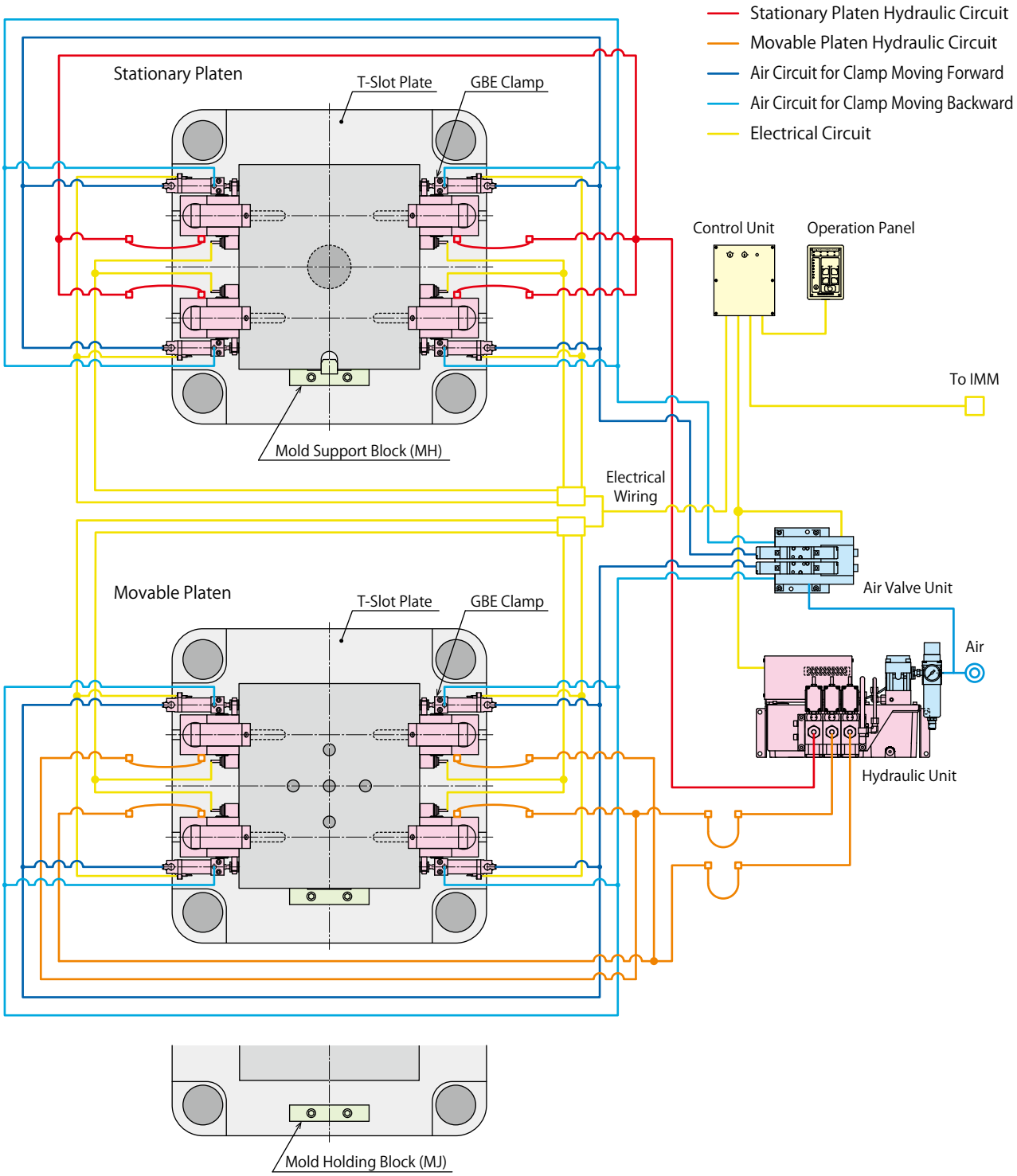
Vertical Loading Mold Change System

For Molds with Different Width

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



Standard System

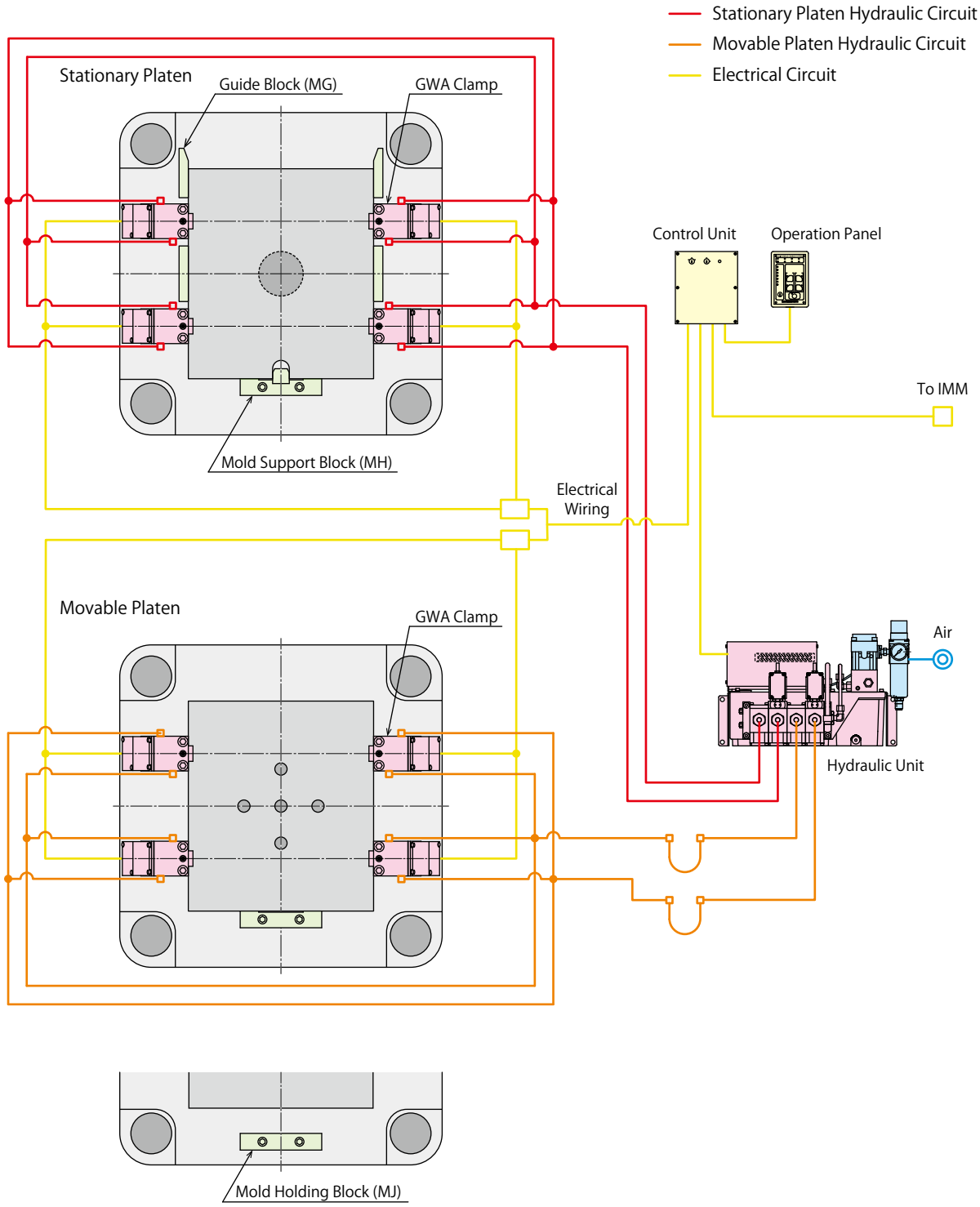
IMM Capacity (kN)	Clamp								Hydraulic Unit		Mold Support Block	Mold Holding Block	Air Valve Unit (GBE/GBF/GBR)
	GBB Clamp	GBE Clamp	GBC Clamp	GBF Clamp	GBM Clamp	GBR Clamp	Qty.	Stationary / Movable Clamping Capacity (kN)	Standard	High Speed			
~ 500	GBB0100	-	GBC0100	-	-	-	8	40	CPBN000-3UR-□0	CPDN000-3UR-□0	MH03	MJ0010	MV3013
~ 750	GBB0160	-	GBC0160	-	-	-	8	64			MH03	MJ0010	MV3013
~ 1500	GBB0250	GBE0250	GBC0250	GBF0250	GBM0250	GBR0250	8	100			MH04	MJ0020	MV3013
~ 2500	GBB0400	GBE0400	GBC0400	GBF0400	GBM0400	GBR0400	8	160			MH04	MJ0020	MV3013
~ 3500	GBB0630	GBE0630	GBC0630	GBF0630	GBM0630	GBR0630	8	252			MH04	MJ0020	MV3013
~ 5500	GBB1000	GBE1000	GBC1000	GBF1000	GBM1000	GBR1000	8	400	CPDN000-3UR-□0	CPCN000-3UR-□0	MH06	MJ0030	MV3023
~ 8500	GBB1600	GBE1600	GBC1600	GBF1600	GBM1600	GBR1600	8	640			MH06	MJ0040	MV3023
~ 13000	GBB2500	GBE2500	GBC2500	GBF2500	-	-	8	1000	CPCN000-3UR-□0	CPEN000-3UR-□0	MH08	MJ0050	MV3023
~ 20000	GBB4000	GBE4000	GBC4000	GBF4000	-	-	8	1600	CPEN000-3UR-□0		MH08	MJ0050	MV3033
~ 30000	GBB5000	GBE5000	GBC5000	GBF5000	-	-	8	2000	CQEN000-3UR-□0	CQEN000-3UR-□0	MH10	MJ0050	MV3033

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

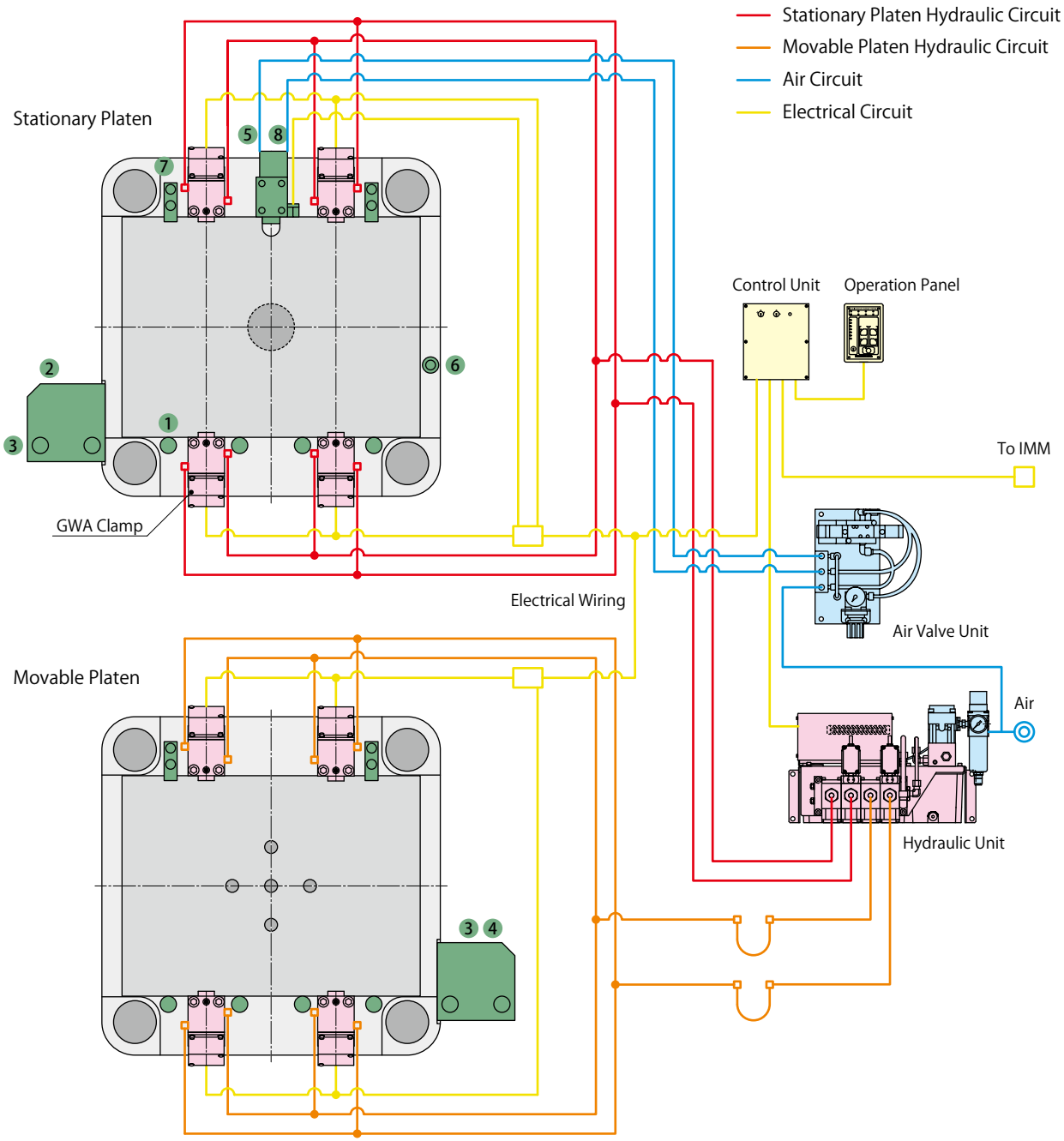
IMM Capacity (kN)	Clamp			Hydraulic Unit		Valve Unit	Mold Support Block	Guide Block
	GWA Clamp	Qty.	Stationary / Movable Clamping Capacity (kN)	Standard	High Speed	IMM Hydraulic Source		
~ 500	GWA0100	8	40	CPBL000-2PPR-□0	CPDL000-2PPR-□0	MV0011-5 (IMM Hydraulic Pressure 14MPa)	MH03	MG
~ 750	GWA0160	8	64				MH03	MG
~ 1500	GWA0250	8	100				MH04	MG
~ 2500	GWA0400	8	160				MH04	MG
~ 3500	GWA0630	8	252	CPDL000-2PPR-□0	CPCL000-2PPR-□0	MV0021-5 (IMM Hydraulic Pressure 14~21MPa)	MH04	MG
~ 5500	GWA1000	8	400	CPCL000-2PPR-□0			MH06	MG
~ 8500	GWA1600	8	640	CPEL000-2PPR-□0	CPEL000-2PPR-□0		MH06	MG
~ 13000	GWA2500	8	1000	CQEL000-2PPR-□0	CQEL000-2PPR-□0	MV0061-5 (IMM Hydraulic Pressure 14~21MPa)	MH08	MG
~ 20000	GWA4000	8	1600				MH08	MG
~ 30000	GWA5000	8	2000				MH10	MG

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.

