New

QMCS
QUICK MOLD CHANGE SYSTEMS

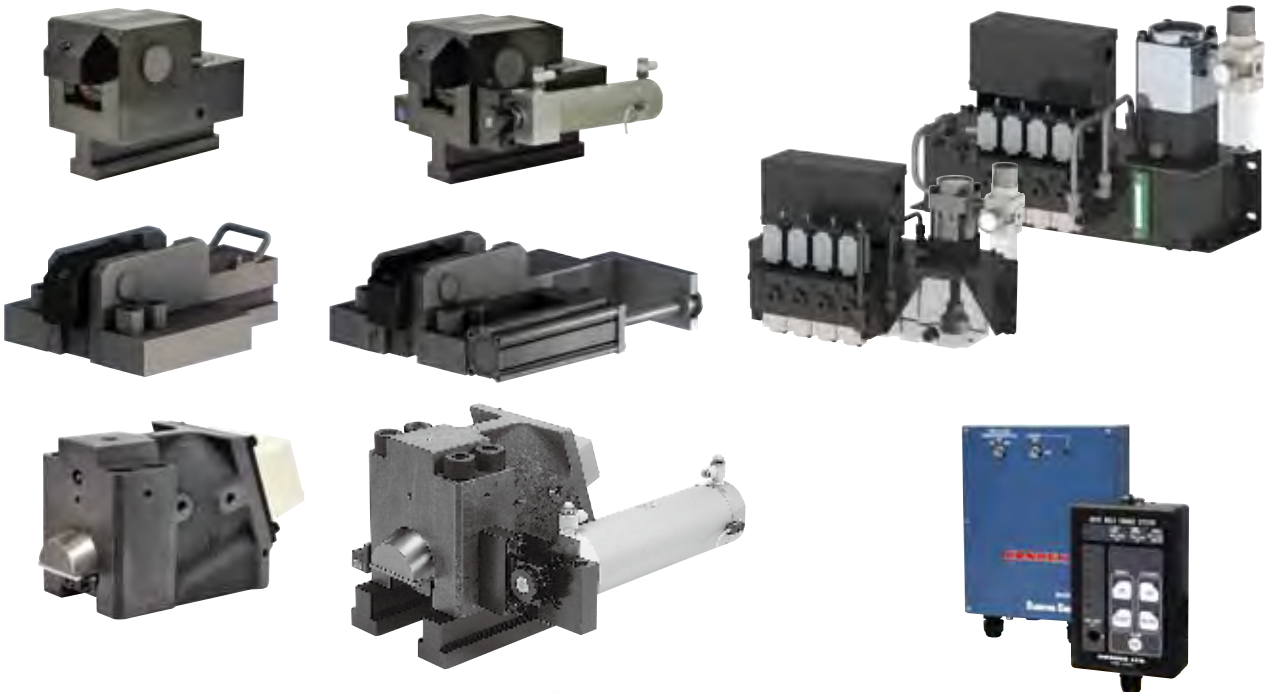
Kosmek Quick Mold Change System

Hydrualic Series

All Renovated Line-Up with Long Stroke Model!!

Long Stroke Model Has Been Introduced!!

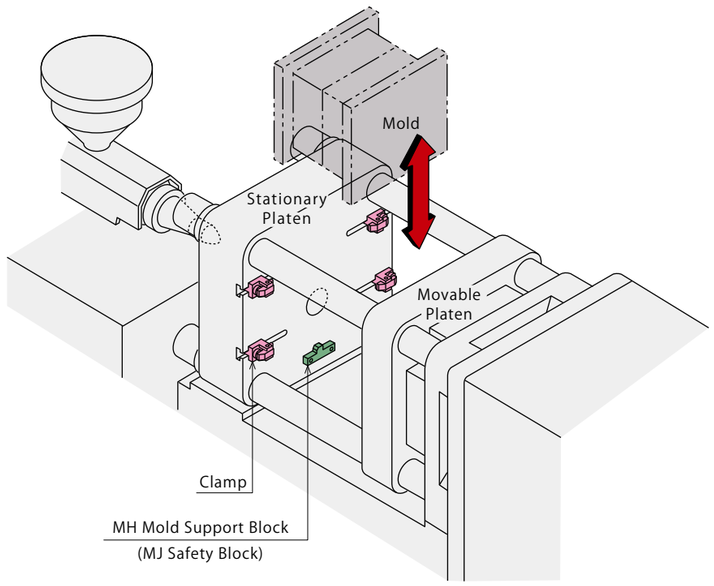
- For Molds with Different Thickness Model GBC / GBF
  "10mm" Allowable Variation ※5mm Allowable Variation for GBC0100～GBC0400
- Expanded Clamping Force from 10kN to 500kN
- More Smooth Movement with Higher Releasing Force
  (Compared with Current Model)
- Improved Maintenability



KOSMEK
Harmony in Innovation

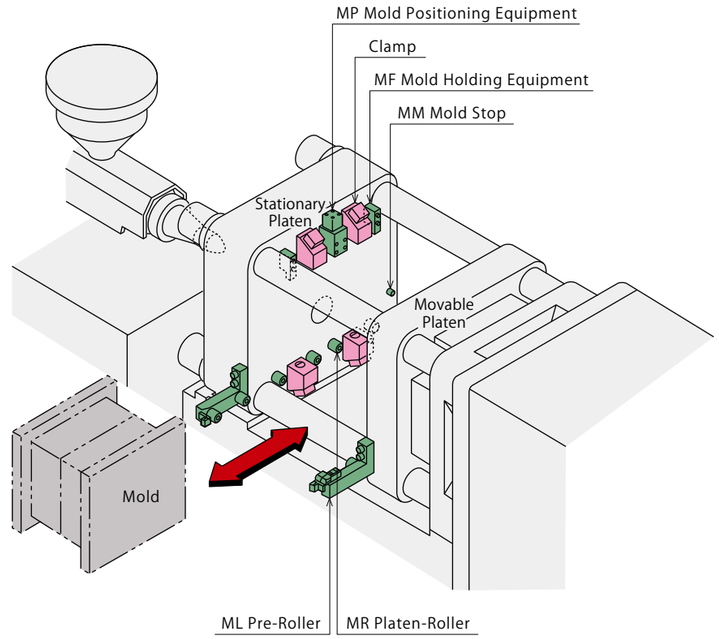
Vertical Loading Mold Change System

Vertical loading system is the system whereby the mold is set from the top of the molding machine by crane and secured in I.M.M. with hydraulic clamps. You may choose the most suitable arrangement from the following: T-Slot Manual Slide Clamp (GBB / GBC), T-Slot Automatic Slide Clamp (GBE / GBF / GLA), Fixed Clamp (GWA), Manual Slide Clamp in the Block (GBM), Automatic Slide Clamp in the Block (GBR) etc. according to the condition of molds and IMM.



Horizontal Loading Mold Change System

Horizontal loading system is the system whereby the mold is set from either operation side or non-operation side using cart or table. You may choose the most suitable arrangement according to the frequency of mold change and layout of the factory.



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Clamp

GBB Clamp — Lever clamp that slides in the T-slot by hand. No U-cut is required on the die. Model GBB P.007

GBE Clamp — GBB clamp with an air cylinder that slides in the T-slot automatically. Model GBE P.013

GBC Clamp — GBB clamp with longer stroke for the variation in mold clamping thicknesses. Model GBC P.019

GBF Clamp — GBC clamp with an air cylinder that slides in T-slot automatically. Model GBF P.025

GBM Clamp — GBM clamp does not require T-slot, and slides in the block. Model GBM P.031

GBR Clamp — GBM clamp with an air cylinder that slides in the T-slot automatically. Model GBR P.037

GWA Clamp — Bolt-fixed clamp that does not require T-Slot. Model GWA P.043

GLA Clamp — GWA clamp with an air cylinder that slides in the T-slot automatically. Model GLA P.049

Unit Operation Panel Control Unit

Hydraulic Unit — Compact Air-Hydraulic Unit. Model C□□□ P.055

Valve Unit Only for GWA / GLA — Most suitable valve for controlling clamps with IMM hydraulic pressure. Model MV0 P.069

Air Valve Unit — Controls the air cylinder of automatic slide clamp. Model MV3 P.073

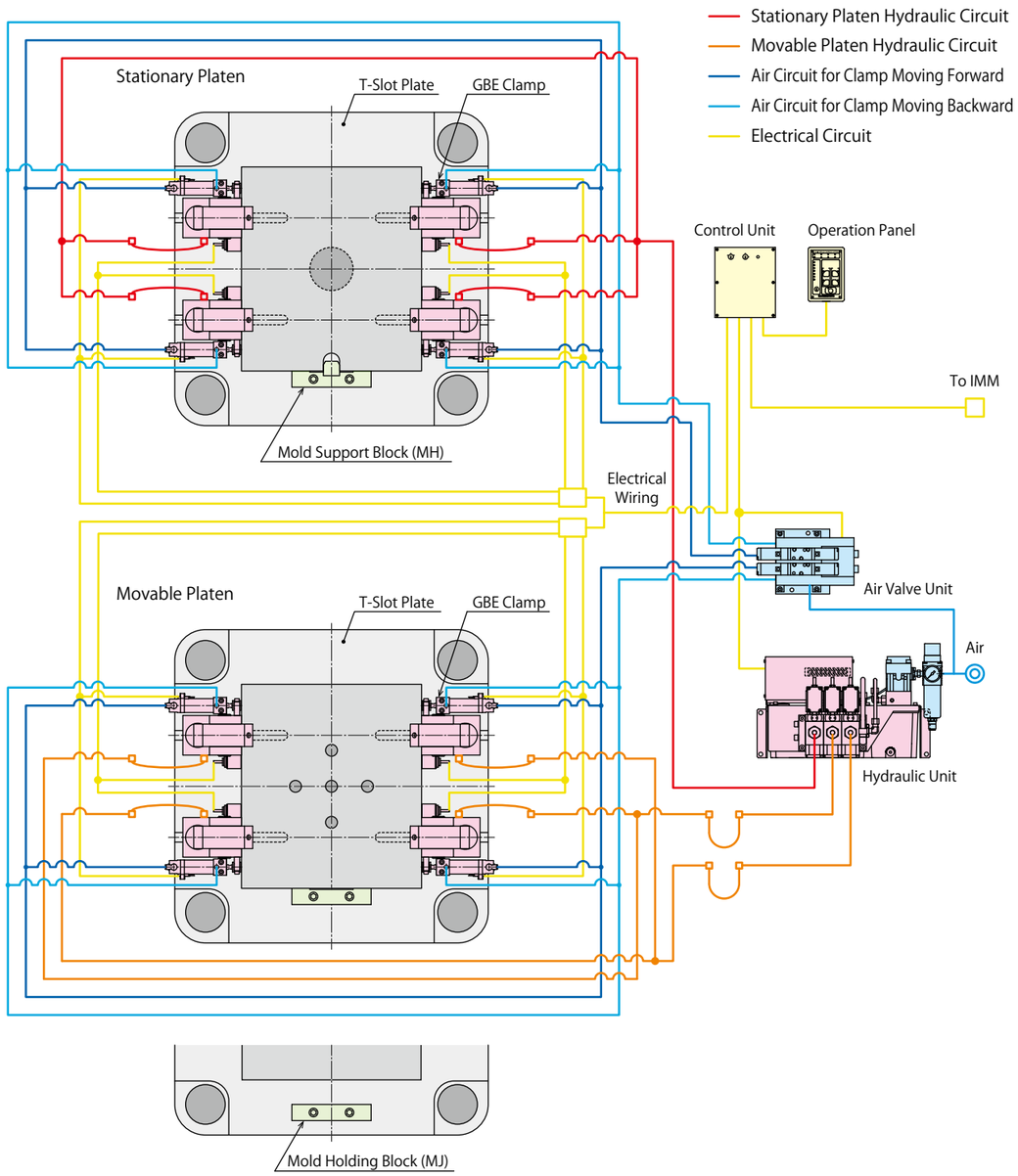
Operational Control Unit — Enables to select the most suitable system for each mold change method. Model YMB P.077

Auto Joint — Auto coupler for mold temperature control enables mold change system automation. Model JL□ P.081

Vertical Loading Mold Change System

For Molds with Different Width

※ This drawing shows the system circuit reference for GBE clamp.



Standard System

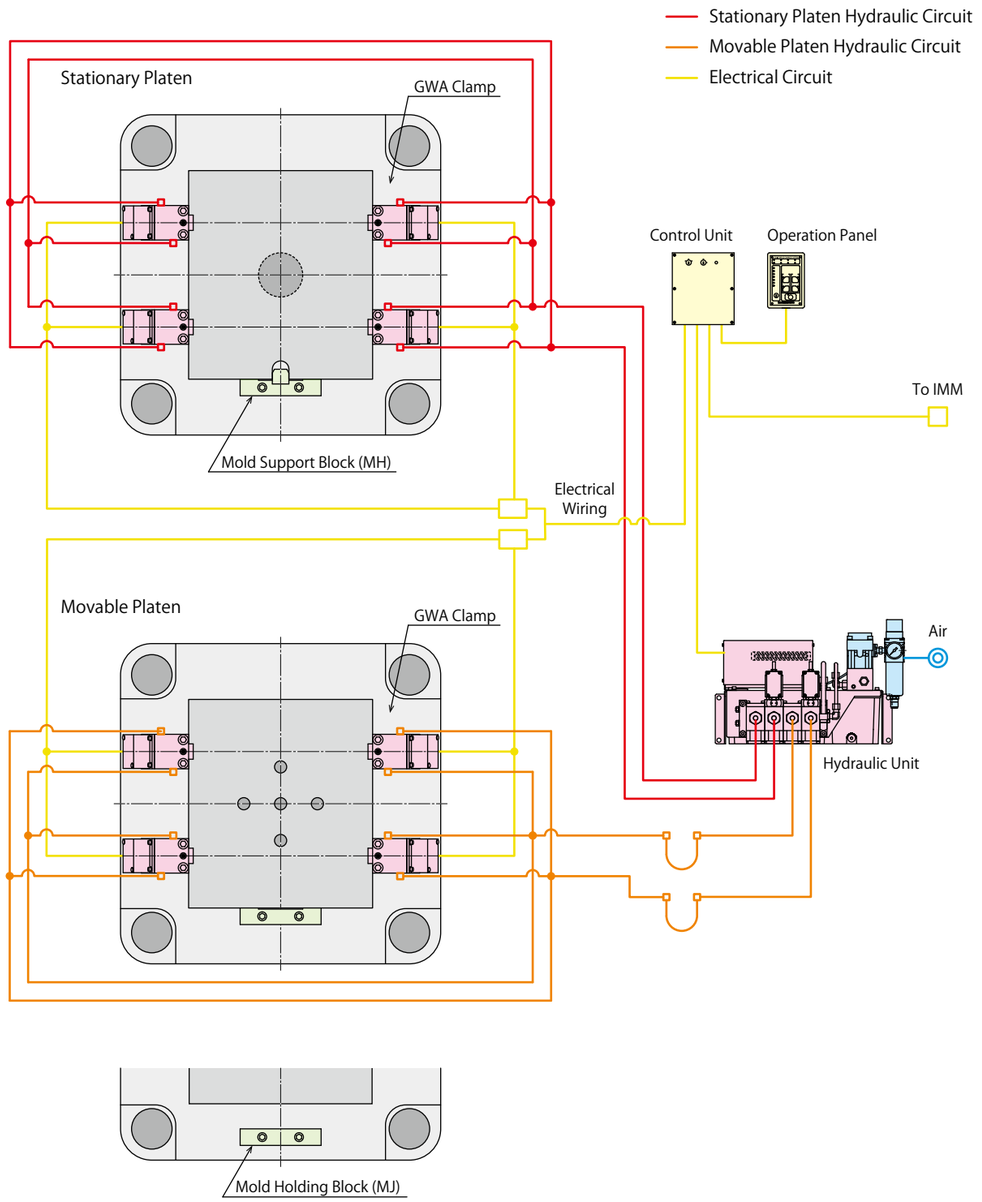
IMM Capacity (kN)	Clamp								Hydraulic Unit		Mold Support Block	Mold Holding Block	Air Valve Unit (GBE/GBF/GBR)
	GBB Clamp	GBE Clamp	GBC Clamp	GBF Clamp	GBM Clamp	GBR Clamp	Qty.	Stationary / Movable Clamping Capacity (kN)	Standard	High Speed			
~ 500	GBB0100	-	GBC0100	-	-	-	8	40	CPBN000-3UR-□0	CPDN000-3UR-□0	MH03	MJ0010	MV3012-25
~ 750	GBB0160	-	GBC0160	-	-	-	8	64			MH03	MJ0010	MV3012-25
~ 1500	GBB0250	GBE0250	GBC0250	GBF0250	GBM0250	GBR0250	8	100			MH04	MJ0020	MV3012-25
~ 2500	GBB0400	GBE0400	GBC0400	GBF0400	GBM0400	GBR0400	8	160			MH04	MJ0020	MV3012-25
~ 3500	GBB0630	GBE0630	GBC0630	GBF0630	GBM0630	GBR0630	8	252			MH04	MJ0020	MV3012-25
~ 5500	GBB1000	GBE1000	GBC1000	GBF1000	GBM1000	GBR1000	8	400	CPDN000-3UR-□0	CPCN000-3UR-□0	MH06	MJ0030	MV3022-25
~ 8500	GBB1600	GBE1600	GBC1600	GBF1600	GBM1600	GBR1600	8	640			MH06	MJ0040	MV3022-25
~ 13000	GBB2500	GBE2500	GBC2500	GBF2500	-	-	8	1000	CPCN000-3UR-□0	CPEN000-3UR-□0	MH08	MJ0050	MV3022-25
~ 20000	GBB4000	GBE4000	GBC4000	GBF4000	-	-	8	1600	CPEN000-3UR-□0		MH08	MJ0050	MV3022-25
~ 30000	GBB5000	GBE5000	GBC5000	GBF5000	-	-	8	2000	CQEN000-3UR-□0	CQEN000-3UR-□0	MH10	MJ0050	MV3022-25

Note 1. The list shows standard system references. Please contact us for unlisted systems.

Vertical Loading Mold Change System

For Molds with Standardized Width

※ This drawing shows the system circuit reference for GWA clamp.



Standard System

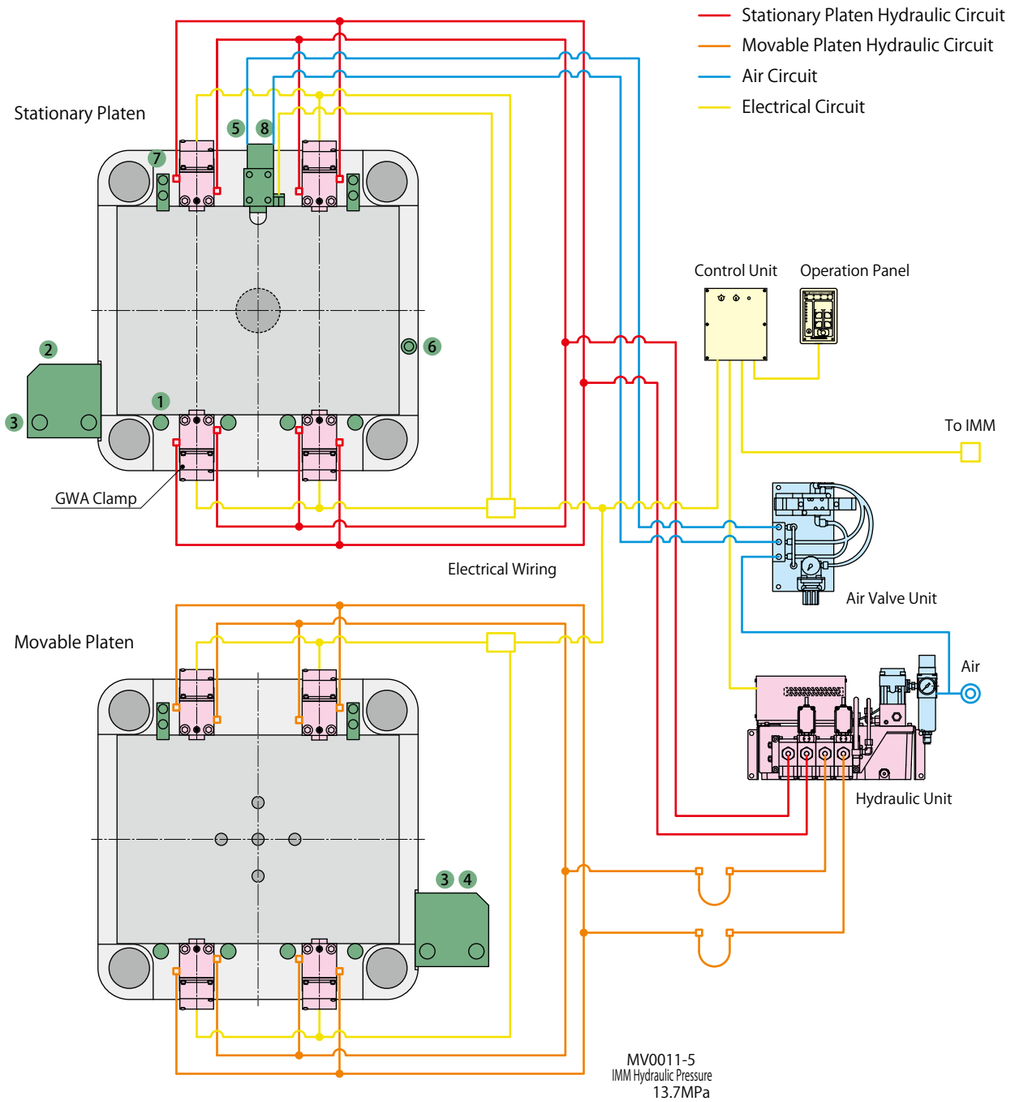
IMM Capacity (kN)	Clamp			Hydraulic Unit		Valve Unit	Mold Support Block
	GWA Clamp	Qty.	Stationary / Movable Clamping Capacity (kN)	Standard	High Speed	IMM Hydraulic Source	
~ 500	GWA0100	8	40	CPBL000-2PPR-□0	CPDL000-2PPR-□0	MV0011-5 (IMM Hydraulic Pressure 13.7MPa)	MH03
~ 750	GWA0160	8	64				MH03
~ 1500	GWA0250	8	100				MH04
~ 2500	GWA0400	8	160				MH04
~ 3500	GWA0630	8	252	CPDL000-2PPR-□0	CPCL000-2PPR-□0	MV0021-5 (IMM Hydraulic Pressure 13.7~20.6MPa)	MH04
~ 5500	GWA1000	8	400	CPCL000-2PPR-□0			MH06
~ 8500	GWA1600	8	640	CPEL000-2PPR-□0	CPEL000-2PPR-□0		MH06
~ 13000	GWA2500	8	1000	CQEL000-2PPR-□0	CQEL000-2PPR-□0	MV0061-5 (IMM Hydraulic Pressure 13.7~20.6MPa)	MH08
~ 20000	GWA4000	8	1600				MH08
~ 30000	GWA5000	8	2000				MH10

Note 1. The list shows standard system references. Please contact us for unlisted systems.

Horizontal Loading Mold Change System

Needs to Standardize Mold Dimension

※ This drawing shows the system circuit reference for GWA clamp.

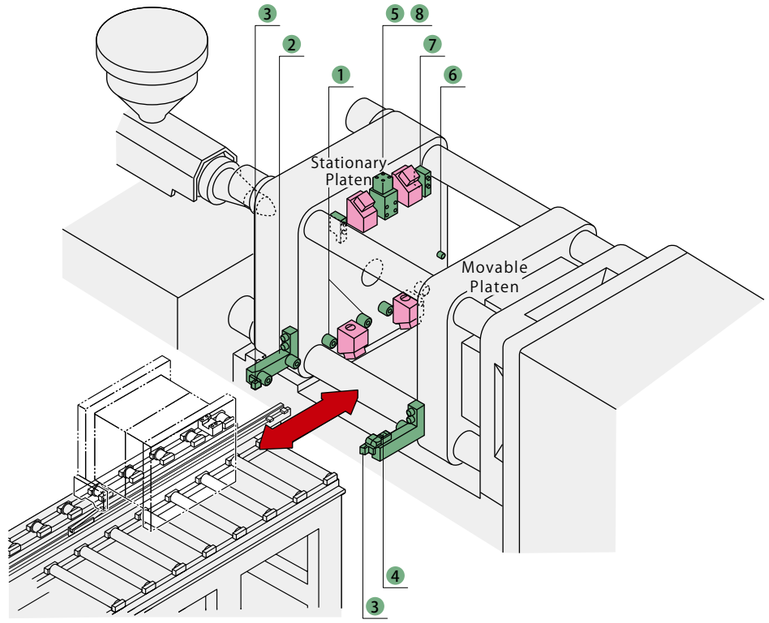


Standard System

IMM Capacity (kN)	Clamp			Hydraulic Unit		Valve Unit	Platen Components ※1 ※2		
	GWA Clamp	Qty.	Stationary / Movable Clamping Capacity (kN)	Standard	High Speed	IMM Hydraulic Source	① Platen Roller	② Pre-Roller	③ Movable Platen Opening Upper Limit Detector
~ 500	GWA0100	8	40	CPBL000-2PPR-□0	CPDL000-2PPR-□0	MV0011-5 (IMM Hydraulic Pressure 13.7MPa)	MR0270	ML02	MS4011-5
~ 750	GWA0160	8	64				MR0270	ML02	MS4011-5
~ 1500	GWA0250	8	100				MR0400	ML04	MS4011-5
~ 2500	GWA0400	8	160				MR0400	ML04	MS4011-5
~ 3500	GWA0630	8	252	CPDL000-2PPR-□0	CPCL000-2PPR-□0	MV0021-5 (IMM Hydraulic Pressure 13.7~20.6MPa)	MR0400	ML04	MS4011-5
~ 5500	GWA1000	8	400	CPCL000-2PPR-□0			MR0600	ML06	MS4021-5
~ 8500	GWA1600	8	640	CPEL000-2PPR-□0	CPEL000-2PPR-□0		MR0800	ML08	MS4021-5
~ 13000	GWA2500	8	1000	CQEL000-2PPR-□0	CQEL000-2PPR-□0		MR1000	ML10	MS4031-5
~ 20000	GWA4000	8	1600			MV0061-5 (IMM Hydraulic Pressure 13.7~20.6MPa)	MR1600	ML16	MS4041-5
~ 30000	GWA5000	8	2000				MR1600	ML16	MS4041-5

Note ※1. Please refer to the circuit drawing and image drawing for details of platen components.
※2. Application of platen components may differ depending on IMM or mold conditions.

Horizontal Loading Mold Change System



Platen Components

① Platen Roller

Transfers molds and positions in vertical direction toward the center of IMM nozzle.

② Pre-Roller

Bridge from Platen Rollers to Safety Gate

③ Movable Platen Opening Upper Limit Detector

In case the movable platen of IMM opens wider than the mold thickness (dimension D), it detects during mold loading and prevents the mold from falling from the platen roller or pre-roller.

④ Movable Platen Opening Lower Limit Detector

In case the movable platen of IMM opens narrower than mold thickness (dimension D), it detects during mold loading and stops the mold.

⑤ Mold Positioning Equipment

Positions mold in horizontal direction during mold loading.

⑥ Mold Stopper

Prevents mold from overrunning due to the error of mold positioning equipment.

⑦ Mold Safety Retainer

When the movable platen opens too wide after releasing clamps, it will prevent the mold from falling.

⑧ Mold Detection

Confirms the presence of mold in IMM.

Platen Components ※1 ※2				Standard
④ Movable Platen Opening Lower Limit Detector	⑤⑧ Mold Positioning Device	⑥ Mold Stopper	⑦ Safety Retainer	Mold Weight (t)
MS2030-5 (Limit Switch)	MP03	MM	MF0010	0.6
	MP03		MF0010	0.6
	MP04		MF0010	1.0
	MP04		MF0010	1.5
	MP06		MF0010	2.5
MS2041-5 (Proximity Switch)	MP06		MF0020	4.5
	MP08		MF0020	8.0
	MP08		MF0030	15
	MP08		MF0030	20
	MP10		MF0040	30

Hydraulic Clamp

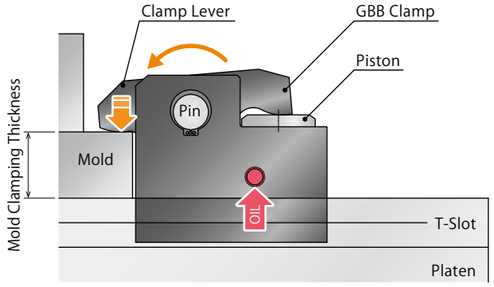
T-Slot Manual Slide

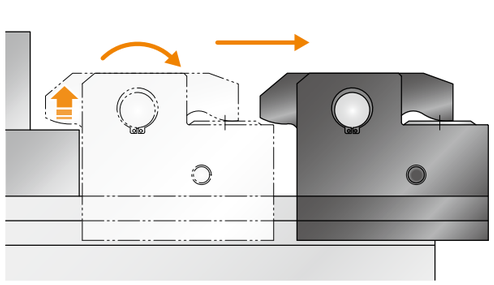
Model **GBB**

Suitable For Molds with Different Width

Single Hydraulic Circuit with Basic and Simple Circuit Structure
We offer wide range of options to meet your needs.

