KOSMEK

Harmony in Innovation

KOSMEK DIECAST CLAMPING SYSTEMS

Complete Catalog

Automatic Clamp
Hydraulic Unit
Operation Panel / Control Unit
Robotic Hand Changer

Harmony in Innovation

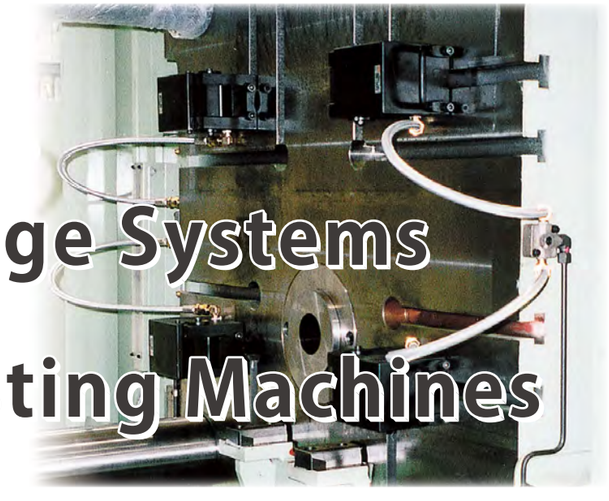
To one heart, advance forward.

Quick mold change systems for die casting machines reduce mold change time.
Our best-selling hydraulic clamps and units have been updated, ensuring a safer and more reliable mold change system.
Kosmek Diecast Clamping Systems will change the way you manufacture.

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

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

Kosmek
Mold Change Systems
for Die Casting Machines



Point !

Reduces Mold Change Time!

Clamps the Mold with the Touch of a Button

Manual Bolts

Operation Side
- Open the Safety Door
- Attach the Bolts/Fittings
- Tighten the Bolts (x 4 Places)
- Close the Safety Door

Go to the Non-Operation Side

Non-Operation Side
- Open the Safety Door
- Attach the Bolts/Fittings
- Tighten the Bolts (x 4 Places)
- Close the Safety Door

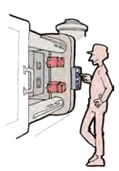
Go to the Operation Side

Mold Clamping Completed

Automatic Clamps

- Stationary Side: Lock Switch 『ON』
- Movable Side: Lock Switch 『ON』

Mold Clamping Completed



Automatic clamps simplify the mold change processes !

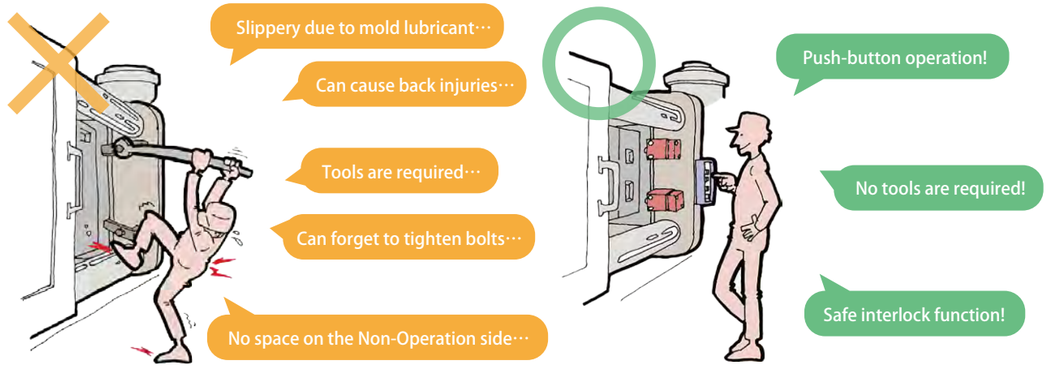
Time is saved during both setting and removal !

※ This shows the result when using automatic slide clamps (Model GKE/GKF).

Point !

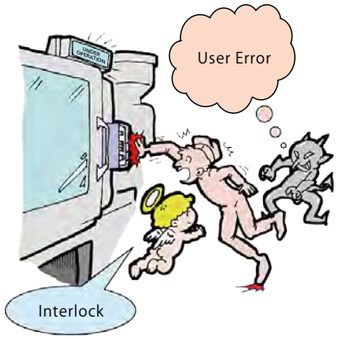
Mold Changing Becomes Safer!

No tools are required. Clamping the mold with the touch of a button prevents injuries and accidents.



Manual Bolts — Unsafe/Unstable Work

Automatic Clamps — Safe/Stable Work



Safety functions prevent the mold from falling.

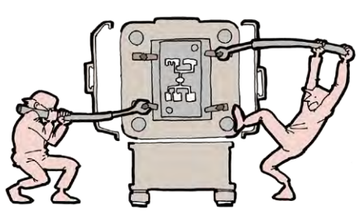
The Kosmek operation control panel has interlocks with the machine and is designed to prevent an operator error.

Point !

Automatic Clamps Improve Quality!

Anyone can attach the mold with the same clamping force allowing for standardization.

Equal and sequential tightening of the bolts is essential to maintain proper clamping force, but some bolts are easier to tighten than others…



Less Mold Deformation

Automatic clamps allow for equal tightening, reducing mold deformation and burrs.

No Skilled Labor Required

No skilled labor is required with automatic clamps and equal tightening force is ensured.

Kosmek Automatic Clamp

Stable Performance

Point !

Special Coating Enables a Longer Operational Life Span!

Protective Cover

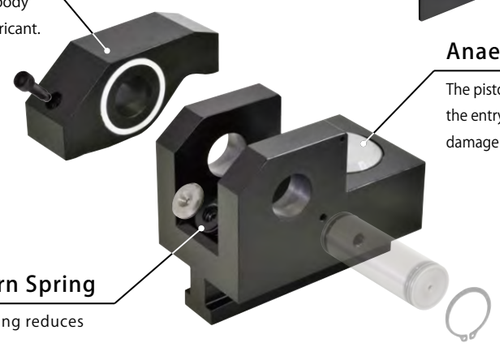
Keeps out mold lubricant and dust infiltration that can cause malfunctions.

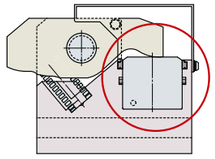
Special Coating

Special coating on the lever and body prevents rust caused by mold lubricant.

Anaerobically-Sealed Cylinder

The piston is anaerobically sealed in order to prevent the entry of mold lubricant or dust which leads to damage to the internal packing and piston.





Powerful Lever Return Spring

The powerful lever return spring reduces the release time.

Point !

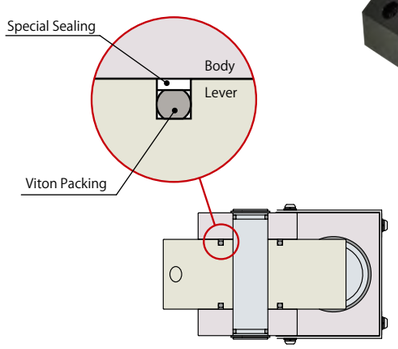
Exclusive Sealing Enables a Longer Operational Life Span!

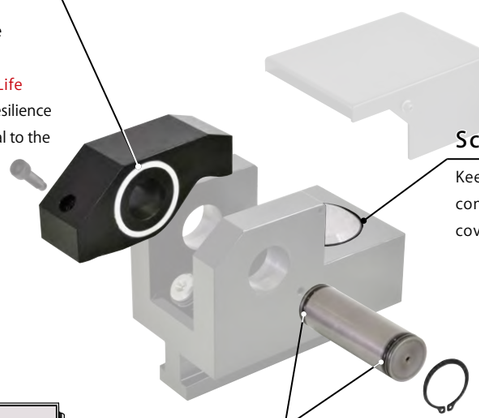
Reduces release errors caused by corrosion of the fulcrum shaft.

Special Seal

★ Low Friction and Smooth Operation
Special wear resistant sealing is used on the sliding surface.

★ High Durability and Longer Operating Life
Maintains high-quality sealing due to the resilience of the Viton seal that presses the special seal to the sliding surface of the body.





Scraper

Keeps out foreign substances in conjunction with the protective cover.

Packing for the Fulcrum Shaft

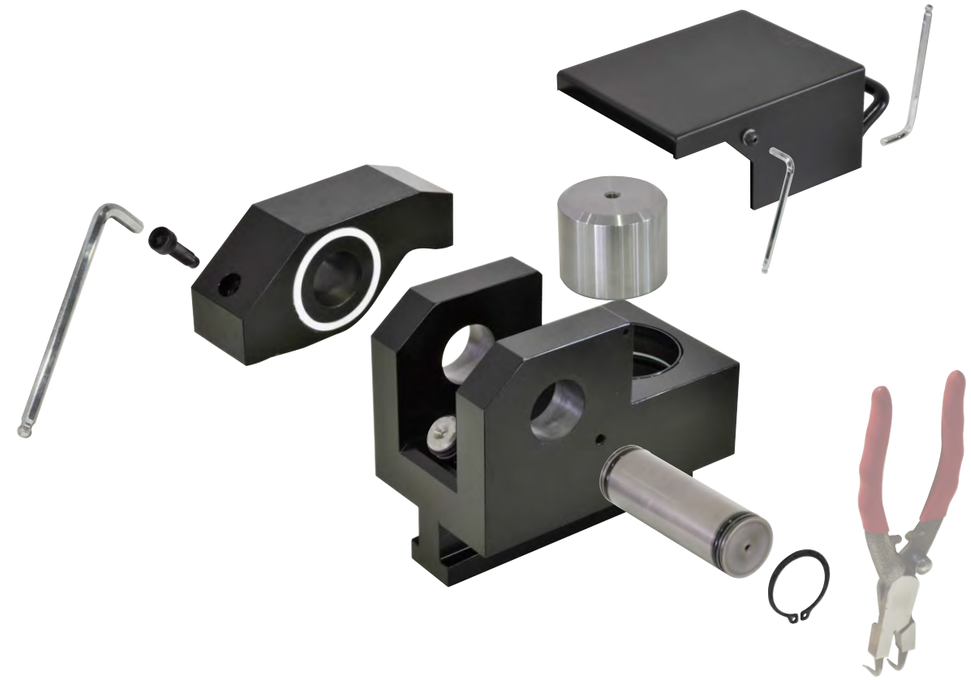
This packing, which is set on the fulcrum shaft, keeps out mold lubricant and dust.

Improved Maintenance

Point !

No Special Tools are Required to Assemble/Disassemble!

The structure has been redesigned. It's simple and easy to maintain.



No special tools are required.

No skilled labor is required.

Small clamps can be assembled and disassembled on the platens.

Simple structure with high durability.

※ For larger models, it is recommended to remove them from the platen during assembly/disassembly for safety.

Additional Standard Models

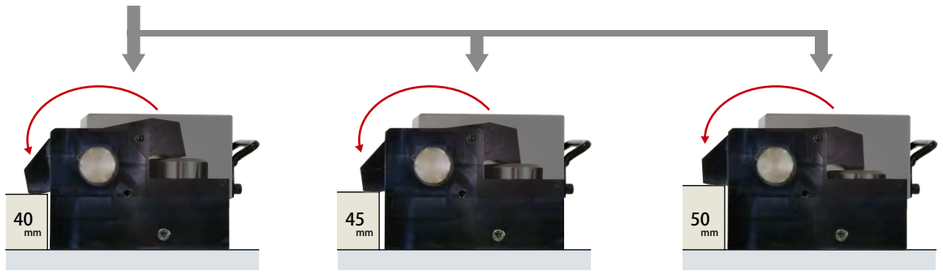
Longer Stroke Model

Point !

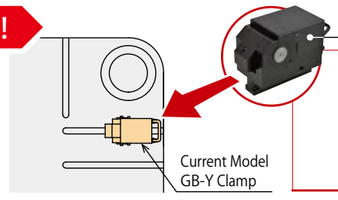
The World's Best Long Stroke Clamp!

0100~0400 Size: St. 8~12mm, 0630~5000 Size: St. 15~16.5mm

For model 0630, the full stroke is 15 mm!
(Ex.) This model works with
three mold thicknesses: 40, 45 and 50mm!



Point!



Your system will be capable of handling more variations in backplate thickness by using the new longer stroke clamps.

T-Slot Automatic Slide Model

Point !

Push Button Operation Completes the Clamp Positioning and Lock Operation

There is no need to go to the non-operation side. Clamp movement is automated.

Clamp Operation Time Drastically Reduced

Point !

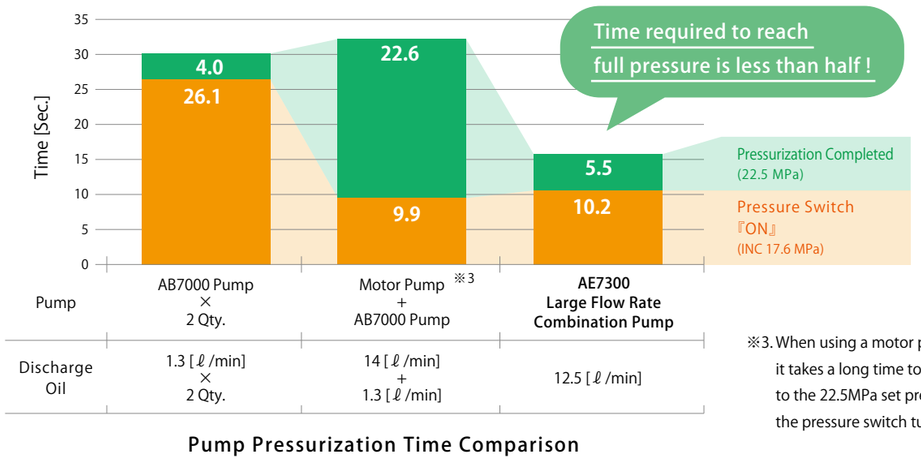
Newly Developed Large Flow Air-Hydraulic Combination Pump

Reduces 50% of O.T.[※1] (In comparison with our products.)

※1. O.T. = Operation Time
Reduced time varies depending on piping, etc.

(Ex.) For an 850 ton machine with eight 2500 clamps,[※2]
clamp operation time is **16** seconds!!

※2. Cylinder Capacity：About 700 m ℓ



Pump Pressurization Time Comparison

※3. When using a motor pump, it takes a long time to pressurize to the 22.5MPa set pressure after the pressure switch turns "ON".

Point !

Compact and Space-Saving!

Pressure relief valve allows for temperature change in hydraulic circuit.

Compact, High Pressure and Large Discharge

Various Sizes Available

Standard System

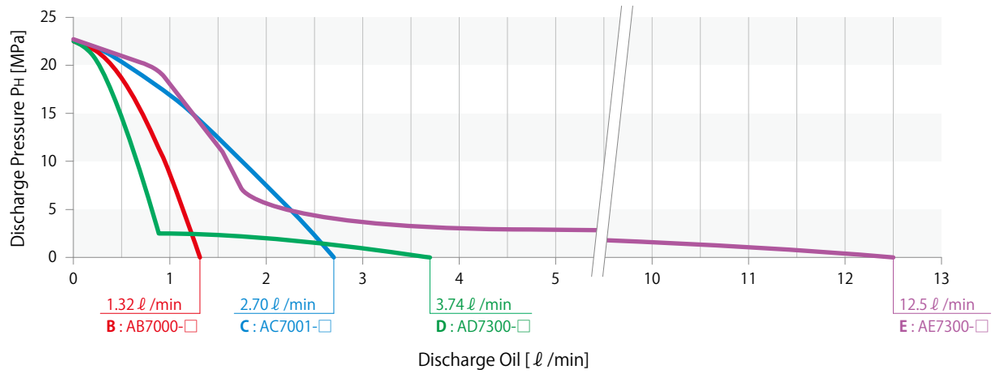
Die Casting Machine Capacity	Clamp Size ※1	Clamp Qty.	Stationary / Movable Total Clamping Force [kN]	Hydraulic Unit			Air Valve Unit (Only GKE/GKF)
				Unit Model	Pump Model	Clamp Operation Speed	
～ 350	0100	8 (Stationary : 4 / Movable : 4)	40	CPBN0□0 / CPDN0□0 / CPCN0□0 / CPEN0□0	AB7000-□ / AD7300-□ / AC7001-□ / AE7300-□	Faster	–
～ 500	0160		64				
～ 750	0250		100				
～ 1500	0400		160				MV3013
～ 2500	0630		252				
～ 5000	1000		400	CPDN0□0 / CPCN0□0 / CPEN0□0	AD7300-□ / AC7001-□ / AE7300-□		MV3023
～ 6500	1600		640				
～ 11000	2500		1000	CPCN0□0 / CPEN0□0	AC7001-□ / AE7300-□		
～ 16500	4000		1600	CQEN0□0	AE7300-□		MV3033
～ 22500	5000		2000				
～ 25000	4000	12 (Stationary : 6 / Movable : 6)	2400				
～ 30000	5000		3000				

Notes :

※1. T-Slot Manual Slide (Model GKB/GKC) : sizes 0100~5000, T-Slot Automatic Slide (Model GKE/GKF) : sizes 0400~5000.
Please contact us for T-slot automatic slide clamp sizes smaller than 0400.

1. The standard system above is just a reference. Please contact us for exact specifications for your machine.

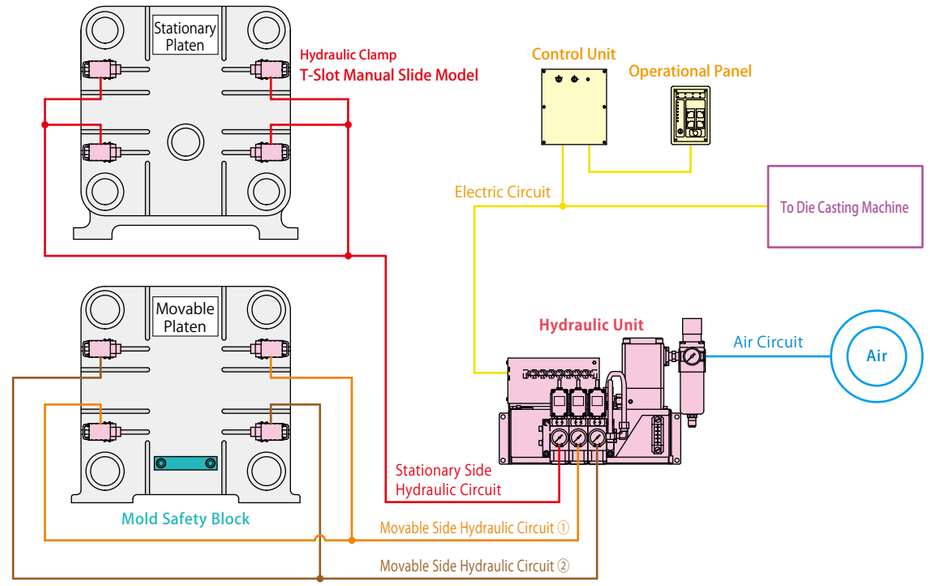
Pump Performance Curve



System Structure

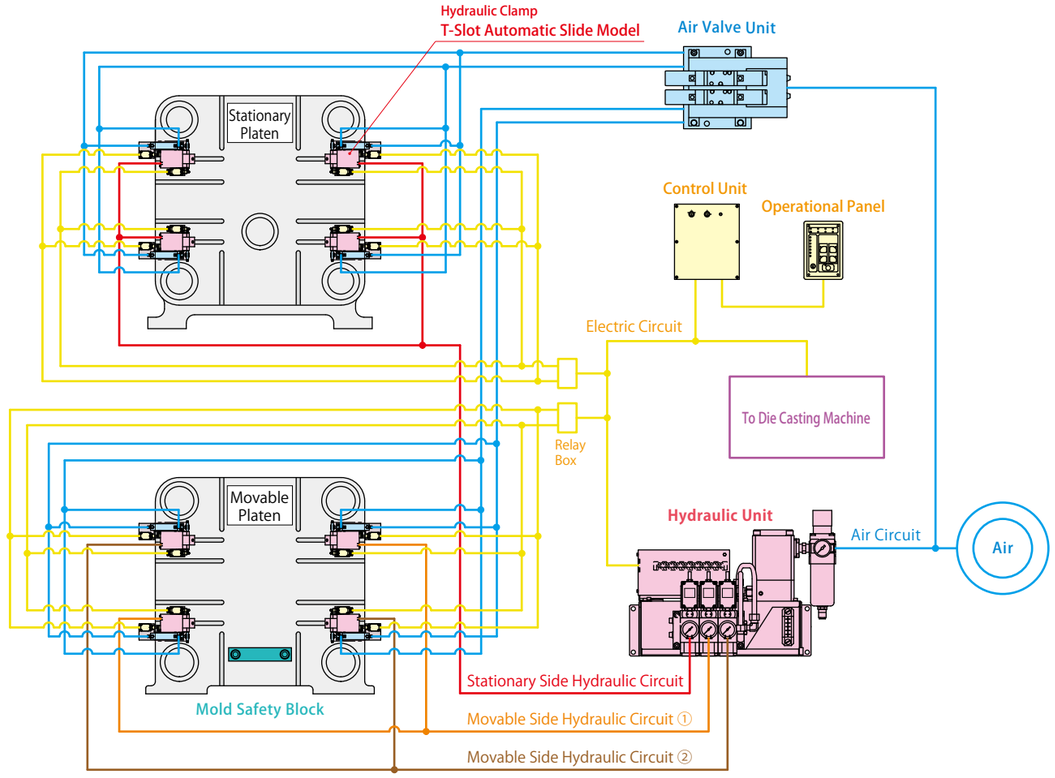
Hydraulic Clamp

T-Slot Manual Slide Model

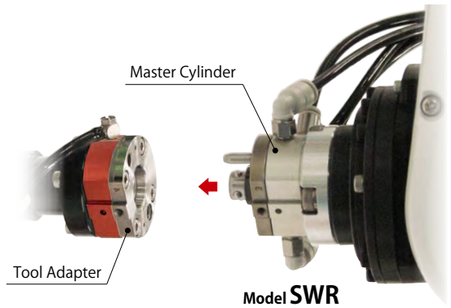


Hydraulic Clamp

T-Slot Automatic Slide Model



Zero Backlash ~ The World's Only Robotic Hand Changer ~



Smaller, Lighter, and Stronger !!

Payload：3kg , 7kg , 12kg , 25kg , 50kg , 75kg , 120kg , 230kg

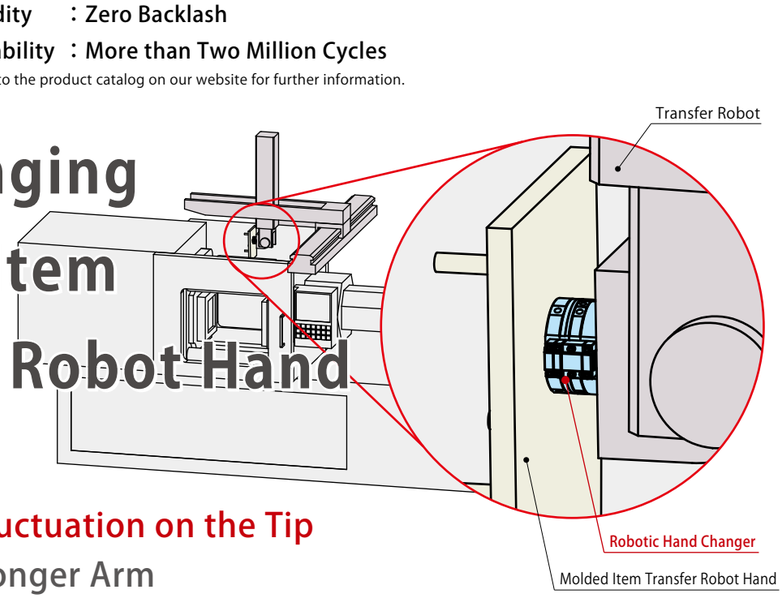
High Accuracy ：3μm

High Rigidity ：Zero Backlash

High Durability ：More than Two Million Cycles

※ Please refer to the product catalog on our website for further information.