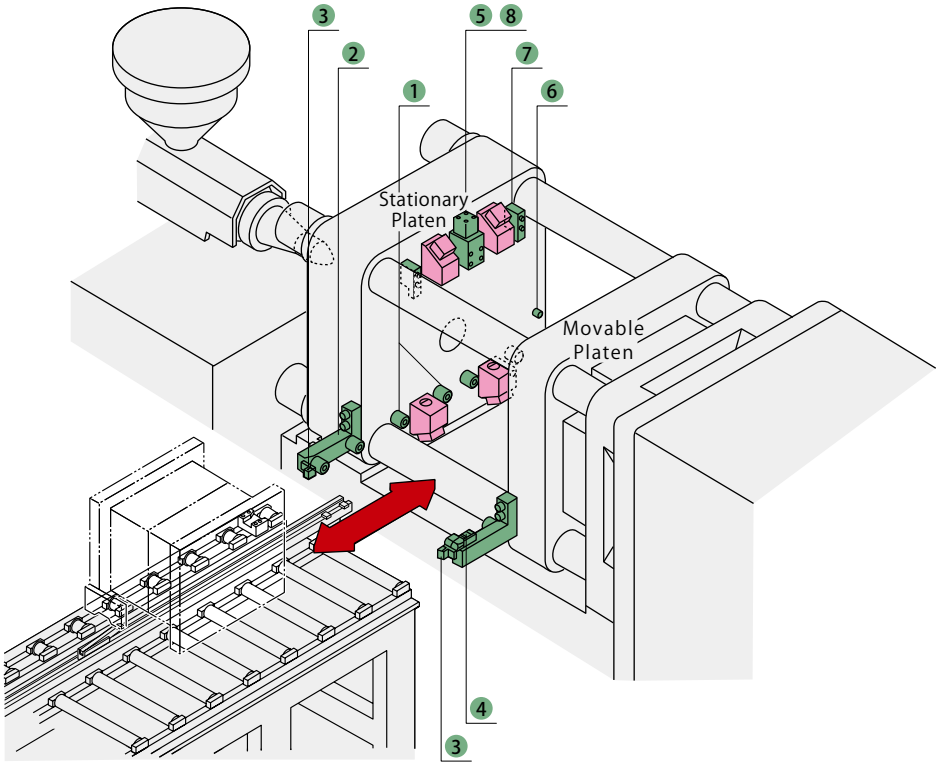


Standard System

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 14MPa)	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 14~21MPa)	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 14~21MPa)	MR1600	ML16	MS4041-5
~ 30000	GWA5000	8	2000				MR1600	ML16	MS4041-5

Notes : ※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.

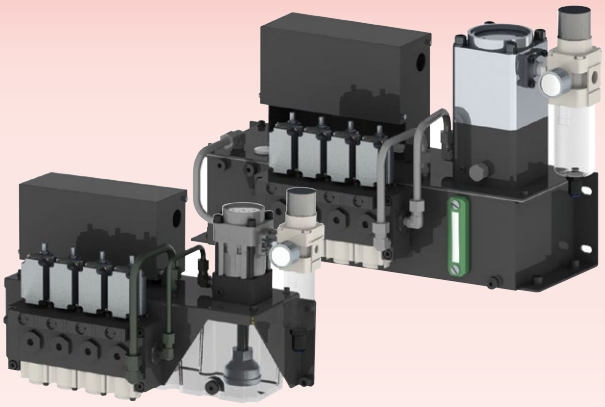
8 Mold Detection

Confirms the presence of mold in IMM.

Platen Components ※1 ※2				Standard
4 Movable Platen Opening Lower Limit Detector	5 8 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 Unit

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



Converts Factory Compressed Air into Hydraulic Pressure.

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

Applicable 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 reach equilibrium and the pump stops.
  Air consumption is zero after the pressurization is completed.

- **Maintains Hydraulic Pressure with Non-Leak Valve**

  Non-leak valve (BA valve) maintains hydraulic pressure even when air supply is stopped 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 ensures a constant clamping force.

- **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.

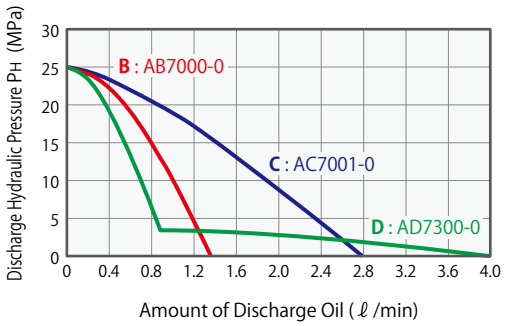
Specifications

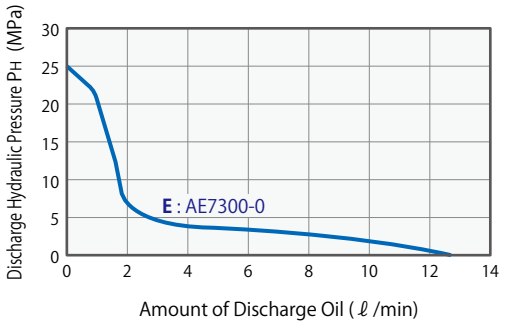
Model No.			CPBM000	CPBN000	CPDM000	CPDN000	CPCM000	CPCN000	CPEM000	CPEN000	CQCM000	CQCN000	CQEM000	CQEN000
Working Hydraulic Pressure		MPa	25											
Withstanding Pressure		MPa	37											
Tank Capacity		ℓ	5 ℓ (Actual Amount for Use 3.7 ℓ : H.L.5 ℓ -L.L.1.3 ℓ)								10 ℓ (Actual Amount for Use 7 ℓ : H.L.10 ℓ -L.L.3 ℓ)			
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 m³(normal)/min	max. 0.4		max. 0.4		max. 1.0		max. 1.0		max. 1.0		max. 1.0	
	Suction Filter	Model No.	JF1030		JF1030		JF1030		JF1040		JF1030		JF1040	
		Filtration Degree	174 μm (100 Mesh)											
	Non-Leak Valve	Model No.	BA5011-0	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 (R : Normal Pressure Rise Confirmation)	Model No.	JBA2700-0G											
		Set Pressure (Normal Pressure Rise Confirmation) MPa	INC. 17.6											
	Pressure Switch (S : Abnormal High Pressure Confirmation)	Model No.	JBA3800-0GD											
		Set pressure (Normal Pressure Rise Confirmation) MPa	INC. 17.6											
		Set pressure (Abnormal High Pressure Confirmation) MPa	INC. 28.4											
	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.

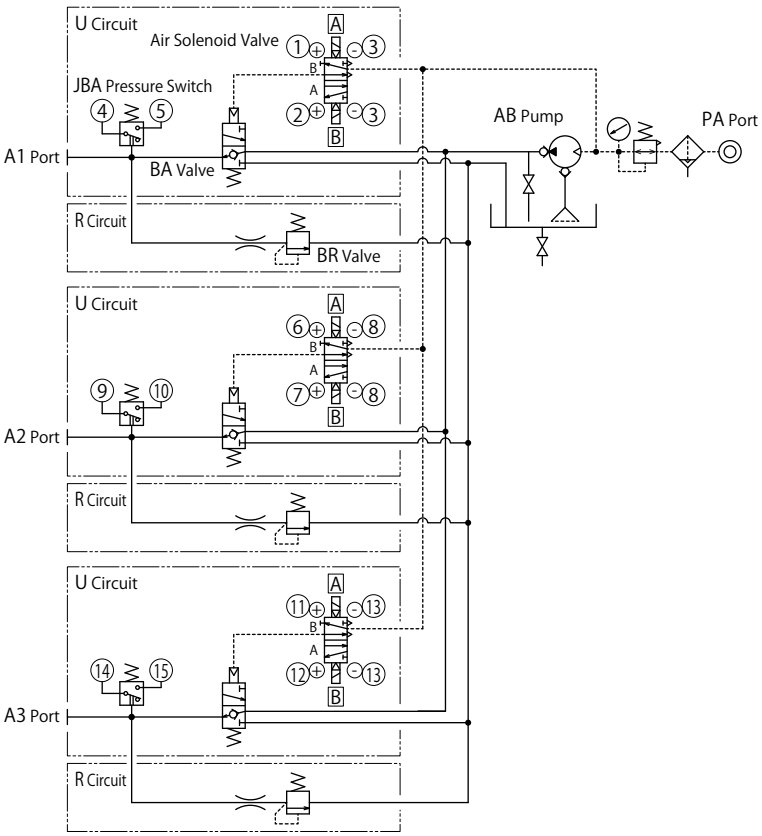
Pump Performance Curve





Circuit Symbol

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



Model No. Indication

C P B N 0 0 0 - 3UR - 5 A - □

1 2 3 4 5 6 7 8 9

1 Unit

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

Note :
1. For **Q** : 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※1
S : With Pressure Relief Valve (Normal Pressure Rise Confirmation + Abnormal High Pressure Confirmation) ※1※2

Notes :
※1. Select the hydraulic unit with pressure relief valve when using a hydraulic clamp with high temperature option or using under large temperature change, since there may be pressure fluctuation caused by temperature change.
※2. Circuit Symbol **S** can be selected only when using Option **Y** of YM Operation Panel/Control Unit.
1. When selecting "With 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 Common (Only when selecting 7 Voltage Code **5** : DC24V)

A : + Common (Standard)
B : – Common

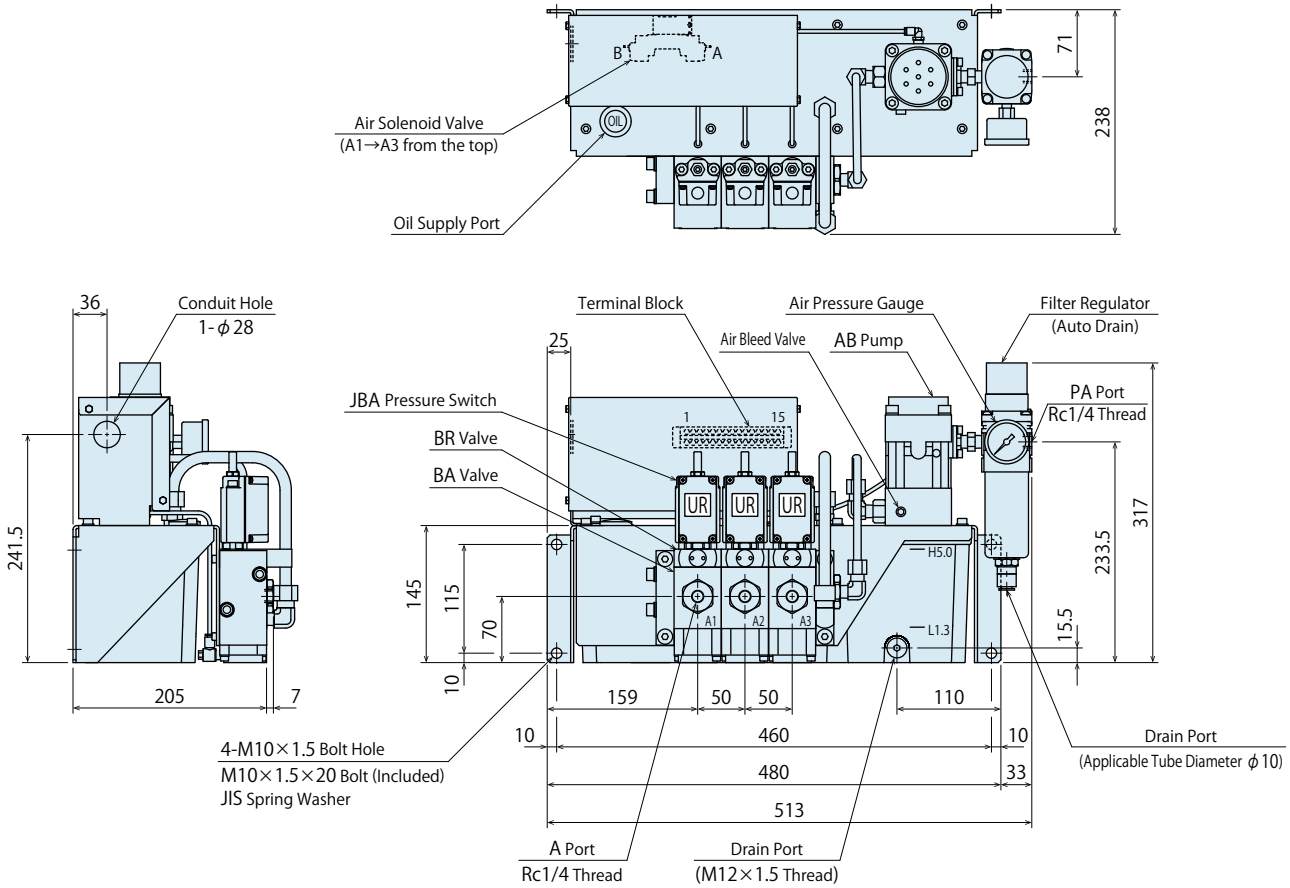
9 Option

Blank : Standard
D0 : Digital Pressure Sensor (PNP) (DC24V only)
D1 : Digital Pressure Sensor (NPN) (DC24V only)
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 ※3
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.) ※4

