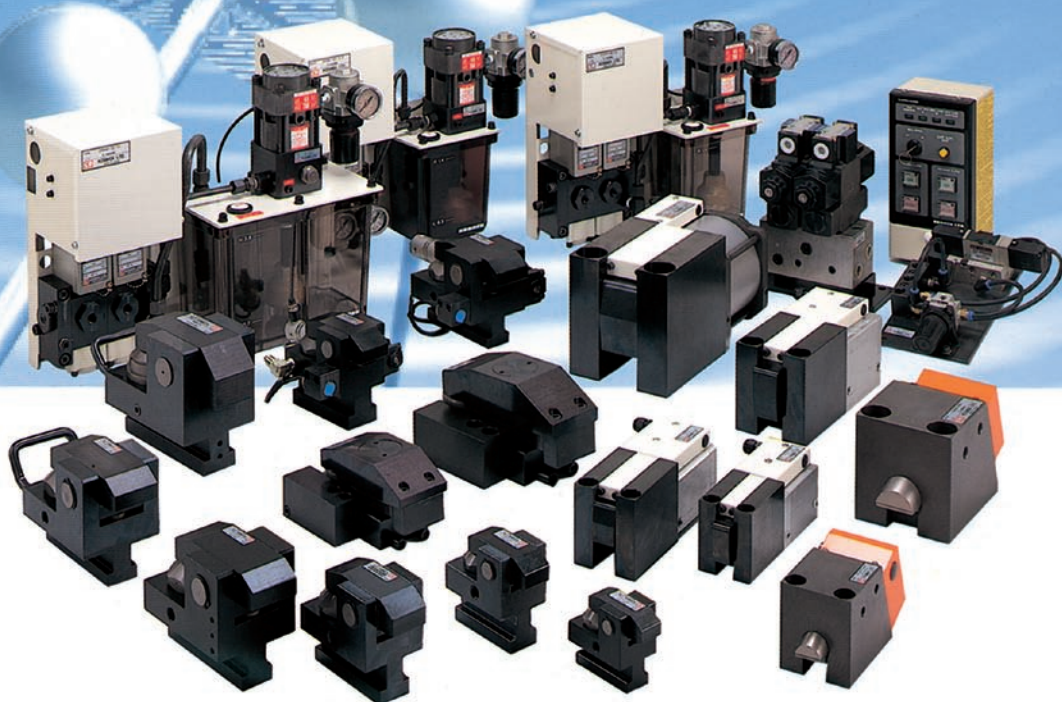


QUICK MOLD CHANGE SYSTEMS

QMCS

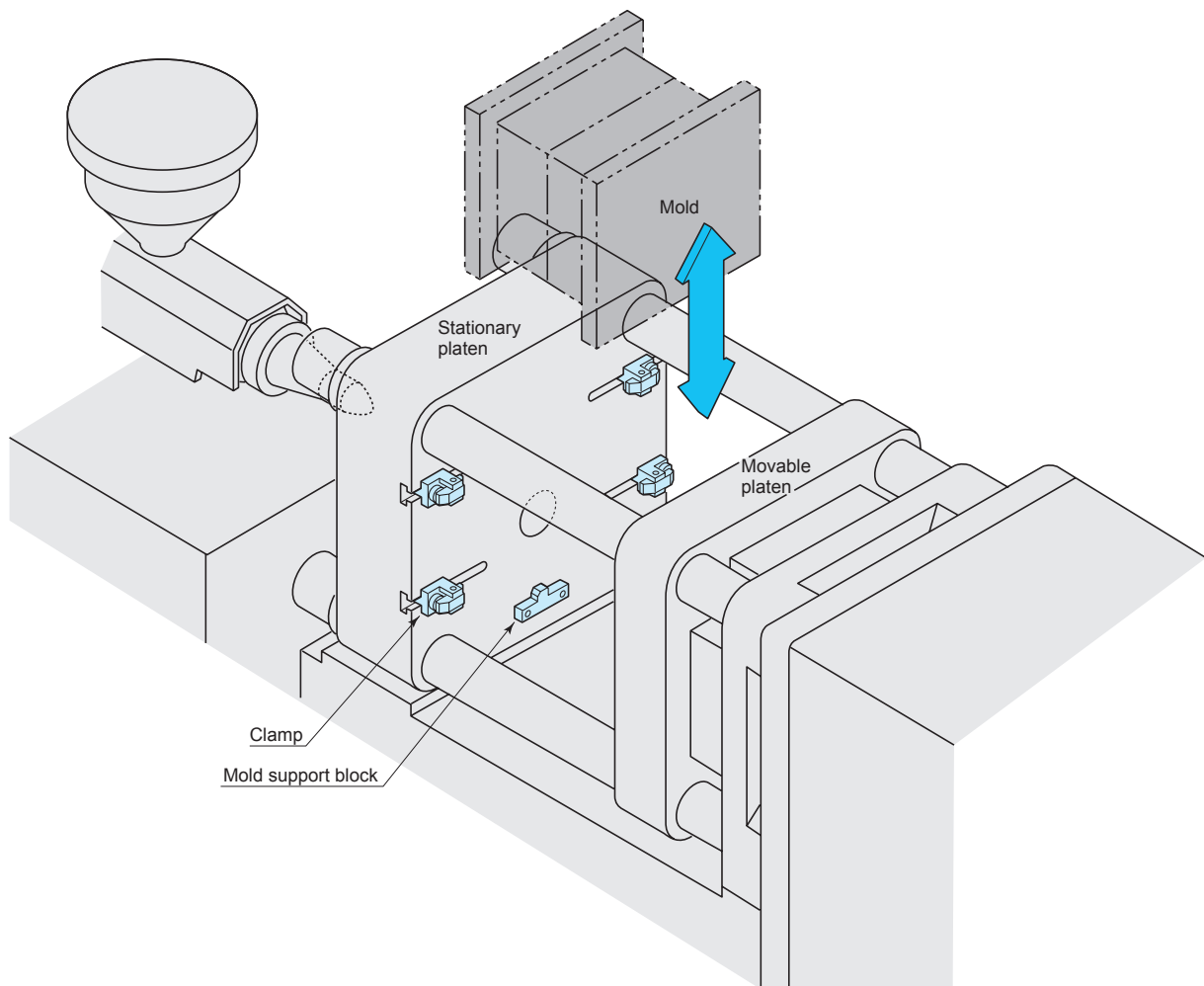


KOSMEK
Harmony in Innovation

KOSMEK QUICK MOLD CHANGE SYSTEMS

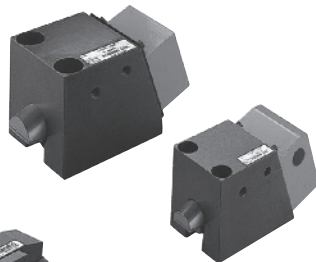
“Vertical loading” is the system whereby the mold is set from the top of the molding machine by crane. The mold will be secured in the I.M.M.(Injection Molding Machine) by hydraulic clamp. You can choose T-slot type (GB and GE), stationary type (GWA) or sliding type (GM) according to the conditions of both the mold and I.M.M.