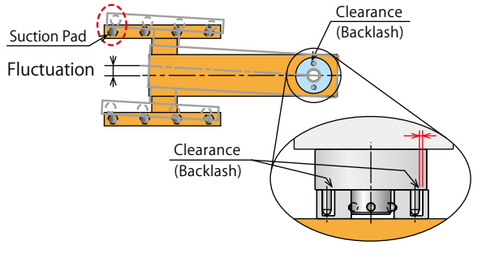
For Changing Molded Item Transfer Robot Hand



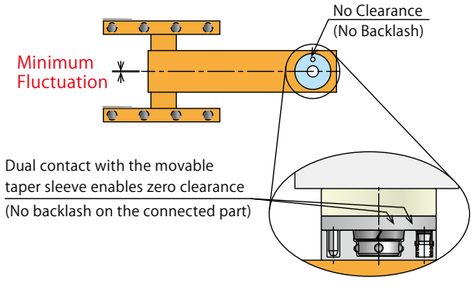
Point !

Minimum Fluctuation on the Tip
even with Longer Arm

Before General Robotic Hand Changer



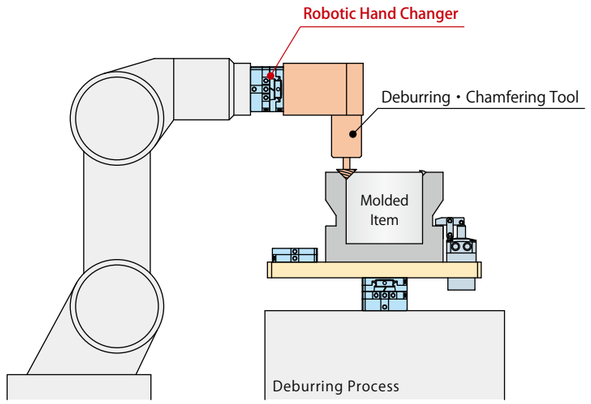
After Kosmek Robotic Hand Changer



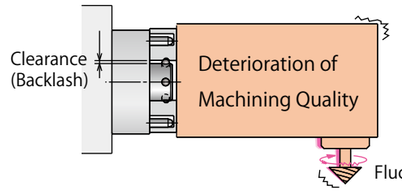
Exchange of Deburring Tool

Point !

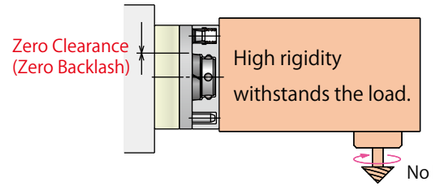
Zero Backlash!
Suitable for Heavy Load Work



Before General Robotic Hand Changer

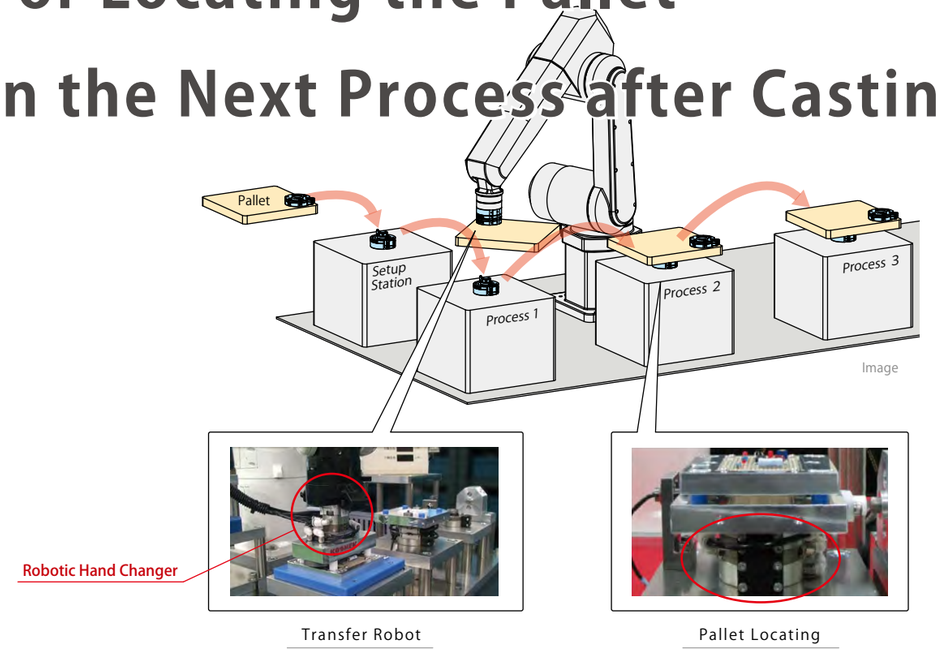


After Kosmek Robotic Hand Changer

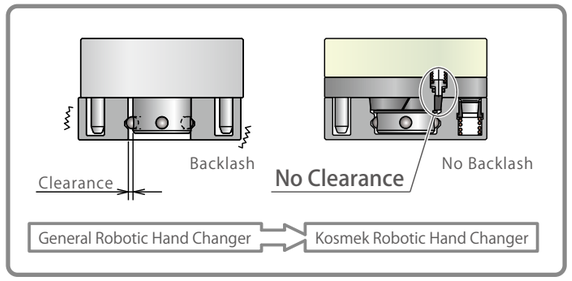


Repeatability during Tool Change 3μm

For Locating the Pallet in the Next Process after Casting

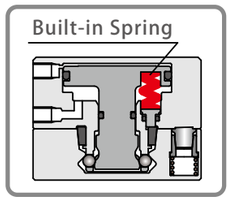


6 Reasons to Choose KOSMEK



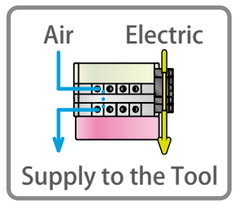
No Backlash on Connected Part

No clearance or backlash with dual contact by the taper sleeve. It prevents core deflection and chattering due to the work load and enhances productivity.



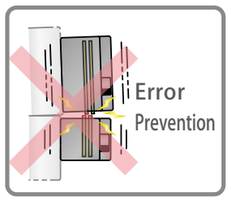
Prevents the Tool from Falling

Even without pressure, the built-in spring maintains the connection, which prevents the tool from falling.



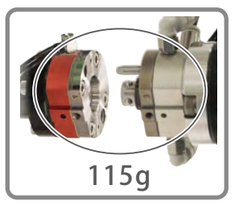
Connect Air/Electricity to the Tool Side

Air and electricity can be connected to the tool through air port and electrodes.
Solder terminals, D-sub connectors and power transmission connectors are available.



Better Work Efficiency with Electrode

No backlash on connected part. Highly reliable electrodes prevent momentary stop caused by communication error.



Light and Compact

Suitable for robotic hands which have critical weight limits. Light weight but highly portable.

※ Shows the weight of SWR0030 without an electrode option.

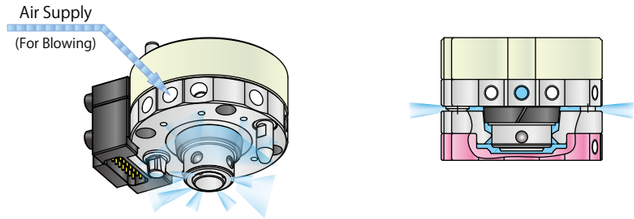
Prevents Fluctuation

The repeatability of tool change is 0.003mm. Reduces the fluctuation of the hand tool and conducts a high accurate operation.

This catalog (KDCS : Kosmek Diecast Clamping System Complete Catalog) does not include the details about SWR.
Please contact us or visit our website (http://www.kosmek.com) for further information.

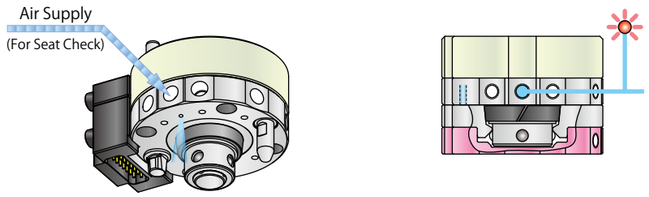
Port Options

A: With Air Blow Port



When connecting, there is moderate clearance between the taper reference surface and seating surface that enables high accuracy. This allows for effective cleaning with air blow, foreign substance prevention and longer operating life.

F: With Seat Check Port



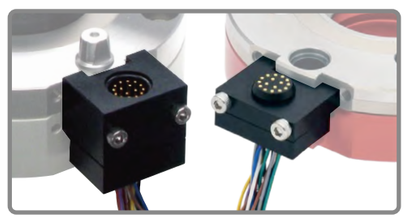
Close contact check detects secure connection of the master cylinder and tool adapter.
This prevents connection error of the robotic hand changer.
A close contact check is conducted with the air catch sensor. (The air catch sensor must be installed separately.)

Waterproof Electrodes

Point!

Waterproof Electrodes
Prevent Mold Lubricant and Dust Infiltration!

Waterproof Electrode (Non-contact Waterproof Option)
IP67



Waterproof Electrode (Simple Waterproof Option)
Equivalent to IP54 only When Connected

NEW model **SWL**
Robotic Hand Changer (Large/Thin Model)
Payload Line-up : 80kg/120kg/180kg/300kg

▲For More Info.

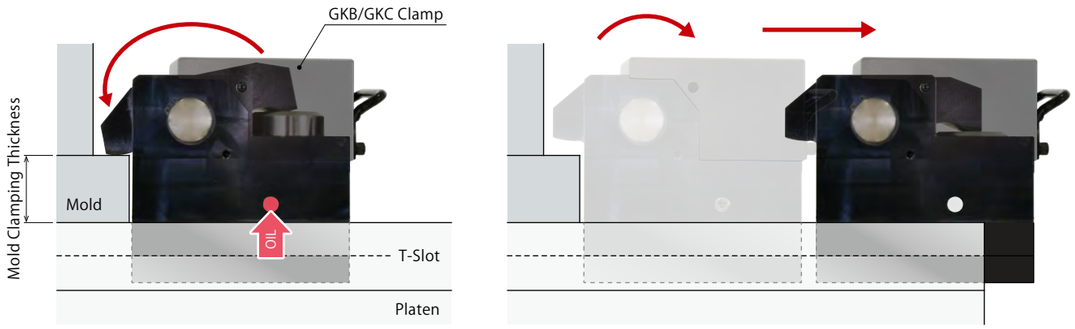
Hydraulic Clamp

T-Slot Manual-Slide

Model **GKB**
Model **GKC** (Longer Stroke)

The clamp is designed for the use under severe conditions where mold lubricant and/or molten metal may spatter.
Selection of 10 sizes for small to extra-large die casting machines. PAT.

Action Description

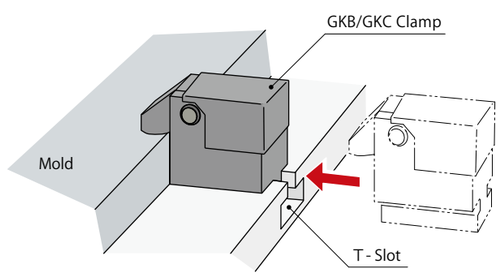


Locking Action

① Load the mold.
② Slide the clamp forward in the T-slot.
③ By supplying hydraulic pressure, the clamp secures the mold.

Releasing Action

① The lever is released by the internal spring when the pressure is released.
② Slide the clamp backward in the T-slot.
③ Unload the mold.



※ We provide GKB/GKC clamps according to the mold clamping thickness and T-slot dimension. Please refer to the external dimensions for details.

Model No. Indication

GK **C** **040** **0** - **DP** - **5** **L** - **G** - **S□□□□**
(1) (2) (3) (4) (5) (6) (7) (8)

1 Stroke ※ The stroke differs depending on 2 Clamping Force. Please refer to the specifications for the detail.

B : Standard Stroke
C : Longer Stroke

2 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

3 Design No.

0 : Revision Number

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

Blank : None (Standard Model)
D : With Handle (2 **063** or more)
E : Reinforced Body
H : Extra Height Body (When h dimension is more than max. h dimension shown in the external drawing.)
J : Low Lever (When h dimension is less than min. h dimension shown in the external drawing.)
K : Rear Port
L1/L2 : Wide Lever (For U-Cut of Mold) ※1
M1/M2 : For Mold with Notch
N : NPT Port ※2
P : With Mold Confirmation Limit Switch (2 **040** or more) ※3
R : Longer D Dimension of T-Leg
T : T-Slot Locking
U1/U2/U3 : With Grease Nipple (Only for 2 **040**～**250**) (Standard Option for 2 **400**, **500**)
(**U1** : Left Side as Seen from Clamp Back Side, **U2** : Right Side as Seen from Clamp Back Side, **U3** : Both Sides)

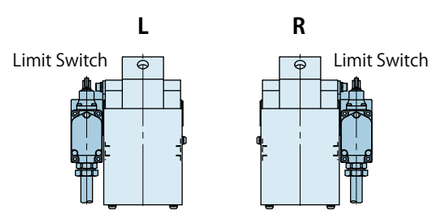
Notes :
※1. Please indicate the U-cut dimension of the mold.
※2. Dimensions in the specification sheet and other documents are in inches.

5 Mold Confirmation Limit Switch Load Voltage (Current) ※3. Only when selecting **P**: Mold Confirmation Limit Switch

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

6 Mold Confirmation Limit Switch Mounting Position ※3. Only when selecting **P**: Mold Confirmation Limit Switch

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



7 Fluid Code

0 : General Hydraulic Oil (Equivalent to ISO-VG-32)
G : Water・Glycol
S : Silicon Oil
F : Fatty Acid Ester

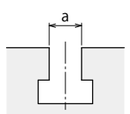
8 Production Number

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

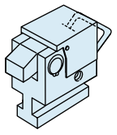
Model No.			GKB0100 / GKC0100	GKB0160 / GKC0160	GKB0250 / GKC0250	GKB0400 / GKC0400	GKB0630 / GKC0630	GKB1000 / GKC1000	GKB1600 / GKC1600	GKB2500 / GKC2500	GKB4000 / GKC4000	GKB5000 / GKC5000
Clamping Force		kN	10	16	25	40	63	100	160	250	400	500
Working Pressure		MPa	25 (For Rated Clamp Force)									
Withstanding Pressure		MPa	37									
1 B:Standard Stroke	Full Stroke	mm	6	7	7	7	8	8	8	8	8	8
	Clamp Stroke	mm	2	2	2	2	2	2	2	2	2	2
	Extra Stroke	mm	4	5	5	5	6	6	6	6	6	6
	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
1 C:Longer Stroke	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
	Mold Clamping Thickness Variance	mm	5	5	5	5	10	10	10	10	10	10
	Cylinder Capacity (At Full Stroke)	cm^3	4	6	10	19	38	63	105	160	253	331
Operating Temperature		℃	0 ~ 120									
Use Frequency ※1			Less than 20 Cycles / Day ※1									
Usable Fluid ※2 ※3 ※4			Refer to 7 Fluid Code									
Min. T-Slot Width a (JIS) ※5		mm	10	12	14	18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※5		mm	20	24	32	42	42	54	54	54	54	42 (2 T-Legs)

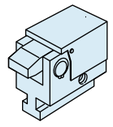
Notes :
※1. Please contact us for more frequent use.
※2. Please contact us for fluids other than those mentioned on the list.
※3. If hydraulic viscosity is higher than specified, action time will be longer. Please refer to Hydraulic Fluid List on P.56.
※4. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
※5. 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.

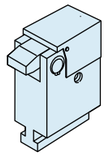


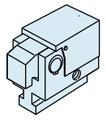
T-Slot

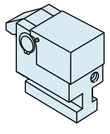
Option

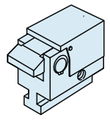

D With Handle (GKB/GKC0630 or larger)

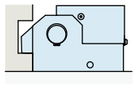

E Reinforced Body
For undersize or large tolerance T-slot.

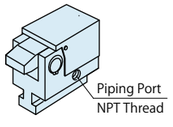

H Extra Height Body
When the h dimension is greater than standard.


J Low Lever
When the h dimension is less than standard.

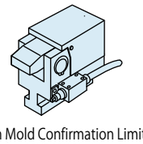

K Rear Port
Piping from Backside

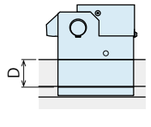

L□ Wide Lever (For U-Cut of Mold)
If a mold has a notch such as U-Cut.


M□ For Mold with Notch
For limited space at mold clamping part in Z-axis.

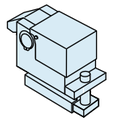


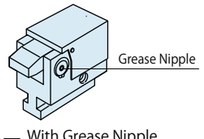
N NPT Port


P With Mold Confirmation Limit Switch (GKB/GKC0400 or lager)
Secure Clamping with Mold Confirmation Switch



R Longer D-Dimension of T-Leg
For Longer D Dimension of T-Leg

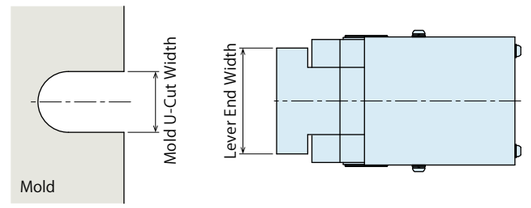

T T-Slot Locking
Prevents clamp movement



U□ With Grease Nipple (GKB/GKC0400～2500)
Standard Option for GKB/GKC4000, GKB/GKC5000

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

L1/L2 Detail of Wide Lever Option



(mm)

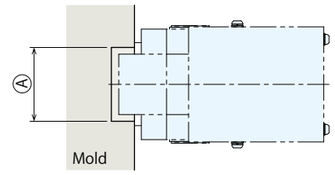
Model No.	Mold U-Cut Width	Lever End Width
GKB/GKC0100-L1	～ 20	35
GKB/GKC0160-L1	～ 25	48
GKB/GKC0250-L1	～ 25	48
GKB/GKC0250-L2	25 ～ 35	58
GKB/GKC0400-L1	～ 30	58
GKB/GKC0400-L2	30 ～ 40	68
GKB/GKC0630-L1	～ 38	72
GKB/GKC0630-L2	38 ～ 50	85
GKB/GKC1000-L1	～ 40	85
GKB/GKC1000-L2	40 ～ 55	97
GKB/GKC1600-L1	～ 45	97
GKB/GKC1600-L2	45 ～ 55	107
GKB/GKC2500-L1	～ 45	107
GKB/GKC2500-L2	45 ～ 55	117

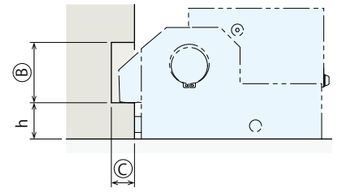
Note :
1. Please contact us for the mold U-cut width and lever end width of GKB/GKC4000-L□, GKB/GKC5000-L□.

M1/M2 Detail of Mold with Notch Option

(**M1** : Standard Lever Material, **M2** : High Strength Lever Material)※1

When making an order, please indicate Ⓐ·Ⓑ·Ⓒ and h dimensions of mold clamping thickness.

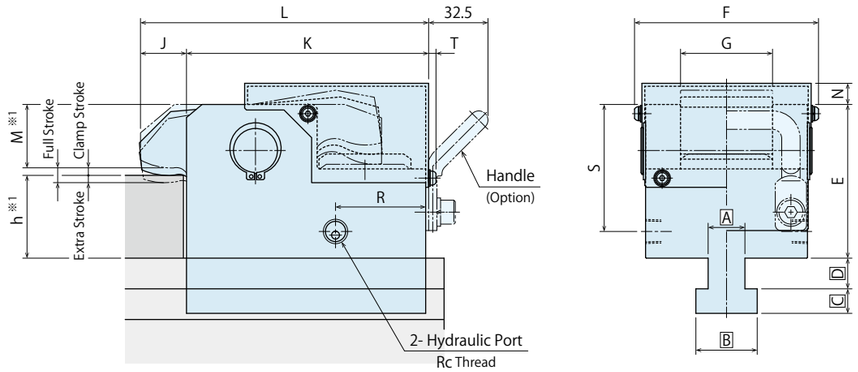




Notes :
2. This option may not be available depending on the mold notch dimensions. Please contact us.
3. Please contact us for other mold notch shapes.
※1. The lever material is decided by Kosmek based on the mold notch dimensions.

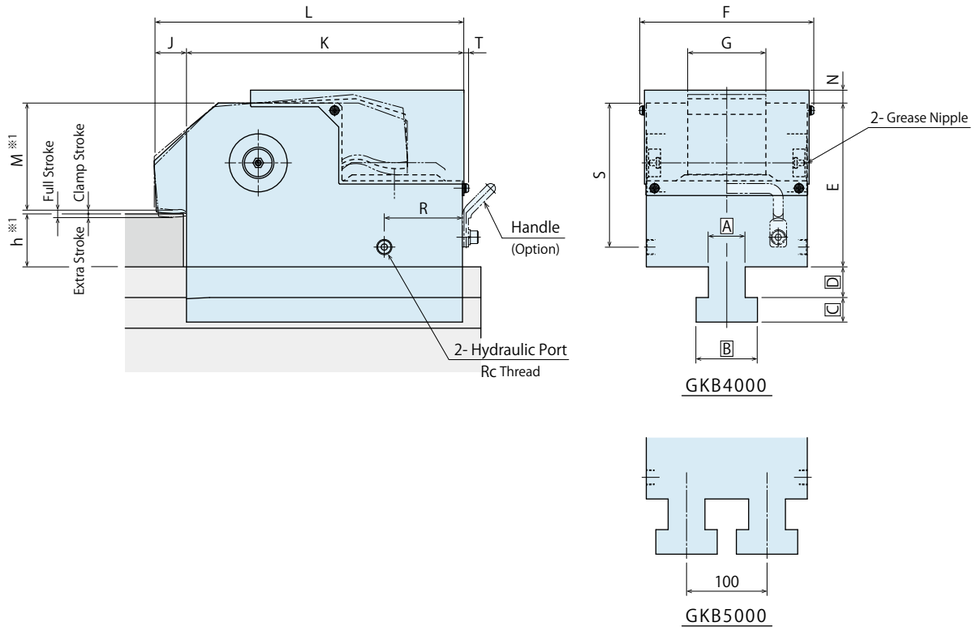
External Dimensions：GKB0100 ~ GKB2500

※ This drawing shows GKB0100 ~ GKB2500 standard model.
Contact us for external dimensions for options.

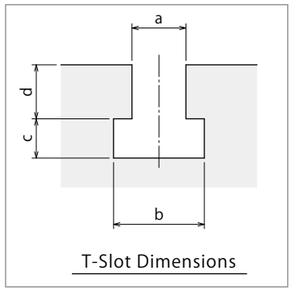


External Dimensions：GKB4000/GKB5000

※ This drawing shows GKB4000/GKB5000 standard model. GKB4000/GKB5000 has the grease nipple as standard.
GKB5000 has two T-legs. Please contact us for external dimensions for options.



T-Slot Dimensions



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.