Action Description



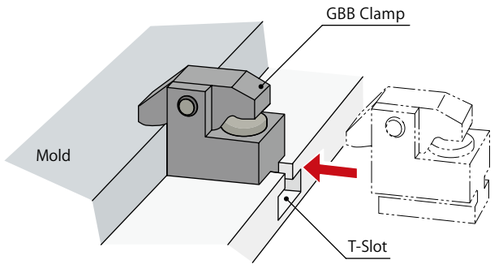


Locked State

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

Released State

When hydraulic pressure is released, the piston descends with built-in spring force, and the clamp lever becomes released state with the lever return spring. GBB clamp is able to slide in the T-slot.

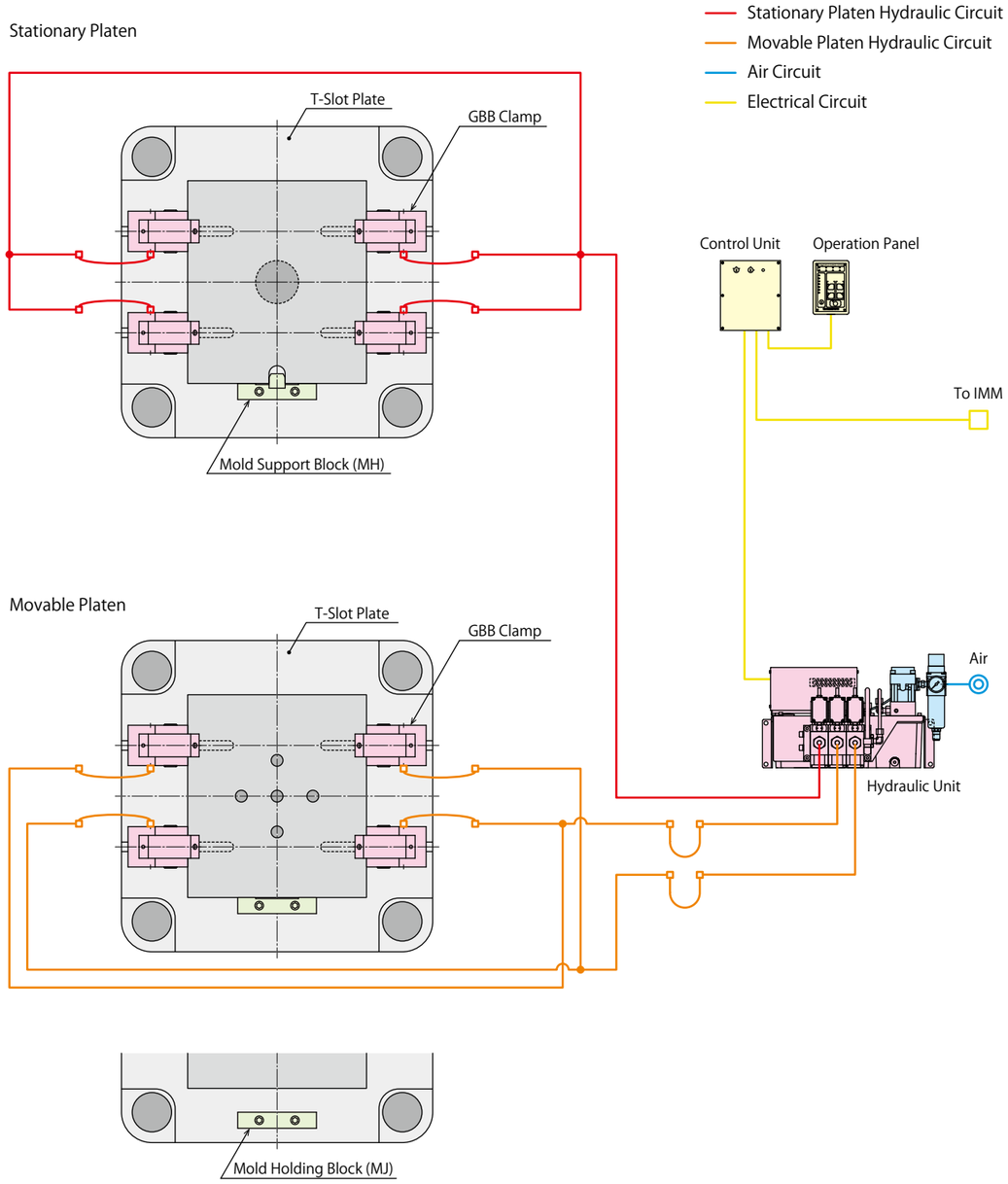


※ We provide GBB clamp according to the mold clamping thickness and T-slot dimension. Please refer to the external dimensions for detail.

System Structure Example

The basic structure with GBB clamp that is slid manually in the T-slot.
This system is able to control one stationary platen circuit and two movable stationary circuits by three-circuit hydraulic unit.

Hydraulic Clamp :GBB Clamp
Hydraulic Unit :CP□□ Unit



Model No. Indication

GBB 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
400 : Clamping Force= 400kN
500 : Clamping Force= 500kN

2 Design No.

0 : Revision Number

3 Option

※ Please contact us for specifications/external dimensions.

C1 : With Lock Confirmation Proximity Switch (GBB0400 or larger)
C2 : With Lock Confirmation Proximity Switch/Cover (GBB0400 or larger)
C3 : With Tapped Hole for Mounting Lock Confirmation Proximity Switch (GBB0400 or larger)
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 Mold) ※1
M□ : For Mold with Notch
N : NPT Port ※2
P : With Mold Confirmation Proximity Switch
R : Longer D Dimension of T-Leg
T : T-Slot Locking
U : With Grease Nipple (Standard Option for GBB4000/GBB5000)
V : High Temperature (0~120℃)
W : With Check Valve (GBB1000 or larger)
X : With Cover

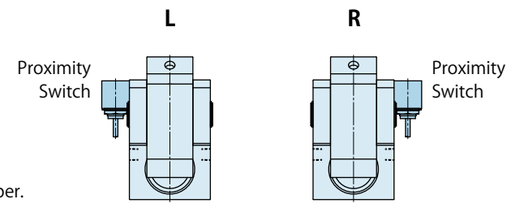
Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

4 Switch Load Voltage (Current)

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

5 Switch Mounting Position

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



6 Production Number

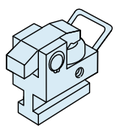
This number represents the main specification
of the clamp's T-slot stem and the clamping height.
After the specification is confirmed, we will create a number.

Specifications

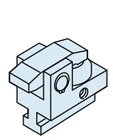
Model No.		GBB0100	GBB0160	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500	GBB4000	GBB5000
Clamping Force	kN	10	16	25	40	63	100	160	250	400	500
Working Pressure	MPa	25 (For Rated Clamp Force)									
Withstanding Pressure	MPa	37									
Full Stroke	mm	6	7	7	7	8	8	8	8	8	8
Clamp Stroke	mm	3	3.5	3.5	3.5	4	4	4	4	4	4
Extra Stroke	mm	3	3.5	3.5	3.5	4	4	4	4	4	4
Cylinder Capacity (At Full Stroke)	cm^3	2.5	4.6	7.2	11.5	20.6	33.6	53.8	83.8	130.8	166.0
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)									
Use Frequency ※4		Less than 20 Cycles / Day ※									
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32									
Min. T-Slot Width a (JIS) ※8	mm	10	12	14	18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※8	mm	20	24	32	42	42	54	54	54	54	42 (2 T-Legs)

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

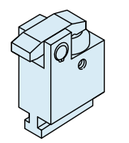
Option



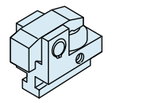
With Handle (GBB0630 or larger)
Model GBB-D



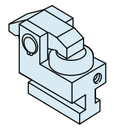
Reinforced Body
Model GBB-E



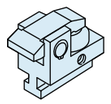
Extra Height Body
Model GBB-H



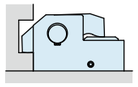
Low Lever
Model GBB-J



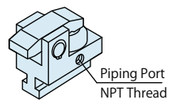
Rear Port
Model GBB-K



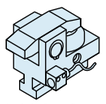
Wide Lever (For U-Cut of Mold)
Model GBB-L□



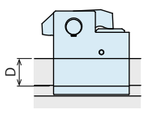
For Mold with Notch
Model GBB-M□



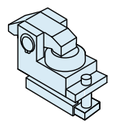
NPT Port
Model GBB-N



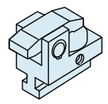
With Mold Confirmation Proximity Switch
Model GBB-P



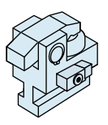
Longer D-Dimension of T-Leg
Model GBB-R



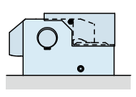
T-Slot Locking
Model GBB-T



High Temperature 0～120℃
Model GBB-V



With Check Valve (GBB1000 or larger)
Model GBB-W



With Cover
Model GBB-X

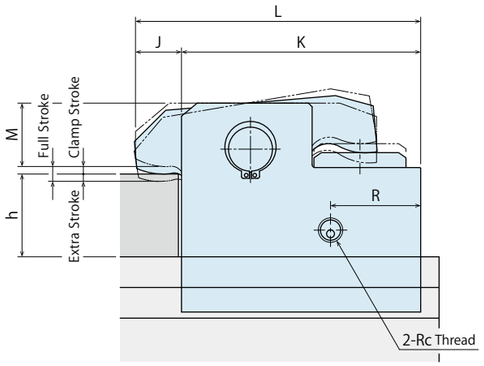
With Lock Confirmation Proximity Switch
Model GBB-C□

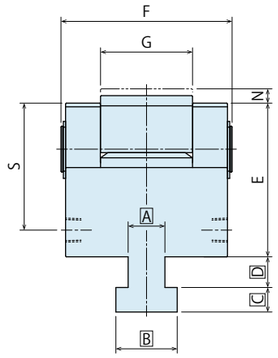
With Grease Nipple
Model GBB-U

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

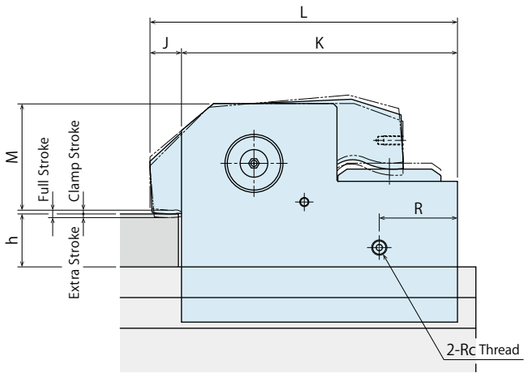
External Dimensions

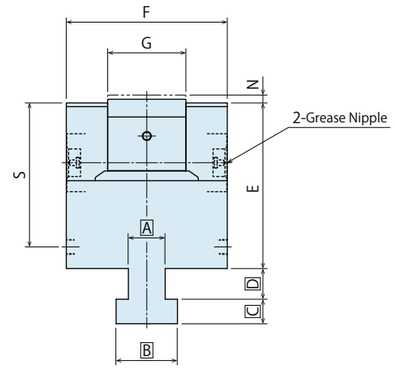
※ This drawing shows GBB0100~GBB2500 standard model.
Contact us for external dimensions for options.



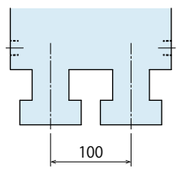


※ This drawing shows GBB4000 standard model.
Contact us for external dimensions for options.





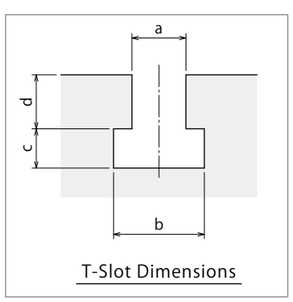
※ Only T-leg part of GBB5000 is different from GBB4000. GBB5000 has two T-legs.
Contact us for external dimensions for options.



Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

T-Slot Dimensions



External Dimensions

(mm)

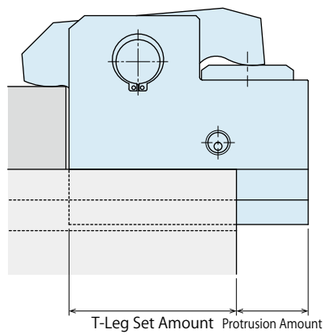
Model No.	GBB0100	GBB0160	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500	GBB4000	GBB5000
Full Stroke	6	7	7	7	8	8	8	8	8	8
Clamp Stroke	3	3.5	3.5	3.5	4	4	4	4	4	4
Extra Stroke	3	3.5	3.5	3.5	4	4	4	4	4	4
min. E	42.5	49	58	66	81	105.5	122.5	144.5	177.5	202.5
F	43	53	63	73	93	103	124	152	175	200
G	20	26	32	38	50	53	60	73	85	100
J	15	17	19	22	25	30	30	30	35	37
K	58	70	84	105.5	130	159	199	240	300	340
L	73	87	103	127.5	155	189	229	270	335	377
M (h)	21.5 (20)	27.5 (20)	31.5 (25)	39.5 (25)	49.5 (30)	64 (40)	81 (40)	98 (45)	126 (50)	141 (60)
	16.5 (25)	22.5 (25)	26.5 (30)	34.5 (30)	44.5 (35)	59 (45)	76 (45)	93 (50)	121 (55)	136 (65)
	16.5 (30)	17.5 (30)	21.5 (35)	29.5 (35)	39.5 (40)	54 (50)	71 (50)	88 (55)	116 (60)	131 (70)
	16.5 (35)	17.5 (35)	21.5 (40)	29.5 (40)	34.5 (45)	49 (55)	66 (55)	83 (60)	111 (65)	126 (75)
	16.5 (40)	17.5 (40)	21.5 (45)	29.5 (45)	29.5 (50)	44 (60)	61 (60)	78 (65)	106 (70)	121 (80)
	-	-	21.5 (50)	29.5 (50)	29.5 (55)	44 (65)	61 (65)	78 (70)	106 (75)	116 (85)
	-	-	-	-	29.5 (60)	44 (70)	61 (70)	78 (75)	106 (80)	-
	-	-	-	-	-	-	61 (75)	78 (80)	106 (85)	-
	-	-	-	-	-	-	61 (80)	-	-	-
N	5.5	6.5	6.5	6.5	8	8	9	9.5	9.5	10
R	27	27	37	42	49	68	73	69.5	85	90
S	33.5	40	46	54	69	93.5	108.5	127.5	156.5	174.5
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
min. h	20	20	25	25	30	40	40	45	50	60
max. h	40	40	50	50	60	70	80	80	85	85

Notes

1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
2. A B C D dimensions are determined by Kosmek according to the T-slot dimensions.
3. When making an order, please indicate a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.

GBB Clamp The Allowable Protrusion Amount of Cylinder

(mm)



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
GBB4000	-	-
GBB5000	-	-

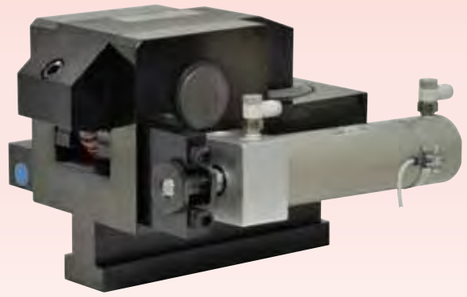
Note:

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

Hydraulic Clamp

T-Slot Automatic Slide

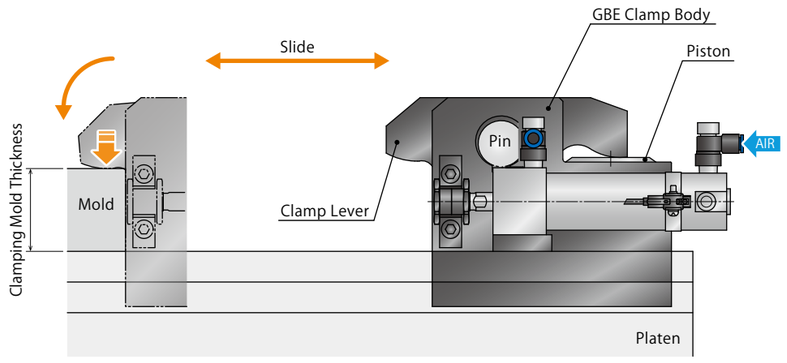
Model **GBE**



GBB Clamp with an Air Cylinder

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

Action Description



Locked State

GBE clamp moves forward with the air supply to the air cylinder.
Supply hydraulic pressure after mold detection of proximity switch.
The piston is lifted up, and the clamp lever pivots on the pin and locks the mold.

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 at released state.
After that, supply the air to the air cylinder and GBE clamp moves backward automatically.
(The backward-end detection switch detects that the GBE clamp moves backward.)

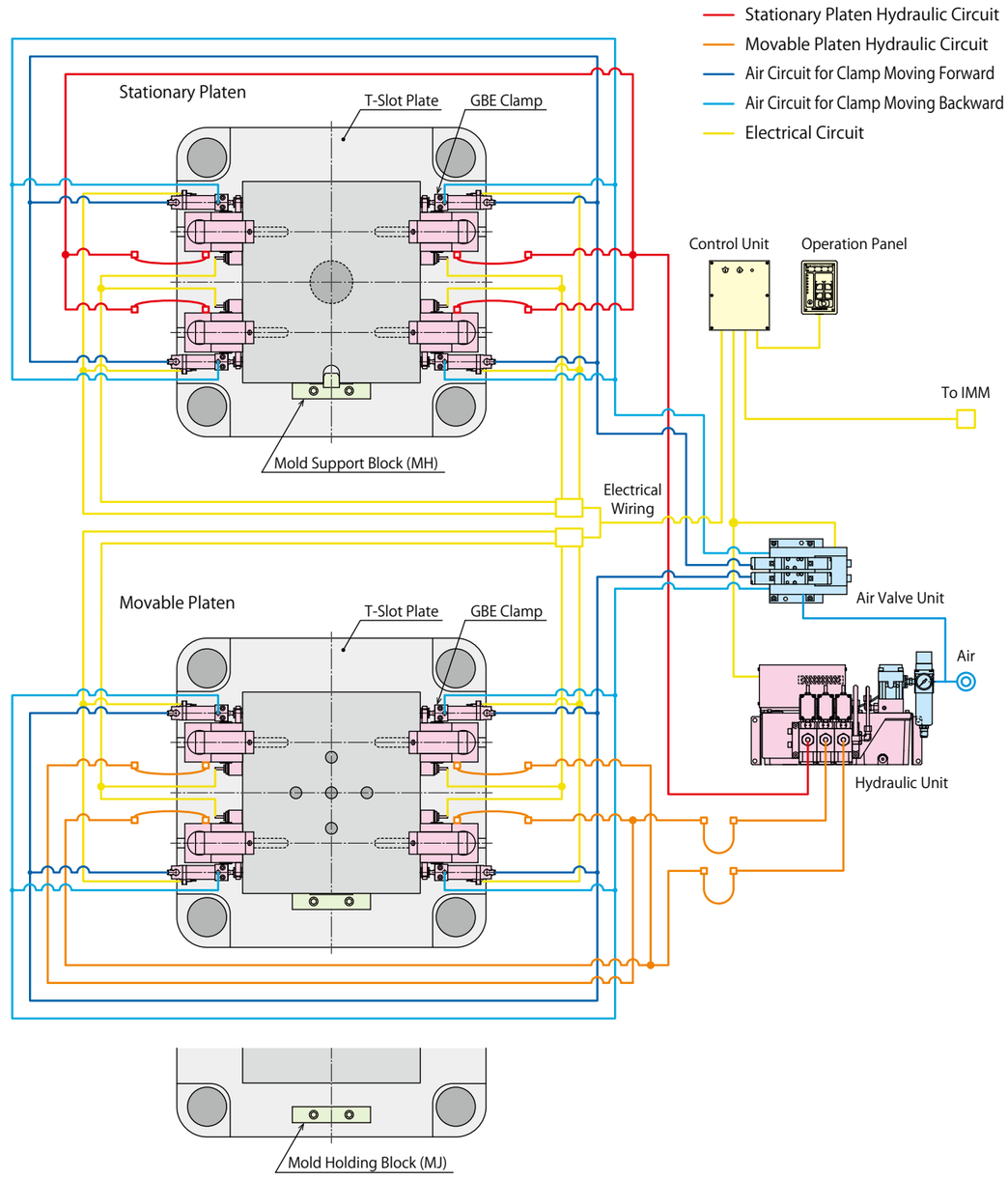
Forward End Detection	OFF
Backward End Detection	**ON**

※ We provide GBE clamp according to the mold clamping thickness and T-slot dimension.
Please refer to the external dimensions for detail.

System Structure Example

The basic structure with GBE clamp that is slid automatically in the T-slot by the air cylinder.
This system is able to control one stationary platen circuit and two movable stationary circuits by three-circuit hydraulic unit.
Clamps are slid by the air valve unit.

Hydraulic Clamp ：GBE Clamp
Hydraulic Unit ：CP□□ Unit
Air Valve Unit ：MV30□2 Valve Unit



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
400 : Clamping Force= 400kN
500 : Clamping Force= 500kN

2 Design No.

0 : Revision Number

3 Slide Stroke

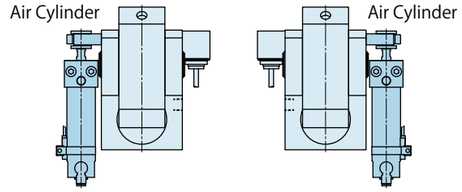
50 : Slide Stroke 50mm
125 : Slide Stroke 125mm

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/external dimensions.

C1 : With Lock Confirmation Proximity Switch (GBE0400 or larger)
C2 : With Lock Confirmation Proximity Switch/Cover (GBE0400 or larger)
C3 : With Tapped Hole for Mounting Lock Confirmation Proximity Switch (GBE0400 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 Mold) ※1
M□ : For Mold with Notch
N : NPT Port ※2
Q : Double Cylinder
R : Longer D Dimension of T-Leg
S : Special Spacer
U : With Grease Nipple
V : High Temperature (0~120℃)

Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

7 Production Number

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

Specifications

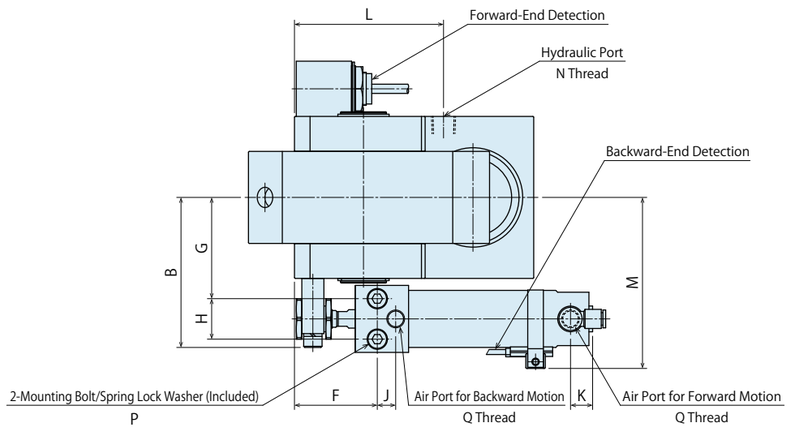
(mm)

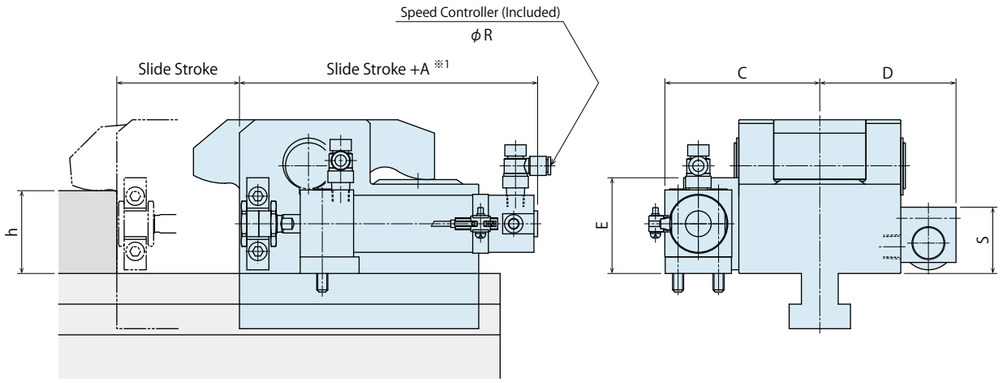
Model No.		GBE0250	GBE0400	GBE0630	GBE1000	GBE1600	GBE2500	GBE4000	GBE5000
GBB Model No.		GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500	GBB4000	GBB5000
Clamping Force	kN	25	40	63	100	160	250	400	500
Working Pressure	MPa	25 (For Rated Clamp Force)							
Withstanding Pressure	MPa	37							
Slide Stroke Range	mm	25~200	25~200	50~200	50~200	50~300	50~300	50~300	50~300
Full Stroke	mm	7	7	8	8	8	8	8	8
Clamp Stroke	mm	3.5	3.5	4	4	4	4	4	4
Extra Stroke	mm	3.5	3.5	4	4	4	4	4	4
Cylinder Capacity (At Full Stroke)	cm^3	7.2	11.5	20.6	33.6	53.8	83.8	130.8	166.0
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)							
Use Frequency ※4		Less than 20 Cycles / Day							
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32							
Min. T-Slot Width a (JIS) ※8	mm	14	18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※8	mm	32	42	42	54	54	54	54	42 (2 T-Legs)

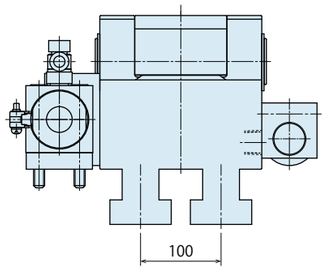
Notes
※3. Option **V**: High Temperature (0~120℃) is for operating in temperatures of 70℃ or more.
※4. Please contact us for more frequent use.
※5. Please contact us for fluids other than those mentioned on the list.
※6. If hydraulic viscosity is higher than specified, action time will be longer.
※7. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
※8. 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.
1. Please refer to GBB clamp pages (p. 7-12) for details of clamp body.

External Dimensions

※ This drawing shows GBE0250 ~ GBE5000 standard model. GBE5000 has two T-legs.
Contact us for external dimensions for options.
Please refer to GBB clamp pages (p. 7-12) for details of clamp body.





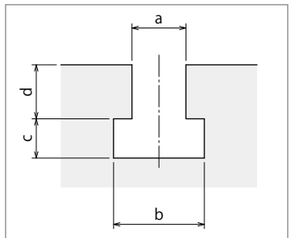


※ GBE5000 has two T-legs.
Contact us for external dimensions for options.
Please refer to GBB clamp pages (p. 7-12) for details of clamp body.

Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

T-Slot Dimensions



T-Slot Dimensions

External Dimensions

(mm)

Model No.	GBE0250	GBE0400	GBE0630	GBE1000	GBE1600	GBE2500	GBE4000	GBE5000
GBB Clamp Model No.	GBB0250	GBB0400	GBB0630	GBB1000	GBB1600	GBB2500	GBB4000	GBB5000
Full Stroke	7	7	8	8	8	8	8	8
Clamp Stroke	3.5	3.5	4	4	4	4	4	4
Extra Stroke	3.5	3.5	4	4	4	4	4	4
A ※1	105	105	112	118	136	157	184	184
B	60.5	65.5	81.5	92.5	112	137	189	201.5
C	63.5	68.5	84.5	94.5	116.5	142	218.5	231
D	59	64	74	78.5	88.5	102	117.5	130
E	37	37	52	58	70.5	81	119	119
F	39	39	45	46	56	64	57	57
G	39	44	55	61	74	89	106.5	119
H	18	18	22	24	32	41	96	96
J	9	9	10	13	14	16	36	36
K ※1	12	12	12	12	12	14	19	19
L	75.5	93.5	81	91	126	170.5	215	250
M	72.5	77.5	93	103.5	125	150.5	213.5	226
N	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
P	M5x0.8x40	M5x0.8x40	M6x1x50	M8x1.25x55	M10x1.5x70	M12x1.75x85	M16x2x130	M16x2x130
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc3/8	Rc3/8
R ※2	6	6	6	6	6	10	10	10
S	40.5	40.5	36	36	36	36	36	36
min. h	25	25	30	40	40	45	50	60
max. h	50	50	60	70	80	80	85	85

Notes

※1. "A" and "K" dimensions are different when exceeding the stroke value written in the list. Please contact us for detail.
※2. For -N:NPT Port, "R" dimension is in inches.

1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
2. When making an order, please indicate a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.
3. Please refer to GBB clamp pages (p. 7-12) for unlisted dimensions.

Slide Stroke List

Model No.	Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GBE0250	○	○	○	○	○	○	○		
GBE0400	○	○	○	○	○	○	○		
GBE0630		○	○	○	○	○	○		
GBE1000		○	○	○	○	○	○		
GBE1600		○	○	○	○	○	○	○	○
GBE2500		○	○	○	○	○	○	○	○
GBE4000		○	○	○	○	○	○	○	○
GBE5000		○	○	○	○	○	○	○	○

Note:

1. "A" and "K" dimensions are different when exceeding the stroke value written in the list. Please contact for detail.

Hydraulic Clamp

Longer Stroke / T-Slot Manual-Slide

Model **GBC**

Longer stroke allows for variation in mold clamping thicknesses.

Single Hydraulic Circuit with Basic and Simple Circuit Structure
We offer wide range of options to meet your needs.

Advantage

Standard Clamp

Requires to install a spacer at the mold clamping part in order to standardize the thickness.

Clamping Thickness：50mm

Clamping Thickness：45mm

Clamping Thickness：40mm

GBC Clamp

Is able to clamp molds with different thicknesses up to 10 mm. There will be no need to install spacers or no accidents caused by a mistake of spacer thickness.