Notes :
※3. When selecting 9 Option **N** : Piping Port NPT Thread, dimensions in the specification sheet and other documents are in inches.
※4. 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.

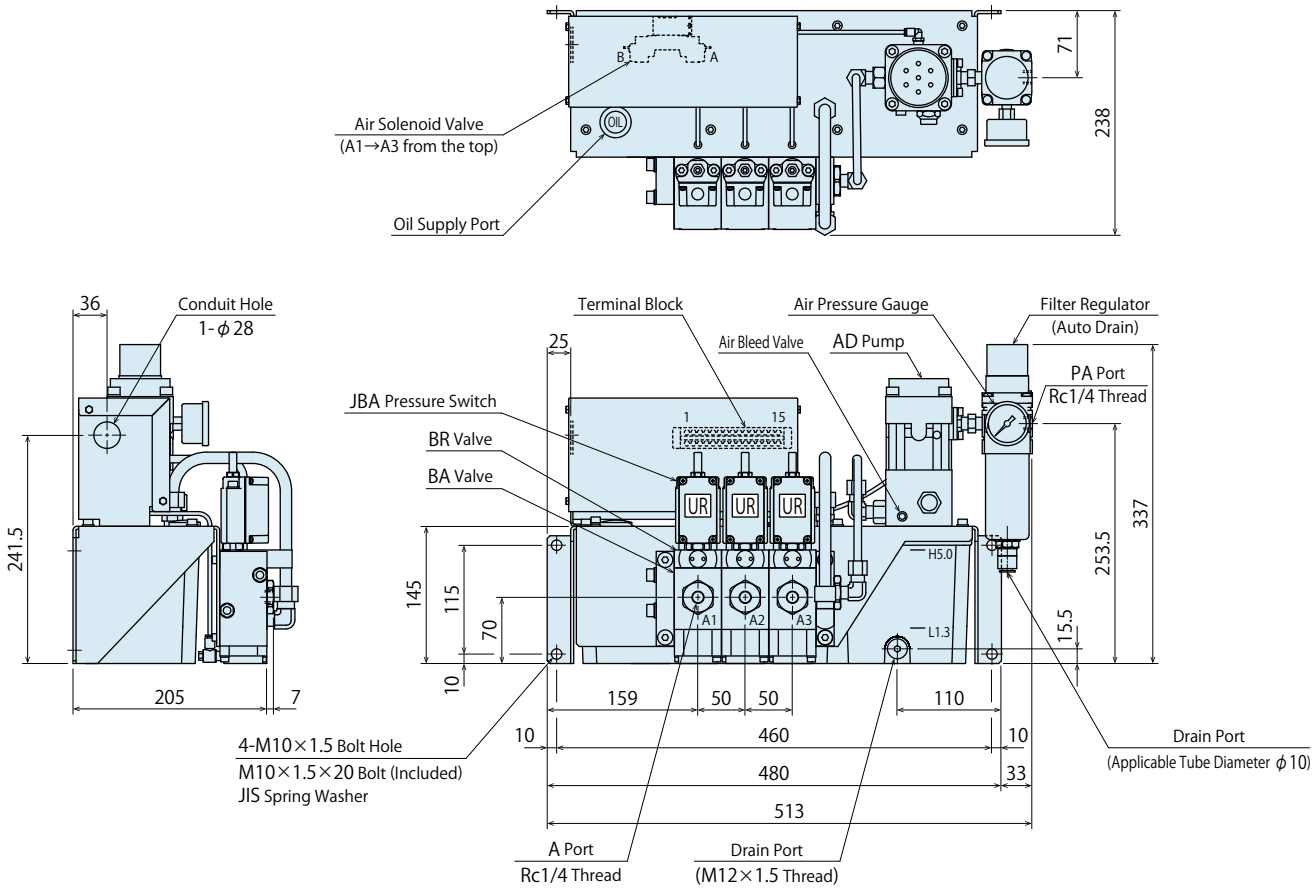
External Dimensions : CPB

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



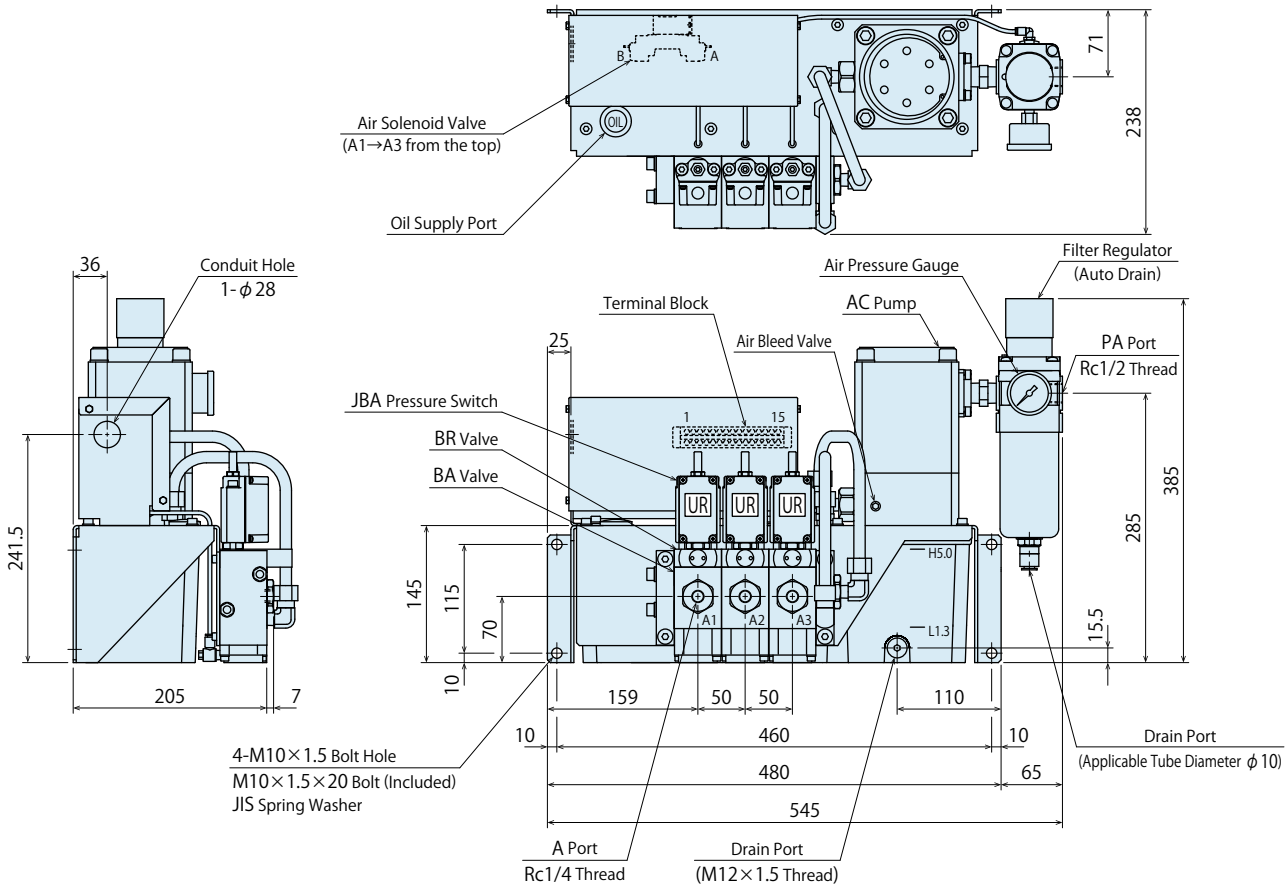
External Dimensions : CPD

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



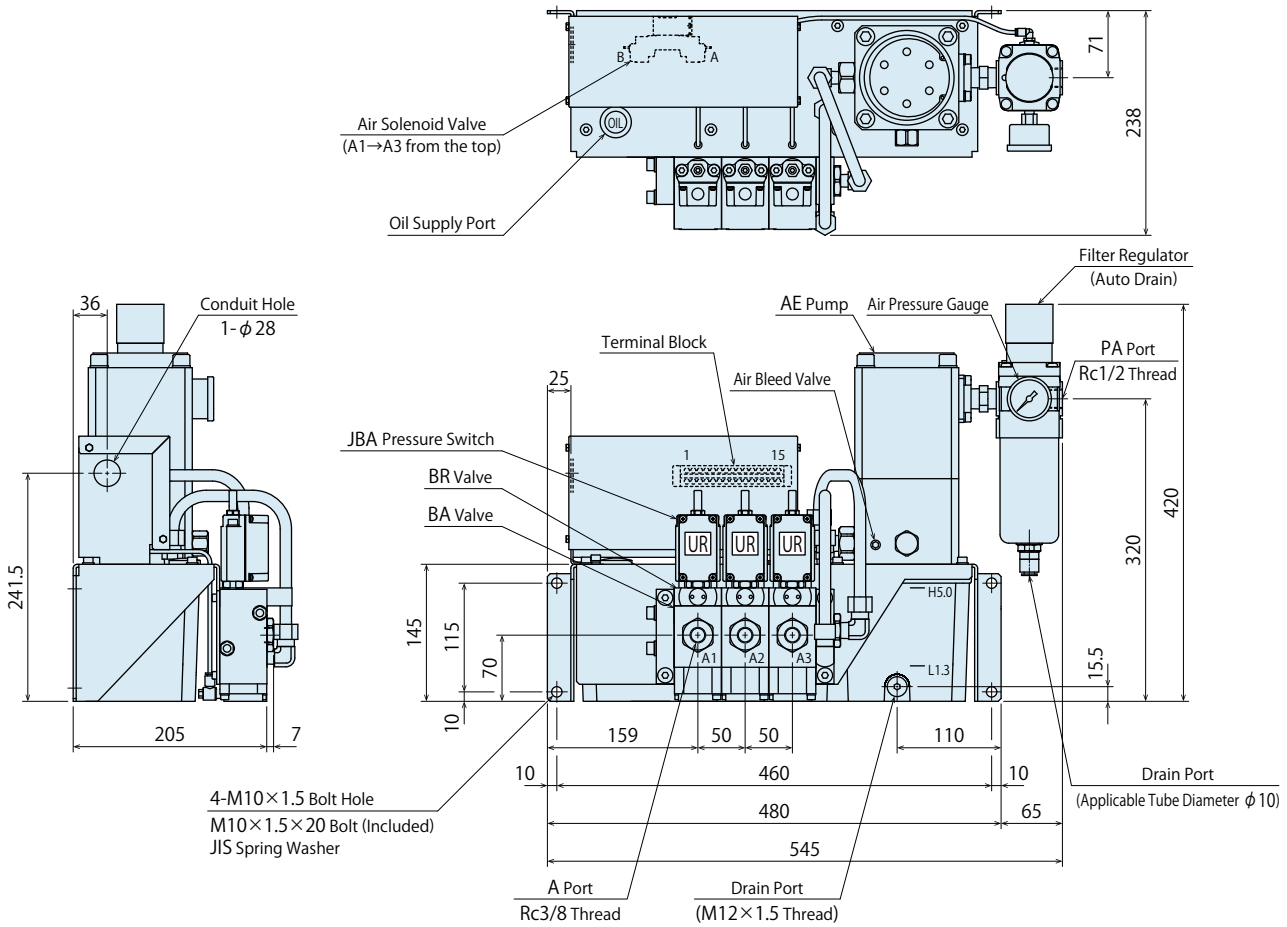
External Dimensions : CPC

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



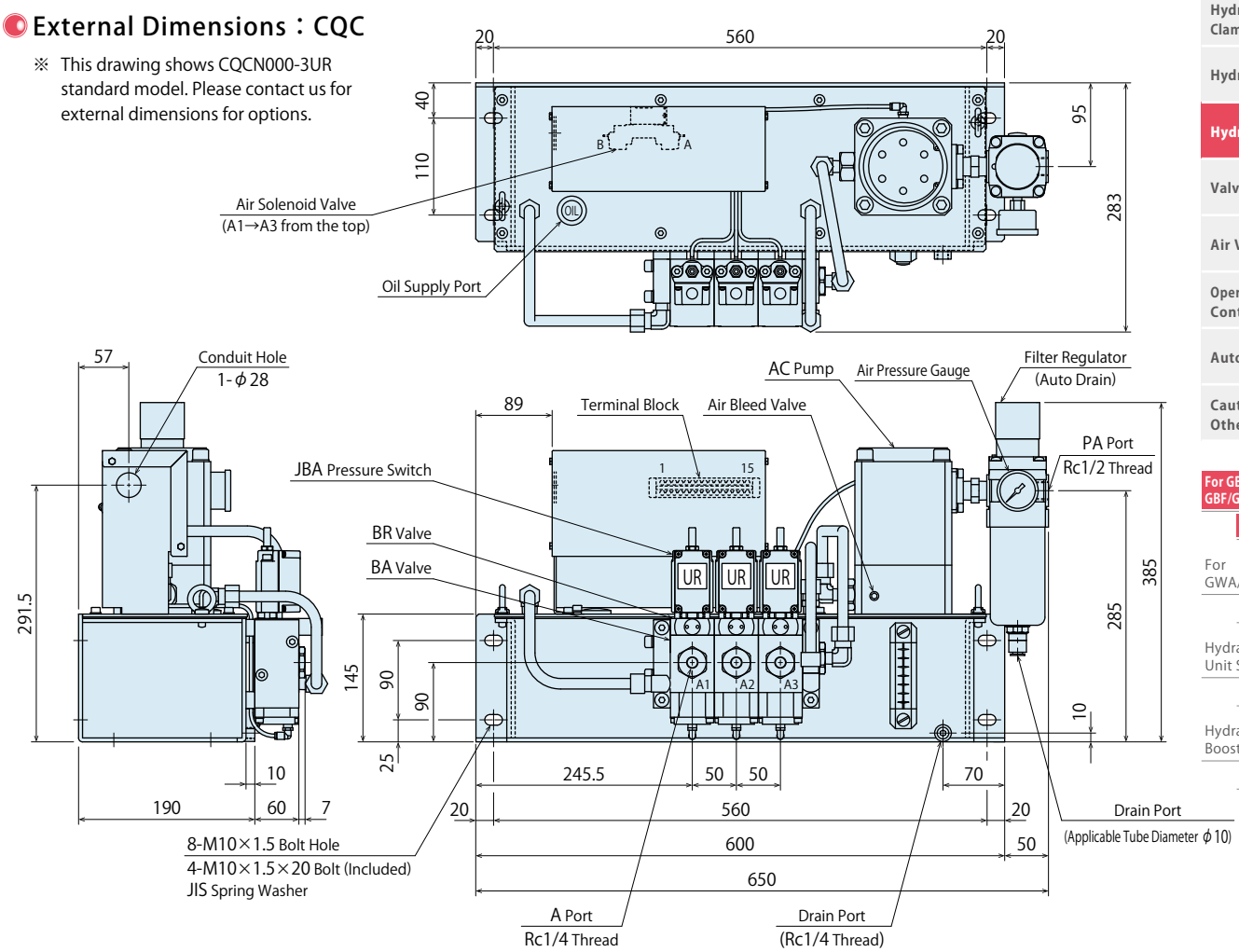
External Dimensions : CPE

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



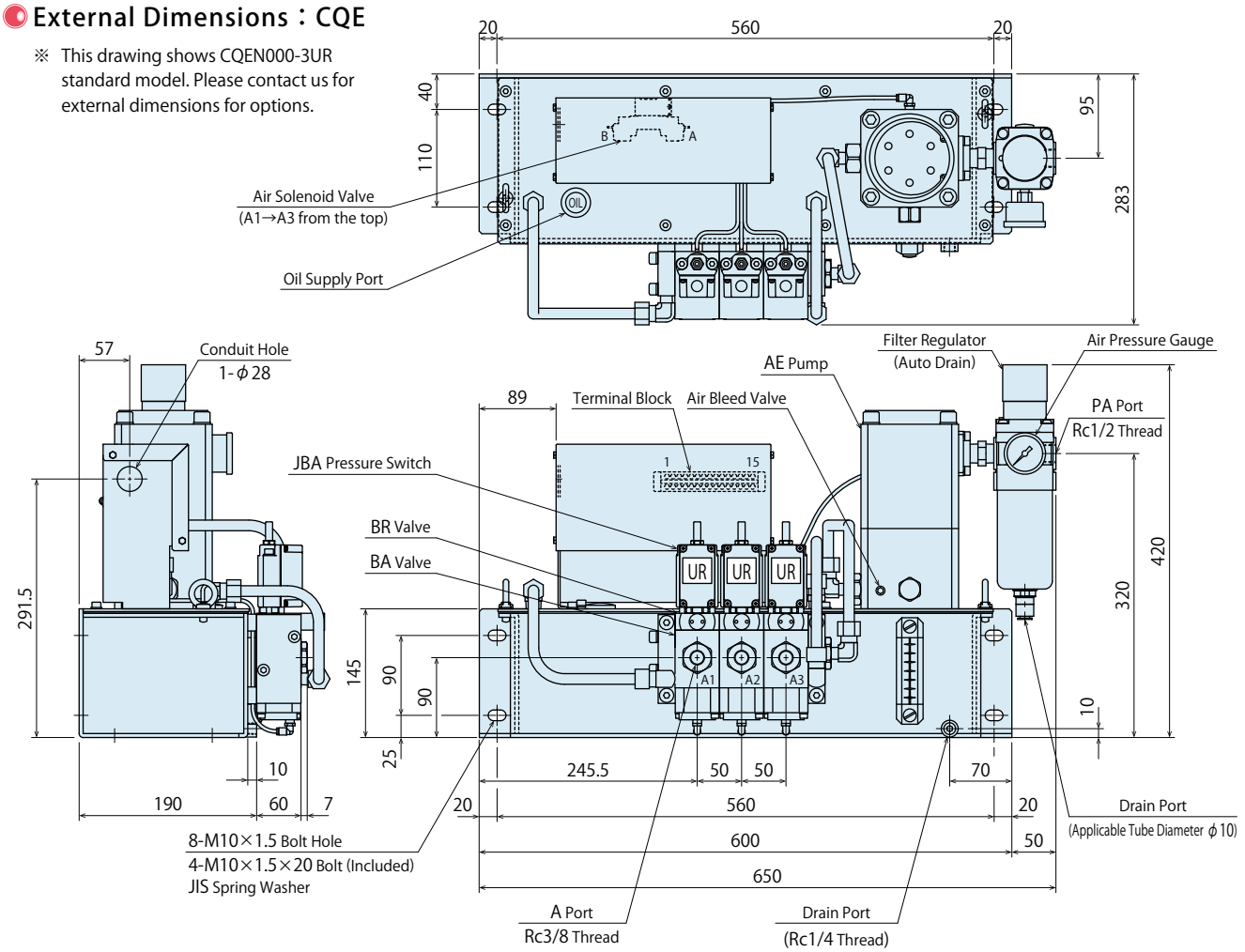
External Dimensions : CQC

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



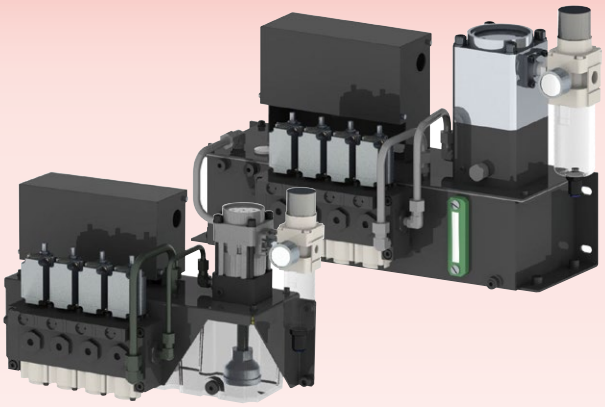
External Dimensions : CQE

※ 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



Converts Factory Compressed Air into Hydraulic Pressure.

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

Applicable Clamp Models

GWA GLA

- **Energy Saving**

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

- **Maintains Hydraulic Pressure with Non-Leak Valve**