Vertical loading

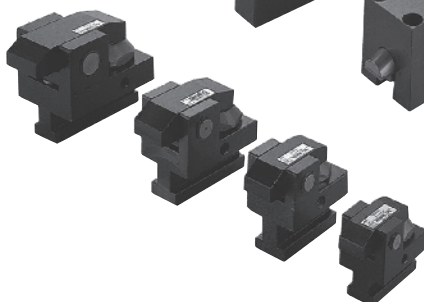


KOSMEK QMCS EQUIPMENT

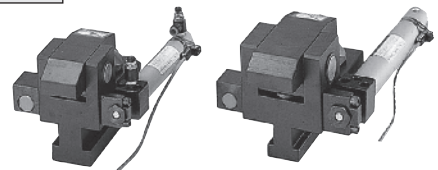
GWA CLAMP



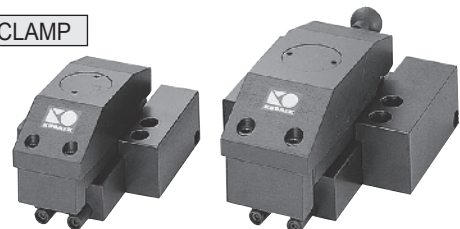
GB CLAMP



GE CLAMP

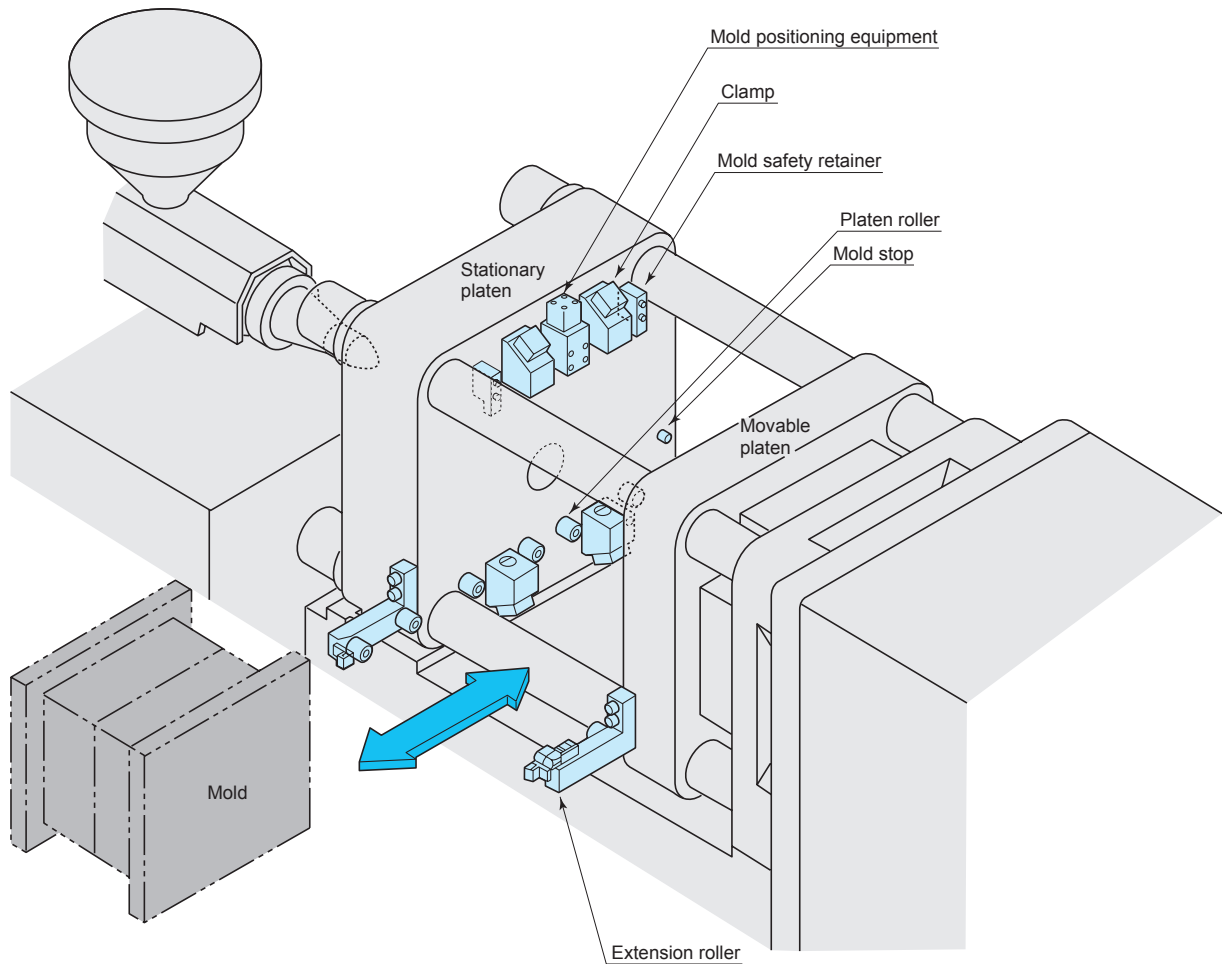


GM CLAMP



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

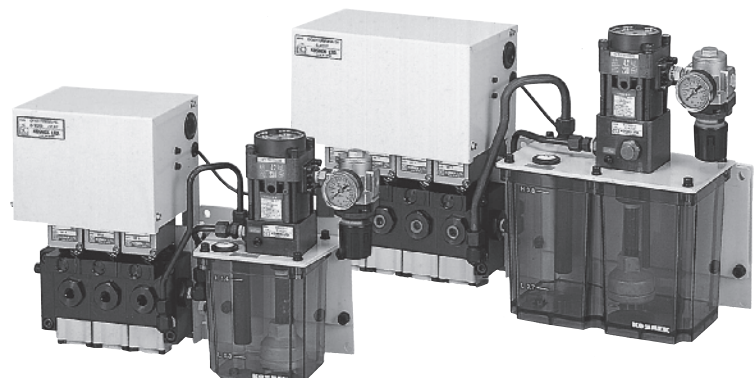
Horizontal loading



OPERATION PANEL



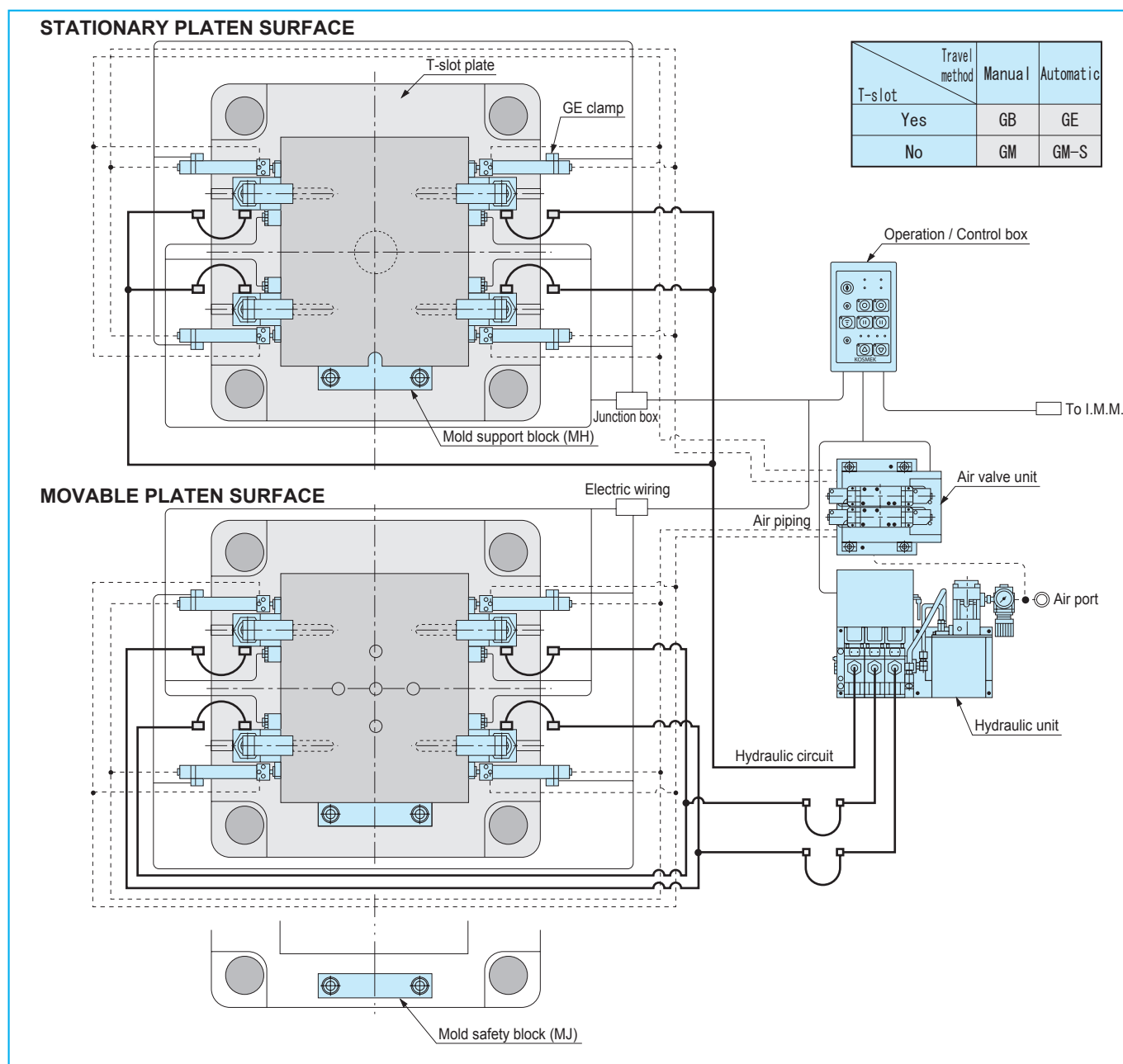
HYDRAULIC UNIT





VERTICAL LOADING

<FOR VARIABLE WIDTH MOLDS>



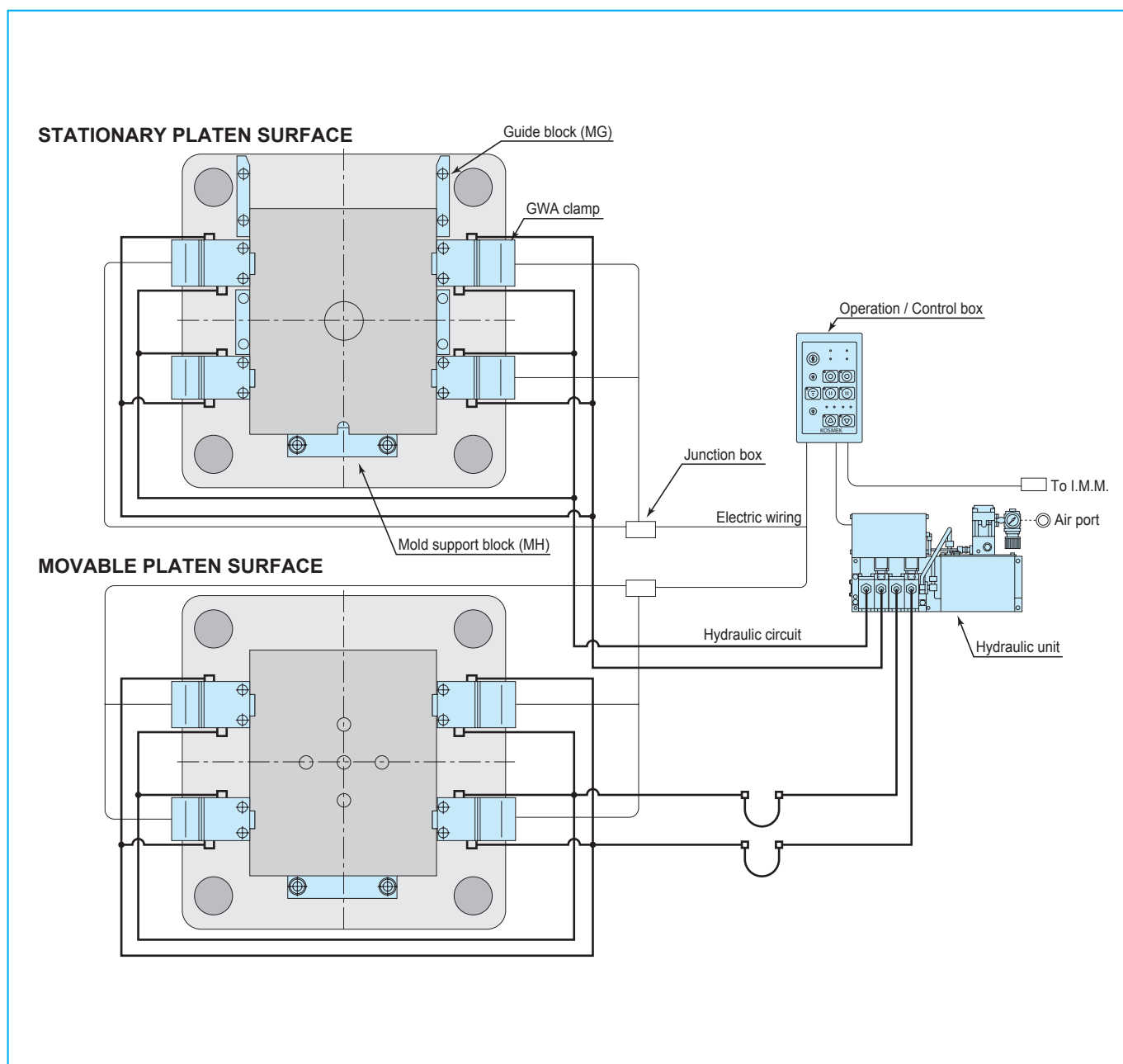
■ STANDARD SYSTEM

I.M.M. capacity (kN)	C l a m p						Hydraulic unit	Mold support block	Mold safety block	Air valve unit (GE・GM-S)
	GB clamp	GE clamp	GM clamp	GM-S clamp	Qty.	Force corresponding to mold opening(kN)				
~ 500	GB0100	—	—	—	8	39.2	CP20N1- URURUR-50	MH03	MJ0010	MV3012-25
~ 750	GB0160	—	—	—	8	62.7		MH03	MJ0010	
~ 1500	GB0250	GE0251	GM0250	GM0250-S	8	98		MH04	MJ0020	
~ 2500	GB0400	GE0401	GM0400	GM0400-S	8	157		MH04	MJ0020	
~ 3500	GB0630	GE0631	GM0630	GM0630-S	8	247	CR5N31- URURUR-50	MH04	MJ0020	MV3022-25
~ 5500	GB1000	GE1001	GM1000	GM1000-S	8	392		MH06	MJ0030	
~ 8500	GB1600	GE1601	—	—	8	627	CS50N0- URURUR-50	MH06	MJ0040	
~ 13000	GB2500	GE2501	—	—	8	980	CM20N2- URURUR-50	MH08	MJ0050	



VERTICAL LOADING

<FOR UNIFORM WIDTH MOLDS>



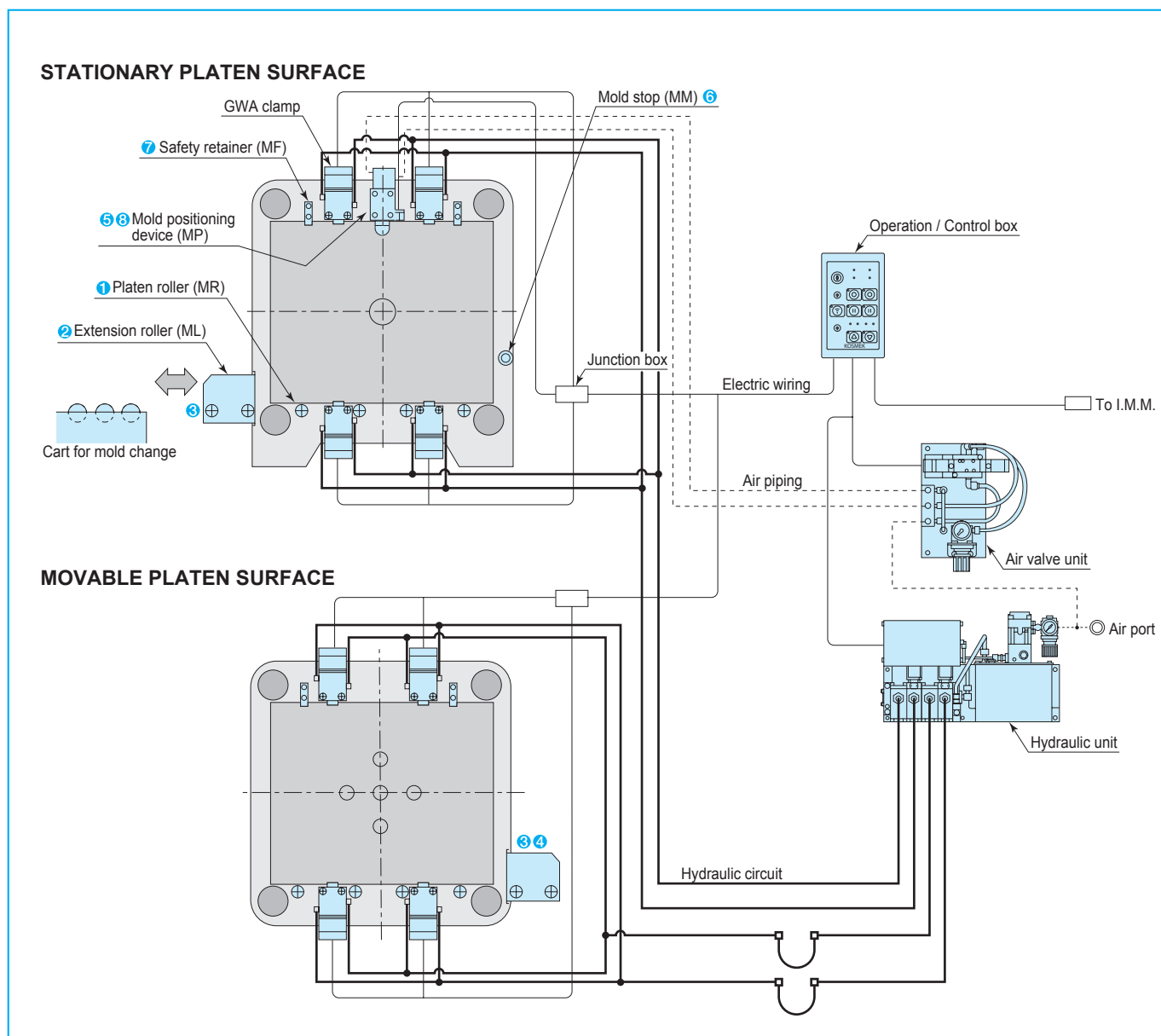
STANDARD SYSTEM

I.M.M. capacity (kN)	C l a m p			H y d r a u l i c u n i t		Mold support block
	GWA clamp	Qty.	Force corresponding to mold opening(kN)	KOSMEK' s hydraulic unit for QMCS	Hydraulic power from I.M.M.	
~ 500	GWA0100	8	39.2	CP20L1- PPRPPR-50	MV0011-5 (Hydraulic pressure) 13.7MPa	MH03
~ 750	GWA0160	8	62.7			MH03
~ 1500	GWA0250	8	98			MH04
~ 2500	GWA0400	8	157			MH04
~ 3500	GWA0630	8	247	CR5L31- PPRPPR-50	MV0021-5 (Hydraulic pressure) 13.7 ~ 20.6MPa	MH04
~ 5500	GWA1000	8	392	CS50L0- PPRPPR-50		MH06
~ 8500	GWA1600	8	627	CM20L2- PPRPPR-50		MH06
~ 13000	GWA2500	8	980			MH08
~ 20000	GWA4000	8	1568		MV0061-5 (Hydraulic pressure) 13.7 ~ 20.6MPa	MH08
~ 30000	GWA5000	8	1960	MH10		



HORIZONTAL LOADING

＜MOLD SIZE MUST BE UNIFORM＞

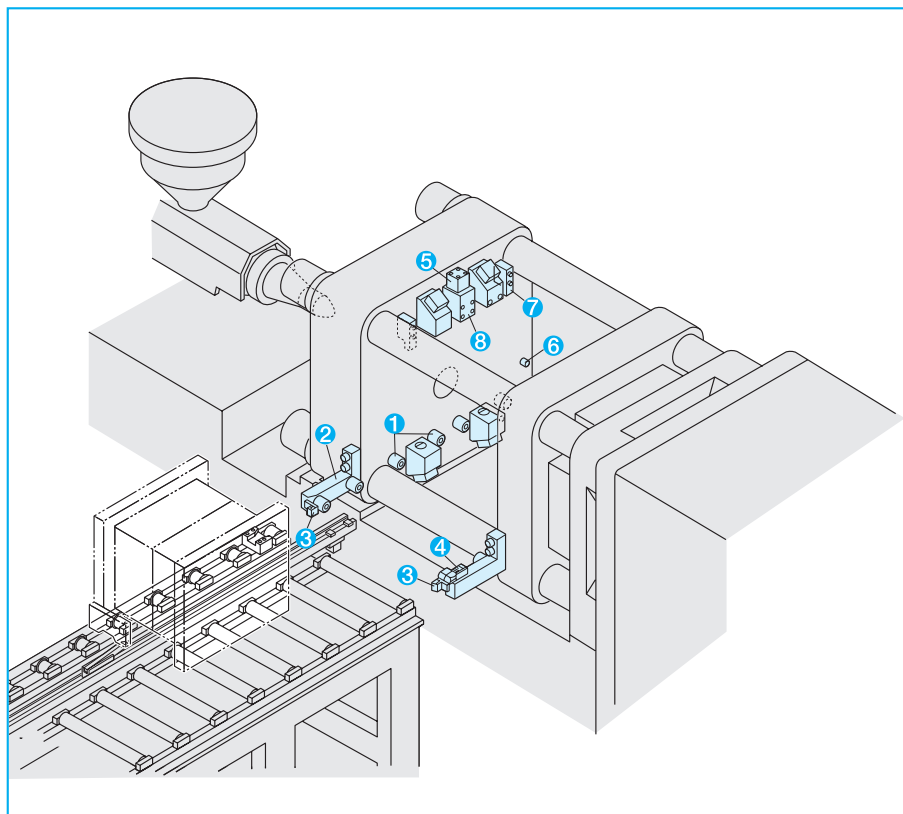


STANDARD SYSTEM

I.M.M. capacity (kN)	C l a m p			Hydraulic unit		Platen components *1.2				
	GWA clamp	Qty.	Force corresponding to mold opening(kN)	KOSMEK' s hydraulic unit for QMCS	Hydraulic power from I.M.M.	① Platen roller	② Extension roller	③ Movable platen opening upper limit DETECTOR	④ Movable platen opening lower limit DETECTOR	
~ 500	GWA0100	8	39.2	CP20L1-PPRPPR-50	MV0011-5 (Hydraulic pressure 13.7MPa)	MR0270	ML02	MS4011-5	MS2030-5 (Limit switch type)	
~ 750	GWA0160	8	62.7			MR0270	ML02	MS4011-5		
~ 1500	GWA0250	8	98			MR0400	ML04	MS4011-5		
~ 2500	GWA0400	8	157			MR0400	ML04	MS4011-5		
~ 3500	GWA0630	8	247	CR5L3T-PPRPPR-50	MV0021-5 (Hydraulic pressure 13.7 ~ 20.6MPa)	MR0400	ML04	MS4011-5		MS2041-5 (Proximity switch type)
~ 5500	GWA1000	8	392	CS50L0-PPRPPR-50		MR0600	ML06	MS4021-5		
~ 8500	GWA1600	8	627	CM20L2-PPRPPR-50		MR0800	ML08	MS4021-5		
~ 13000	GWA2500	8	980			MR1000	ML10	MS4031-5		
~ 20000	GWA4000	8	1568		MV0061-5 (Hydraulic pressure 13.7 ~ 20.6MPa)	MR1600	ML16	MS4041-5		
~ 30000	GWA5000	8	1960			MR1600	ML16	MS4041-5		

