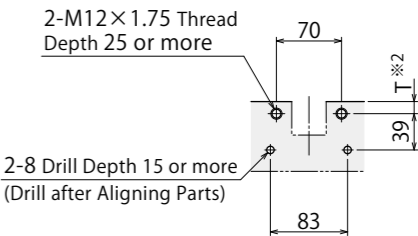
External Dimensions :  
Mounting Block (MRD0750-B)



Dimensions when Folded



Machining Dimensions :  
Block Mounting Area



(mm)

Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

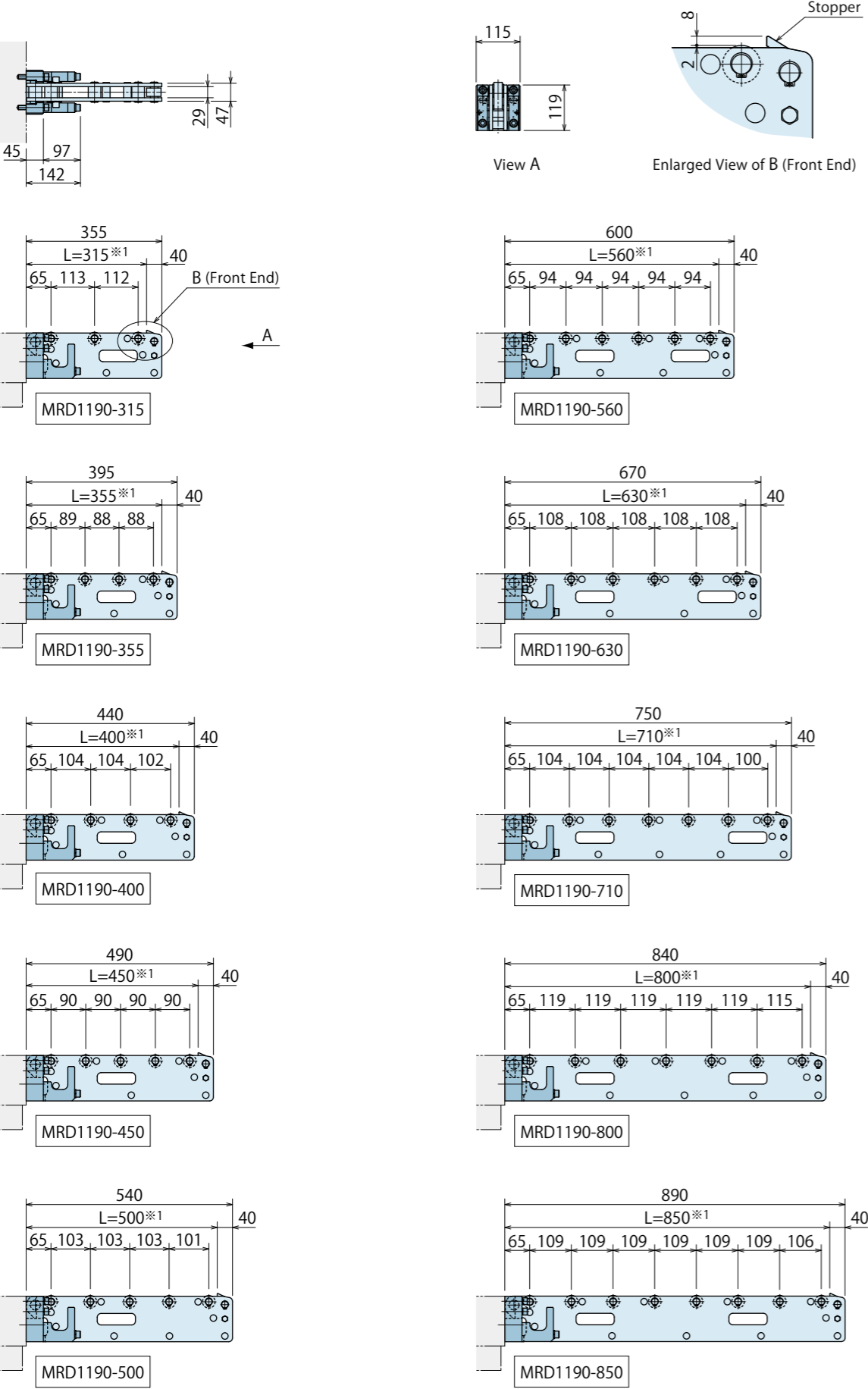
Die Lifter

RQA  
RA  
RB

Pre-Roller

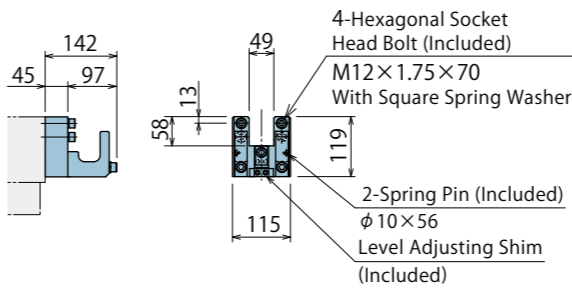
MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

External Dimensions : Removable • Vertical Folding Pre-Roller (MRD1190-□)

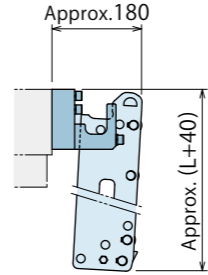


Note:  
※1. It shows the die travel L.

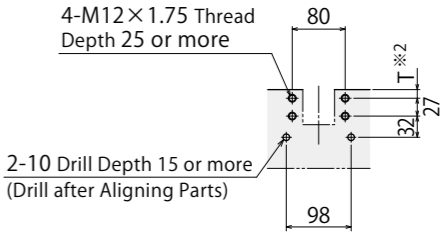
External Dimensions :  
Mounting Block (MRD1190-B)



Dimensions when Folded



Machining Dimensions :  
Block Mounting Area



Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

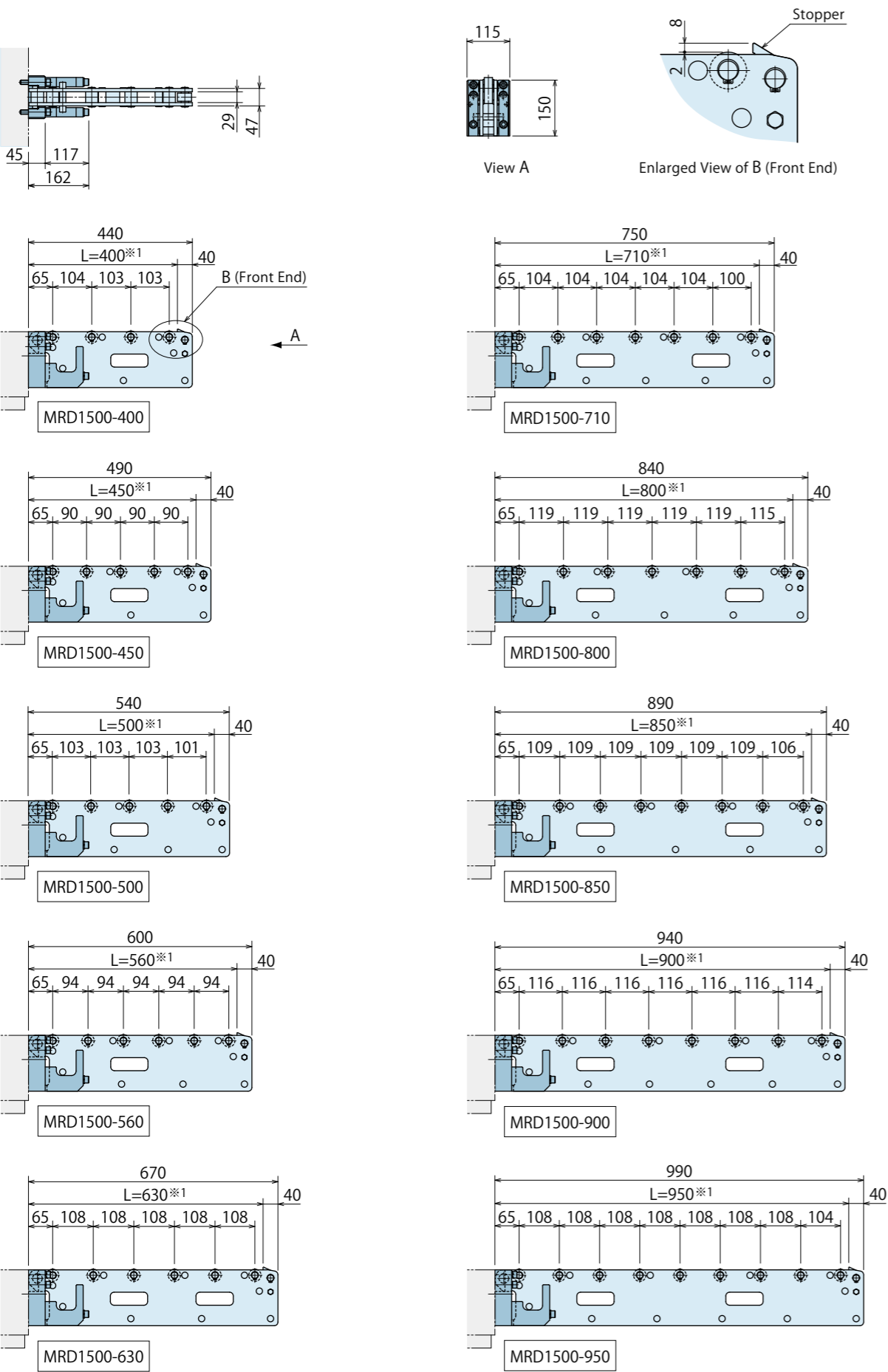
Die Lifter

RQA  
RA  
RB

Pre-Roller

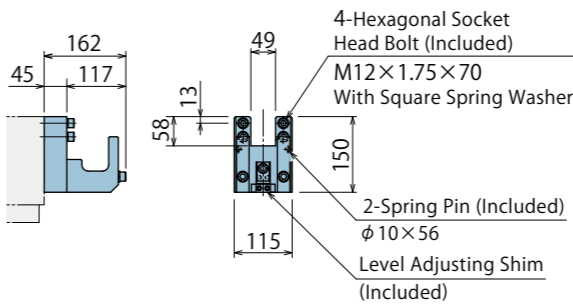
MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

External Dimensions : Removable • Vertical Folding Pre-Roller (MRD1500-□)

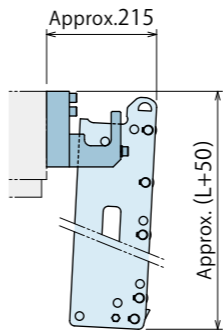


Note:  
※1. It shows the die travel L.

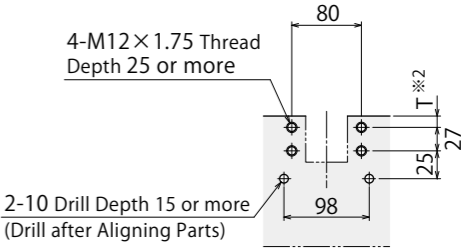
External Dimensions :  
Mounting Block (MRD1500-B)



Dimensions when Folded



Machining Dimensions :  
Block Mounting Area



(mm)

Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

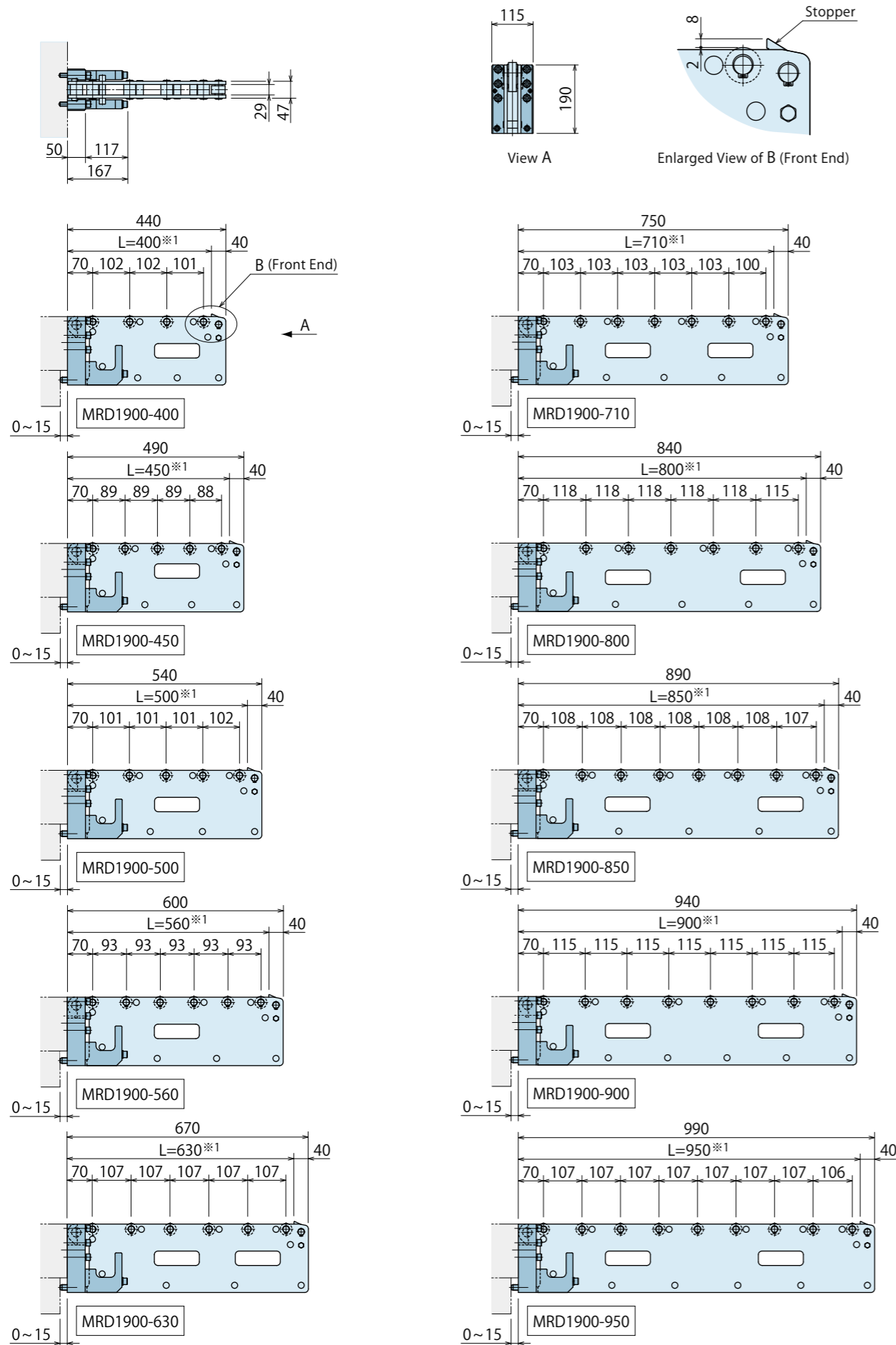
Die Lifter

RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

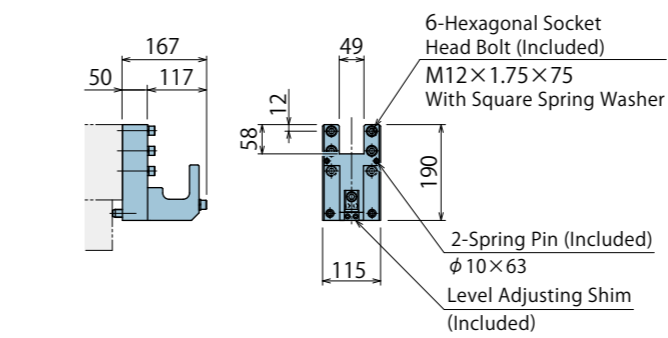
External Dimensions : Removable • Vertical Folding Pre-Roller (MRD1900-□)



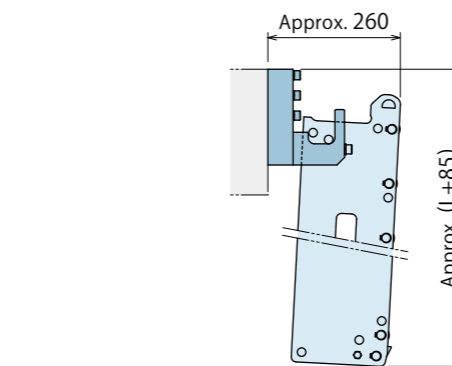
Note:

※1. It shows the die travel L.

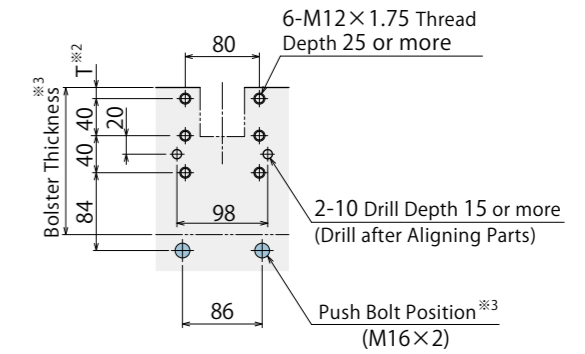
● External Dimensions :  
Mounting Block (MRD1900-B)



### 🔴 Dimensions when Folded



### ● Machining Dimensions : Block Mounting Area



Die Lifter		Dimension T*2
Model No.	Lift-Up Stroke	
<b>RA018/022</b>	1.5	12.5
<b>RA028/050</b>	2	12
<b>RQA028</b>		
<b>RQC030/040/051</b>		

Notes :

- ※2. Dimension T should be processed according to Die Lifter which is used with the block.
- ※3. Use a push bolt when the bolster thickness is 160mm or less.

### Clamp • Unit Operational Control Panel

## Die Lifter Pre-Roller

## Accessories

Cautions

Company Profile

## Die Lifter

RQA
RA
RB

## Pre-Roller

MRC

**MRD**

MRE/MRF

MRG

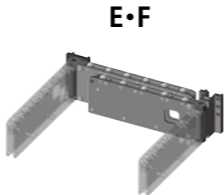
MRJ/MRK

Model No. Indication



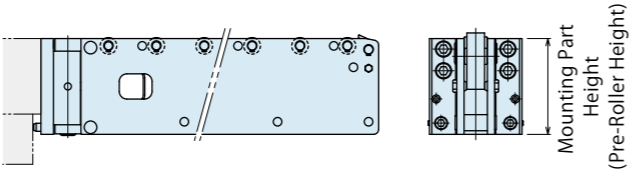
1 Frame Storage Method

- C : RemovableP.149
- D : Removable•Vertical FoldingP.159
- E : Horizontal Folding (Inside Arm)P.169
- F : Horizontal Folding (Outside Arm)P.169
- G : Removable (with Stand)P.177
- J : Horizontal Folding (with Stand) (Inside Arm)P.185
- K : Horizontal Folding (with Stand) (Outside Arm)P.185



2 Mounting Part Height (Pre-Roller Height)

- 119 : Mounting Part Height 119 mm
- 190 : Mounting Part Height 190 mm
- 295 : Mounting Part Height 295 mm

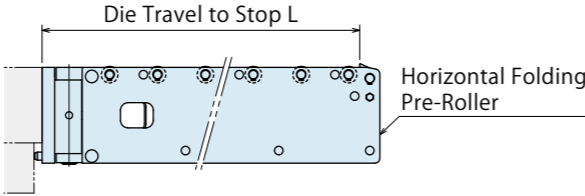


3 Design No.

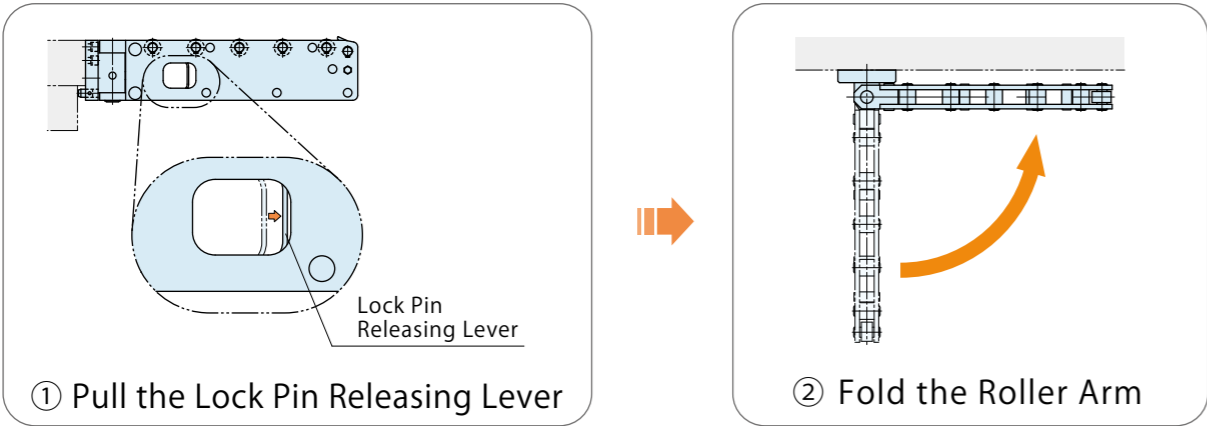
- 0 : Revision Number

4 Die Travel L

- Dimensions : Die Travel L
- (Distance that the die can be pulled out)
- (Please refer to the specifications)



Folding Method



※ Can be folded to the other side as well.