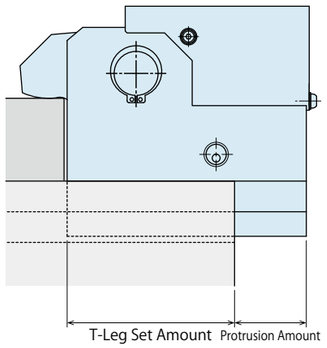
External Dimensions：Model GKB (Standard Stroke)

(mm)

Model No.	GKB0100	GKB0160	GKB0250	GKB0400	GKB0630	GKB1000	GKB1600	GKB2500	GKB4000	GKB5000
Full Stroke	6	7	7	7	8	8	8	8	8	8
Clamp Stroke	2	2	2	2	2	2	2	2	2	2
Extra Stroke	4	5	5	5	6	6	6	6	6	6
min. E	42.5	49	58	66	81	105.5	122.5	144.5	177.5	202.5
F	47	57	67	80	100	111.5	131.5	158.5	189.5	214.5
G	20	26	32	38	50	53	60	73	85	100
J	15	17	19	22	25	30	30	30	35	37
K	59.5	71.5	85.5	107.5	132	161	201	242	302	342
L	74.5	88.5	104.5	129.5	157	191	231	272	337	379
N	8	10	10	10	11.5	11.5	12.5	13.5	14	15
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
T	3	3	3	4	4	5.5	5.5	5.5	5.5	5.5
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 h dimension (Mold Clamping 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 specify a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.
4. Please set the dimensions of a, b, c, d and h in 0.1mm increments.

The Allowable Protrusion Amount of Cylinder



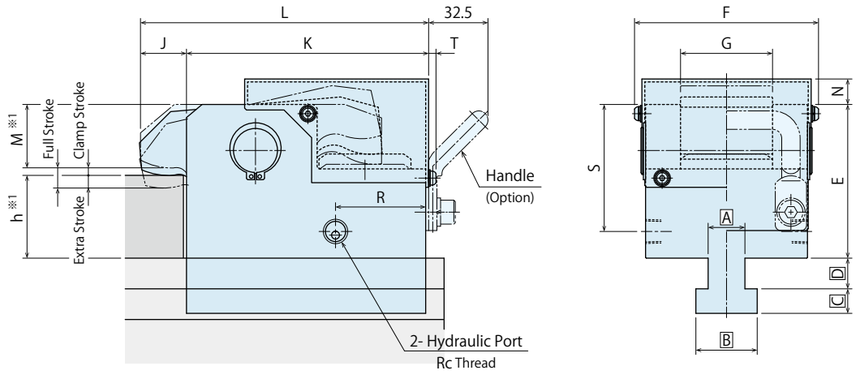
(mm)

Model No.	Min. T-Leg Set Amount	Allowable Protrusion Amount
GKB0100	40.5	17.5
GKB0160	49.0	21.0
GKB0250	59.0	25.0
GKB0400	73.5	32.0
GKB0630	91.0	39.0
GKB1000	114.0	45.0
GKB1600	142.0	57.0
GKB2500	170.5	69.5
GKB4000	–	0
GKB5000	–	0

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.
Please contact us for further information.

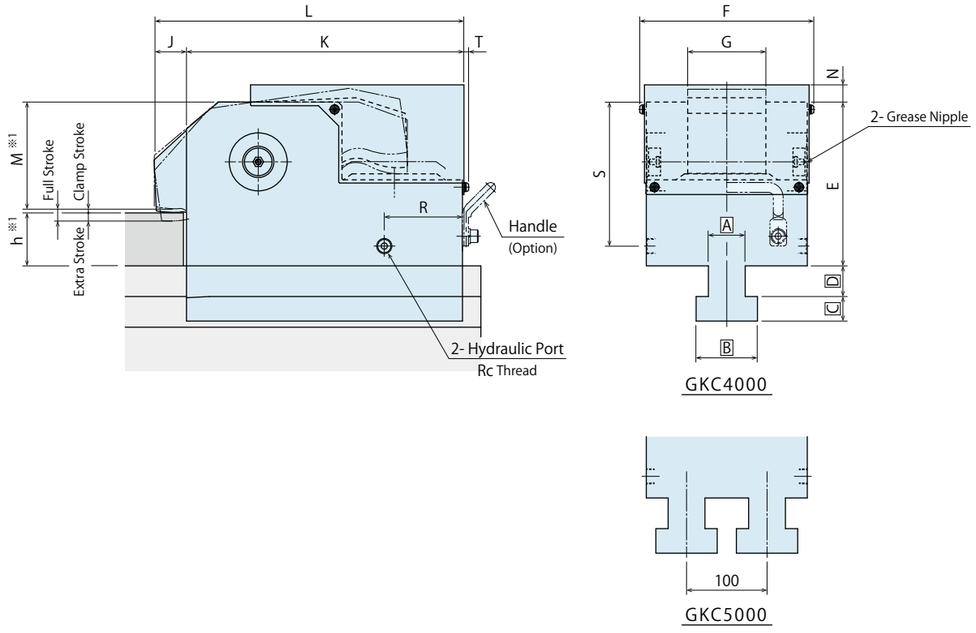
External Dimensions：GKC0100 ~ GKC2500

※ This drawing shows GKC0100 ~ GKC2500 standard model.
Contact us for external dimensions for options.

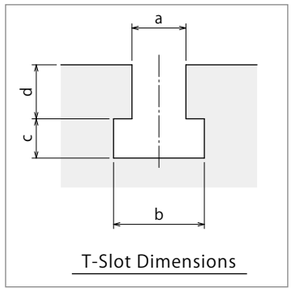


External Dimensions ：GKC4000/GKC5000

※ This drawing shows GKC4000/GKC5000 standard model. GKC4000/GKC5000 has the grease nipple as standard.
GKC5000 has two T-legs. Please contact us for external dimensions for options.



T-Slot Dimensions



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.

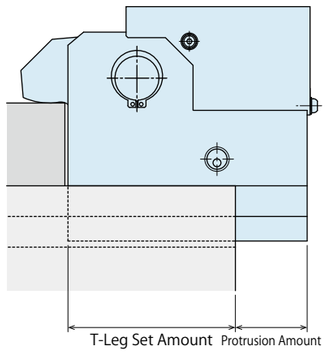
External Dimensions：Model GKC (Longer Stroke)

(mm)

Model No.	GKC0100	GKC0160	GKC0250	GKC0400	GKC0630	GKC1000	GKC1600	GKC2500	GKC4000	GKC5000
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
Mold Clamping Thickness Variance	5	5	5	5	10	10	10	10	10	10
min. E	45.5	52	62	71	88.5	114	132.5	154.5	187.5	212.5
F	47	57	67	80	100	111.5	131.5	158.5	189.5	214.5
G	20	26	32	38	50	53	60	73	85	100
J	15	17	19	22	25	30	30	30	35	37
K	59.5	71.5	85.5	107.5	132	161	201	242	302	342
L	74.5	88.5	104.5	129.5	157	191	231	272	337	379
N	10	12	12.5	14	18	18	20.5	22.5	22.5	24.5
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
T	3	3	3	4	4	5.5	5.5	5.5	5.5	5.5
Rc	Rc1/8	Rc1/8	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
min. h	20 ~ 25	20 ~ 25	25 ~ 30	25 ~ 30	30 ~ 40	40 ~ 50	40 ~ 50	45 ~ 55	50 ~ 60	60 ~ 70
max. h	35 ~ 40	35 ~ 40	45 ~ 50	45 ~ 50	50 ~ 60	60 ~ 70	70 ~ 80	70 ~ 80	75 ~ 85	75 ~ 85

Notes :
※1. M dimension (Lever Thickness) in the drawing varies depending on h dimension (Mold Clamping 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 specify a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.
4. Please set the dimensions of a, b, c, d and h in 0.1mm increments. If h dimension has variations, please specify the variations.

The Allowable Protrusion Amount of Cylinder



(mm)

Model No.	Min. T-Leg Set Amount	Allowable Protrusion Amount
GKC0100	40.5	17.5
GKC0160	49.0	21.0
GKC0250	59.0	25.0
GKC0400	73.5	32.0
GKC0630	91.0	39.0
GKC1000	114.0	45.0
GKC1600	142.0	57.0
GKC2500	170.5	69.5
GKC4000	–	0
GKC5000	–	0

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 **GKE**

Model **GKF** (Longer Stroke)

GKB/GKC Clamp with an air cylinder.
Push button operation completes
the clamp positioning and lock operations.

PAT.

Action Description

Locking Action

① Load the mold.
② Air is supplied to the air cylinder and the GKE/GKF moves forward.
③ Forward End Confirmation Switch (Limit Switch) detects the mold.
④ By supplying hydraulic pressure, the clamp secures the mold.

Forward End Detection	ON
Backward End Detection	OFF

Releasing Action

① The mold is released by the internal spring when the hydraulic pressure is released.
② Air is supplied to the air cylinder (backward side) and GKE/GKF clamp moves backward.
③ Backward End Confirmation Switch (Limit Switch) detects that the clamp has moved backward.
④ Unload the mold.

Forward End Detection	OFF
Backward End Detection	ON

※ We provide GKE/GKF clamps according to the mold clamping thickness and T-slot dimension. Please refer to the external dimensions for details.

Model No. Indication

GK **F** **040** **0** - **75** - **5** **L** - **EU** - **G** - **S□□□□**

1 2 3 4 5 6 7 8 9

1 Stroke ※ The stroke differs depending on 2 Clamping Force. Please refer to the specifications for the detail.

E : Standard Stroke
F : Longer Stroke

2 Clamping Force

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

3 Design No.

0 : Revision Number

4 Slide (Air Cylinder) Stroke Length

25 : Clamp Travel Distance = 25mm
≀
300 : Clamp Travel Distance = 300mm

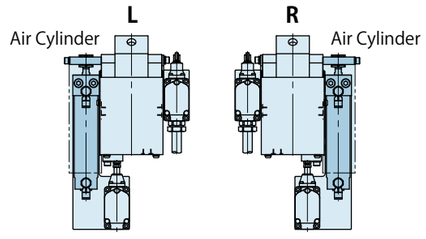
※ Selectable 4 Slide Stroke Length differs according to 2 Clamping Force. Please refer to the slide stroke on specifications.
※ Extra distance should be considered when determining the travel distance.

5 Limit Switch Load Voltage (Current)

1 : AC100V
2 : AC200V
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)



7 Option ※ Please contact us for specifications and external dimensions for these options.

Blank : None (Standard Model)
E : Reinforced Body
H : Extra Height Body (When h dimension is more than max. h dimension shown in the external drawing.)
J : Low Lever (When h dimension is less than min. h dimension shown in the external drawing.)
K : Rear Port (Standard Option for 2 **040**, **063**, **100**)
L1/L2 : Wide Lever (For U-Cut of Mold) ※1
M1/M2 : For Mold with Notch
N : NPT Port ※2
R : Longer D Dimension of T-Leg
U1/U2/U3 : With Grease Nipple (Only for 2 **040**～**250**) (Standard Option for 2 **400**, **500**)
(**U1** : Left Side as Seen from Clamp Back Side, **U2** : Right Side as Seen from Clamp Back Side, **U3** : Both Sides)

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

8 Fluid Code

0 : General Hydraulic Oil (Equivalent to ISO-VG-32)
G : Water•Glycol
S : Silicon Oil
F : Fatty Acid Ester

9 Production Number

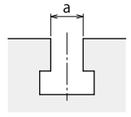
This number represents the main specification of the clamp's T-slot stem and the clamping height.
After the specification is confirmed, we will create a number.

Specifications

Model No.	Standard Stroke	GKE0400	GKE0630	GKE1000	GKE1600	GKE2500	GKE4000	GKE5000
	(GKB Clamp Model No.)	(GKB0400)	(GKB0630)	(GKB1000)	(GKB1600)	(GKB2500)	(GKB4000)	(GKB5000)
	Longer Stroke	GKF0400	GKF0630	GKF1000	GKF1600	GKF2500	GKF4000	GKF5000
	(GKC Clamp Model No.)	(GKC0400)	(GKC0630)	(GKC1000)	(GKC1600)	(GKC2500)	(GKC4000)	(GKC5000)
Clamping Force kN		40	63	100	160	250	400	500
Working Pressure MPa		25 (For Rated Clamp Force)						
Withstanding Pressure MPa		37						
Air Pressure for Air Cylinder MPa		0.4 ~ 0.5						
Slide Stroke mm		25 ~ 200	50 ~ 200	50 ~ 200	50 ~ 300	50 ~ 300	50 ~ 300	50 ~ 300
1 E:Standard Stroke	Full Stroke mm	7	8	8	8	8	8	8
	Clamp Stroke mm	2	2	2	2	2	2	2
	Extra Stroke mm	5	6	6	6	6	6	6
	Cylinder Capacity (At Full Stroke) cm^3	11.5	20.6	33.6	53.8	83.8	130.8	166.0
1 F:Longer Stroke	Full Stroke mm	12	15	15.5	16	16	16	16.5
	Clamp Stroke mm	3.5	1	1.5	2	2	2	2.5
	Extra Stroke mm	8.5	14	14	14	14	14	14
	Mold Clamping Thickness Variance mm	5	10	10	10	10	10	10
	Cylinder Capacity (At Full Stroke) cm^3	19	38	63	105	160	253	331
Operating Temperature ℃		0 ~ 120						
Use Frequency ※1		Less than 20 Cycles / Day ※1						
Usable Fluid ※2 ※3 ※4		Refer to 8 Fluid Code						
Min. T-Slot Width a (JIS) ※5 mm		18	22	24	28	36	36	36 (2 T-Legs)
Max. T-Slot Width a (JIS) ※5 mm		42	42	54	54	54	54	42 (2 T-Legs)

Notes :

※1. Please contact us for more frequent use.
※2. Please contact us for fluids other than those mentioned on the list.
※3. If hydraulic viscosity is higher than specified, action time will be longer. Please refer to Hydraulic Fluid List on P.56.
※4. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
※5. 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 GKB/GKC clamp pages for details of clamp body.
2. Please contact us for smaller clamps than GKE/GKF0400.

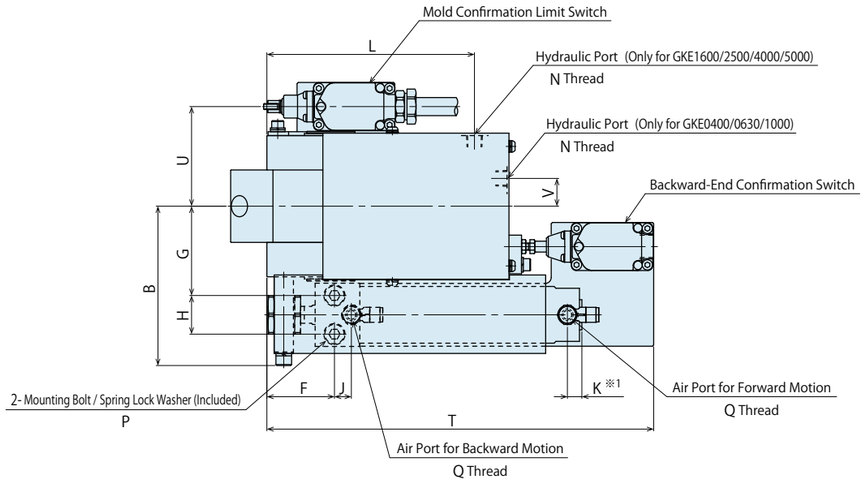


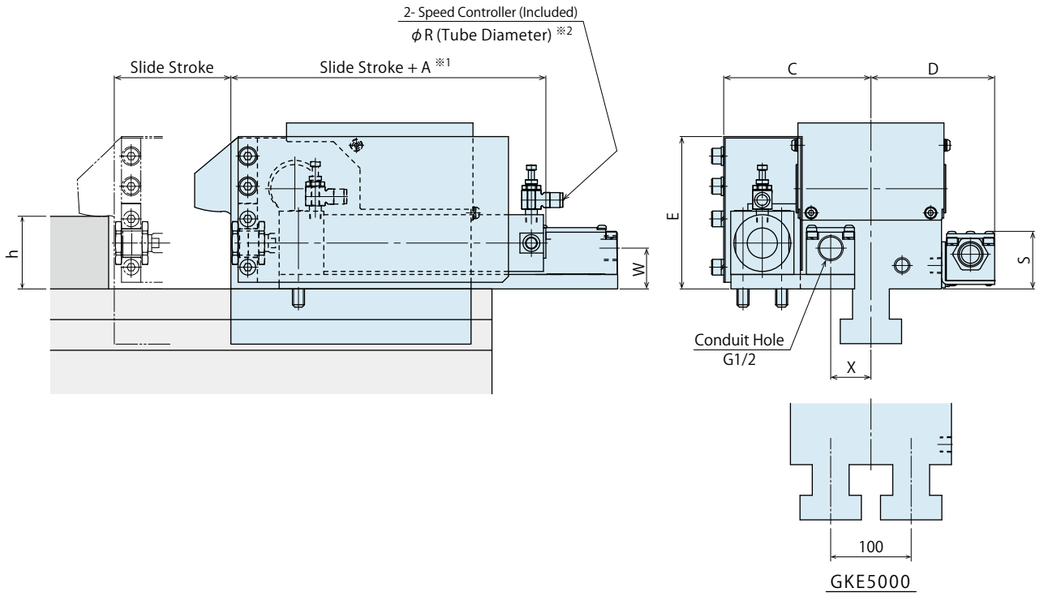
T-Slot

MEMO

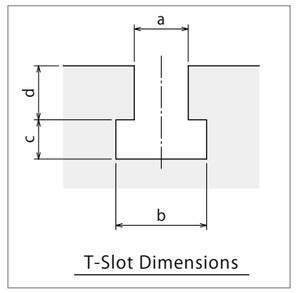
External Dimensions : Model GKE (Standard Stroke)

※ This drawing shows GKE0400 ~ GKE5000 standard model, air cylinder mounting position : **L**.
GKE4000/GKE5000 has the grease nipple as standard. GKE5000 has two T-legs.
Please contact us for external dimensions for options. Please refer to GKB clamp pages for details of clamp body.





T-Slot Dimensions



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 : Model GKE (Standard Stroke)

(mm)

Model No.	GKE0400	GKE0630	GKE1000	GKE1600	GKE2500	GKE4000	GKE5000
GKB Clamp Model No.	GKB0400	GKB0630	GKB1000	GKB1600	GKB2500	GKB4000	GKB5000
Full Stroke	7	8	8	8	8	8	8
Clamp Stroke	2	2	2	2	2	2	2
Extra Stroke	5	6	6	6	6	6	6
A ※1	105	112	118	136	157	184	184
B	80.5	96.5	107.5	132	157	239.5	252
C	74	89	100	122	144.5	224.5	237
D	78	88	92.5	102.5	116	131.5	144
E	85	95	109.5	126.5	148.5	181.5	206.5
F	39	45	46	56	64	57	57
G	44	55	61	74	89	106.5	119
H	18	22	24	32	41	96	96
J	9	10	13	14	16	36	36
K ※1	12	12	12	12	14	19	19
L	–	–	–	172	170.5	215	250
N	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
P	M5×0.8×40	M6×1×50	M8×1.25×55	M10×1.5×70	M12×1.75×85	M16×2×130	M16×2×130
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc3/8	Rc3/8
R ※2	6	6	6	6	10	10	10
S	48	48	48	48	48	48	48
T	227	251.5	280.5	320.5	349.5	409.5	449.5
U	58	68	72.5	82.5	96	111.5	124
V	22	25	25	–	–	–	–
W	27.6	30.6	33.6	33.6	37.6	40.6	40.6
X	11	19	23.5	33.5	47	62.5	75
min. h	25	30	40	40	45	50	60
max. h	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 (tube diameter) of the speed controller 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 specify a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.
3. Please set the dimensions of a, b, c, d and h in 0.1mm increments.
4. Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
5. Do not set the mold confirmation limit switch to the mold surface near the U-slot.
6. When determining slide stroke, provide the forward end with an extra stroke between 2 and 5 mm considering dimensional accuracy of the air cylinder and detection distance of the limit switch.
7. Clamp sliding surface should be smooth.
8. Please refer to GKB clamp pages for unlisted dimensions.

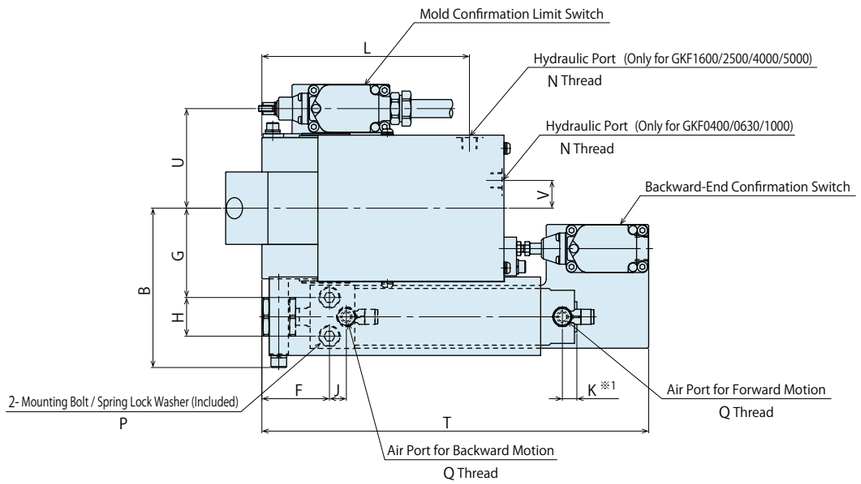
Slide Stroke

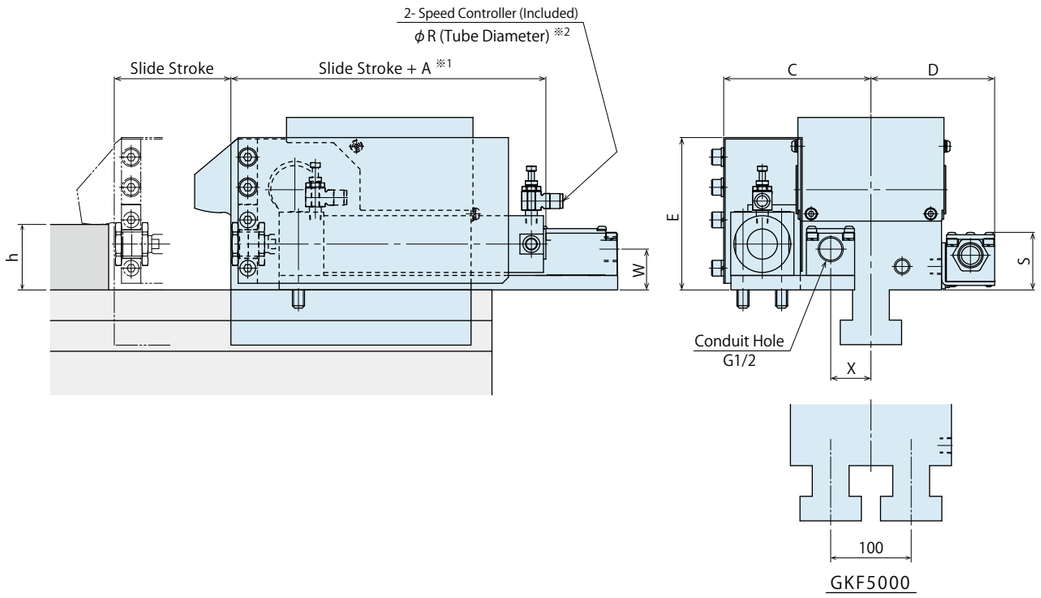
Model No.	Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GKE0400	○	○	○	○	○	○	○		
GKE0630		○	○	○	○	○	○		
GKE1000		○	○	○	○	○	○		
GKE1600		○	○	○	○	○	○	○	○
GKE2500		○	○	○	○	○	○	○	○
GKE4000		○	○	○	○	○	○	○	○
GKE5000		○	○	○	○	○	○	○	○

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

External Dimensions : Model GKF (Longer Stroke)

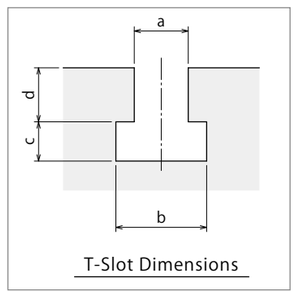
※ This drawing shows GKF0400 ~ GKF5000 standard model, air cylinder mounting position: **L**.
GKF4000/GKF5000 has the grease nipple as standard. GKF5000 has two T-legs.
Please contact us for external dimensions for options. Please refer to GKC clamp pages for details of clamp body.