OUTLINE OF PLATEN COMPONENTS

- ① PLATEN ROLLER**
Transfers molds and maintains proper vertical distance to centerline
- ② EXTENSION ROLLER**
Bridge from platen rollers to safety gate
- ③ MOVABLE PLATEN OPENING UPPER LIMIT DETECTOR**
Senses when the thickness of movable platen of I.M.M. is larger than that of mold (dimension D), detector checks it and stops mold to prevent it from roller/extension roller.
- ④ MOVABLE PLATEN OPENING LOWER LIMIT DETECTOR**
Senses when the thickness of movable platen of I.M.M. is smaller than that of mold (dimension D), detector checks it and stops mold.
- ⑤ MOLD POSITIONING EQUIPMENT**
Horizontal positioning of mold.
- ⑥ MOLD STOP**
Prevents mold from overrunning if mold positioning equipment fails.
- ⑦ MOLD SAFETY RETAINER**
When movable platen opens to far after clamp is unlocked, it will hold the mold.
- ⑧ MOLD SENSOR**
Checks for presence of mold.



Platen components *1.2			Standard mold weight (t)
⑤⑥ Mold positioning device	⑥ Mold stop	⑦ Safety retainer	
MP03	MM	MF0010	0.6
MP03		MF0010	0.6
MP04		MF0010	1.0
MP04		MF0010	1.5
MP06		MF0010	2.5
MP06		MF0020	4.5
MP08		MF0020	8.0
MP08		MF0030	15
MP08		MF0030	20
MP10		MF0040	30

Note

*1. Please refer to the above drawing for detailed specifications of platen components.

*2. Application of platen components may differ, due to I.M.M. or mold conditions.

Suitable oil should be used for KOSMEK

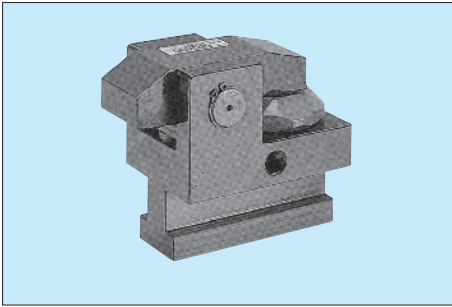
hydraulic products to maximize performance and to assure trouble free operation for a long time.

ISO viscosity grade : ISO-VG-32

Manufacturer	Abrasion resisting hydraulic oil	General purpose oil
Showa Shell Sekiyu	Tellus Oil 32	Tellus Oil C32
Idemitsu Kosan	Daphne Super Hydraulic 32A	Super Multi 32
Eneos	Super Highland 32	Super Mulpus 32
Cosmo Oil	Cosmo Hydro AW32	Cosmo New Mighty Super 32
JOMO	Hydrax 32	Lathus 32
Esso	Nuto H32	Nuto 32
Mobil	Mobil DTE24	Mobil DTE24 Light
Kygnus	Unit Oil WR32	Unit Oil P32
Fuji Kosan	Fukkol Super Hydrol 32	Fukkol Hydrol DX32
Matsumura Oil	Hydrol AW32	
Sunoco	Sunvis 832	Sunvis 932
Mitsui Oil	Hi-Tech AW32	Hydrax 32
Castrol	Hyspin AWS32	

MODEL GB CLAMP

GB clamp is a common type of clamp with T-slot, which can be used with molds of various widths.



MODEL CODE

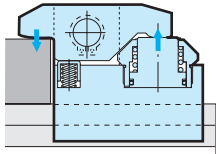
GB 063 0 - KLP - 5 L - T***

① Design No.

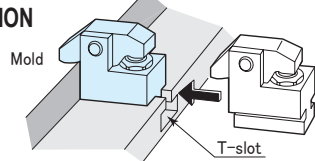
② This number represents the main specification of the clamp's T-slot stem and the clamping height. After the specification is confirmed, we will create a number.

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.

STRUCTURE



APPLICATION



SPECIFICATIONS

Model	GB0100	GB0160	GB0250	GB0400	GB0630	GB1000	GB1600	GB2500
Clamping capacity (kN)	9.8	15.7	24.5	39.2	61.7	98	157	245
Operating pressure (MPa)	24.5 (for rated clamp force)							
Design pressure (MPa)	27.0							
Design pressure (MPa)	36.8							
Full stroke (mm)	6	7			8			
Clamping stroke (mm)	3	3.5			4			
Extra stroke (mm)	3	3.5			4			
Cylinder volume(at full stroke) (cm ³)	2.5	4.8	7.2	11.9	21.6	34.7	55.2	85.9
Operating temperature	0 ~ 70°C (V type is available for 70 ~ 120°C)							
Frequency of use	20 times / day (please contact us for more frequently)							
Working fluid	ISO-VG-32 or equivalent							
MIN. T-slot dimension "a" (JIS) (mm)	10	12	14	18	22	24	28	36
MAX. T-slot dimension "a" (JIS) (mm)	20	24	32	42	42	54	54	54

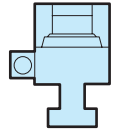
Note) 1. For other fluids, consult us.
2. If fluid viscosity is higher, action will be slower.
3. Action at low temperature will be slower as fluid viscosity is higher.

- ① Clamping capacity (See specifications)
- ② Options
D : With handle (0630 and larger)
E : Reinforced body (to be manufactured after receiving an order.)
J : Low lever type (less than min "h")
K : Rear port
L : Wide lever (for U-cut in die) *1
N : NPT port
P : With proximity switch for die detection (0400 and larger) *2
T : T-slot lock type
V : High temperature type (0 ~ 120°C)
W : With check valve (1000 and larger)
Y : For diecast machine

*1. Always specify U-cut dimension of the mold.
*2. The following code is required only when "P" is selected from options.

- ③ Switch load voltage (current)
1 : AC100V
2 : AC200V
5 : DC 24V (5 ~ 40mA)

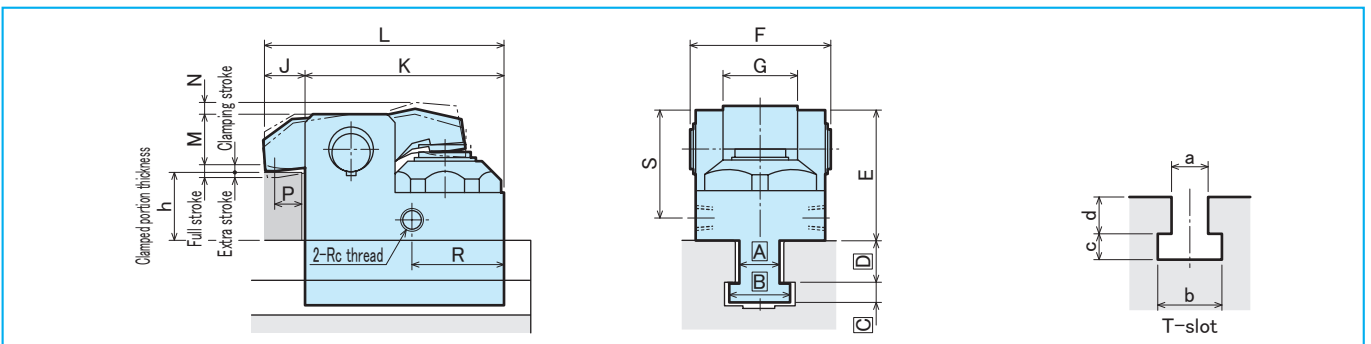
- ④ Switch mounting position
L : As illustrated
R : Reverse of illustration



Example: GB0630-DP-1R-T111

- Clamping capacity 61.7kN
- With handle
- With proximity switch for die detection AC100V
- Switch position is right side when viewed from rear
- T111 ⇒ h=40 A=26.5 B=44 C=17.2 D=24.3

OUTLINE

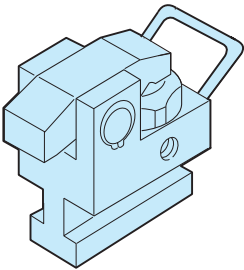
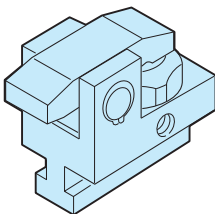
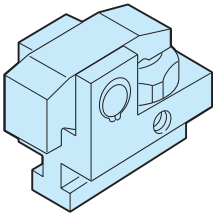
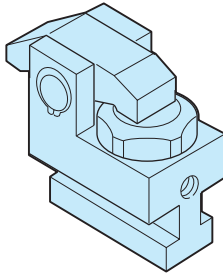
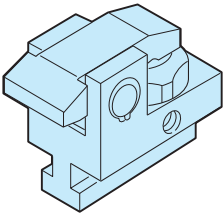
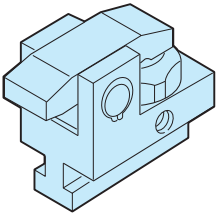
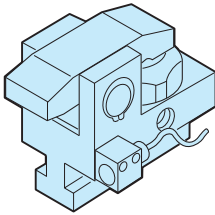
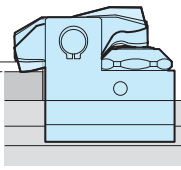
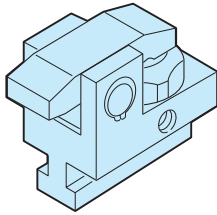
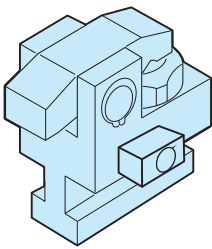


OUTLINE DIMENSIONS

(This dimension is standard type. Consult us -S:Long stroke type.)

Model	min. E	F	G	J	K	L	M (h)			max. N	P	R	S	Rc	min. C	max. h
GB0100	44.5	43	20	15	58	73	16.5(25 over)	21.5(20-25)	—	5.5	10	33	34.5	1/8	6.5	40
GB0160	51	53	26	18	70	88	17.5(30 over)	22.5(25-30)	27.5(20-25)	6.5	12.5	37	41	1/8	8	40
GB0250	59	63	32	20	84	104	21.5(34 over)	26.5(29-34)	31.5(24-29)	6.5	14	43.5	47	1/4	9.5	50
GB0400	67.5	73	40	23	105.5	128.5	29.5(35 over)	34.5(30-35)	39.5(25-30)	6.5	16	51.5	56	1/4	12	50
GB0630	81	93	50	30	130	160	29.5(47.5 over)	39.5(37.5-47.5)	49.5(27.5-37.5)	8	20	49	69	1/4	14	60
GB1000	108	103	55	30	159	189	44(60 over)	54(50-60)	64(40-50)	8	20	68	95	1/4	16.5	70
GB1600	130	124	60	30	199	229	61(65 over)	71(55-65)	81(45-55)	9	20	73	116	1/4	20	80
GB2500	152	152	73	30	240	270	78(70 over)	88(60-70)	98(50-60)	9.5	20	69.5	135	1/4	23	80

- Note) 1. Clamping strokes and extra strokes shown are standard; Custom strokes are available upon request.
2. Dimension A, B, C and D are determined from T-slot dimensions.
3. Specify T-slot dimensions (a, b, c, d) and clamping height (h) when ordering.
4. Specify (d) and (h) within 0.1mm.
5. Clamps with a dimension greater than max. h are optionally available (H type).

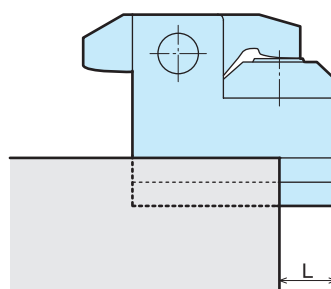
D	E	J	K	L
With handle (0630 and larger)	Reinforced body For undersize of T-slot or large tolerance T-slot.	Low lever (less than min. h)	Rear port	Wide lever
				
N	P	S	V	W
NPT port	With proximity switch for die detection(0400 and larger)	Long stroke (0400 and larger)	High temperature (70 - 120°C)	With check valve (1000 and larger)
		 (A permission level of mold installation board) 5mm		

Special models	Symbol	GB0100	GB0160	GB0250	GB0400	GB0630	GB1000	GB1600	GB2500
With handle	D	-	-	-	-	○	○	○	○
Reinforced body	E	○	○	○	○	○	○	○	○
Low lever	J	h < 20	h < 20	h < 25	h < 25	h < 30	h < 40	h < 45	h < 50
Rear port	K	○	○	○	○	○	○	○	○
Wide lever	L	width 35	width 48	width 48	width 58	width 72	width 85	width 97	width 107
NPT port	N	○	○	○	○	○	○	○	○
With proximity switch for die detection	P	-	-	-	○	○	○	○	○
Long stroke	S	-	-	-	○	○	○	○	○
High temperature	V	○	○	○	○	○	○	○	○
With check valve	W	-	-	-	-	-	○	○	○

<Precautions for mounting and operation>

1. Working pressure should be 24.5MPa.
2. T-slot and clamp surface must be parallel.
Otherwise, the clamp may be damaged or oil leakage may occur.
3. Never allow clamp overhang to exceed L (as illustrated).