Clamping Thickness：50mm

Clamping Thickness：45mm

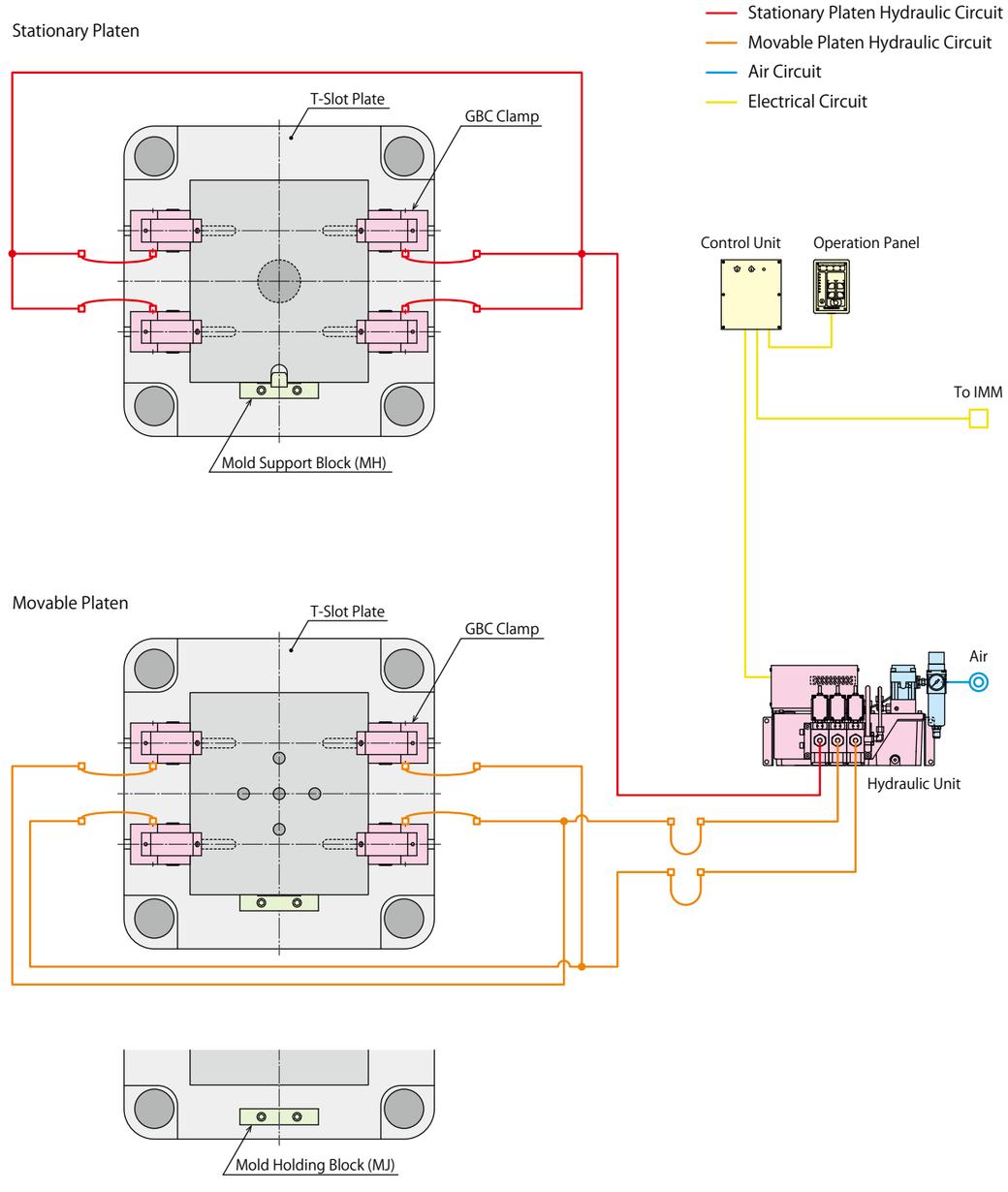
Clamping Thickness：40mm

Notes 1. We provide GBC clamp according to the mold clamping thickness and T-slot dimension.
Please refer to the external dimensions for detail.
2. Mold clamping part varies depending on the clamp size.

System Structure Example

The basic structure with GBC clamp that is slid manually in the T-slot.
This system is able to control one stationary platen circuit and two movable stationary circuits by three-circuit hydraulic unit.

Hydraulic Clamp ：GBC Clamp
Hydraulic Unit ：CP□□ Unit



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
400 : Clamping Force= 400kN
500 : Clamping Force= 500kN

2 Design No.

0 : Revision Number

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

D : With Handle (GBC0630 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 Mold) ※1
N : NPT Port ※2
P : With Mold Confirmation Proximity Switch
R : Longer D Dimension of T-Leg
T : T-Slot Locking
U : With Grease Nipple (Standard Option for GBC4000/GBC5000)
V : High Temperature (0~120℃)
W : With Check Valve (GBC1000 or larger)
X : With Cover

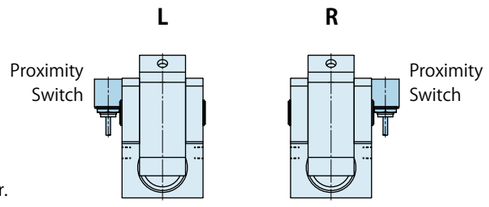
Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

4 Switch Load Voltage (Current)

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

5 Switch Mounting Position

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



6 Production Number

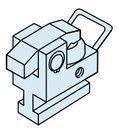
This number represents the main specification
of the clamp's T-slot stem and the clamping height.
After the specification is confirmed, we will create a number.

Specifications

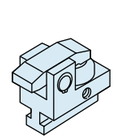
Model No.		GBC0100	GBC0160	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500	GBC4000	GBC5000
Clamping Force	kN	10	16	25	40	63	100	160	250	400	500
Working Pressure	MPa	25 (For Rated Clamp Force)									
Withstanding Pressure	MPa	37									
Full Stroke	mm	8	9	10	12	15	15.5	16	16	16	16.5
Clamp Stroke	mm	0.5	1	1.5	3.5	1	1.5	2	2	2	2.5
Extra Stroke	mm	7.5	8	8.5	8.5	14	14	14	14	14	14
Cylinder Capacity (At Full Stroke)	cm^3	4	6	10	19	38	63	105	160	253	331
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)									
Use Frequency ※4		Less than 20 Cycles / Day ※									
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32									
Min. T-Slot Width a (JIS) ※8	mm	10	12	14	18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※8	mm	20	24	32	42	42	54	54	54	54	42 (2 T-Legs)

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

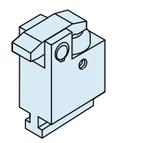
Option



With Handle (GBC0630 or larger)
Model **GBC-D**

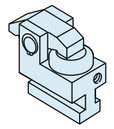


Reinforced Body
Model **GBC-E**

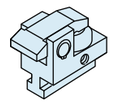


Extra Height Body
Model **GBC-H**

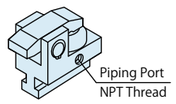
Low Lever
Model **GBC-J**



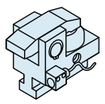
Rear Port
Model **GBC-K**



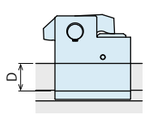
Wide Lever (For U-Cut of Mold)
Model **GBC-L□**



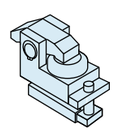
NPT Port
Model **GBC-N**



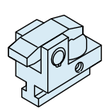
With Mold Confirmation Proximity Switch
Model **GBC-P**



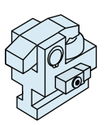
Longer D-Dimension of T-Leg
Model **GBC-R**



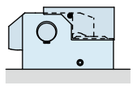
T-Slot Locking
Model **GBC-T**



High Temperature 0～120 ℃
Model **GBC-V**



With Check Valve (GBC1000 or larger)
Model **GBC-W**



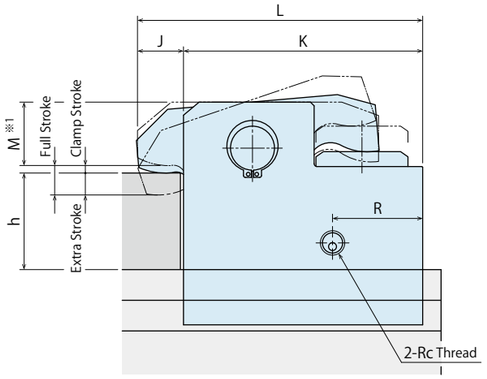
With Cover
Model **GBC-X**

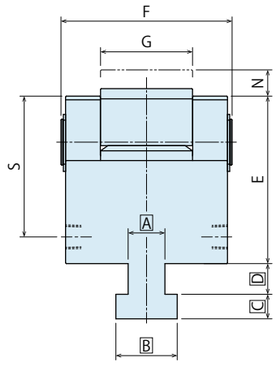
With Grease Nipple
Model **GBC-U**

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

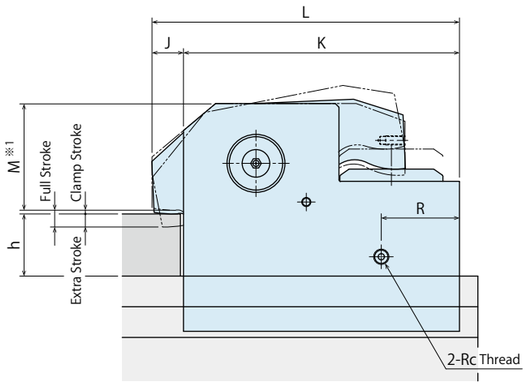
External Dimensions

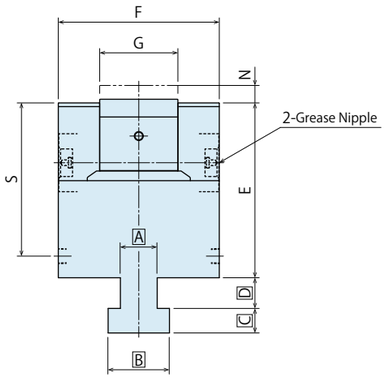
※ This drawing shows GBC0100 ~ GBC2500 standard model.
Contact us for external dimensions for options.



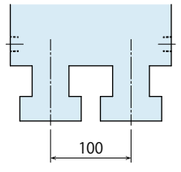


※ This drawing shows GBC4000 / GBC5000 standard model.
Contact us for external dimensions for options.





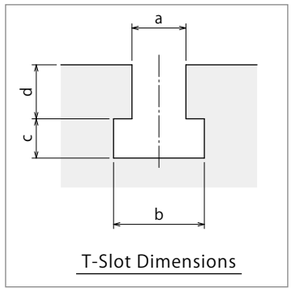
※ Only T-leg part of GBC5000 is different from GBC4000. GBC5000 has two T-legs.
Contact us for external dimensions for options.



Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

T-Slot Dimensions



External Dimensions

(mm)

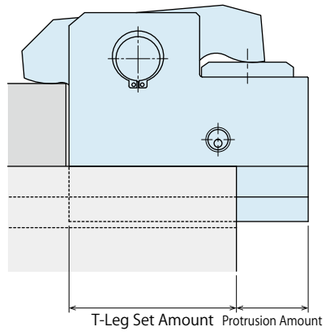
Model No.	GBC0100	GBC0160	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500	GBC4000	GBC5000
Full Stroke	8	9	10	12	15	15.5	16	16	16	16.5
Clamp Stroke	0.5	1	1.5	3.5	1	1.5	2	2	2	2.5
Extra Stroke	7.5	8	8.5	8.5	14	14	14	14	14	14
min. E	45.5	52	62	71	88.5	114	132.5	154.5	187.5	212.5
F	43	53	63	73	93	103	124	152	175	200
G	20	26	32	38	50	53	60	73	85	100
J	15	17	19	22	25	30	30	30	35	37
K	58	70	84	105.5	130	159	199	240	300	340
L	73	87	103	127.5	155	189	229	270	335	377
N	8	9	9.5	11	14.5	15	18	19	19	20
R	27	27	37	42	49	68	73	69.5	85	90
S	36.5	43	50	59	76.5	102	118.5	137.5	166.5	184.5
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
min. h	20	20	25	25	30	40	40	45	50	60
max. h	40	40	50	50	60	70	80	80	85	85

Notes

※1. M dimension (Lever Thickness) in the drawing varies depending on variation in h dimension (Clamping Mold Thickness).
Please contact us for further information.

1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
2. A B C D dimensions are determined by Kosmek according to the T-slot dimensions.
3. When making an order, please indicate a, b, c, d dimension of T-slot and h dimensions of clamping mold thickness (including variation).

GBC Clamp The Allowable Protrusion Amount of Cylinder



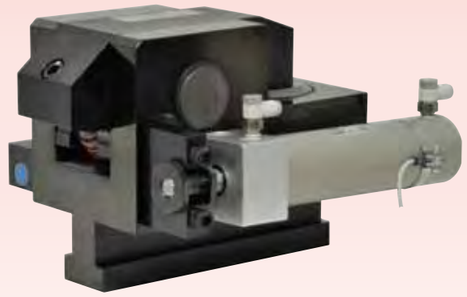
(mm)

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
GBC4000	-	-
GBC5000	-	-

Hydraulic Clamp

Longer Stroke / T-Slot Automatic-Slide

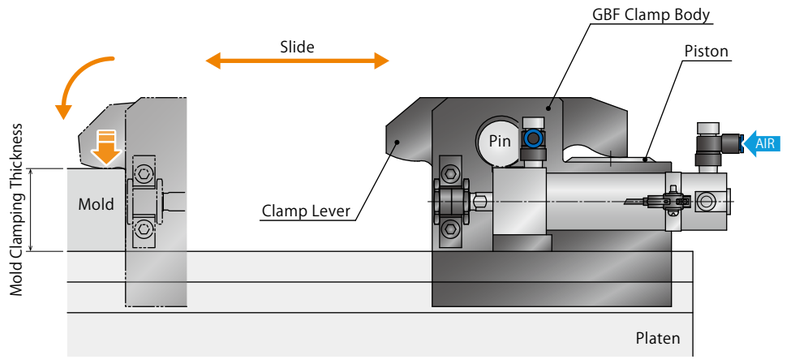
Model **GBF**



GBC Clamp with an Air Cylinder

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

Action Description



Locked State

GBF clamp moves forward with the air supply to the air cylinder.
Supply hydraulic pressure after mold detection of proximity switch.
The piston is lifted up, and the clamp lever pivots on the pin and locks the mold.

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 at released state.
After that, supply the air to the air cylinder and GBF clamp moves backward automatically.
(The backward-end detection switch detects that the GBE clamp moves backward.)

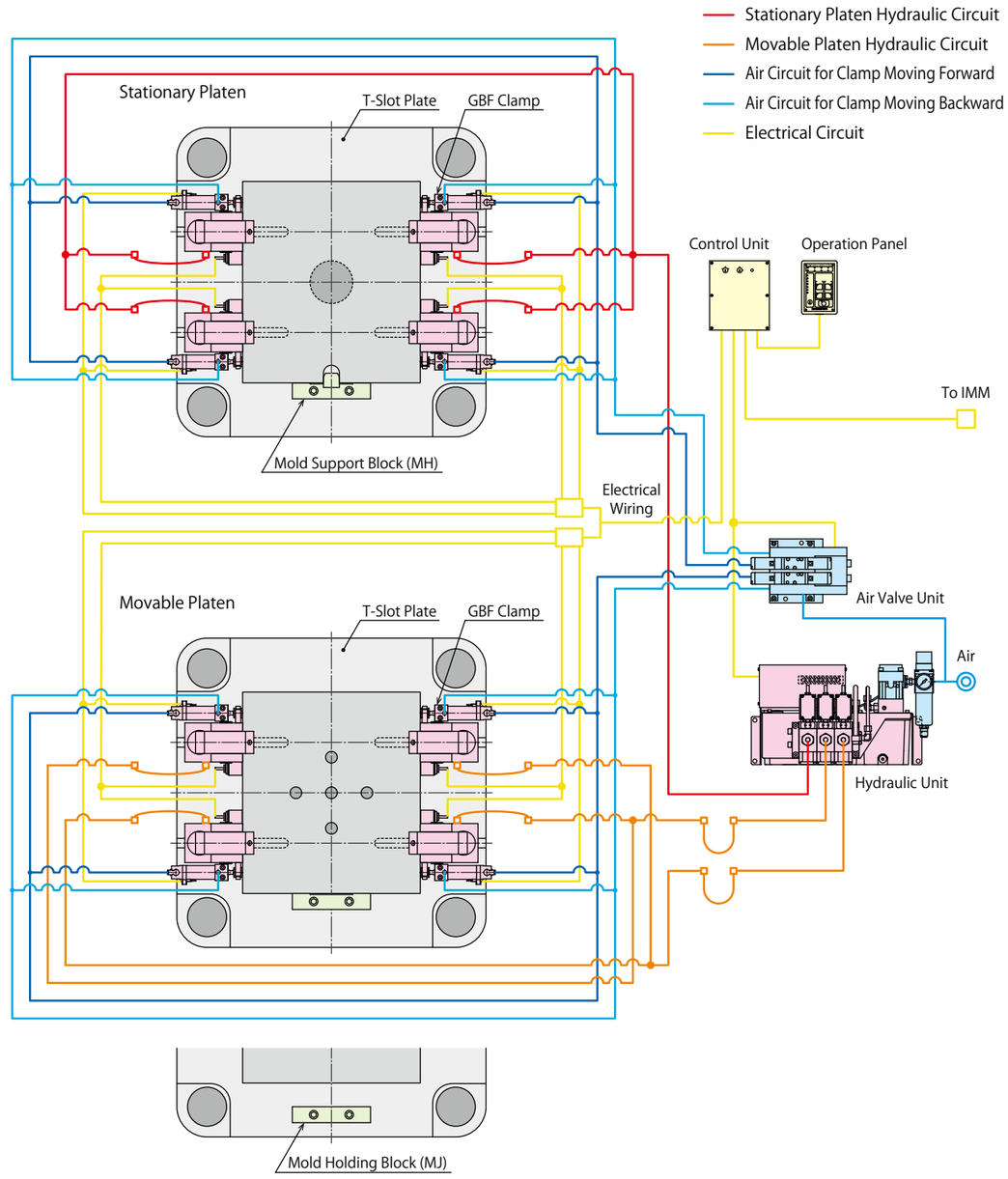
Forward End Detection	OFF
Backward End Detection	**ON**

※ We provide GBF clamp according to the mold clamping thickness and T-slot dimension.
Please refer to the external dimensions for detail.

System Structure Example

The basic structure with GBF clamp that is slid automatically in the T-slot by the air cylinder.
This system is able to control one stationary platen circuit and two movable platen circuits by three-circuit hydraulic unit.
Clamps are slid by the air valve unit.

Hydraulic Clamp ：GBF Clamp
Hydraulic Unit ：CP□□ Unit
Air Valve Unit ：MV30□2 Valve Unit



Model No. Indication

GBF 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
400：Clamping Force= 400kN
500：Clamping Force= 500kN

2 Design No.

0：Revision Number

3 Slide Stroke

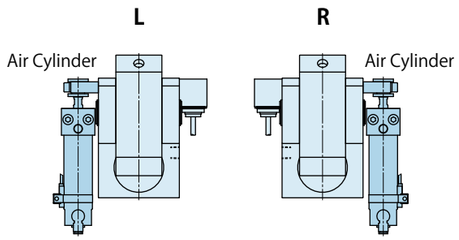
50：Slide Stroke 50mm
125：Slide Stroke 125mm

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/external dimensions.

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 Mold) ※1
N：NPT Port ※2
Q：Double Cylinder
R：Longer D Dimension of T-Leg
S：Special Spacer
U：With Grease Nipple
V：High Temperature (0~120℃)

Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

6 Production Number

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

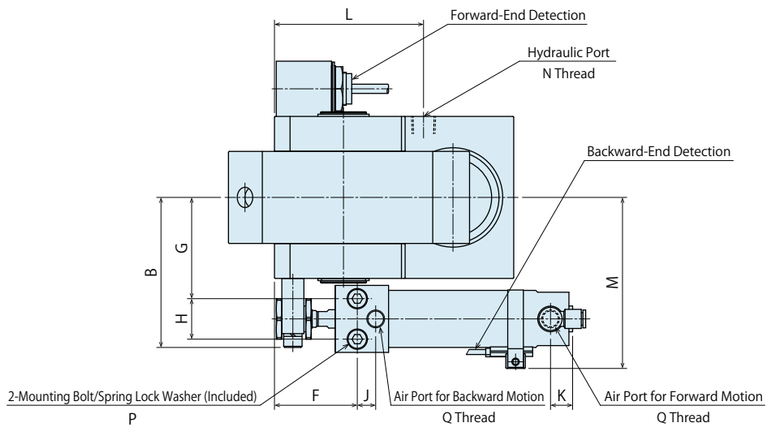
Specifications

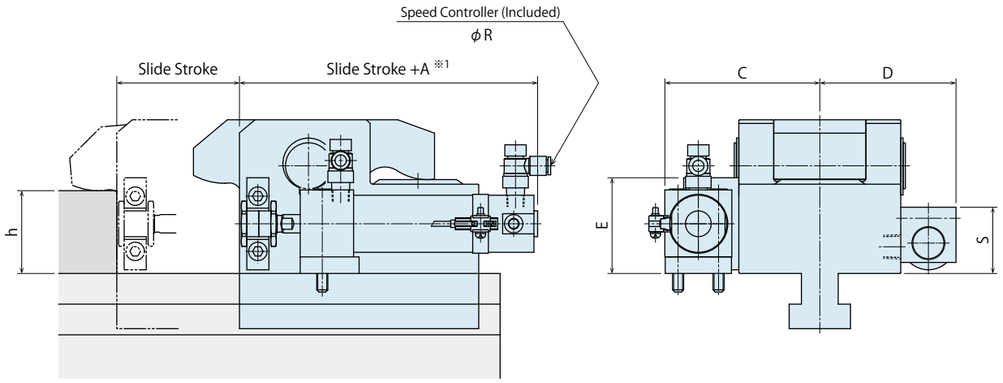
Model No.		GBF0250	GBF0400	GBF0630	GBF1000	GBF1600	GBF2500	GBF4000	GBF5000
GBC Model No.		GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500	GBC4000	GBC5000
Clamping Force	kN	25	40	63	100	160	250	400	500
Working Pressure	MPa	25 (For Rated Clamp Force)							
Withstanding Pressure	MPa	37							
Slide Stroke Range	mm	25~200	25~200	50~200	50~200	50~300	50~300	50~300	50~300
Full Stroke	mm	10	12	15	15.5	16	16	16	16.5
Clamp Stroke	mm	1.5	3.5	1	1.5	2	2	2	2.5
Extra Stroke	mm	8.5	8.5	14	14	14	14	14	14
Cylinder Capacity (At Full Stroke)	cm^3	10	19	38	63	105	160	253	331
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)							
Use Frequency ※4		Less than 20 Cycles / Day							
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32							
Min. T-Slot Width a (JIS) ※8	mm	14	18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※8	mm	32	42	42	54	54	54	54	48 (2 T-Legs)

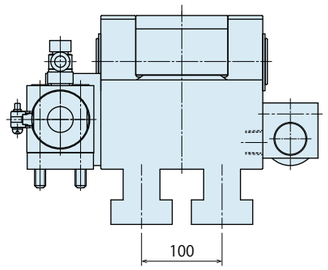
Notes
※3. Option **V**: High Temperature (0~120℃) is for operating in temperatures of 70℃ or more.
※4. Please contact us for more frequent use.
※5. Please contact us for fluids other than those mentioned on the list.
※6. If hydraulic viscosity is higher than specified, action time will be longer.
※7. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
※8. 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.
1. Please refer to GBC clamp pages (p. 19-24) for details of clamp body.

External Dimensions

※ This drawing shows GBF0250 ~ GBF4000 standard model.
Contact us for external dimensions for options.
Please refer to GBC clamp pages (p. 19-24) for details of clamp body.





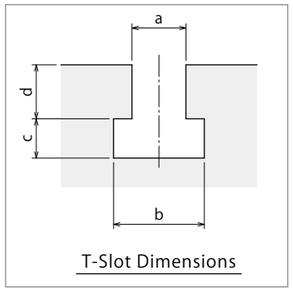


※ GBF5000 has two T-legs.
Contact us for external dimensions for options.
Please refer to GBC clamp pages (p. 19-24) for details of clamp body.

Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

T-Slot Dimensions



External Dimensions

(mm)

Model No.	GBF0250	GBF0400	GBF0630	GBF1000	GBF1600	GBF2500	GBF4000	GBF5000
GBC Clamp Model No.	GBC0250	GBC0400	GBC0630	GBC1000	GBC1600	GBC2500	GBC4000	GBC5000
Full Stroke	10	12	15	15.5	16	16	16	16.5
Clamp Stroke	1.5	3.5	1	1.5	2	2	2	2.5
Extra Stroke	8.5	8.5	14	14	14	14	14	14
A ※1	105	105	112	118	136	157	184	184
B	60.5	65.5	81.5	92.5	112	137	189	201.5
C	63.5	68.5	84.5	94.5	116.5	142	218.5	231
D	59	64	74	78.5	88.5	102	117.5	130
E	37	37	52	58	70.5	81	119	119
F	39	39	45	46	56	64	57	57
G	39	44	55	61	74	89	106.5	119
H	18	18	22	24	32	41	96	96
J	9	9	10	13	14	16	36	36
K ※1	12	12	12	12	12	14	19	19
L	75.5	93.5	81	91	126	170.5	215	250
M	72.5	77.5	93	103.5	125	150.5	213.5	226
N	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
P	M5x0.8x40	M5x0.8x40	M6x1x50	M8x1.25x55	M10x1.5x70	M12x1.75x85	M16x2x130	M16x2x130
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc3/8	Rc3/8
R ※2	6	6	6	6	6	10	10	10
S	40.5	40.5	36	36	36	36	36	36
min. h	25	25	30	40	40	45	50	60
max. h	50	50	60	70	80	80	85	85

Notes

※1. "A" and "K" dimensions are different when exceeding the stroke value written in the list. Please contact us for detail.
※2. For -N:NPT Port, "R" dimension is in inches.
1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.
2. When making an order, please indicate a, b, c, d dimension of T-slot and h dimensions of clamping mold thickness.
3. Please refer to GBC clamp pages (p. 19-24) for unlisted dimensions.

Slide Stroke List

Model No.	Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GBF0250	○	○	○	○	○	○	○		
GBF0400	○	○	○	○	○	○	○		
GBF0630		○	○	○	○	○	○		
GBF1000		○	○	○	○	○	○		
GBF1600		○	○	○	○	○	○	○	○
GBF2500		○	○	○	○	○	○	○	○
GBF4000		○	○	○	○	○	○	○	○
GBF5000		○	○	○	○	○	○	○	○

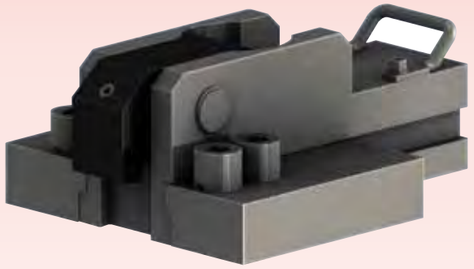
Note:

1. "A" and "K" dimensions are different when exceeding the stroke value written in the list. Please contact for detail.

Hydraulic Clamp

Manual-Slide in the Block

Model **GBM**

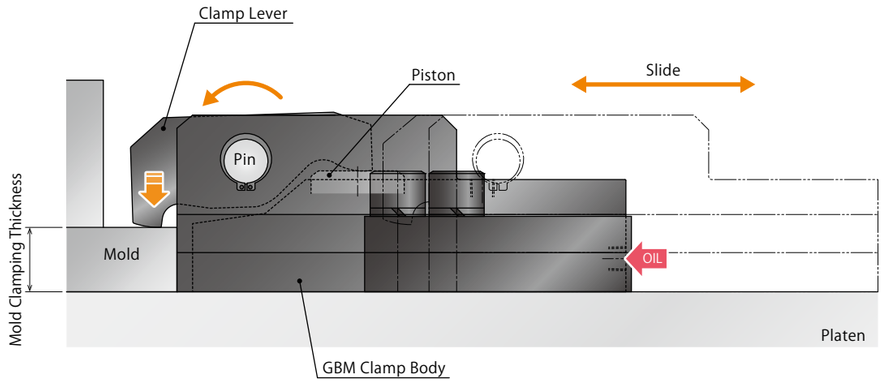


Hydraulic Clamp for an IMM without T-Slot

Suitable For Molds with Different Width

Longer stroke allows for variation in mold clamping thicknesses.

Action Description



Locking Operation

Slide GBM clamp to the mold by hand.
When hydraulic pressure is supplied,
the piston lifts up, and the clamp lever
pivots on the pin and locks the mold.