  Non-leak valve (BA valve) maintains hydraulic pressure even when air supply is stopped 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 ensures a constant clamping force.

- **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.

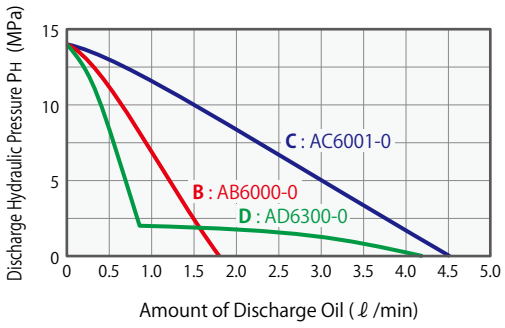
Specifications

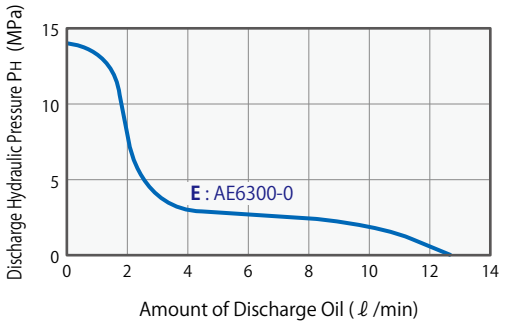
Model No.			CPBK000	CPBL000	CPDK000	CPDL000	CPCK000	CPCL000	CPEK000	CPEL000	CQCK000	CQCL000	CQEK000	CQEL000
Working Hydraulic Pressure MPa			14											
Withstanding Pressure MPa			21											
Tank Capacity ℓ			5 ℓ (Actual Amount for Use 3.7 ℓ : H.L.5 ℓ -L.L.1.3 ℓ)								10 ℓ (Actual Amount for Use 7 ℓ : H.L.10 ℓ -L.L.3 ℓ)			
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	174 μm (100 Mesh)											
	Non-Leak Valve	Model No.	BA5011-0	BA5011-0 BA5R11-0	BA5011-0	BA5011-0 BA5R11-0	BA5011-0	BA5011-0 BA5R11-0	BA5011-0 -Z00101	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.

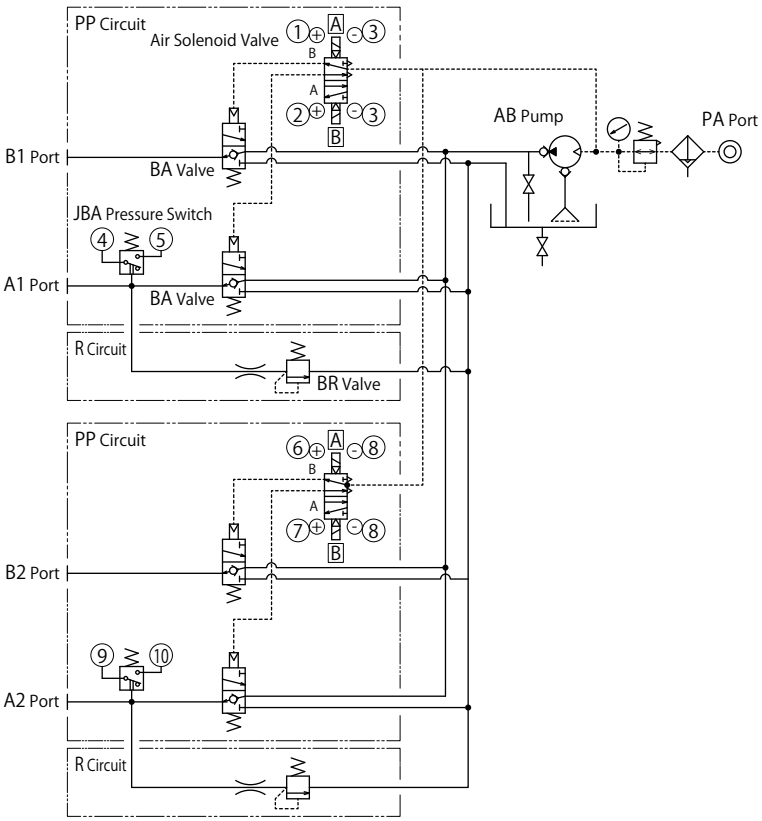
Pump Performance Curve





Circuit Symbol

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



Model No. Indication

C P B L 0 0 0 - 2PPR - 5 A - □

1 2 3 4 5 6 7 8 9

1 Unit

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

Note :
1. For **Q** : 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.)