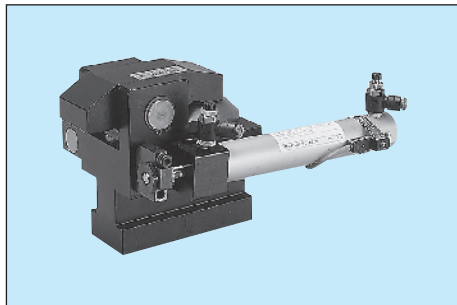
●GB clamp : ALLOWABLE OVERHANG



Model	L (mm)
GB0100	17.5
GB0160	21.0
GB0250	25.0
GB0400	32.0
GB0630	39.0
GB1000	45.0
GB1600	57.0
GB2500	69.5

MODEL GE CLAMP

GE clamp has the ability to slide and lock molds of different sizes by remote control.



MODEL CODE

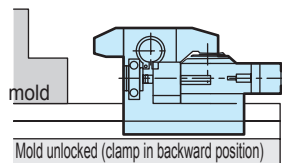
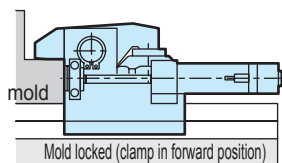
GE 040 1 - 125 - 1 L - E - T***

① ② ③ ④ ⑤

Design No.

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.

APPLICATION



① Clamping capacity (See specifications)

② Slide stroke (See outline dimensions)
075 : Clamp travel distance 75mm
180 : Clamp travel distance 180mm

③ Switch load voltage (current)
1 : AC100V
2 : AC200V
5 : DC24V (5 ~ 40mA)

④ Air cylinder mounting position
L : As illustrated
R : Reverse of illustration

⑤ Options
Blank : Standard
E : Reinforced body material
J : Low type lever (when lower than minimum height)
K : Rear side piping
L : Wide lever (for U cut mold) *3
N : Piping port with NPT *4
Q : Double cylinder
S : Special spacer
V : For high temperature (0 ~ 120°C)

*3. Always specify U cut dimension of the mold.

*4. When "N" is selected from options, each dimension is described in "inch" in the specification and other documents. However the slide stroke is shown by mm value as a symbol.

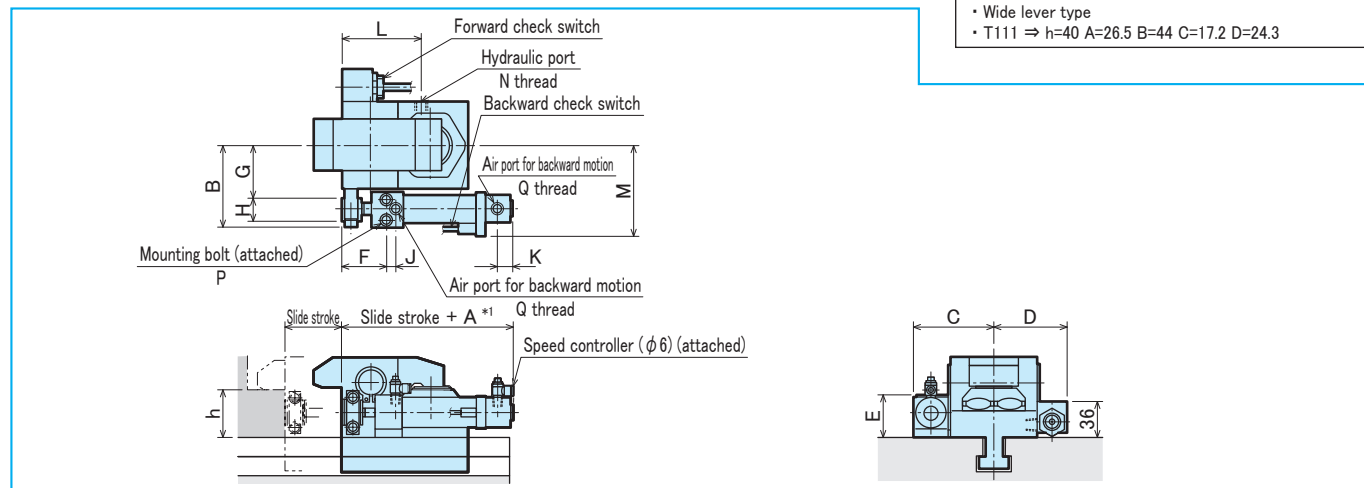
SPECIFICATIONS

Model	GE0251	GE0401	GE0631	GE1001	GE1601	GE2501
Clamping capacity kN	24.5	39.2	61.7	98	157	245
Operating pressure kN	24.5 (for rated clamp force)					
Max. operating pressure MPa	27.0					
Design pressure MPa	36.8					
Slide stroke *1 mm	25 ~ 200		50 ~ 200		50 ~ 300	
Driving air pressure *2 MPa	0.39 ~ 0.49					
Limit switch voltage	AC100V / AC200V / DC24V					
Operating temperature	0 ~ 70℃ (V type is available for 70 ~ 120℃)					
Frequency of use	20 times / day (Please contact us for more frequently.)					
Working fluid	ISO-VG-32 or equivalent					

*1. If the stroke exceeds the value shown in the specifications, contact us because the dimension "A" in the outline drawing is different.

*2. Air pressure less than 0.39MPa may result in malfunction.

OUTLINE



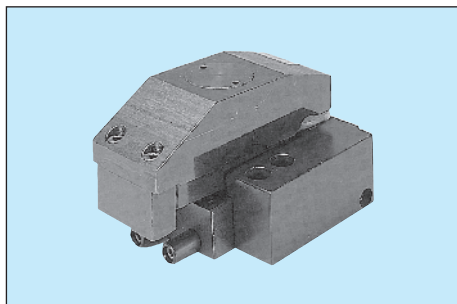
OUTLINE DIMENSIONS

Model	GB model	A	B	C	D	E	F	G	H	J	K	L	M	N	P		Q	R
															Mounting bolt	Tapping		
GE0251	GB0250	105	60	63.5	59	37	39	39	18	9	12	73	75.5	Rc1/8	M5 × 0.8 × 40	M5 × 0.8 Depth10	Rc1/8	φ 6
GE0401	GB0400	105	65	68.5	64	37	39	44	18	9	12	93	80.5	Rc1/4	M5 × 0.8 × 40	M5 × 0.8 Depth10	Rc1/8	φ 6
GE0631	GB0630	112	81.5	84.5	74	48	45	55	22	10	12	81	96	Rc1/4	M6 × 50	M6 × Depth12	Rc1/8	φ 6
GE1001	GB1000	118	92.5	94.5	78.5	54	46	61	24	13	12	91	106.5	Rc1/4	M8 × 55	M8 × Depth16	Rc1/8	φ 6
GE1601	GB1600	136	112	116.5	88.5	65	56	74	32	14	12	126	128	Rc1/4	M10 × 70	M10 × Depth20	Rc1/8	φ 6
GE2501	GB2500	157	137	142	102	78	64	89	41	16	14	170.5	153	Rc1/4	M12 × 85	M12 × Depth24	Rc1/4	φ 10

Note) 1. Refer to GB clamp (P7) for clamp details.

MODEL GM CLAMP

GM clamp is suitable for I.M.M. without T-slot.
It can be used with molds of various widths and allows for the variation of "h" dimension up to 5 mm.



MODEL CODE

GM 040 0 - 35 - PV - 5 R

① ② ③ ④ ⑤

Design No.

① Clamping capacity (See specifications)

② Mold thickness (dimension "h") *1
 25 : Dimension "h"
 60 : Dimension "h" } See allowable clamp thickness table

③ Special symbols
 N : Piping port with NPT *1
 P : With proximity switch for detecting mold *2
 V : For high temperature (0 ~ 120°C)

④ Switch load voltage (current)
 1 : AC100V
 2 : AC200V
 5 : DC24V (5 ~ 40mA)

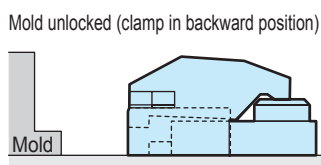
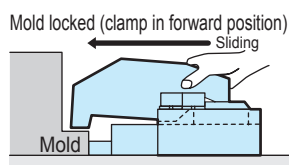
⑤ Switch mounting location
 L : As shown in the right drawing
 R : Opposite to the above

*1. Note that the allowable mold thickness varies depending on the clamp capacity. And when "N" is selected from the special symbols, each dimension is described in "inch". However, the mold thickness is shown by mm value as a symbol.

*2. When "P" is selected from the special symbols, ④ and ⑤ must be specified.

Example: GM0400-30
 • Clamping capacity 39.2kN
 • Mold thickness 30mm

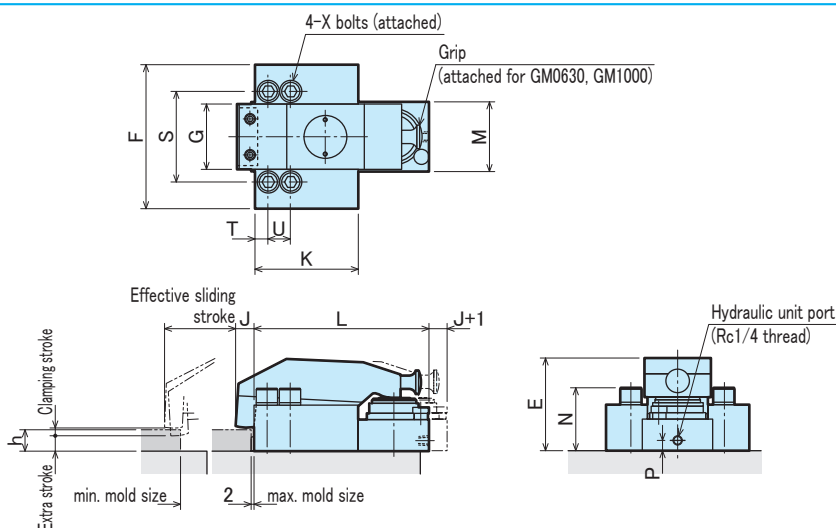
APPLICATION



SPECIFICATIONS

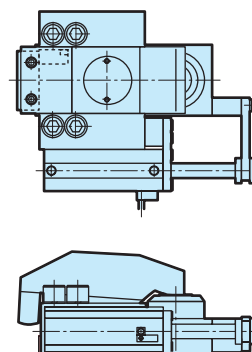
Model	GM0250	GM0400	GM0630	GM1000
Clamping capacity (at 24.5MPa) kN	24.5	39.2	61.7	98
Effective sliding stroke mm	50	75	100	100
Clamping stroke mm	1.5	2	2	2
Extra stroke mm	7.5	8	8	8
Cylinder capacity at full stroke cm ³	9	18	26	41
Operating temperature	0 ~ 70°C			
Frequency of use	20 times / day (Please contact us for more frequently.)			

OUTLINE



GM-S clamp

● Clamps with slider are also available.



OUTLINE DIMENSIONS

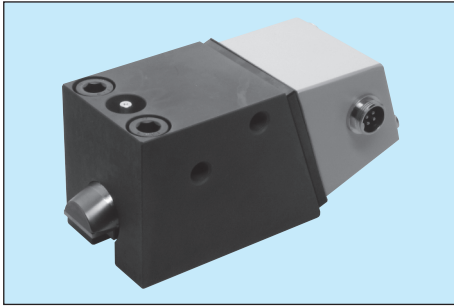
Model	E	F	G	J	K	L	M	N	P	Q	S	T	U	X	min. R
GM0250	89	130	54	21	95	145	65	59.5	12	-	85	12	20	M12	95
GM0400	113	150	62	24	115	188	75	74.5	12	-	100	15	25	M16	115
GM0630	130	200	80	24	145	245	96	89.5	15	17.5	125	18	32	M20	145
GM1000	158.5	250	96	29	190	288	114	107	17	17.5	150	23	40	M24	190

ALLOWABLE CLAMP THICKNESS

h (clamp thickness)	25	30	35	40	45	50	55	60
Range of allowable h(mm)	20.0 ~ 25.0	25.0 ~ 30.0	30.0 ~ 35.0	35.0 ~ 40.0	40.0 ~ 45.0	45.0 ~ 50.0	50.0 ~ 55.0	55.0 ~ 60.0
GM0250	○	○	○	-	-	-	-	-
GM0400	-	○	○	○	○	-	-	-
GM0630	-	○	○	○	○	○	-	-
GM1000	-	-	-	○	○	○	○	○

MODEL GWA CLAMP

GWA clamp adopting a mechanical locking system, is a highly reliable clamp which maintains its clamping power when the hydraulic pressure for locking drops to 0.



MODEL CODE

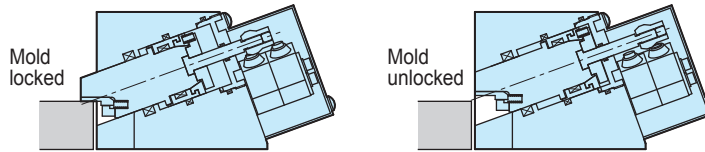
GWA 040 0 - 30 M0 R - K V

① ② ③ ④ ⑤ ⑥

Design No.