Specifications

MRE/MRF1190-□

MRE			MRF			Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
Model	Weight (kg)	No. of Rollers	Model	Weight (kg)	No. of Rollers		at Roller A	at Point B
MRE1190-315	11.3	3	MRF1190-315	12.5	3	315	1500	1840
MRE1190-355	12.1	3	MRF1190-355	13.3	4	355	1400	1730
MRE1190-400	13.0	4	MRF1190-400	14.1	4	400	1200	1500
MRE1190-450	13.8	4	MRF1190-450	15.2	5	450	1000	1250
MRE1190-500	14.9	5	MRF1190-500	16.1	5	500	850	1070
MRE1190-560	15.5	5	MRF1190-560	16.9	6	560	750	950
MRE1190-630	17.0	6	MRF1190-630	18.1	6	630	650	830
MRE1190-710	18.3	6	MRF1190-710	19.6	7	710	550	700

MRE/MRF1900-□

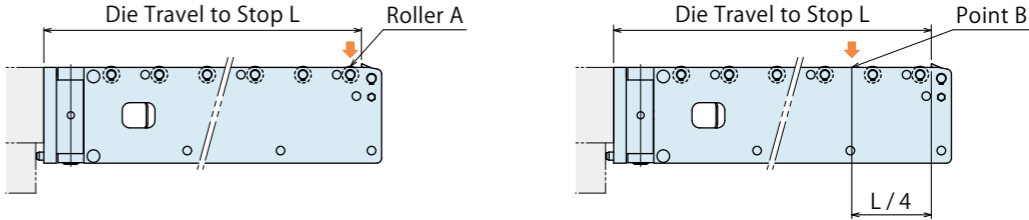
MRE			MRF			Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
Model	Weight (kg)	No. of Rollers	Model	Weight (kg)	No. of Rollers		at Roller A	at Point B
MRE1900-500	23.1	5	MRF1900-500	25.4	5	500	1600	2020
MRE1900-560	24.3	5	MRF1900-560	26.5	6	560	1400	1780
MRE1900-630	26.4	6	MRF1900-630	28.6	6	630	1250	1600
MRE1900-710	28.5	6	MRF1900-710	30.8	7	710	1100	1410
MRE1900-800	31.3	7	MRF1900-800	33.6	8	800	950	1220
MRE1900-850	32.8	8	MRF1900-850	34.9	8	850	850	1100
MRE1900-900	34.1	8	MRF1900-900	36.4	9	900	800	1030
MRE1900-950	35.8	9	MRF1900-950	37.8	9	950	750	970
MRE1900-1000	37.1	9	MRF1900-1000	39.1	9	1000	700	910

MRE/MRF2950-□

MRE			MRF			Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1	
Model	Weight (kg)	No. of Rollers	Model	Weight (kg)	No. of Rollers		at Roller A	at Point B
MRE2950-630	34.6	6	MRF2950-630	39.6	6	630	2000	2560
MRE2950-710	36.4	6	MRF2950-710	41.3	7	710	1750	2250
MRE2950-800	38.6	7	MRF2950-800	43.5	8	800	1500	1930
MRE2950-850	40.0	8	MRF2950-850	44.8	8	850	1400	1810
MRE2950-900	41.1	8	MRF2950-900	45.9	9	900	1300	1680
MRE2950-950	42.4	9	MRF2950-950	47.2	9	950	1200	1550
MRE2950-1000	44.4	9	MRF2950-1000	48.3	9	1000	1100	1430

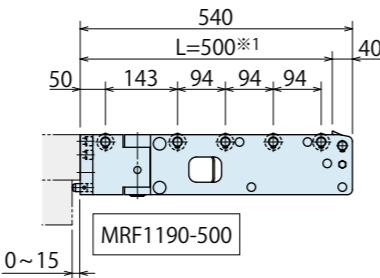
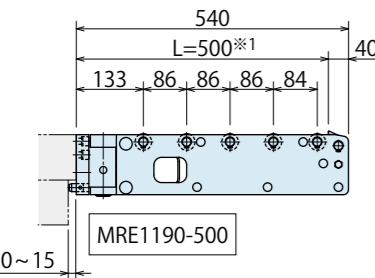
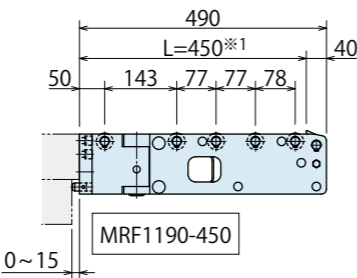
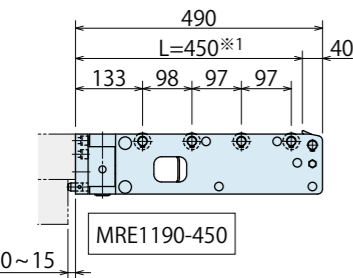
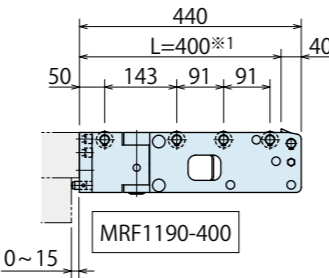
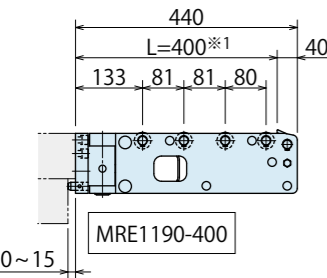
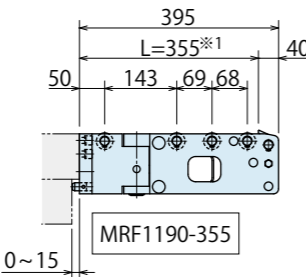
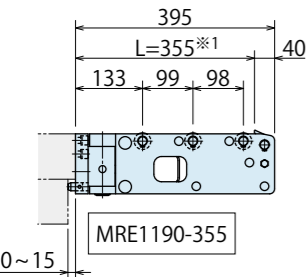
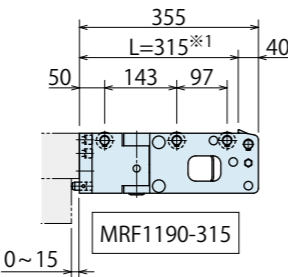
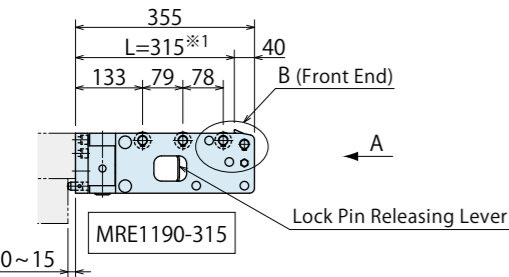
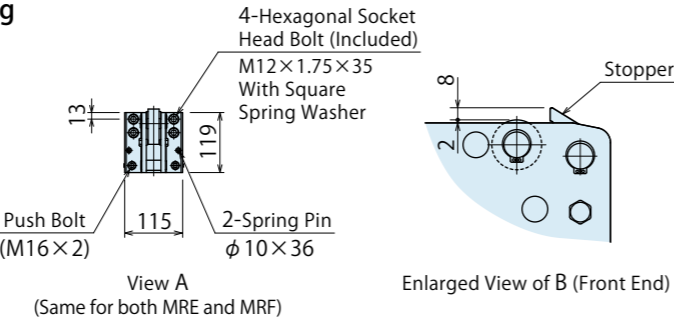
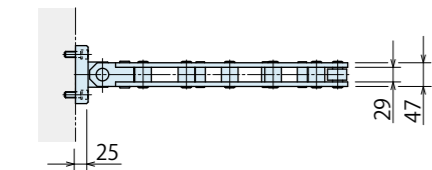
Note:

- ※1. Maximum loading weight per pre-roller.
- at Roller A : When load extends to Roller A.
- at Point B : When load extends to distance L/4 from stopper.



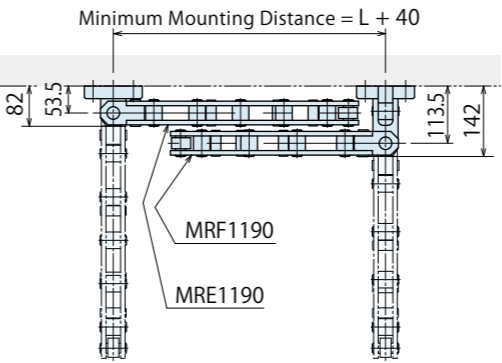
Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

External Dimensions : Horizontal Folding  
Pre-Roller (MRE/MRF1190-□)



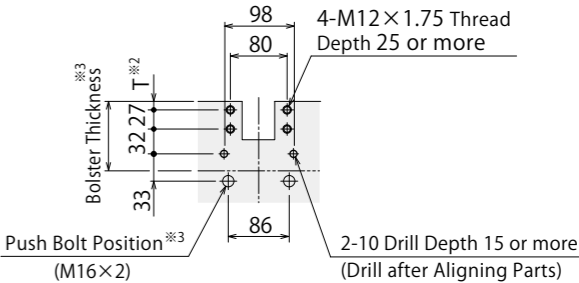
Note:  
※1. It shows the die travel L.

Dimensions when Folded



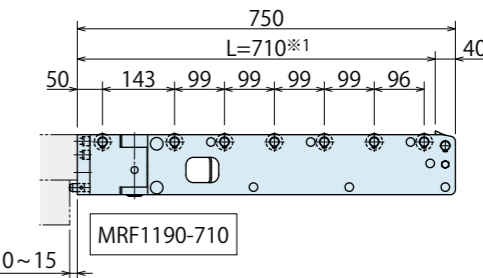
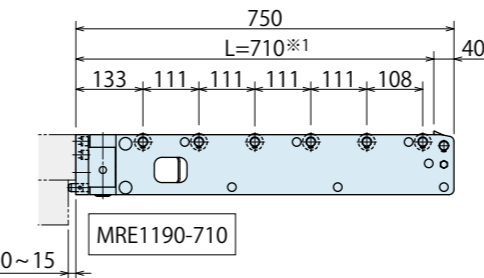
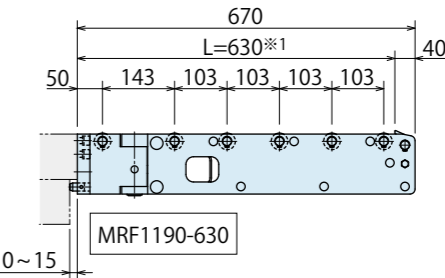
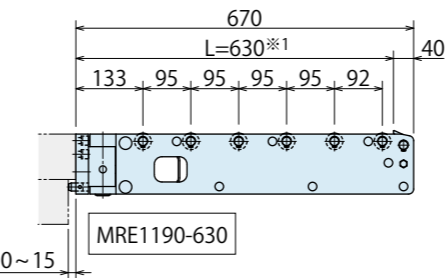
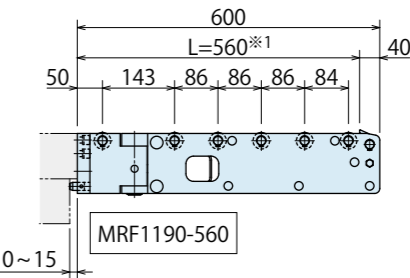
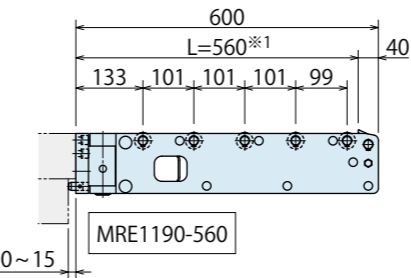
MRE and MRF can swing to both left and right.

Machining Dimensions of Mounting Area



Die Lifter		Dimension T※2
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Notes :  
※2. Dimension T should be processed according to Die Lifter which is used with the block.  
※3. Use a push bolt when the bolster thickness is 100mm or less.



Clamp · Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

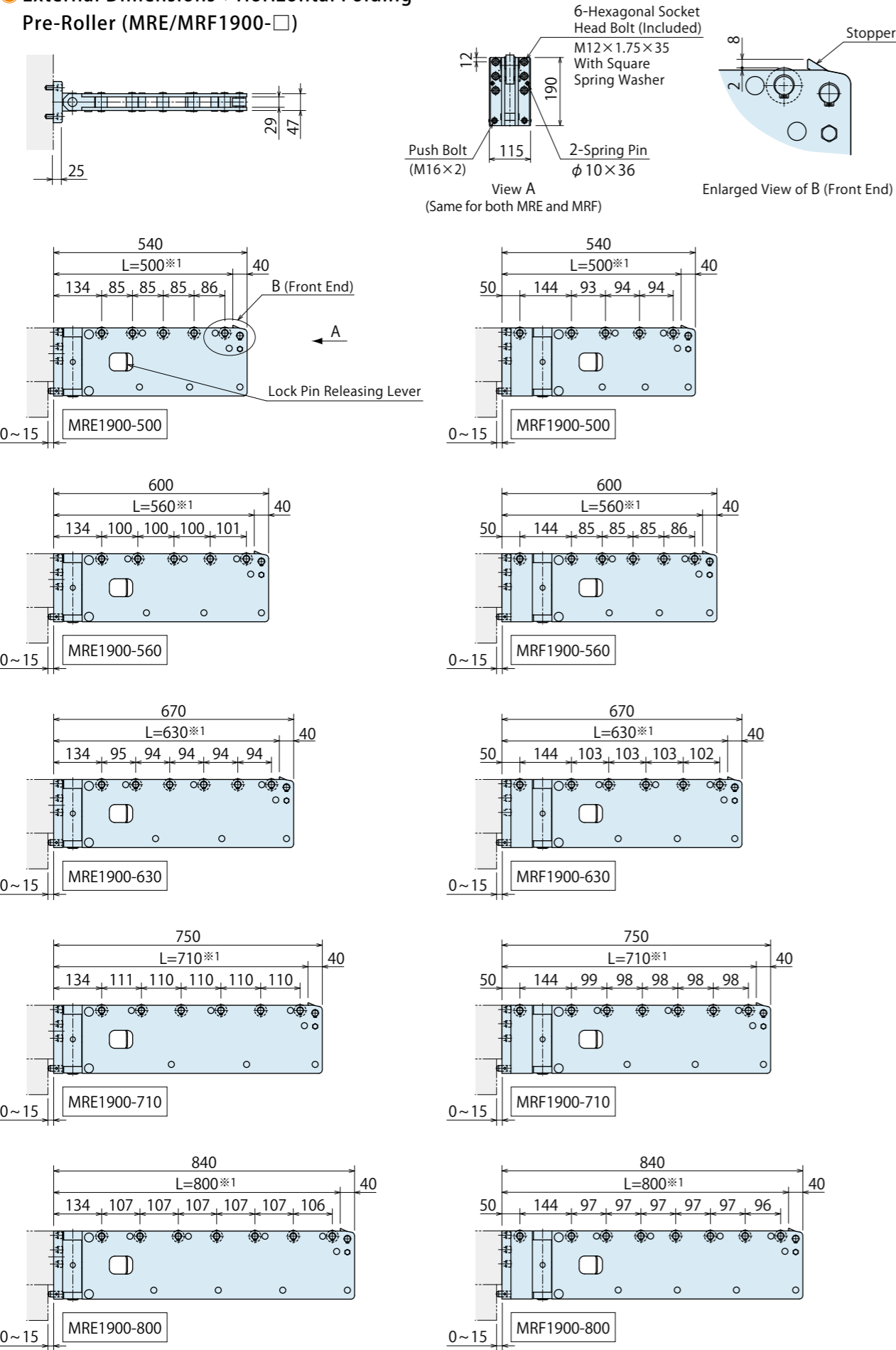
Die Lifter

RQA  
RA  
RB

Pre-Roller

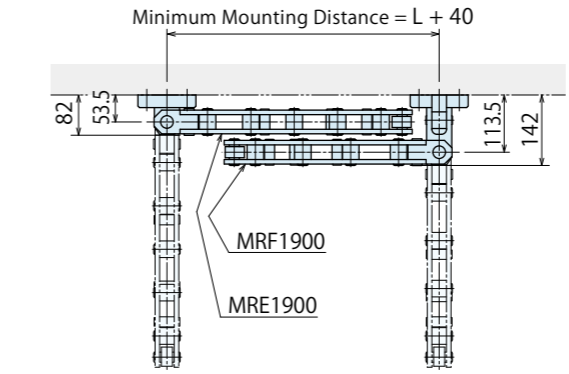
MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

External Dimensions : Horizontal Folding  
Pre-Roller (MRE/MRF1900-□)



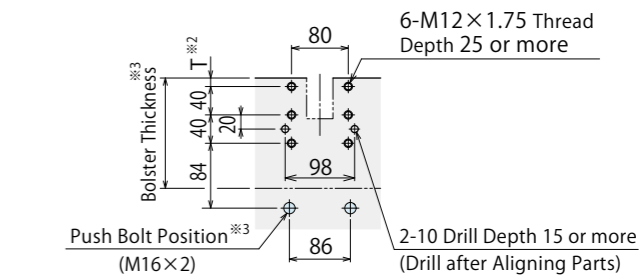
Note:  
※1. It shows the die travel L.

Dimensions when Folded



MRE and MRF can swing to both left and right.

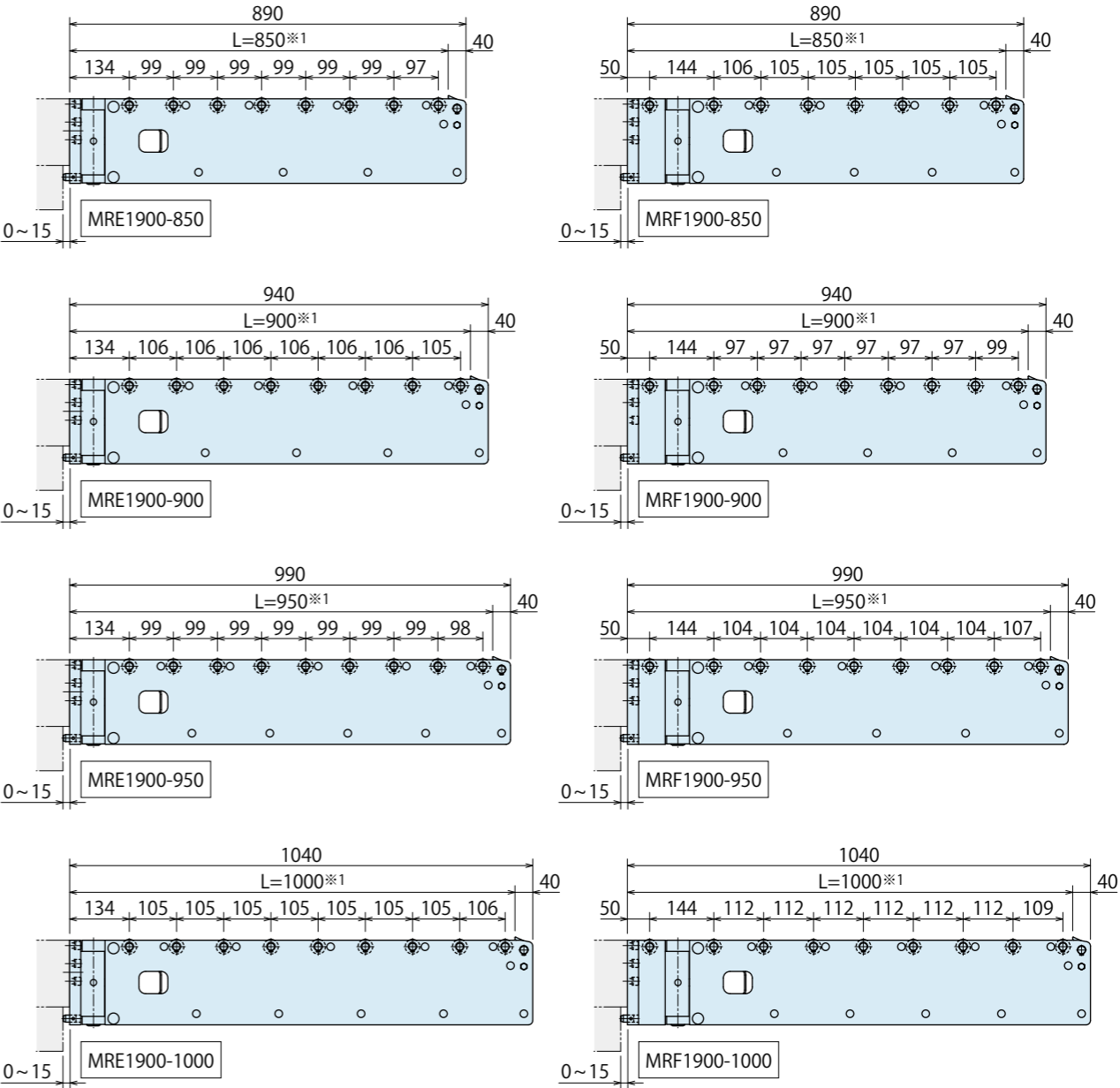
Machining Dimensions of Mounting Area



Die Lifter		Dimension T <sup>※2</sup>
Model No.	Lift-Up Stroke	
RA018/022	1.5	12.5
RA028/050	2	12
RQA028		
RQC030/040/051		

Notes :  
※2. Dimension T should be processed according to Die Lifter which is used with the block.  
※3. Use a push bolt when the bolster thickness is 160mm or less.

Clamp · Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK





Model No. Indication : Removable Pre-Roller (with Stand)

MR **G** **119** **0** - **710**

1 2 3 4

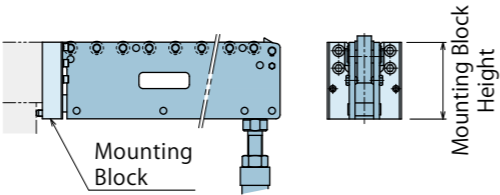
1 Frame Storage Method

- C : Removable P.149
- D : Removable•Vertical Folding P.159
- E : Horizontal Folding (Inside Arm) P.169
- F : Horizontal Folding (Outside Arm) P.169
- G : Removable (with Stand) P.177
- J : Horizontal Folding (with Stand) (Inside Arm) P.185
- K : Horizontal Folding (with Stand) (Outside Arm) P.185



2 Mounting Block Height (Pre-Roller Height)

- 119 : Mounting Block Height 119 mm
- 190 : Mounting Block Height 190 mm

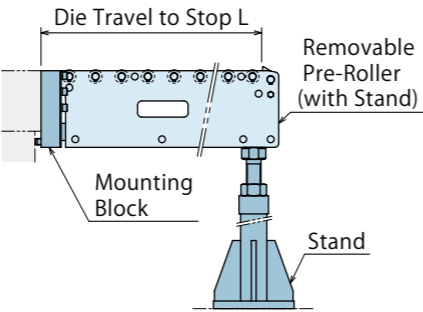


3 Design No.

- 0 : Revision Number

4 Die Travel L • Mounting Block Model No.

- Dimensions : Die Travel L (Distance that the die can be pulled out)  
(Please refer to the specifications)
- B : Mounting Block



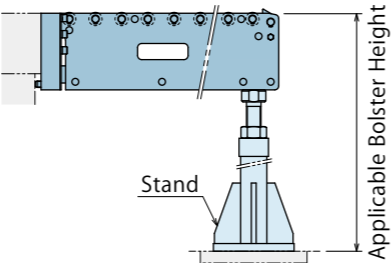
Model No. Indication : Stand

MRH **040** **0** - **A**

1 2

1 Applicable Bolster Height

- When using MRG1190-□
- When using MRG1900-□
- 040 : 520 ~ 620 mm
- 050 : 620 ~ 720 mm
- 060 : 720 ~ 820 mm
- 070 : 820 ~ 920 mm
- 080 : 920 ~ 1020 mm
- 090 : 1020 ~ 1120 mm
- 100 : 1120 ~ 1220 mm
- 040 : 590 ~ 690 mm
- 050 : 690 ~ 790 mm
- 060 : 790 ~ 890 mm
- 070 : 890 ~ 990 mm
- 080 : 990 ~ 1090 mm
- 090 : 1090 ~ 1190 mm
- 100 : 1190 ~ 1290 mm



2 Design No.

- 0 : Revision Number

Compatible Mounting Blocks

Pre-Roller Model No.	Mounting Block Model No.	Mounting Block Weight (kg)
MRG1190-□	MRG1190-B	3.7
MRG1900-□	MRG1900-B	7.1

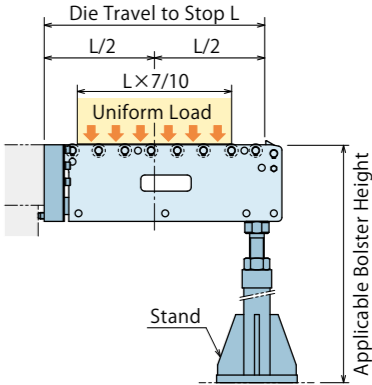
Specifications : Removable Pre-Roller (with Stand)

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)*1
MRG1190-710	14.8	11	710	3575
MRG1190-800	16.5	12	800	3150
MRG1190-850	17.5	13	850	2975
MRG1190-900	18.8	14	900	2800
MRG1190-950	19.6	14	950	2650
MRG1190-1000	20.5	15	1000	2500
MRG1190-1250	25.5	19	1250	2000
MRG1190-1600	32.6	24	1600	1550
MRG1190-2000	40.7	30	2000	1230

Model No.	Weight (kg)	Number of Rollers	Die Travel to Stop L (mm)	Max. Loading Weight each (kg)*1
MRG1900-1000	29.6	15	1000	4915
MRG1900-1250	37.2	18	1250	3900
MRG1900-1600	47.7	24	1600	3050
MRG1900-2000	59.8	30	2000	2400

Note:

※1. The maximum loading weight per pre-roller with a uniform load at the center of die travel L and 70 % length of the die travel L.



Specifications : Stand

Model No.	Weight (kg)	Applicable Bolster Height (mm)	
		When using MRG1190-□	When using MRG1900-□
MRH0400-A	14.1	520 ~ 620	590 ~ 690
MRH0500-A	14.7	620 ~ 720	690 ~ 790
MRH0600-A	15.3	720 ~ 820	790 ~ 890
MRH0700-A	15.9	820 ~ 920	890 ~ 990
MRH0800-A	16.5	920 ~ 1020	990 ~ 1090
MRH0900-A	17.1	1020 ~ 1120	1090 ~ 1190
MRH1000-A	17.7	1120 ~ 1220	1190 ~ 1290

Note:

1. MRG Pre-Roller does not include MRG-B Mounting Block or MRH Stand. They are sold separately.  
Order by the model number and the quantity of each product.

- Notes on Handling
- MRH Stand can be used only for MRG Pre-Roller. Do not use it for any other use. (Cannot be used for MRC or MRD Pre-Roller.)
  - When setting MRH Stand, make sure it is vertical to the floor.
  - Fix MRH Stand to the floor and make sure MRG Pre-Roller is level.
  - Do not adjust bolts beyond the maximum adjusting height.