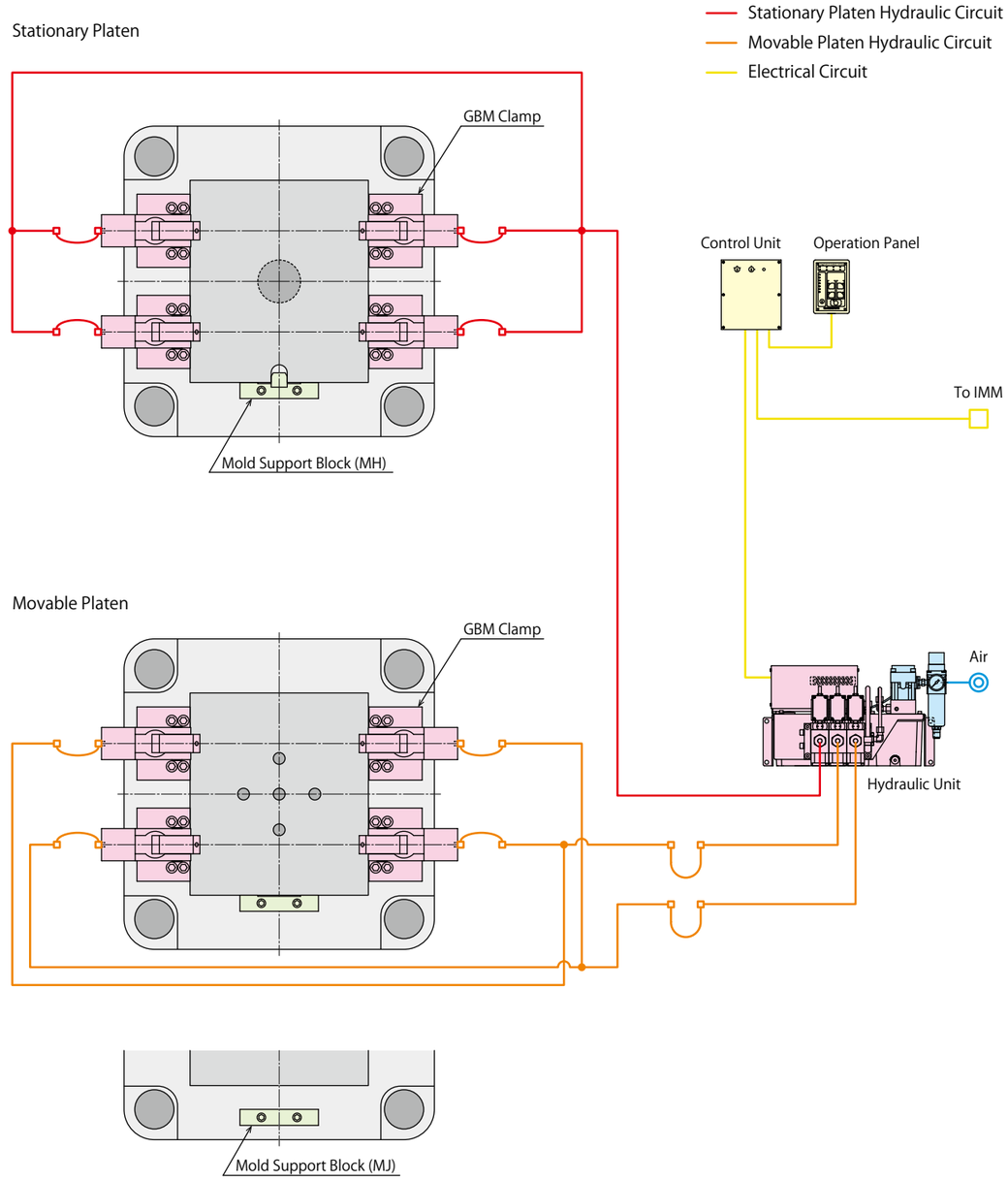
Releasing Operation

When hydraulic pressure is released,
the piston descends with built-in spring
force, and the clamp lever becomes
released state with the lever return spring.
Slide GBM clamp back by hand.

System Structure Example

The basic structure with GBM clamp that is slid manually in the fixed block.
This system is able to control one stationary platen circuit and two movable platen circuits by three-circuit hydraulic unit.

Hydraulic Clamp ：GBM Clamp
Hydraulic Unit ：CP□□ Unit



Model No. Indication

GBM 040 0 - 30 - P - 5

1 2 3 4 5

1 Clamping Force

025 : Clamping Force= 25kN
040 : Clamping Force= 40kN
063 : Clamping Force= 63kN
100 : Clamping Force= 100kN
160 : Clamping Force= 160kN

2 Design No.

0 : Revision Number

3 Mold Clamping Thickness

30 : Mold Clamping Thickness h=30mm
50 : Mold Clamping Thickness h=50mm

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

H : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
L□ : Wide Lever (For U-Cut of Mold) ※1
N : NPT Port ※2
P : With Mold Confirmation Proximity Switch
V : High Temperature (0~120℃)
X : With Cover

Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches. Only mold clamping thickness is indicated by the symbol which is converted into millimeters.

5 Switch Load Voltage (Current) Enter this only when selecting Option 3 P: With Mold Confirmation Proximity Switch.

5 : DC24V (5~40mA)

Notes
1. Please contact us for specifications and external dimensions for these options.
2. Allowable range of mold clamping thickness differs depending on the clamping force.

Specifications

Model No.		GBM0250	GBM0400	GBM0630	GBM1000	GBM1600
Clamping Force	kN	25	40	63	100	160
Working Pressure	MPa	25 (For Rated Clamp Force)				
Withstanding Pressure	MPa	37				
Actual Slide Stroke	mm	50	75	100	125	150
Full Stroke	mm	10	12	15	15.5	16
Clamp Stroke	mm	1.5	3.5	1.5	1.5	2
Extra Stroke	mm	8.5	8.5	13.5	14	14
Cylinder Capacity (At Full Stroke)	cm^3	10	19	38	63	105
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)				
Use Frequency ※4		Less than 20 Cycles / Day				
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32				

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

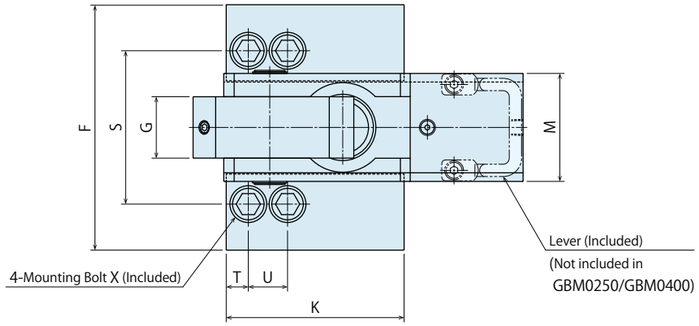
Allowable Range of Mold Clamping Thickness

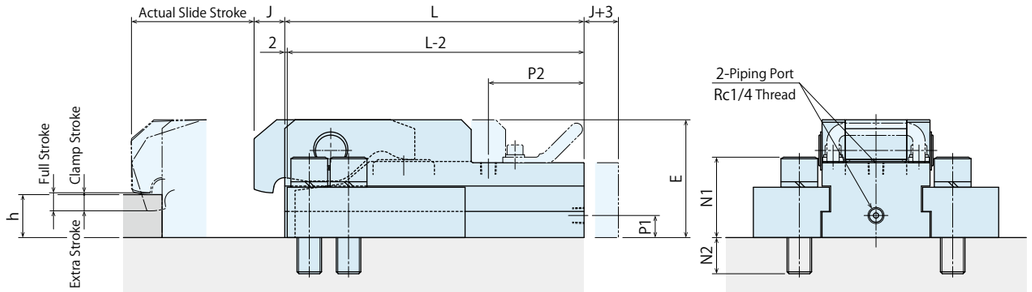
Mold Clamping Thickness h Dimension	GBM0250	GBM0400	GBM0630	GBM1000	GBM1600
25	20~25	-	-	-	-
30	25~30	25~30	-	-	-
35	30~35	30~35	25~35	-	-
40	35~40	35~40	30~40	-	-
45	40~45	40~45	35~45	35~45	-
50	-	45~50	40~50	40~50	40~50
55	-	-	45~55	45~55	45~55
60	-	-	50~60	50~60	50~60
65	-	-	55~65	55~65	55~65
70	-	-	-	60~70	60~70
75	-	-	-	65~75	65~75
80	-	-	-	70~80	70~80

Note:
1. When selecting 4 Option N, the mold clamping thickness h dimension will be converted into millimeters .

External Dimensions

※ This drawing shows GBM0250 ~ GBM1600 standard model.
Contact us for external dimensions for these options.





Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

External Dimensions

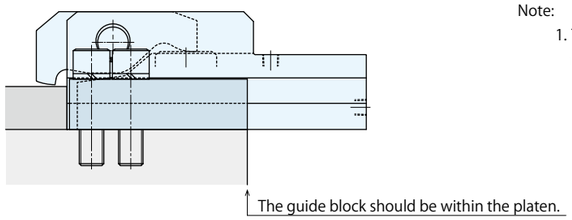
(mm)

Model No.	GBM0250	GBM0400	GBM0630	GBM1000	GBM1600
Actual Slide Stroke	50	75	100	125	150
Full Stroke	10	12	15	15.5	16
Clamp Stroke	1.5	3.5	1.5	1.5	2
Extra Stroke	8.5	8.5	13.5	14	14
E	73	83	96	130.5	143
F	125	150	200	250	285
G	32	38	50	53	60
J	21	22	25	30	30
K	95	115	145	190	225
L	145	190	244	312	372
M	58	68	88	97	117
N1	45.2	57	65.5	76	91.3
N2	16.8	24	29.5	38	48.7
P1	18	20	18	28	24.5
P2	37	55	78	108	128
S	80	100	125	150	175
T	12	15	18	23	30
U	20	25	32	40	50
X	M12 x 1.75 x 50	M16 x 2 x 65	M20 x 2.5 x 75	M24 x 3 x 90	M30 x 3.5 x 110
min. h	20	25	25	35	40
max. h	45	50	65	80	80

Note:

1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.

GBM Clamp The Allowable Protrusion Amount



Note:

1. The guide block of GBM clamp should be within the platen when mounting.

Hydraulic Clamp

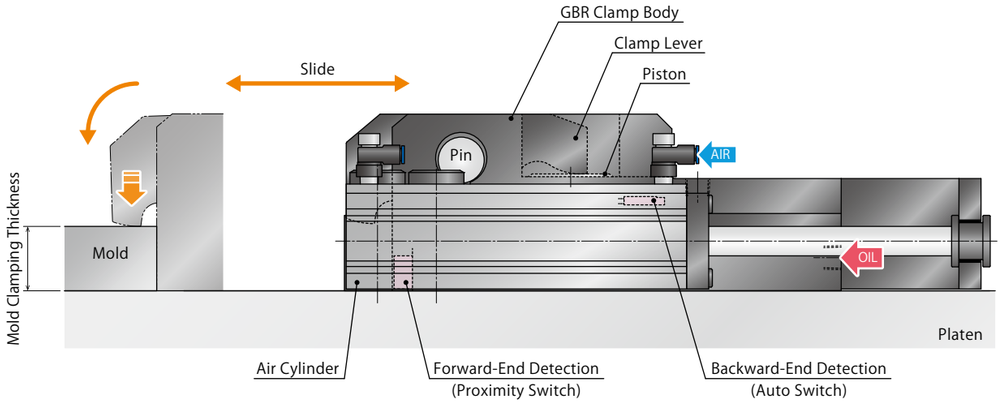
Automatic-Slide in the Block

Model **GBR**

Hydraulic Clamp for an IMM without T-Slot

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

Action Description



Locked State

GBR clamp moves forward with the air supply to the air cylinder.
Supply hydraulic pressure after mold detection of proximity switch.
The piston is lifted up, and the clamp lever pivots on the pin and locks the mold.

Forward End Detection	ON
Backward End Detection	OFF

Released State

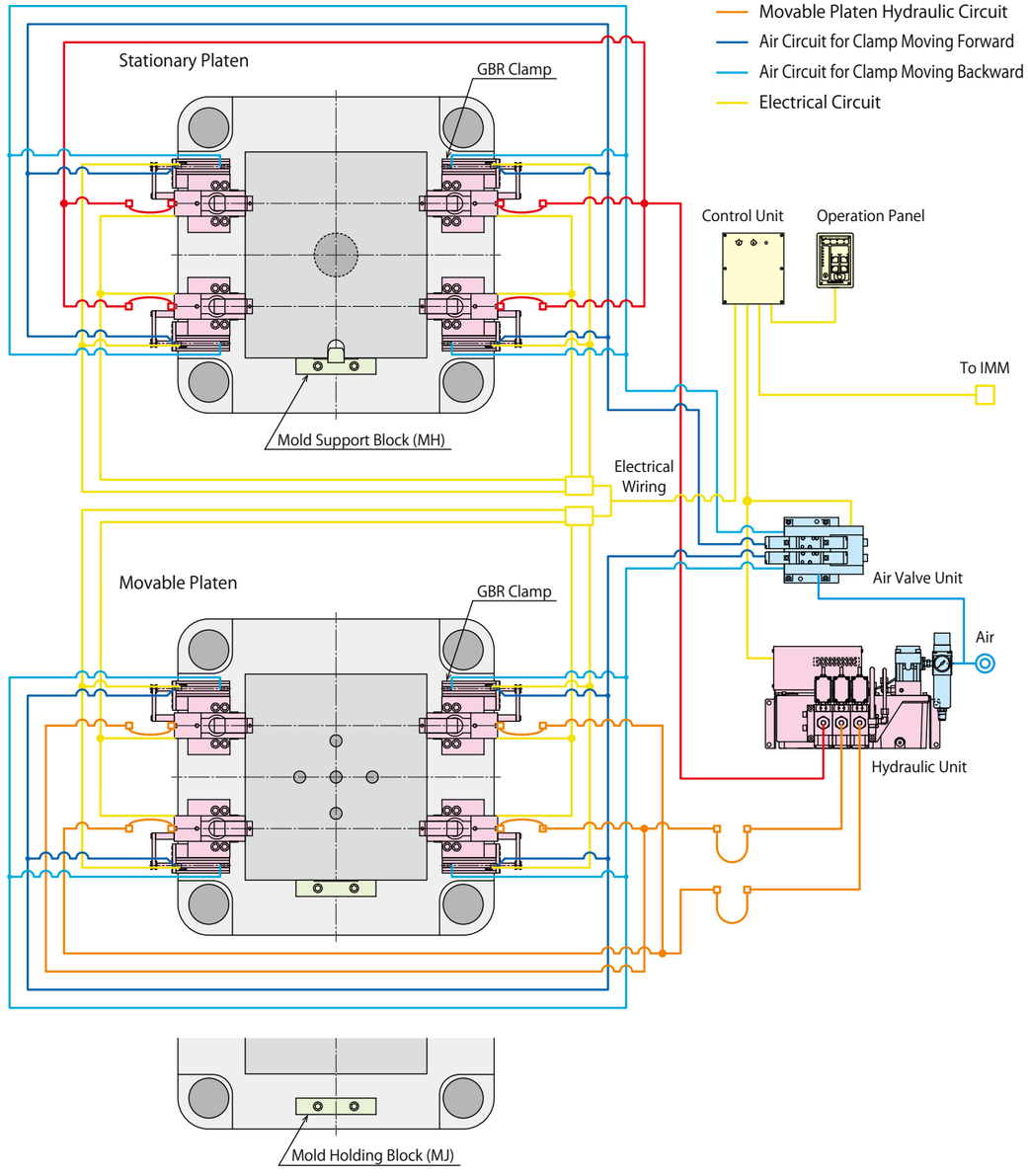
When hydraulic pressure is released, the piston descends with built-in spring force and the clamp lever is at released state.
After that, supply the air to the air cylinder and GBR clamp moves backward automatically.
(The backward-end detection switch detects that the GBR clamp moves backward.)

Forward End Detection	OFF
Backward End Detection	ON

System Structure Example

The basic structure with GBR clamp that is slid automatically in the fixed block by the air cylinder.
This system is able to control one stationary platen circuit and two movable stationary circuits by three-circuit hydraulic unit.

Hydraulic Clamp	:GBR Clamp
Hydraulic Unit	:CP□□ Unit
Air Valve Unit	:MV30□2 Valve Unit



Model No. Indication

GBR 040 0 - 30 - H - 5 L
1 2 3 4 5 6

1 Clamping Force

025 : Clamping Force= 25kN
040 : Clamping Force= 40kN
063 : Clamping Force= 63kN
100 : Clamping Force= 100kN
160 : Clamping Force= 160kN

2 Design No.

0 : Revision Number

3 Mold Clamping Thickness

30 : Mold Clamping Thickness h=30mm
50 : Mold Clamping Thickness h=50mm

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

H : Extra Height Body (When h dimension is more than max. h dimension shown in the external dimension.)
L□ : Wide Lever (For U-Cut of Mold) ※1
N : NPT Port ※2
P : With Mold Confirmation Proximity Switch
V : High Temperature (0~120℃)
X : With Cover

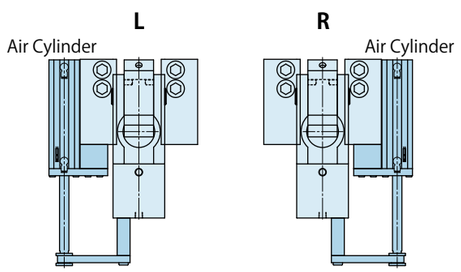
Notes
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

5 Switch Load Voltage (Current)

5 : DC24V (5～40mA)

6 Air Cylinder Mounting Position

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



Notes
1. Please contact us for specifications and external dimensions for these options.
2. Allowable range of mold clamping thickness differs depending on the clamping force.

Specifications

Model No.		GBR0250	GBR0400	GBR0630	GBR1000	GBR1600
Clamping Force	kN	25	40	63	100	160
Working Pressure	MPa	25 (For Rated Clamp Force)				
Withstanding Pressure	MPa	37				
Actual Slide Stroke	mm	50	75	100	125	150
Full Stroke	mm	10	12	15	15.5	16
Clamp Stroke	mm	1.5	3.5	1.5	1.5	2
Extra Stroke	mm	8.5	8.5	13.5	14	14
Cylinder Capacity (At Full Stroke)	cm^3	10	19	38	63	105
Operating Air Pressure	MPa	0.4～0.5				
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)				
Use Frequency ※4		Less than 20 Cycles / Day				
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32				

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

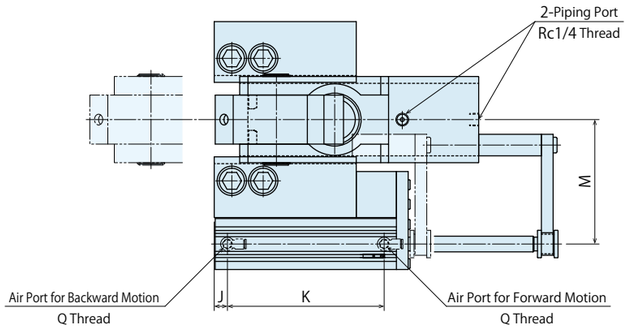
Allowable Range of Mold Clamping Thickness

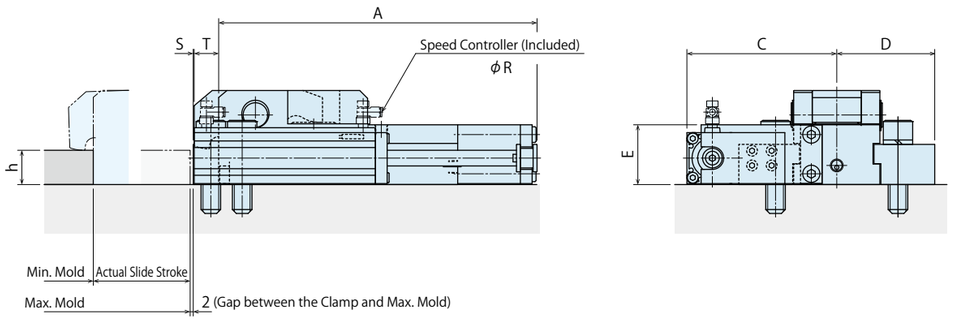
Mold Clamping Thickness h Dimension	GBR0250	GBR0400	GBR0630	GBR1000	GBR1600
25	20～25	-	-	-	-
30	25～30	25～30	-	-	-
35	30～35	30～35	25～35	-	-
40	35～40	35～40	30～40	-	-
45	40～45	40～45	35～45	35～45	-
50	-	45～50	40～50	40～50	40～50
55	-	-	45～55	45～55	45～55
60	-	-	50～60	50～60	50～60
65	-	-	55～65	55～65	55～65
70	-	-	-	60～70	60～70
75	-	-	-	65～75	65～75
80	-	-	-	70～80	70～80

Note:
1. When selecting 3 Option N, the mold clamping thickness h dimension will be converted into millimeters .

External Dimensions

※ This drawing shows GBR0250 ~ GBR1600 standard model.
Contact us for external dimensions for options.
Please refer to GBM clamp pages (p. 31-36) for details of clamp body.





Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/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.	GBR0250	GBR0400	GBR0630	GBR1000	GBR1600
Actual Slide Stroke	50	75	100	125	150
Full Stroke	10	12	15	15.5	16
Clamp Stroke	1.5	3.5	1.5	1.5	2
Extra Stroke	8.5	8.5	13.5	14	14
A	186	235.5	325	386	438
C	109	121.5	153	191	222
D	62.5	75	100	125	142.5
E	47	47	61	76	81
J	8.5	8.5	13.5	15.5	18.5
K	90	115	160	187.5	209
M	86	98.5	127	158.5	182
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc1/4
R	ϕ6	ϕ6	ϕ6	ϕ10	ϕ10
S	1	0.5	1	1	1
T	21	22	25	30	30
min. h	20	25	25	35	40
max. h	45	50	65	80	80

Note:

1. If you would like to change the ratio of clamp stroke and extra stroke, please contact us.

Hydraulic Clamp

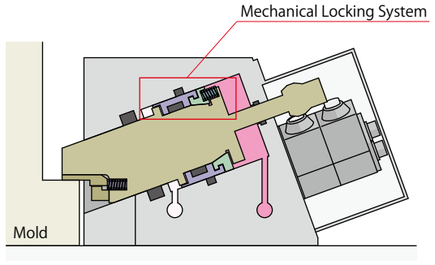
Fixed Bolt

Model **GWA**

Reliable Clamp with Built-in Mechanical Locking System

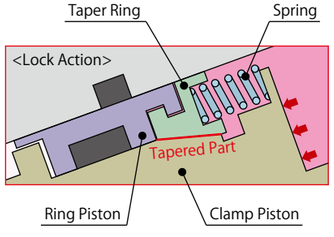
Highly reliable clamp with mechanical locking system maintains the holding force even when the locking pressure becomes zero.

Features and Action Description



The mechanical locking system prevents a mold from falling.

The built-in mechanical lock holds the mold with a powerful holding force even when the locking pressure drops to zero in case of piping damage etc.

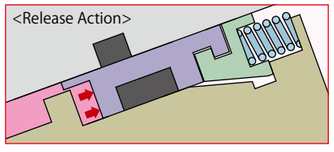


<Lock Action>

The taper ring expanded to the tapered part of the clamp piston by the lock hydraulic pressure and spring force. (Mechanical Locking).
Oil bath structure avoids the taper ring sticking to the tapered part.

<Lock Hydraulic Pressure at 0MPa>

The clamp piston maintains the locked state with the holding pressure which is exerted by the mechanical locking system.



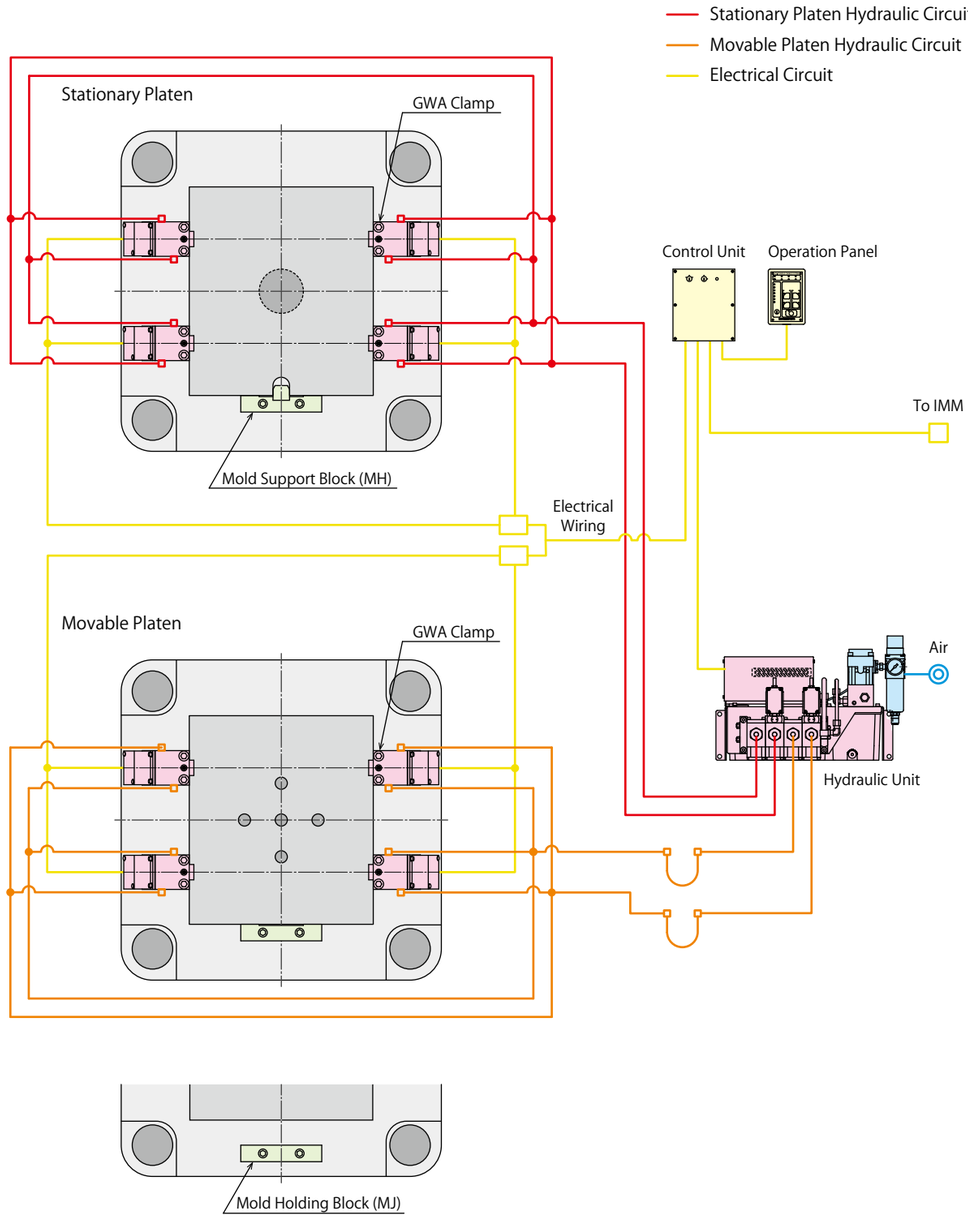
<Release Action>

With the release pressure, the ring piton pushes up the taper ring to operate the smooth release action.

System Structure Example

The basic structure with GWA fixed-bolt clamp.
The system is able to control one stationary platen circuit and movable platen circuit by two-circuit hydraulic unit.

Hydraulic Clamp :GWA Clamp
Hydraulic Unit :CP□□ Unit



Model No. Indication

GWA 040 0 - 30 M0 R - K V
1 2 3 4 5 6 7

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
400：Clamping Force= 400kN
500：Clamping Force= 500kN

2 Design No.

0 ：Revision Number

3 Mold Clamping Thickness

30：Mold Clamping Thickness h=30mm
50：Mold Clamping Thickness h=50mm

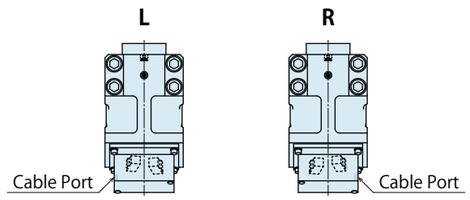
4 Wiring System

M0：Metallic Conduit ※1
M4：Metallic Conduit ※1 (With 4m Cable) ※2
C1：Conduit with ϕ16mm Hole
C2：Conduit with ϕ22mm Hole

Notes
※1. Use metallic conduit plug SCK-14 (Sanwa) for cable side.
※2. Cable end is composed of wires covered by a marker tube.

5 Piping/Wiring Connection Direction Both sides of the hydraulic ports are usable.

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



6 Electrical Rating

Blank：3A Rating
K ：For Extremely Small Load

7 Option

Blank：Standard (0～70℃)
V ：High Temperature (0～120℃)

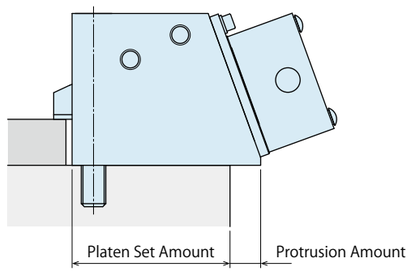
Specifications

Model No.		GWA0100	GWA0160	GWA0250	GWA0400	GWA0630	GWA1000	GWA1600	GWA2500	GWA4000	GWA5000
Clamping Capacity	kN	10	16	25	40	63	100	160	250	400	500
Clamping Force (At 14MPa)	kN	10	16	25	40	63	100	160	250	400	400
Holding Force (At 0MPa)	kN	4	6.3	10	16	25	40	64	100	160	160
Working Pressure	MPa	14.0									
Withstanding Pressure	MPa	21.0									
Extra Stroke	mm	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
Cylinder Capacity cm³	Lock	6	11	19	35	64	121	227	411	757	757
	Release	3	4	8	13	24	48	102	177	349	349
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)									
Use Frequency ※4		Less than 20 Cycles / Day									
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32									

Notes
※3. Option **V**: High Temperature (0~120℃) is for operating in temperatures of 70℃ or more.
※4. Please contact us for more frequent use.
※5. Please contact us for fluids other than those mentioned on the list.
※6. If hydraulic viscosity is higher than specified, action time will be longer.
※7. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
1. Do not exceed the clamp's capacity.
2. There is ±10% variation in holding force and clamping force.
3. The accuracy of the mold clamping thickness (h dimension) should be within ±0.5mm.