PP : For Clamp Double Solenoid
R : With Pressure Relief Valve ※1

Note :
※1. Select the hydraulic unit with pressure relief valve when using a hydraulic clamp with high temperature option or using under large temperature change, since there may be pressure fluctuation caused by temperature change.
1. When selecting "With 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 Common (Only when selecting 7 Voltage Code **5**:DC24V)

A : + Common (Standard)
B : – Common

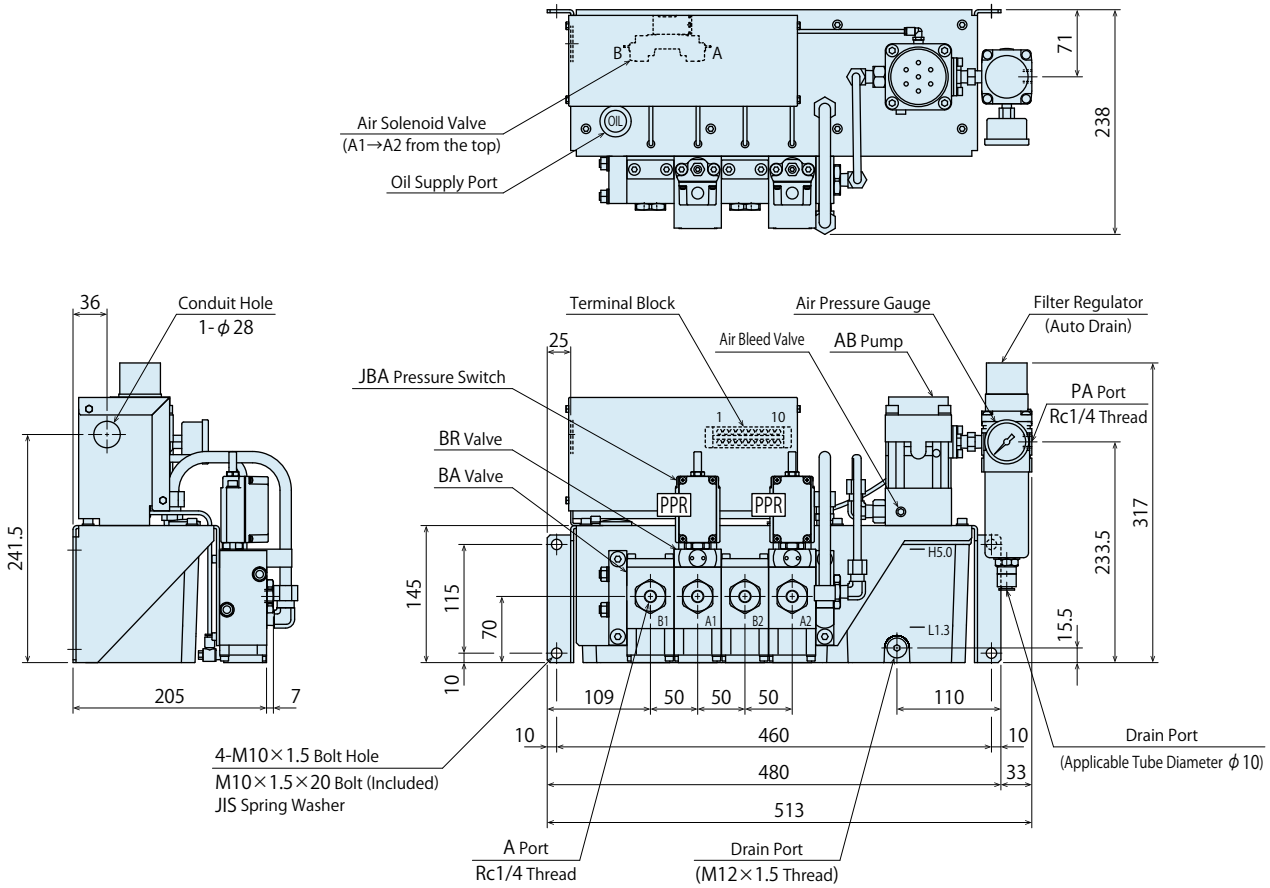
9 Option

Blank : Standard
D0 : Digital Pressure Sensor (PNP) (DC24V only)
D1 : Digital Pressure Sensor (NPN) (DC24V only)
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 ※2
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.) ※3

Notes :
※2. When selecting 9 Option **N** : Piping Port NPT Thread, dimensions in the specification sheet and other documents are in inches.
※3. 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.