- ① Clamping capacity (See specifications)
- ② Clamped portion thickness^{*1}
30 : Dimension "h" in the drawing 30mm
50 : Dimension "h" in the drawing 50mm
- ③ Wiring system
M0: Metallic conduit specification^{*2}
M4: Metallic conduit specification with 4m cable^{*3}
C1: Conduit with ϕ 16mm hole
C2: Conduit with ϕ 22mm hole
- ④ Piping and wiring connection direction^{*4}
L : On the left viewed from the back (switch side)
R : On the right viewed from the back (switch side)
- ⑤ Electrical rating
Blank : 3A rating
K : For extremely small load
- ⑥ Special symbols
V : For high temperature (0 ~ 120°C)

APPLICATION



SPECIFICATIONS

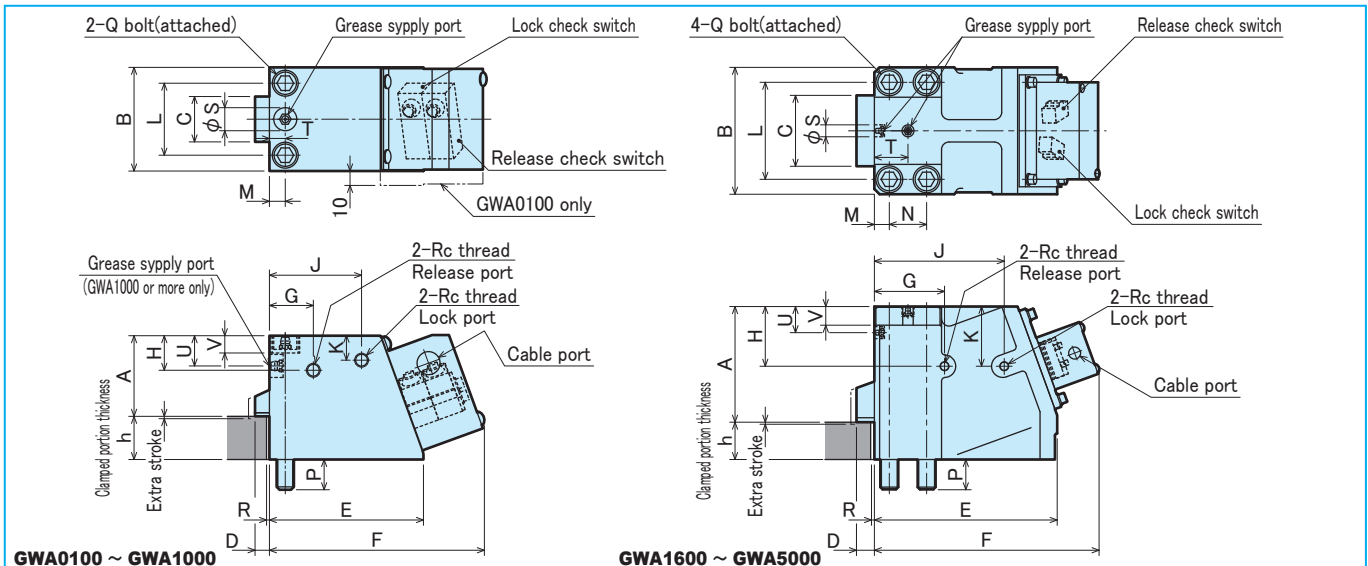
Model	GWA0100	GWA0160	GWA0250	GWA0400	GWA0630	GWA1000	GWA1600	GWA2500	GWA4000	GWA5000
Clamping capacity kN	9.8	15.7	24.5	39.2	61.7	98	157	245	392	490
Clamping force(at 13.7MPa) kN	9.8	15.7	24.5	39.2	61.7	98	157	245	392	392
Retaining force(at 0MPa) kN	3.9	6.3	9.8	15.7	24.7	39.2	62.8	98	157	157
Extra stroke mm	1.0					1.5				
Cylinder capacity cm ³	locked	6	11	19	35	64	121	227	411	758
	unlocked	3	4	8	13	24	48	102	177	349
Operating temperature	0 ~ 70°C									
Frequency of use	20 times / day (Please contact us for more frequently.)									

*1. Tolerance of "h" (clamp height) should be less than ± 0.5 mm.

- *1. Some clamps for mold thickness "h" less than the minimum value may not be manufactured.
In this case, contact us in advance.
- *2. Use metallic conduit plug SCK-14(Sanwa) for cable side.
- *3. Cable end is composed of non-stranded wires covered by marker tube.
- *4. Both sides of hydraulic port usable.

Example: GWA0400-30M4R
 • Clamping capacity 39.2kN
 • Wiring connection direction on the left viewed from the back
 • Clamped portion thickness 30mm
 • Metallic conduit specification with 4m cable

OUTLINE

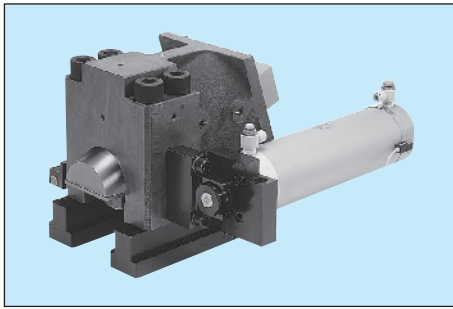


OUTLINE DIMENSIONS

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	Rc	Standard h ± 0.5
GWA0100	41	48	20	8	81	129	21.5	19.5	48.5	8	33	8	-	12	M8	1.5	16	10	-	8	1/8	20
GWA0160	48	58	25	9	93	140	28	23	56.5	9.5	39	9.5	-	17	M10	1.5	16	12	-	10	1/8	20
GWA0250	56	72	31.5	10	107	150	30.5	24	64	17	50	11	-	21	M12	2	16	11	-	12	1/8	30
GWA0400	69	90	40	12	123	173	38	30	70.5	14	62	14	-	27	M16	2	16	14	-	16	1/4	30
GWA0630	82	110	50	14	140	194	41	33	83	22	76	17	-	33	M20	3	16	15	-	20	1/4	35
GWA1000	98	135	63	17	152	208	44	50	102	50	95	20	-	36	M24	3	16	20	35	24	1/4	40
GWA1600	128	138	75	20	205	256	80	63	143.5	63	104	17	40	33	M20	5	16	40	35	21	1/4	40
GWA2500	155	170	95	24	245	302	94	80	174	80	130	20	50	40	M24	5	16	45	35	25	1/4	50
GWA4000	195	215	118	28	305	355	119	90	208	90	162	27	60	50	M30	5	16	65	40	35	3/8	50
GWA5000	195	215	118	28	305	355	119	90	208	90	162	27	60	50	M33	5	16	65	40	35	3/8	50

MODEL GLA CLAMP

GLA clamp developed from the GWA clamp, is capable of sliding and locking variable width molds by remote control.



MODEL CODE

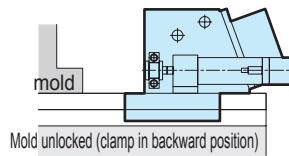
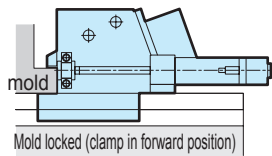
GLA 160 0 - 40 M0 - 200 - 5 K L - V - T***

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Design No.

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.

APPLICATION



SPECIFICATIONS

Model		GLA1600	GLA2500	GLA4000	GLA5000
Clamping capacity	kN	157	245	392	490
Clamping force(at 13.7MPa)	kN	157	245	392	392
Slide stroke	mm	50 ~ 300			
Driven air pressure	MPa	0.39 ~ 0.49			
Min. T-slot width	(a)	28	32	42	42
Operating temperature		0 ~ 70°C			
Frequency of use		20 times / day (Please contact us for more frequently.)			

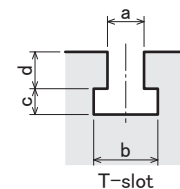
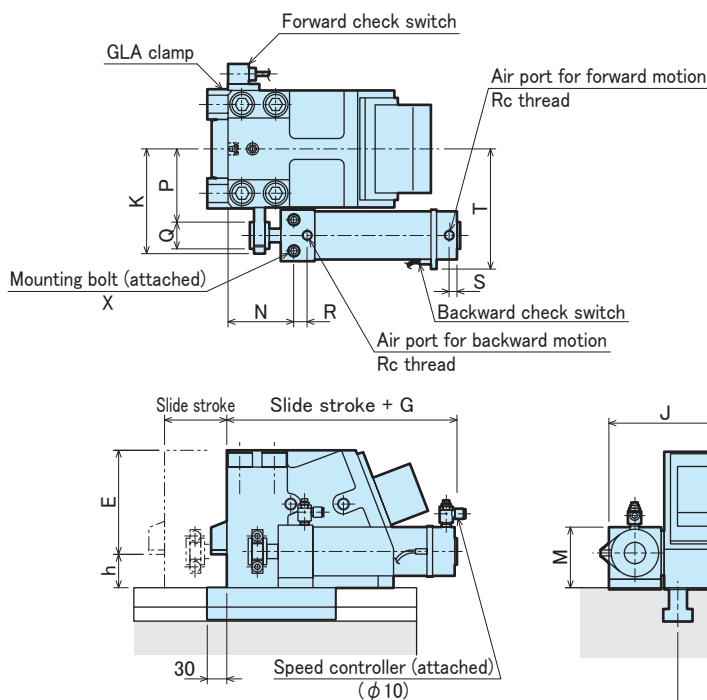
- ① Clamping capacity (See specifications)
- ② Clamped portion thickness
30 : Dimension "h" in the drawing 30mm
50 : Dimension "h" in the drawing 50mm
- ③ Wiring connection system
M0 : Metallic conduit specification *1
M4 : Metallic conduit specification with 4m cable *2
C1 : Conduit with ϕ 16mm hole
C2 : Conduit with ϕ 22mm hole
- ④ Slide stroke (Select from standard strokes)
075 : Clamp travel distance 75mm
200 : Clamp travel distance 200mm
* Take extra distance into consideration to determine the travel distance.
- ⑤ Switch load voltage (current)
1 : AC100V
2 : AC200V
5 : DC24V (5 ~ 40mA)
- ⑥ Electrical rating
Blank : 3A rating
K : For extremely small load
- ⑦ Cylinder mounting location
L : As shown in outline drawing
R : Opposite to the above
- ⑧ Special symbols
Q : Double cylinder
V : For high temperature (0 ~ 120°C)

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

Example : GLA1600-40M0-200-5L

- Clamping capacity 157kN
- Slide distance 200mm
- For DC24V
- Cylinder mounting location as shown in outline drawing
- Metallic conduit specification without cable
- T002 $\Rightarrow$ A=41 B=65 C=30 D=42.5

OUTLINE



Note)

1. Dimensions of A,B,C and D are determined according to the T-slot dimensions.
2. Please specify T-slot dimensions a,b,c,d and clamp thickness for your order.
3. Tolerance of T-slot dimension should be less than ± 0.2 mm.

OUTLINE DIMENSIONS

(Please refer to GWA for the dimensions without this dimension.)

Model	E	G	J	K	L	M	N	P	Q	R	S	T	U	X		Rc
														Mounting bolt	Tapping	
GLA1600	128	178	139	134	108	80.5	85	86	41	16	14	152.5	104	M12 $\times$ 85	M12 Depth24	1/4
GLA2500	155	192	166.5	155.5	124	92.6	95	105	46	20	14	181	130	M16 $\times$ 100	M16 Depth32	1/4
GLA4000	195	228.5	273	222.5	146.5	149	100	133	120	37.5	19	260	162	M20 $\times$ 160	M20 Depth40	1/2
GLA5000	195	228.5	273	222.5	146.5	149	100	133	120	37.5	19	260	162	M20 $\times$ 160	M20 Depth40	1/2

OPERATION CONTROL PANEL

Many types of KOSMEK operation control panel are available corresponding to each mold exchange system.



MODEL CODE

YMB07 0 - V HB 10 - EHN

Design No.

① ② ③ ④

- ① Mold exchange system
V : Vertical loading system
H : Horizontal loading system
- ② Clamp to be applied *1
GB: GB clamp
GE: GE clamp
GS: GWA clamp
GL: GLA clamp
- ③ Hydraulic power supply
10 : Standard model with pressure switch in the clamp circuit
00 : Special model without pressure switch in the clamp circuit
- ④ Special symbols
Blank : Standard
E : with proximity switch to detect mold position
H : when six to eight proximity switches per one side are used to detect mold position
N : name plates in English

Example: YMB070-VGB10

- For horizontal loading system
- For GB clamp
- With pressure switch in clamp circuit

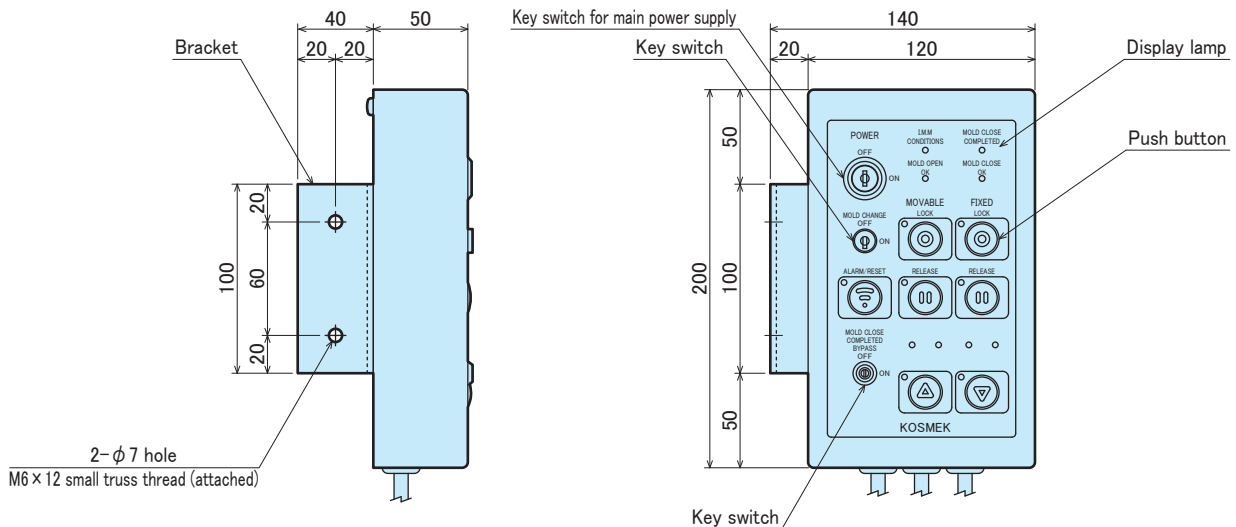
SPECIFICATIONS

Model	YMB070-***10	YMB070-***00
Power supply voltage	AC200V (AC200 ~ 240V) 50/60KHz	
Power capacity	1.0A	2.5A
Output relay rating	DC24V 0.5A	

Model *1	①Mold exchange system	②Applied clamp type	③Hydraulic power supply	④Option available			
YMB070-VGB10	V	Vertical loading method	GB	GB, GM	10	KOSMEK' s hydraulic unit for QMCS	E, H, N
YMB070-VGE10			GE	GE, GM-S	10	KOSMEK' s hydraulic unit for QMCS	H, N
YMB070-VGS10			GS	GWA	10	KOSMEK' s hydraulic unit for QMCS	N
YMB070-VGS00			GS	GWA	00	Hydraulic power from I.M.M.	N
YMB070-VGL10			GL	GLA	10	KOSMEK' s hydraulic unit for QMCS	N
YMB070-VGL00			GL	GLA	00	Hydraulic power from I.M.M.	N
YMB070-HGS10	H	Horizontal loading method	GS	GWA	10	KOSMEK' s hydraulic unit for QMCS	N
YMB070-HGS00			GS	GWA	00	Hydraulic power from I.M.M.	N

*1. Panels other than the above will be manufactured as a special order.

OUTLINE



EXAMPLES OF OPERATION PROCEDURE [YMB070-VGE10]

* If you need an operation procedure for other models, please contact us.