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 : Model GKF (Longer Stroke)

(mm)

Model No.	GKF0400	GKF0630	GKF1000	GKF1600	GKF2500	GKF4000	GKF5000
GKC Clamp Model No.	GKC0400	GKC0630	GKC1000	GKC1600	GKC2500	GKC4000	GKC5000
Full Stroke	12	15	15.5	16	16	16	16.5
Clamp Stroke	3.5	1	1.5	2	2	2	2.5
Extra Stroke	8.5	14	14	14	14	14	14
Mold Clamping Thickness Variance	5	10	10	10	10	10	10
A ※1	105	112	118	136	157	184	184
B	80.5	96.5	107.5	132	157	239.5	252
C	74	89	100	122	144.5	224.5	237
D	78	88	92.5	102.5	116	131.5	144
E	85	95	109.5	126.5	148.5	181.5	206.5
F	39	45	46	56	64	57	57
G	44	55	61	74	89	106.5	119
H	18	22	24	32	41	96	96
J	9	10	13	14	16	36	36
K ※1	12	12	12	12	14	19	19
L	–	–	–	172	170.5	215	250
N	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc1/4	Rc3/8	Rc3/8
P	M5×0.8×40	M6×1×50	M8×1.25×55	M10×1.5×70	M12×1.75×85	M16×2×130	M16×2×130
Q	Rc1/8	Rc1/8	Rc1/8	Rc1/8	Rc1/4	Rc3/8	Rc3/8
R ※2	6	6	6	6	10	10	10
S	48	48	48	48	48	48	48
T	227	251.5	280.5	320.5	349.5	409.5	449.5
U	58	68	72.5	82.5	96	111.5	124
V	22	25	25	–	–	–	–
W	27.6	30.6	33.6	33.6	37.6	40.6	40.6
X	11	19	23.5	33.5	47	62.5	75
min. h	25 ~ 30	30 ~ 40	40 ~ 50	40 ~ 50	45 ~ 55	50 ~ 60	60 ~ 70
max. h	45 ~ 50	50 ~ 60	60 ~ 70	70 ~ 80	70 ~ 80	75 ~ 85	75 ~ 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 (tube diameter) of the speed controller 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 specify a, b, c, d dimension of T-slot and h dimensions of mold clamping thickness.
3. Please set the dimensions of a, b, c, d and h in 0.1mm increments and if h dimension has variations, please specify the variations.
4. Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
5. Do not set the mold confirmation limit switch to the mold surface near the U-slot.
6. When determining slide stroke, provide the forward end with an extra stroke between 2 and 5 mm considering dimensional accuracy of the air cylinder and detection distance of the limit switch.
7. Clamp sliding surface should be smooth.
8. Please refer to GKC clamp pages for unlisted dimensions.

Slide Stroke

Model No.	Slide Stroke (mm)								
	25	50	75	100	125	150	200	250	300
GKF0400	○	○	○	○	○	○	○		
GKF0630		○	○	○	○	○	○		
GKF1000		○	○	○	○	○	○		
GKF1600		○	○	○	○	○	○	○	○
GKF2500		○	○	○	○	○	○	○	○
GKF4000		○	○	○	○	○	○	○	○
GKF5000		○	○	○	○	○	○	○	○

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

Hydraulic Unit

【without Cover (Standard Model)】

Model CPB/CPD/CPC/CPE (5ℓ Tank)

Model CQC/CQE (10ℓ Tank)

【with Cover】

Model CTB/CTD/CTC/CTE (5ℓ Tank)

Model CUC/CUE (10ℓ Tank)

Converts Factory Compressed Air into Hydraulic Pressure.

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

Pump

Pressure Supply when Hydraulic Pressure Decreases

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

Pressure Relief Valve

Maintains Set Pressure with Pressure Relief Valve

The set pressure: 25MPa $^{+2}_{0}$ is maintained by the pressure relief valve (BR valve) even when hydraulic pressure rises during IMM operation.

Non-Leak Valve

Maintains Hydraulic Pressure with Non-Leak Valves

Non-leak valve (BA valve) maintains hydraulic pressure even when air supply is stopped.
This prevents the mold from falling.

Larger Flow Rate Increases Clamping Speed

Wider oil path allows for larger flow rate.
Increase of hydraulic clamp operation speed reduces mold change time.

Model No. Indication

C P D N 0 G 0 - 3US - 5 A - K1

1 2 3 4 5 6 7 8 9

Notes :
※1. When selecting 9 Option **N** : NPT Port, dimensions in the specification sheet and other documents are in inches.
1. Please contact us for specifications and external dimensions for these options.

1 Unit Model

【Without Cover (Standard Model)】
P : For Small/Medium Clamp (5ℓ Tank)
Q : For Large Clamp (10ℓ Iron Tank)

【With Cover】
T : For Small/Medium Clamp (5ℓ Tank)
U : For Large Clamp (10ℓ Iron Tank)

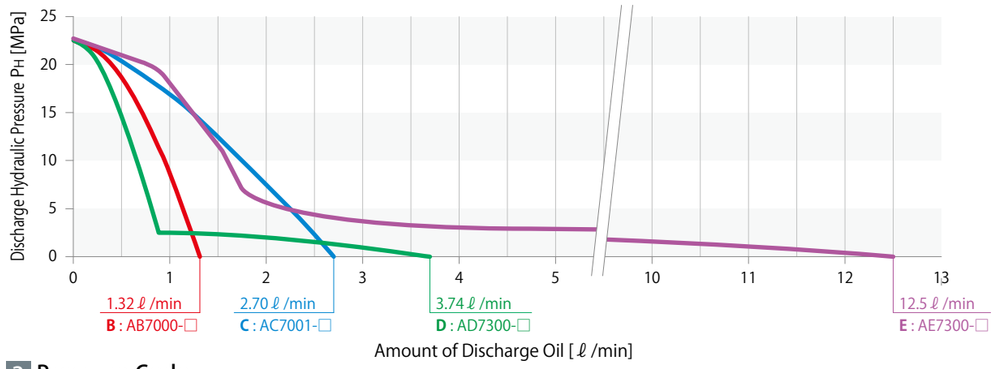
2 Pump Model

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

● = Available Pump

2 Pump Model	1 Unit Model P	Q	T	U
B : AB Pump	●		●	
D : AD Pump	●		●	
C : AC Pump	●	●	●	●
E : AE Pump	●	●	●	●

Pump Performance Curve



3 Pressure Code

N : Working Pressure 25MPa, Pressure Switch Set Pressure INC. 17.6MPa (Normal Pressure Rise Confirmation), 28.4MPa (Abnormal Pressure Rise Confirmation) / DEC. 2.94MPa, with Pressure Relief Valve

4 Fluid Code

0 : General Hydraulic Oil (equivalent to ISO-VG-32)
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.)

US : For Clamp Double Solenoid With Pressure Relief Valve

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)
CD1 : Digital Pressure Sensor (NPN) (DC24V only) (+Common)
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 (w/o Primary Pressure Gauge)
K1 : With Color Displayed Pressure Gauge for Each Circuit (w/o 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 : NPT Port, 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 (Only for CP□/CT□.)

Specifications

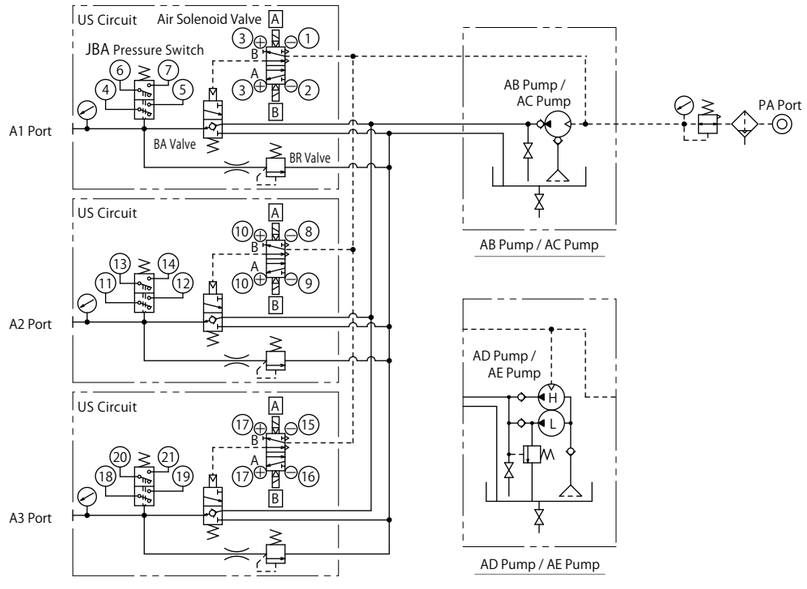
Model No.			CPBN0□0 CTBN0□0	CPDN0□0 CTDN0□0	CPCN0□0 CTCN0□0	CPEN0□0 CTEN0□0	CQCN0□0 CUCN0□0	CQEN0□0 CUEN0□0
Working Hydraulic Pressure MPa			25					
Withstanding Pressure MPa			37					
Tank Capacity ℓ			5 ℓ (Actual Amount for Use 3.7 ℓ : H.L.5 ℓ -L.L.1.3 ℓ) ※1				10 ℓ (Actual Amount for Use 7 ℓ : H.L.10 ℓ -L.L.3 ℓ)	
Operating Temperature ℃			0 ~ 70					
Use Frequency			Less than 20 Cycles / Day Pressure Rising Time : Less than 2.5 min. / Cycle					
Main Components	Pump	Model No.	AB7000-□	AD7300-□	AC7001-□	AE7300-□	AC7001-□	AE7300-□
		Set Discharge Pressure MPa	22.5	22.5	22.5	22.5	22.5	22.5
		Discharge Oil under No Load ℓ /min	1.32	3.74	2.70	12.5	2.70	12.5
		Set Air Pressure MPa	0.41	0.41	0.43	0.43	0.43	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	174 μm (100 Mesh)					
	Non-Leak Valve	Model No.	BA5R11-0	BA5R11-0	BA5R11-0	BA5R11-0-Z00102	BA5R01-0	BA5R01-0-Z00108
	Pressure Switch	Model No.	JBA3800-0GD					
		Operation Mode/Set Pressure MPa	Normal Pressure Rise Confirmation / INC. 17.6					
			Abnormal Pressure Rise Confirmation / INC. 28.4					
	Pressure Relief Valve	Model No.	BR5N11-0					
		Set Pressure MPa	25 $^{+2}_{0}$					

Notes :

※1. Iron Tank Capacity is 5 ℓ (Actual Amount for Use 2.9 ℓ : H.L. 5.1 ℓ -L.L. 2.2 ℓ).

1. If hydraulic viscosity is higher than specified, action time will be longer. Please refer to Hydraulic Fluid List on P.56.
2. If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
3. When using a pressure gauge on a hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge in order to prevent damage caused by surging pressure.
4. When installing, provide enough space at the top of the unit, taking into consideration the maintenance of the pump.
5. The pump stops in balance at 22.5MPa in order to prevent abnormal continuous operation considering 25.0 MPa relief pressure of the pressure relief valve.

Circuit Symbol ※ This shows the circuit symbol of C□□N0□0-3US-5A-K□.

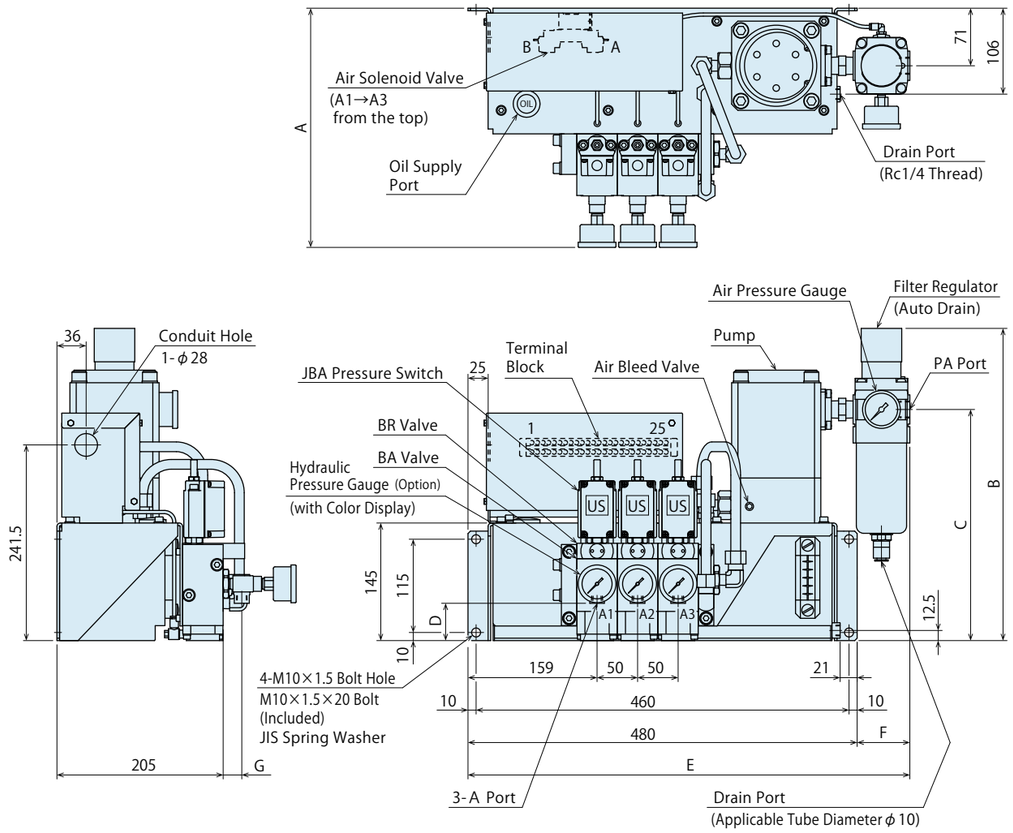


Notes :

6. In the drawing, the ○ symbol indicates the terminal number and the □ symbol indicates the coil symbol.
7. The red cable of the solenoid valve is "+", and the black cable is "−".

External Dimensions：CPB/CPD/CPC/CPE (5ℓ Tank)

※ This drawing shows CP□N0G0-3US-□-K1 (Fluid Code **G** : Water・Glycol, Iron Tank).
Please contact us for other specifications and external dimensions for options.

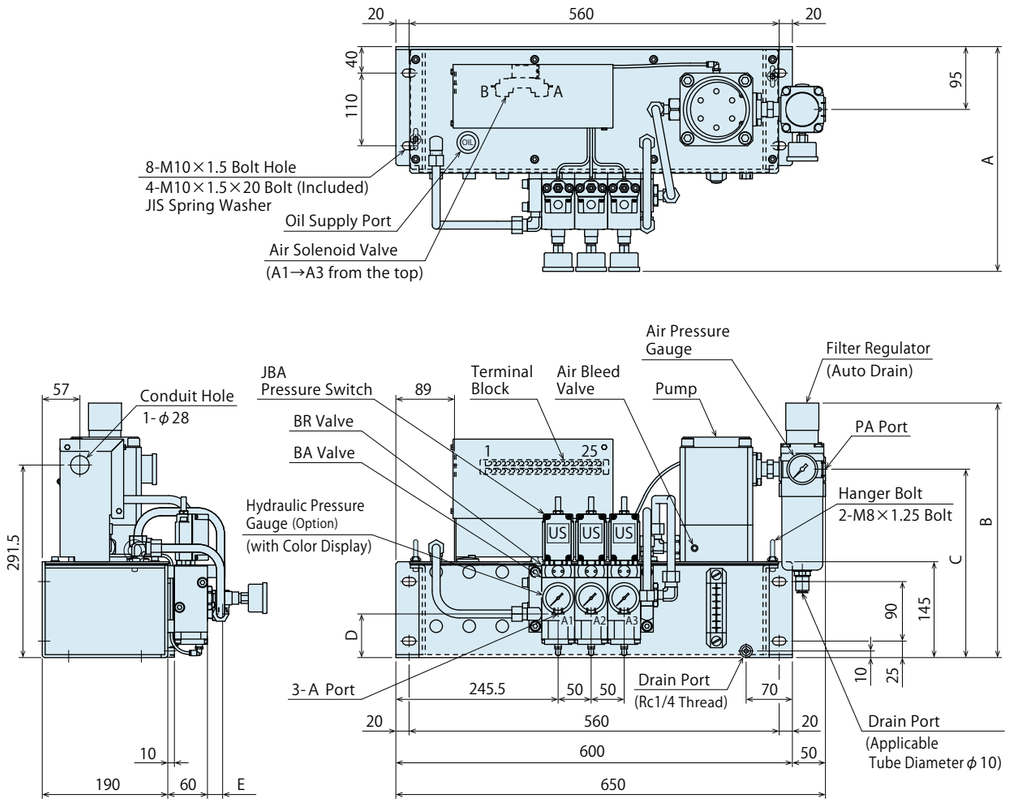


External Dimensions

Model No.	CPBN0G0-3US-□-K1	CPDN0G0-3US-□-K1	CPCN0G0-3US-□-K1	CPEN0G0-3US-□-K1
Pump	AB7000-G	AD7300-G	AC7001-G	AE7300-G
A	295	295	295	321
B	317	337	385	420
C	233.5	253.5	285	320
D	46	46	46	41
E	513	513	545	545
F	33	33	65	65
G	23	23	23	30
PA Port	Rc1/4 Thread	Rc1/4 Thread	Rc1/2 Thread	Rc1/2 Thread
A Port	Rc1/4 Thread	Rc1/4 Thread	Rc1/4 Thread	Rc3/8 Thread

External Dimensions：CQC/CQE (10ℓ Tank)

※ This drawing shows CQ□N0□0-3US-□-K1.
Please contact us for other specifications and external dimensions for options.

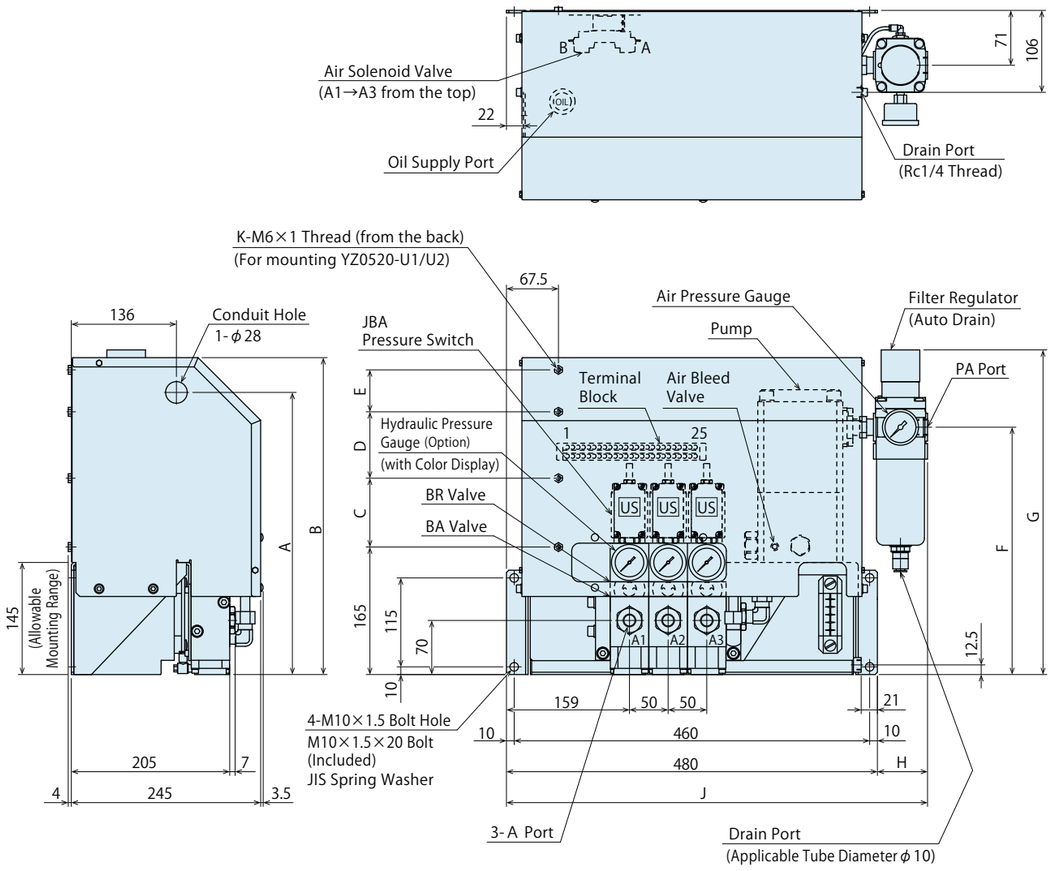


External Dimensions

Model No.	CQCN0□0-3US-□-K1	CQEN0□0-3US-□-K1
Pump	AC7001-□	AE7300-□
A	340	366
B	385	420
C	285	320
D	66	61
E	23	30
PA Port	Rc1/2 Thread	Rc1/2 Thread
A Port	Rc1/4 Thread	Rc3/8 Thread

External Dimensions：CTB/CTD/CTC/CTE (5ℓ Tank)

※ This drawing shows CT□N0G0-3US-□-K1 (Fluid Code **G** : Water・Glycol, Iron Tank).
Please contact us for other specifications and external dimensions for options.

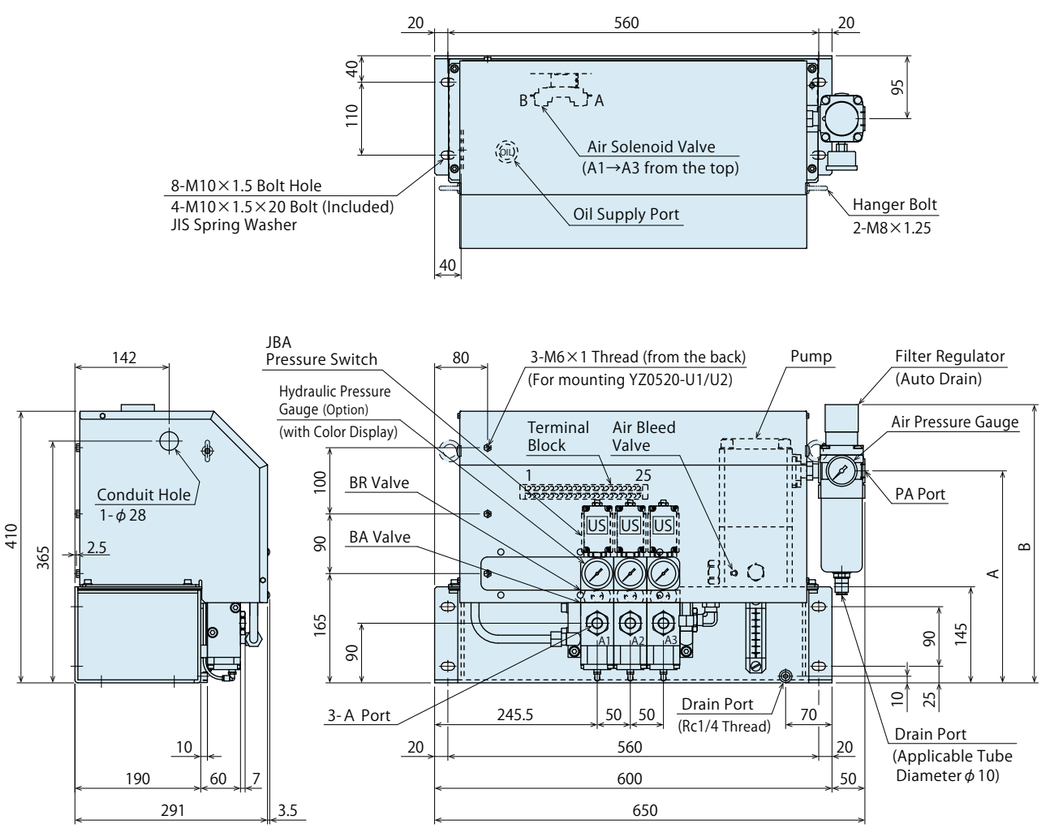


External Dimension List

Model No.	CTBN0G0-3US-□-K1	CTDN0G0-3US-□-K1	CTCN0G0-3US-□-K1	CTEN0G0-3US-□-K1
Pump	AB7000-G	AD7300-G	AC7001-G	AE7300-G
A	290	290	365	365
B	335	335	410	410
C	55	55	90	90
D	40	40	100	100
E	60	60	-	-
F	233.5	253.5	285	320
G	317	337	385	420
H	33	33	65	65
J	513	513	545	545
K	4	4	3	3
PA Port	Rc1/4 Thread	Rc1/4 Thread	Rc1/2 Thread	Rc1/2 Thread
A Port	Rc1/4 Thread	Rc1/4 Thread	Rc1/4 Thread	Rc3/8 Thread

External Dimensions：CUC/CUE (10ℓ Tank)

※ This drawing shows CU□N0□0-3US-□-K1.
Please contact us for other specifications and external dimensions for options.