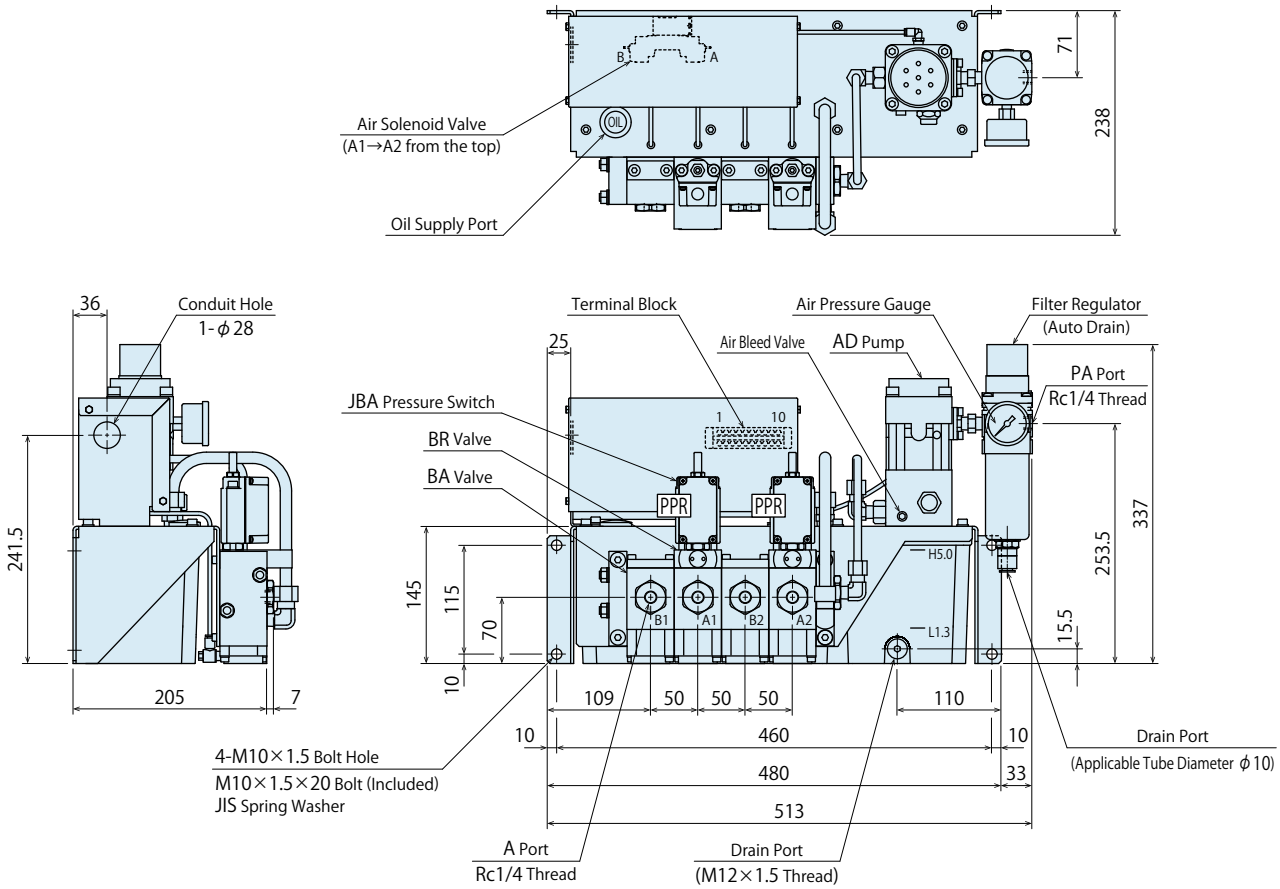
External Dimensions : CPB

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



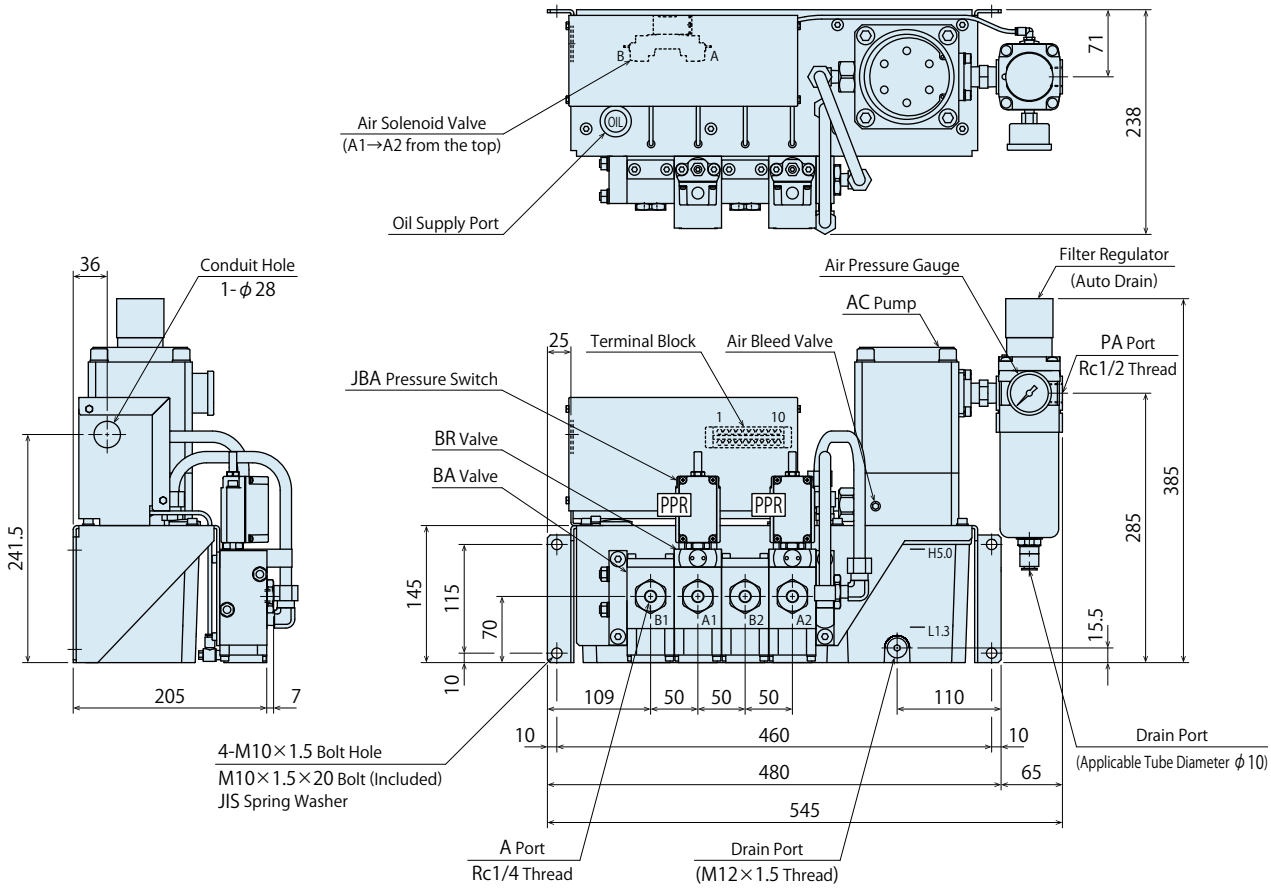
External Dimensions : CPD

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



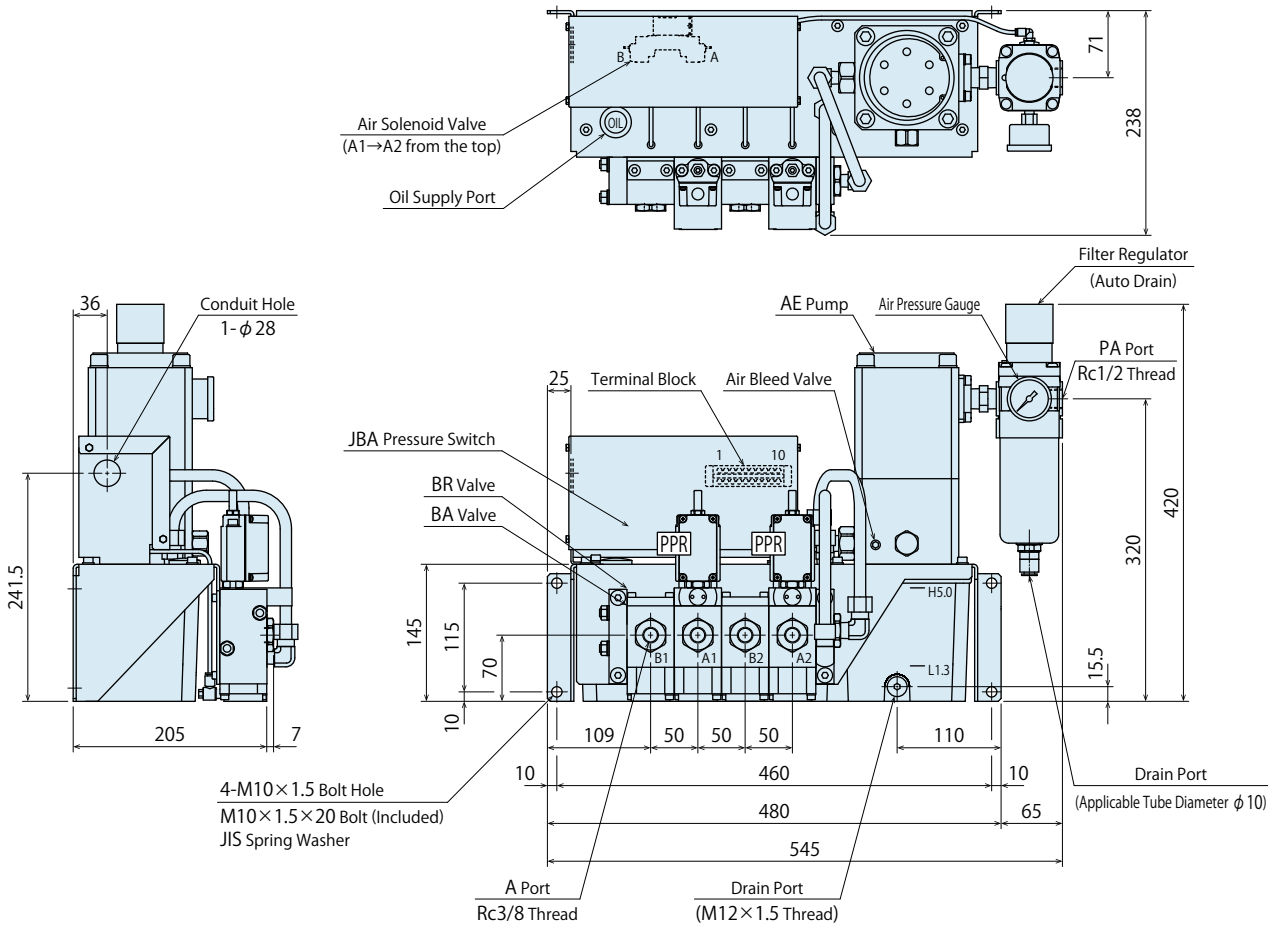
External Dimensions : CPC

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



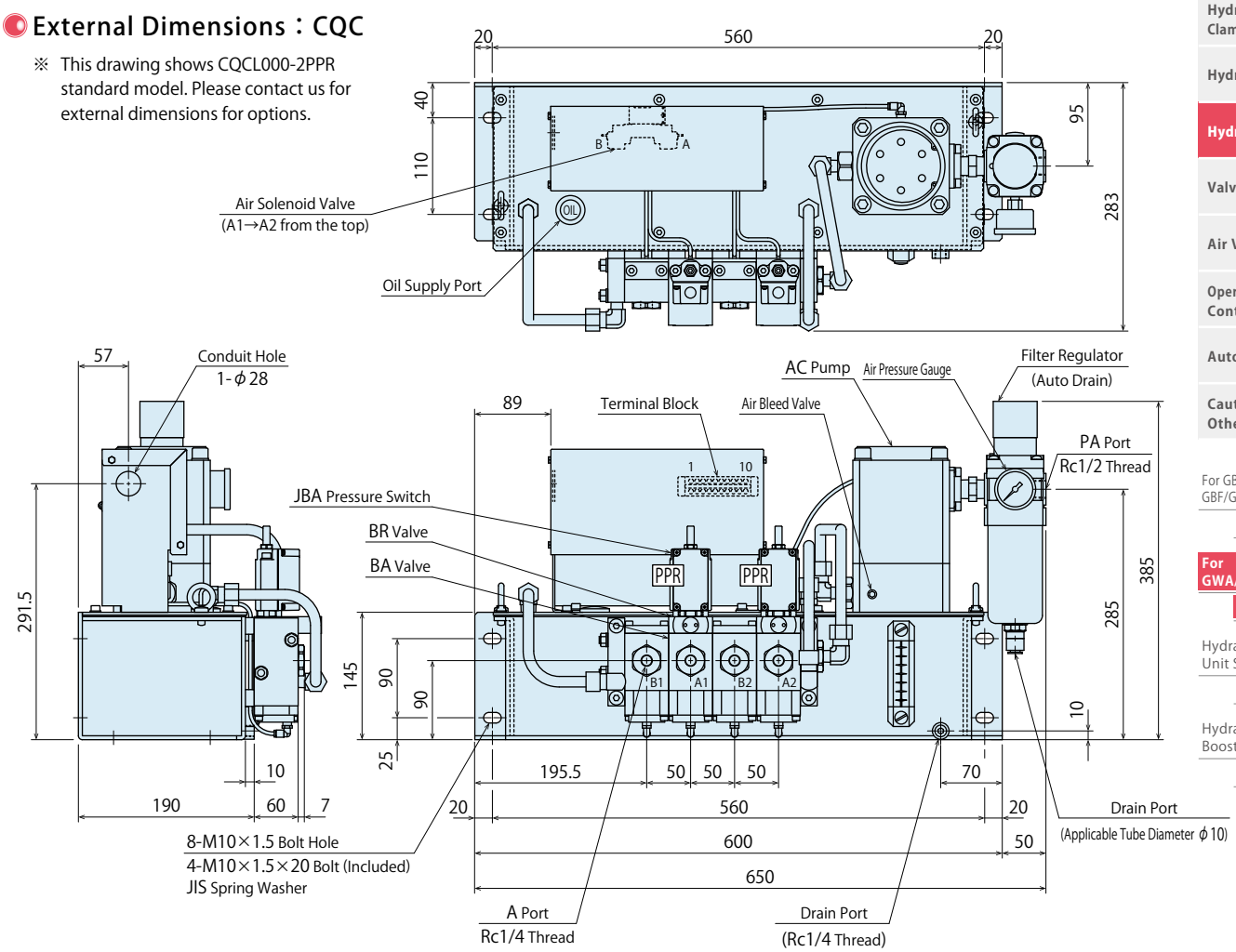
External Dimensions : CPE

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



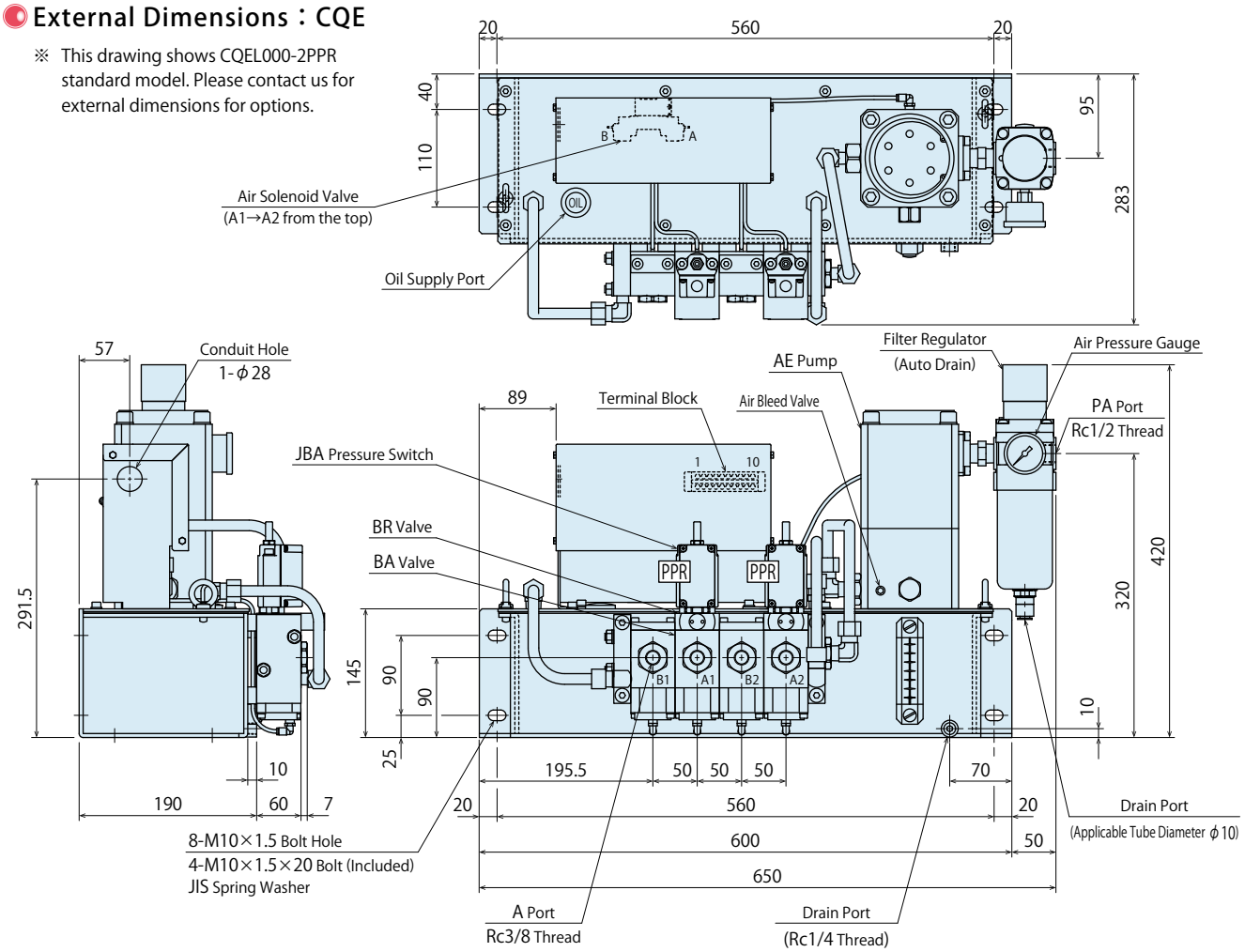
External Dimensions : CQC

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

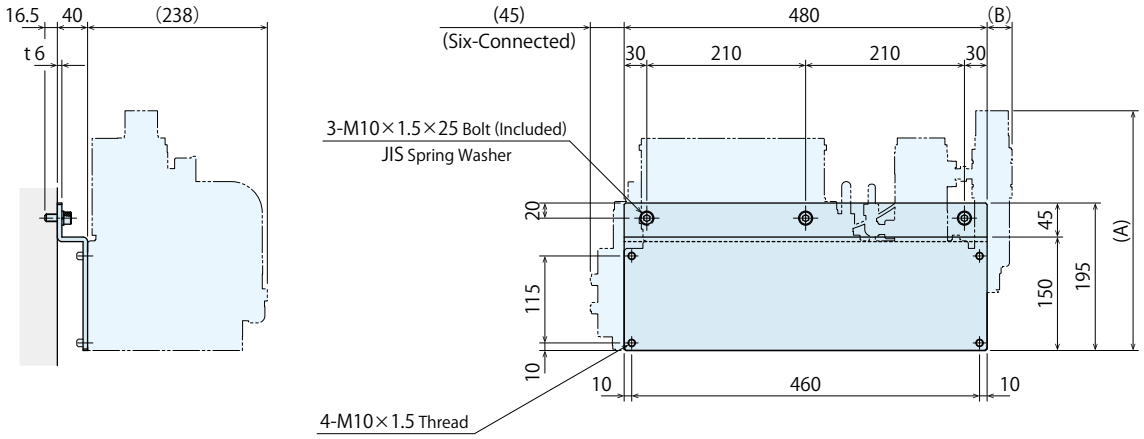


External Dimensions : CQE

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



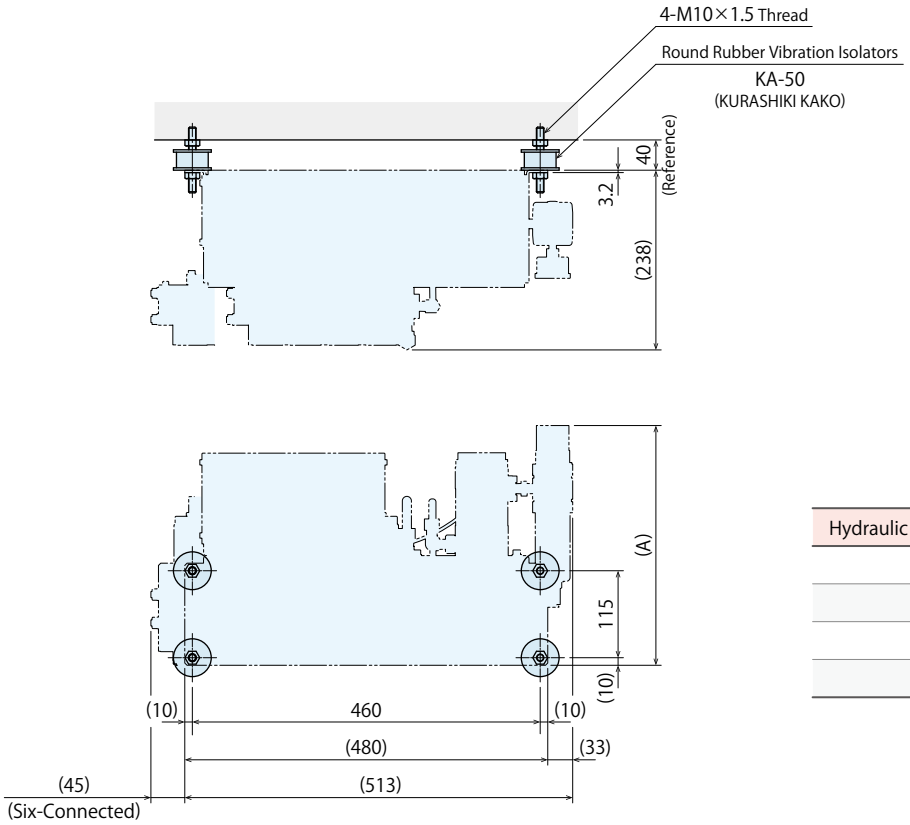
External Dimensions : CPSH000 (Wall Mounted)