GWA Clamp The Allowable Protrusion Amount of Cylinder

For GWA0100 ～ GWA1000

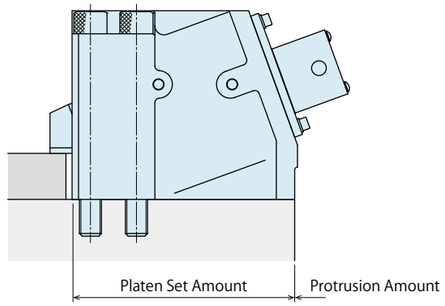


(mm)

Model No.	Min. Platen Set Amount	Allowable Protrusion Amount
GWA0100	46	35
GWA0160	55	38
GWA0250	84	23
GWA0400	61	62
GWA0630	75	65
GWA1000	120	35
GWA1600	205	0
GWA2500	245	0
GWA4000	305	0
GWA5000	305	0

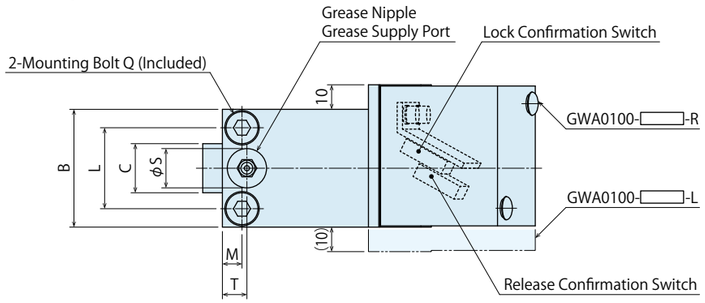
Note:
1. The dimensions listed above are reference.

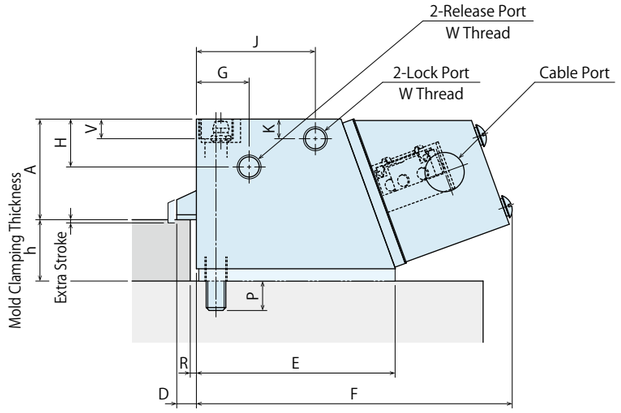
For GWA1600 ～ GWA5000



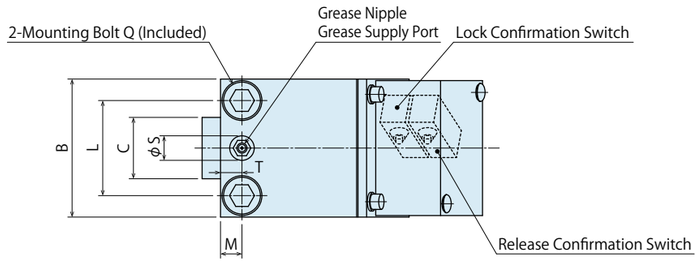
External Dimensions

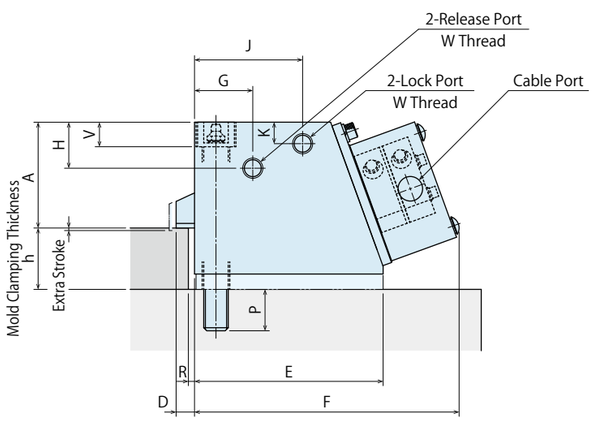
※ This drawing shows GWA0100-□-R.





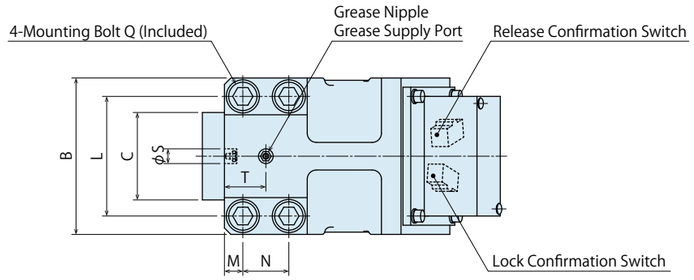
※ This drawing shows GWA0160 ～ GWA1000.

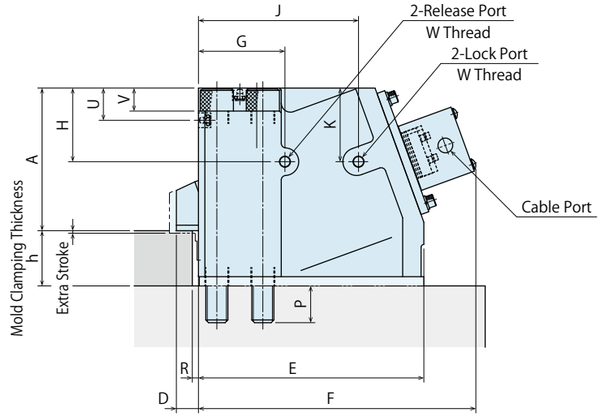




External Dimensions

※ This drawing shows GWA1600 ～ GWA5000.





External Dimensions

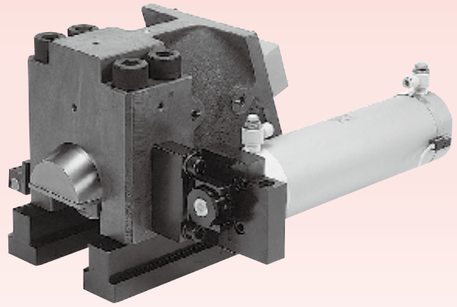
(mm)

Model No.	GWA0100	GWA0160	GWA0250	GWA0400	GWA0630	GWA1000	GWA1600	GWA2500	GWA4000	GWA5000
Extra Stroke	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
A	41	48	56	69	82	98	128	155	195	195
B	48	58	72	90	110	135	138	170	215	215
C	20	25	31.5	40	50	63	75	95	118	118
D	8	9	10	12	14	17	20	24	28	28
E	81	93	107	123	140	152	205	245	305	305
F	129	140	150	173	194	208	256	302	355	355
G	21.5	28	30.5	38	41	44	80	94	119	119
H	19.5	23	24	30	33	50	63	80	90	90
J	48.5	56.5	64	70.5	83	102	143.5	174	208	208
K	8	9.5	17	14	22	50	63	80	90	90
L	33	39	50	62	76	95	104	130	162	162
M	8	9.5	11	14	17	20	17	20	27	27
N	-	-	-	-	-	-	40	50	60	60
P	12	17	21	27	33	36	33	40	50	50
Q	M8 x 1.25	M10 x 1.5	M12 x 1.75	M16 x 2	M20 x 2.5	M24 x 3	M20 x 2.5	M24 x 3	M30 x 3.5	M33 x 3.5
R	1.5	1.5	2	2	3	3	5	5	5	5
S	16	16	16	16	16	16	16	16	16	16
T	10	12	11	14	15	20	40	45	65	65
U	-	-	-	-	-	35	35	35	40	40
V	8	10	12	16	20	24	21	25	35	35
W	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
h (Standard)	$20^{\pm0.5}$	$20^{\pm0.5}$	$30^{\pm0.5}$	$30^{\pm0.5}$	$35^{\pm0.5}$	$40^{\pm0.5}$	$40^{\pm0.5}$	$50^{\pm0.5}$	$50^{\pm0.5}$	$50^{\pm0.5}$

Hydraulic Clamp

T-Slot Automatic-Slide

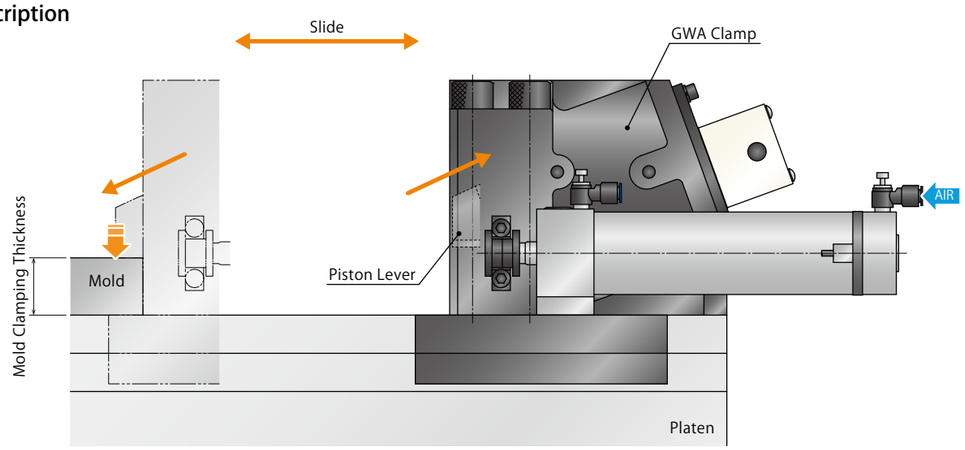
Model **GLA**



Automatic Slide Model of GWA Clamp

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

Action Description



Locked State

GLA clamp moves forward with the air supply to the air cylinder. The piston lever moves forward and clamps the mold with the pressure supply to the lock port. Clamp action can be confirmed by the limit switch inside the clamp.

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

Released State

Release the locking pressure and supply the hydraulic pressure to the release port. The lever is retracted and set inside the clamp body. After that, the clamp is moved backward by the air cylinder.

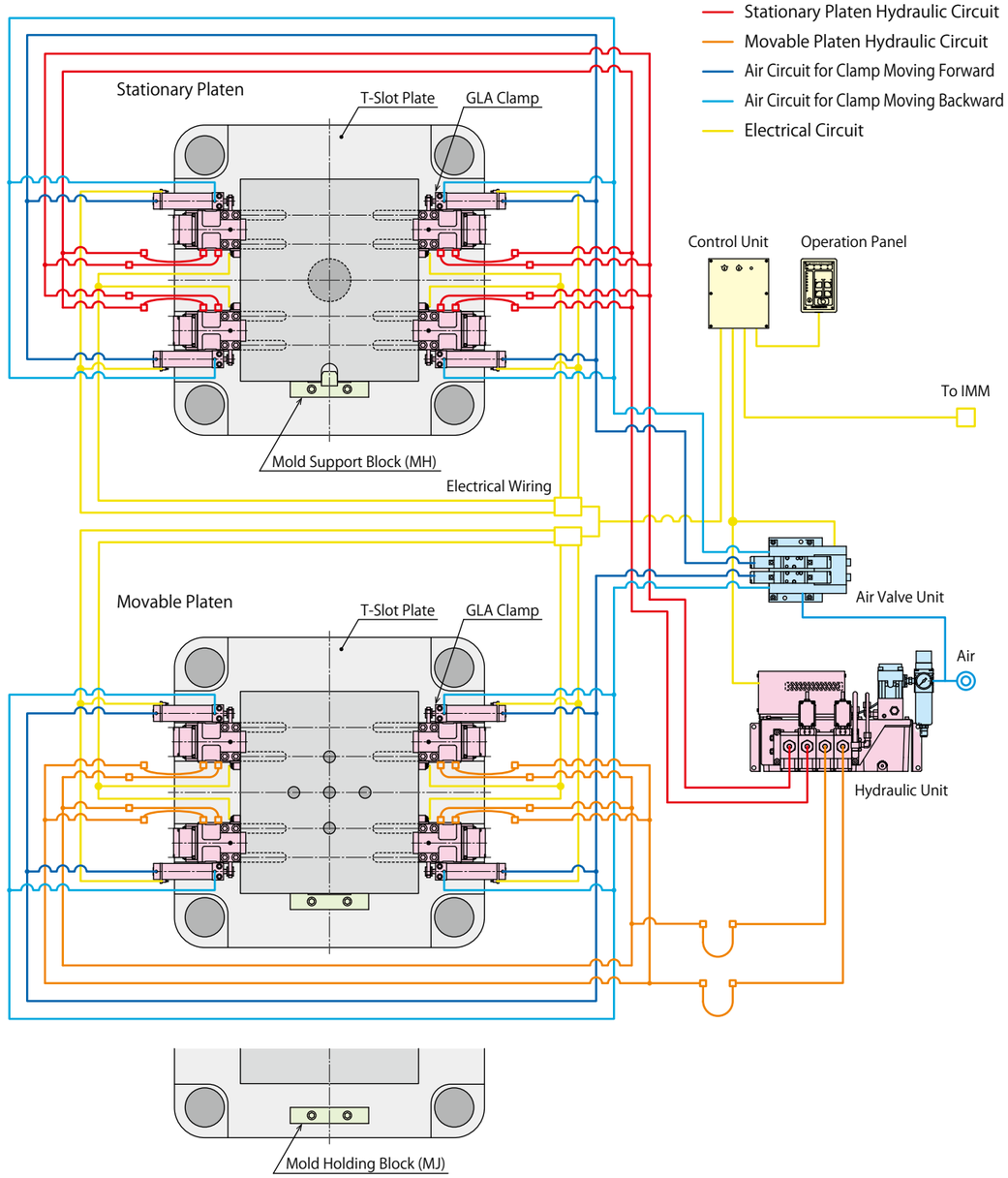
Forward End Detection	OFF
Backward End Detection	**ON**

※ We provide GLA clamp according to the mold clamping thickness and T-slot dimension.
Please refer to the external dimensions for detail.

System Structure Example

The basic structure with GLA clamp that is slid automatically in the T-slot by the air cylinder.
This system is able to control one stationary platen circuit and movable stationary circuit by two-circuit hydraulic unit.

Hydraulic Clamp	:GLA Clamp
Hydraulic Unit	:CP□□ Unit
Air Valve Unit	:MV30□2 Valve Unit



Model No. Indication

GLA 250 0 - 50 M0 - 200 - 5 K L - V - S□□□□

1 2 3 4 5 6 7 8 9 10

1 Clamping Force

160 : Clamping Force= 160kN
250 : Clamping Force= 250kN
400 : Clamping Force= 400kN
500 : Clamping Force= 500kN

2 Design No.

0 : Revision Number

3 Mold Clamping Thickness

40 : Mold Clamping Thickness h=40mm
50 : Mold Clamping Thickness h=50mm

4 Wiring System

M0 : Metallic Conduit ※1
M4 : Metallic Conduit ※1 (With 4m Cable) ※2
C1 : Conduit with ϕ16mm Hole
C2 : Conduit with ϕ22mm Hole

Notes
※1. Use metallic conduit plug SCK-14 (Sanwa) for cable side.
※2. Cable end is composed of wires covered by a marker tube.

5 Slide Stroke

※ Please select the slide stroke taking a margin into consideration.

075 : Slide Stroke 75mm
200 : Slide Stroke 200mm

6 Switch Load Voltage (Current)

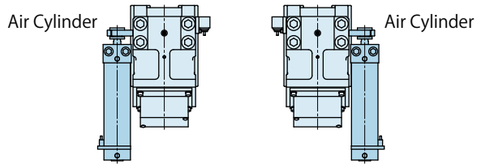
1 : AC100V
2 : AC200V
5 : DC24V (5~40mA)

7 Electrical Rating

Blank : 3A Rating
K : For Extremely Small Load

8 Air Cylinder Mounting Position

L : Left Side as Seen from Cylinder Back Side
R : Right Side as Seen from Cylinder Back Side



9 Option

Blank : Standard
Q : Double Cylinder
V : High Temperature (0~120℃)

10 Production Number

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

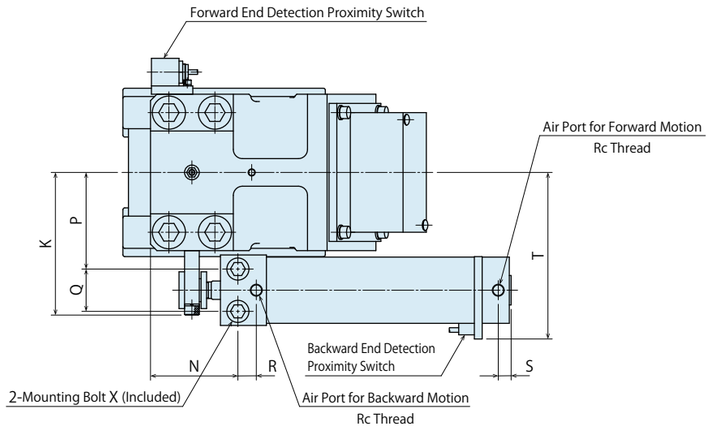
Specifications

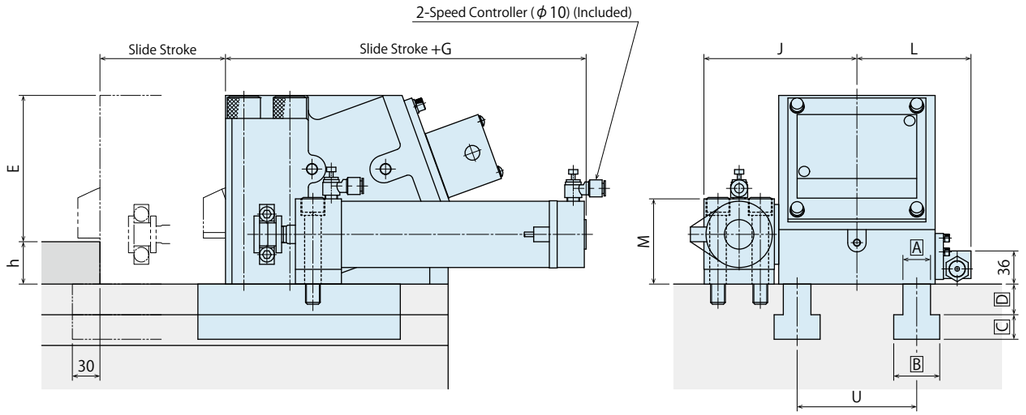
Model No.		GLA1600	GLA2500	GLA4000	GLA5000
GWA Clamp Model No.		GWA1600	GWA2500	GWA4000	GWA5000
Clamping Capacity	kN	160	250	400	500
Clamping Force (At 13.7MPa)	kN	160	250	400	400
Slide Stroke	mm	50~300			
Operating Air Pressure	MPa	0.39~0.49			
Operating Temperature ※3	℃	0~70 (High temperature option is available for 0~120℃)			
Use Frequency ※4		Less than 20 Cycles / Day			
Pressurizing Agent ※5 ※6 ※7		General Hydraulic Oil Equivalent to ISO-VG-32			
Min. T-Slot Width a (JIS) ※8	mm	28	32	42	42

Notes
※3. Option **V**: High Temperature (0~120℃) is for operating in temperatures of 70℃ or more.
※4. Please contact us for more frequent use.
※5. Please contact us for fluids other than those mentioned on the list.
※6. If hydraulic viscosity is higher than specified, action time will be longer.
※7. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
※8. 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.
1. Do not exceed the clamp's capacity.
2. There is ±10% variation in holding force and clamping force.
3. The accuracy of the mold clamping thickness (h dimension) should be within ±0.5mm.
4. Please refer to GWA clamp pages (p. 43-48) for details of clamp body.

External Dimensions

※ This drawing shows GLA1600~ GLA5000 standard model.
Contact us for external dimensions for these options.
Please refer to GWA clamp pages (p. 43-48) for details of clamp body.

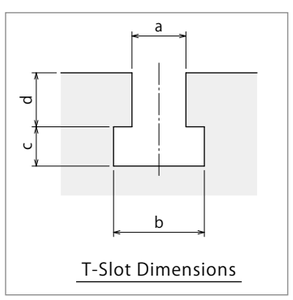




Notes

1. Do not exceed the clamping force on the specification.
2. Specifications/Contents in this catalog are subject to change without prior notice. Ask for the approval drawing before deciding to purchase.

T-Slot Dimensions



External Dimensions

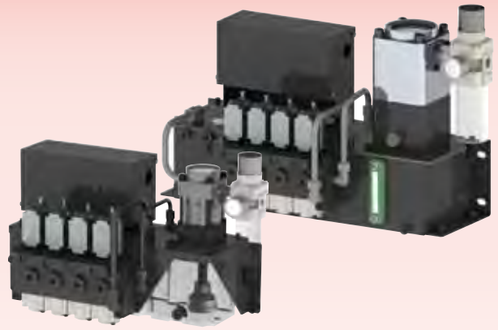
(mm)

Model No.		GLA1600	GLA2500	GLA4000	GLA5000
GWA Clamp Model No.		GWA1600	GWA2500	GWA4000	GWA5000
Extra Stroke		1.5	1.5	1.5	1.5
E		128	155	195	195
G		178	192	228.5	228.5
J		139	166.5	273	273
K		134	155.5	222.5	222.5
L		108	124	146.5	146.5
M		80.5	92.6	149	149
N		85	95	100	100
P		86	105	133	133
Q		41	46	120	120
R		16	20	37.5	37.5
S		14	14	19	19
T		152.5	181	260	260
U		104	130	162	162
X	Mounting Bolt	M12×1.75×85	M16×2×100	M20×2.5×160	M20×2.5×160
	Tap Machining	M12×1.75 Thread Depth 24	M16×2 Thread Depth 32	M20×2.5 Thread Depth 40	M20×2.5 Thread Depth 40
Rc		Rc1/4	Rc1/4	Rc1/2	Rc1/2

Notes

1. When making an order, please indicate a, b, c, d dimension of T-slot and h dimensions of clamping mold thickness.
2. Please refer to GWA clamp pages (p. 43-48) for unlisted dimensions.

Hydraulic Unit



Model CP□M-U / CP□N-UR
Model CQ□M-U / CQ□N-UR

Generates hydraulic pressure by supplying air pressure.

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

Applicable Clamp Models

GBB GBE GBC GBF GBM GBR

• Energy Saving

The pump drives (consumes the air pressure) only during pressurization. After the pressurization, air pressure and hydrualic pressure are balanced 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 preventing the mold from falling.

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

The set pressure: 25MPa is maintained by the pressure relief valve (BR valve) even when hydraulic pressure rises during IMM operation.

• Pressure Supply when Hydraulic Pressure Decreases

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

• A Wide Range of Variations

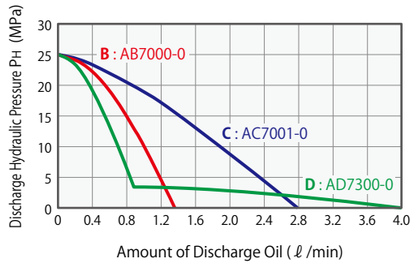
Select a tank from 5ℓ and 10ℓ and a pump from four variations for the most suitable hydraulic unit according to the clamp system.

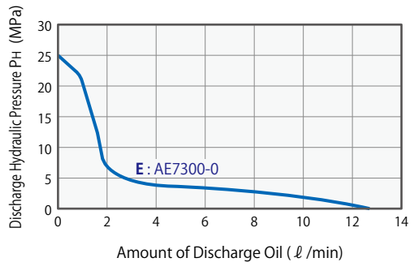
Specifications

Model No.			CPBM000	CPBN000	CPDM000	CPDN000	CPCM000	CPCN000	CPEM000	CPEN000	CQCM000	CQCN000	CQEM000	CQEN000
Working Hydraulic Pressure MPa			25											
Withstanding Pressure MPa			37											
Tank Capacity ℓ			5ℓ (Actual Amount for Use 3.7ℓ : H.L.5ℓ -L.L.1.3ℓ)								10ℓ (Actual Amount for Use 7ℓ : H.L.10ℓ -L.L.3ℓ)			
Operating Temperature ℃			0～70											
Use Frequency			Less than 20 Cycles / Day Pressure Rising Time : Less than 2.5 min. / Cycle											
Main Components	Pump	Model No.	AB7000-0		AD7300-0		AC7001-0		AE7300-0		AC7001-0		AE7300-0	
		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 m^3(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	174μm (100 Mesh)											
	Non-Leak Valve	Model No.	BA5011-0	BA5R11-0	BA5011-0	BA5R11-0	BA5011-0	BA5R11-0	BA5011-0 -Z00101	BA5R11-0 -Z00102	BA5001-0	BA5R01-0	BA5001-0 -Z00107	BA5R01-0 -Z00108
	Pressure Switch (For Clamp)	Model No.	JBA2700-0G											
		Operation Mode/Set Pressure MPa	INC. 17.6											
	Pressure Relief Valve	Model No.	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0	-	BR5N11-0
		Set Pressure MPa	-	25^{+2}_{0}	-	25^{+2}_{0}	-	25^{+2}_{0}	-	25^{+2}_{0}	-	25^{+2}_{0}	-	25^{+2}_{0}

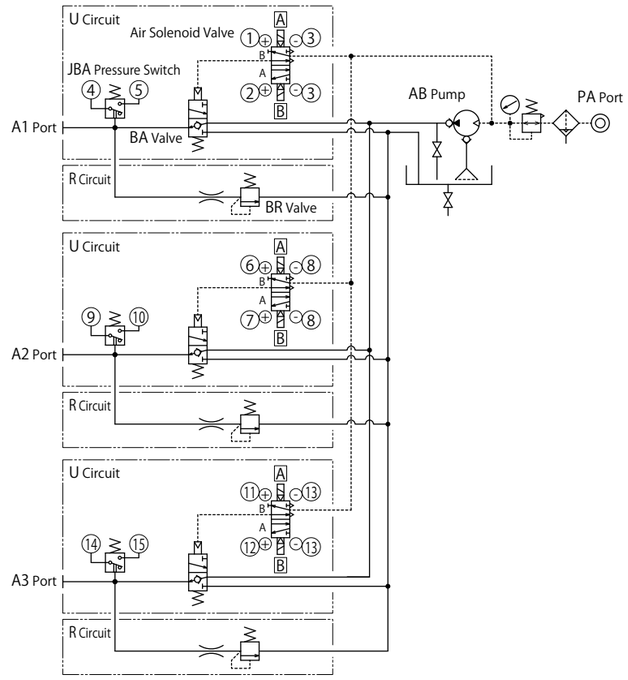
Notes
1. If hydraulic viscosity is higher than specified, action time will be longer. Please use equivalent hydraulic oil to ISO-VG-32
2. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
3. When setting a pressure gauge to a hydraulic circuit, install a damper or use an oil-filled (glycerin) pressure gauge in order to prevent damage caused by pressure surging.
4. Provide enough space at the top of the unit taking into consideration the maintenance of the pump.

Pump Performance Curve





Circuit Symbol This shows the circuit symbol of CPBN0□0-3UR-5.



Model No. Indication

C P B N 0 0 0 - 3UR - 5 - □

1 2 3 4 5 6 7 8

1 Unit

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

Note:
1. For Large Clamp Unit (10ℓ Tank), only 2 Pump Model C: AC pump and E: AE pump can be installed.

2 Pump Model

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

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

3 Pressure Code

M : Working Pressure 25MPa, Pressure Switch Set Pressure INC. 17.6MPa
N : Working Pressure 25MPa, Pressure Switch Set Pressure INC. 17.6MPa with Pressure Relief Valve

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 with the number of circuits and circuit symbol.)

U : For Clamp Double Solenoid
R : With Pressure Relief Valve

Note:
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

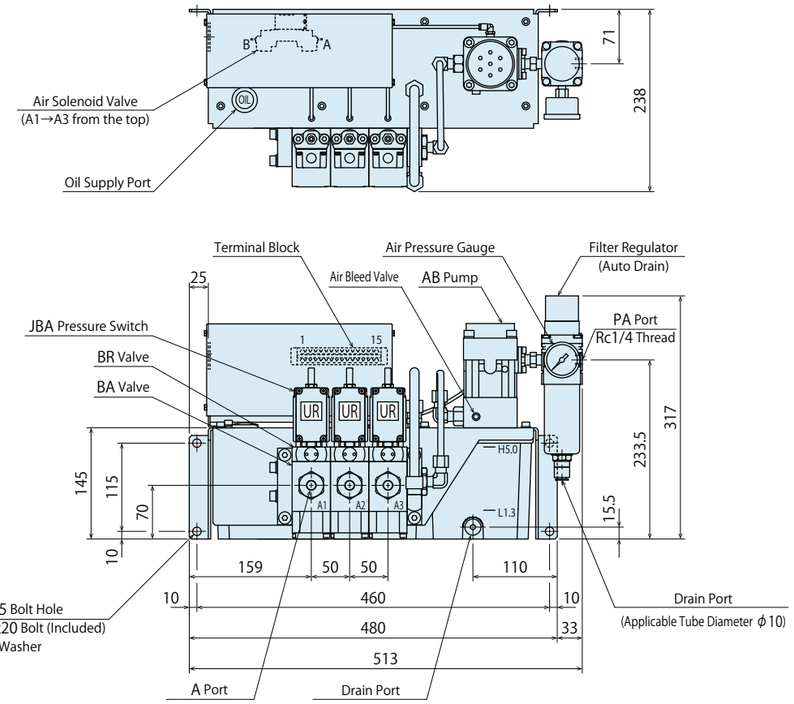
8 Option

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 ※1
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 5ℓ tank can be selected.) ※2

Notes
※1. When selecting 8 Option N: Piping Port NPT Thread, dimensions in the specification sheet and other documents are in inches.
※2. Iron Tank is the standard option for CQ□□:10ℓ Tank.
1. Please contact us for specifications and external dimensions for these options.
2. The external dimensions for five circuits and six circuits are different. Please contact us for detail.