External Dimension List

Model No.	CUCN0□0-3US-□-K1	CUEN0□0-3US-□-K1
Pump	AC7001-□	AE7300-□
A	285	320
B	385	420
PA Port	Rc1/2 Thread	Rc1/2 Thread
A Port	Rc1/4 Thread	Rc3/8 Thread

Accessory：Unit Stand

※ The external dimensions of the applicable units in these drawings show the standard model.
Please contact us for external dimensions of other specifications and options.

● Wall Mounted Model

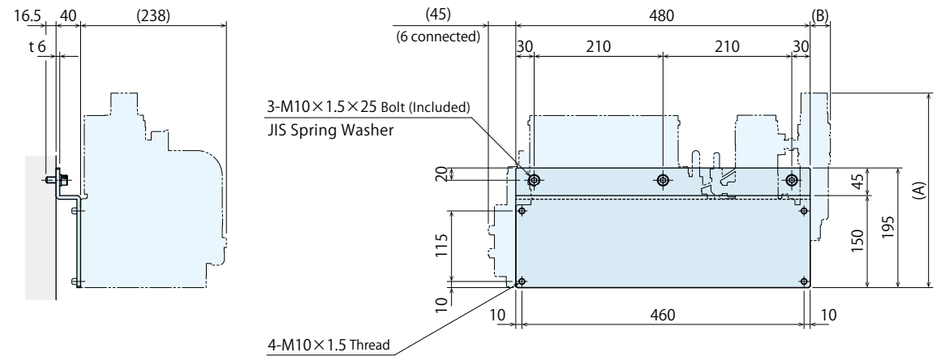
Model No. Indication

CPSH000

(mm)

Applicable Unit Model	Dimension A	Dimension B
CPB	317	33
CPD	337	
CPC	385	65
CPE	420	

External Dimensions

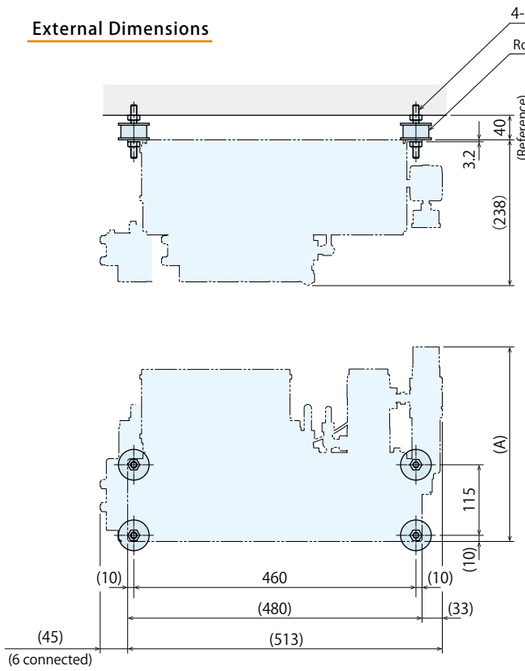


● Anti-Vibration Rubber Model

Model No. Indication

CPSR000

External Dimensions



(mm)

Applicable Unit Model	Dimension A
CPB	317
CPD	337
CPC	385
CPE	420

● Floor Mounted Model 1

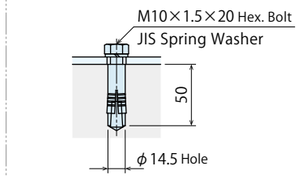
Model No. Indication

CPSV000

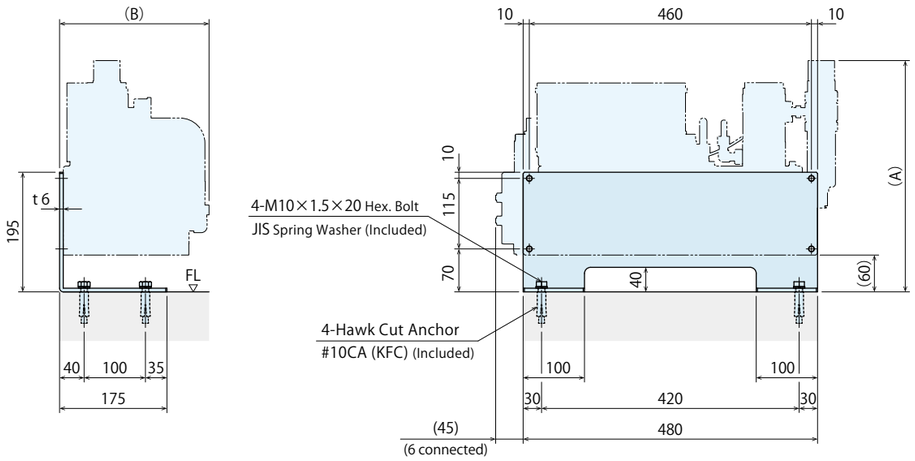
(mm)

Applicable Unit Model	Dimension A	Dimension B
CPB	377	244
CPD	397	
CPC	445	
CPE	480	
CTB	395	254.5
CTD	397	
CTC	470	
CTE	480	

Hawk Cut Anchor Machining Dimensions



External Dimensions



● Floor Mounted Model 2

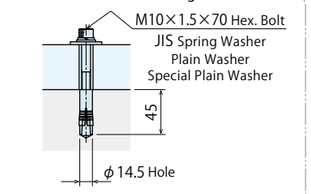
Model No. Indication

CQSV000

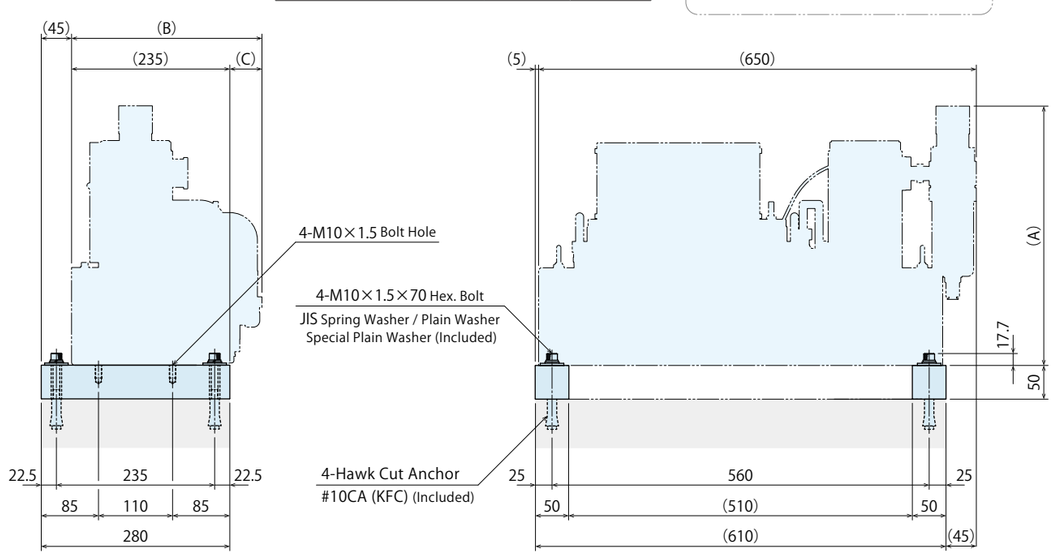
(mm)

Applicable Unit Model No.	Dimension A	Dimension B	Dimension C
CQC	385	283	48
CQE	420		
CUC	410	294.5	59.5
CUE	420		

Hawk Cut Anchor Machining Dimensions



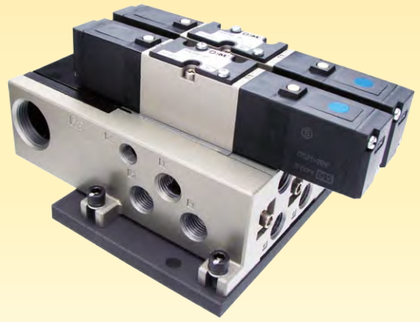
External Dimensions



Air Valve Unit

For T-Slot Automatic-Slide Hydraulic Clamp

Model **MV**



Air Valve Unit for GKE/GKF Automatic-Slide Clamp

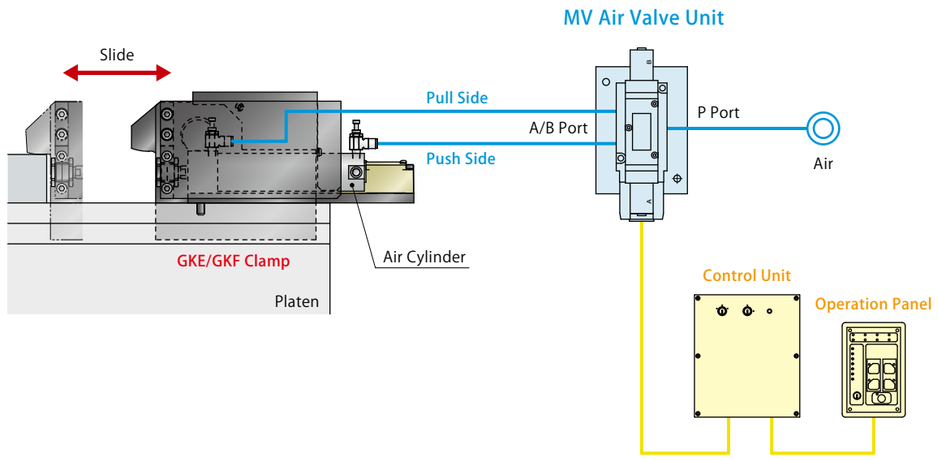
Compact air valve unit controls the air cylinder of
the automatic slide clamps.

The air directional control valve is actuated by an electrical signal.

The GKE / GKF clamp slides automatically with the air cylinder.

Application Example

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



Model No. Indication

MV30 **2** **3** - **SS** - **5** - **4** - **N**
(1) (2) (3) (4) (5) (6)

1 Size Code

1 : For Small/Medium Clamp
2 : For Large Clamp
3 : For Large Clamp
(Reference:
The diameter of air cylinder for slide ϕ80 or more.
GKE400/GKE500/GKF400/GKF500)

2 Design No.

3 : Revision Number

3 Circuit Symbol

S : Slider Circuit
(Solenoid Valve:3-Position Exhaust Center)
T : Slider Circuit
(Solenoid Valve:2-Position Double)

4 Valve Control Voltage

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

5 Operating Air Pressure

Blank: Free Set Pressure
3 : 0.3MPa
4 : 0.4MPa
5 : 0.5MPa

6 Option

Blank: Standard
C : — Common
N : NPT Port ※1
R : With Silencer
S : Solenoid Valve with Light and Surge Voltage Suppressor

● Circuit Symbol Example (3-Position Exhaust Center)

Symbol	Circuit Type	Application Example
SS	2 Slider Circuits	Stationary Side + Movable Side, or Cross Circuit
SSS	3 Slider Circuits	Stationary Side : 1 Circuit + Movable Side : Cross Circuit

Notes :
※1. For 6 Option **N** : NPT Port, the dimensions in the specification sheet and other documents are in inches.
1. Please contact us when using a large number of clamps.

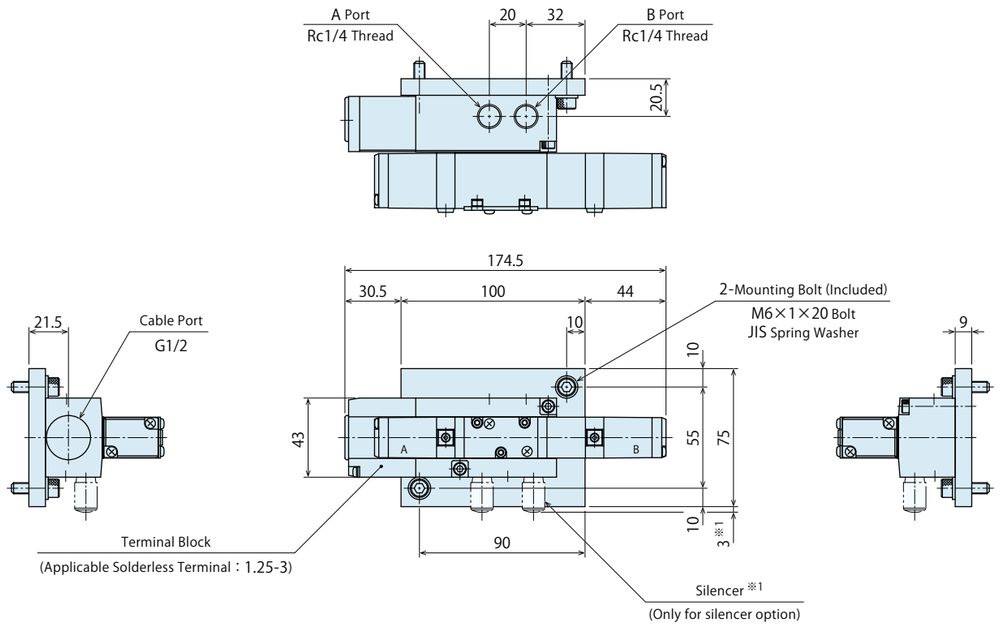
Specifications

Model No.		MV3013	MV3023	MV3033
Valve		Metal Seal / 5-Port Pilot Operated		
The Number of Positions / Solenoids	3 Circuit Symbol **S**	3-Position Exhaust Center		
	3 Circuit Symbol **T**	2-Position Double		
Effective Area	mm^2	15	36	36
Usable Fluid		Dry Air ※2		
Max. Operating Pressure	MPa	1.0		
Withstanding Pressure	MPa	1.5		
Operating (Fluid) Temperature	℃	−10 ~ +60		
Oil Supply		No Oil Supply		
Protection		Dust Proof		
Solenoid Valve (SMC)	3 Circuit Symbol **S**	VFS2400	VFS3400	VFS4400
	3 Circuit Symbol **T**	VFS2200	VFS3200	VFS4200

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

External Dimensions：MV3013 (The Number of Circuits：1)

※ This drawing shows MV3013-□-□ (The number of circuits：1).

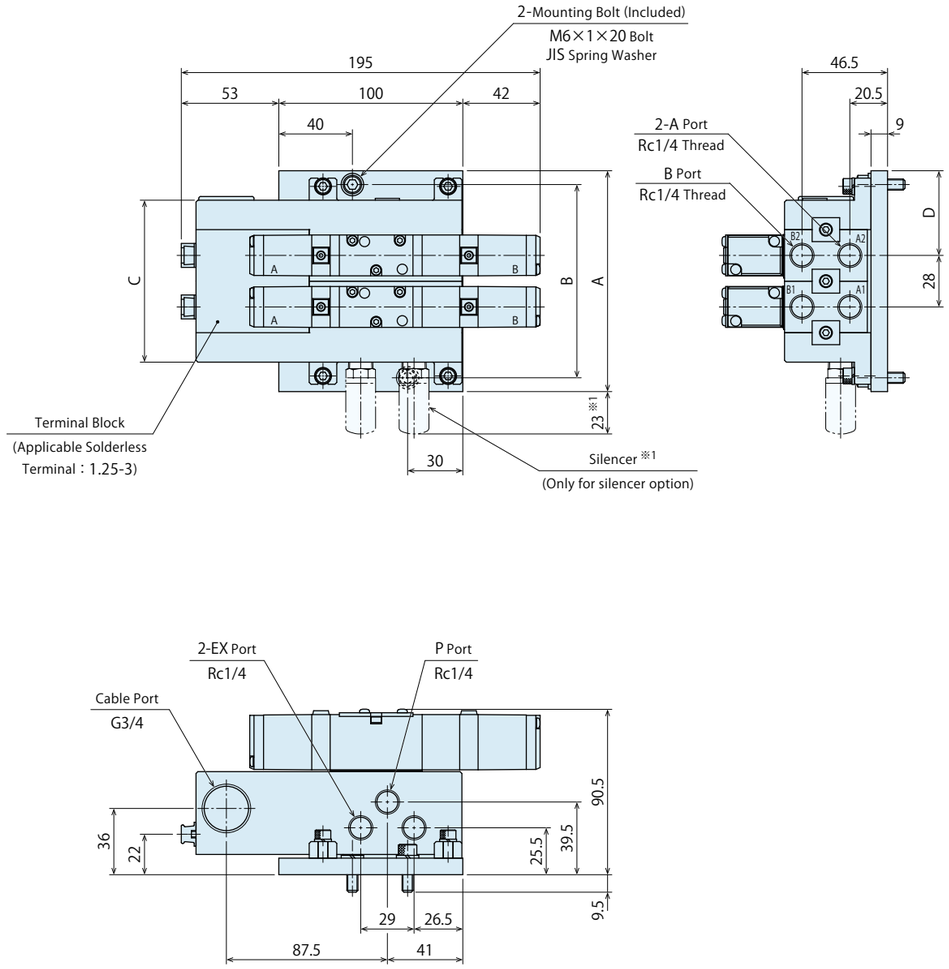


Notes :

※1. It is for 6 Option **R**：with Silencer.

External Dimensions：MV3013 (The Number of Circuits：2 / 3)

※ This drawing shows MV3013-▭-□ (The number of circuits：2 / 3).



(mm)

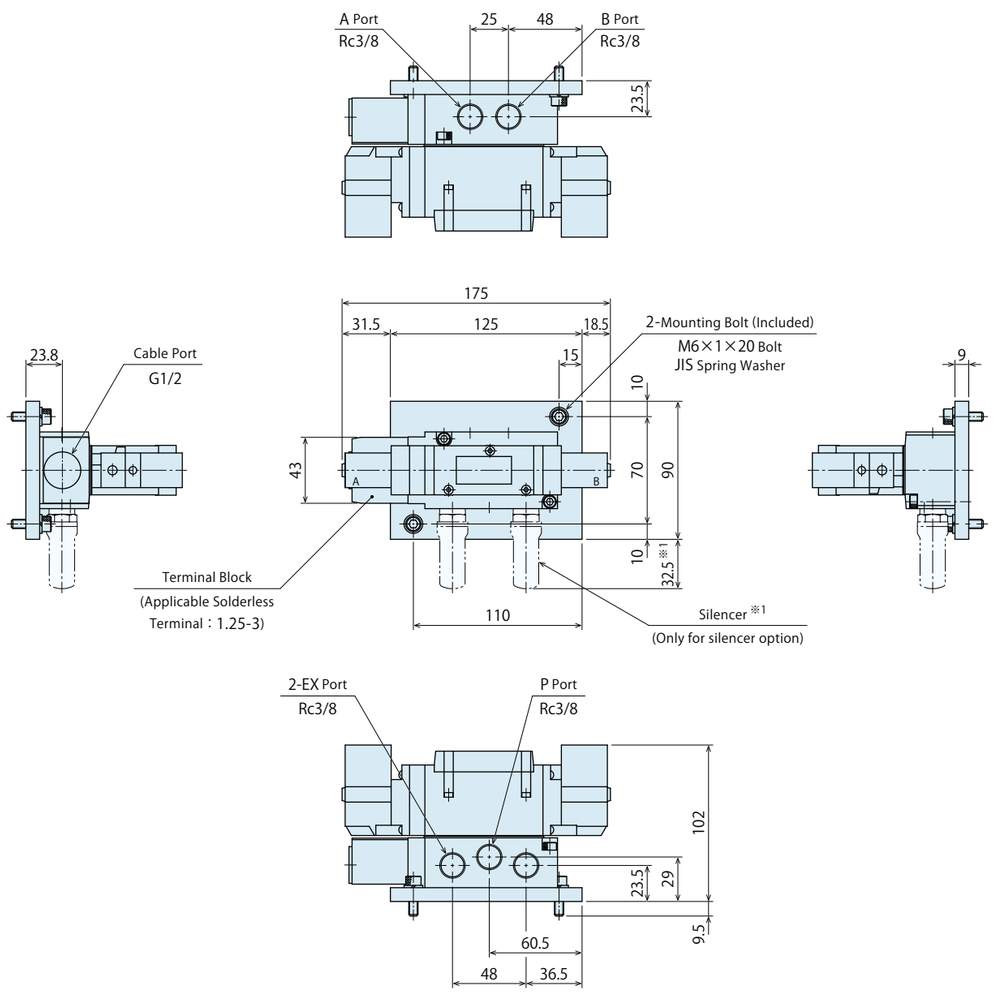
Number of Circuits	A	B	C	D
2	120	105	88	46
3	150	135	116	47

Notes :

※1. It is for 6 Option **R**：with Silencer.

External Dimensions：MV3023 (The Number of Circuits：1)

※ This drawing shows MV3023-□-□ (The number of circuits：1).

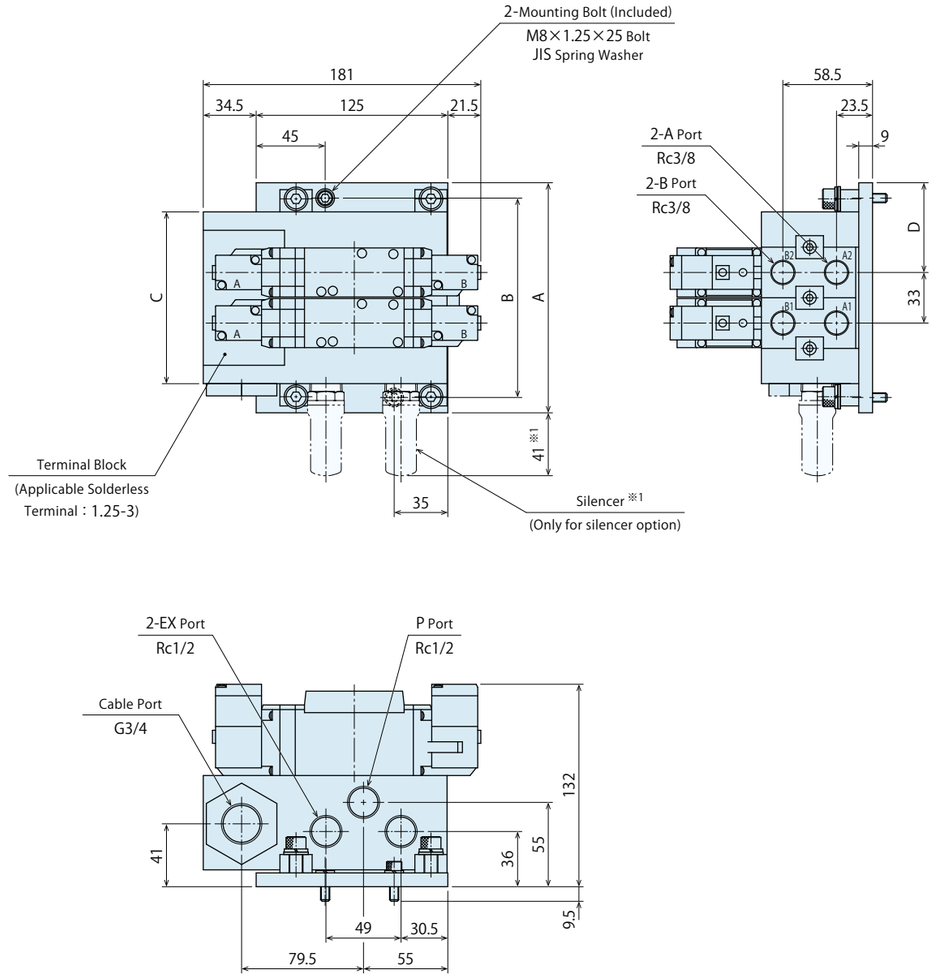


Notes :

※1. It is for 6 Option **R**：with Silencer.