(mm)

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

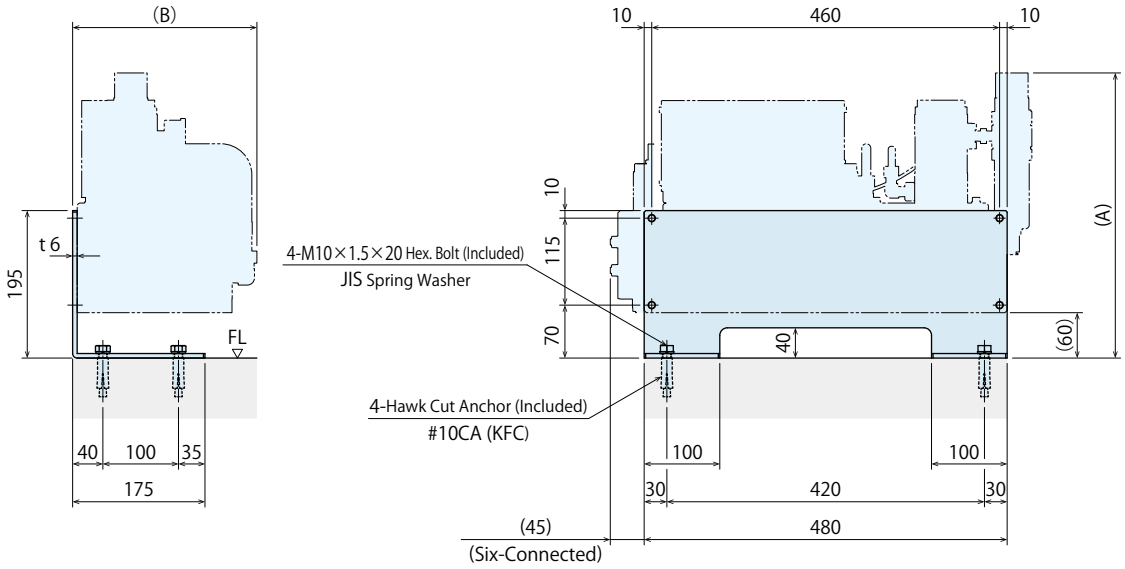
External Dimensions : CPSR000 (Anti-Vibration Rubber)



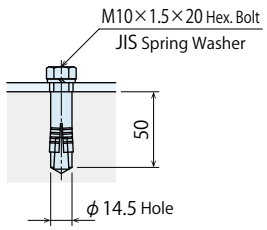
(mm)

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

External Dimensions : CPSV000 (Floor Mounted)



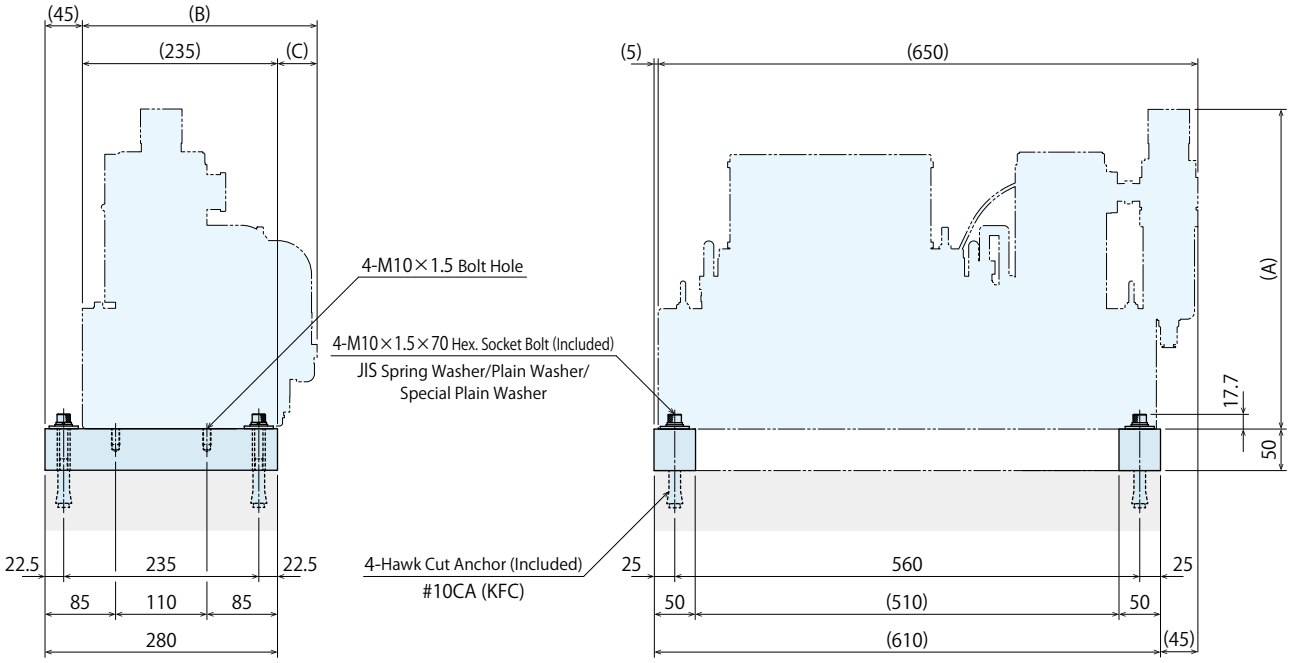
Hawk Cut Anchor Machining Dimensions



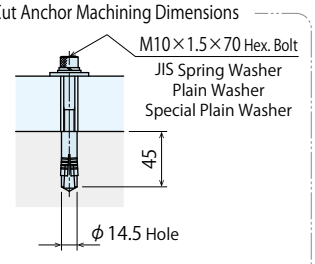
(mm)

Hydraulic Unit Model No.	Dimension A	Dimension B
CPB	377	244
CPD	397	244
CPC	445	244
CPE	480	244

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

Cautions

Notes for Design

1) Check Specifications

- Please use each product according to its specifications.
- 【GBB/GBC/GBE/GBF/GBM/GBR】
  Operating hydraulic pressure is 25 MPa.
  Operate within the specified condition. Failure to do so may result in damage on clamps, falling of molds and injury.
  In order to reduce clamping force, use the product with lower operating pressure.
  【GWA/GLA】
  Operating hydraulic pressure is 14MPa. Hydraulic pressure must be continuously supplied.
  However, if using IMM hydraulic source and supply hydraulic pressure fluctuates, supply 14MPa hydraulic pressure to the clamp when opening the mold. Otherwise, the specification of the clamp is not satisfied and it may cause injury due to falling of the mold.
  Do not use clamps with excessive hydraulic pressure. Failure to do so may result in damage on clamps, falling of molds and injury.
- The ambient operating temperature of clamp should be 0 ~ 70℃.
  (High Temperature Model：0 ~ 120℃.)

2) Mold Clamping Thickness

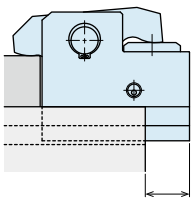
- 【GBB/GBC/GBE/GBF/GBM/GBR】
  Check the mold clamping thickness.
  【GWA/GLA】
  The mold clamping thickness should be h±0.5mm.
- Use of a mold other than specified may result in incomplete locking of the clamp, leading to injury due to falling of the mold.

3) Check the dimensions of T-slot.

- 【GBB/GBC/GBE/GBF/GLA】
  If the T-slot you are using differs from the clamp specification, the clamp will not operate properly, and this could lead to falling of the mold and injury.

4) Allowable Protrusion Amount when Clamping

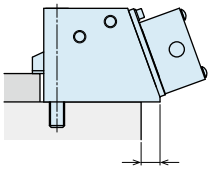
- 【GBB/GBC/GBE/GBF/GWA/GLA】
  Do not exceed the allowable protrusion amount. Otherwise, excessive force will be applied to the clamp, deforming or dropping the clamp out of T-slot. It may cause falling of a mold and injury.



Allowable Protrusion Amount
(L)

Allowable Protrusion Amount

Model No.	L (mm)
GBB0100/GBC0100	17.5
GBB0160/GBC0160	21
GBB0250/GBC0250/GBE0250/GBF0250	25
GBB0400/GBC0400/GBE0400/GBF0400	32
GBB0630/GBC0630/GBE0630/GBF0630	39
GBB1000/GBC1000/GBE1000/GBF1000	45
GBB1600/GBC1600/GBE1600/GBF1600	57
GBB2500/GBC2500/GBE2500/GBF2500	69.5
GBB4000/GBC4000/GBE4000/GBF4000	0
GBB5000/GBC5000/GBE5000/GBF5000	0



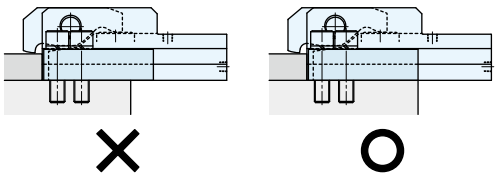
Allowable Protrusion Amount
(L)

Allowable Protrusion Amount

Model No.	L (mm)
GWA0100/GLA0100	35
GWA0160/GLA0160	38
GWA0250/GLA0250	23
GWA0400/GLA0400	62
GWA0630/GLA0630	65
GWA1000/GLA1000	35
GWA1600/GLA1600	0
GWA2500/GLA2500	0
GWA4000/GLA4000	0
GWA5000/GLA5000	0

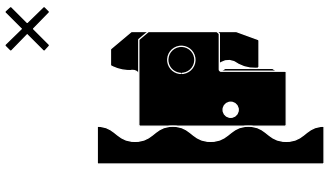
5) Be careful with a mounting position of a clamp.

- 【GBM/GBR】
  The mounting block should not protrude out from the mounting surface. Otherwise, excessive force will be applied to the clamp leading to deformation and dislocation which may cause falling of a mold leading to injury.



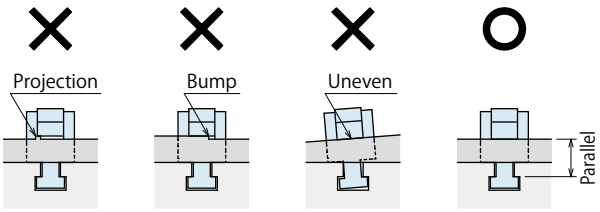
6) Make sure the sliding surface is smooth (without any bumps).

- 【GBB/GBC/GBE/GBF/GBM/GBR/GLA】
  If the sliding surface is not smooth, the clamp will not slide properly.



7) Mold clamping surface

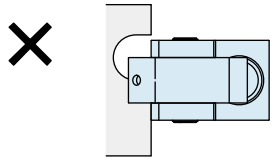
- 【GBB/GBC/GBE/GBF/GBM/GBR】
  The mold clamping surface and T-slot must be parallel to the mold mounting surface. If the clamping surface has a bump or is not flat, excessive force will be applied to the clamp. It may deform the clamp body, lever and pins, resulting in falling of the clamp or the mold and injury.



- 【GWA/GLA】
  The mold clamping surface must be parallel to the IMM platen. If the clamping surface has a bump or is not flat, excessive force will be applied to the clamp. It may deform the clamp body and the clamp piston, resulting in falling of the mold and injury.

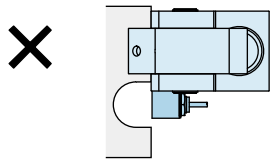
8) Make sure there is no notch such as U-cut on the clamping area of the mold.

● If there are U-cuts (notches) on the clamping area of a mold, the clamp will not be able to operate properly, leading to falling of the mold and injury.
For use of molds with U-cuts (notches) , please contact us.



9) Make sure there is no notch such as U-cut on the mold surface where the mold confirmation proximity switch contacts.

● The mold confirmation proximity switch does not operate properly if there are U-cuts (notches) on the mold surface where the mold confirmation proximity switch contacts.



10) Make sure that advance/retraction of the clamp is smoothly conducted.