- Installation Notes
- The floor should be level.
  - The floor should be strong enough to support the maximum die weight (5.25N/mm²).
    - If the floor is made of concrete or mortar, set a base plate such as an iron plate in order to withstand load.
    - When MRH Stand is set on the pit cover, set joists or poles just under the cover to support the stand.
  - MRH Stand has to be fixed to the floor.

Clamp • Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA

RA

RB

Pre-Roller

MRC

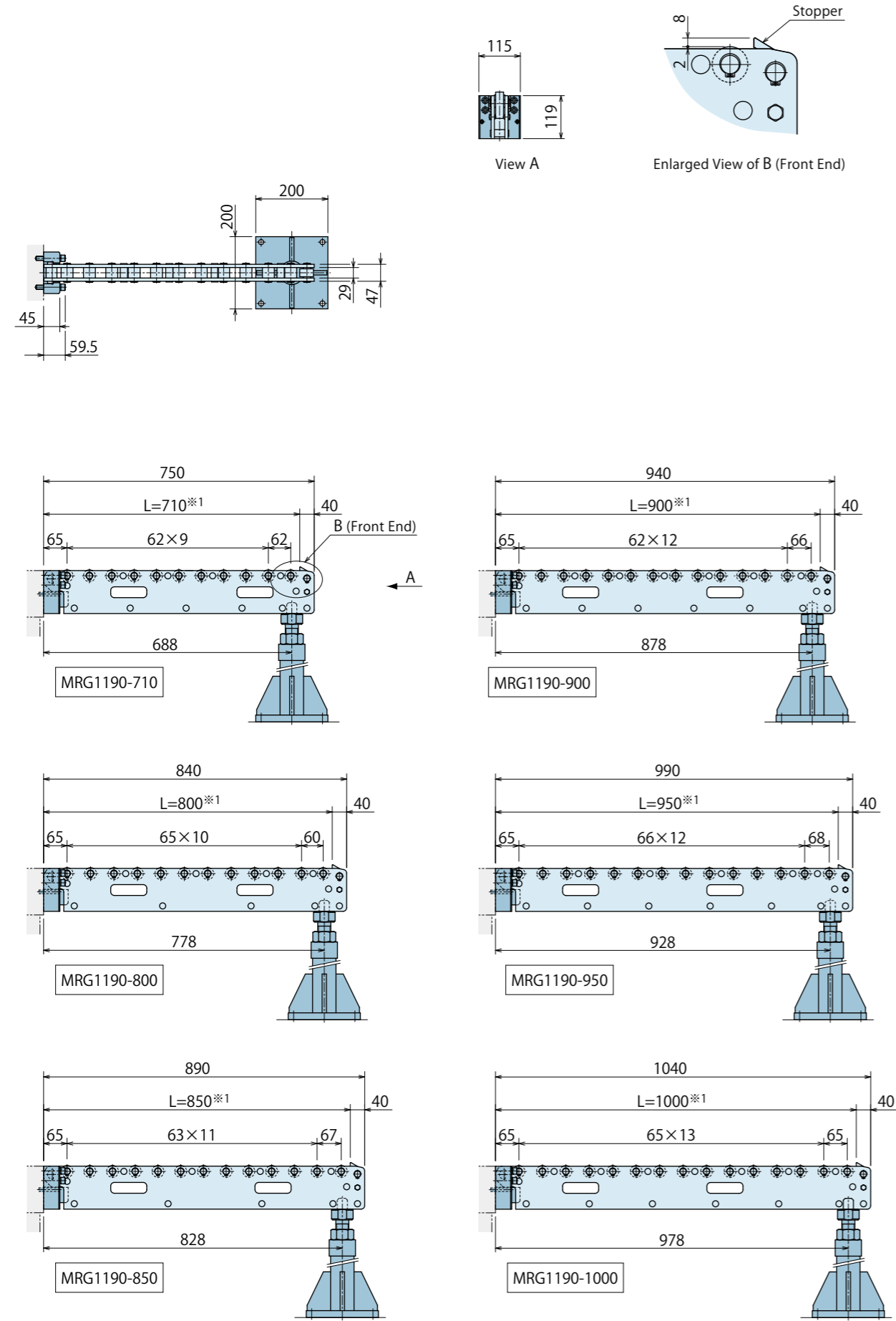
MRD

MRE/MRF

MRG

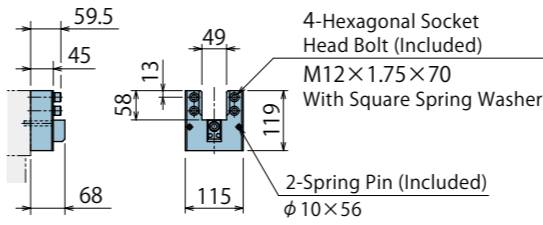
MRJ/MRK

External Dimensions : Removable Pre-Roller (With Stand) (MRG1190-□)

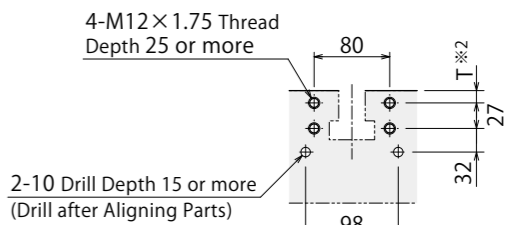


Note:  
※1. It shows the die travel L.

External Dimensions :  
Mounting Block (MRG1190-B)



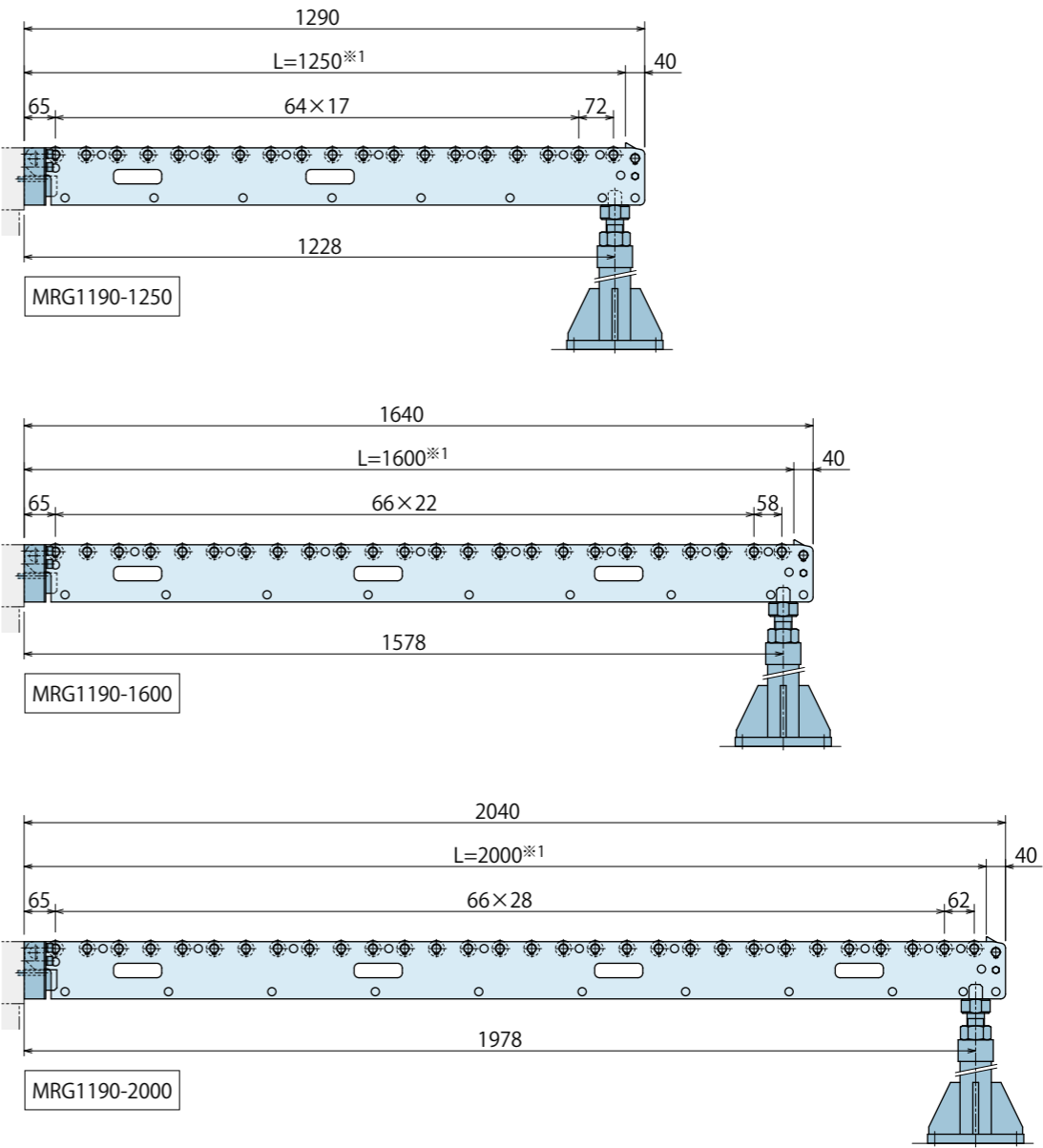
Machining Dimensions :  
Block Mounting Area



(mm)

Die Lifter		Dimension T <sup>※2</sup>
Model No.	Lift-Up Stroke	
RA018/022	1.5	13.5
RA028/050	2	13
RQA028		
RQC030/040/051		

Note:  
※2. Dimension T should be processed according to Die Lifter which is used with the block.



Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA  
RA  
RB

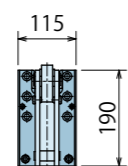
Pre-Roller

MRC  
MRD  
MRE/MRF

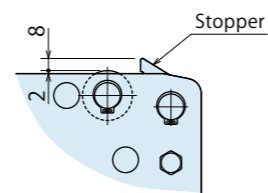
MRG

MRJ/MRK

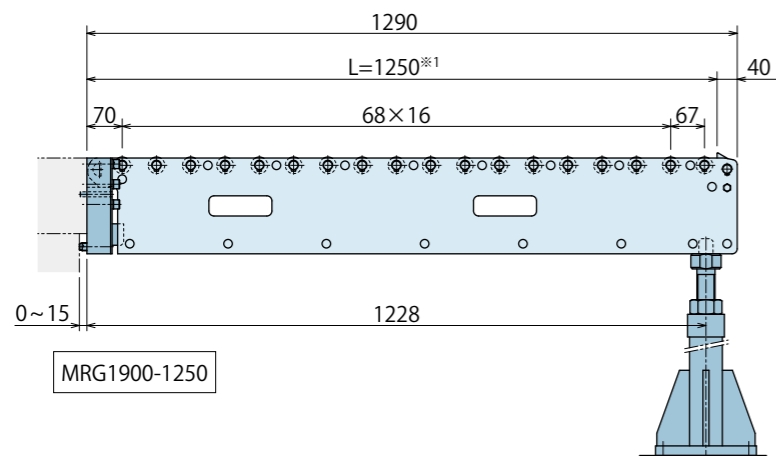
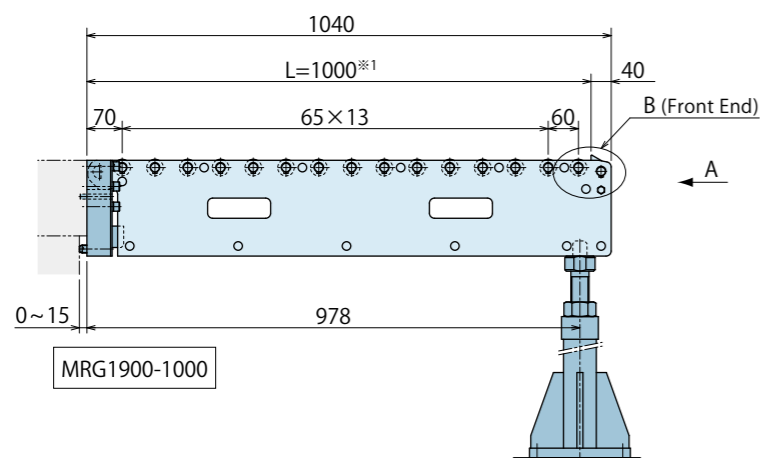
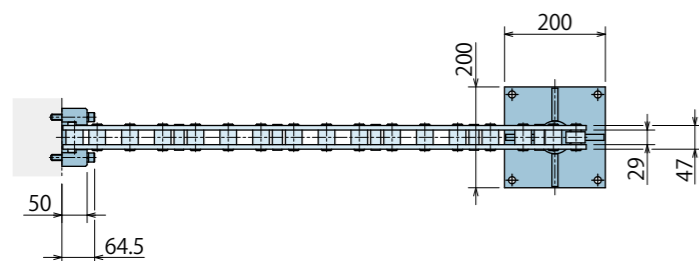
External Dimensions : Removable Pre-Roller (With Stand) (MRG1900-□)



View A



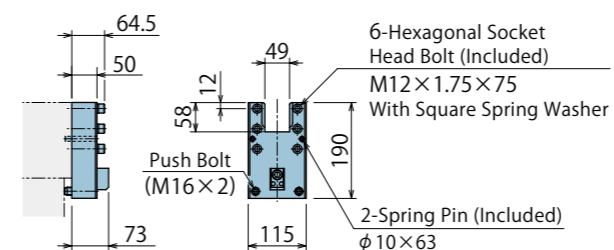
Enlarged View of B (Front End)



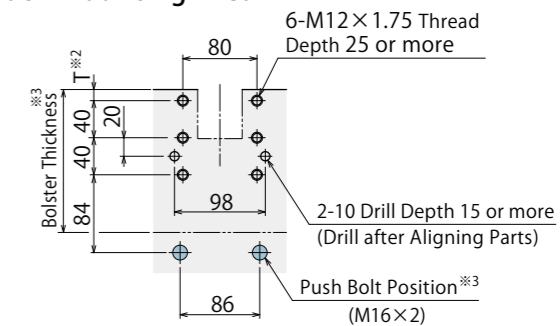
Note:

※1. It shows the die travel L.

● External Dimensions :  
Mounting Block (MRG1900-B)



### ● Machining Dimensions : Block Mounting Area

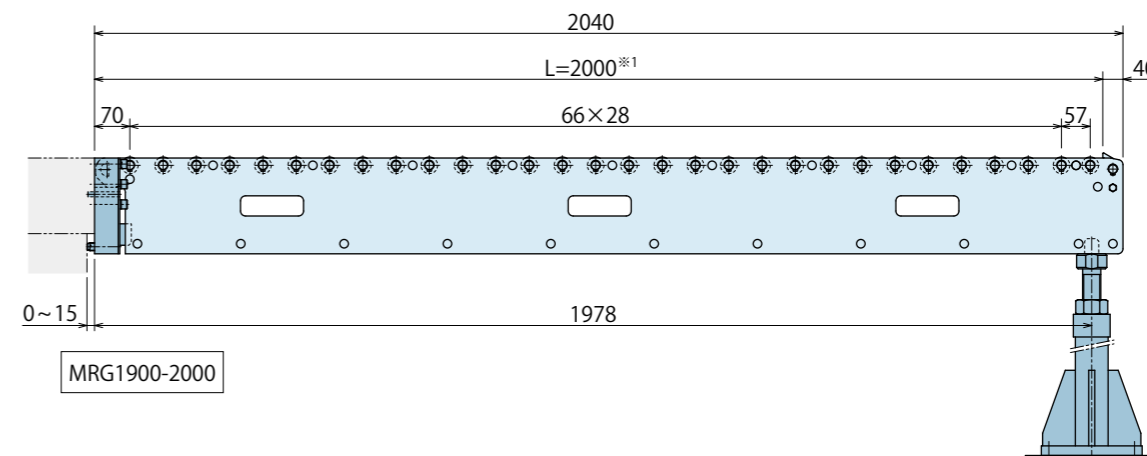
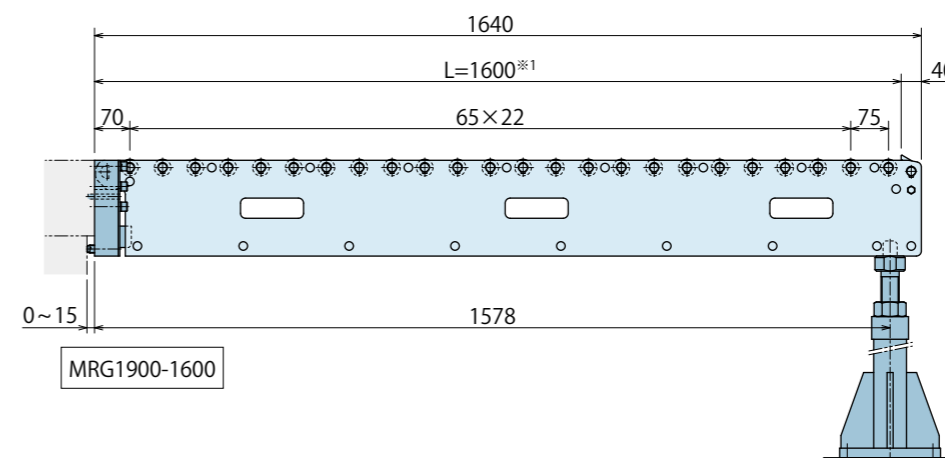


Die Lifter		Dimension T*2
Model No.	Lift-Up Stroke	
<b>RA018/022</b>	1.5	12.5
<b>RA028/050</b>	2	12
<b>RQA028</b>		
<b>RQC030/040/051</b>		

Notes :

※2. Dimension T should be processed according to Die Lifter which is used with the block.

※3. Use a push bolt when the bolster thickness is 160mm or less.



**Clamp • Unit  
Operational  
Control Panel**

## Die Lifter Pre-Roller

## Accessories

Cautions

Company Profile

## Die Lifter

RQA

RA

$$\frac{RA}{RR}$$

Pre-Roller

MRC

---

MRD

MRD  


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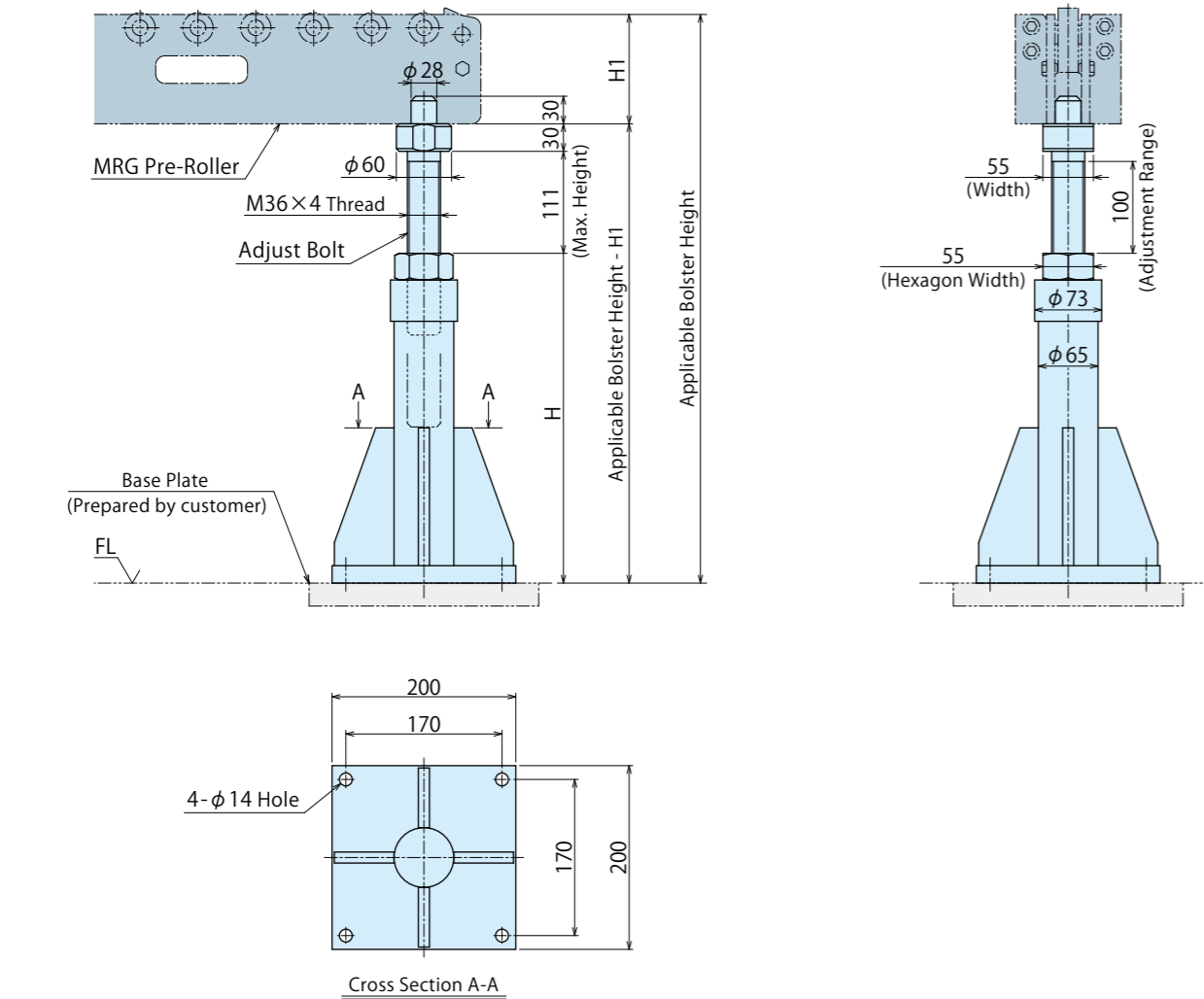
MRE/MRE

MRE/MRF

MRG

MRJ/MRK

External Dimensions : Stand (For MRG Removable Pre-Roller)



External Dimension List

Model No.	Applicable Bolster Height (mm)		H (mm)	H1 (mm)	
	When using MRG1190-□	When using MRG1900-□		When using MRG1190-□	When using MRG1900-□
MRH0400-A	520 ~ 620	590 ~ 690	359	119	190
MRH0500-A	620 ~ 720	690 ~ 790	459		
MRH0600-A	720 ~ 820	790 ~ 890	559		
MRH0700-A	820 ~ 920	890 ~ 990	659		
MRH0800-A	920 ~ 1020	990 ~ 1090	759		
MRH0900-A	1020 ~ 1120	1090 ~ 1190	859		
MRH1000-A	1120 ~ 1220	1190 ~ 1290	959		

MEMO

Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

Model No. Indication : Horizontal Folding Pre-Roller (with Stand)

MR J 295 0 - 800

1

2

3

4

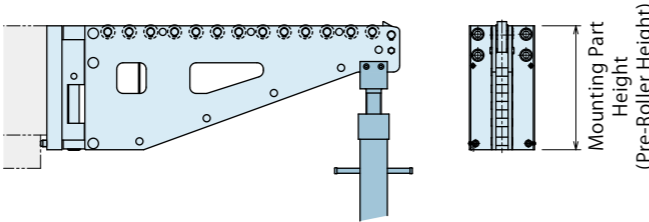
1 Frame Storage Method

- C : Removable P.149
- D : Removable•Vertical Folding P.159
- E : Horizontal Folding (Inside Arm) P.169
- F : Horizontal Folding (Outside Arm) P.169
- G : Removable (with Stand) P.177
- J : Horizontal Folding (with Stand) (Inside Arm) P.185
- K : Horizontal Folding (with Stand) (Outside Arm) P.185



2 Mounting Part Height (Pre-Roller Height)

295 : Mounting Part Height 295 mm

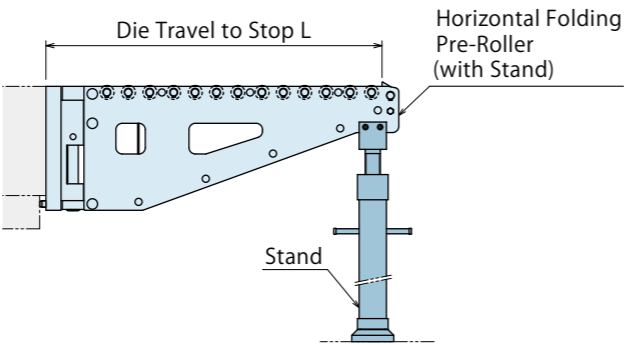


3 Design No.

0 : Revision Number

4 Die Travel L

Dimensions : Die Travel L  
(Distance that the die can be pulled out)  
(Please refer to the specifications)



Model No. Indication : Stand

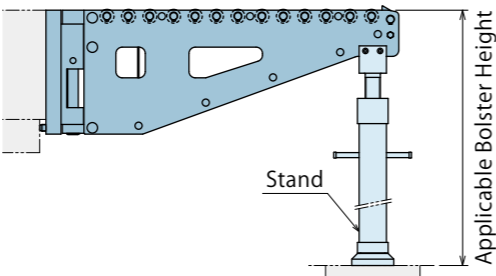
MRL 060 0 - A

1

2

1 Applicable Bolster Height

- 060 : Applicable Bolster Height 710 ~ 810 mm
- 070 : Applicable Bolster Height 810 ~ 910 mm
- 080 : Applicable Bolster Height 910 ~ 1010 mm
- 090 : Applicable Bolster Height 1010 ~ 1110 mm
- 100 : Applicable Bolster Height 1110 ~ 1210 mm
- 110 : Applicable Bolster Height 1210 ~ 1310 mm
- 120 : Applicable Bolster Height 1310 ~ 1410 mm



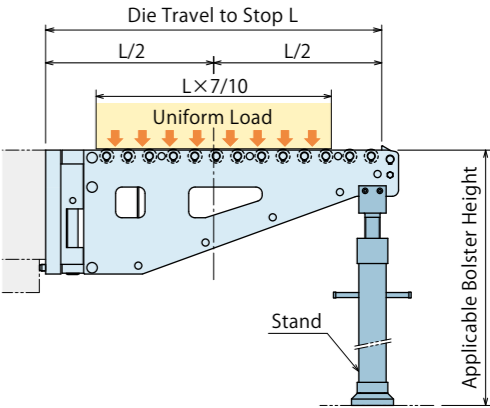
2 Design No.