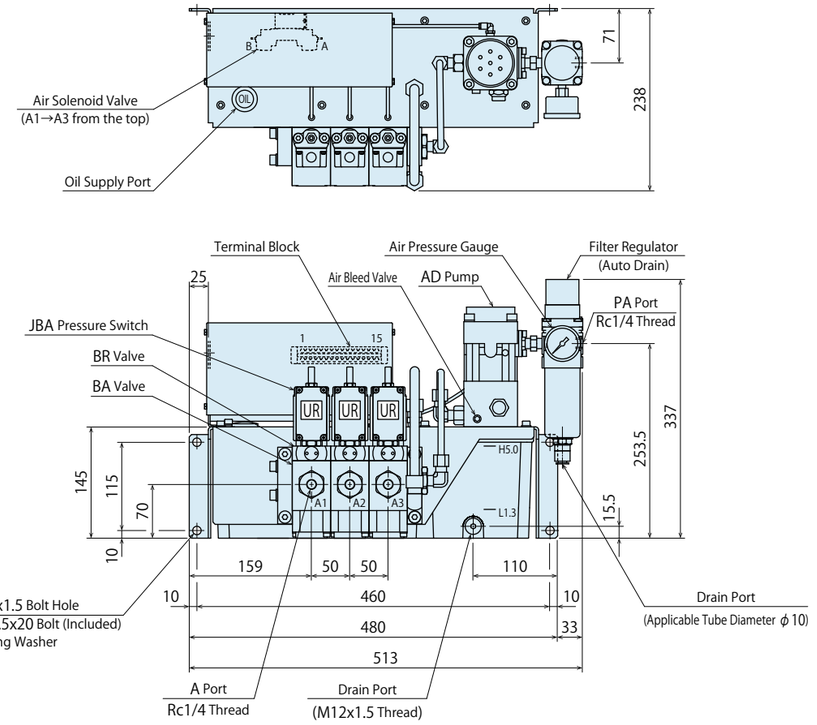
External Dimensions：CPB

※ This drawing shows CPBN000-3UR standard model.
Please contact us for external dimensions for options.



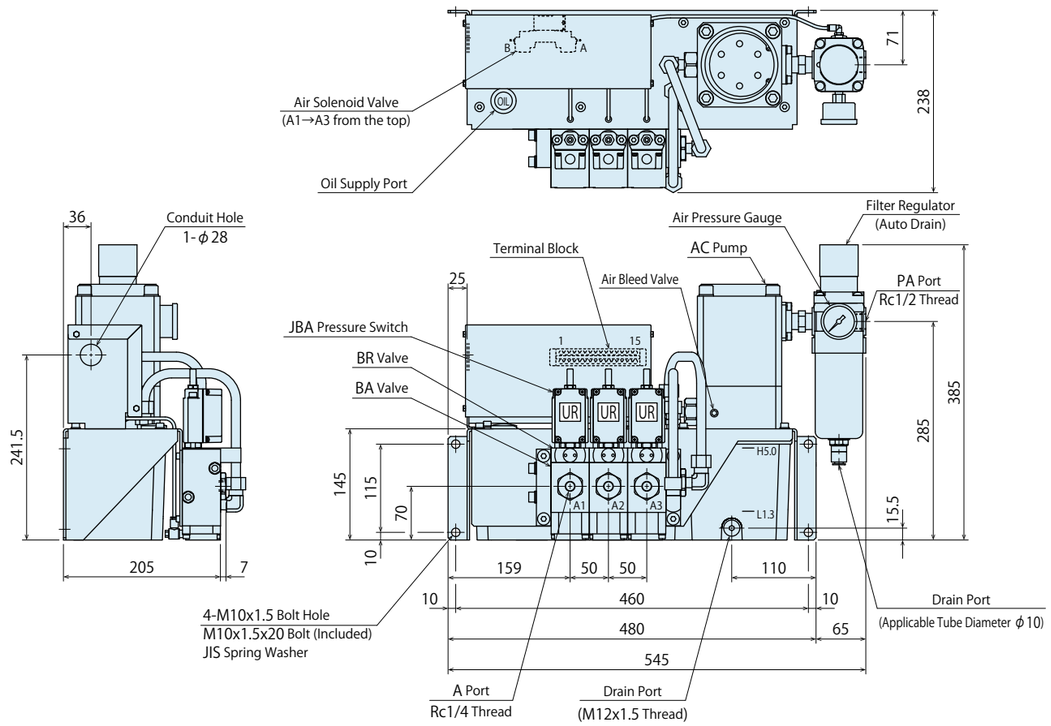
External Dimensions：CPD

※ This drawing shows CPDN000-3UR standard model.
Please contact us for external dimensions for options.



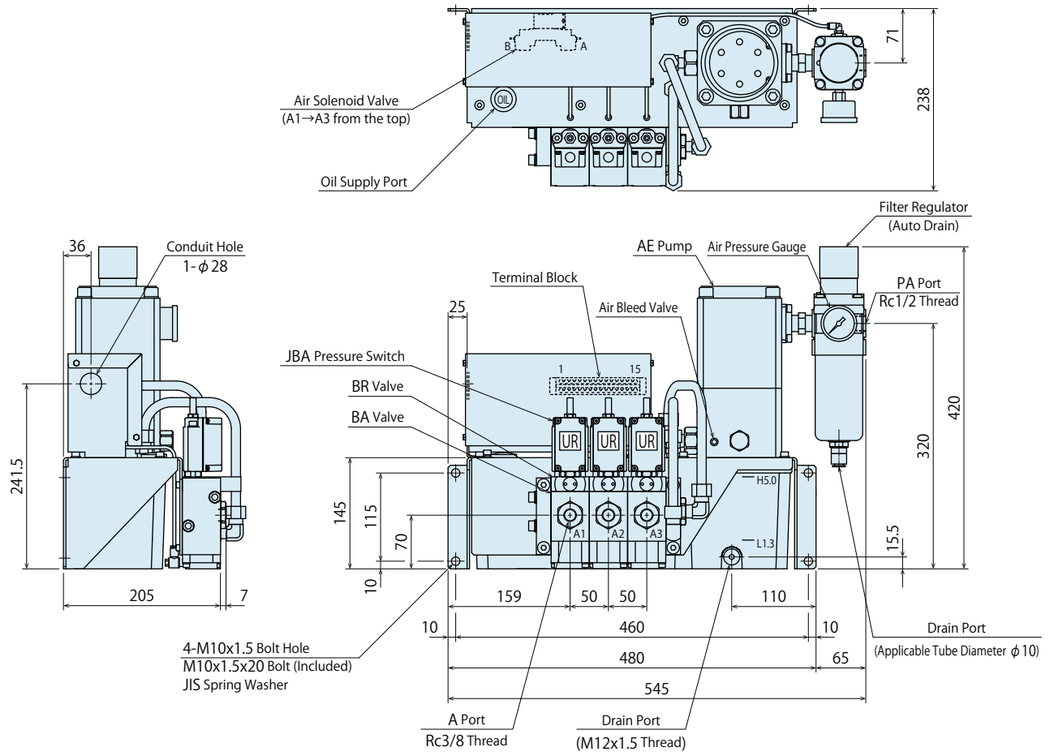
External Dimensions：CPC

※ This drawing shows CPCN000-3UR standard model.
Please contact us for external dimensions for options.



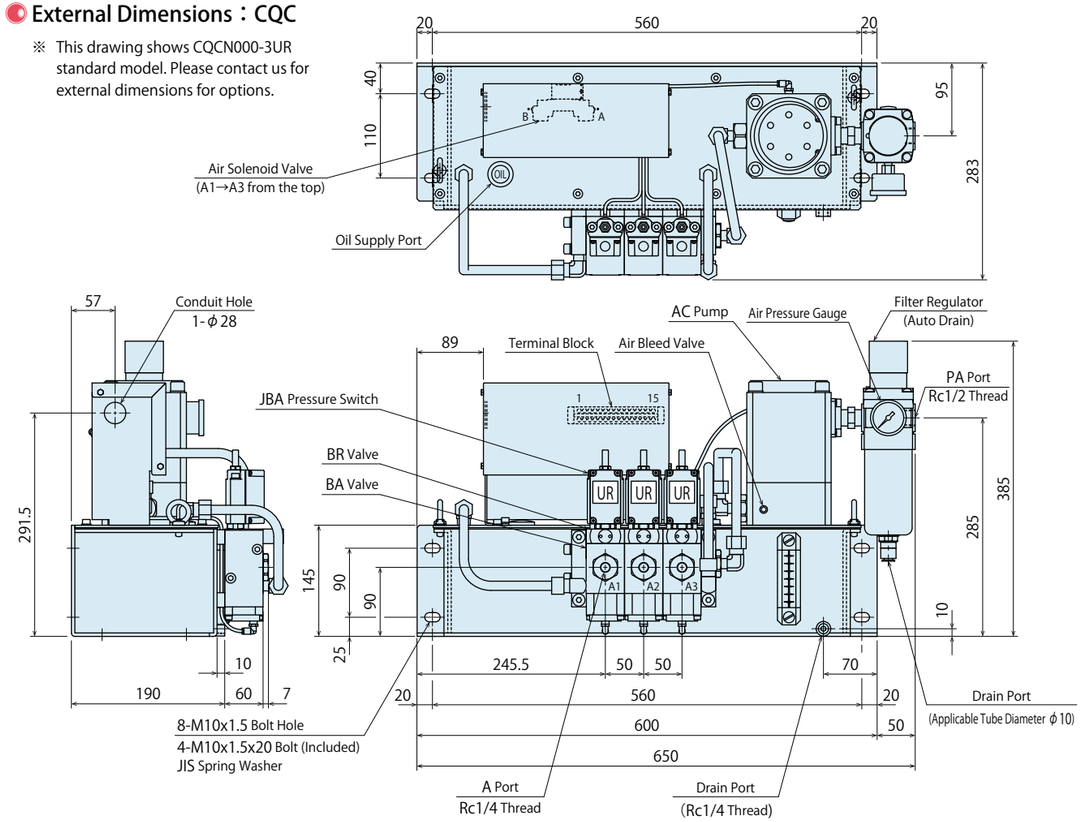
External Dimensions：CPE

※ This drawing shows CPEN000-3UR standard model.
Please contact us for external dimensions for options.



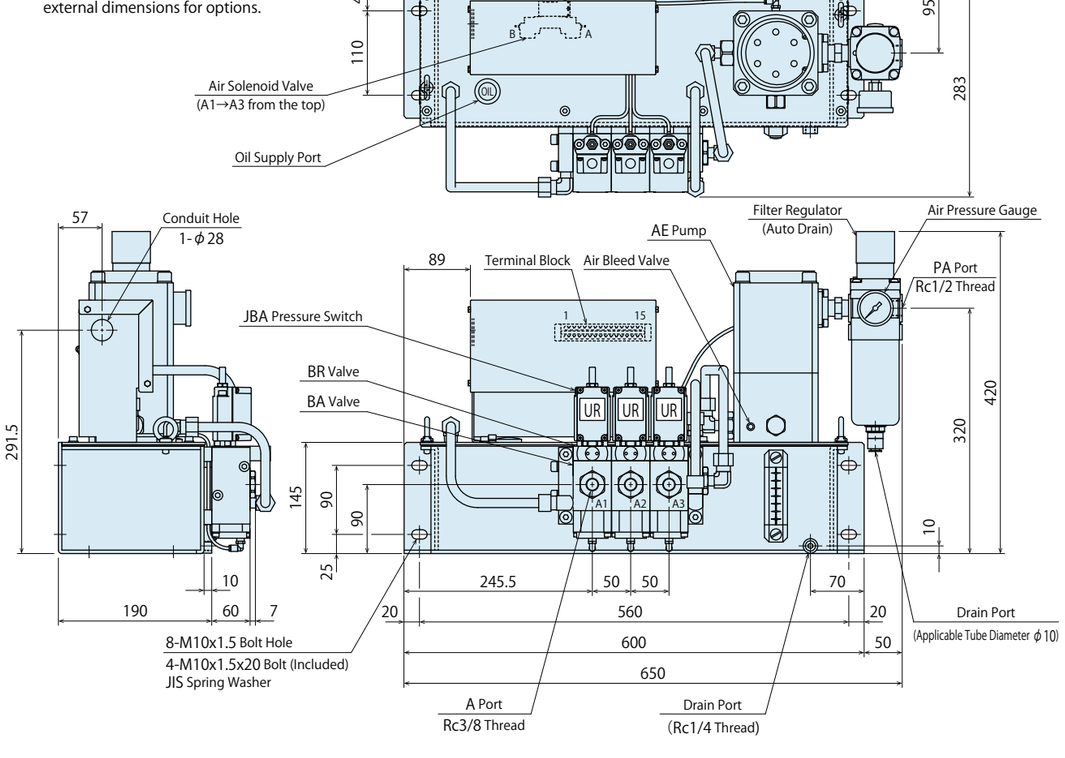
External Dimensions：CQC

※ This drawing shows CQCN000-3UR standard model. Please contact us for external dimensions for options.

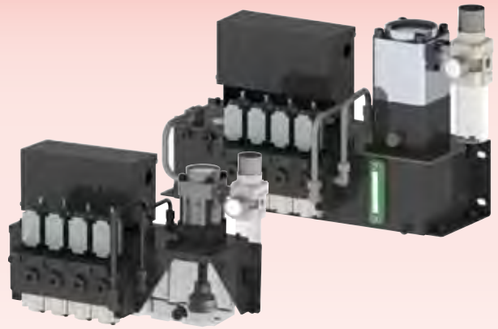


External Dimensions：CQE

※ This drawing shows CQEN000-3UR standard model. Please contact us for external dimensions for options.



Hydraulic Unit



Model CP□K-PP / CP□L-PPR
Model CQ□K-PP / CQ□L-PPR

Generates hydraulic pressure by supplying air pressure.

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

Applicable Clamp Models

GWA GLA

Energy Saving

The pump drives (consumes the air pressure) only during pressurization. After the pressurization, air pressure and hydrualic pressure are balanced 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 preventing the mold from falling.

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

The set pressure: 14MPa is maintained by the pressure relief valve (BR valve) even when hydraulic pressure rises during IMM operation.

Pressure Supply when Hydraulic Pressure Decreases

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

A Wide Range of Variations

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

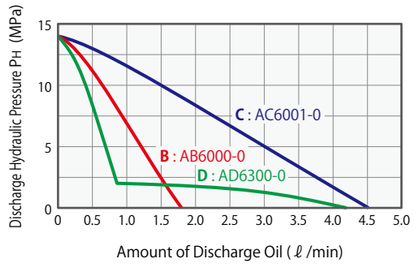
Specifications

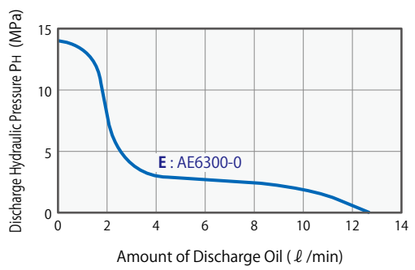
Model No.			CPBK000	CPBL000	CPDK000	CPDL000	CPCK000	CPCL000	CPEK000	CPEL000	CQCK000	CQCL000	CQEK000	CQEL000
Working Hydraulic Pressure MPa			14											
Withstanding Pressure MPa			21											
Tank Capacity ℓ			5ℓ (Actual Amount for Use 3.7ℓ : H.L.5ℓ -L.L.1.3ℓ)								10ℓ (Actual Amount for Use 7ℓ : H.L.10ℓ -L.L.3ℓ)			
Operating Temperature ℃			0～70											
Use Frequency			Less than 20 Cycles / Day Pressure Rising Time : Less than 2.5 min. / Cycle											
Main Components	Pump	Model No.	AB6000-0		AD6300-0		AC6001-0		AE6300-0		AC6001-0		AE6300-0	
		Set Discharge Pressure MPa	14	12.7	14	12.7	14	12.7	14	12.7	14	12.7	14	12.7
		Discharge Oil under No Load ℓ/min	1.80	1.76	4.20	3.95	4.52	4.47	12.7	12.5	4.52	4.47	12.7	12.5
		Set Air Pressure MPa	0.41	0.37	0.41	0.37	0.43	0.41	0.43	0.41	0.43	0.41	0.43	0.41
		Air Consumption m^3(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	174μm (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	BA5011-0 -Z00101 BA5R11-0 -Z00102	BA5001-0	BA5001-0 BA5R01-0	BA5001-0 -Z00107	BA5001-0 -Z00107 BA5R01-0 -Z00108
	Pressure Switch (For Clamp)	Model No.	JBA2700-0G											
		Operation Mode/Set Pressure MPa	INC. 9.8											
	Pressure Relief Valve	Model No.	-	BR5L11-0	-	BR5L11-0	-	BR5L11-0	-	BR5L11-0	-	BR5L11-0	-	BR5L11-0
		Set Pressure MPa	-	$14^{+1.7}_{0}$	-	$14^{+1.7}_{0}$	-	$14^{+1.7}_{0}$	-	$14^{+1.7}_{0}$	-	$14^{+1.7}_{0}$	-	$14^{+1.7}_{0}$

Notes

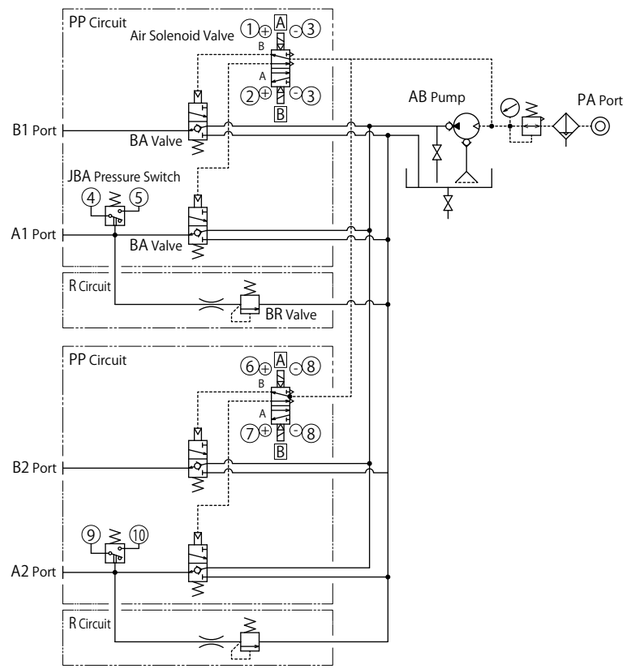
1. If hydraulic viscosity is higher than specified, action time will be longer. Please use equivalent hydraulic oil to ISO-VG-32
2. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
3. When setting a pressure gauge to a hydraulic circuit, install a damper or use an oil-filled (glycerin) pressure gauge in order to prevent damage caused by pressure surging.
4. Provide enough space at the top of the unit taking into consideration the maintenance of the pump.

Pump Performance Curve





Circuit Symbol This shows the circuit symbol of CPBL0□0-2PPR-5.



形式表示

C P B L 0 0 0 - 2PPR - 5 - □
1 2 3 4 5 6 7 8

1 Unit

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

Note:
1. For Large Clamp Unit (10ℓ Tank), only 2 Pump Model C: AC pump and E: AE pump can be installed.

2 Pump Model

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

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

3 Pressure Code

K ： Working Pressure 14MPa, Pressure Switch Set Pressure INC. 9.8MPa
L ： Working Pressure 14MPa, Pressure Switch Set Pressure INC. 9.8MPa with Pressure Relief Valve

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 with the number of circuits and circuit symbol.)

P ： For Clamp Double Solenoid
R ： With Pressure Relief Valve

Note:
1. For R: Pressure Relief Valve 3 Pressure Code is "L".

7 Voltage Code

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

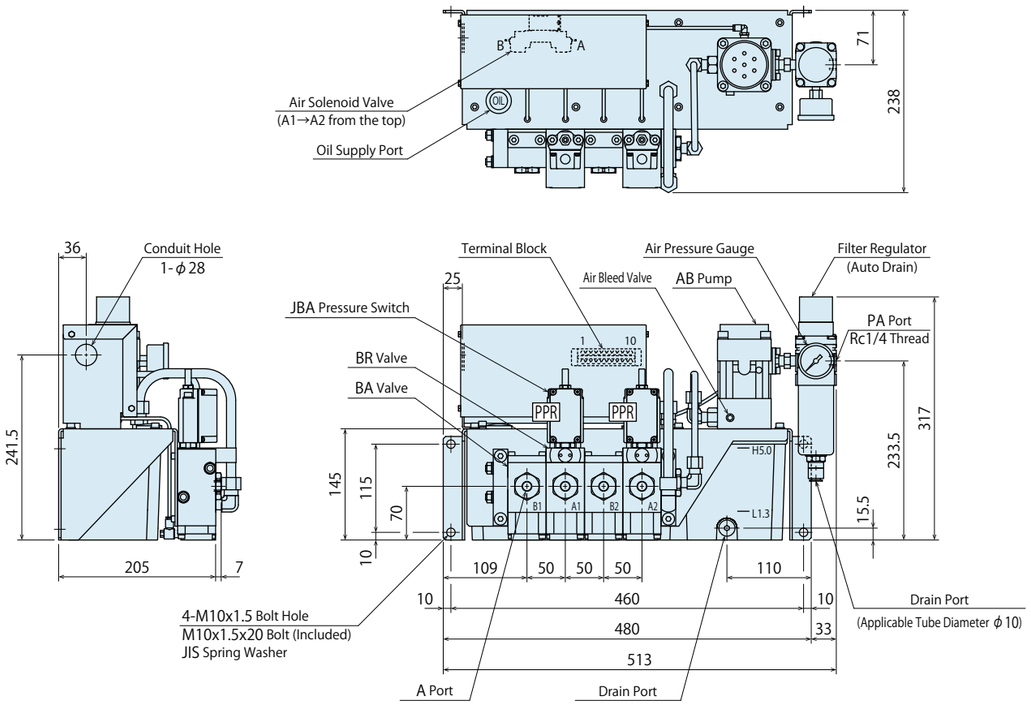
8 Option

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 ※1
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 5ℓ tank can be selected.) ※2

Notes
※1. When selecting 8 Option N: Piping Port NPT Thread, dimensions in the specification sheet and other documents are in inches.
※2. Iron Tank is the standard option for CQ□□:10ℓ Tank.
1. Please contact us for specifications and external dimensions for these options.
2. The external dimensions for five circuits and six circuits are different. Please contact us for detail.

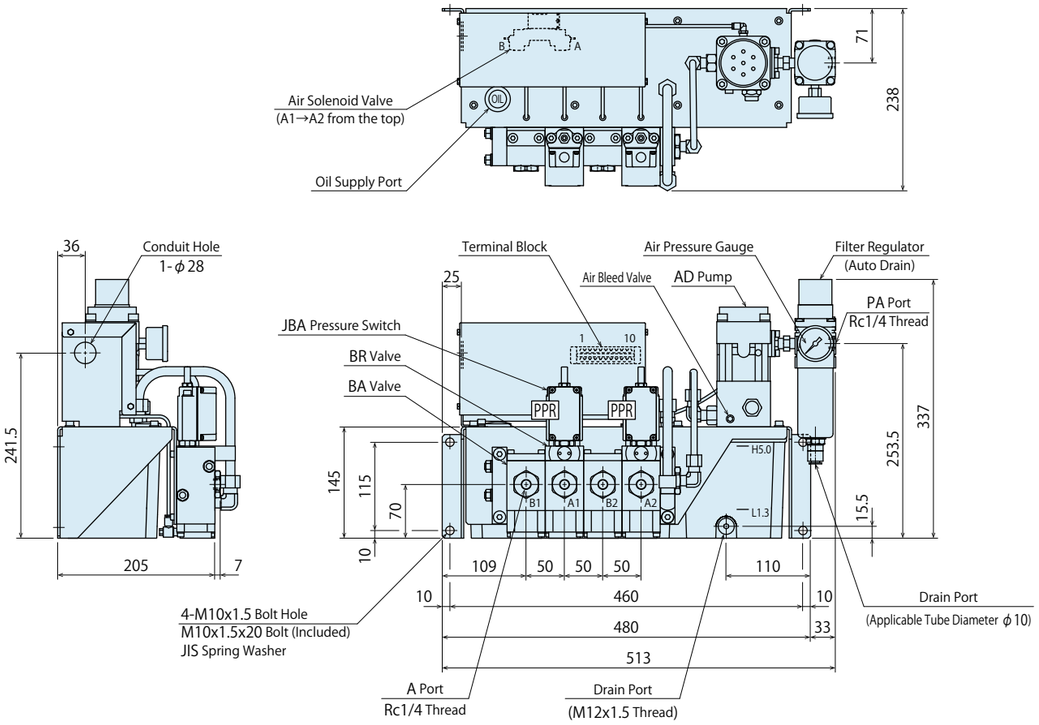
External Dimensions：CPB

※ This drawing shows CPBL000-2PPR standard model.
Please contact us for external dimensions for options.



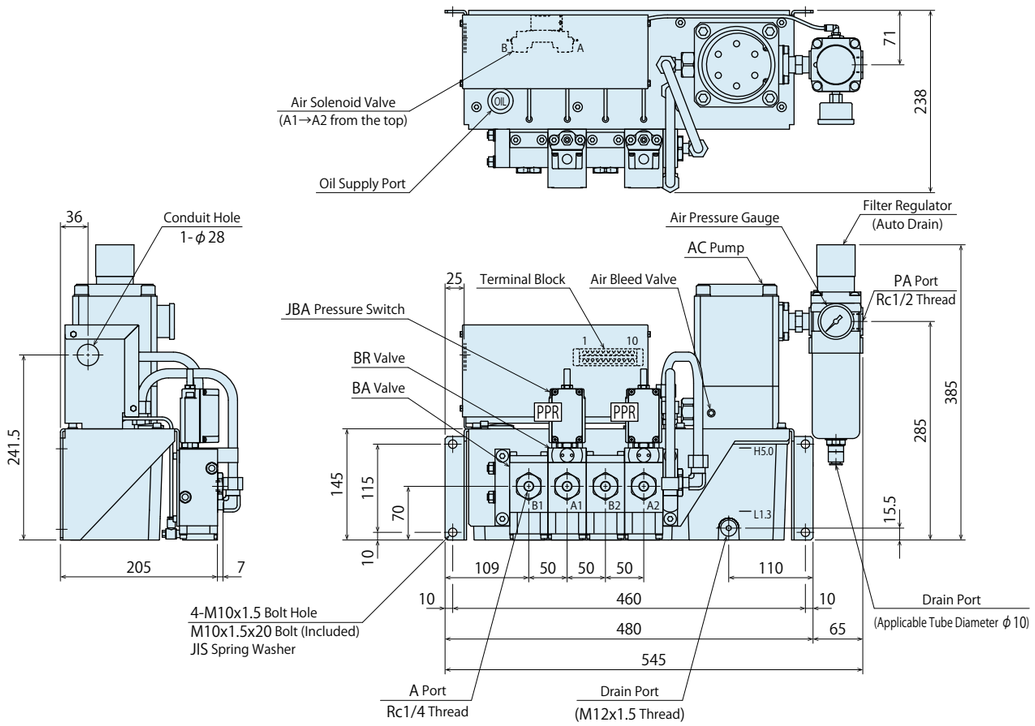
External Dimensions：CPD

※ This drawing shows CPDL000-2PPR standard model.
Please contact us for external dimensions for options.



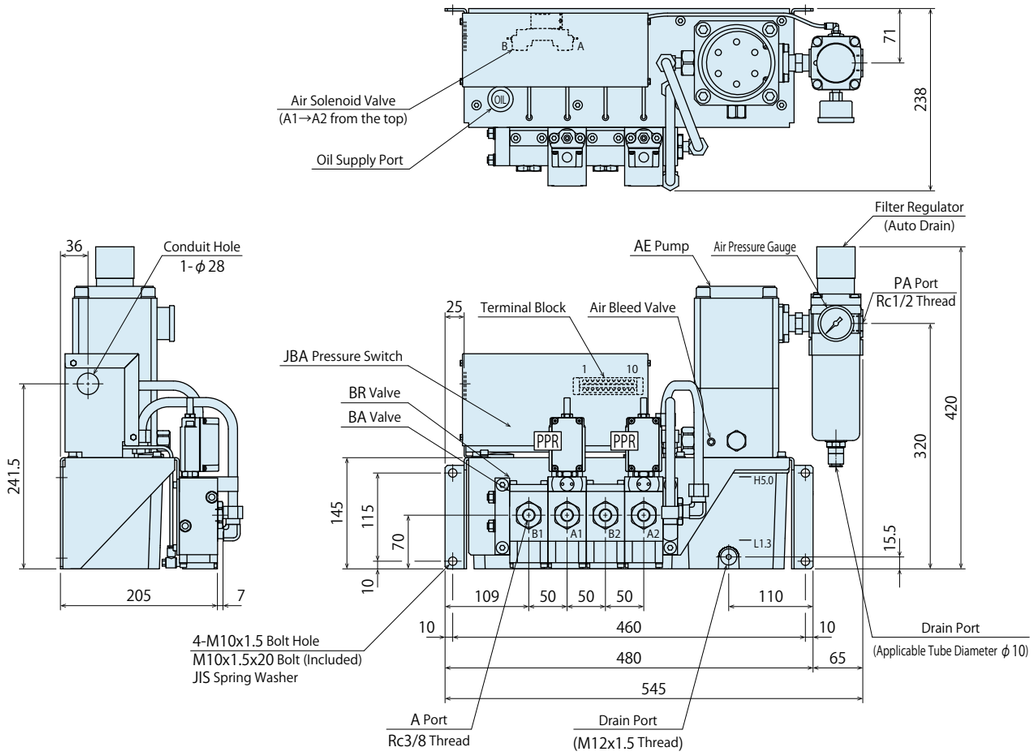
External Dimensions：CPC

※ This drawing shows CPCL000-2PPR standard model.
Please contact us for external dimensions for options.