● 【GBE/GBF/GBR/GLA】

① Supply more than 0.4MPa air pressure to air cylinder.
② Adjust the moving speed of the clamp with speed controllers to fully stroke within 1 to 2 seconds.
③ Proximity switch is used for forward-end confirmation. Make sure the mold surface on the switch side has no U-cut.
④ The clamp sliding surface must be smooth (without any bumps).

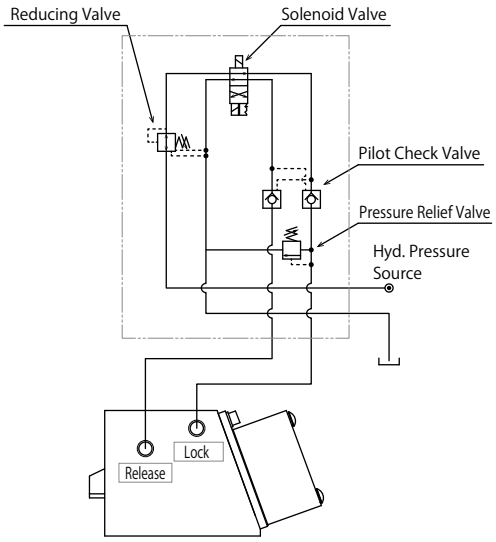
11) Interlock

● Make sure to control with the interlock so that clamps lock or release only when IMM is at mold close (pressurized) state.

12) Design the hydraulic circuit carefully.

● 【GWA/GLA】
When designing the hydraulic circuit, make sure to install a check valve in the circuit. Install a pressure relief valve in case the oil temperature in the circuit increases while clamping, since the pressure may exceed the value in the specification. Clamp damage may lead to falling of a mold and injury.

【Reference Circuit】



13) Control the solenoid valve carefully.

● 【GWA/GLA】
When controlling the solenoid valve, always energize the excitation circuits. If not energize the excitation circuits, it may be switched by unexpected causes resulting in falling of a mold and iinjury.

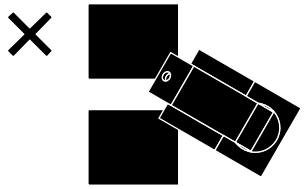
14) Clamp control

● 【GWA/GLA】
A micro switch of mechanical interface is used for confirming the lock/release operation. It may happen to disconnect the connection of the switch caused by vibration during the machine running.
It is recommended to install an off-delay timer in the control circuits of the program.

Cautions

Installation Notes

1) Prevent the clamps dropping out from the T slot.
【GBB/GBC/GBE/GBF/GLA】
● Fall of the clamp will lead to injury.



2) Check the Usable Fluid.
● Use the appropriate fluid by referring to the Hydraulic Fluid List. Please contact us when using fluid which is not on the list.

3) Pocedure before piping
● The pipeline and piping connector should be cleaned by thorough flushing. The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
(The filter which removes contaminant in the hydraulic piping or hydraulic system is not provided.)

4) Please supply filtered clean dry air.
● Install an air filter/air dryer in order to prevent rust and dirt. Otherwise it may lead to malfunction.

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

6) Installation of the Clamp
【GBE/GBF/GLA】
After setting the clamp in the T-slot, use attached hex. socket bolts and tighten them with the torque shown below.

Model No.	Bolt Size	Tightening Torque (N·m)
GBE/GBF025□	M5×0.8	6.3
GBE/GBF040□	M5×0.8	6.3
GBE/GBF063□	M6×1	10
GBE/GBF100□	M8×1.25	25
GBE/GBF160□	M10×1.5	50
GBE/GBF250□	M12×1.75	80
GBE/GBF400□	M16×2	200
GBE/GBF500□	M16×2	200

Model No.	Bolt Size	Tightening Torque (N·m)
GLA160□	M12×1.75	80
GLA250□	M16×2	200
GLA400□	M20×2.5	400
GLA500□	M20×2.5	400

【GBM/GBR】
After setting the clamp, use attached hex. socket bolts and tighten them with the torque shown below.

Model No.	Bolt Size	Tightening Torque (N·m)
GBM/GBR025□	M12×1.75	80
GBM/GBR040□	M16×2	200
GBM/GBR063□	M20×2.5	400
GBM/GBR100□	M24×3	630
GBM/GBR160□	M30×3.5	1250

【GWA】
Use attached hex. socket bolts and tighten them with the torque shown below.

Model No.	Bolt Size	Tightening Torque (N·m)
GWA010□	M8×1.25	25
GWA016□	M10×1.5	50
GWA025□	M12×1.75	80
GWA040□	M16×2	200
GWA063□	M20×2.5	400
GWA100□	M24×3	630
GWA160□	M20×2.5	400
GWA250□	M24×3	630
GWA400□	M30×3.5	1250 (800)
GWA500□	M33×3.5	1600 (1000)

Note: The table shows tightning torque when bolts and screw parts are dry.
Values in brackets indicate values when the bolt seating surfaces and screw parts are lubricated with grease.

7) Piping and Wiring
● For piping and wiring, make sure not to cut the hydraulic hoses and wiring by the clamp when it moves back and forth.

8) Air Bleeding of the Hydraulic Circuit
● Excessive air in the hydraulic circuit may result in insufficient clamping force or a longer operating time.
If air enters the circuit after connecting the pipes or when the oil tank is empty, bleed air at the ends of the pipes.

9) Wiring of Forward End Confirmation Switch
● For wiring, please make sure that the clamp does not cut the code of Forward End Confirmation Switch when it moves back and forth.

Hydraulic Fluid List

ISO Viscosity Grade ISO-VG-32

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

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

Cautions

Notes on Handling

1) Close the mold after molding is completed.
● Failure to do so may result in mold dropping and injury.

2) It should be handled by qualified personnel.
● The hydraulic/pneumatic equipment should be handled and maintained by qualified personnel.

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

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

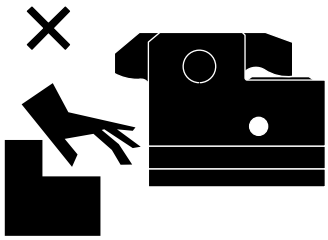
② Before removing the product, make sure that the above-mentioned safety measures are in place. Shut off the pressure and power source, and make sure no pressure exists in the hydraulic circuits.

③ After stopping the product, do not remove until the equipment cools down.

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

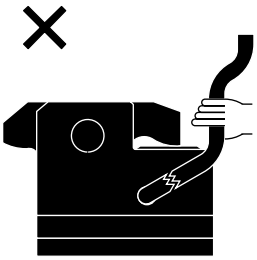
4) Do not apply load to the clamp when at 0MPa.
【GWA/GLA】
● In case of hydraulic source trouble, the clamp has holding force with mechanical lock even when hydraulic pressure is at 0MPa. However, do not apply load on the clamp at this state.

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

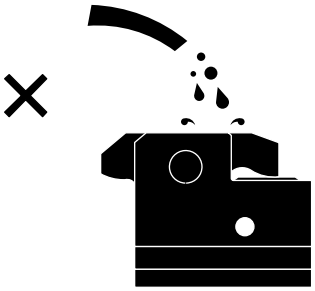


6) When changing a mold width, make sure to check the allowable protrusion amount.
● If using it with beyond allowable protrusion amount, excessive force is applied to the clamp which deforms or damages the clamp resulting in falling of the mold and injury. It may cause product malfunction or deterioration, which may lead to an accident.

7) Hold the clamp body when moving and removing the clamp.
【GBB/GBC/GBM】
● Pulling on a hose leads to a clamp fall and injury.
Also, rivet part of the hose will be loosened leading to fluid leakage.

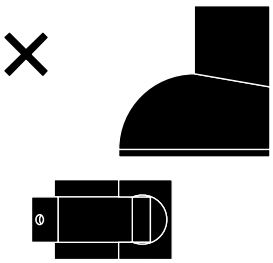


8) Do not pour water or oil over the product.
● It may lead to malfunction or deterioration of the product and cause an accident.



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

10) Do not apply excessive force to clamps.
● The clamp may be damaged or deformed, resulting in malfunction.



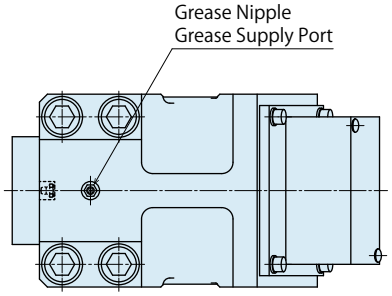
Maintenance and Inspection

1) Removal of the Product and Shut-off of Pressure Source

- Before removing the product, make sure that the safety measures mentioned earlier are in place. Shut off the pressure and power source, and make sure no pressure exists in the air/hydraulic circuits.
  Also, make sure there is no abnormality in the bolts and respective parts before restarting.

2) Lubricate grease periodically.
【GWA/GLA】

- Lubricate grease from the grease nipple periodically (once a year is recommended) to maintain clamp performance. Especially when process water often splashes on the clamps, release operation failure is likely to occur. In such cases, lubricate the clamps with grease more frequently than recommended, if necessary.



If release operation failure should occur, it is effective to lubricate grease and repeat lock and release actions of the clamp 2 to 3 times without the mold.

3) Regularly tighten pipes and mounting bolts to ensure proper use.

4) Periodically ensure that the supply hydraulic/air pressure is a specified value.

5) Make sure the hydraulic fluid has not deteriorated.

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

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

8) Please contact us for overhaul and repair.

Warranty

1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope

- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense.
  Defects or failures caused by the following are not covered.

① If the stipulated maintenance and inspection are not carried out.
② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
③ If it is used or operated in an inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
④ If the defect is caused by reasons other than our responsibility.
⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
⑥ Other caused by natural disasters or calamities not attributable to our company.
⑦ Parts or replacement expenses due to parts consumption and deterioration.
(Such as rubber, plastic, seal material and some electric components.)

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

Sales Offices

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	KOSMEK USA ATLANTA BRANCH OFFICE	**TEL. +1-630-620-7650** 303 Perimeter Center North, Suite 300, Atlanta, GA 30346 USA
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Philippines	G.E.T. Inc, Phil. Distributor	**TEL.+63-2-310-7286** FAX. +63-2-310-7286 Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
Indonesia	PT. Yamata Machinery Sales Distributor	**TEL. +62-21-29628607** FAX. +62-21-29628608 Delta Commercial Park I, Jl. Kenari Raya B-08, Desa Jayamukti Kec. Cikarang Pusat Kab. Bekasi 17530 Indonesia

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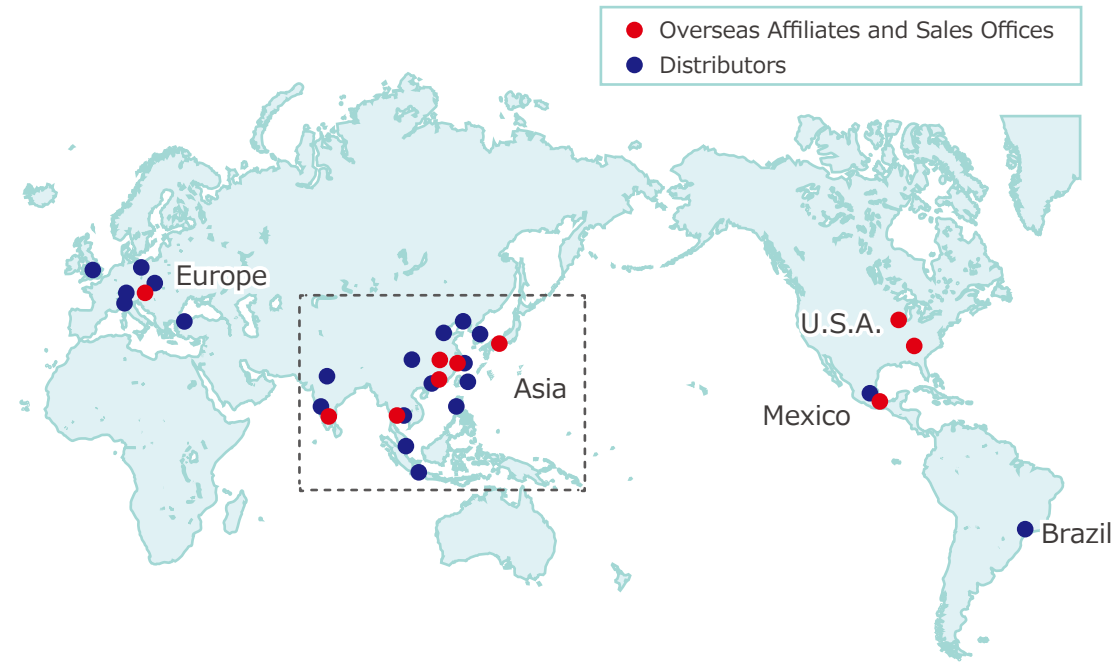
Nagoya Sales Office	**TEL. 0566-74-8778** FAX. 0566-74-8808 10-1, 2-chome, Misono-cho, Anjo City, Aichi, 446-0076, Japan
Fukuoka Sales Office	**TEL. 092-433-0424** FAX. 092-433-0426 8-10-101, 1-chome, Kamimuta, Hakata-ku, Fukuoka City, Fukuoka, 812-0006, Japan

Global Network



Asia Detailed Map

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