0 : Revision Number

Specifications : Horizontal Folding Pre-Roller (with Stand)

MRJ			MRK			Die Travel to Stop L (mm)	Max. Loading Weight each (kg)※1
Model No.	Weight (kg)	No. of Rollers	Model No.	Weight (kg)	No. of Rollers		
MRJ2950-800	44.5	13	MRK2950-800	47.8	13	800	4915
MRJ2950-900	47.6	15	MRK2950-900	51.2	15	900	4100
MRJ2950-1000	50.3	17	MRK2950-1000	54.0	17	1000	3550
MRJ2950-1250	56.6	22	MRK2950-1250	60.5	22	1250	2675

Note:  
※1. The maximum loading weight per pre-roller with a uniform load at the center of die travel L and 70 % length of the die travel L.



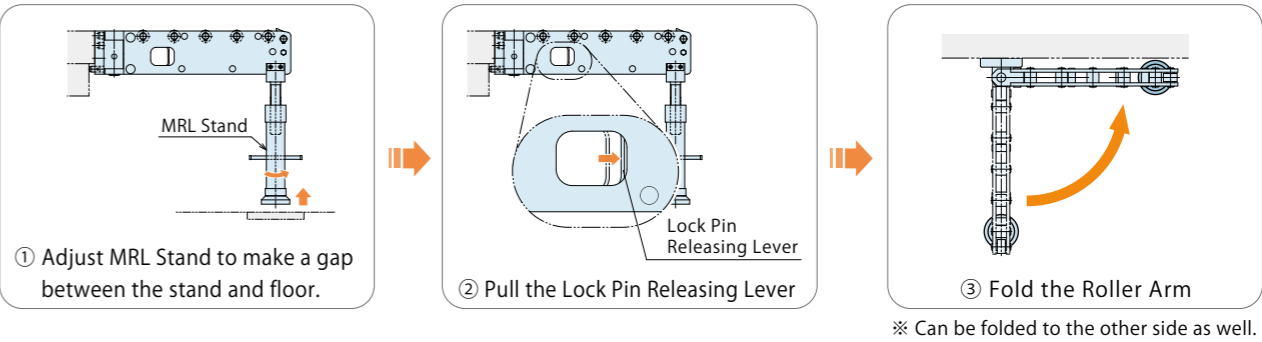
Specifications : Stand

Model No.	Weight (kg)	Applicable Bolster Height (mm)
MRL0600-A	7.7	710 ~ 810
MRL0700-A	8.3	810 ~ 910
MRL0800-A	8.9	910 ~ 1010
MRL0900-A	9.5	1010 ~ 1110
MRL1000-A	10.1	1110 ~ 1210
MRL1100-A	10.7	1210 ~ 1310
MRL1200-A	11.3	1310 ~ 1410

- Notes on Handling
1. MRL Stand can be used only for MRJ and MRK Pre-Rollers. Do not use it for any other use. (Cannot be used for MRE or MRF Pre-Roller.)
2. When setting MRL Stand, make sure it is vertical to the floor.
3. Adjust MRL Stand to the floor.
4. Do not adjust bolts beyond the maximum adjusting height.
5. Do not operate a press machine when MRJ, MRK Pre-Roller are stowed on the floor with MRL Stand.  
The vibration of press machine could damage the pre-roller.

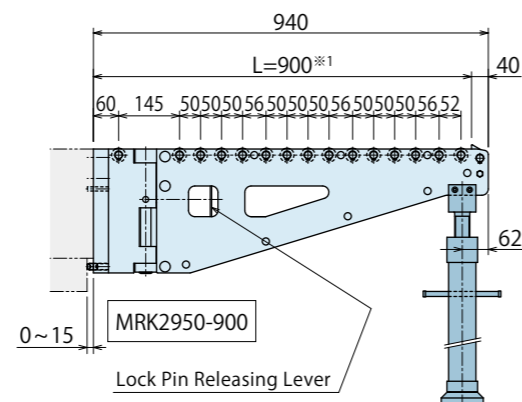
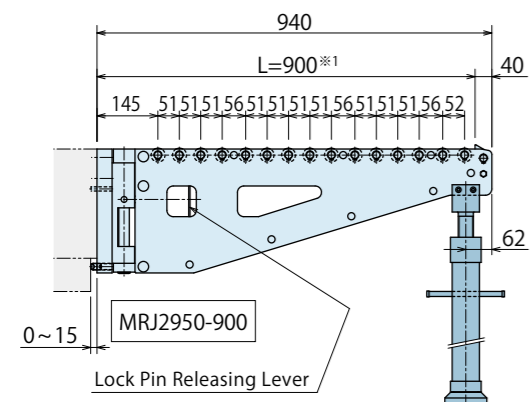
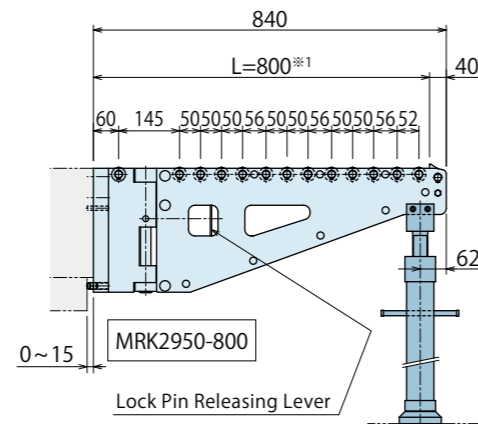
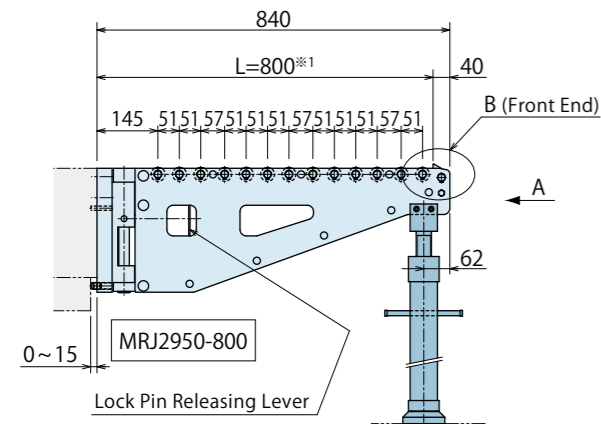
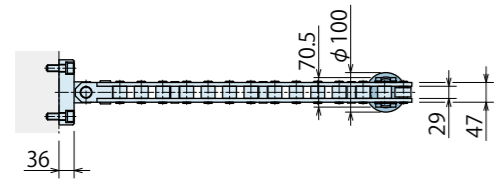
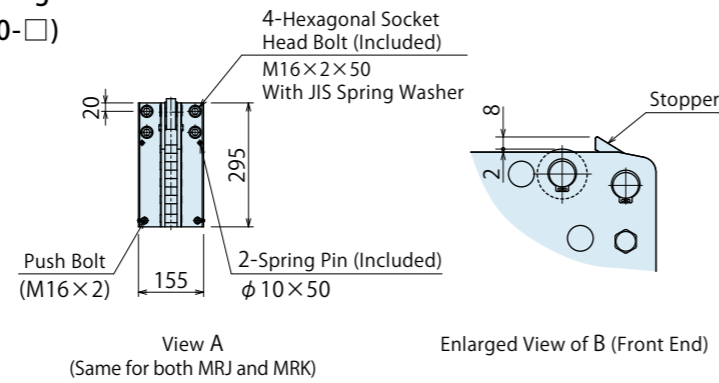
- Installation Notes
1. The floor should be level.
2. The floor should be strong enough to support the maximum die weight (5.25N/mm<sup>2</sup>).  
(1) If the floor is made of concrete or mortar, set a base plate such as an iron plate in order to withstand load.  
(2) When MRL Stand is set on the pit cover, set joists or poles just under the cover to support the stand.

Folding Method



Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile
Die Lifter
RQA
RA
RB
Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

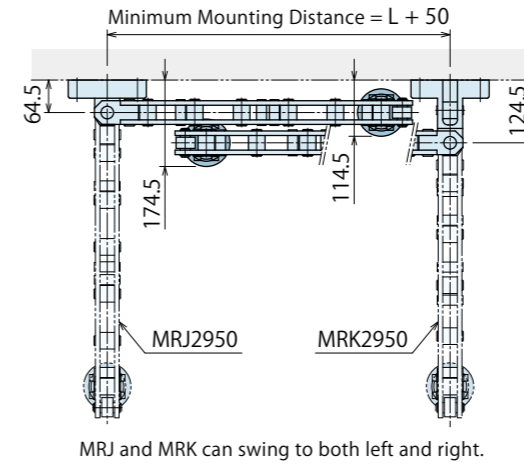
● **External Dimensions : Horizontal Folding**  
Pre-Roller (with Stand) (MRJ/MRK2950-□)



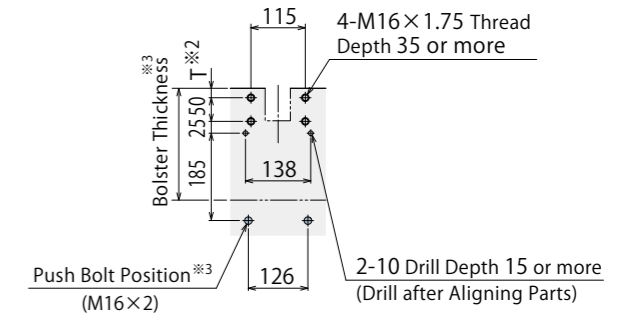
Note:

- ※1. It shows the die travel L.

### 🔴 Dimensions when Folded



### Machining Dimensions of Mounting Area

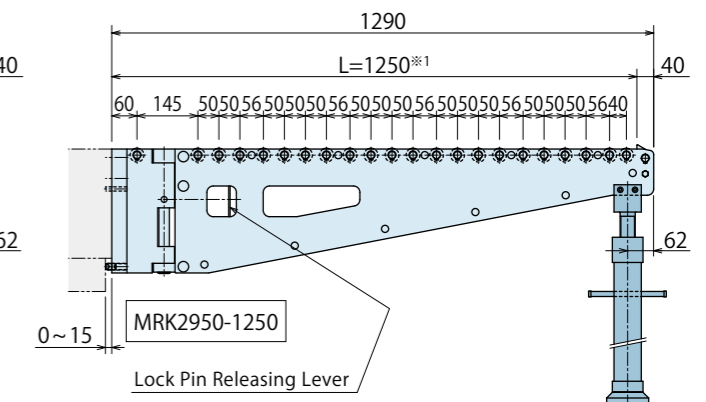
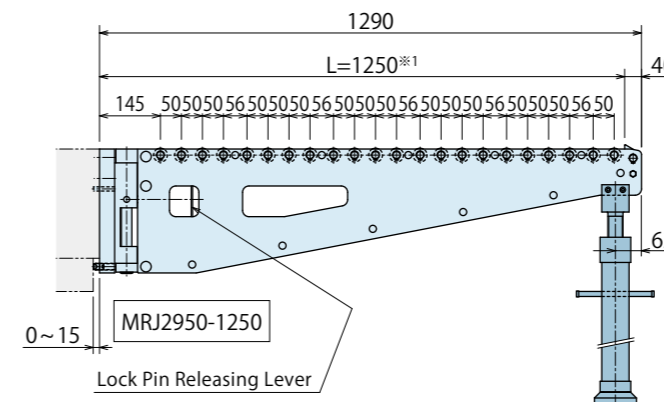
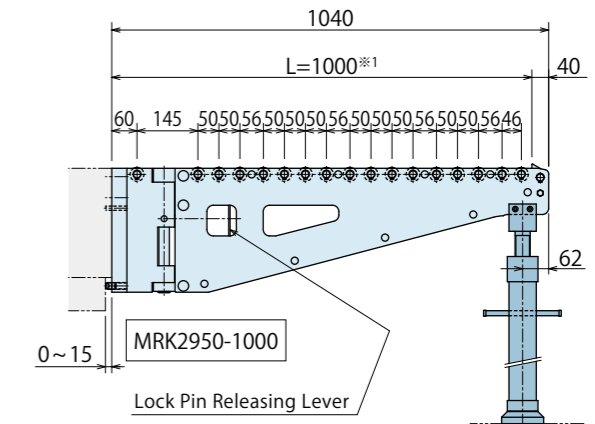
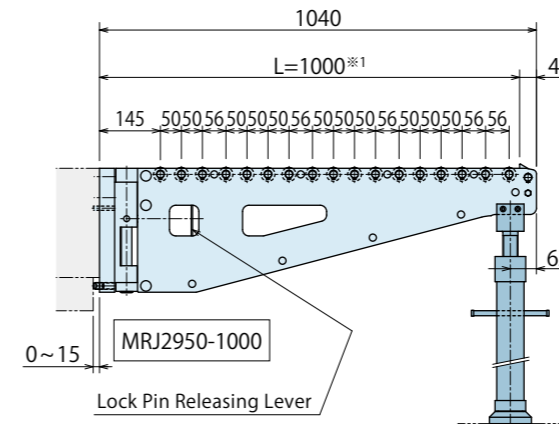


Die Lifter		Dimension T*2
Model No.	Lift-Up Stroke	
<b>RA018/022</b>	1.5	20.5
<b>RA028/050</b>	2	20
<b>RQA028</b>		
<b>RQC030/040/051</b>		

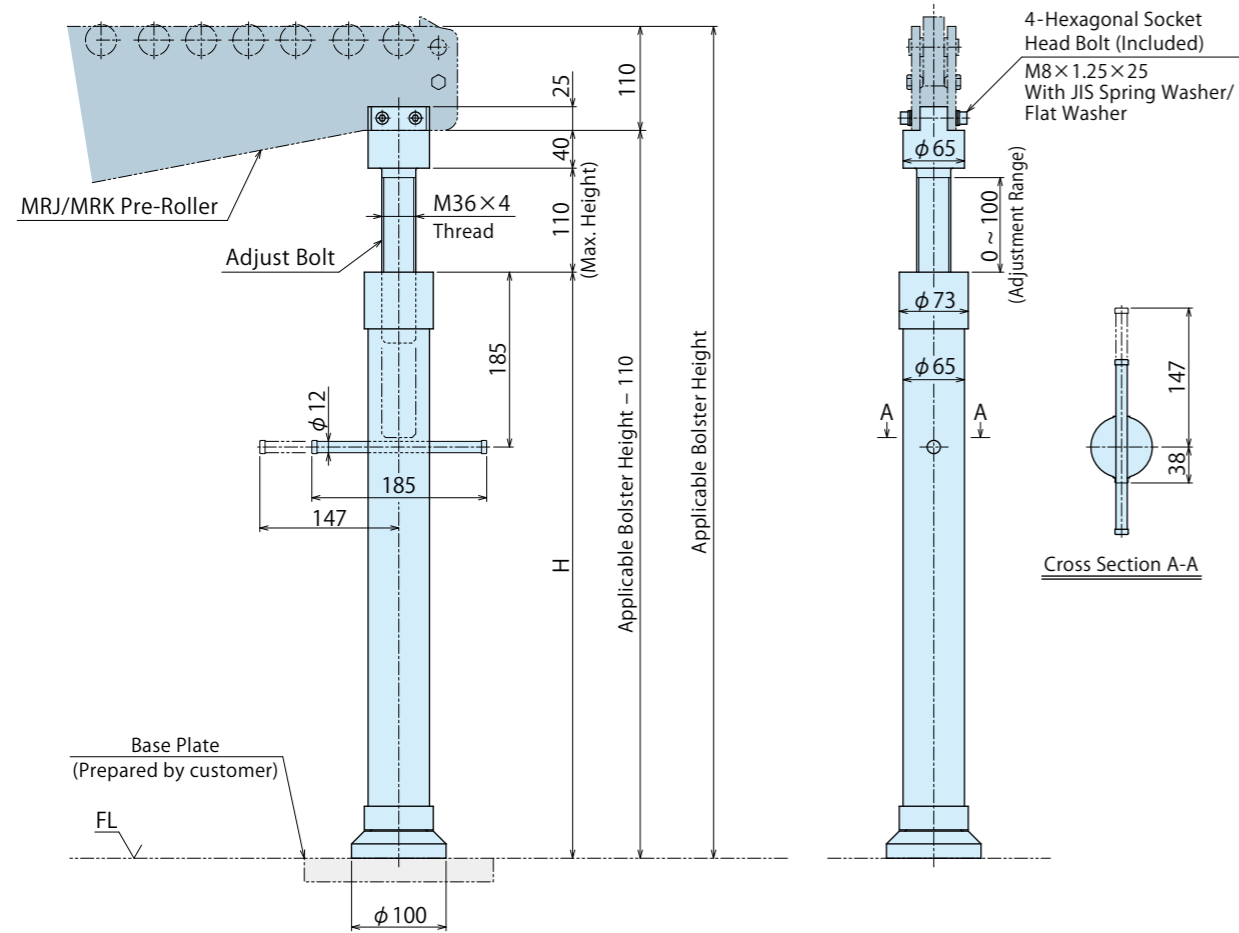
Notes :

※2. Dimension T should be processed according to Die Lifter which is used with the block.

※3. Use a push bolt when the bolster thickness is 245mm or less.



External Dimensions : Stand (For MRJ/MRK Horizontal Folding Pre-Roller)



External Dimension List

Model No.	Applicable Bolster Height (mm)	H (mm)
MRL0600-A	710 ~ 810	550
MRL0700-A	810 ~ 910	650
MRL0800-A	910 ~ 1010	750
MRL0900-A	1010 ~ 1110	850
MRL1000-A	1110 ~ 1210	950
MRL1100-A	1210 ~ 1310	1050
MRL1200-A	1310 ~ 1410	1150

MEMO

Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Die Lifter

RQA  
RA  
RB

Pre-Roller

MRC  
MRD  
MRE/MRF  
MRG  
MRJ/MRK

Accessory : Spacer Block

When using Pre-Roller and Die Lifter together and setting pipe lines of Die Lifter on the Pre-Roller side (die loading side), the spacer block can provide space for pipe lines between the bolster and Pre-Roller.

Model No. Indication

MR C 119 0 - S

1 2 3

1 Compatible Pre-Roller

- C : For Removable Pre-Roller (MRC/MRD/MRG)
- E : For Horizontal Folding Pre-Roller (MRE/MRF/MRJ/MRK)

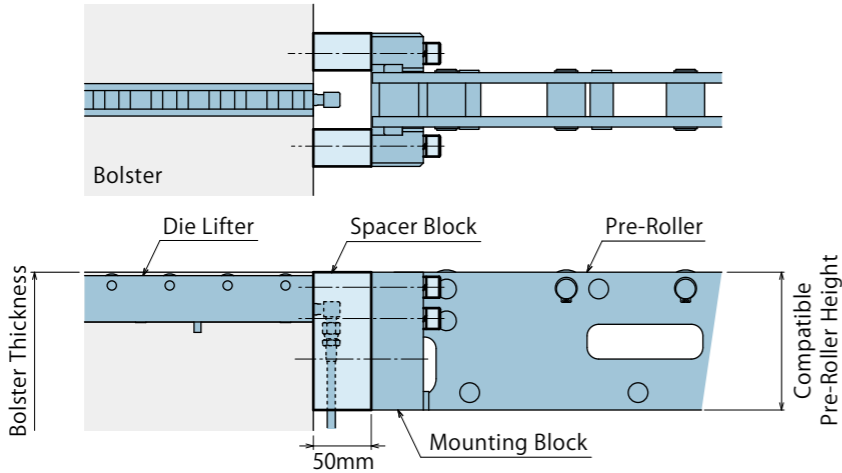
2 Compatible Pre-Roller Height

- 075 : Compatible Pre-Roller Height 75 mm
- 119 : Compatible Pre-Roller Height 119 mm
- 150 : Compatible Pre-Roller Height 150 mm
- 190 : Compatible Pre-Roller Height 190 mm
- 295 : Compatible Pre-Roller Height 295 mm

3 Design No.

- 0 : Revision Number

External Dimensions



Spacer Block Model No.	Compatible Pre-Roller Model No.	Mounting Block Model No.※ 1
MRC0750-S	MRC0750-□	MRC0750-B
	MRD0750-□	MRD0750-B
MRC1190-S	MRC1190-□	MRC1190-B
	MRD1190-□	MRD1190-B
	MRG1190-□	MRG1190-B
MRC1500-S	MRC1500-□	MRC1500-B
	MRD1500-□	MRD1500-B
MRC1900-S	MRC1900-□	MRC1900-B
	MRD1900-□	MRD1900-B
	MRG1900-□	MRG1900-B
MRE1190-S	MRE1190-□	
	MRF1190-□	
MRE1900-S	MRE1900-□	
	MRF1900-□	
MRE2950-S	MRE2950-□	
	MRF2950-□	
	MRJ2950-□	
	MRK2950-□	

Notes :

※ 1. Horizontal folding pre-roller (MRE, MRF, MRJ, MRK) is a united type of pre-roller and mounting block, thus mounting block is included.

1. The option of die lifter should be G : pin specifications and hose fitting should be mounted directly to die lifter.

When using pipe nipple, be careful with the length of pipe nipple and the mounting point of die lifter.

2. Bolster thickness should be thicker than the spacer block.

Accessory : End Plate

When using Pre-Roller and Die Lifter together and setting pipe lines of Die Lifter on the opposite side of Pre-Roller (die loading side), the end plate prevents Die Lifter from coming out of the bolster to the pre-roller side.