● UNLOADING MOLD

MOLDING MACHINE	OPERATION	OPERATION PANEL
Finish production	1. Support mold by a crane.	"Molding condition" lamp lighted
Mold change mode	2. Set the molding machine to the mold change mode.	
Nozzle back	3. Ensure the molding machine is in the "Nozzle Back" condition.	
	4. Turn the "Mold Change" switch on the clamp system operator panel to ON.	
	5. Bring the molding machine "Mold Clamp" (Mold closed).	Ensure "Mold Clamp" lamp is lighted.
Mold clamp		
	6. Confirm the mold is held by the crane.	
	7. Clamp operation control panel press "Fixed Platen" release button. Press "Movable Platen" release button.	"Release" lamp lighted "Fixed plate backward limit" and "Movable plate backward limit" lamps lighted Ensure "Mold open OK" lamps lighted
	8. Open the platens	
Start "Mold open"	9. Remove the mold	

● LOADING MOLD

MOLDING MACHINE	OPERATION	OPERATION PANEL
Molding idle	1. Check mold thickness and insert the mold.	
	2. Perform positioning of the mold.	
	3. Shut the safety door of molding machine and switch the machine to "Mold Clamp".	Ensure "Mold Clamp" lamp is lighted.
Mold clamp		
	4. Clamp operation control panel Press "Fixed Platen" lock button. Press "Movable Platen" lock button.	"Fixed plate forward limit" and "Movable plate forward limit" lamps lighted "Lock" lamp lighted Ensure "Mold open OK" lamps lighted
	5. Bring the molding machine to "Mold Clamp" (Mold closed)	"Mold open OK" and "Mold close OK" lamps lighted
	6. Detach mold from crane and complete mold set-up.	

INTERLOCK INPUT AND OUTPUT

Molding machine output	Contents
Mold change mode	A signal indicating machine is in low-speed mold set mode.
Pressurize (mold touch)	A signal to ensure the mold is completely closed; required to release mold clamps to prevent mold dropping.
Nozzle backward limit	A signal to ensure the nozzle or injection unit is in the backward position to prevent the nozzle from being damaged when taking out the mold.
Ejector backward limit	A signal to ensure the ejector is in the backward position to prevent the ejector from being damaged when taking out the mold.

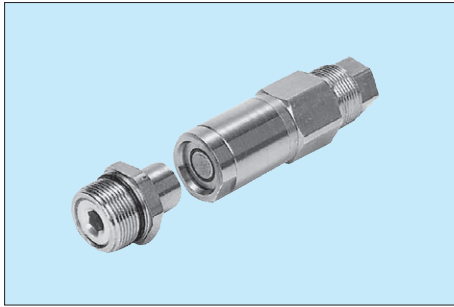
Molding machine input	Contents
Mold open OK	A signal to indicate the clamp system is ready for mold opening.
Mold close OK	A signal to indicate the clamp system is ready for mold closing.
Mold change "ON"	A signal to indicate the clamp system is in "Mold Change" mode.
Clamp alarm	The clamp system has an alarm condition and the machine should be stopped.
Hydraulic pressure demand	A signal requesting the machine to supply hydraulic pressure to lock or release the clamps.

Note)

1. Signals shall be sent and received at the dry contact.
2. Use output contact for micro signal for the molding machine. (DC24V 10mA)
3. Rating of output contact of the operation control panel is DC24V and 0.5A.
4. Be careful that each name may differ depending on the molding machine manufacturer.
5. If you need input and output other than the above (special), contact us.

MODEL JL AUTO JOINT

JL AUTO JOINT is for automatic fluid coupling, enabling the automation of mold change system.

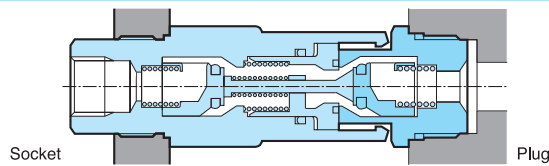


MODEL CODE

JL P 0 3 0 — W — M 0 — N
① ② ③ ④ ⑤ ⑥
 Design No.

- ① Type
P : Plug
S : Socket
- ② Body size
2 : 1/4"
3 : 3/8"
4 : 1/2"
6 : 3/4"
8 : 1"
- ③ Material
W : Stainless steel, brass and nitrile rubber for water, air and general working fluid (max. 80°C)
H : Stainless steel, brass and fluoro rubber for warm water, air and general working fluid (max. 120°C)
0 : Steel and nitrile rubber for general working fluid (max. 80°C)
- ④ Piping system
C : Connector type (Rc thread)
M : Manifold type
- ⑤ Body shape* 1
0 : Basic type
- ⑥ Special symbol
N : Piping port with NPT

STRUCTURE



SPECIFICATIONS

Model		Plug		JLP020	JLP030	JLP040	JLP060	JLP080
		Socket		JLS020	JLS030	JLS040	JLS060	JLS080
Size				02	03	04	06	08
Minimum flow area (mm ²)				29	50	102	183	297
Eccentricity(tolerance) (mm)				±0.5	±0.5	±0.8	±1.0	±1.0
Angle error(tolerance) (DEG.)				0.5	0.5	0.5	0.5	0.5
Maximum working pressure MPa		Fluid types	W.H	3.43	3.43	3.43	3.43	3.43
			0	24.5	24.5	24.5	13.7	13.7
Reaction force (kN)	Working pressure	0.98MPa	0.31	0.41	0.60	1.00	1.40	
		3.43MPa	0.69	0.90	1.53	2.57	3.74	
		13.7MPa	2.27	2.97	5.44	9.13	13.6	
		24.5MPa	3.93	5.14	9.54	—	—	
Frequency of use				20 times/day (Please contact us if it will be used more frequently.)				

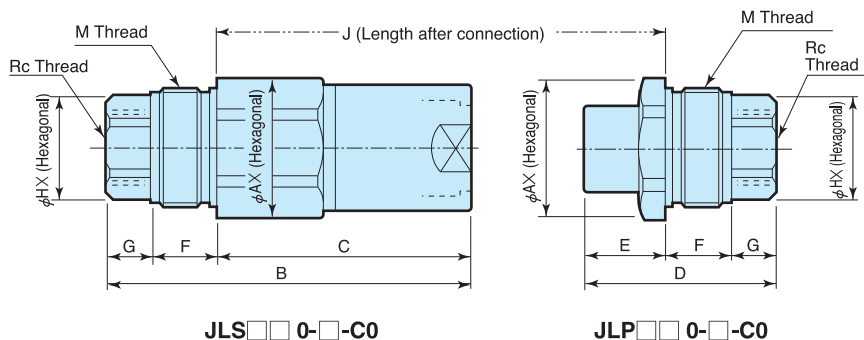
Note) 1. Fluid pressure should be 0 while connecting/disconnecting.

2. When using multiple number of ball joints, provide a stopper to adjust "Length after connection J" to be within +0.5mm of the value shown in the table.

*1 When combining the products having different body sizes, contact us in advance. However application of the products having the same body size is recommended from the viewpoint of maintenance and spare parts control.

OUTLINE

PIPE CONNECTION TYPE : C0(RcTHREAD)

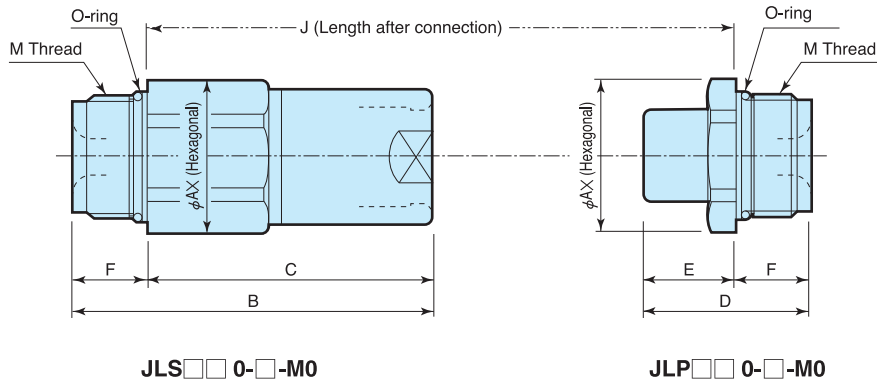


OUTLINE DIMENSIONS

Size	02	03	04	06	08
φAX (Hexagonal)	φ30×(27)	φ33×(30)	φ40×(36)	φ50×(46)	φ60×(55)
B	83	92.5	107	132	151
C	60	65.5	76	95	108
D	42.5	48.5	57.5	70	80
E	19.5	21.5	26.5	33	37
F	15	16	18	22	25
G	8	11	13	15	18
φHX (Hexagonal)	φ21.2×(19)	φ24.5×(22)	φ30×(27)	φ40×(36)	φ45×(41)
J	66.5	72	84.5	105.5	118.5
M	M24×1.5	M27×1.5	M33×1.5	M45×1.5	M50×1.5
Rc	1/4	3/8	1/2	3/4	1

OUTLINE

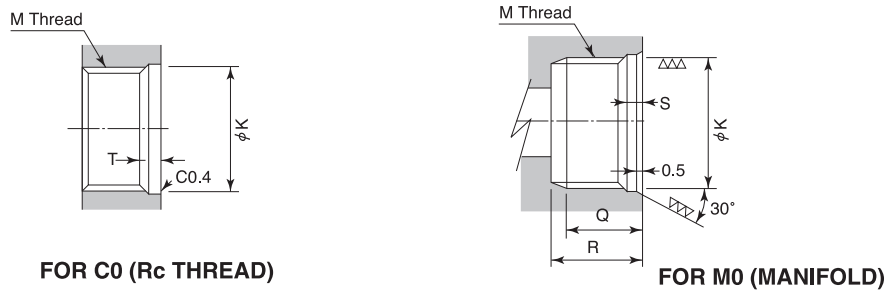
PIPE CONNECTION TYPE : M0(MANIFOLD)



OUTLINE DIMENSIONS

Size	02	03	04	06	08
φAX (Hexagonal)	φ30×(27)	φ33×(30)	φ40×(36)	φ50×(46)	φ60×(55)
B	75	81.5	94	117	133
C	60	65.5	76	95	108
D	34.5	37.5	44.5	55	62
E	19.5	21.5	26.5	33	37
F	15	16	18	22	25
J	66.5	72	84.5	105.5	118.5
M	M24×1.5	M27×1.5	M33×1.5	M45×1.5	M50×1.5
Rc	1/4	3/8	1/2	3/4	1

MOUNTING PART MACHINING

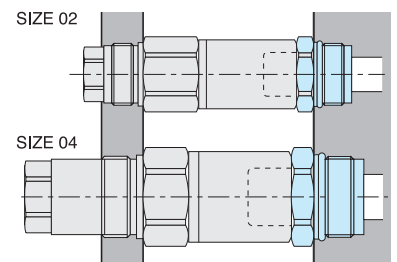
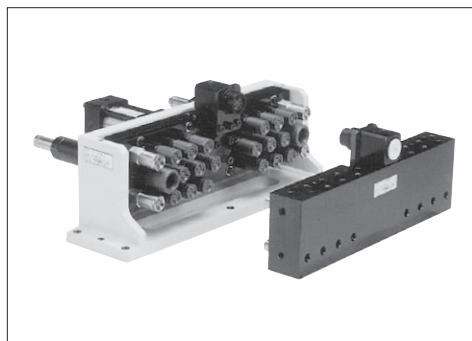


MACHINING DIMENSIONS

Size	02	03	04	06	08
φK	φ25H8 ^{+0.033} ₀	φ28H8 ^{+0.033} ₀	φ34H8 ^{+0.039} ₀	φ45.5H8 ^{+0.039} ₀	φ51H8 ^{+0.046} ₀
M	M24×1.5	M27×1.5	M33×1.5	M45×1.5	M50×1.5
Q	Over 12.5	Over 13.5	Over 15.5	Over 19.5	Over 22.5
R	Over 15.5	Over 16.5	Over 18.5	Over 22.5	Over 25.5
S	3.5	3.5	3.5	4	4
T	2	2	2	2.5	2.5

MULTI-AUTO JOINT

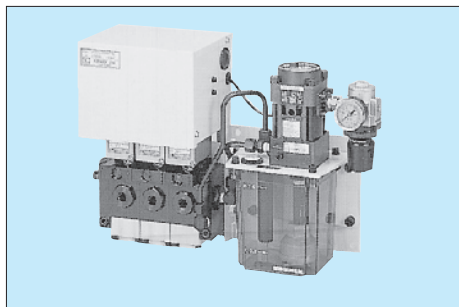
JL Autojoints of different sizes can be assembled into one unit. Please contact us for more detailed information.



HYDRAULIC UNIT

FOR GB,GE AND GM CLAMP

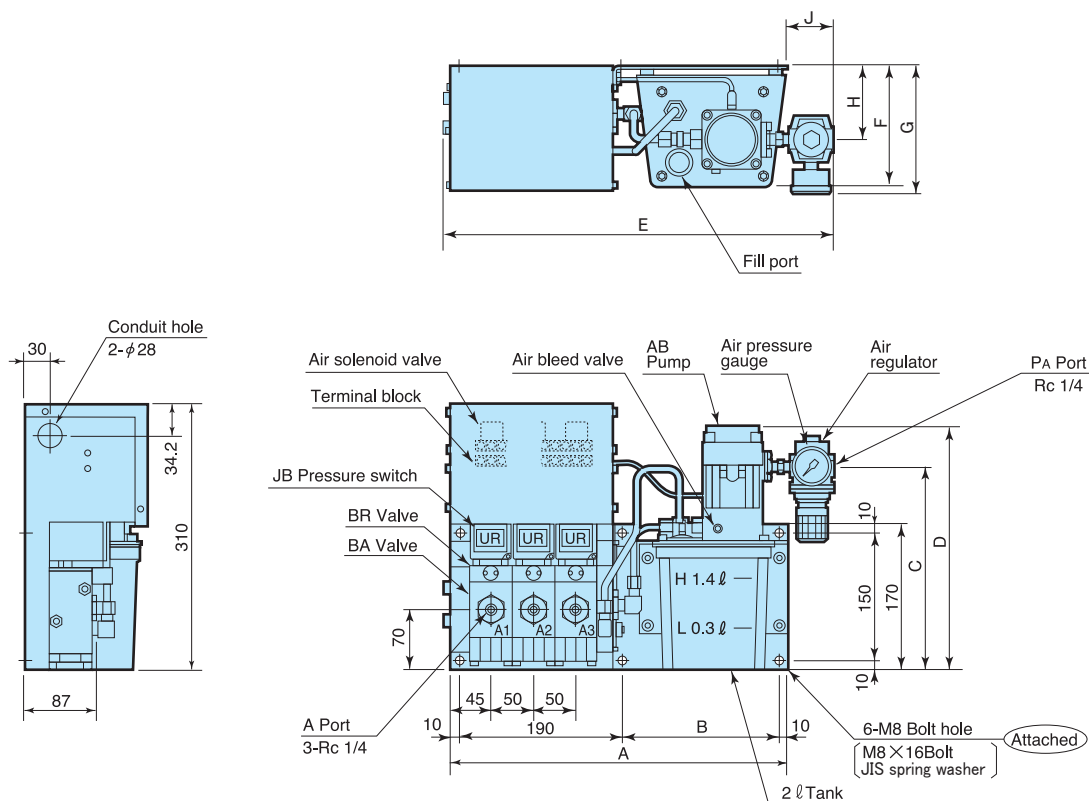
This is a compact hydraulic unit consisting of pump, valves, pressure relief valve and pressure switch with working pressure of 24.5MPa