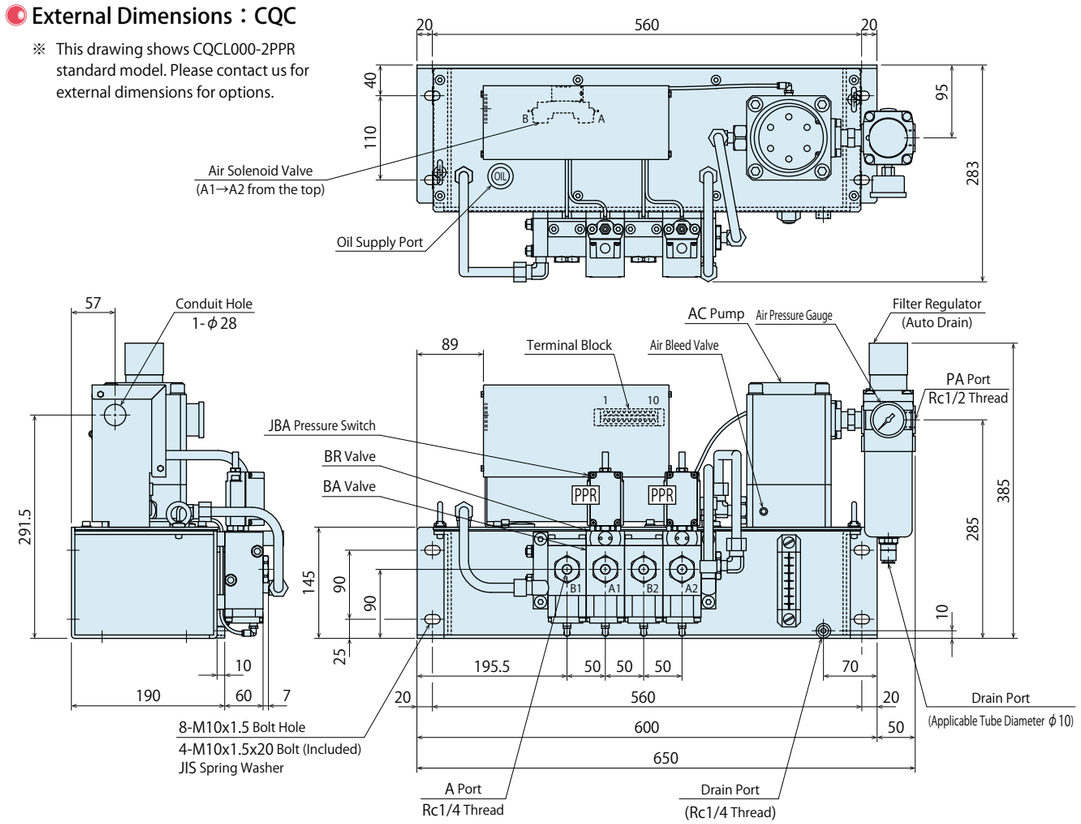
External Dimensions：CPE

※ This drawing shows CPEL000-2PPR standard model.
Please contact us for external dimensions for options.



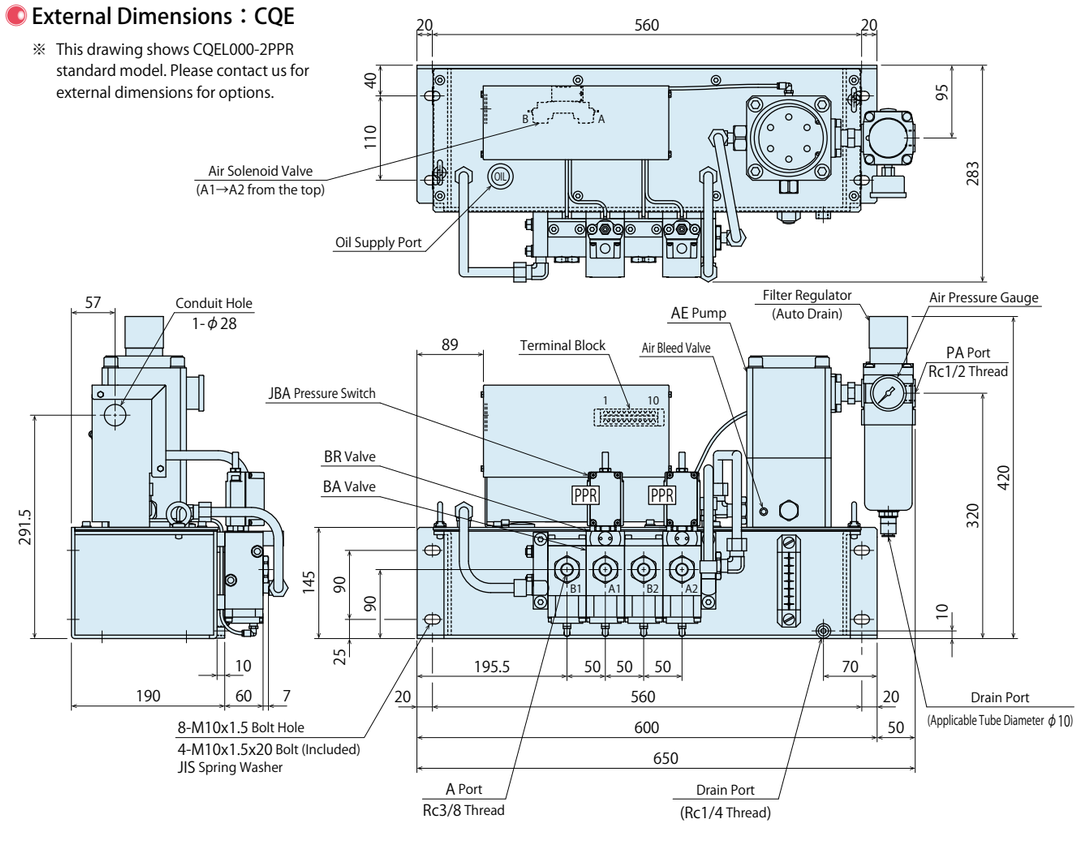
External Dimensions：CQC

※ This drawing shows CQCL000-2PPR standard model. Please contact us for external dimensions for options.

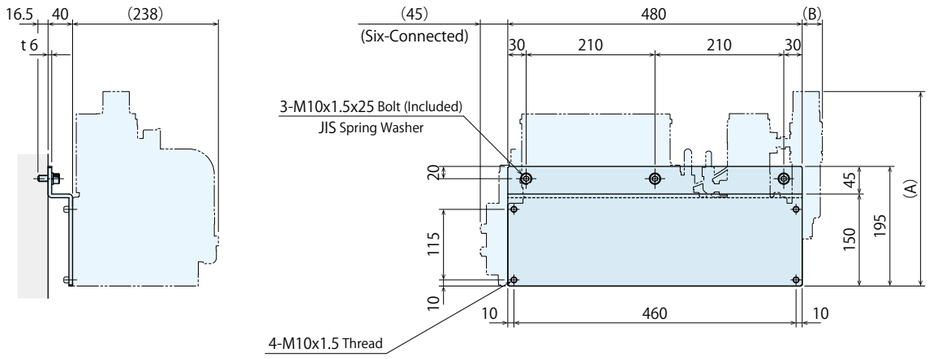


External Dimensions：CQE

※ This drawing shows CQEL000-2PPR standard model. Please contact us for external dimensions for options.



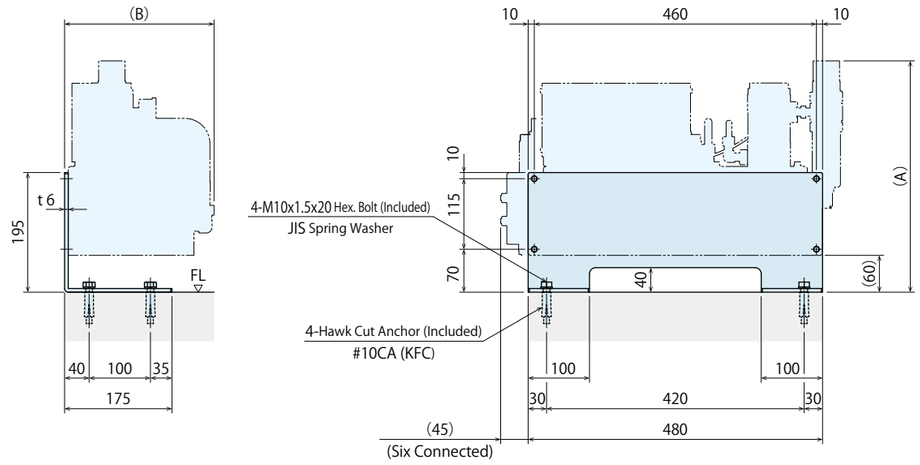
External Dimensions：CPSH000 (Wall Mounted)



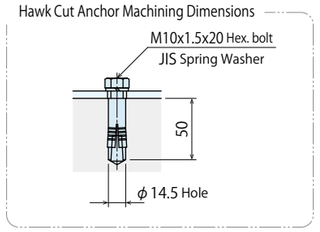
(mm)

Hydraulic Unit Model No.	Dimension A	Dimension B
CPB	317	33
CPD	337	33
CPC	385	65
CPE	420	65

External Dimensions：CPSV000 (Floor Mounted)



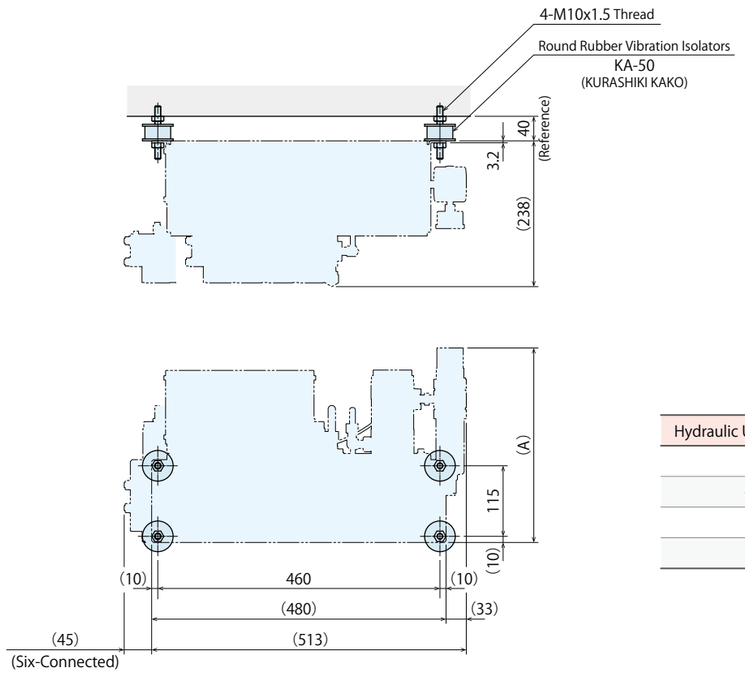
Hawk Cut Anchor Machining Dimensions



(mm)

Hydraulic Unit Model No.	Dimension A	Dimension B
CPB	317	238
CPD	337	238
CPC	385	238
CPE	420	238

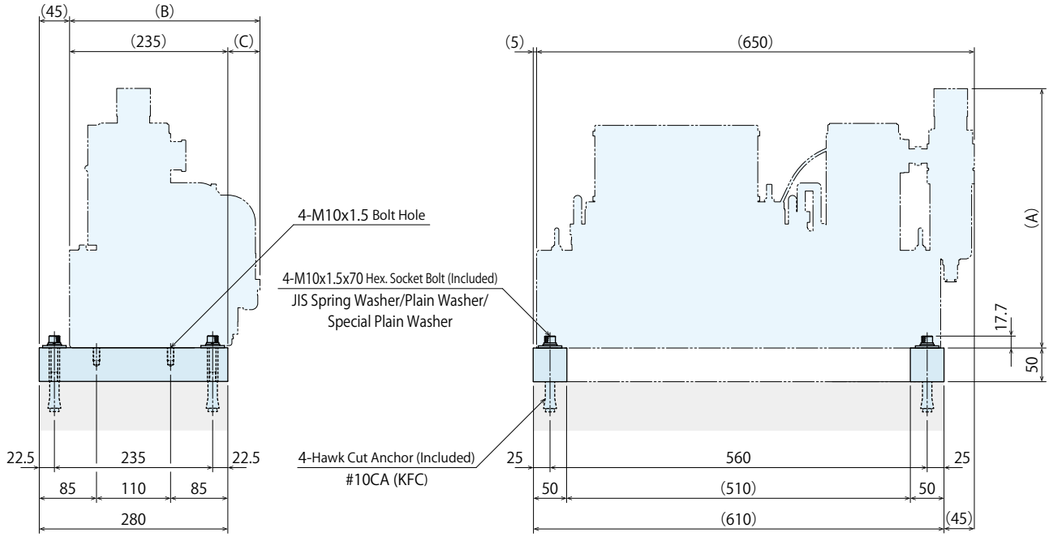
External Dimensions：CPSR000 (Anti-Vibration Rubber)



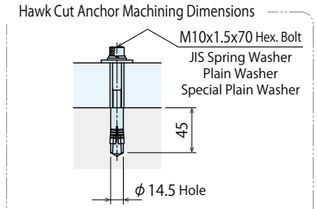
(mm)

Hydraulic Unit Model No.	Dimension A
CPB	317
CPD	337
CPC	385
CPE	420

External Dimensions：CQSV000 (Floor Mounted)



Hawk Cut Anchor Machining Dimensions



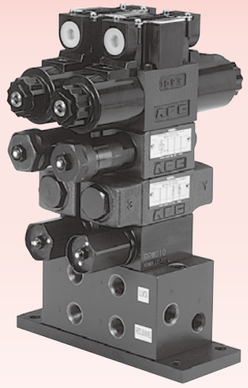
(mm)

Hydraulic Unit Model No.	Dimension A	Dimension B	Dimension C
CQC	385	283	48
CQE	420	283	48

Valve Unit

For IMM Hydraulic Pressure

Model **MV0**



Controls the clamps with Hydraulic Pressure from IMM.

Only for GWA/GLA Clamp

Valve Unit with Pressure Relief Valve in Lock Circuit

Model No. Indication

MV 002 1 - 5 - W - N

1 2 3 4 5

1 Size Code

001：For Small/Medium Clamp (For IMM Pressure 14MPa)
002：For Small/Medium Clamp (For IMM Pressure 14-21MPa)
006：For Large Clamp (For IMM Pressure 14-21MPa)

2 Design No.

1 ：Revision Number

3 Valve Control Voltage

1 ：AC100V
2 ：AC200V
3 ：AC110V
4 ：AC220V
5 ：DC24V (5～40mA)

4 Option ①

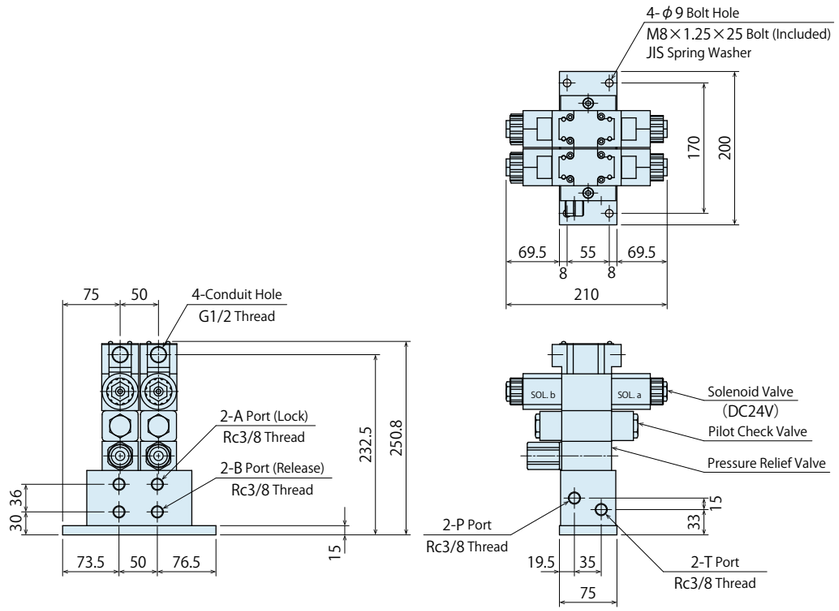
Blank：Standard (With Pressure Relief Valve at Lock Circuit)
W ：With Pressure Relief Valve on Both Lock and Release Circuit

5 Option ②

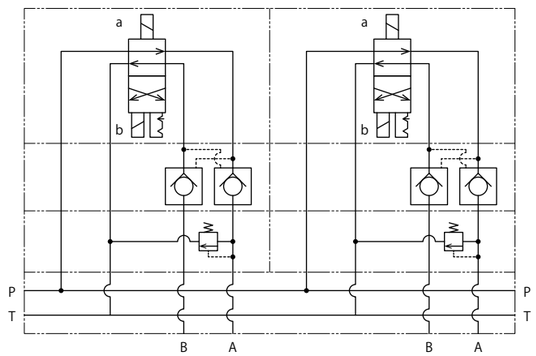
Blank：Standard
N ：Piping Port NPT Thread ※1

Note:
※1. 5 Option ② N: Piping Port NPT Thread includes the adaptor for connecting NPT thread.
The dimensions in the specification sheet and other documents are in inches.

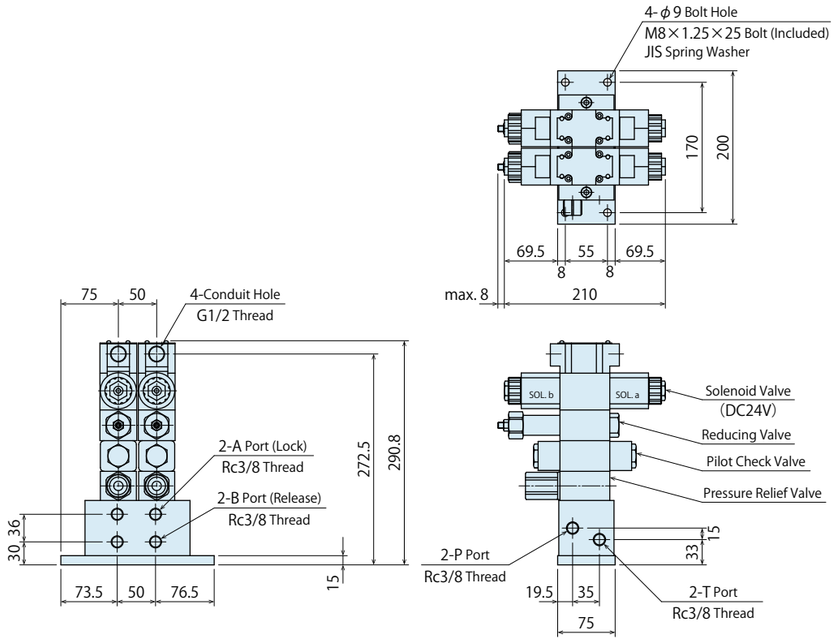
External Dimensions：MV0011-5 (For IMM Pressure 14MPa)



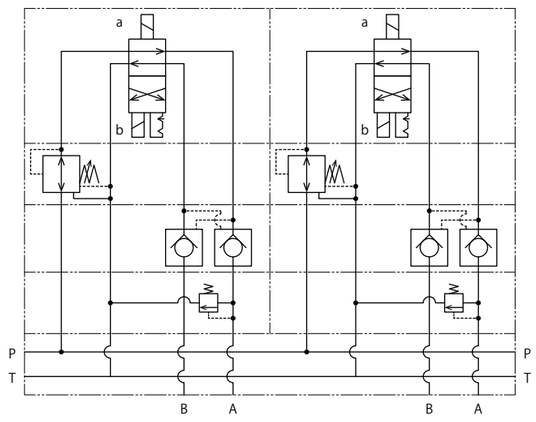
Circuit Symbol：MV0011-5 (For IMM Pressure 14MPa)



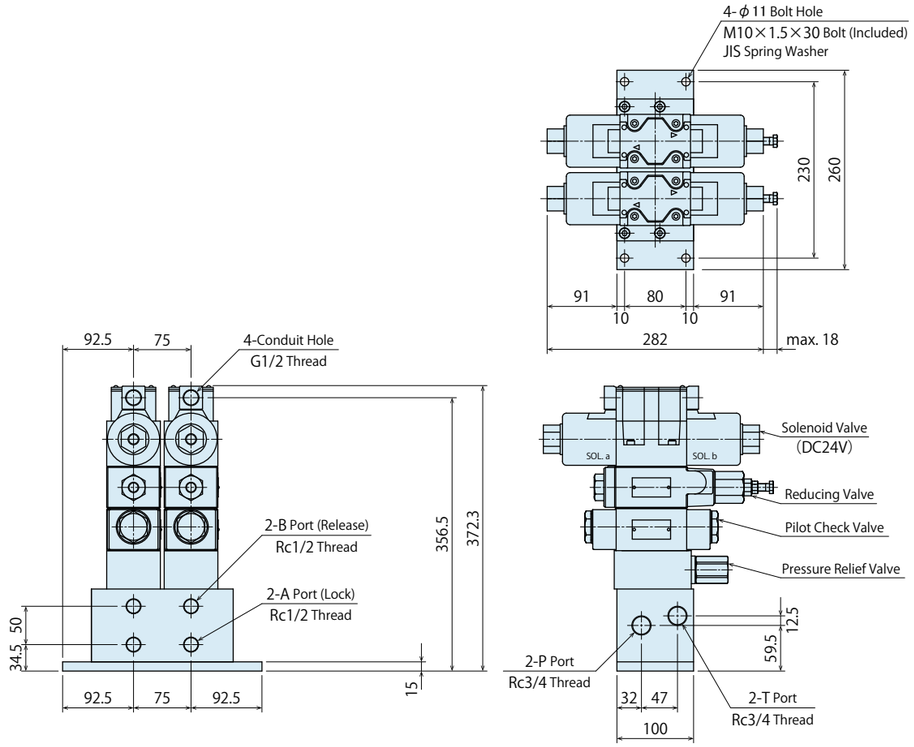
External Dimensions：MV0021-5 (For IMM Pressure 14MPa-21MPa)



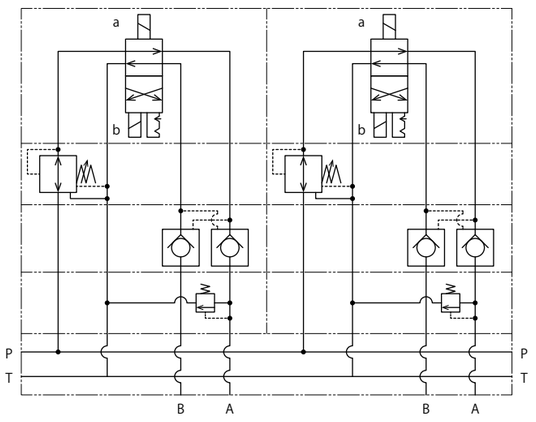
Circuit Symbol：MV0021-5 (For IMM Pressure 14MPa-21MPa)



External Dimensions：MV0061-5 (For IMM Pressure 14MPa-21MPa)



Circuit Symbol：MV0061-5 (For IMM Pressure 14MPa-21MPa)



Air Valve Unit

For Automatic Slide Clamp

Model MV3

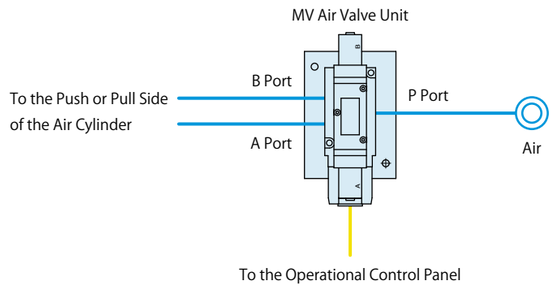
Air Valve Unit for GBE/GBF/GBR/GLA Clamp

Compact air valve unit controls the air cylinder of automatic slide clamp for automation.

Air directional control valve which is actuated by electric control.
GBE/GBF/GBR/GLA clamp slides automatically with the air cylinder.

Application Example

The drawing shows the air flow direction when controlling the push and pull sides of air cylinder with MV Air Valve Unit.



Model No. Indication

MV 302 2 - 3 5 - N
1 2 3 4 5

1 Size Code

301 : For Small/Medium Clamp
302 : For Large Clamp

2 Design No.

2 : Revision Number

3 Number of Circuit

1 : 1 Circuit
2 : 2 Circuits (Stationary Side/Movable Side, or Cross-Coupled Circuits etc.)
3 : 3 Circuits (Movable Side Cross-Coupled Circuits and One Stationary Circuit)

4 Valve Control Voltage

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

5 Option

Blank : Standard
N : Piping Port NPT Thread ※1

Notes
※1. For 5 Option N: Piping Port NPT Thread, the dimensions in the specification sheet and other documents are in inches.
1. Please contact us when using a large number of clamps.

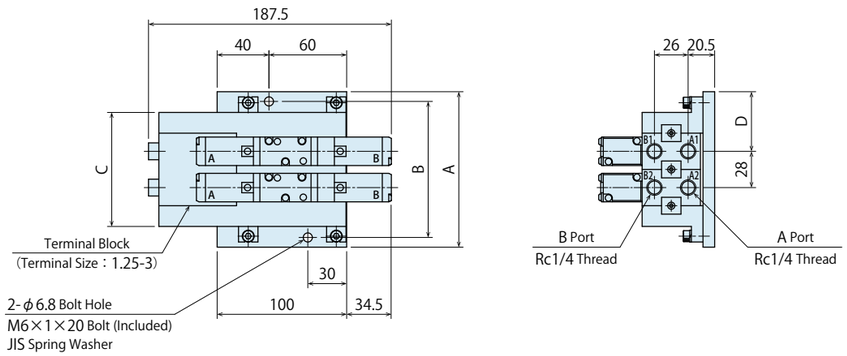
Specifications

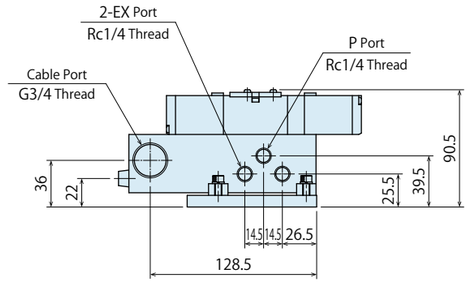
Model No.		MV3012	MV3022
Valve		Metal Seal / Five-Port Pilot Operated	
Position/Number of Solenoid		Two-Position Double Solenoid	
Effective Area	mm^2	15	36
Pressurizing Agent		Dry Air ※2	
Max. Operating Pressure	MPa	1.0	
Withstanding Pressure	MPa	1.5	
Operating Temperature	℃	-10 ～ +60	
Oil Supply		No Oil Supply	
Protection		Dust Proof	
Solenoid Valve (SMC)		VFS2200	VFS3200

Note
※2. Please supply filtered clean dry air.

External Dimensions

※ This drawing shows MV3012-□□.





(mm)

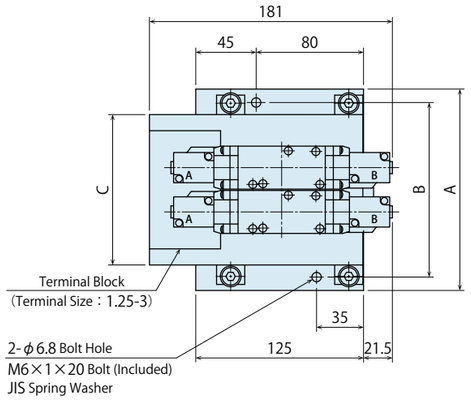
Number of Circuits	A	B	C	D
2	120	105	88	46
3	150	135	116	47

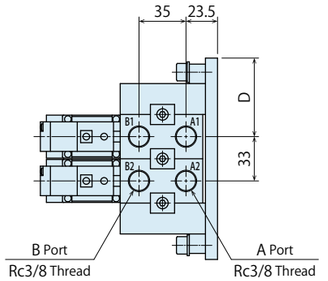
Note

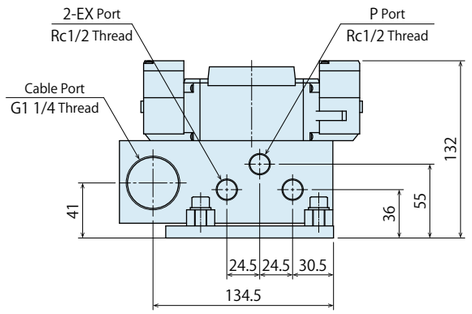
1. Please contact us for the dimensions for one circuit model.

External Dimensions

※ This drawing shows MV3022-□□.