Model No. Indication

MRC 119 0 - E

1 2

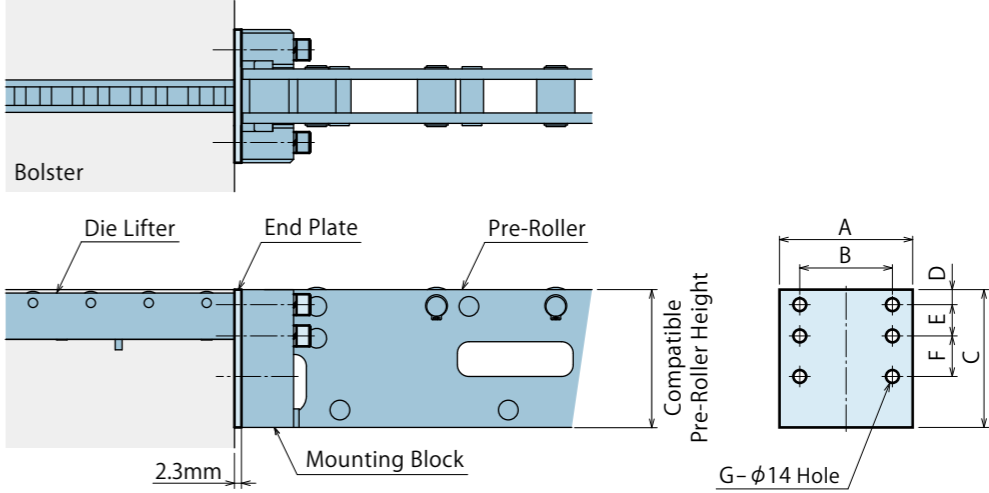
1 Compatible Pre-Roller Height

- 075 : Compatible Pre-Roller Height 75 mm
- 119 : Compatible Pre-Roller Height 119 mm
- 150 : Compatible Pre-Roller Height 150 mm
- 190 : Compatible Pre-Roller Height 190 mm

2 Design No.

- 0 : Revision Number

External Dimensions



End Plate Model No.	Pre-Roller Model No.※ 2	Mounting Block Model No.※ 2	(mm)						
			A	B	C	D	E	F	G
MRC0750-E	MRC0750-□	MRC0750-B	96	70	75	13			2
	MRD0750-□	MRD0750-B							
MRC1190-E	MRC1190-□	MRC1190-B	115	80	119	13	27		4
	MRD1190-□	MRD1190-B							
	MRG1190-□	MRG1190-B							
MRC1500-E	MRC1500-□	MRC1500-B	115	80	150	13	27		4
	MRD1500-□	MRD1500-B							
MRC1900-E	MRC1900-□	MRC1900-B	115	80	190	12	40	40	6
	MRD1900-□	MRD1900-B							
	MRG1900-□	MRG1900-B							

Note :

※ 2. End plate can be used for mounting block of removable pre-roller (MRC/MRD/MRG).

Horizontal folding pre-roller (MRE, MRF, MRJ, MRK) does not require end plate, because the mounting block part works as end plate.

Clamp・Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

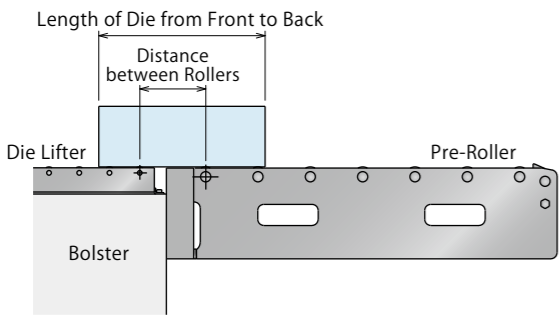
Die Lifter
RQA
RA
RB

Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

Cautions

Notes for Design

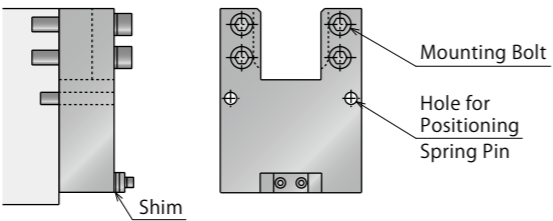
- 1) Check Specifications
- Please use each product according to its specifications.
- 2) Check the Die Weight
- Make sure the die weight is less than the maximum loading weight.
- 3) Check the Die Dimensions
- Make sure that the length of the die from front to back is at least twice as long as the distance between the first roller of the die lifter (closest to the pre-roller) and the last roller of the pre-roller (closest to the die lifter).
- If the length of the die is less than double the distance between rollers, die loading will not be smooth, and it could result in damage to the die and the product.



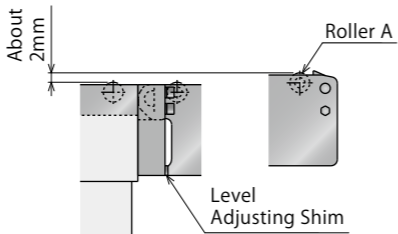
Installation Notes

- 1) Mounting the Block
- ① Set the block to the bolster end with attached mounting bolts.
- ② Mount Pre-Roller and use shims to level the roller surface.
- ③ With Die Lifter inside the bolster in the lift-up position, adjust the position of the mounting block so that the top of the rollers on Die Lifter and Pre-Roller are level and then perform the final tightening of the mounting bolts.
- ※ If rollers are not set in the bolster, adjust the roller surface of the pre-roller to be level with the bolster surface.
- ④ Be sure to position the block with a spring pin.
- Without a spring pin, the pre-roller could be misaligned, and the die could fall off the rollers.

Model No.	Mounting Bolt Size	Tightening Torque (N·m)
MR□0750	M12×1.75	98
MR□1190		
MR□1500		
MR□1900		
MR□2950	M16×2	200

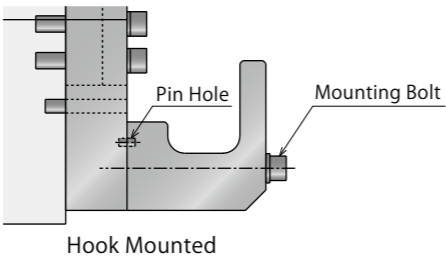
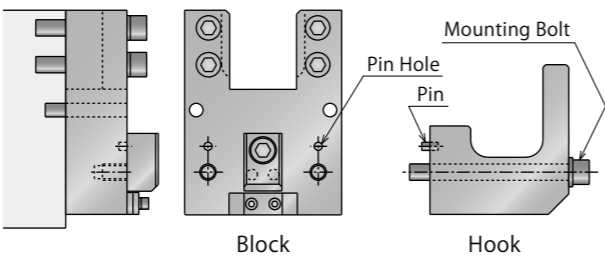


- 2) Level Adjustment
- Use shims to adjust the front end roller (roller A) of Pre-Roller to be approximately 2mm higher than the bolster surface.



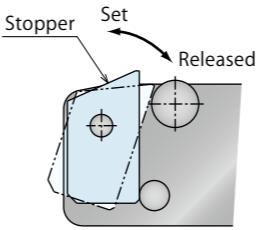
- 3) Mounting the Hook (MRD Roller Only)
- Align the pin of the hook with the pin hole on the block and mount the hook with the attached mounting bolt.

Model No.	Mounting Bolt Size	Tightening Torque (N·m)
MRD0750	M10×1.5	50
MRD1190	M12×1.75	98
MRD1500		
MRD1900		



Notes on Handling

- 1) The product should be operated by qualified personnel.
- 2) Pre-Roller should not be used for purposes other than die changes.
- 3) Only use dies that weigh less than the maximum loading weight.
- 4) Stow Pre-Roller away during press machine operation.
- Fold or remove Pre-Roller during press machine operation.
- If a press machine is operated with Pre-Roller in place, Pre-Roller could be damaged by vibration.
- 5) Check the Stopper
- If a die is moved with the stopper released, the die could fall and cause an injury, so always make sure the stopper is set before use.
- 6) Do not exceed the maximum die lowering speed.
- When placing a die on Pre-Roller, lower it at a speed of 50mm/sec or less. If it is done too fast Pre-Roller may be damaged and cause an injury.
- 7) Do not exceed the maximum die moving speed.
- When moving a die, do not exceed 100mm/sec in order to prevent damage to the stopper.
- 8) Do not let your hand off from Pre-Roller when folding the frame.
- Never let your hand off from Pre-Roller when removing or folding it. Otherwise, Pre-Roller may be damaged leading to an injury.
- 9) Check the Lock Pin (In case of MRE/MRF/MRJ/MRK)
- Make sure the lock pin is engaged during die loading and press machine operation.
- 10) Secure the Stand (In case of MRG/MRJ/MRK)
- Make sure the stand is fixed to the floor during die loading.
- 11) 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 / Inspection

- 1) Removal of Product
- Before removing the product, make sure that safety devices and preventive devices are in place.
- Make sure there is no trouble/issue in the bolts and respective parts before restarting.
- 2) Make sure that the rollers move smoothly and do not make noises.
- 3) Please contact us for overhaul and repairs.
- 4) Make sure that the stopper returns to the normal position with the spring force.
- 5) Make sure that when setting the stopper at the release position, the stopper can keep the same position.
- 6) Check the mounting bolts of the block regularly and tighten them as needed.
- 7) Check the mounting bolts of the hook regularly and tighten them as needed. (MRD only)
- 8) When using a push bolt, make sure there is no space between the push bolt and the press machine.

※ Please refer to P.203 for common caution. • Speed Control Circuit of Hydraulic Cylinder & Notes • Maintenance / Inspection • Warranty

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
Cautions Company Profile

Die Lifter
RQA
RA
RB

Pre-Roller
MRC
MRD
MRE/MRF
MRG
MRJ/MRK

Press load monitor

# Press Load Monitor

Model YK



Having trouble with quality control of pressed products?  
 KOSMEK Load Monitor will solve the problem!

## Enables Monitoring Changes in Press Load

Displays the press load digitally based on the pressure change of the overload cylinder.

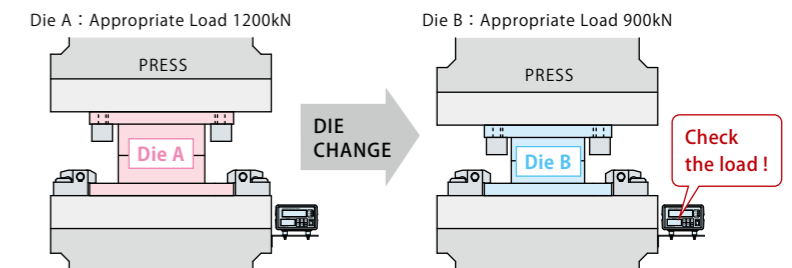
Displays the Press Load



## Easy to Check Load after Die Change !

Able to check the load when press testing after die change. This enables setup time reduction and quick start of production with appropriate load.

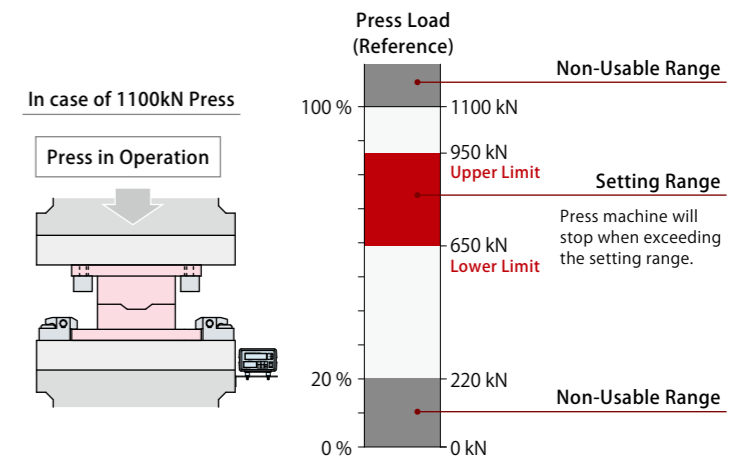
In case of changing to a die with different appropriate load



## Quality Control by Monitoring Changes !

Upper and lower load limits can be set freely. An emergency signal will be sent to the press machine immediately and stop the machine when exceeding the limits.

Also, when the setting range has a margin of load, it is able to stop the machine before the overload protector is activated.



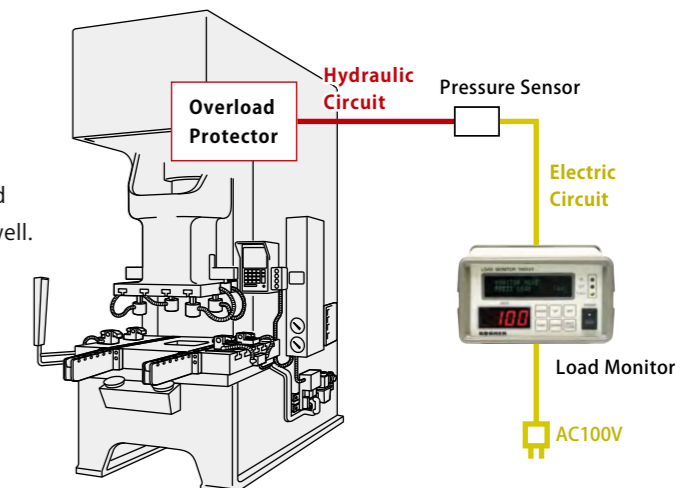
## Easy Installation !

### KOSMEK will install the products !

Easy installation with the following 2 steps will be conducted by Kosmek. Installation is possible for existing machines as well.

- ① Branch a hydraulic circuit for overload protector and install a pressure sensor connected to the load monitor.
- ② Calibrate the data of the load monitor and the pressure sensor. (Only at first installation)

※ Please prepare an installation port for the pressure sensor in the hydraulic circuit of the overload protector.

Clamp • Unit  
Operational  
Control PanelDie Lifter  
Pre-Roller

Accessories

Cautions  
Company ProfilePress Load  
Monitor

YK

Pressure Switch  
JBAPressure Gauge  
JGA/JGBManifold  
JX

## Press Load Monitoring

## Product Accuracy Control

Comparison between Strain Gauge and Load Monitor

	Strain Gauge	Load Monitor
Cost Comparison	• High Cost	• Comparably Low Cost
Spec Comparison	• Direct Measuring Method Check deformation of a frame.  • Able to select an option "with Strain Gauge" when ordering a new press machine. (Installed by press machine maker.)	• Indirect Measuring Method Check the change in hydraulic pressure (within overload).  • 10% variation in machine capacity ex.) 200 ton × 10% = 20 ton variation

Press Load Monitor for Better Quality !

Problems during Press Operation

- Workpiece with different thickness loaded...
- Piled-up workpieces loaded...
- Scratch on a die...

Solved by Load Monitor!

Load changes in case of an error.

Monitoring Errors Possible!!

Appropriate Press Load Improves Quality !

Longer Operating Life of Die !

Load Limit Setting to Prevent Die Breakage !

● Model No. Indication

● Upper and Lower Limit Load Warning Outputs

Set the upper and lower limits of the press load and stop the press machine urgently.

**YK010 0**

Design No.  
(Revision Number)



● Load Monitor Main Unit

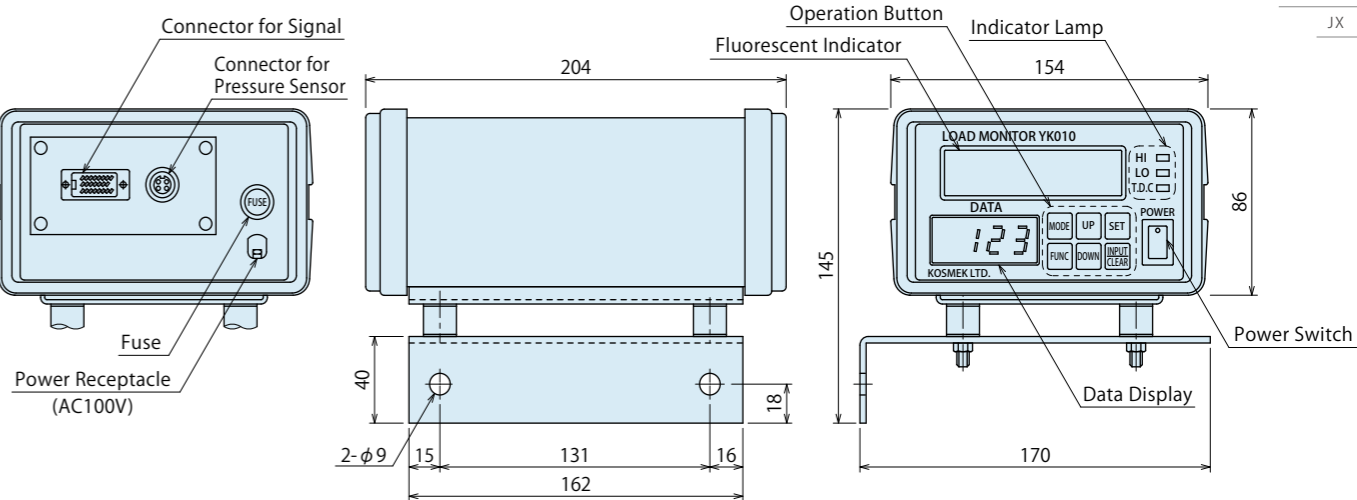
● Specifications

Model No.	<b>YK0100</b>	
Supported Press Load	9999 kN or less	
Supported Number of Press Strokes	MAX 200 spm	
Measuring Accuracy ※1	± 5 % F.S (Measuring Range : Press Ability 20 ~ 100%)	
Output Functions	HI	Upper Limit Warning Output (Dry Contact)
	LO	Lower Limit Warning Output (Dry Contact)
	Output Contact Capacity	DC 30 V · 0.5 A
AD Sampling	5 mS	
Power Consumption	10 VA or less	
Drip Protection	None	
Power Supply	AC 100 V · 50 / 60 Hz	
Operating Temperature Range	0 ~ 60 °C	
Weight	2.5 kg	
Accessories	Pressure Sensor	
	Cable with Connector (5 m)	

Note :

※1. Measuring range is 20 ~ 100% of the press rated load.

● External Dimensions

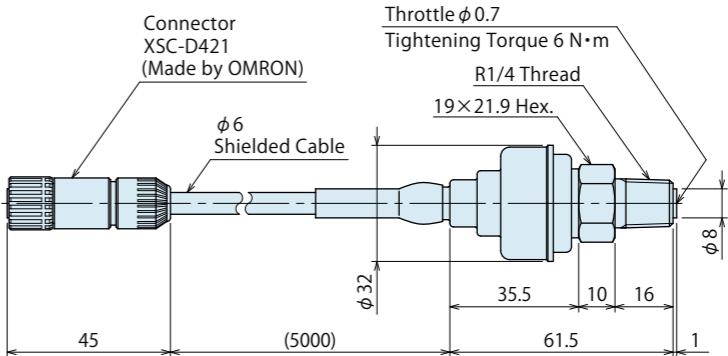


● Pressure Sensor (Included)

● Specifications

Model No.	<b>YK0100 Pressure Sensor</b>
Pressure Range	0 ~ 50 MPa
Allowable Maximum Pressure	75 MPa
Power Supply	DC 24 V ± 10 %
Output Format	4 ~ 20 mA
Accuracy	± 0.5 % F.S
Temperature Effect on Zero Point	± 0.05 % F.S / °C
Temperature Effect on Span	± 0.05 % F.S / °C
Guaranteed Temperature Range	-20 ~ +70 °C (Make sure no condensation or frost)
Operating Temperature Range	-20 ~ +70 °C (Make sure no condensation or frost)

● External Dimensions



Clamp · Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Press Load  
Monitor  
**YK**

Pressure Switch  
JBA

Pressure Gauge  
JGA/JGB

Manifold  
JX

# Accessories



Model JBA  
Pressure Switch



Model JGA/JGB  
Pressure Gauge



Model JX  
Manifold

## Pressure Switch

Most suitable for checking circuit pressure.  
Resistant to vibration of 30 G. Long operational life of more than one million cycles.  
The switch equipped with light enables to check the action easily.



Model No. Indication

**JBA** **270** **0** **-0** **G** **D** **C** - **(INC.18.6MPa)** **(INC.23.0MPa)**

1 2 3 4 5 6 7

### 1 Pressure Code

**070**  
**270**  
**380**

Refer to the specifications for setting pressure range.

### 2 Design No.

**0** : Revision Number

### 3 Piping Option

**Blank** : Piping Option (Rc1/4 Thread)  
**G** : Gasket Option (O-ring Sealing)

### 4 Option

**Blank** : Micro Switch 1-Contact Model, without Action Light  
**D** : Micro Switch 2-Contact Model, without Action Light  
**L** : Micro Switch 1-Contact Model, with LED Light

### 5 Cable

**Blank** : Without Cable  
**C** : With Cable  
Length of the Cable 160mm (1-Contact Model: 2 Cores,  
2-Contact Model: 4 Cores, with LED Light : 3 Cores)

### 6 Set Pressure 1

Specify the set pressure with a proper unit symbol along with **INC.** (Pressure Increase Detection) or **DEC.** (Pressure Decrease Detection).

(ex.) Boosted Pressure Detection : 18.6MPa → **(INC.18.6MPa)**  
Decreased Pressure Detection : 4.0MPa → **(DEC.4.0MPa)**  
Boosted Pressure Detection : 700PSI → **(INC.700PSI)**

### 7 Set Pressure 2 Only when selecting 4 Option : D

The set pressure of the second contact in case of 4 D.  
Specify the set pressure with a proper unit symbol.

(ex.) Detecting normal pressure with Set Pressure 1 and abnormal pressure with Set Pressure 2.  
※ Contact us when combining Pressure Increase Detection (INC.) and Pressure Decrease Detection (DEC.) for Set Pressure 1 and 2.

## Specifications

Model No.			JBA0700		JBA2700		JBA3800	
			1-Contact Model	2-Contact Model	1-Contact Model	2-Contact Model	1-Contact Model	2-Contact Model
Set Pressure 1	INC. (Pressure Increase Detection) MPa	2.0 ~ 7.0	1.0 ~ 6.0	7.0 ~ 27.0	2.0 ~ 22.4	14.0 ~ 38.0	5.6 ~ 29.6	
	DEC. (Pressure Decrease Detection) MPa	1.4 ~ 6.0	0.5 ~ 5.1	5.8 ~ 23.8	1.5 ~ 19.7	11.7 ~ 32.6	4.4 ~ 25.3	
	Open/Close Pressure Difference ※1 MPa	0.6 ~ 1.0	0.5 ~ 0.9	1.2 ~ 3.2	0.5 ~ 2.7	2.3 ~ 5.4	1.2 ~ 4.3	
Set Pressure 2	INC. (Pressure Increase Detection) ※2 MPa	—	(Set Pressure 1) ~ (Set Pressure 1) + 1.0	—	(Set Pressure 1) ~ (Set Pressure 1) + 4.6	—	(Set Pressure 1) ~ (Set Pressure 1) + 10.8	
	DEC. (Pressure Decrease Detection) ※3 MPa	—	(Set Pressure 1) ~ (Set Pressure 1) + 0.9	—	(Set Pressure 1) ~ (Set Pressure 1) + 4.1	—	(Set Pressure 1) ~ (Set Pressure 1) + 7.3	
	Open/Close Pressure Difference ※1 MPa	—	0.6 ~ 1.0	—	1.2 ~ 3.2	—	2.3 ~ 5.4	
Max. Operating Pressure MPa		40						
Adjusting Screw Turn Ratio (Reference) MPa/Rev		0.5		2.2		3.9		
Shock Tolerance ※4		30G						
Repeat Accuracy (of Maximum Set Pressure)		±1%						
Micro Switch	Electrical Rating	5A-250V (125V: with LED Light) AC, 5A-30V DC						
	Contact Model	Single-Pole Double-Throw (SPDT)						
LED Light	Rated Voltage ※5	12 ~ 125V AC, 12 ~ 30V DC						
	Internal Resistance	33kΩ						
The Shape of the Terminal ※6		#110 Tab Terminal (t=0.5)						
Mounting Position		Any Position						
Operating Temperature		0 ~ 70 °C						
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32						
Weight kg		0.6						

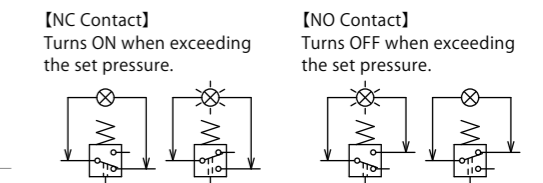
※1. It shows the difference of pressure when the switch shifts during pressure increase and decrease. It varies in proportion to the increase of set pressure.  
※2. Set pressure range of 'Set Pressure 2' when 'Set Pressure 1' is specified as INC. (Contact us for the combination of INC. and DEC.)  
※3. Set pressure range of 'Set Pressure 2' when 'Set Pressure 1' is specified as DEC. (Contact us for the combination of DEC. and INC.)  
※4. Shock tolerance of the 2-contact model may become less than 30G depending on the set pressure and operating pressure.  
※5. Make sure to install the load on the light circuit.  
※6. For connection, use the special receptacle for #110 Tab and insert it parallel to the terminal.