External Dimensions：MV3023 (The Number of Circuits：2 / 3)

※ This drawing shows MV3023-□-□ (The number of circuits：2 / 3).



(mm)

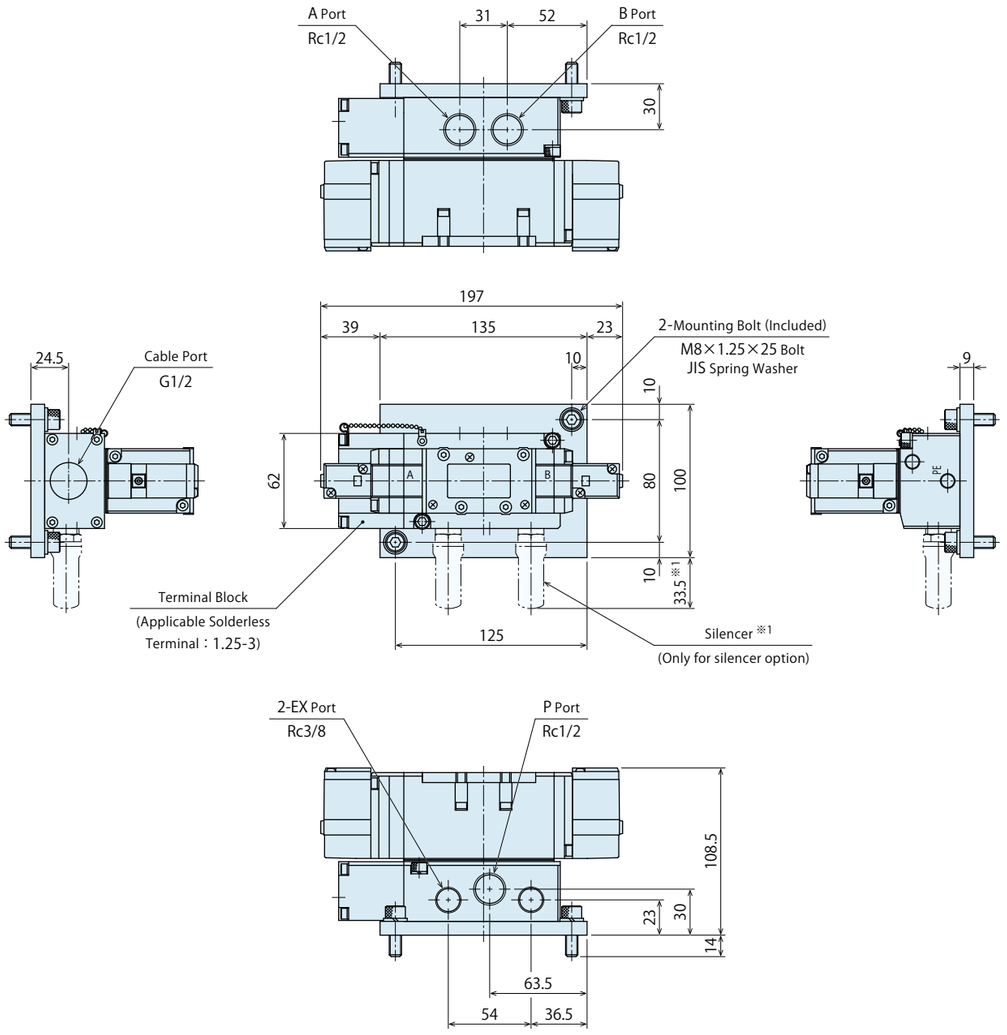
Number of Circuits	A	B	C	D
2	150	130	112	58.5
3	185	165	145	59.5

Notes :

※1. It is for 6 Option **R**：with Silencer.

External Dimensions：MV3033 (The Number of Circuits：1)

※ This drawing shows MV3033-□-□ (The number of circuits：1).

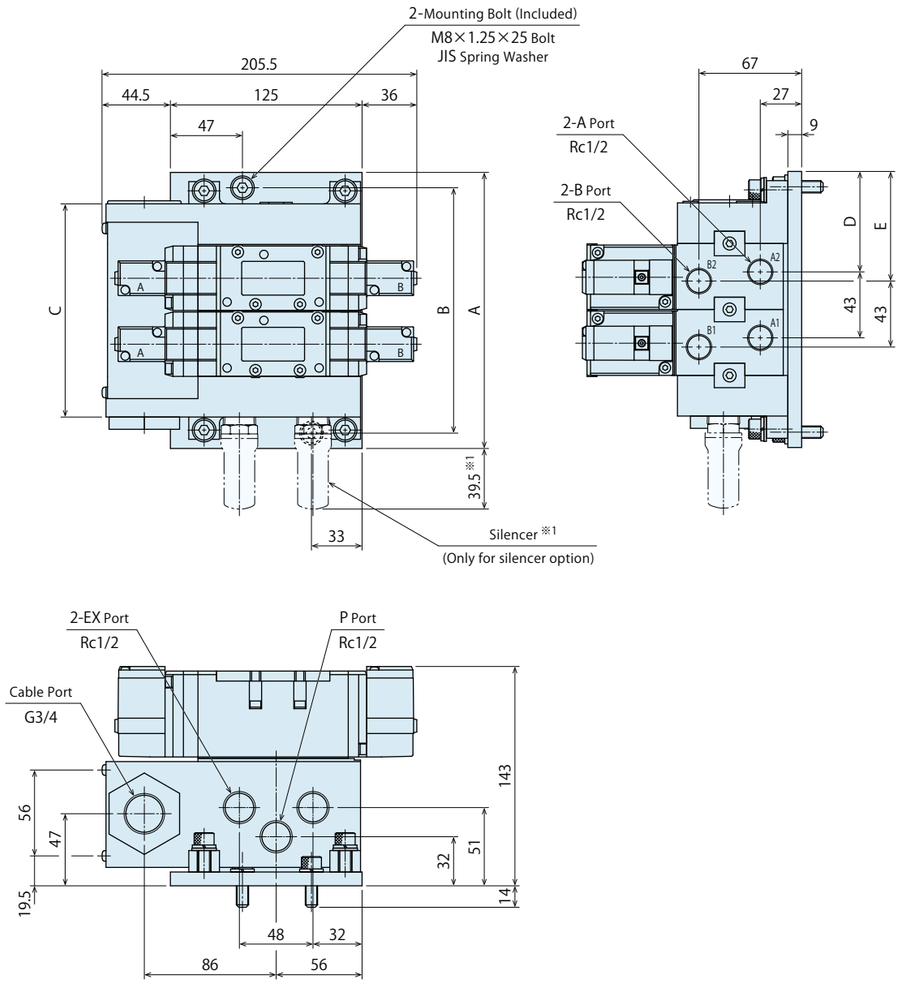


Notes :

※1. It is for 6 Option **R**：with Silencer.

External Dimensions：MV3033 (The Number of Circuits：2 / 3)

※ This drawing shows MV3033-□-□ (The number of circuits：2 / 3).



(mm)

Number of Circuits	A	B	C	D	E
2	180	160	139	65.5	71.5
3	225	205	182	66.5	72.5

Notes :

※1. It is for 6 Option **R**：with Silencer.

Operation Panel / Control Unit

Model YMD

Mold Change Operational Panel with User-Friendly Controls

PAT.P

Model No. Indication

YMD GB 1 0 - V - P4 ☐

1 2 3 4 5 6

1 Applicable Clamp Model No.

GB : GKB / GKC Clamp
GE : GKE / GKF Clamp

2 Pressure Switch / Pressure Source

1 : With Pressure Switch in the Clamp Circuit

3 Design No.

Revision Number

4 Mold Change Method

V : Vertical Mold Change System

5 Option

Blank : None
S2~S8 : With Mold Confirmation Limit Switch (series connection) 2-8 pcs. on each side
(1 Applicable Clamp Model No. **GE** only)
P2~P8 : With Mold Confirmation Limit Switch (individual connection) 2-8 pcs. on each side
(1 Applicable Clamp Model No. **GB** only)
F : Clamp Incomplete Detection
(1 Applicable Clamp Model No. **GE** only)
W : Remote Monitoring System※1

※1. Please contact us for details.

6 Indication Language

Blank : Japanese
N : English
C : Chinese

Specifications

Model No.		YMD☐10
Hydraulic Source		Kosmek Hydraulic Unit
Control Unit Voltage		DC24V (Supplied with the attached power supply.)
Attached Power Supply	Input Voltage	AC100 ～ 240V（50/60Hz）
	Output Capacity	30W
Abnormal High Pressure Confirmation		The pressure switch, which is built in the hydraulic unit, detects a sudden temperature increase and an abnormal mold opening force.
One Cycle Stop Signal		When an abnormal high pressure is detected, the alarm activates in conjunction with the flashing of "ALARM" and "EXCESS PRESSURE" lights on the operation panel / control unit and send a "One Cycle Stop Signal" to the die casting machine.

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

Interlock Input and Output

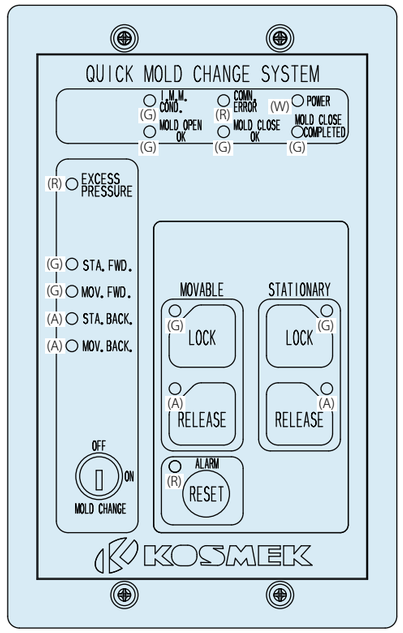
Machine Output	Contents
Mold Change Mode※2	A signal that ensures the machine is in low-speed Mold Change Mode.
Mold Closed (Pressurized)※2	A signal that ensures the mold is completely closed. Prohibit the release operation while the mold is open to prevent the mold from falling.
Ejector Back	A signal that ensures the ejector is in the back position to prevent damage to the ejector when unloading the mold.
C-Plate Clamp Released	A signal that indicates the c-plate clamp is in a released state. This prevents damage of the clamp when unloading a mold.
Safety Door Closed	A signal that indicates the safety door is completely closed. This ensures safe operation during mold change.

Machine Input	Contents
Mold Open OK ※2	A signal that indicates the clamping system is ready for mold opening.
Mold Close OK※2	A signal that indicates the clamping system is ready for mold closing.
Mold Change "ON" ※2	A signal that indicates the clamp system is in "Mold Change Mode".
Clamp Error※2	When an error in the clamp circuit occurs, this signal is sent to make an emergency stop of the machine.
One Cycle Stop※2	A signal that indicates abnormal force against the clamp during molding. After one cycle of the machine, the machine is stopped.
Movable Side Locked	A signal that enables the operation of the C-plate clamp when clamps on the movable side are locked.

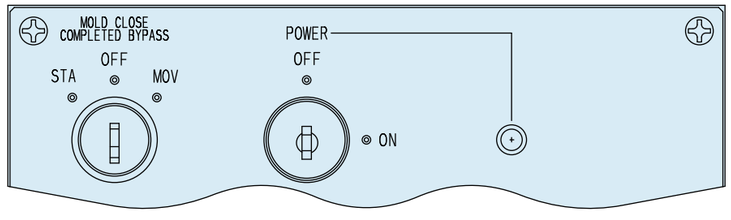
Note :
※2. The above signals are the standard input and output interlocks. Please contact us for other interlocks.

Detail : Operation Panel

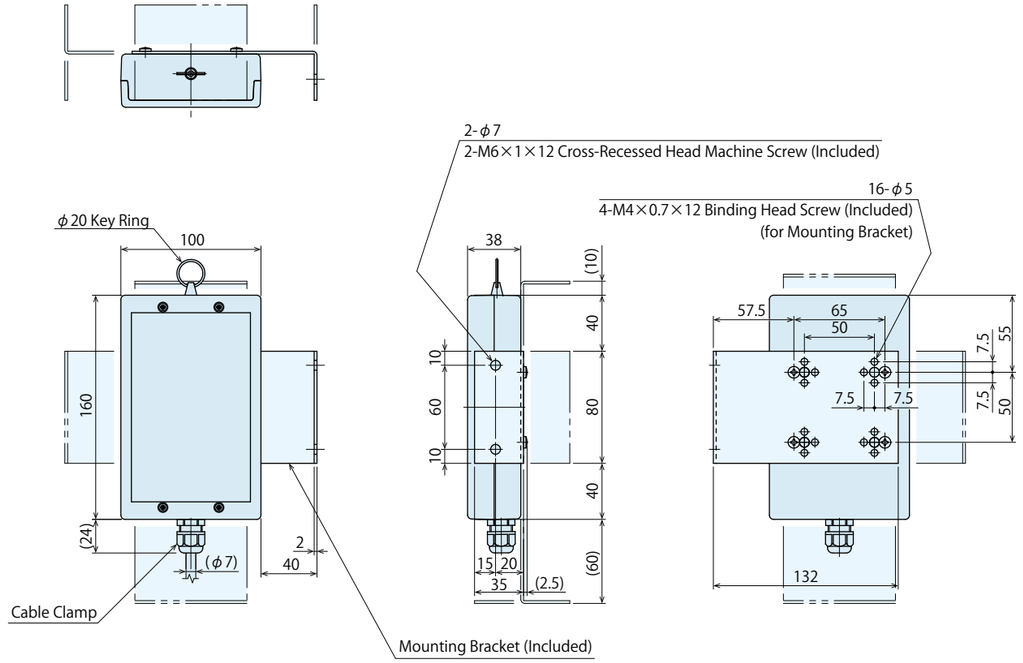
(G) Display Light：Yellow Green
(A) Display Light：Orange
(R) Display Light：Red
(W) Display Light：White



Detail : Control Unit



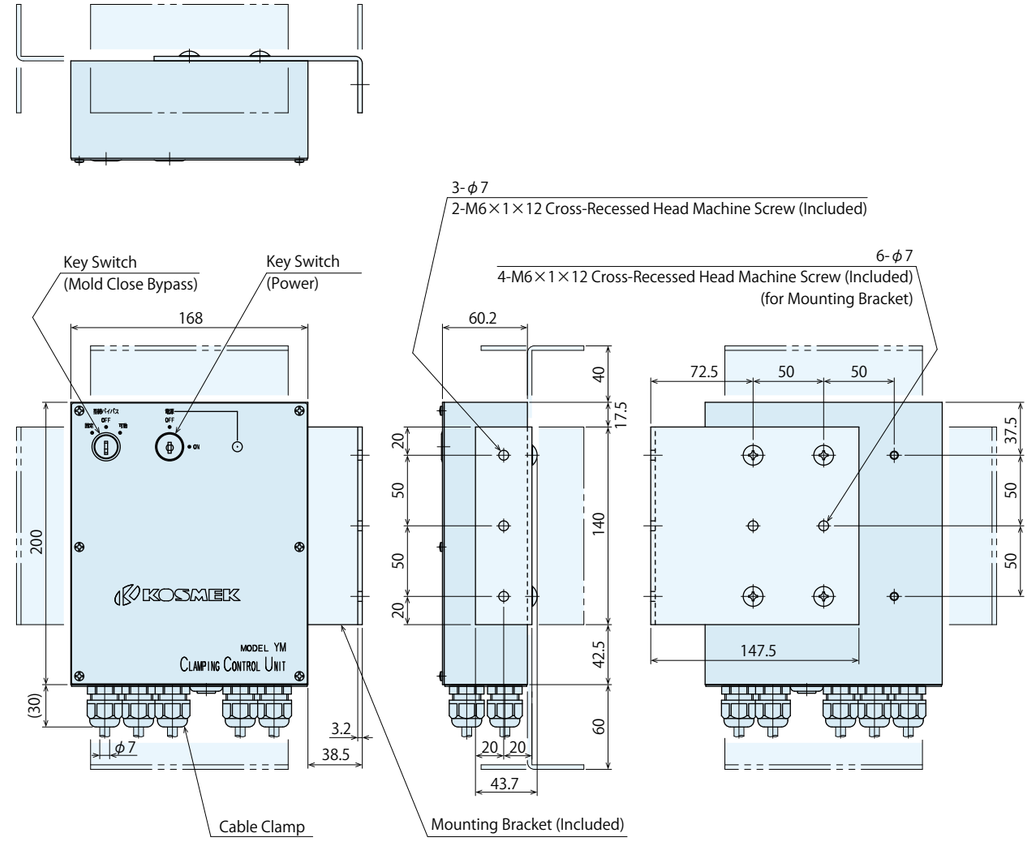
External Dimensions：Operation Panel



Note :

1. The bracket can be mounted in any direction.

External Dimensions：Control Unit



Note :

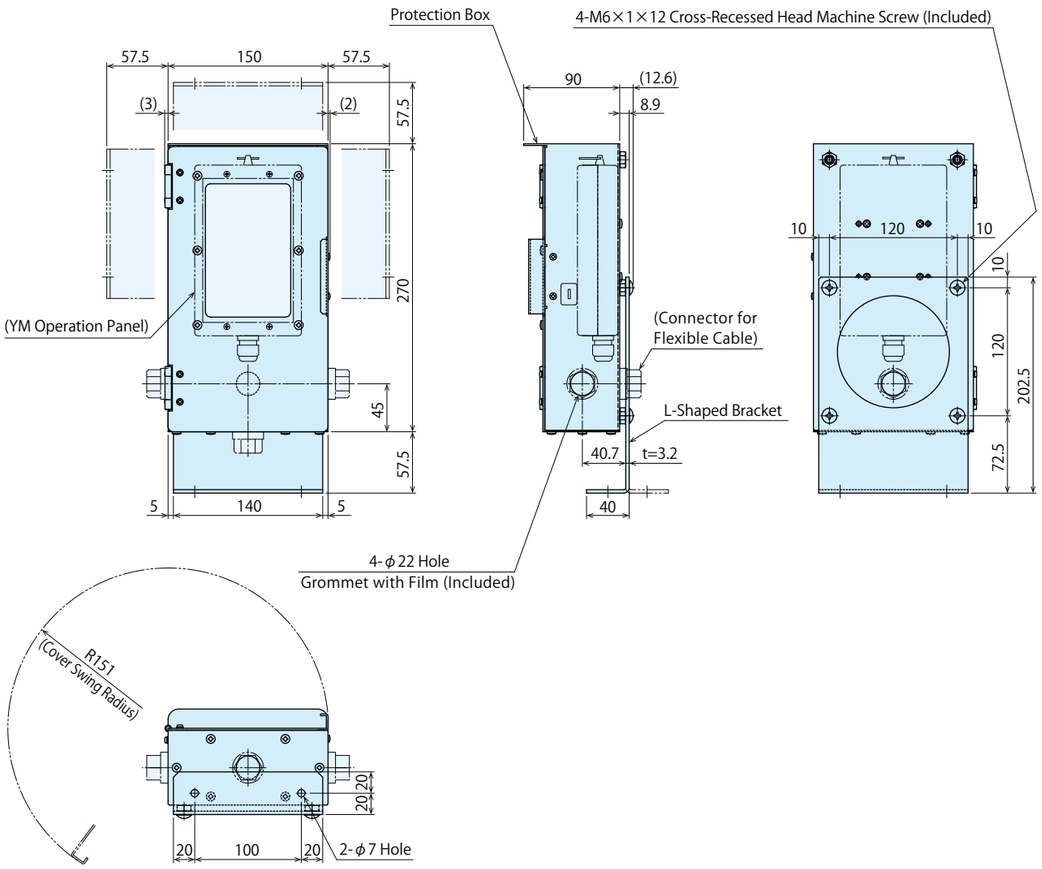
1. The bracket can be mounted in any direction.

Accessory：Protection Box for Operation Panel

Model No. Indication

YZ0520-P1

External Dimensions



Notes:

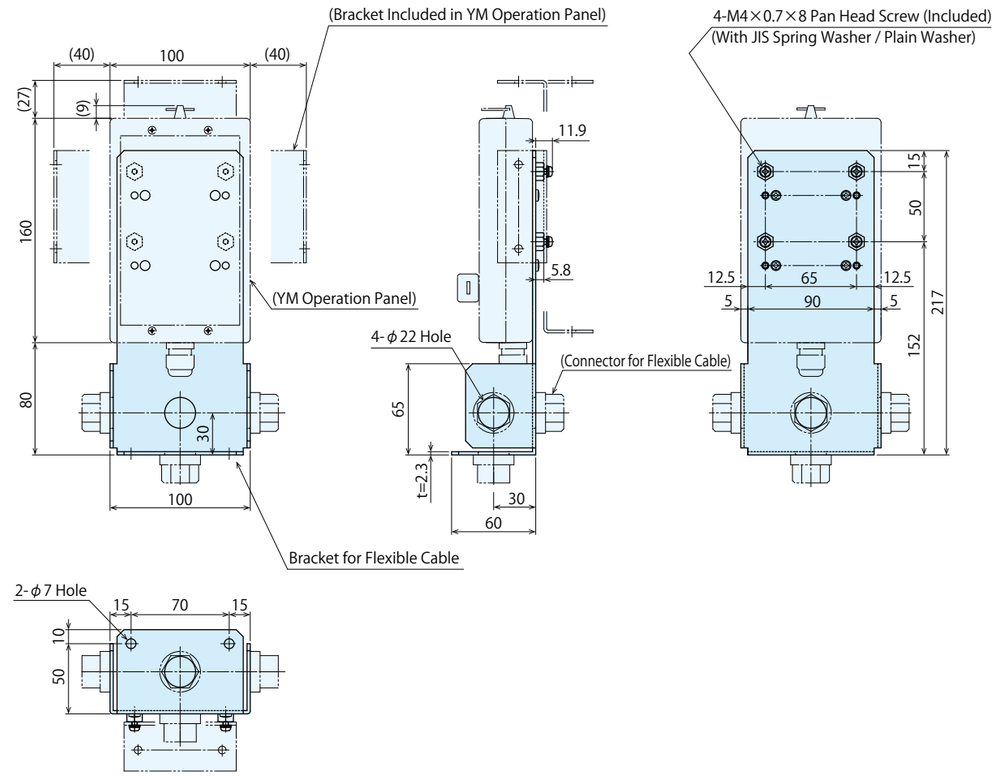
1. L-Shaped bracket can be mounted in any direction.
2. This product does not include YM Operation Panel and Connector for Flexible Cable.
3. This product is not dust-proof.
4. When mounting YM Operation Panel, please use binding head screws included in YM Operation Panel.