(mm)

Number of Circuits	A	B	C	D
2	150	130	112	58.5
3	185	165	145	59.5

Note

1. Please contact us for the dimensions for one circuit model.

Operation Panel / Control Unit

Model YMB080

Select the Most Suitable System for Mold Change Method

Separated operation panel and control unit enable to select
the best control method and mouting method.

Model No. Indication

YMB08 **0** - **V** **GE** **10** - ☐

1 2 3 4 5

1 Design No.

Revision Number

2 Mold Change Method

V : Vertical Mold Change System (Horizontal Molding Machine)
H : Horizontal Mold Change System (Horizontal Molding Machine)
R : Vertical Molding Machine ※1

3 Applicable Clamp Model No. ※ See the Specification.

GB : GBB / GBC Clamp

Note: ※1. Please contact us for the control method of vertical molding machine.

4 Pressure Source ※ When using MV Air Valve Unit

10 : With Pressure Switch in the Clamp Circuit
00 : Without Pressure Switch in the Clamp Circuit

5 Option

Blank : Standard (Operation Panel in Japanese)
E : With Mold Confirmation Proximity Switch
H : With Mold Confirmation Proximity Switch (6-8 pcs. on each side)
N : Operation Panel in English
C : Operation Panel in Chinese

Notes
1. Requested specifications other than those written will be treated as custom made.
2. Signals are sent and received via dry contacts.
3. The molding machine output contact should be for fine current (DC24V / 10mA).
4. The output contact of Operation Panel/Control Unit is DC24V/0.5A.
5. Molding machine terminology may differ depending on the manufacturer.

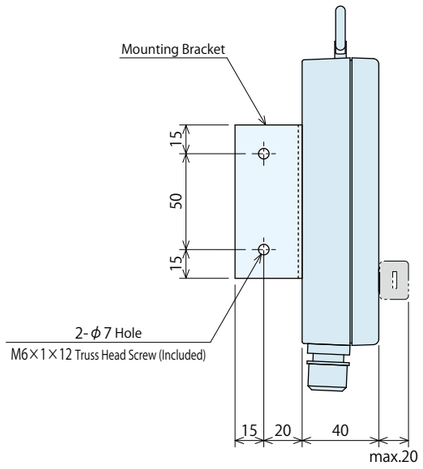
Specifications

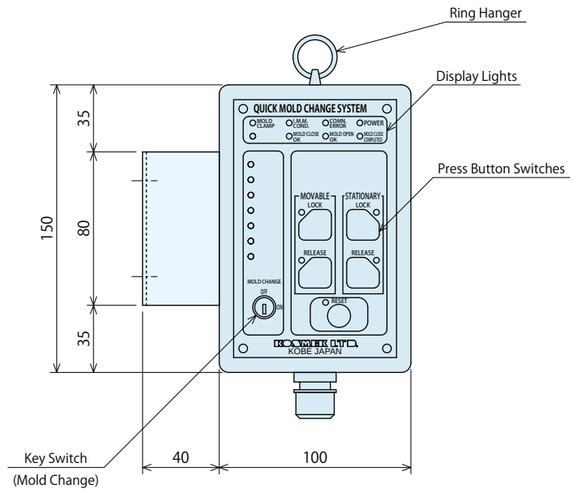
Model No.		YMB080-□□□10	YMB080-□□□00
Control Panel Voltage		DC24V (Supplied with the attached power supply.)	
Attached Power Supply	PS Pressure	AC100V~240V (50/60Hz)	
	PS Capacity	30W	100W

Hydraulic Clamp (G Series)

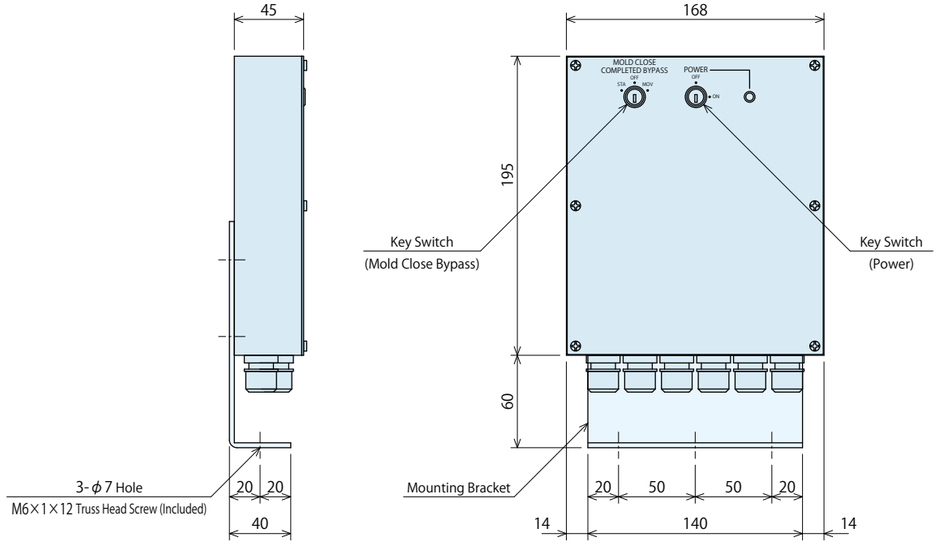
Model No.	2 Mold Change Method		3 Applicable Clamp Model No.		4 Pressure Source		5 Available Option
YMB080-VGB10	V	Vertical Mold Change System	GB	GBB / GBC / GBM	10	Kosmek Hydraulic Unit	E / H / N / C
YMB080-VGE10			GE	GBE / GBF / GBR	10	Kosmek Hydraulic Unit	H / N / C
YMB080-VGW10			GW	GWA	10	Kosmek Hydraulic Unit	N / C
YMB080-VGW00			GW	GWA	00	IMM Hydraulic Source	N / C
YMB080-VGL10			GL	GLA	10	Kosmek Hydraulic Unit	N / C
YMB080-VGL00			GL	GLA	00	IMM Hydraulic Source	N / C
YMB080-HGW10	H	Horizontal Mold Change System	GW	GWA	10	Kosmek Hydraulic Unit	N / C
YMB080-HGW00			GW	GWA	00	IMM Hydraulic Source	N / C

External Dimensions : Operation Panel





External Dimensions : Control Unit



Notes
1. The bracket can be mounted in any direction.
2. The bracket is shipped mounted as shown in the drawings above.

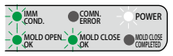
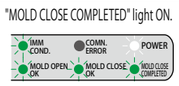
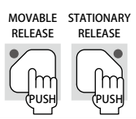
Operation Procedure：For YMB080-VGE10 ※ Please contact us for the operation procedure for other models.

Clamp Operating Condition

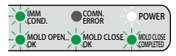
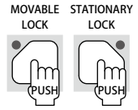
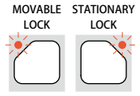
Injection Molding Machine Condition				Clamp Operation Panel
Operation Mode: Mold Change	Mold Close	Nozzle Back (Option)	Ejector Back (Option)	Mold Change “ON”

Note: When the mold change switch is "ON", clamp error does not occur regardless of the condition of clamps during mold change.

Unloading a Mold

Operation Procedure	Confirmation Items	Cautions
Prepare for mold change.		
Switch the IMM condition to "Nozzle Back" / "Ejector Back" etc. (Input Options)		
Support the mold with the crane.		Confirm the mold is securely hung and cables are not loose.
Switch the IMM to Mold Change Mode.	"IMM COND." light ON. 	
Turn ON the "Mold Change" switch of the clamp operation panel. 		The clamping system controller keys should be carefully controlled by the person in charge.
Close the platens.	"MOLD CLOSE COMPLETED" light ON. 	
Press the [Stationary] and [Movable] "Release" buttons of the clamp operation panel. 	"STA. BWD END" "MOV. BWD END" lights ON.  "RELEASE" lights ON. 	
	"MOLD OPEN OK" light ON.	
Open the platens.		Operate with low speed or inching.
Unload the mold.		Make sure there is no abnormality on clamps and other devices in the platen after unloading the mold.

Loading a Mold

Operation Procedure	Confirmation Items	Cautions
Load the mold with the crane.		Confirm specifications of the mold before loading.
Close the platens.	"MOLD CLOSE COMPLETED" light ON. 	
Press the [Stationary] and [Movable] "Lock" buttons of the clamp operation panel. 	"STA. FWD END" "MOV. FWD END" lights ON.  "LOCK" lights ON. 	
Turn OFF the "Mold Change" switch of the clamp operation panel. 	"Mold Open OK" "Mold Close OK" lights ON.	
Release the mold from crane.		Make sure there is no abnormality on clamps and other devices in the platen.

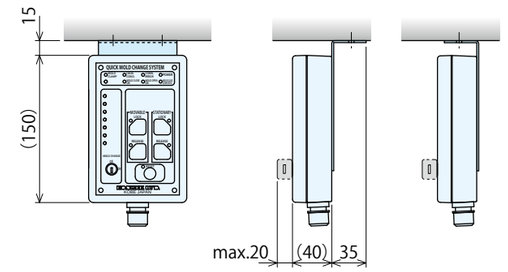
Interlock Input and Output ※ Please contact us for unlisted input/output signals (special order unit).

I. M. M. Output	Contents
Mold Change Mode	A signal that ensures the IMM is in low-speed Mold Change Mode.
Mold Closed (Pressurized)	A signal that ensures the mold is completely closed. Required for clamp lock / release to prevent the mold from falling.
Nozzle Back	A signal that ensures the nozzle / injection unit is fully back to prevent damage to the nozzle / injection unit when changing molds.
Ejector Back	A signal that ensures the ejector plate is in the back position to prevent damage to the ejector rods during mold removal.

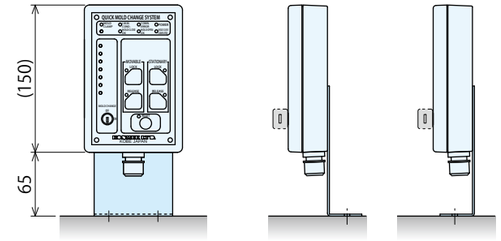
I. M. M. Input	Contents
Mold Open OK	A signal that indicates the clamping system is ready for mold opening.
Mold Close OK	A signal that indicates the clamping system is ready for mold closing.
Mold Change "ON"	A signal that indicates the clamp system is in "Mold Change Mode".
Clamp Error	When an error in the clamp circuit occurs, this signal is sent to make an emergency stop of the machine.
Pressure Request	This signal requests additional hydraulic pressure when necessary to lock or release the clamps in Mold Change Mode.

Mounting Method: Operation Panel

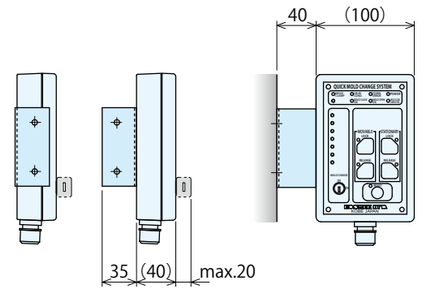
Top Mounted



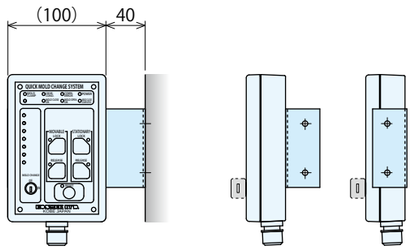
Bottom Mounted



Left Mounted

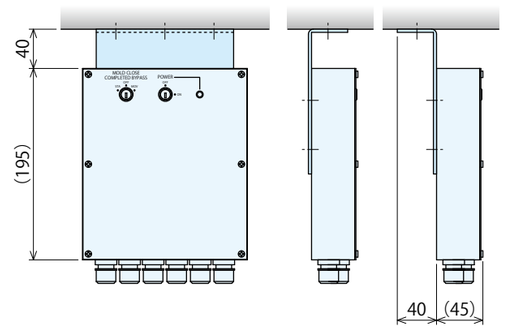


Right Mounted

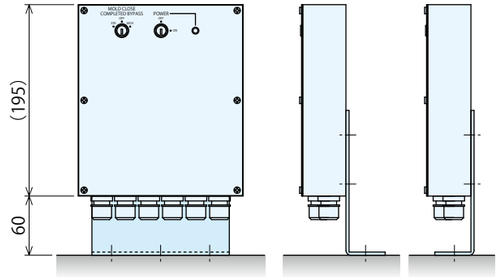


Mounting Method: Control Unit

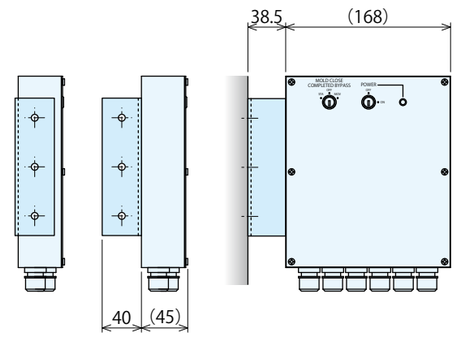
Top Mounted



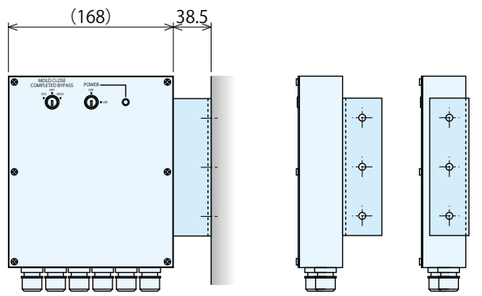
Bottom Mounted



Left Mounted



Right Mounted



Auto Joint

For Oil/Air/Coolant/Hot Water

Model JL□

Compact Air Joint for Mold Temperature Adjustment

Allows for Automation of Mold Change System

Specifications

Size	Plug Side		JLP020	JLP030	JLP040	JLP060	JLP080
	Socket Side		JLS020	JLS030	JLS040	JLS060	JLS080
Minimum Passage Area		mm²	29	50	102	183	297
Offset Tolerance		mm	±0.5	±0.5	±0.8	±1.0	±1.0
Angle Error Tolerance		DEG.	0.5	0.5	0.5	0.5	0.5
Maximum Operating Pressure MPa	Material	4 Material W	3.5			3.5	
		4 Material H	3.5			3.5	
		4 Material O	25			14	
Operating Temperature ℃		4 Material W/O	0 ~ 70				
		4 Material H	0 ~ 120				
Reaction Force kN	Operating Temperature	At 1.0 MPa	0.25	0.33	0.52	0.88	1.28
		At 3.5 MPa	0.64	0.83	1.47	2.47	3.76
		At 14 MPa	2.26	2.94	5.46	9.17	14.2
		At 25 MPa	3.95	5.16	9.64	-	-
		At P MPa	0.154 x P + 0.10	0.201 x P + 0.13	0.380 x P + 0.14	0.638 x P + 0.24	0.990 x P + 0.29

Notes

1. Do not connect or disconnect under pressurization (pressure remained).
2. Bleed the air in the circuit before use. (When using hydraulic oil)
3. Do not connect in the condition that foreign substances such as chips adhere on the connecting surfaces. (Completely remove the adhering chips or coolant by air blow etc.)
4. Prevent foreign substances (chips or seal tape) from entering the circuit.
5. When using water or air as fluid, consider rust prevention of manifold blocks and pipe fittings.
6. When reaching the connection limit, the holding pressure should be
   higher than reaction pressure and lower than 4.0kN for JL□020-W/H-□0, higher than reaction force and lower than 6.0kN for JL□020-O-□0.
   higher than reaction pressure and lower than 5.0kN for JL□030-W/H-□0, higher than reaction force and lower than 9.0kN for JL□030-O-□0.
   higher than reaction pressure and lower than 7.0kN for JL□040-W/H-□0, higher than reaction force and lower than 12.0kN for JL□040-O-□0.
   higher than reaction pressure and lower than 10.0kN for JL□060-W/H-□0, higher than reaction force and lower than 17.0kN for JL□060-O-□0.
   higher than reaction pressure and lower than 15.0kN for JL□080-W/H-□0, higher than reaction force and lower than 25.0kN for JL□080-O-□0.
7. Please contact us for larger passage area.

Model No. Indication

JL P 0 2 0 - W - M 0

1 2 3 4 5

1 Style

P : Plug Side
S : Socket Side

2 Body Size ※1

2 : Minimum Passage Area 29mm²
3 : Minimum Passage Area 50mm²
4 : Minimum Passage Area 102mm²
6 : Minimum Passage Area 183mm²
8 : Minimum Passage Area 297mm²

3 Design No.

0 : Revision Number

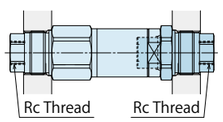
4 Material

W : Stainless Steel, Brass, NBR (Recommended Fluid: Air)
H : Stainless Steel, Brass, Fluor Rubber (Recommended Fluid: Coolant)
O : Steel, NBR (Recommended Fluid: General Hydraulic Oil)

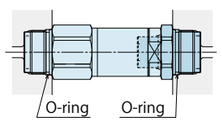
5 Piping Method ※2

C : Connector Option
M : Manifold Option (O-ring Seal)

C



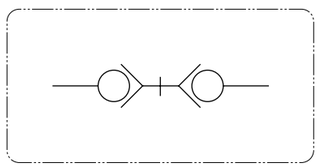
M



Notes

※1. Please contact us when using the auto joints with different body sizes in combination.
However, it is recommended to use the same body size considering maintenance and stock of spares.
※2. Different piping method, C and M can be combined for use.

Circuit Symbol



Joint Unit

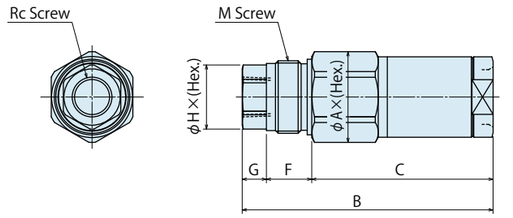
Kosmek offers Automatic Connection Joint Unit and Manual Connection Joint Unit according to your needs.
Please contact us for further information of Joint Unit.

Automatic Connection Model Example

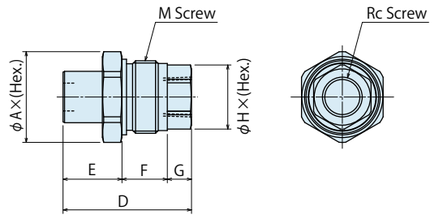
Manual Connection Model Example

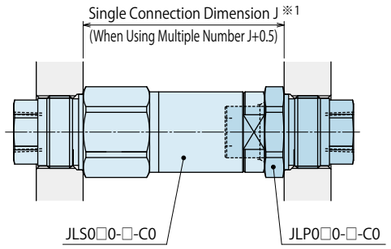
External Dimensions: Connector Model

JLS0□0-□-C0



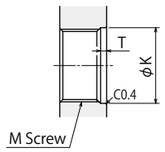
JLP0□0-□-C0





Mounting Hole Machining Dimension

JLS0□0-□-C0 / JLP0□0-□-C0 Common Items



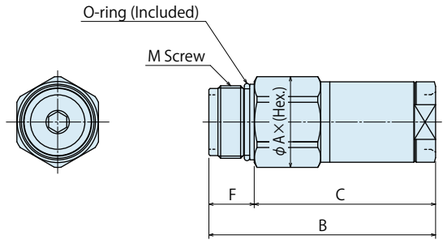
Model No.	Thread Size (M Size)	Tightening Torque (N・m)	
		Material W / H	Material O
JL□020-□-C0	M24 x 1.5	25	100
JL□030-□-C0	M27 x 1.5	40	100
JL□040-□-C0	M33 x 1.5	63	180
JL□060-□-C0	M45 x 1.5	100	250
JL□080-□-C0	M50 x 1.5	250	400

External Dimensions: Connector Model

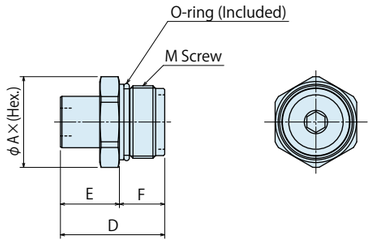
Model No.	JL□020	JL□030	JL□040	JL□060	JL□080
ϕA x (Hex.)	ϕ30 x（27）	ϕ33 x（30）	ϕ40 x（36）	ϕ50 x（46）	ϕ60 x（55）
B	83	92.5	107	132	151
C	60	65.5	76	95	108
D	42.5	48.5	57.5	70	80
E	19.5	21.5	26.5	33	37
F	15	16	18	22	25
G	8	11	13	15	18
ϕH x (Hex.)	ϕ21.2 x（19）	ϕ24.5 x（22）	ϕ30 x（27）	ϕ40 x（36）	ϕ45 x（41）
J	66.5	72	84.5	105.5	118.5
K	$\phi 25H8^{+0.033}_{0}$	$\phi 28H8^{+0.033}_{0}$	$\phi 34H8^{+0.039}_{0}$	$\phi 45.5H8^{+0.039}_{0}$	$\phi 51H8^{+0.046}_{0}$
M	M24 x 1.5	M27 x 1.5	M33 x 1.5	M45 x 1.5	M50 x 1.5
T	2	2	2	2.5	2.5
Rc	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1

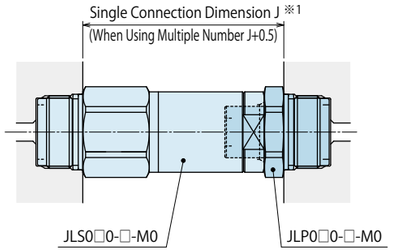
External Dimensions: Manifold Model

JLS0□0-□-M0



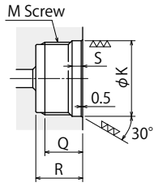
JLP0□0-□-M0





Mounting Hole Machining Dimension

JLS0□0-□-M0 / JLP0□0-□-M0 Common Items



Model No.	Thread Size (M Screw)	Tightening Torque (N・m)	
		Material W / H	Material O
JL□020-□-M0	M24 x 1.5	25	100
JL□030-□-M0	M27 x 1.5	40	100
JL□040-□-M0	M33 x 1.5	63	180
JL□060-□-M0	M45 x 1.5	100	250
JL□080-□-M0	M50 x 1.5	250	400

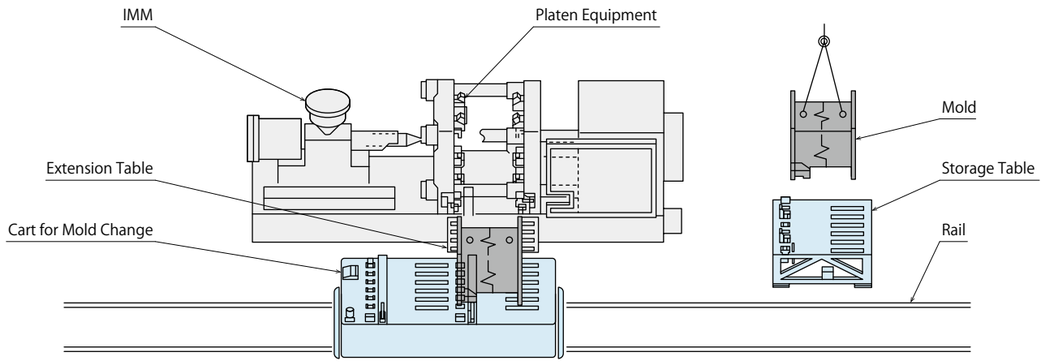
External Dimensions: Manifold Model

Model No.	JL□020	JL□030	JL□040	JL□060	JL□080
ϕA x (Hex.)	ϕ30 x（27）	ϕ33 x（30）	ϕ40 x（36）	ϕ50 x（46）	ϕ60 x（55）
B	75	81.5	94	117	133
C	60	65.5	76	95	108
D	34.5	37.5	44.5	55	62
E	19.5	21.5	26.5	33	37
F	15	16	18	22	25
J	66.5	72	84.5	105.5	118.5
K	$\phi 25H8^{+0.033}_{0}$	$\phi 28H8^{+0.033}_{0}$	$\phi 34H8^{+0.039}_{0}$	$\phi 45.5H8^{+0.039}_{0}$	$\phi 51H8^{+0.046}_{0}$
M	M24 x 1.5	M27 x 1.5	M33 x 1.5	M45 x 1.5	M50 x 1.5
Q	12.5 or more	13.5 or more	15.5 or more	19.5 or more	22.5 or more
R	15.5 or more	16.5 or more	18.5 or more	22.5 or more	25.5 or more
S	3.5	3.5	3.5	4	4
Rc	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1

Advantages

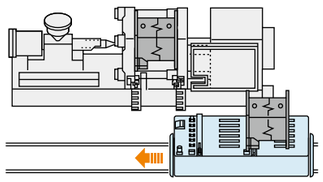
- Enhances Productivity
- Safe Mold Handling
- Enables Diversified and Small-Lot Production

Basic Structure

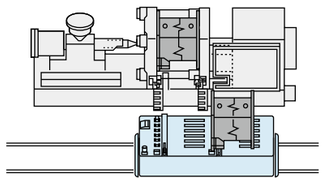


Sequence

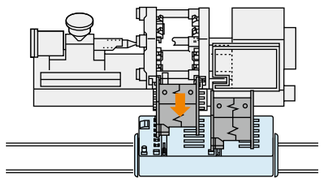
① Cart Travels



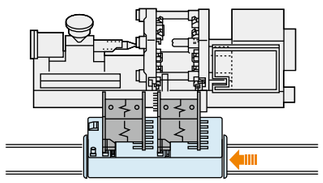
② Cart in Position



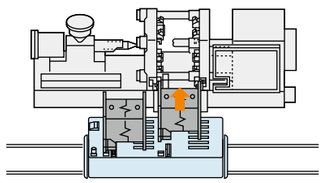
③ Mold Unloading



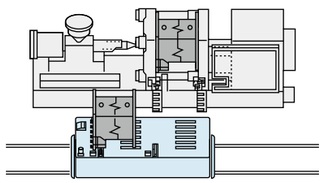
④ Cart Shifts One Pitch



⑤ Mold Loading

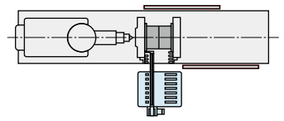


⑥ Operation Finished

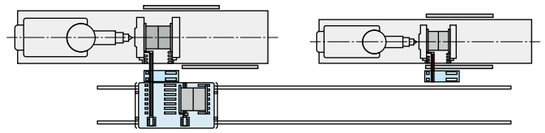


Applications

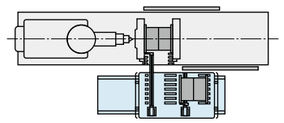
Table for Mold Change



Single Side Cart for Mold Change

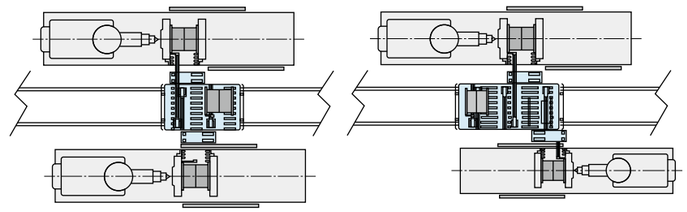


Single Side Cart for Mold Change (One Pitch)



IMMs face the same direction.

Double Side Cart for Mold Change



IMMs face the opposite directions.

Requisite Conditions of Molds

① Mold dimensions must be standardized.

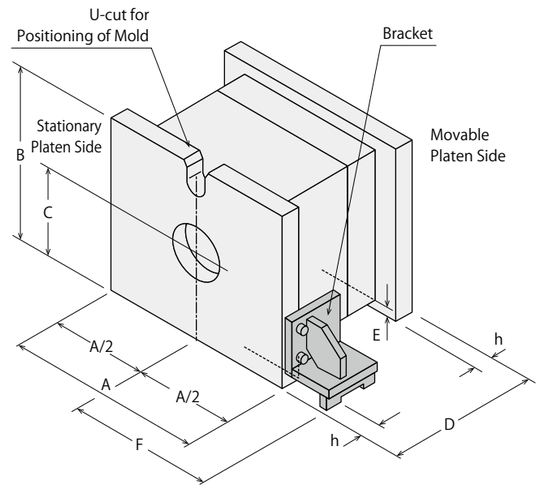
B：Height of Molds

h：Clamping Height

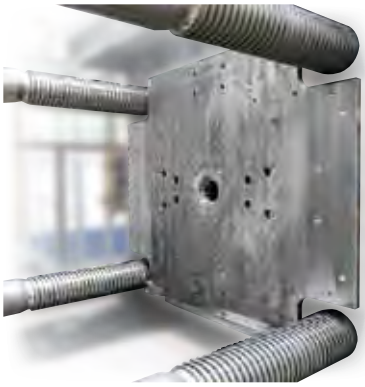
F：Distance Between the Center and Bracket Ledge

② U-cut for Positioning of Mold Stationary Platen Side

③ Bracket on Mold



Magnet Clamp/Air Clamp/Hydraulic Clamp Mold Change System for Small to Extra-Large Injection Molding Machines.



● Magnet Clamp System

The world's thinnest (37mm) magnet plate
ensures safety and securely clamps the mold.

● Pneumatic Clamp System

Eco-friendly air operated clamps exert powerful clamping force
and are equipped with a mechanical locking system.
New 40ton / 50ton models have been introduced for extra-large
injection molding machines.

● Hydraulic Clamp System

Hydraulic clamps have powerful clamping force in a compact body.
Kosmek also offers units that generate hydraulic pressure only with
factory air.

KOSMEK
Harmony in Innovation

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- FOR FURTHER INFORMATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.
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ISO 9001 JQA-QMA10823 KOSMEK HEAD OFFICE
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CAT.NO.GBB001-01-GB
Printed in Japan
2014.11 First 1Ry