## Circuit Symbol

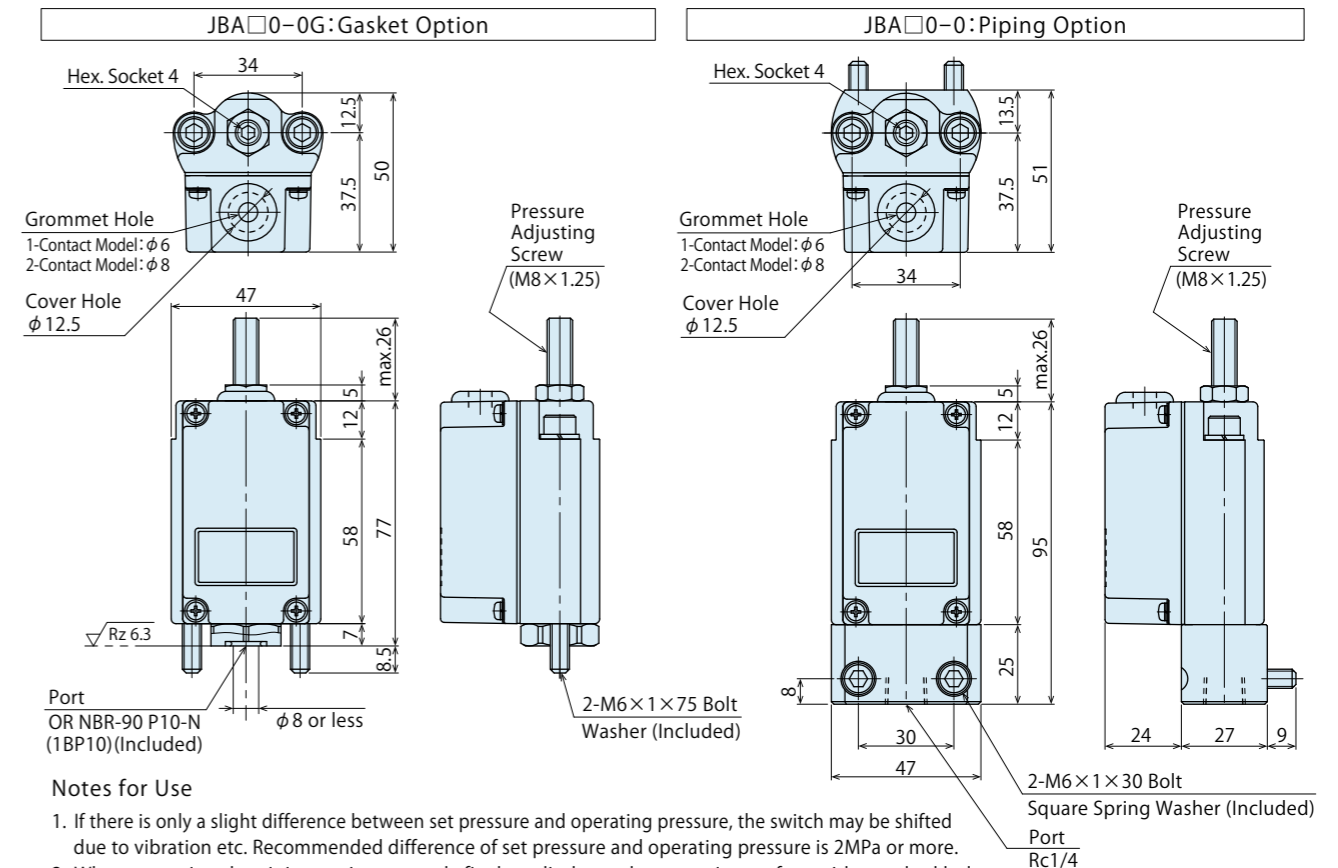
Option No.	Blank: 1-Contact Model	D: 2-Contact Model	L: 1-Contact Model, with LED
Circuit Symbol			

## About the Light Circuit

• The contact point of the micro switch (NC or NO) can be selected.  
• The light turns on at the opened state of the micro switch.



## External Dimensions



## Notes for Use

1. If there is only a slight difference between set pressure and operating pressure, the switch may be shifted due to vibration etc. Recommended difference of set pressure and operating pressure is 2MPa or more.  
2. When mounting the piping option, securely fix the cylinder to the mounting surface with attached bolts. Fixing only the pipe leads to piping damage due to vibration etc.

●Pressure Gauge

Indicates pressure of hydraulic circuit.  
Filled with glycerin for anti-vibration.



Model No. Indication

JG A 25 1

Design No. (Revision Number)

Max. Indicating Pressure (Refer to Specifications)

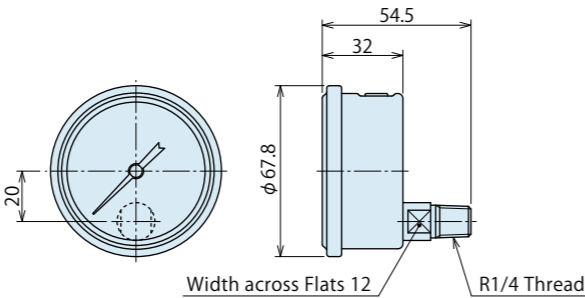
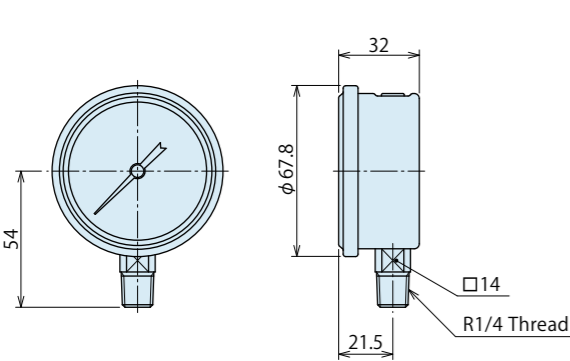
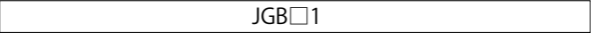
Mounting Orientation (Refer to External Dimensions)

Specifications

Model No.	JGA161 JGB161	JGA251 JGB251	JGA401 JGB401	JGA601 JGB601
Max. Indicating Pressure※1 MPa	16.0	25.0	40.0	60.0
Accuracy	JIS 1.6 class			
Weight	kg 0.2			

Note : ※1. Pressure Gauge with PSI unit is not available.

External Dimensions



●Manifold

Enables branching and relaying of piping.



Model No. Indication

JX 4 0 21

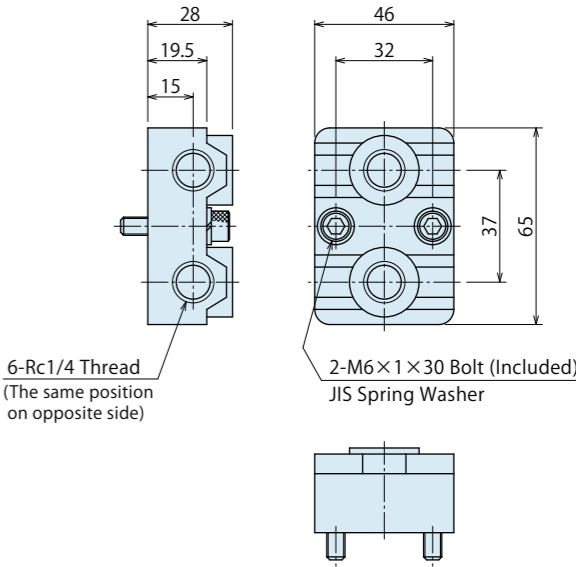
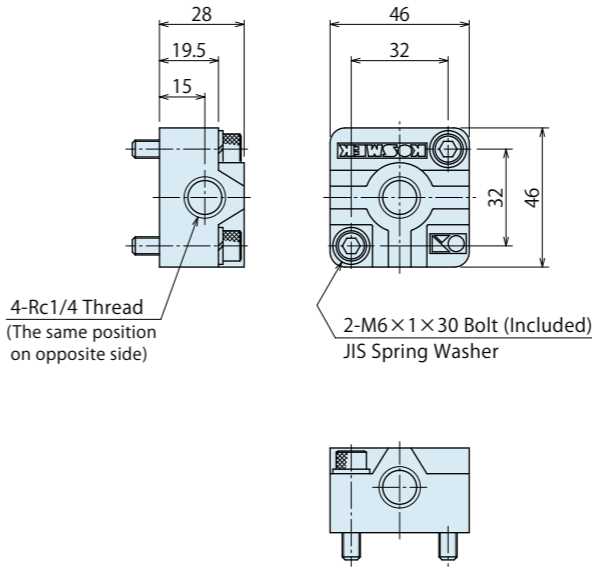
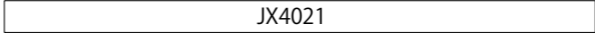
Design No. (Revision Number)

The Number of the Ports (Refer to External Dimensions)

Specifications

Model No.	JX4021	JX6021
Weight	kg 0.2	0.3

External Dimensions



Clamp・Unit  
Operational  
Control Panel

Die Lifter  
Pre-Roller

Accessories

Cautions  
Company Profile

Press Load  
Monitor  
YK

Pressure Switch  
JBA

Pressure Gauge  
JGA/JGB

Manifold  
JX

Cautions

Installation Notes (Cautions for Hydraulic Series)

- 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

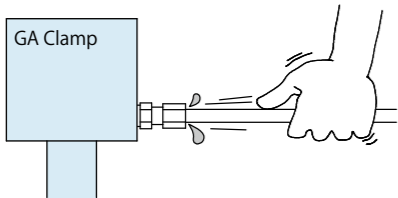
- Pipelines, piping connectors and others should be cleaned by thorough flushing.
- Dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
- Our products except some valves are not equipped with protective function that prevents contamination.

3) Applying Sealing Tape

- Wrap with tape 1 to 2 times following the screw direction.
- Pieces of the sealing tape can lead to fluid 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, RQA/RA Die Lifter 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 air 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.

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.

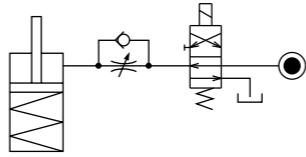
Notes on Hydraulic Cylinder Speed Control Unit



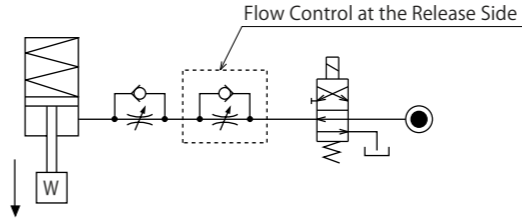
Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

Flow Control Circuit for Single Acting Cylinder

For spring return single-acting cylinders, restricting flow during release can extremely slow down or disrupt release action. The preferred method is to control the flow during the lock action using a valve that has free-flow in the release direction. It is also preferred to provide a flow control valve at each actuator.



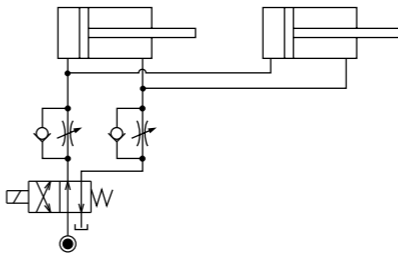
Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow.



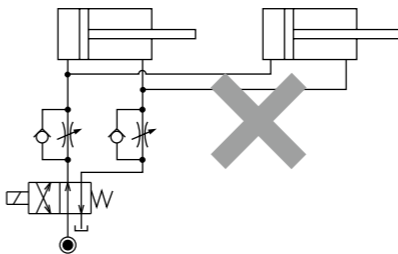
Flow Control Circuit for Double-Acting Cylinder

Flow control circuit for double-acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system.

【Meter-out Circuit】

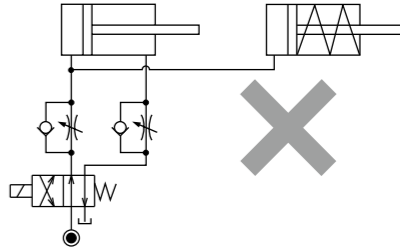


【Meter-in Circuit】



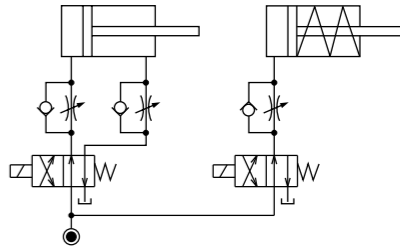
In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

- ① Single-acting components should not be used in the same flow control circuit as the double acting components. The release action of the single-acting cylinders may become erratic or very slow.

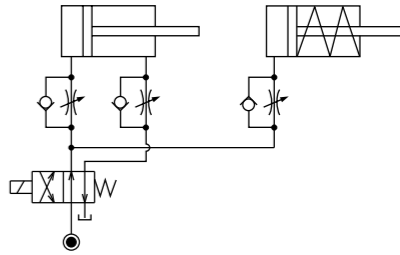


Refer to the following circuit when both the single-acting cylinder and double-acting cylinder are used together.

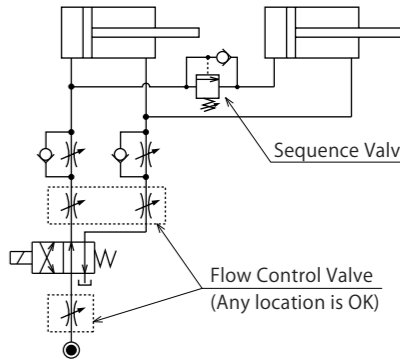
- Separate the control circuit.



- Reduce the influence of double-acting cylinder control unit. However, due to the back pressure in tank line, single-acting cylinder is activated after double-acting cylinder works.



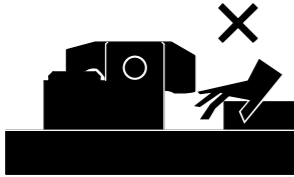
- ② In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve or pressure switches for clamping detection. If the back pressure is more than the set pressure then the system will not work as it is designed to.



● Cautions

● Notes on Handling

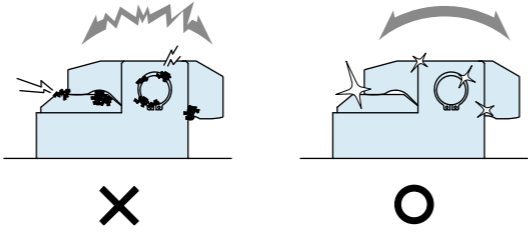
- 1) It should be operated by qualified personnel.
- Hydraulic products, machines and devices should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected or prepared when 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 hydraulic and 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.
- 3) Do not touch a clamp (cylinder) while it is working.  
Otherwise, your hands may be injured.



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

● 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 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 bolts, 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.

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# Quick Die Change Systems

FOR PRESS MACHINES

QDCS Exclusive and Additional Products

We offer a wide range of products for QDCS not listed in this catalog.  
Our specialists will help you find the most suitable system. Please feel free to contact us.



Scan the QR code for Catalog Request and Inquiry

[http://www.kosmek.co.jp/php\\_file/inquiry.php?lang=2](http://www.kosmek.co.jp/php_file/inquiry.php?lang=2)

Hydraulic Clamp

## Swing Lever

Model GY1310

Swing the Lever 90° by Hand  
No Interference during Die Loading and Unloading



Hydraulic Hollow Cylinder

## Bolt Fastening

Model DY1700

Fasten the Die Mounting Bolts with Hydraulic Force  
Suitable for Unreachable or Non-visible Places

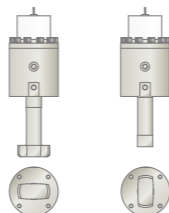


Hydraulic Clamp

## Swing Rod

Model GY1400

The Rod Automatically Swings 90° and Clamps the Die  
Automated Die Clamp with the Proximity Switch

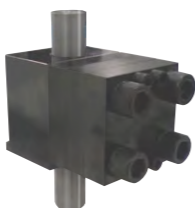


Hydraulic Clamp

## For Knockout Rod

Model PPK

Fasten the Knockout Rod with Hydraulic Force  
Manual Fastening is not Required, Saving Time and Ensuring Safety

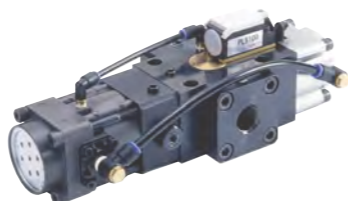


Multi-Load Model

## Overload Protector

Model PV/PW

For Use on Unbalanced Loads of 2-point and 4-point Presses  
Instant Response Prevents Damage to Presses or Dies



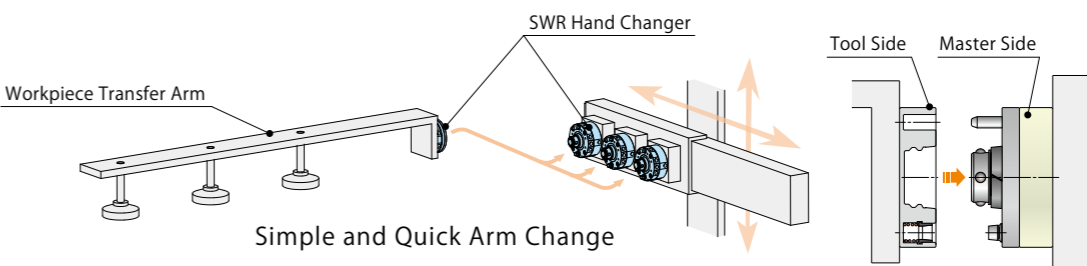
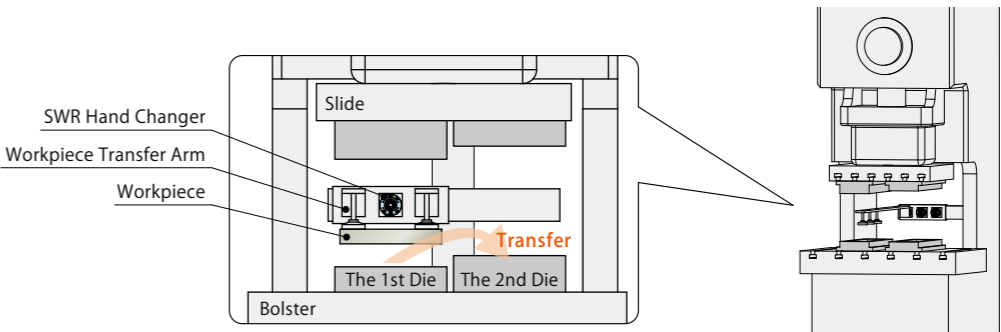
## Robotic Hand Changer

Model SWR

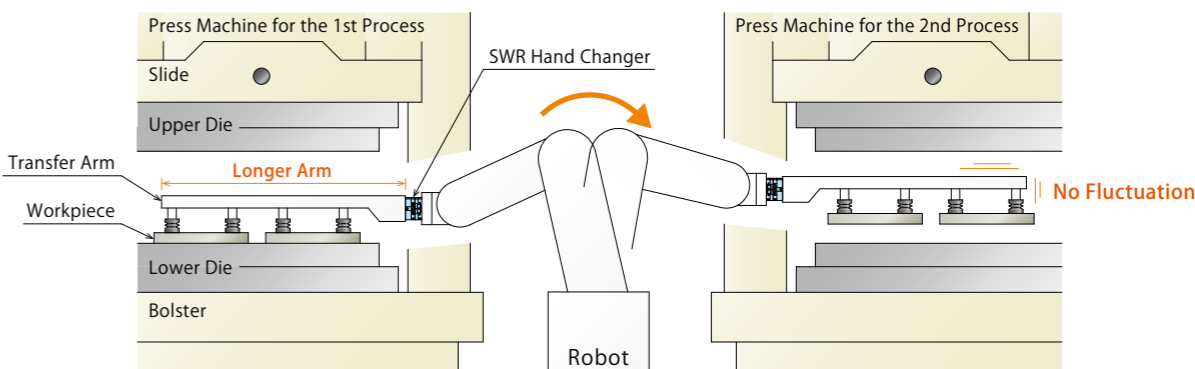
Suitable for Changing Workpiece Transfer Arms in the Automatic Press Line  
High Accuracy : 3  $\mu$ m, High Rigidity : "0" Backlash, Long Operational Life : 2 Million Cycles



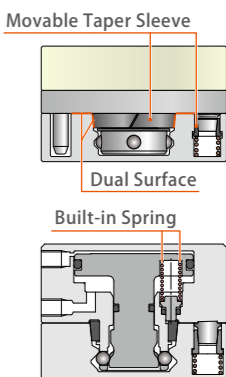
## Time Reduction in Changing Transfer Arm



## Fluctuation is minimum even with longer arms.



- **Productive**  
Improves Work Efficiency  
No backlash on connected part is due to the dual surface mechanism with the movable taper sleeve.
- **Safe**  
Prevents Arms from Falling Off  
Mechanical lock system maintains connected condition with the built-in spring.
- **Space Saving**  
Compact and Light Weight with Kosmek Exclusive Design



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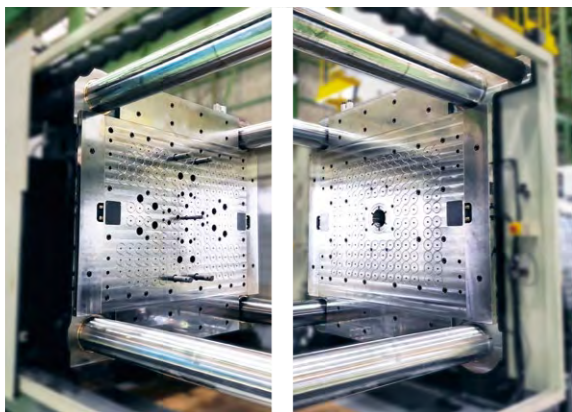
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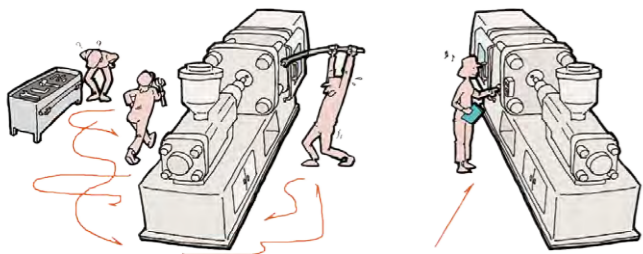
## Quick Mold Change Systems

FOR INJECTION MOLDING MACHINES

Kosmek Quick Mold Change Systems for injection molding machines are safe and reliable, allowing for reduction in mold change time.

Mold change time reduction **enhances total productivity.**

Automatic clamps reduce mold change time, allowing for **productivity improvement and high-variety low-volume manufacturing.**



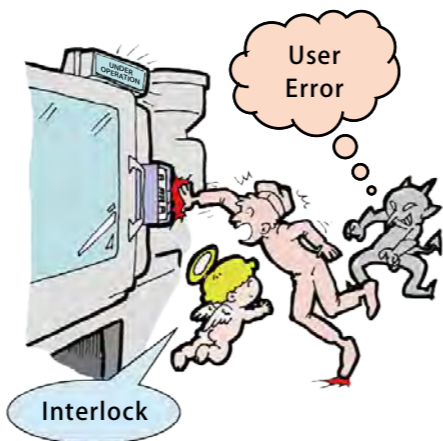
Manual Bolts

Confusion due to searching, loosening, tightening and so on makes the work unstable, jeopardizes safety and decreases productivity.

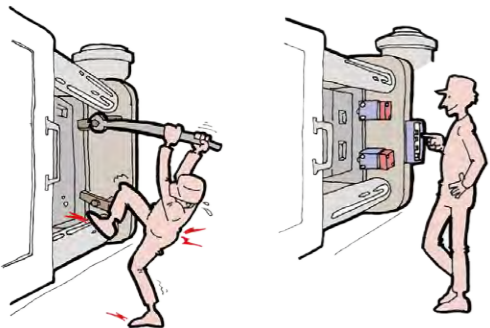
Automatic Clamps

Stable work anyone can do improves the work environment. A better morale increases productivity!