Accessory：Bracket for Flexible Cable for Operation Panel

Model No. Indication

YZ0520-P2

External Dimensions



Notes:

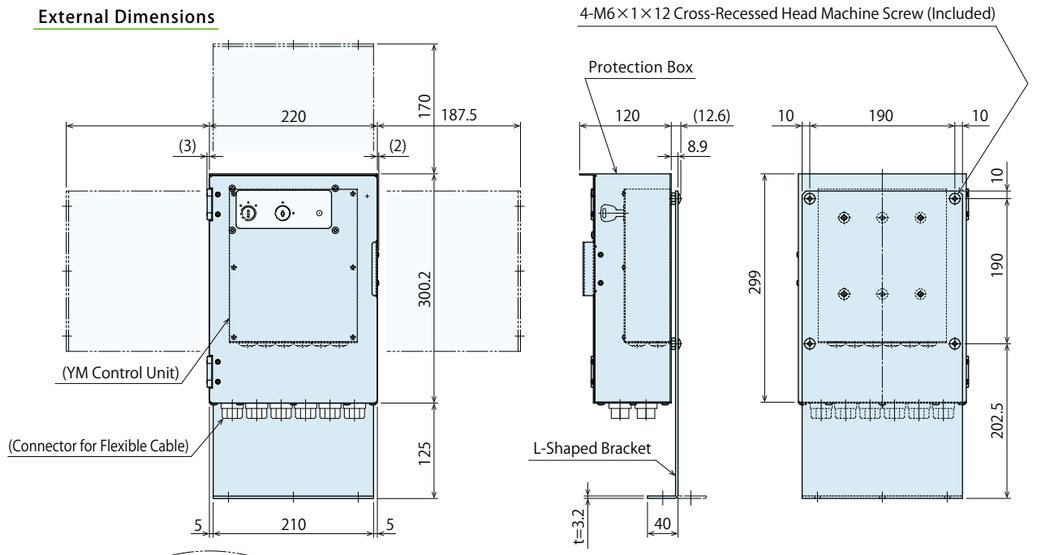
1. Attached Bracket for YM Operation Panel can be installed in this product.
2. This product does not include YM Operation Panel and Connector for Flexible Cable.
3. This product is not dust-proof.
4. When mounting YM Operation Panel, please use binding head screws included in YM Operation Panel.

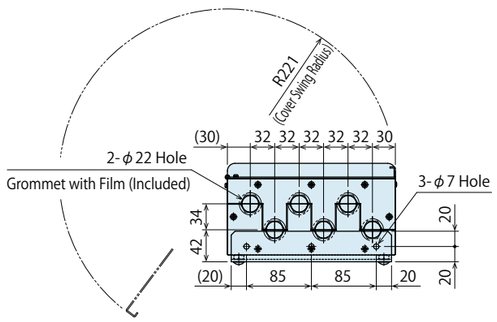
Accessory：Protection Box for Control Unit

Model No. Indication

YZ1100-U1

External Dimensions

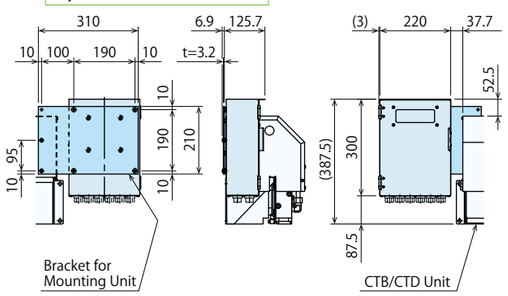




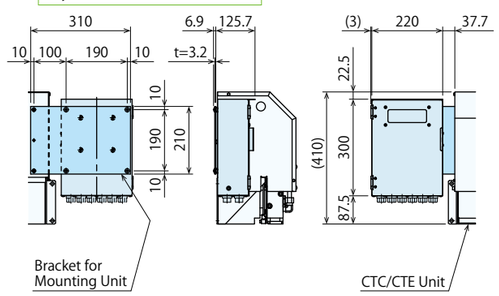
Notes :
1. L-Shaped bracket can be mounted in any direction.
2. This product does not include YM Control Unit and Connector for Flexible Cable.
3. This product is not dust-proof.
4. When mounting YM Control Unit, please use cross-recessed head machine screws included in YM Control Unit.

CT□/CU□ Unit Mounting Layout

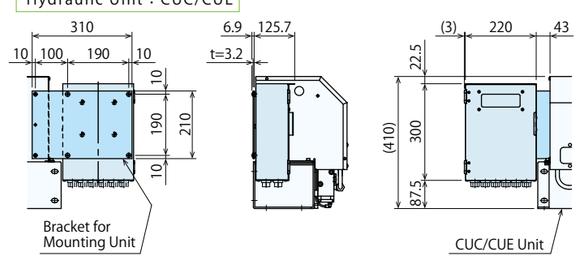
Hydraulic Unit：CTB/CTD



Hydraulic Unit：CTC/CTE



Hydraulic Unit：CUC/CUE

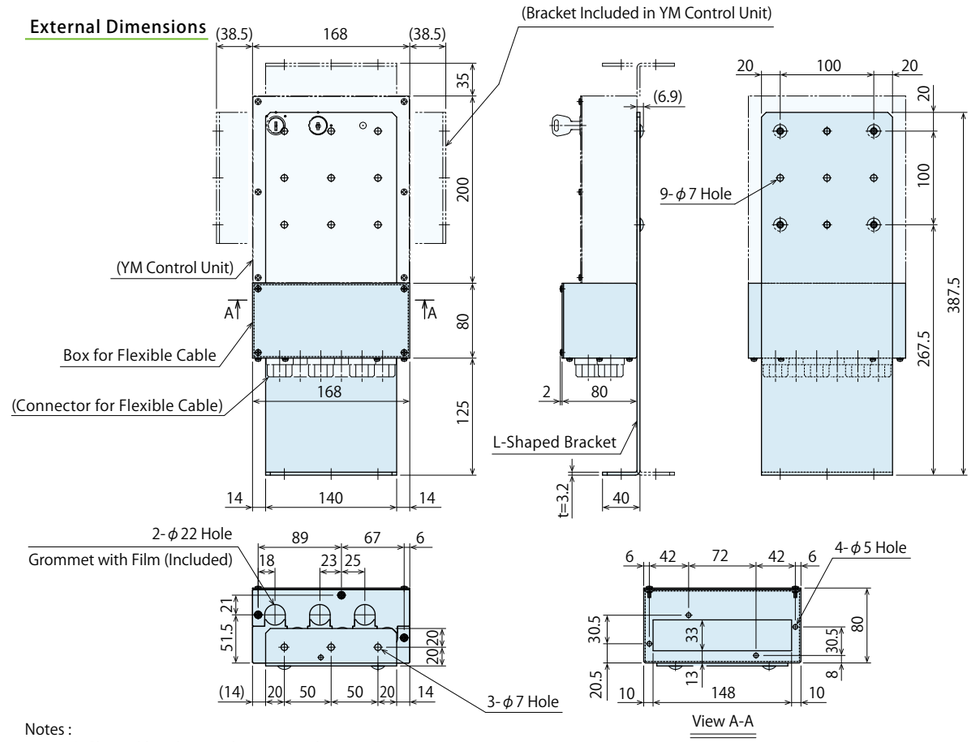


Accessory：Box for Flexible Cable for Control Unit

Model No. Indication

YZ1100-U2

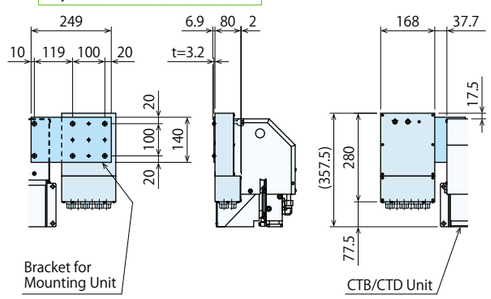
External Dimensions



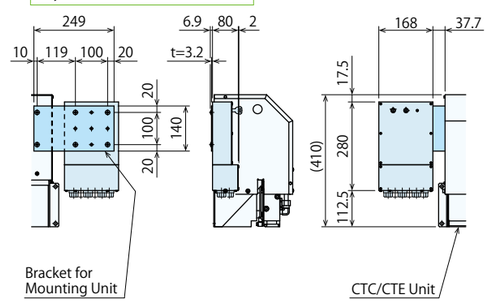
Notes :
1. L-Shaped bracket can be mounted in any direction.
2. This product does not include YM Operation Panel and Connector for Flexible Cable.
3. This product is not dust-proof.
4. When mounting YM Control Unit, please use M4×0.7 pan head screws (4 parts) used for attaching the bottom plate of the YM Control Unit. (The bottom plate is not used.)
5. When mounting each bracket, please use cross-recessed head machine screws included in YM Control Unit.

CT□/CU□ Unit Mounting Layout

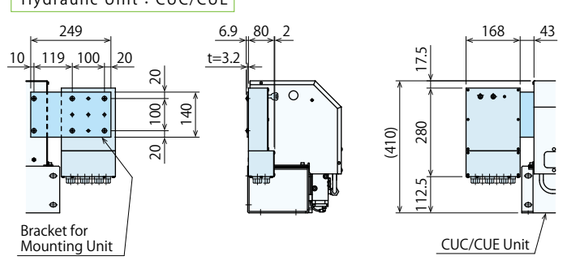
Hydraulic Unit：CTB/CTD



Hydraulic Unit：CTC/CTE



Hydraulic Unit：CUC/CUE



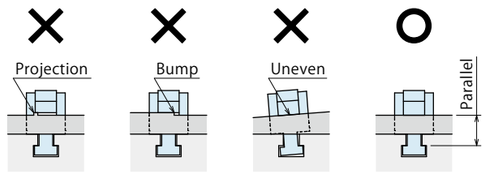
Cautions

Notes for Design

1) Check Specifications
- Please use each product according to its specifications.
- Operating hydraulic pressure is 25 MPa.
  Do not use clamps with excessive operating pressure.
  Falling down of the mold due to the damage on clamps leads to injury accident. In order to reduce clamping force, use them with lower operating pressure.

2) Check the thickness of the mold clamping part.
- Please check the thickness of the mold clamping part.
  If using molds other than specified, clamps cannot conduct locking action properly leading to injury accident.

3) The mold clamping surface and T-slot must be parallel to mounting surface of the mold.
- If a clamping surface is not even or parallel, excessive force will be applied to the clamp and it will deform the main body and the lever of the clamp resulting in falling off of the clamp and injury accident.

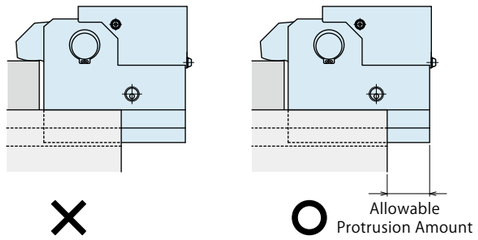


4) Make sure that advance/retraction of the clamp is smoothly conducted. (model GKE / GKF)
- Please control air cylinder for slide with 2-position double solenoid (with detent).
- Supply more than 0.4MPa air pressure to air cylinder.
- Please adjust the moving speed of the clamp with speed controller to fully stroke within 1 to 2 seconds.
- Do not set the limit switch to the mold surface near the U-slot, because it is used as forward-end detection.
- The clamp sliding surface must be smooth (without any bumps).

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

6) When the clamp cylinder sticks out of U-slot or T-slot, please use it within the allowable protrusion amount.

Model GKB / GKC / GKE / GKF



Allowable Protrusion Amount

Model No.	Allowable Protrusion Amount (mm)
GKB0100 / GKC0100	17.5
GKB0160 / GKC0160	21
GKB0250 / GKC0250	25
GKB0400 / GKC0400 / GKE0400 / GKF0400	32
GKB0630 / GKC0630 / GKE0630 / GKF0630	39
GKB1000 / GKC1000 / GKE1000 / GKF1000	45
GKB1600 / GKC1600 / GKE1600 / GKF1600	57
GKB2500 / GKC2500 / GKE2500 / GKF2500	69.5
GKB4000 / GKC4000 / GKE4000 / GKF4000	0
GKB5000 / GKC5000 / GKE5000 / GKF5000	0

Installation Notes

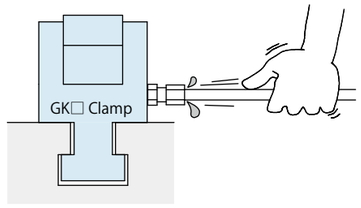
1) Check the fluid to use.
- Use the appropriate fluid by referring to the Hydraulic Fluid List.
- If using hydraulic oil having viscosity higher than viscosity grade ISO-VG-32, action time will be longer.
- If using it at low temperature, action time will be longer because the viscosity of hydraulic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

2) Preparation before piping
- The pipeline, piping connector and fixture circuits 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.)

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

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

① Reduce hydraulic supply pressure to less than 2MPa.
② Loosen the cap nut of pipe fitting closest to the clamp by one full turn.
③ Shake the pipeline to loosen the outlet of pipe fitting. Hydraulic fluid mixed with air comes out.



④ Tighten the cap nut after air bleeding.
⑤ It is more effective to release air at the highest point inside the circuit or at the end of the circuit.

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

6) Installation of the Clamp
- After setting the clamp in the T-slot, use attached hex. socket bolts and tighten them with the torque shown below (model GKE/GKF).

Model No.	Thread Size	Tightening Torque (N·m)
GKE0400 / GKF0400	M5×0.8	6.3
GKE0630 / GKF0630	M6×1	10
GKE1000 / GKF1000	M8×1.25	25
GKE1600 / GKF1600	M10×1.5	50
GKE2500 / GKF2500	M12×1.75	80
GKE4000 / GKF4000	M16×2	200
GKE5000 / GKF5000	M16×2	200

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

Hydraulic Fluid List

- Please use appropriate fluid referring to the fluid lists below.
- Select the same fluid as Fluid Code of hydraulic clamp and unit.

General Hydraulic Oil

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	–

Water・Glycol

ISO Viscosity Grade ISO-VG-32

Maker	Water・Glycol
JX Nippon Oil & Energy	Hyrando FRZ32
Cosmo Oil	Cosmo Fluid HQ46
Matsumura Oil	Hydol HAW32

Silicon Oil

ISO Viscosity Grade ISO-VG-68

Maker	Silicon Oil
Shin-Etsu Chemical	KF-50-100cs

Fatty Acid Ester

Maker	Fatty Acid Ester	ISO Viscosity Grade
Showa Shell Sekiyu	Shell Irus Fluids DU56	(ISO-VG-56)
Idemitsu Kosan	Firgist ES	ISO-VG-68
JX Nippon Oil & Energy	Hyrando SS56	(ISO-VG-56)
Cosmo Oil	Cosmo Fluid E46	ISO-VG-46
Nippon Quaker Chemical	Quintolubric 822-200	ISO-VG-46

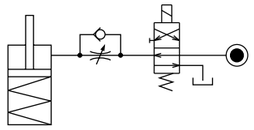
Note : Please contact manufacturers when customers require products in the list above.

Notes on Hydraulic Cylinder Speed Control Unit

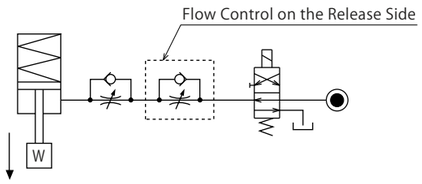
Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

●Flow Control Circuit for Single Acting Cylinder

For spring return single acting cylinders, restricting flow during release can extremely slow down or disrupt release action. The preferred method is to control the flow during the lock action only using a flow control valve with a check valve. It is also preferred to provide a flow control valve at each actuator.



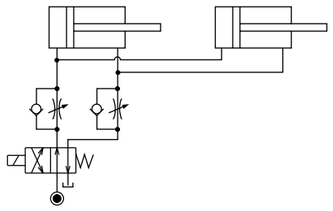
If a load is applied in the direction of release action during release, which may damage the cylinder, use a flow control valve with a check valve to control the flow rate on the release side as well.



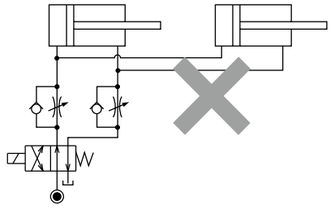
● Flow Control Circuit for Double Acting Cylinder

Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system.

【Meter-out Circuit】

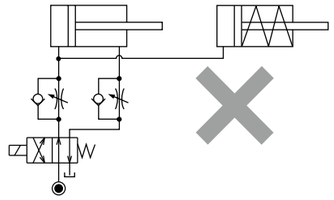


【Meter-in Circuit】



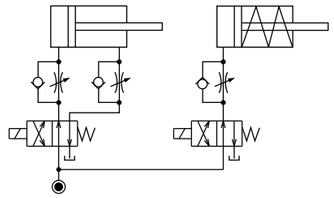
In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

① Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

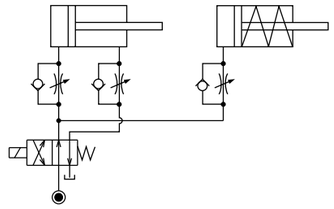


Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

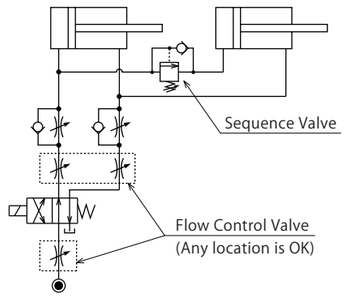
○ Separate the control circuit.



○ Reduce the influence of double acting cylinder control unit. However, due to the back pressure in tank line, single acting cylinder is activated after double acting cylinder works.



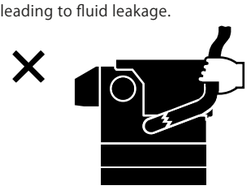
② In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve or pressure switches for clamping detection. If the back pressure is more than the set pressure then the system will not work as it is designed to.



Notes on Handling

1) When stopping a machine, make sure no load is applied on clamps. Otherwise, a mold may fall causing an injury accident.
2) It should be operated by qualified personnel.
● The hydraulic machine should be operated and maintained by qualified personnel.
3) Do not operate or remove the machine unless the safety protocols are ensured.
① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
② Before the product is removed, make sure that the above-mentioned safety devices are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic circuit.
③ After stopping the product, do not remove until the temperature cools down.
④ Make sure there is no trouble/issue in the bolts and respective parts before restarting the machine or equipment.
4) Do not touch clamps while they are working.
● Otherwise, your hands may be injured.

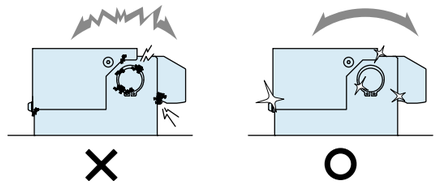
5) If there is a change for mold width, make sure to check the allowable protrusion amount.
● If exceeding the allowable protrusion amount, excessive force is applied on clamps leading to deformation or dislocation which cause falling of a mold or an injury accident. Please refer to "Notes for Design 6" for allowable protrusion amount.
6) Please hold the main body of the clamp when moving or removing it.
● If pulling on hydraulic hose or air tube, the clamp will fall off leading to injury accident. Also, rivet part of the hose will be loosened leading to fluid leakage.



7) Do not disassemble or modify.
● If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.
8) Do not pour water / oil over the product.
● It may lead to malfunction or deterioration of the product and cause an accident.

Maintenance and Inspection

1) Removal of the Product and Shut-off of Pressure Source
● Before removing the product, make sure that safety devices and preventive devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
● Make sure there is no trouble/issue in the bolts and respective parts before restarting.
2) Regularly clean the area around the product.
● If it is used when the surface is contaminated with dirt, it may lead to malfunctioning and fluid leakage.



3) If disconnecting by couplers, air bleeding should be carried out on a regular basis to avoid air mixed in the circuit.
4) Regularly tighten pipe line, mounting bolts, nuts, circlips and cylinders to ensure proper use.
5) Make sure the hydraulic fluid has not deteriorated.
6) Make sure there is a smooth action without an irregular noise.
● Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
7) The products should be stored in the cool and dark place without direct sunshine or moisture.
8) Please contact us for overhaul and repair.

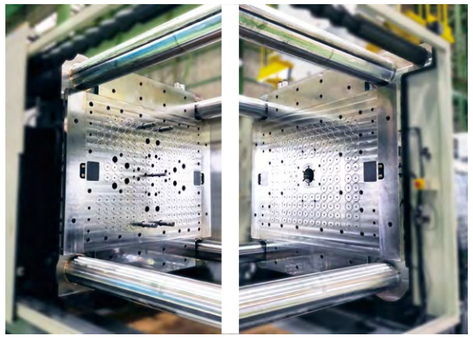
Warranty

1) Warranty Period
● The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

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

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

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



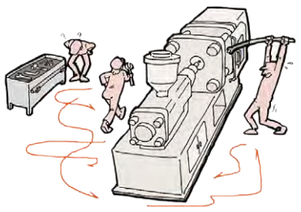
Quick Mold Change Systems

FOR INJECTION MOLDING MACHINES

Kosmek Quick Mold Change Systems for injection molding machines are safe and reliable, allowing for reduction in mold change time.

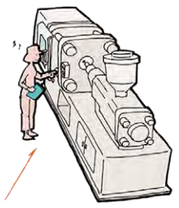
Mold change time reduction enhances total productivity.

Automatic clamps reduce mold change time, allowing for productivity improvement and high-variety low-volume manufacturing.



Manual Bolts

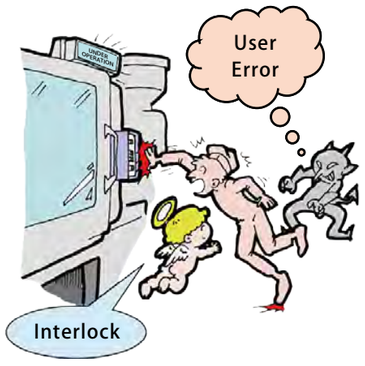
Confusion due to searching, loosening, tightening and so on makes the work unstable, jeopardizes safety and decreases productivity.



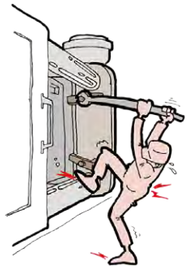
Automatic Clamps

Stable work anyone can do improves the work environment. A better morale increases productivity!

A variety of KOSMEK safety functions prevent molds from falling.

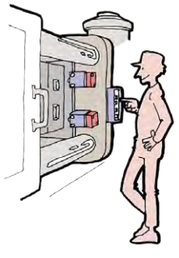


Allows everyone to change molds with button operation, preventing backache and sweat-caused slip.
No tools or work at non-operation side are required.



Manual Tightening

Unsafe / Unstable

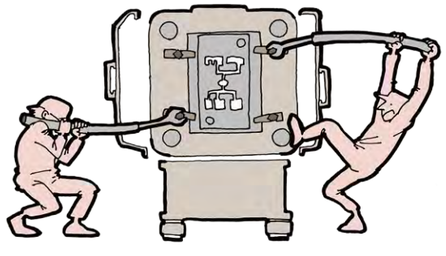


Automatic Mold Clamping

Safe / Stable

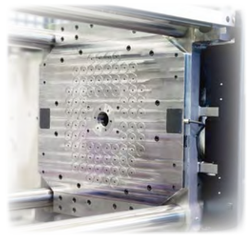
The application of the automatic mold clamp allows the same mounting result without relating to individual workers.

Equal and sequential tightening of the bolts is essential to maintain proper clamping force, but some bolts are easier to tighten than others…



Not included in this catalog (KDCS：Kosmek Diecast Clamping Systems Complete Catalog).
For further information, please contact us or request the product catalogs from our website.