SPECIFICATIONS

Model		CP20N1-URURUR-50	CR5N31-URURUR-50	CS50N0-URURUR-50
Operating pressure		24.5MPa		
Design pressure		36.8MPa		
Tank capacity		2ℓ (H.L. - L.L. = 950cm ³)	5ℓ (H.L. - L.L. = 1920cm ³)	
Controlling voltage		DC 24V		
Pump	Model	AB7000-0	AD7300-0	AC7000-0
	Discharge pressure	22.5MPa (air pressure at 0.41MPa)		22.5MPa (air pressure at 0.44MPa)
Valve	Model	BA5R11-0		
Pressure switch	Model	JB2800-M0		
	Set pressure	INC. 17.6MPa		
Pressure relief valve	Model	BR5N11-0		
	Relief pressure	24.5 ^{+2.45} MPa		

OUTLINE

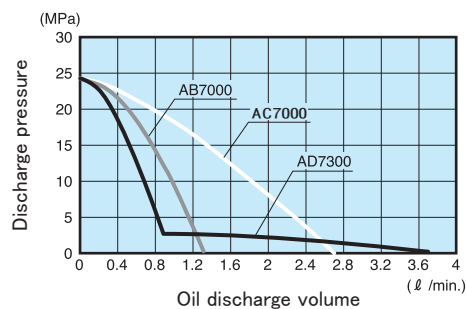


OUTLINE DIMENSIONS

Model	CP20N1-URURUR-50	CR5N31-URURUR-50	CS50N0-URURUR-50
A	395	500	
B	185	290	
C	239.5	288	321
D	287	335.5	381
E	459	509	588
F	140	160	169
G	148		188
H	85		79
J	55	0	79

(This drawing shows the CP20N1-URURUR-50)

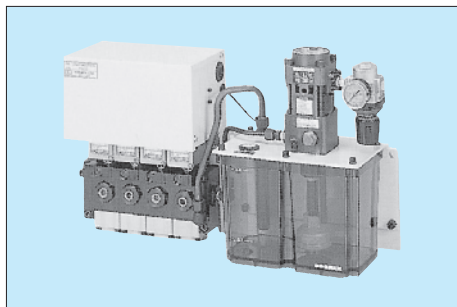
PERFORMANCE CURVE OF PUMP



HYDRAULIC UNIT

FOR GWA / GLA CLAMP

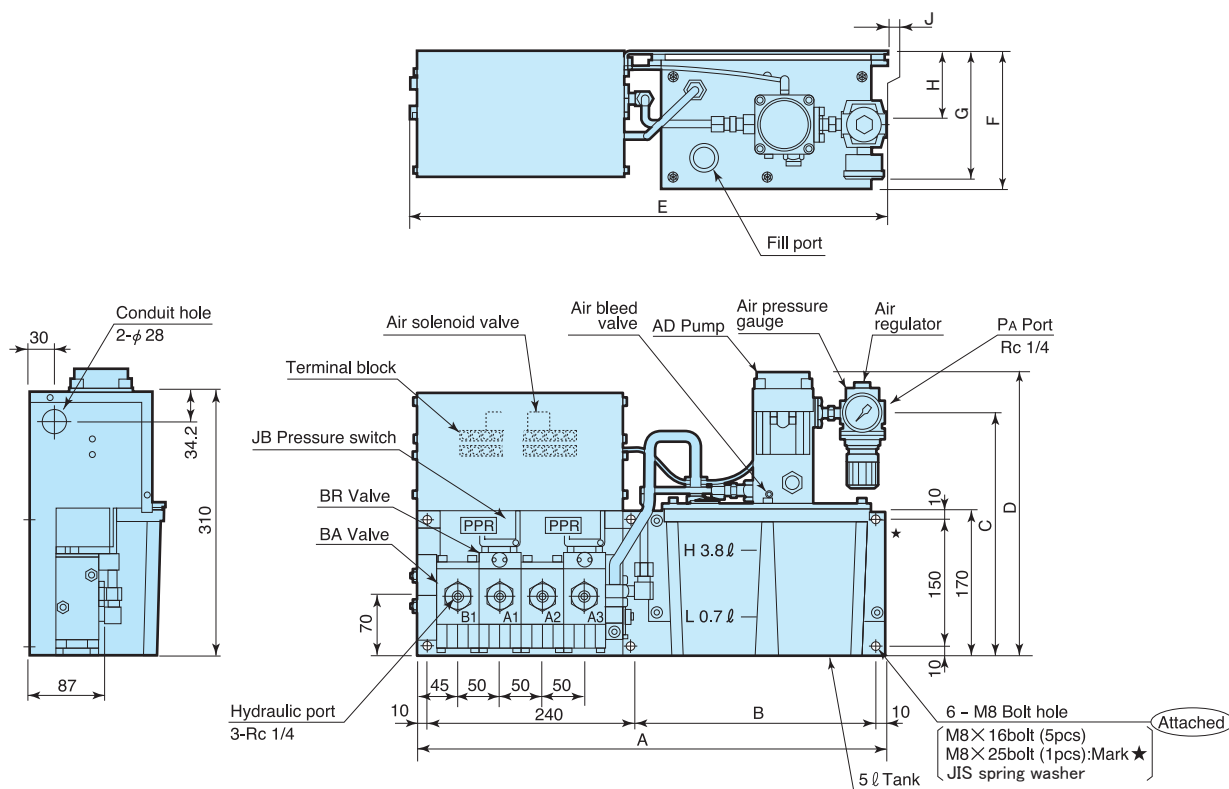
This is a compact hydraulic unit for GWA clamp, GLA clamp with working pressure of 13.7MPa



SPECIFICATIONS

Model		CP20L1-PPRPPR-50	CR5L31-PPRPPR-50	CS50L0-PPRPPR-50
Operating pressure		13.7MPa		
Design pressure		36.8MPa		
Tank capacity		2ℓ (H.L. - L.L. = 950cm³)	5ℓ (H.L. - L.L. = 1920cm³)	
Controlling voltage		DC 24V		
Pump	Model	AB6000-0	AD6300-0	AC6000-0
	Discharge pressure	12.7MPa (air pressure at 0.37MPa)		12.7MPa (air pressure at 0.40MPa)
Valve	Model	BA5011-0, BA5R11-0		
Pressure switch	Model	JB2800-M0		
	Set pressure	INC. 9.8MPa		
Pressure relief valve	Model	BR5L11-0		
	Relief pressure	13.7 ^{+1.96} MPa		

OUTLINE

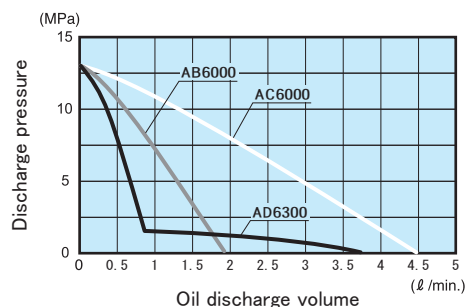


OUTLINE DIMENSIONS

Model	CP20L1-PPRPPR-50	CR5L31-PPRPPR-50	CS50L0-PPRPPR-50
A	445	550	
B	185	290	
C	239.5	288	321
D	287	335.5	381
E	509	559	539
F	140	160	169
G	148		188
H	85		79
J	55	0	79

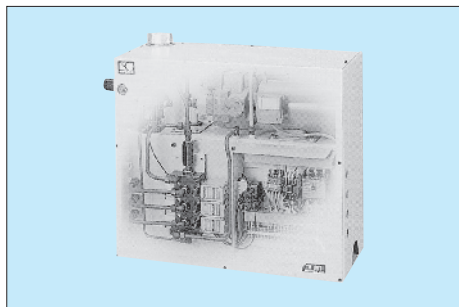
(This drawing shows the CR5L31-PPRPPR-50)

PERFORMANCE CURVE OF PUMP



HYDRAULIC UNIT FOR LARGE CLAMP

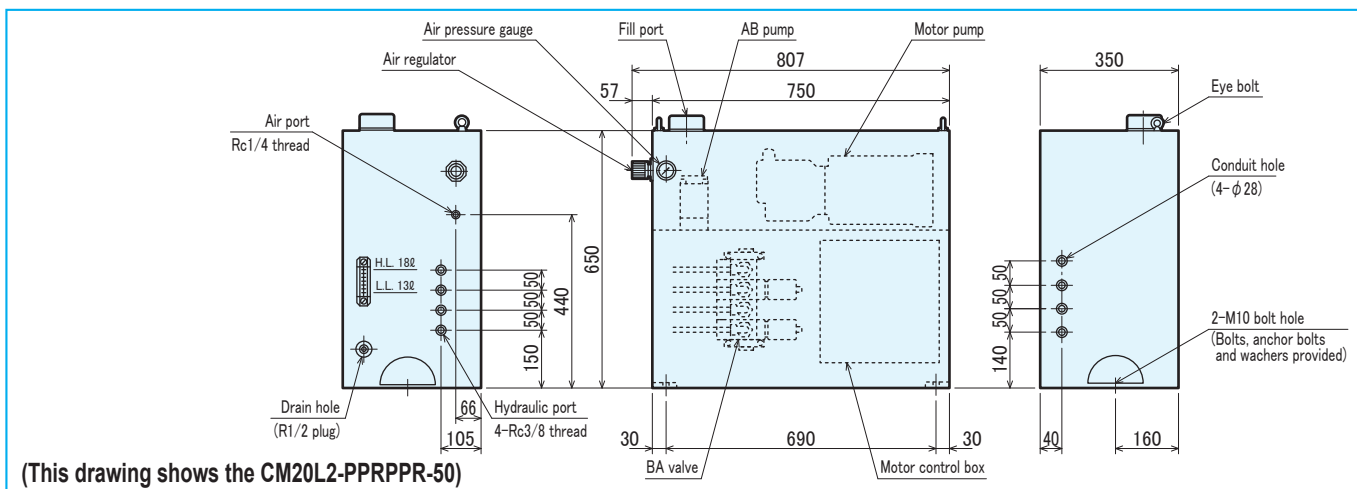
This is a special hydraulic unit for large systems,
and incorporates a motor pump to reduce clamping time.



SPECIFICATIONS

Application	for large GB and GE clamps	for large GWA clamps
Model	CM20N2-URURUR-50	CM20L2-PPRPPR-50
Operating pressure	24.5MPa	13.7MPa
Design pressure	36.8MPa	
Tank capacity	18ℓ (H.L.-L.L. = 5ℓ)	
Voltage of power source	AC 200/220 V , 50/60Hz (controlling voltage DC24V)	
Pump	Model	AB7000-0
	Discharge pressure	22.5MPa (air pressure at 0.41MPa)
Motor pump	Model	AB6000-0
	Discharge pressure	12.7MPa (air pressure at 0.37MPa)
Motor pump	Model:AR16-FR01C-20/Motor capacity:1.5kW x 4P/No load discharge volume:20ℓ/min	
Valve	Model	BA5R11-0
Pressure	Model	JB2800-M0
switch	Set pressure	INC. 17.6MPa
Pressure	Model	BR5N11-0
relief valve	Relief pressure	24.5 ^{+2.45} ₀ MPa

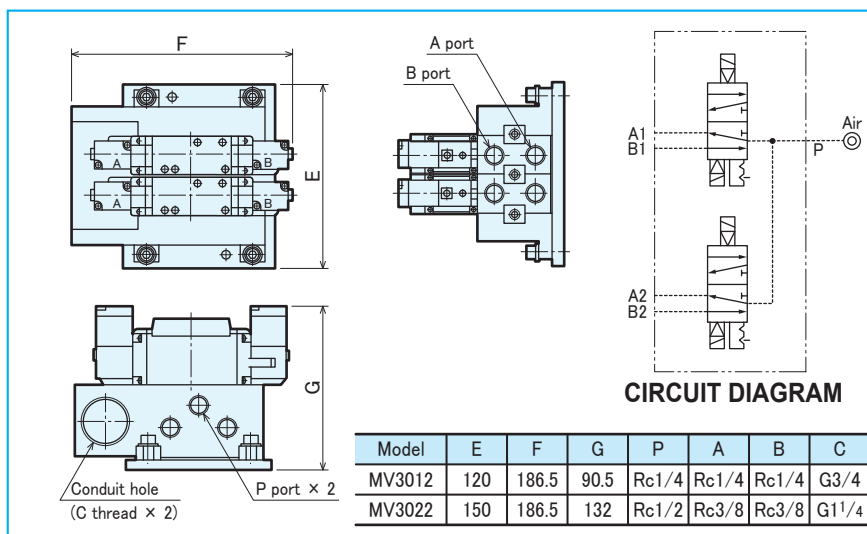
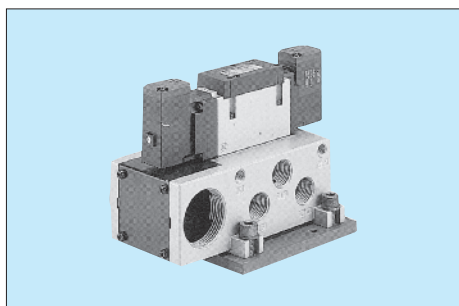
OUTLINE DIMENSIONS



AIR VALVE UNIT FOR GE, GM-S and GLA CLAMP

This air valve controls the movement of clamps.

OUTLINE DIMENSIONS



MODEL CODE

MV 302 2 - 3 5 - N

① Design No. ② ③ ④

- ① Size code
301 : For small and medium clamps
302 : For large clamps
* Consult us when a large number of clamps are used.

- ② Number of control circuits
1 : Valve circuit of upper or lower die only
2 : 2 circuits; for upper and lower dies or cross circuit
3 : 3 circuits; for upper die cross circuit and one lower
* Please refer other than the above.

- ③ Valve control voltage
1 : AC100V
2 : AC200V
5 : DC 24V

- ④ Special symbols
No indication : AC100V
N : *1
*1. When "N" is selected from the options,
dimensions are described in inch in documents
such as the specifications.

CONTROL VALVE FOR GWA/GLA CLAMP HYDRAULIC POWER FROM I.M.M.

This unit is used when the hydraulic source is the I.M.M.

The lock circuit of the GWA clamp, GLA clamp is equipped with a pressure relief valve.

MODEL CODE

MV 002 1 - 5 - W - N

① ② ③ ④

Design No.