A variety of KOSMEK safety functions **prevent molds from falling.**



Allows everyone to change molds with button operation, **preventing backache and sweat-caused slip.**  
**No tools or work at non-operation side are required.**



Manual Tightening

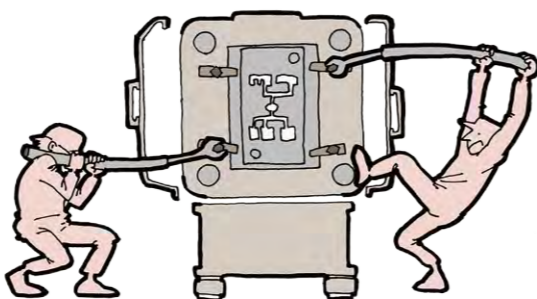
Unsafe / Unstable

Automatic Mold Clamping

Safe / Stable

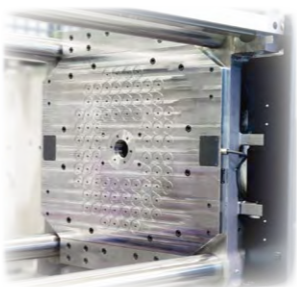
The application of the automatic mold clamp allows the **same mounting result** without relating to individual workers.

Equal and sequential tightening of the bolts is essential to maintain proper clamping force, but some bolts are easier to tighten than others...



Not included in this catalog (QDCS: Quick Die Change Systems Complete Catalog).  
For further information, please contact us or request the product catalogs from our website.

### Automatic Clamp Line-Up



Magnetic Clamp Series

Magnetic clamping systems ensure safety in operations.  
It is not necessary to unify mold sizes. Dramatic reduction in mold changing time. Magnetic force can be checked with operation panel.



Hydraulic Clamp Series

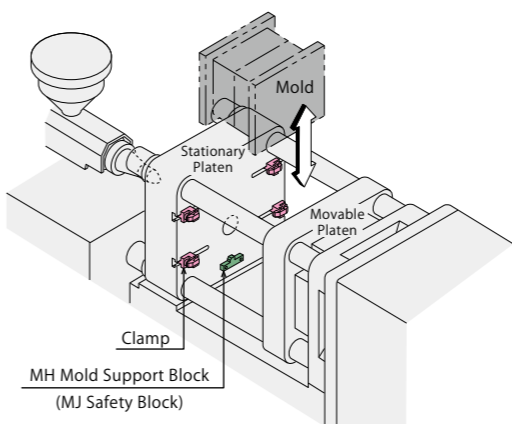
Hydraulic clamping systems used with IMM hydraulic source or KOSMEK hydraulic source. Day light dimension can be used at the maximum. A wide range of variations from compact size to extra-large size.



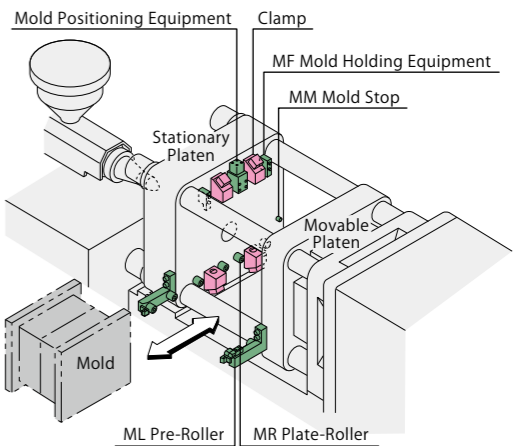
Pneumatic Clamp Series

Clean clamping systems with pneumatic source, exerting equivalent clamping force as hydraulic clamps. Piping installation and maintenance will be much easier.

Able to select the most suitable system according to mold exchange frequency and factory layout.



Vertical Mold Loading Systems



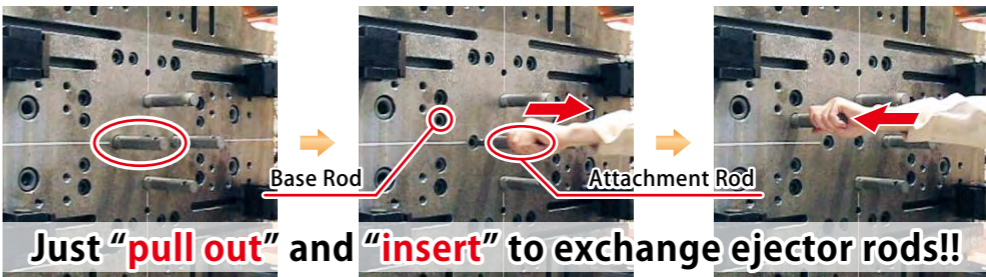
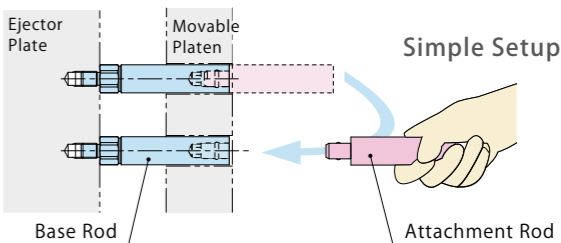
Horizontal Mold Loading Systems

### Ejector Rod Setup Time Improvement



Quick Ejector Rod model PME

The ejector rod has been divided into a base rod and an attachment rod for speed, simplicity and ease-of-use when changing ejector patterns. No tools are required, allowing changes in mere seconds.



**Before** using quick ejector rods  
Change time for threaded ejector rods is **240** secs.

**After** using quick ejector rods  
Change time for Quick Ejector Rods is **10** secs.

※ Reference of 300ton IMM

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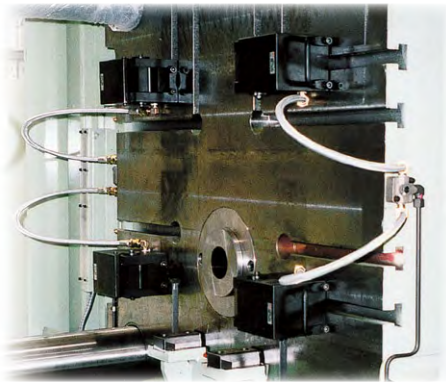
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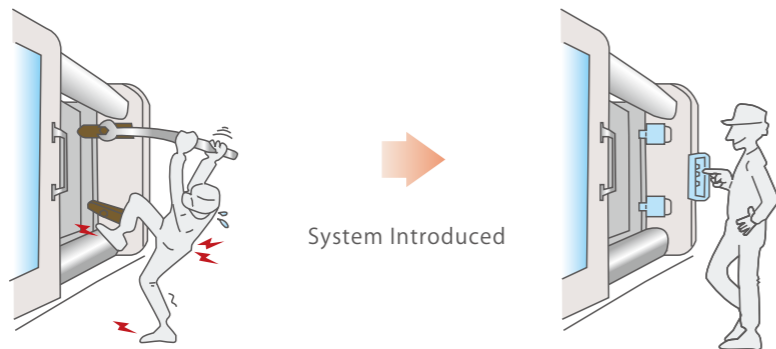


# Diecast Clamping Systems

FOR DIECAST MACHINES

KOSMEK mold clamps for diecasting machines and magnesium molding machines are designed to improve productivity and save energy under severe conditions. The clamps have high heat resistance for extreme high temperature mold during molding and resistance to dust and corrosion considering mold lubricant and mold releasing agent coming into the movable part of the clamp.

## Dramatic Mold Change Time Reduction with Automatic Clamps



【Before】 Manual Tightening

【After】 Automatic Mold Clamping

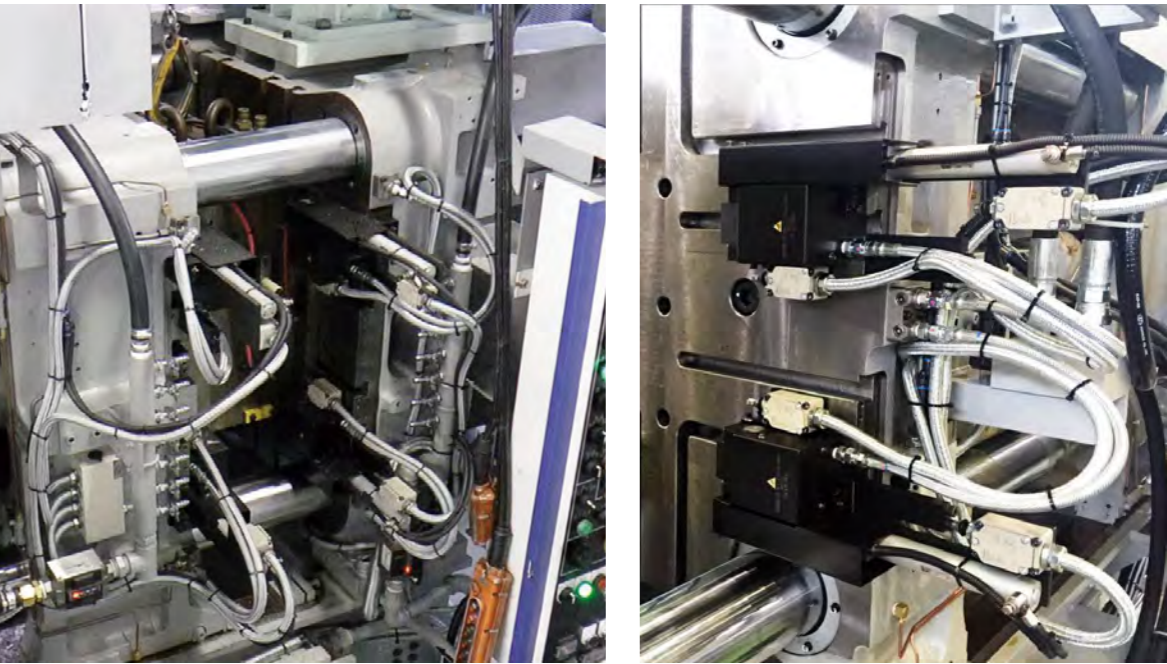
Takes a long time to lock the mold by tightening bolts.	<b>Lock the Mold with Button Operation</b> Mold change time would only take a few minutes, allowing a single mold-setting.
Different operators, different tightening force.	<b>Work Standardization</b> Automatic clamps allow mold clamping with constant force, and no skilled work is required.
Tightening bolts in a bad work condition can lead to an injury.	<b>No Dangerous Work</b> No need to tighten bolts by hand. No possibility of injury caused by the work in a bad condition.
It is hard to tighten the mold with bolts when the work condition is bad, or retightening is uncompleted. It causes deformation of the mold.	<b>Prevention of Mold Deformation</b> Automatic clamps allow mold clamping with constant force, preventing mold deformation.

Example of Setup Time Reduction



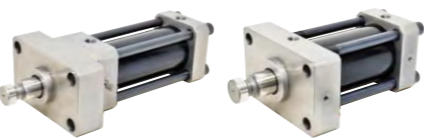
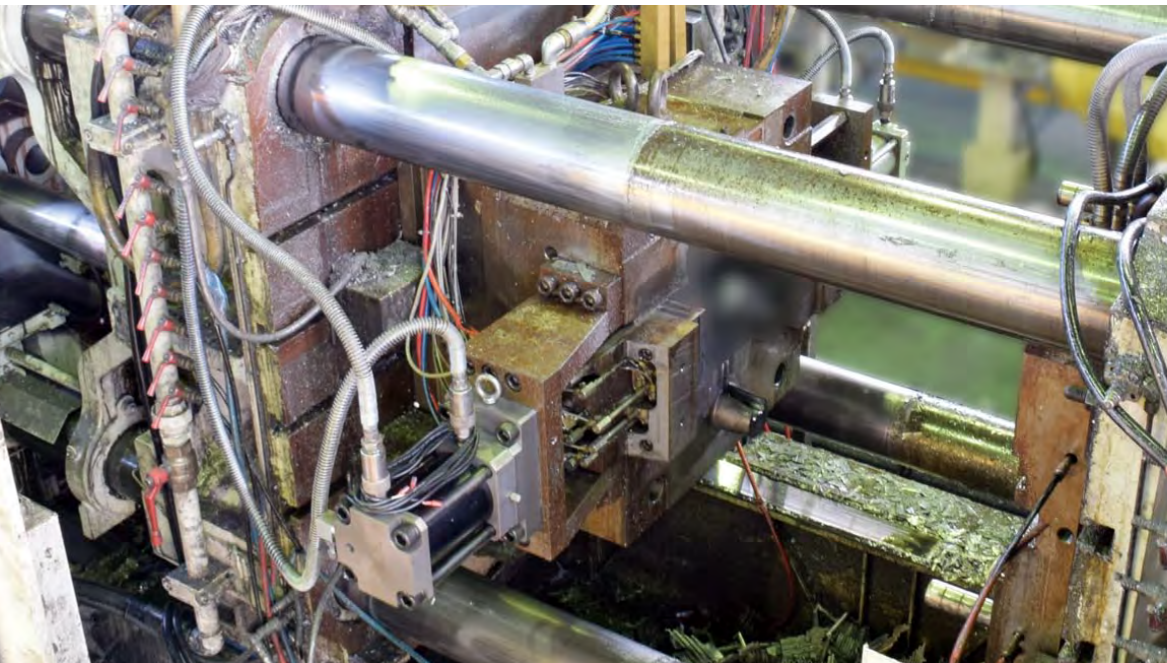
Not included in this catalog (QDCS: Quick Die Change Systems Complete Catalog).  
For further information, please contact us or request the product catalogs from our website.

## Application Examples



## Mold Clamp for Diecast Machines

Secure and safe mold clamping with a button operation outside the machine. Exclusively designed for diecast machines to prevent contaminants and rust caused by mold lubricant.



## High-Power Core Pull Cylinder & High-Speed Core Pull Cylinder

The cylinder operates in half the time faster than before.  
Reduce the down time and improve the productivity.

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# Work Clamping Systems for Machine Tools

KOSMEK WORK CLAMPING SYSTEMS

Our clamping system enables boltless automation making loading and unloading workpieces easier. The non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action). We offer a wide range of products such as hydraulic/pneumatic actuator, support, locating application, valve, coupler etc.

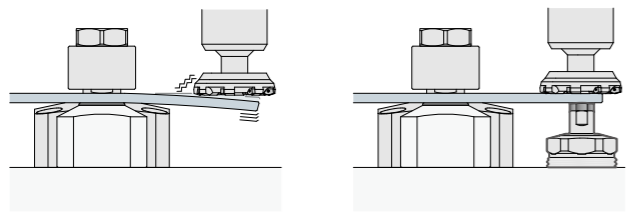
## Clamp

For Clamping Machine Tool Fixtures



## Support

For Chattering Prevention during Thin Workpiece Machining



Chattering → No Chattering!

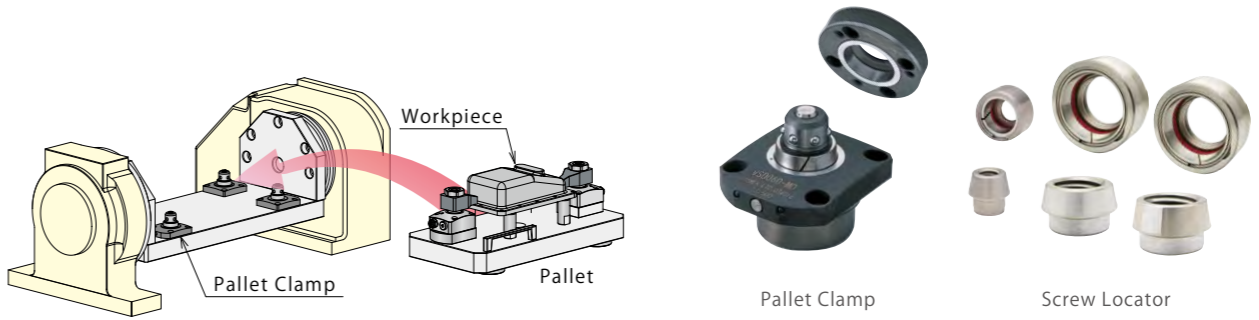


Work Support

Not included in this catalog (QDCS: Quick Die Change Systems Complete Catalog).  
For further information, please contact us or request the product catalogs from our website.

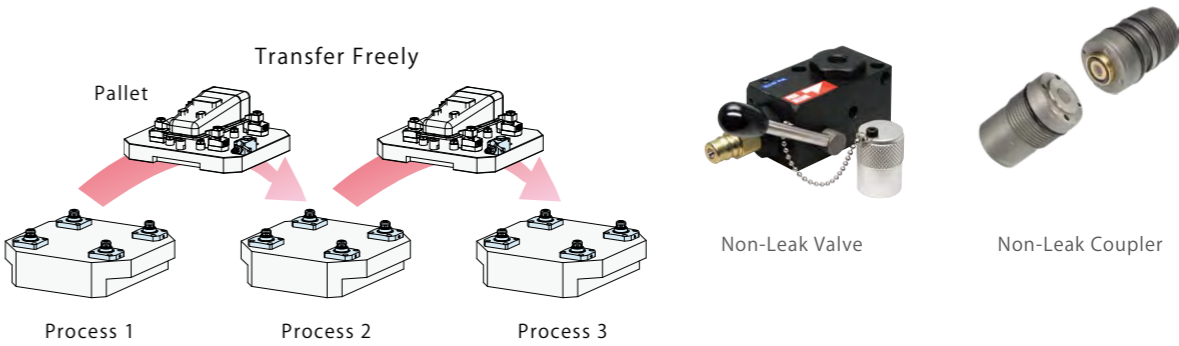
## Locating

Setup Time Reduction for Pallet Change



## Non-Leak Valve

Maintains pressure even when disconnected from the hydraulic source.  
Transfer pallets freely. Suitable for FMS.



## Others



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FA • Robotic Automation

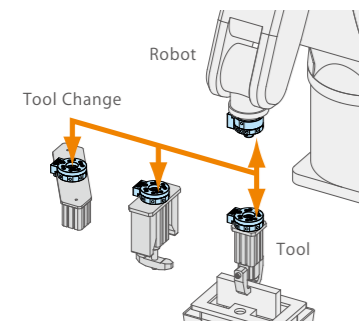
Factory Automation

Industrial Robot Related Products

Robotic Hand Changer, Robotic Hand, Locating Equipment and other products improve automation, precision and setup of transfer, assembly, deburring, testing and various other processes.

Robotic Hand Changer

For Robot Standardization,  
Heavy Load Work and more

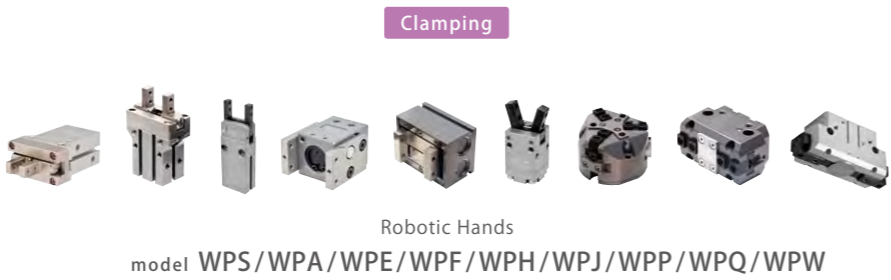
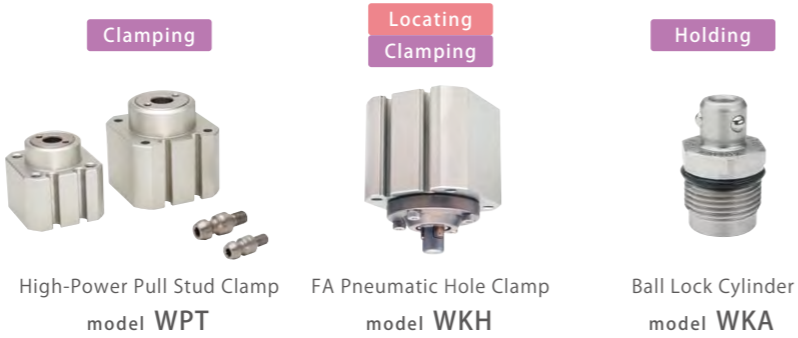
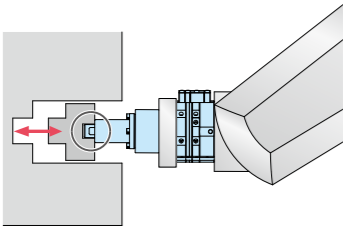


Robotic Hand Changer  
model SWR

Locating  
Clamping  
Coupling

Transfer • Robotic Hand

For Transferring  
Workpiece/Pallet

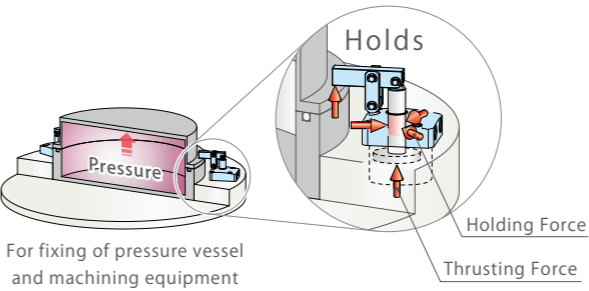


Robotic Hands  
model WPS/WPA/WPE/WPF/WPH/WPJ/WPP/WPQ/WPW

Not included in this catalog (QDCS: Quick Die Change Systems Complete Catalog).  
For further information, please contact us or request the product catalogs from our website.

Clamp

Higher Clamping and Holding Force with  
Output Powered by Pneumatic



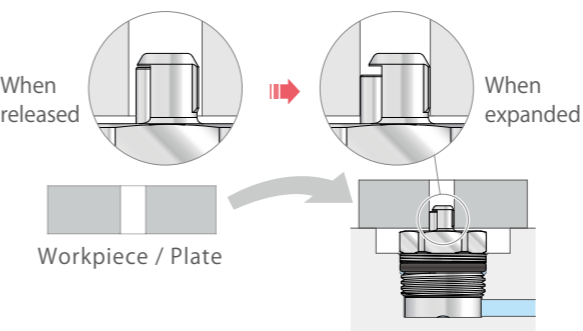
High-Power Clamp  
model WHE/WCE



Locating Pin Clamp  
model SWP

Locating

High Accuracy Locating Pin with Expansion

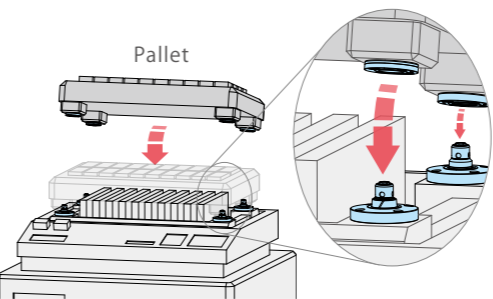


Expansion Locating Pin  
model VRA/VRC



Lifting Hole Clamp  
model SWJ

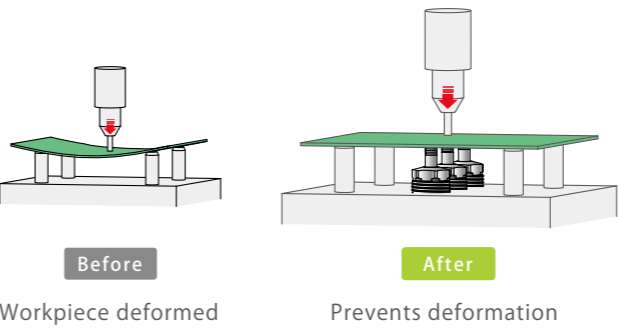
Locate and clamp pallets with no effort.