Automatic Clamp Line-Up



Magnetic Clamp Series

Magnetic clamping systems ensure safety in operations.
It is not necessary to unify mold sizes.
Dramatic reduction in mold changing time.
Magnetic force can be checked with operation panel.

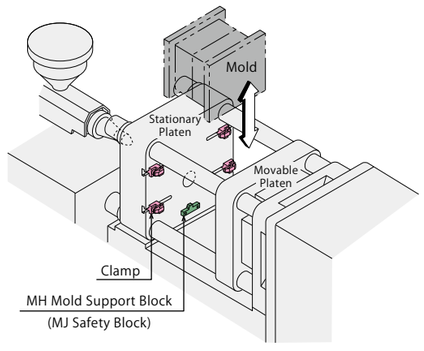
Hydraulic Clamp Series

Hydraulic clamping systems used with IMM hydraulic source or KOSMEK hydraulic source. Day light dimension can be used at the maximum. A wide range of variations from compact size to extra-large size.

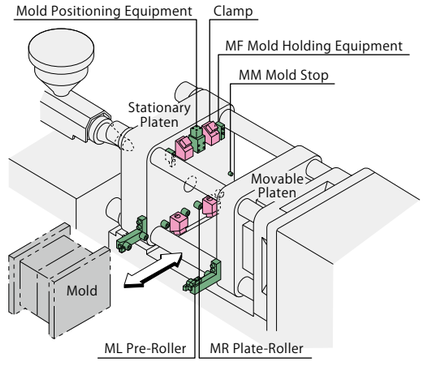
Pneumatic Clamp Series

Clean clamping systems with pneumatic source, exerting equivalent clamping force as hydraulic clamps.
Piping installation and maintenance will be much easier.

Able to select the most suitable system according to mold exchange frequency and factory layout.



Vertical Mold Loading Systems

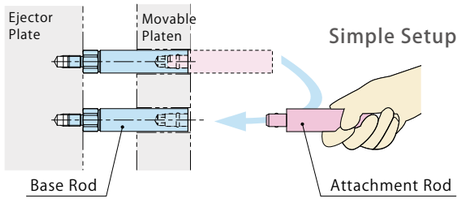


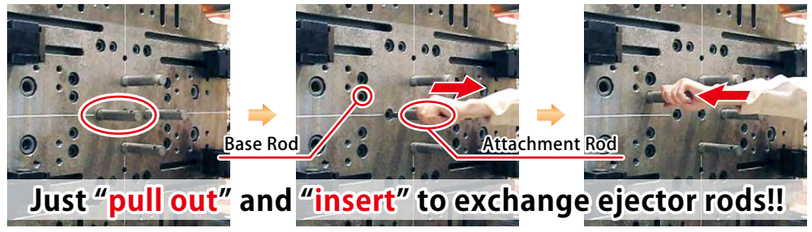
Horizontal Mold Loading Systems

Ejector Rod Setup Time Improvement

Quick Ejector Rod model PME

The ejector rod has been divided into a base rod and an attachment rod for speed, simplicity and ease-of-use when changing ejector patterns.
No tools are required, allowing changes in mere seconds.





Before using quick ejector rods
Change time for threaded ejector rods is **240** secs.

After using quick ejector rods
Change time for Quick Ejector Rods is **10** secs.

※ Reference of 300ton IMM

Quick Die Change Systems

FOR PRESS MACHINES

Kosmek QDCS can effectively reduce die change time for press machines.

Securing Safety by the Interlock

When pressure decreases, the pressure switch detects abnormality and the press machine stops immediately. There are other interlock functions that ensure safety.

Efficient Use of Press Machine

Reduction in die change time improves the press machine operating time.

Stockless Manufacturing

Reduction in die change time enables stockless manufacturing which allows manufacturing the minimum required amount of products.

Multi-Kind, Small-Quantity Production

Reduction in die change time enables multi-kind and small-quantity production.

Setup Time Reduction and Safety Improvement with Automatic Clamps

- Reduce clamping time of dies.
- Stable clamping force prevents dies from deformation.
- Less dangerous work prevents injury or backache.
- Interlock prevents press machine malfunction.

Improvement in Die Loading/Unloading with Pre-Roller/Die Lifter

- Crane operation would be easier.
- Dies can be set with minimal force.
- Prevents damage of dies by sliding them on pre-roller and die lifter.

Safety Improvement with Hydraulic Control Unit/ Operation Control Panel

- When hydraulic pressure decreases, a balanced hydraulic and pneumatic pump immediately supplies additional hydraulic pressure.
- Even when air pressure is at zero, hydraulic pressure will be maintained by the non-leak valve.
- In case of accident such as breakage of hydraulic hose, the pressure switch detects the reduction of hydraulic pressure and immediately stops the press machine.
- Operational control panel has various interlock functions.

Press Load Monitor/Overload Protector

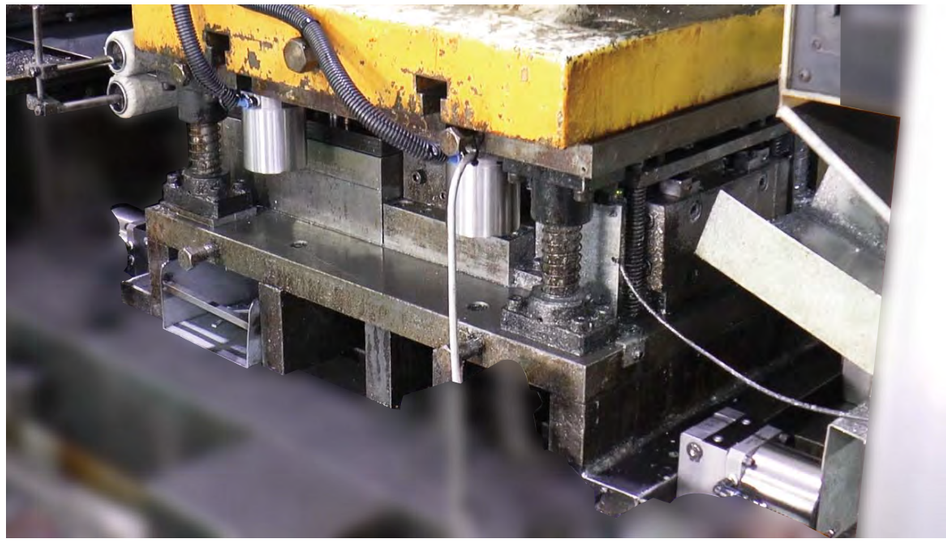
- Press load monitor displays the press load. The press can be shutdown automatically by using the lower or upper preset values.
- When the press is subjected to overload, overload protector detects sudden increase of hydraulic pressure in the slide, immediately releasing hydraulic oil to protect the press and sending the emergency stop signal to the press.

Not included in this catalog (KDCS：Kosmek Diecast Clamping Systems Complete Catalog).
For further information, please contact us or request the product catalogs from our website.

Application Examples

Die Clamp for Press Machines

Offering the long stroke model in a standard line-up.
Longer stroke allows for die clamping plate thickness variance.
(Hydraulic Die Clamp)



High-Power Pneumatic Die Clamp

Eco-friendly die clamping system requires air source only.
Powerful clamping force achieved by air pressure + mechanical lock.

Work Clamping Systems for Machine Tools

KOSMEK WORK CLAMPING SYSTEMS

Our clamping system enables boltless automation making loading and unloading workpieces easier. The non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action). We offer a wide range of products such as hydraulic/pneumatic actuator, support, locating application, valve, coupler etc.

Clamp

For Clamping Machine Tool Fixtures

Hole Clamp

Swing Clamp

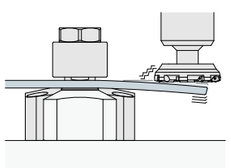
Link Clamp

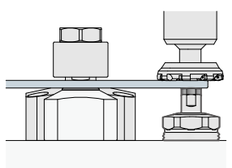
Compact Cylinder (Linear Cylinder)

Pull Stud Clamp

Support

For Chattering Prevention during Thin Workpiece Machining



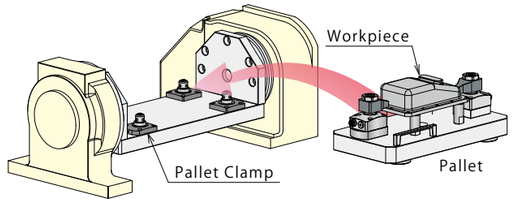


Chattering → No Chattering!

Work Support

Locating

Setup Time Reduction for Pallet Change

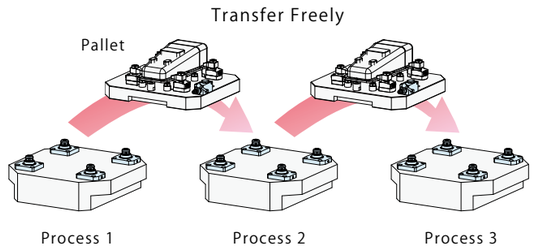


Pallet Clamp

Screw Locator

Non-Leak Valve

Maintains pressure even when disconnected from the hydraulic source.
Transfer pallets freely. Suitable for FMS.



Non-Leak Valve

Non-Leak Coupler

Others

Expansion Locating Pin

Auto Coupler

Rotary Joint

Air Hydraulic Unit
(Hydraulic Pump/Unit)

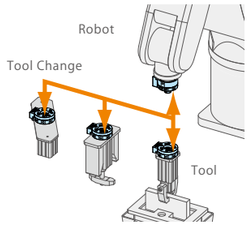
FA • Robotic Automation

Factory Automation
Industrial Robot Related Products

Robotic Hand Changer, Robotic Hand, Locating Equipment and other products improve automation, precision and setup of transfer, assembly, deburring, testing and various other processes.

Tool Changing

For Robot Standardization



Robotic Hand Changer (Large Model)
model SWL

Robotic Hand Changer Accessories for SWR
model SWR / SWRZ / SWRA

Manual Robotic Hand Changer
model SXR

Transferring • Clamping

For Pallet Transfer

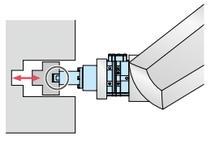
Hole Gripper
model WKK

Internal Chucking Series

Pallet Gripper
model WVA

High-Power Pull Stud Clamp
model WPT

For Workpiece Transfer



FA Pneumatic Hole Clamp
model WKH

High-Power Pneumatic Hole Clamp
model SWE

Locating Pin Clamp
model SWP

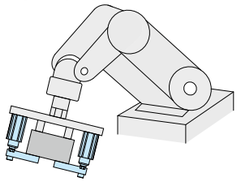
Ball Lock Cylinder
model WKA

External Chucking Series

Compact Parallel Robotic Hand Gripper with Dust Cover
model WPB

Pneumatic Robotic Hands
model WPA / WPE / WPF / WPH / WPJ / WPP / WPQ / WPS / WPW

For Workpiece Clamping and Transfer



Pneumatic Swing Clamp
model WHC

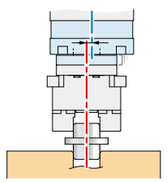
Pneumatic Centering Vise
model FWD

High-Power Pneumatic Clamp
model WHE/WCE

Not included in this catalog (KDCS：Kosmek Diecast Clamping Systems Complete Catalog).
For further information, please contact us or request the product catalogs from our website.

Correcting

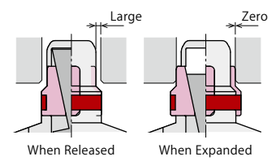
For Misalignment Correction



Compliance Module
model WRC

Locating

For both Locating Accuracy and Smooth Loading



Large Expansion Locating Pin
model VWH

Safety • Connecting • Air Pressure Maintaining

Air Safety Valve
model BWS

Auto Coupler
model JVA0100/JVB0100

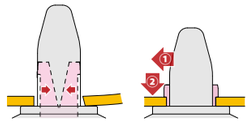
Leakless Coupler
model JWC/JWD

Air Non-Leak Coupler
model BWA/BWB

Air Non-Leak Valve
model BWQ

Welding

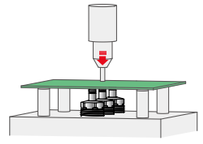
For both Locating and Clamping of Thin Workpieces



Locating Pin Clamp
model SWP

Supporting

For Chattering and Distortion Prevention

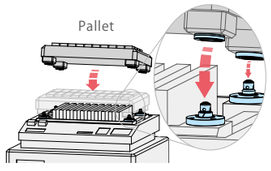


High-Power Pneumatic Work Support
model WNC

Pneumatic Work Support【Rodless Hollow】
model WNA

Setup Changing

For High-Accuracy Locating and Clamping of Pallets



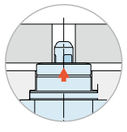
High-Power Automation Pallet Clamp
model WVG/WVGT

Pneumatic Location Clamp
model SWQ/SWT

High-Power Pneumatic Pallet Clamp
model WVS

Screw Locator
model VXF

For Locating and Clamping of Conveyor Transfer Pallets



Lifting Hole Clamp
model SWJ

For Transferring Heavy Materials

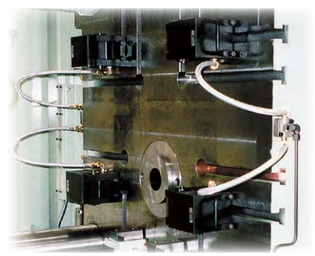
Pneumatic Free Roller Lifter
model RQC

KOSMEK LTD. Head Office

Company Name	KOSMEK LTD.
Established	May 1986
Capital	¥99,000,000
Chairman & CEO	Tsutomu Shirakawa
President & CEO	Koji Kimura
Employee Count	270
Group Company	KOSMEK LTD.
	KOSMEK ENGINEERING LTD.
	KOSMEK (USA) LTD.
	KOSMEK EUROPE GmbH
	KOSMEK (CHINA) LTD.
	KOSMEK LTD. - INDIA
Business Fields	Design, Production and Sales of Precision Products, and Hydraulic and Pneumatic Equipment
Customers	Manufacturers of Automobiles, Industrial Machinery, Semiconductors and Electric Appliances
Banks	Resona Bank and Bank of Tokyo-Mitsubishi UFJ

Major Industrial Property Rights
(Including Patent Right and Patent Pending as of March 2022)
・Domestic ：120
・International ：250 (USA, EU, Taiwan, South Korea, China, India, Brazil, Mexico, Thailand, Indonesia)

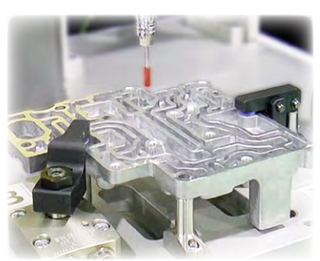
Product Line-Up



DIECAST CLAMPING SYSTEMS

For Diecast Machines

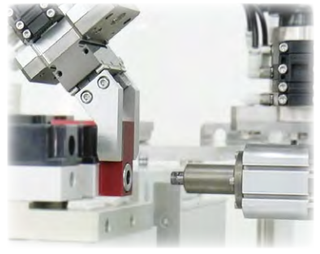
Kosmek Diecast Clamping Systems (KDCS) save the time of the changeover of die casting and magnesium molding machines under severe conditions. ex) mold release agents and high temperature.



KOSMEK WORK CLAMPING SYSTEMS

Machine Tool Related Products

Our clamping system enables boltless automation to load and unload workpieces easier.
Non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action).
We offer a wide range of products such as hydraulic/pneumatic actuators, supports, positioning equipment, valves, couplers, etc.



KOSMEK FACTORY AUTOMATION SYSTEMS

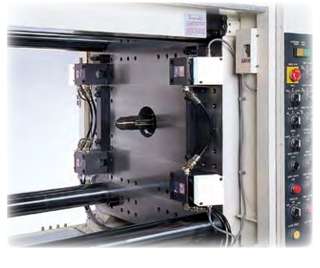
FA・Industrial Robot Related Products

KOSMEK robotic hand changer, robotic hand, positioning equipment and other products improve automation, precision and setup of transfer, assembly, deburring, testing and various other processes.

QUICK DIE CHANGE SYSTEMS

For Press Machines

Kosmek Quick Die Change Systems are a cost effective tool to improve the working environment, allow diversified and small-lot production, and reduce press down time.
Available for a wide range of machines; from large size transfer-presses to smaller high speed presses.



QUICK MOLD CHANGE SYSTEMS

For Injection Molding Machines

Automatic clamping systems have reduced mold change times and increased production efficiency for plastics manufacturers in a multitude of industries.
We offer a variety of different clamping options, including hydraulically powered clamps, pneumatic clamps with a force multiplying mechanism, and magnetic clamping systems.

History

May
KOSMEK LTD. established in Santanda, Amagasaki City, Hyogo prefecture with ￥20 million capital. (KOSMEK Ltd established Santanda, Amagasaki city)

October
Tokyo Sales Office established in Yamato city, Kanagawa Prefecture.

April
Headquarters moved to Tsugiya, Amagasaki city, Hyogo.

August
Factory established in Katube, Toyonaka city.

February
Nagoya Sales Office established in Nishi-ku, Nagoya city.

December
Capital increased to ￥40 million.

January
Kitakanto Sales Office established in Omiya city, Saitama Prefecture.

May
Head Office and Factory completed in Seishin High-tech Park, Nishi-ku, Kobe city.
Head Office moved.

Osaka Sales Office established in Amagasaki city.

September
KOSMEK (USA) LTD. established.

December
Capital increased to ￥60 million.

March
Additional structure completed at Headquarters.

May
KOSMEK engineering CO.,LTD. established in Kobe city.

September
Minamikanto Sales Office moved to Shizuoka city.
The name changed to Shizuoka Sales Office.

The name Kitakanto Sales Office changed to Kanto Sales Office.

October
Osaka Sales Office moved into Head Office.
The name changed to Kansai Sales Office.

August
"PPORF Activity started."

January
Heavily damaged by Great Hanshin Earthquake, but fully and quickly repaired.
Quick recovery

March
Nagoya Sales Office moved to Anjo city, Aichi Prefecture.
The name changed to Chubu Sales Office.

December
Core computer system introduced.

1986 1987 1988 1989 1991 1992 1993 1994 1995 1996

March
Shizuoka Sales Office merged to Chubu Sales Office.

October
Head Office Plant extension completed.

December
ISO9001：2000 certified.

October
Production section is transferred by KOSMEK engineering CO.,LTD.

November
Awarded PI Grand Prix "Exhibition Jury Special Prize" for Datum Clamp in Product Innovation Fair.

June
Capital increased to ￥99,000,000.

July
Shanghai Office established in Shanghai.

August
New Head Office and Factory completed in Seishin High-tech Park, Nishi-ku, Kobe city.
Head Office moved.

Core system innovated.

September
Kyusyu Office established in Fukuoka city.

July
KOSMEK (CHINA) LTD. established in Shanghai.

March
Thailand Representative Office established in Bangkok, Thailand.

December
KOSMEK LTD. - INDIA established in Bangalore, India.

December
KOSMEK EUROPE GmbH established in Austria.

September
New office of KOSMEK (USA) LTD. completed and moved to a new place in Chicago.

October
The second factory completed in Nishi-ku, Kobe city.

1997 2003 2004 2005 2006 2007 2011 2012 2014 2015 2016 2019

Sales Offices

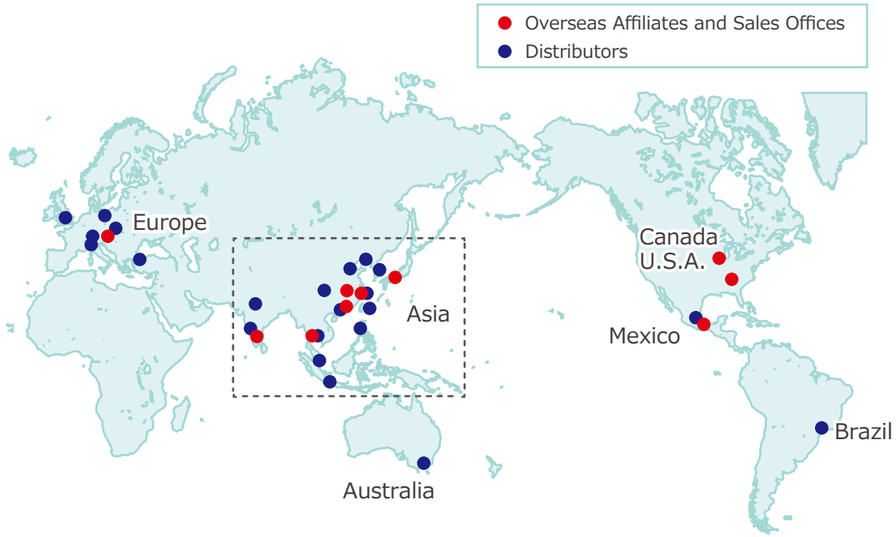
Sales Offices across the World

Japan	KOSMEK LTD. HEAD OFFICE	**TEL. +81-78-991-5162** FAX. +81-78-991-8787 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241
USA	KOSMEK (USA) LTD. Overseas Affiliate	**TEL. +1-630-620-7650** FAX. +1-630-620-9015 650 Springer Drive, Lombard, IL 60148 USA
	KOSMEK (USA) LTD. Atlanta Branch Office	**TEL. +1-708-577-3275** 303 Perimeter Center North, Suite 300, Atlanta, GA 30346 USA
Mexico	KOSMEK (USA) LTD. Mexico Branch Office	**TEL. +52-1-55-3044-9983** Av. Santa Fe 103, Int. 59, col. Santa Fe Juriquilla, Queretaro, QRO, 76230, Mexico
Europe	KOSMEK EUROPE GmbH Overseas Affiliate	**TEL. +43-463-287587** FAX. +43-463-287587-20 Schleppeplatz 2 9020 Klagenfurt am Wörthersee Austria
China	KOSMEK (CHINA) LTD. Overseas Affiliate	**TEL.+86-21-54253000** FAX.+86-21-54253709 Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai 200125, China
	KOSMEK (CHINA) LTD. Dongguan Office Overseas Affiliate (Sales Office)	**TEL.+86-769-85300880** Room301, AcerBuilding No.15, Dezheng(W)Road, Changan Town Dongguan Guangdong 523843., P.R.China
	KOSMEK (CHINA) LTD. Wuhan Office Overseas Affiliate (Sales Office)	**TEL.+86-27-59822303** Room502, Building A, Jingkai Future City, Zhuankou Economic Development Zone, Wuhan City, Hubei Province, 430050 China
India	KOSMEK LTD. - INDIA Branch	**TEL. +91-9880561695** 4A/Old No:649, Ground Floor, 4th D cross, MM Layout, Kavalbyrasandra, RT Nagar, Bangalore -560032 India
Thailand	KOSMEK Thailand Representative Office Representative Office	**TEL. +66-2-300-5132** FAX. +66-2-300-5133 67 Soi 58, RAMA 9 Rd., Phatthanakan, Suanluang, Bangkok 10250, Thailand
Taiwan	FULL LIFE TRADING CO., LTD. Taiwan Exclusive Distributor	**TEL. +886-2-82261860** FAX. +886-2-82261890 16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511
Philippines	G.E.T. Inc, Phil. Philippines Exclusive 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 Indonesia Exclusive 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

Sales Offices in Japan

Head Office Osaka Sales Office Overseas Sales	**TEL. 078-991-5162** FAX. 078-991-8787 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, 651-2241, Japan
Tokyo Sales Office	**TEL. 048-652-8839** FAX. 048-652-8828 81, 4-chome, Onari-cho, Kita-ku, Saitama City, Saitama, 331-0815, Japan
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

KOSMEK
Harmony in Innovation

- FOR FURTHER INFORMATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.
- SPECIFICATIONS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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CAT.NO. KDCS2022-04-G1B
Printed in Japan

2015. 02. First 1Ry
2022. 11. 4th 1Ry