① Size code

001 : Hydraulic pressure at 13.7MPa

002 : Hydraulic pressure at 13.7 ~ 20.6MPa

006 : Hydraulic pressure at 13.7 ~ 20.6MPa

② Valve control voltage

1 : AC100V

2 : AC200V

3 : AC110V

4 : AC220V

5 : DC 24V

③ Options

Blank : Standard

W : With pressure compensating valve *1

④ Special symbols

Blank : Standard

N : NPT port *2

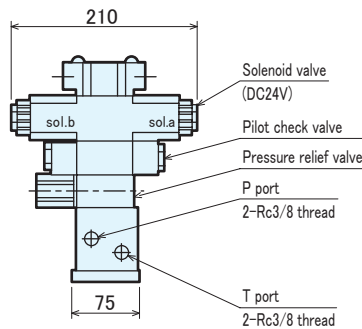
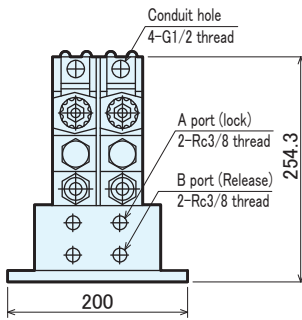
*1. Standard valve unit has a pressure compensating valve only at lock circuit side.

When this symbol is designated, another valve is added to release circuit side.

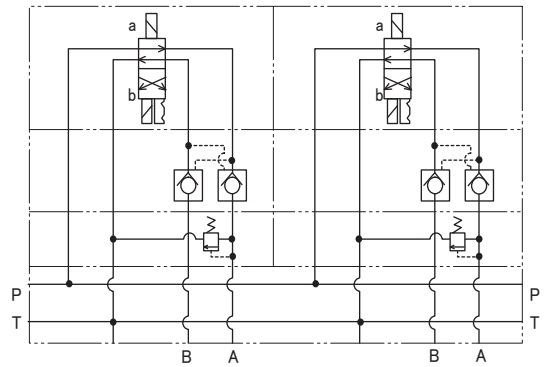
*2. When "N" is selected from the special symbols, an adapter for NPT connection is added. And dimensions in documents such as specifications are indicated in inch.

OUTLINE

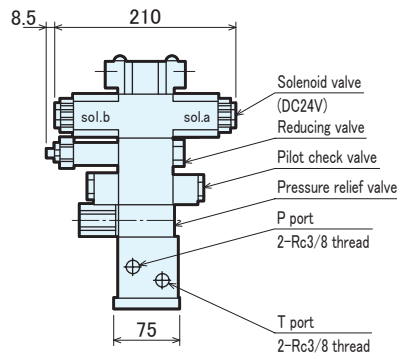
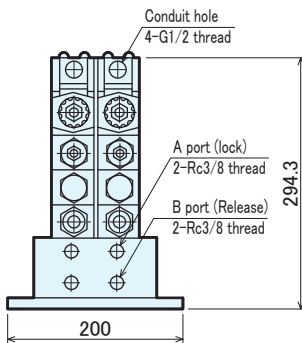
MV0011-5 (Hydraulic pressure at 13.7MPa)



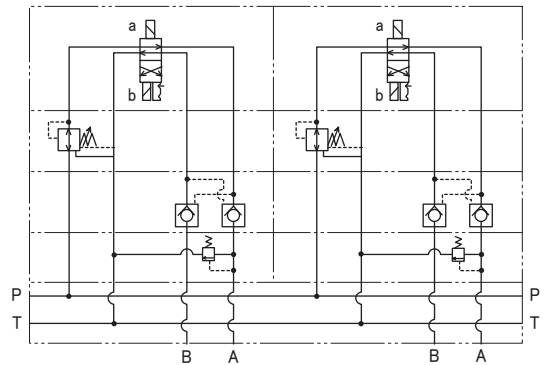
CIRCUIT DIAGRAM



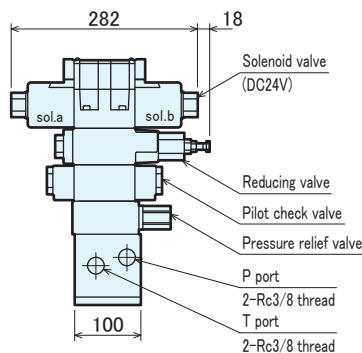
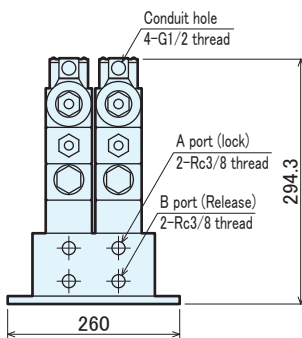
MV0021-5 (Hydraulic pressure at 13.7 ~ 20.6MPa)



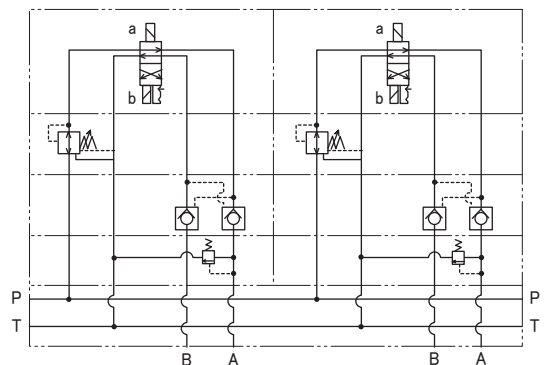
CIRCUIT DIAGRAM



MV0061-5 (Hydraulic pressure at 13.7 ~ 20.6MPa)



CIRCUIT DIAGRAM



MOLD CHANGER

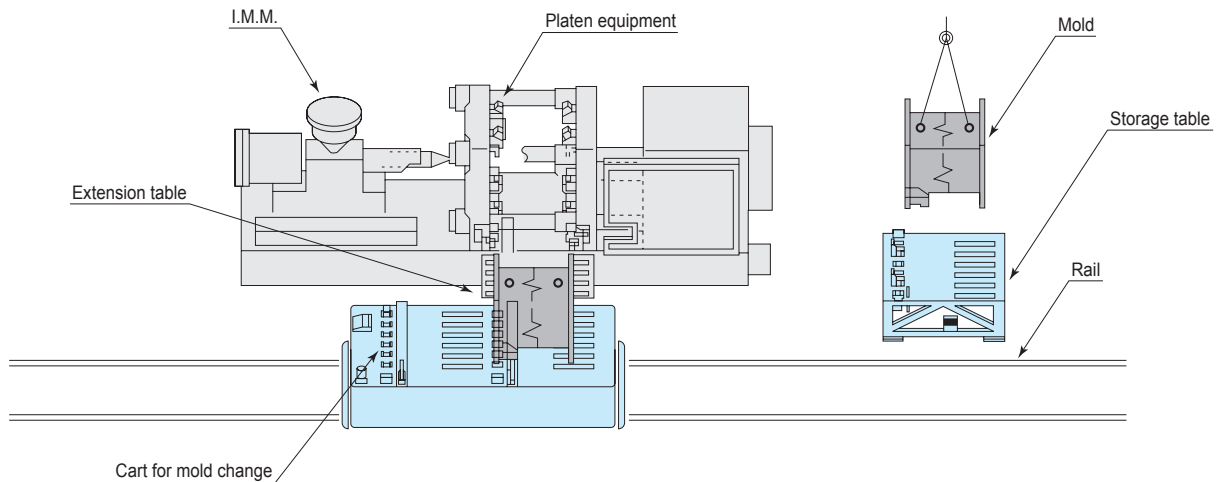
ADVANTAGES

INCREASED
PRODUCTIVITY

SAFE MOLD
HANDLING

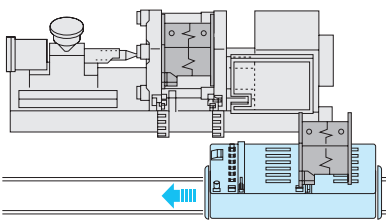
ENABLES DIVERSIFIED AND
SMALL-LOT PRODUCTION

BASIC STRUCTURE

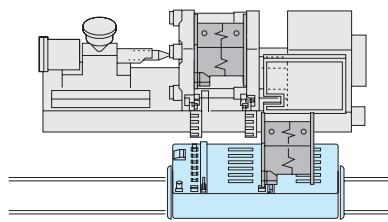


SEQUENCE

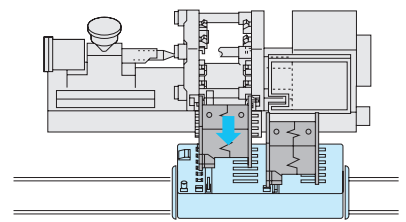
① CART TRAVELS



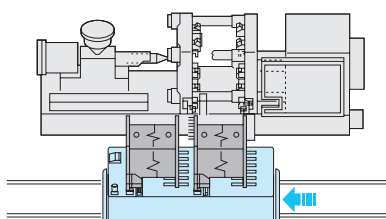
② CART IN POSITION



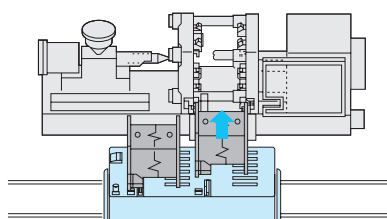
③ MOLD UNLOADING



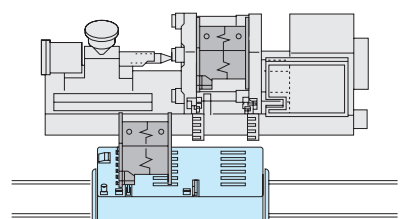
④ CART SHIFTS ONE PITCH



⑤ MOLD LOADING

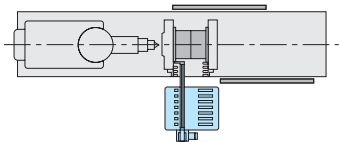


⑥ OPERATION FINISHED

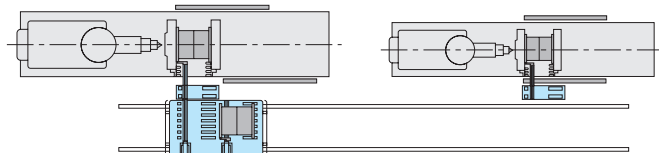


APPLICATIONS

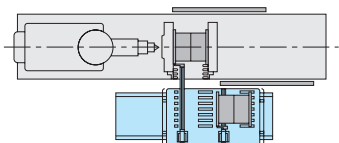
TABLE FOR MOLD CHANGE



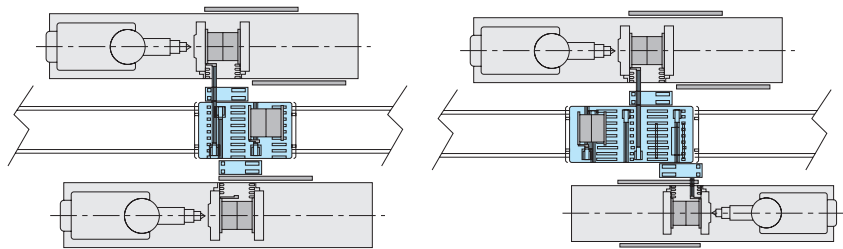
SINGLE SIDE CART FOR MOLD CHANGE



SINGLE SIDE CART FOR MOLD CHANGE (ONE PITCH)



DOUBLE SIDE CART FOR MOLD CHANGE



I.M.M.s Face same direction

I.M.M.s Face opposite directions

REQUISITE CONDITIONS OF MOLDS

① Mold dimensions must be standardized

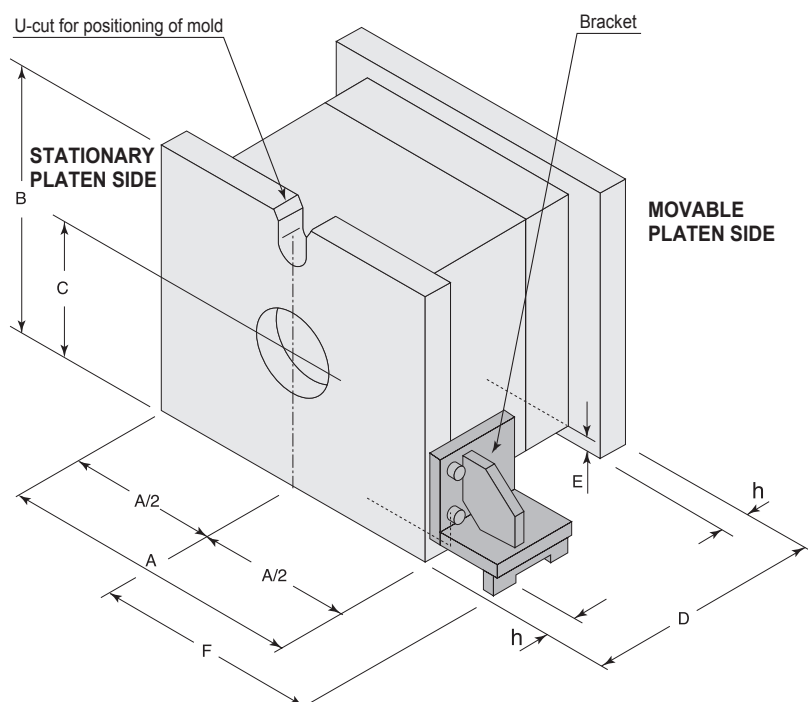
B: height of molds

h: Clamping height

F: Distance between the center and bracket ledge

② U-cut for positioning of mold stationary platen side

③ Bracket on mold

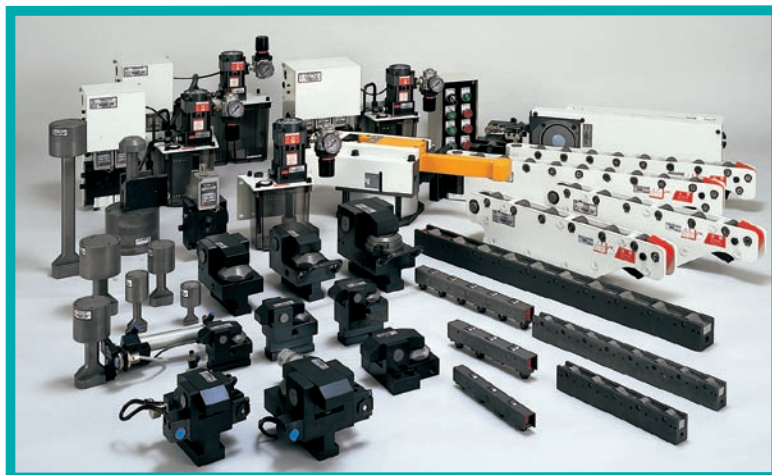


Product line

We manufacture and sell, in addition to QMCS, a wide range of systems and products based on non-leak valves.
Contact our sales staff for further details.

QDCS

QUICK DIE CHANGE SYSTEMS



KWCS

KOSMEK WORK CLAMPING SYSTEMS

Components for hydraulic jig
of various machine tools.

L (7MPa) Series
T (35MPa) Series



KDCS

KOSMEK DIECAST CLAMPING SYSTEMS



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TEL.48-71-303-5400 FAX.48-71-303-5401

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