Pneumatic Locating Clamp  
model SWT/SWQ

Support

Prevents Chattering and Deformation



Auto Backup Pin  
model WDC

Clamp • Unit Operational Control Panel
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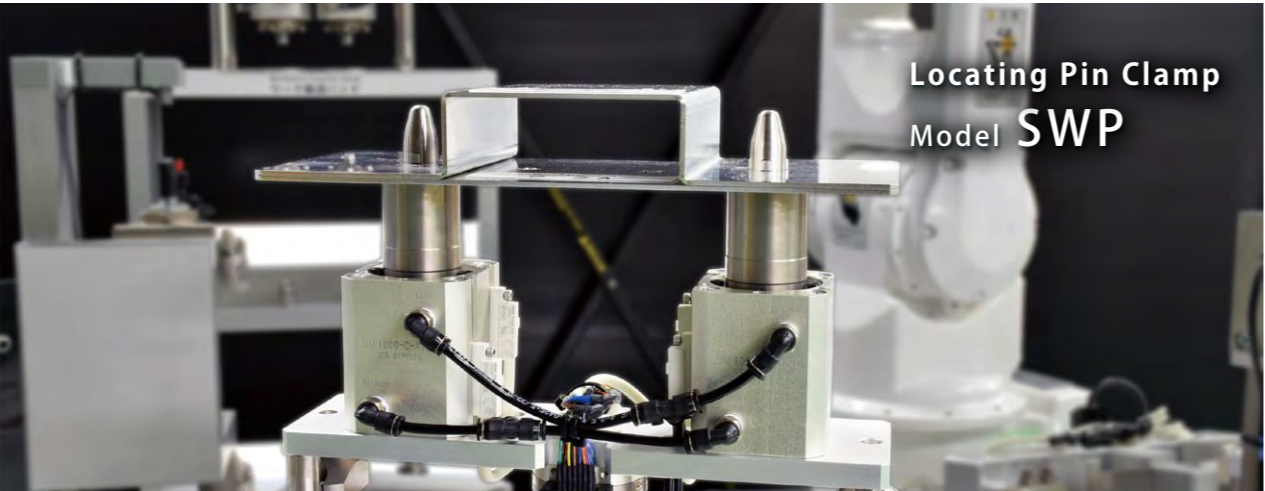
# KOSMEK Products

For Welding Systems

Spatter-resistant workholding clamps for welding systems.

The product range includes High-Accuracy Locating Pin Clamp to hold several workpieces for spot welding, and High-Power Clamps with special surface finishing for welding automation and setup improvement.

## For Spot Welding and Arc Welding



Locating Pin Clamp  
Model SWP



High-Power Welding  
Link Clamp  
Model WCG

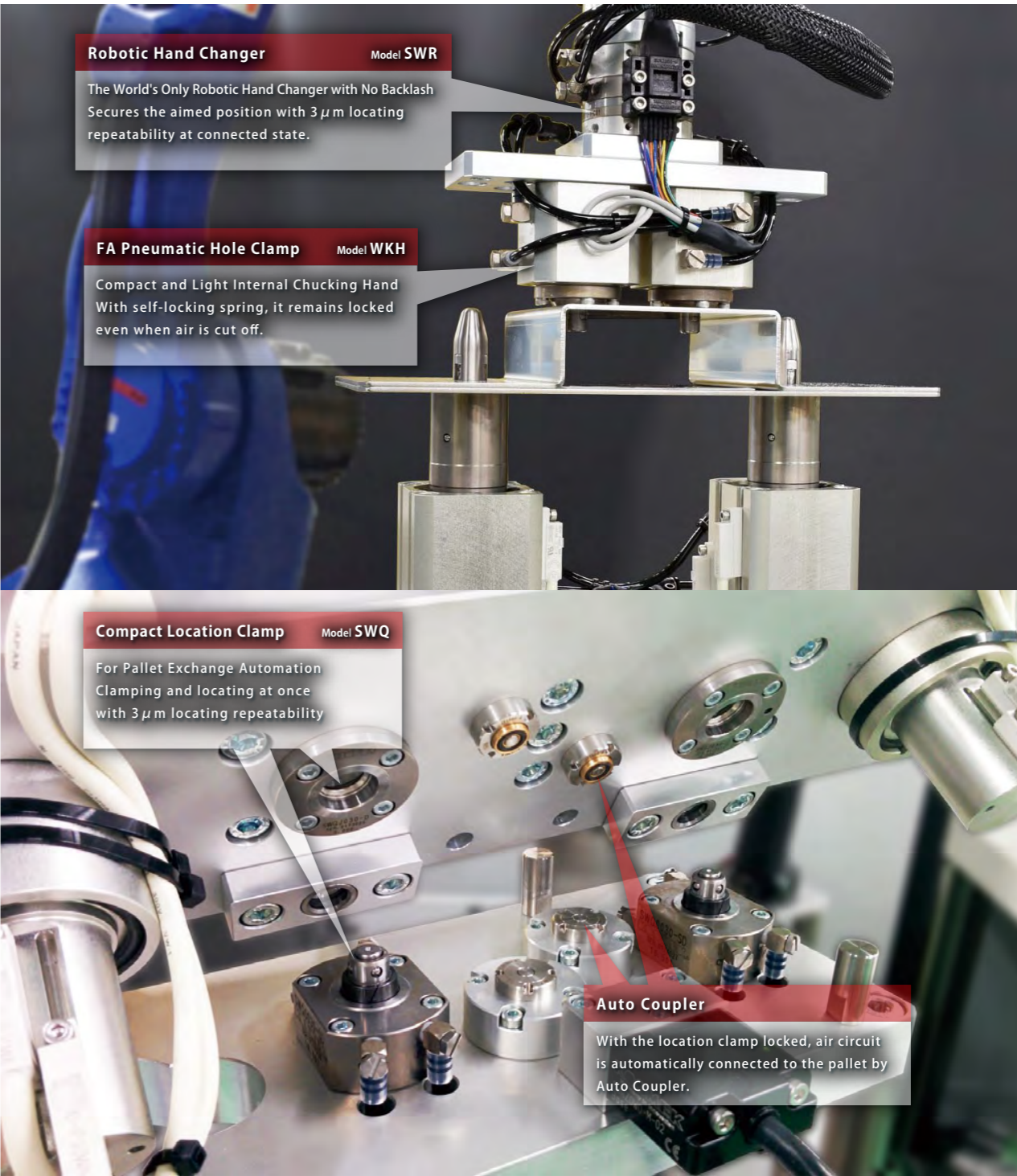
High-Power Welding  
Swing Clamp  
Model WHG



## Catalog: KOSMEK Welding Products

Refer to the catalog for product details, specifications and external dimensions.  
Order the catalog at our website (<http://www.kosmek.co.jp/english/>).

## Related Products



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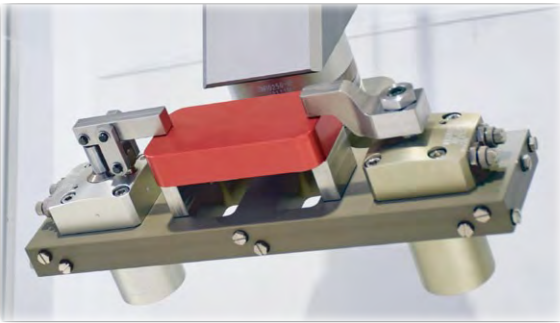
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# KOSMEK Products

For Washing Application

Workholding clamps for washing systems, suitable for high-pressure washing.  
Newly-applied protective walls prevent washing liquid from entering a cylinder,  
and powerful clamping force and holding force enable washing system automation.

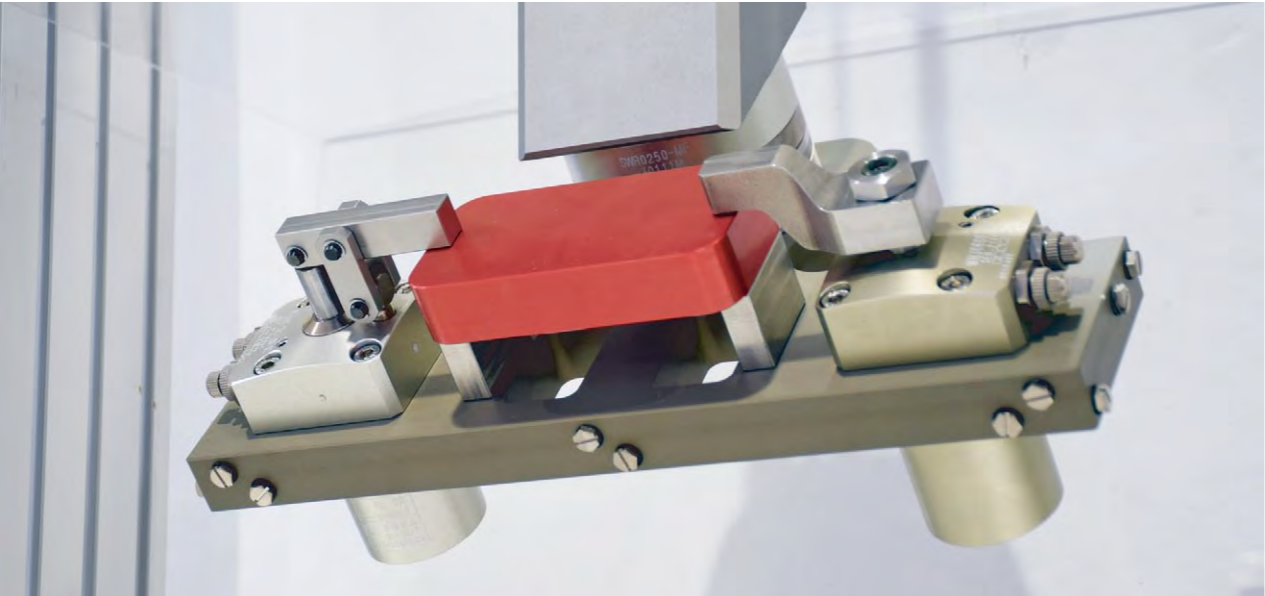
## Setup Improvement for High-Pressure Washing



High-Power Link Clamp  
for Washing Application  
Model **WCJ**



High-Power Swing Clamp  
for Washing Application  
Model **WHJ**






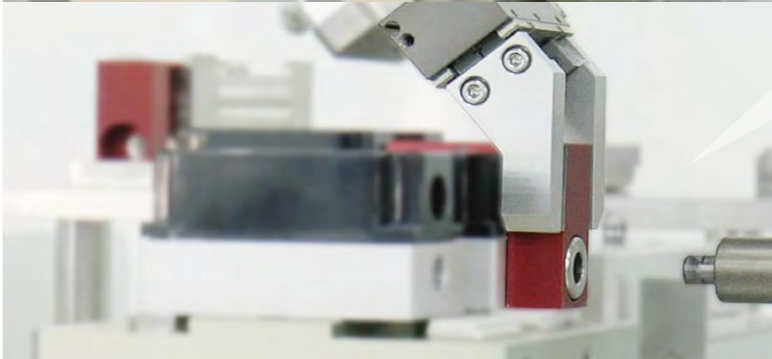
### Catalog: KOSMEK Products for Washing Application

Refer to the catalog for product details, specifications and external dimensions.  
Order the catalog at our website (<http://www.kosmek.co.jp/english/>).

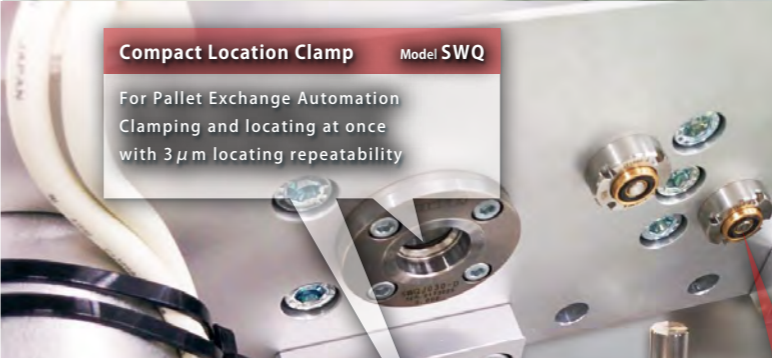
### Related Products




**Robotic Hand Changer** Model **SWR**  
The World's Only Robotic Hand Changer with No Backlash  
Secures the aimed position with 3 μm locating repeatability at connected state.



**Robotic Hand**  
Internal & External Chucking Products  
Compact and light.  
With a variety of line-ups.



**Compact Location Clamp** Model **SWQ**  
For Pallet Exchange Automation  
Clamping and locating at once  
with 3 μm locating repeatability



**Auto Coupler**  
With the location clamp locked, air circuit is automatically connected to the pallet by Auto Coupler.

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KOSMEK LTD. Head Office

Company Name	KOSMEK LTD.
Established	May 1986
Capital	¥99,000,000
President	Tsutomu Shirakawa
Employee Count	270
Group Company	KOSMEK LTD. KOSMEK ENGINEERING LTD. KOSMEK (USA) LTD. KOSMEK EUROPE GmbH KOSMEK (CHINA) LTD. KOSMEK LTD. - INDIA
Business Fields	Design, Production and Sales of Precision Products, and Hydraulic and Pneumatic Equipment
Customers	Manufacturers of Automobiles, Industrial Machinery, Semiconductors and Electric Appliances
Banks	Resona Bank, MUFG Bank, The Senshu Ikeda Bank

Major Industrial Property Rights  
(Including Patent Right and Patent Pending as of March 2020)

- Domestic : 120
- International : 250 (USA, EU, Taiwan, South Korea, China, India, Brazil, Mexico, Thailand, Indonesia)

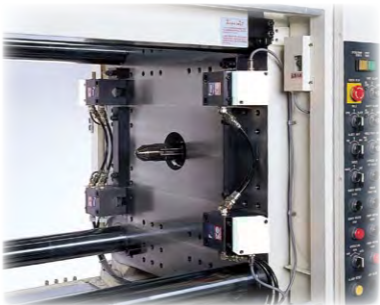
Product Line-Up



QUICK DIE CHANGE SYSTEMS

For Press Machines

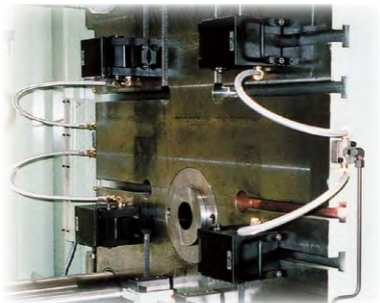
Kosmek Quick Die Change Systems are a cost effective tool to improve the working environment, allow diversified and small-lot production, and reduce press down time. Available for a wide range of machines; from large size transfer-presses to smaller high speed presses.



QUICK MOLD CHANGE SYSTEMS

For Injection Molding Machines

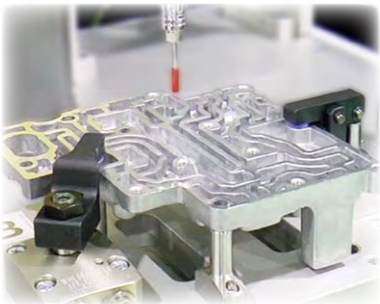
Automatic clamping systems have reduced mold change times and increased production efficiency for plastics manufacturers in a multitude of industries. We offer a variety of different clamping options, including hydraulically powered clamps, pneumatic clamps with a force multiplying mechanism, and magnetic clamping systems.



DIECAST CLAMPING SYSTEMS

For Diecast Machines

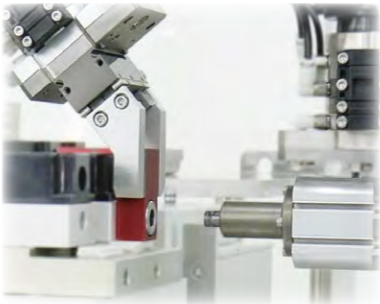
Kosmek Diecast Clamping Systems (KDCS) save the time of the changeover of die casting and magnesium molding machines under severe conditions. ex) mold release agents and high temperature.



KOSMEK WORK CLAMPING SYSTEMS

Machine Tool Related Products

Our clamping system enables boltless automation to load and unload workpieces easier. Non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action). We offer a wide range of products such as hydraulic/pneumatic actuators, supports, positioning equipment, valves, couplers, etc.



KOSMEK FACTORY AUTOMATION SYSTEMS

FA • Industrial Robot Related Products

KOSMEK robotic hand changer, robotic hand, positioning equipment and other products improve automation, precision and setup of transfer, assembly, deburring, testing and various other processes.

Clamp • Unit Operational Control Panel
Die Lifter Pre-Roller
Accessories
<b>Cautions Company Profile</b>
Cautions
Installation Notes (For Hyd. Series)
Hydraulic Fluid List
Notes on Hyd. Cylinder Speed Control Unit
Notes on Handling
Maintenance / Inspection
Warranty
<b>Company Profile</b>
Our Products
<b>Company Profile</b>
History
Sales Offices

# History



**May**  
KOSMEK LTD. established in Santanda, Amagasaki City, Hyogo prefecture with ¥ 20 million capital. (KOSMEK Ltd established Santanda, Amagasaki city)

**October**  
Tokyo Sales Office established in Yamato city, Kanagawa Prefecture.

**April**  
Headquarters moved to Tsugiyu, Amagasaki city, Hyogo.

**August**  
Factory established in Katube, Toyonaka city.

**February**  
Nagoya Sales Office established in Nishi-ku, Nagoya city.

**December**  
Capital increased to ¥ 40 million.

**January**  
Kitakanto Sales Office established in Omiya city, Saitama Prefecture.

**May**  
Head Office and Factory completed in Seishin Hitech Park, Nishi-ku, Kobe city  
Head Office moved.



Osaka Sales Office established in Amagasaki city.

**September**  
KOSMEK (USA) LTD. established.



**March**  
Additional structure completed at Headquarters.

**May**  
KOSMEK engineering CO.,LTD. established in Kobe city.

**September**  
Minamikanto Sales Office moved to Shizuoka city.  
The name changed to Shizuoka Sales Office.

The name Kitakanto Sales Office changed to Kanto Sales Office.



**December**  
Capital increased to ¥ 60 million.

**October**  
Osaka Sales Office moved into Head Office.  
The name changed to Kansai Sales Office.

**August**  
“PPORF Activity started.”

**January**  
Heavily damaged by Great Hanshin Earthquake, but fully and quickly repaired. Quick recovery

**March**  
Nagoya Sales Office moved to Anjo city, Aichi Prefecture. The name changed to Chubu Sales Office.

**December**  
Core computer system introduced.

1986

1987

1988

1989

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2007

2011

2012

2014

2015

2016

**March**  
Shizuoka Sales Office merged to Chubu Sales Office.



**October**  
Head Office Plant extension completed.

**December**  
ISO9001 : 2000 certified.

**October**  
Production section is transferred by KOSMEK engineering CO.,LTD.

**November**  
Awarded PI Grand Prix “Exhibition Jury Special Prize” for Datum Clamp in Product Innovation Fair.

**June**  
Capital increased to ¥ 99,000,000.

**July**  
Shanghai Office established in Shanghai.



**August**  
New Head Office and Factory completed in Seishin Hitech Park, Nishi-ku, Kobe city  
Head Office moved.

Core system innovated



**September**  
Kyusyu Office established in Fukuoka city.



**July**  
KOSMEK (CHINA) LTD. established in Shanghai.

**March**  
Thailand Representative Office established in Bangkok, Thailand.

**December**  
KOSMEK LTD. - INDIA established in Bangalore, India.

**December**  
KOSMEK EUROPE GmbH established in Austria.

**September**  
New office of KOSMEK (USA) LTD. completed and moved to a new place in Chicago.

# Sales Offices

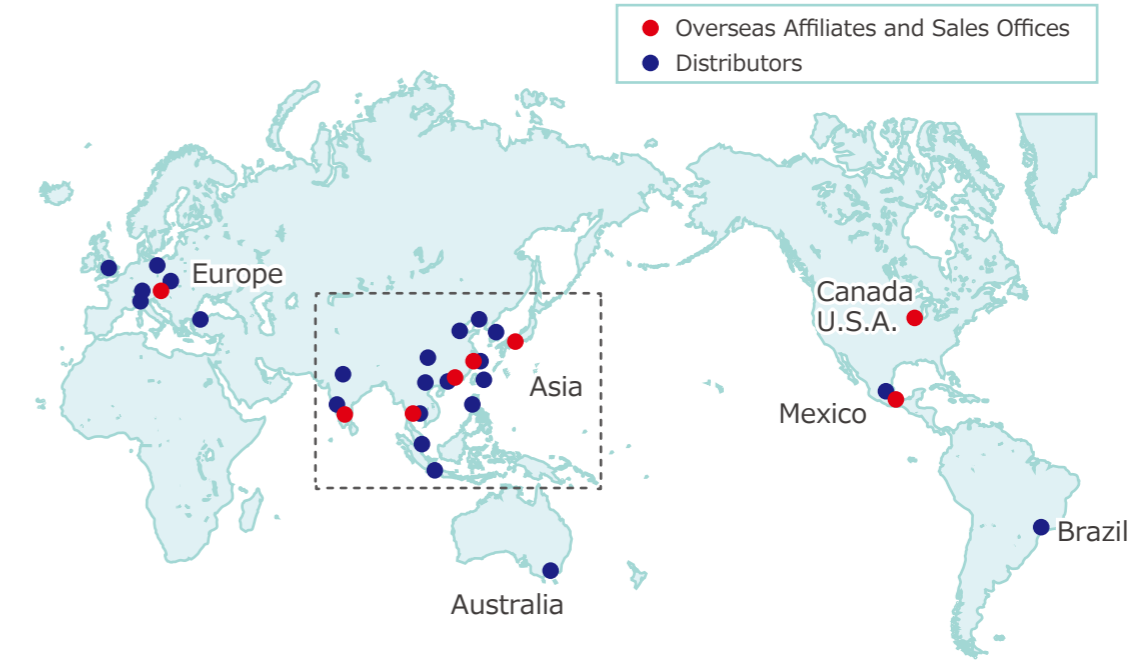
## Sales Offices across the World

JAPAN HEAD OFFICE Overseas Sales	TEL. +81-78-991-5162 FAX. +81-78-991-8787 KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号
United States of America SUBSIDIARY KOSMEK (USA) LTD.	TEL. +1-630-620-7650 FAX. +1-630-620-9015 650 Springer Drive, Lombard, IL 60148 USA
MEXICO REPRESENTATIVE OFFICE KOSMEK USA Mexico Office	TEL. +52-1-55-3044-9983 Av. Santa Fe 103, Int. 59, col. Santa Fe Juriquilla, Queretaro, QRO, 76230, Mexico
EUROPE SUBSIDIARY KOSMEK EUROPE GmbH	TEL. +43-463-287587 FAX. +43-463-287587-20 Schleppeplatz 2 9020 Klagenfurt am Wörthersee Austria
CHINA KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	TEL. +86-21-54253000 FAX. +86-21-54253709 Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai 200125, China 中国上海市浦东新区浦三路21弄55号银亿滨江中心601室 200125
INDIA BRANCH OFFICE KOSMEK LTD - INDIA	TEL. +91-9880561695 4A/Old No:649, Ground Floor, 4th D cross, MM Layout, Kavalbyrasandra, RT Nagar, Bangalore -560032 India
THAILAND REPRESENTATIVE OFFICE KOSMEK Thailand Representation Office	TEL. +66-2-300-5132 FAX. +66-2-300-5133 67 Soi 58, RAMA 9 Rd., Phatthanakan, Suanluang, Bangkok 10250, Thailand
TAIWAN (Taiwan Exclusive Distributor) Full Life Trading Co., Ltd. 盈生貿易有限公司	TEL. +886-2-82261860 FAX. +886-2-82261890 16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511 台湾新北市中和區建八路2號 16F-4 (遠東世紀廣場)
PHILIPPINES (Philippines Exclusive Distributor) G.E.T. Inc, Phil.	TEL. +63-2-310-7286 FAX. +63-2-310-7286 Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
INDONESIA (Indonesia Exclusive Distributor) PT. Yamata Machinery	TEL. +62-21-29628607 FAX. +62-21-29628608 Delta Commercial Park I, Jl. Kenari Raya B-08, Desa Jayamukti, Kec. Cikarang Pusat Kab. Bekasi 17530 Indonesia

## Sales Offices in Japan

Head Office Osaka Sales Office Overseas Sales	TEL. 078-991-5162 FAX. 078-991-8787 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号
Tokyo Sales Office	TEL. 048-652-8839 FAX. 048-652-8828 〒331-0815 埼玉県さいたま市北区大成町4丁目81番地
Nagoya Sales Office	TEL. 0566-74-8778 FAX. 0566-74-8808 〒446-0076 愛知県安城市美園町2丁目10番地1
Fukuoka Sales Office	TEL. 092-433-0424 FAX. 092-433-0426 〒812-0006 福岡県福岡市博多区上牟田1丁目8-10-101

# Global Network



Asia Detailed Map



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<http://www.kosmek.com>