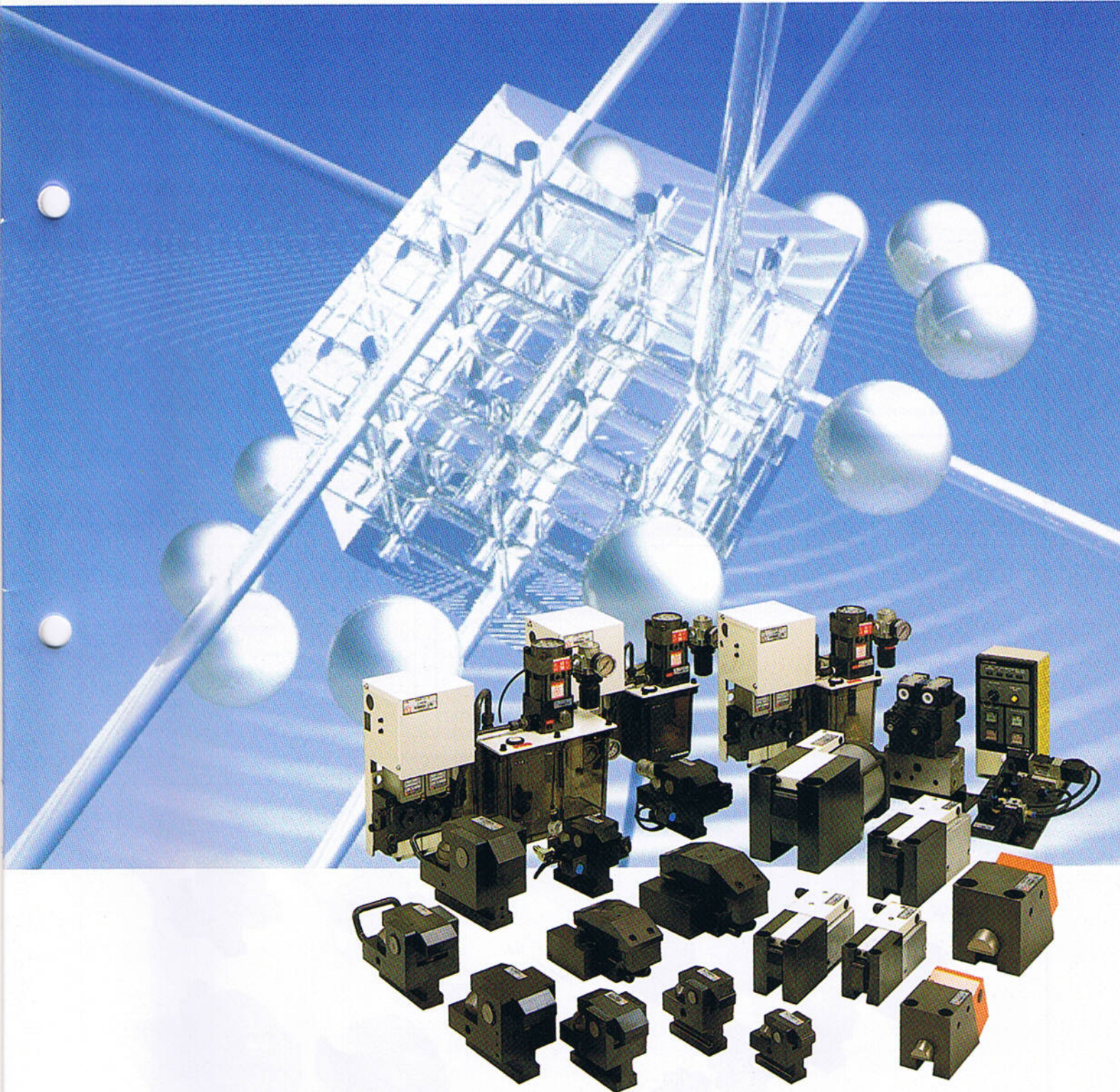


QUICK MOLD CHANGE SYSTEMS

# QMCS

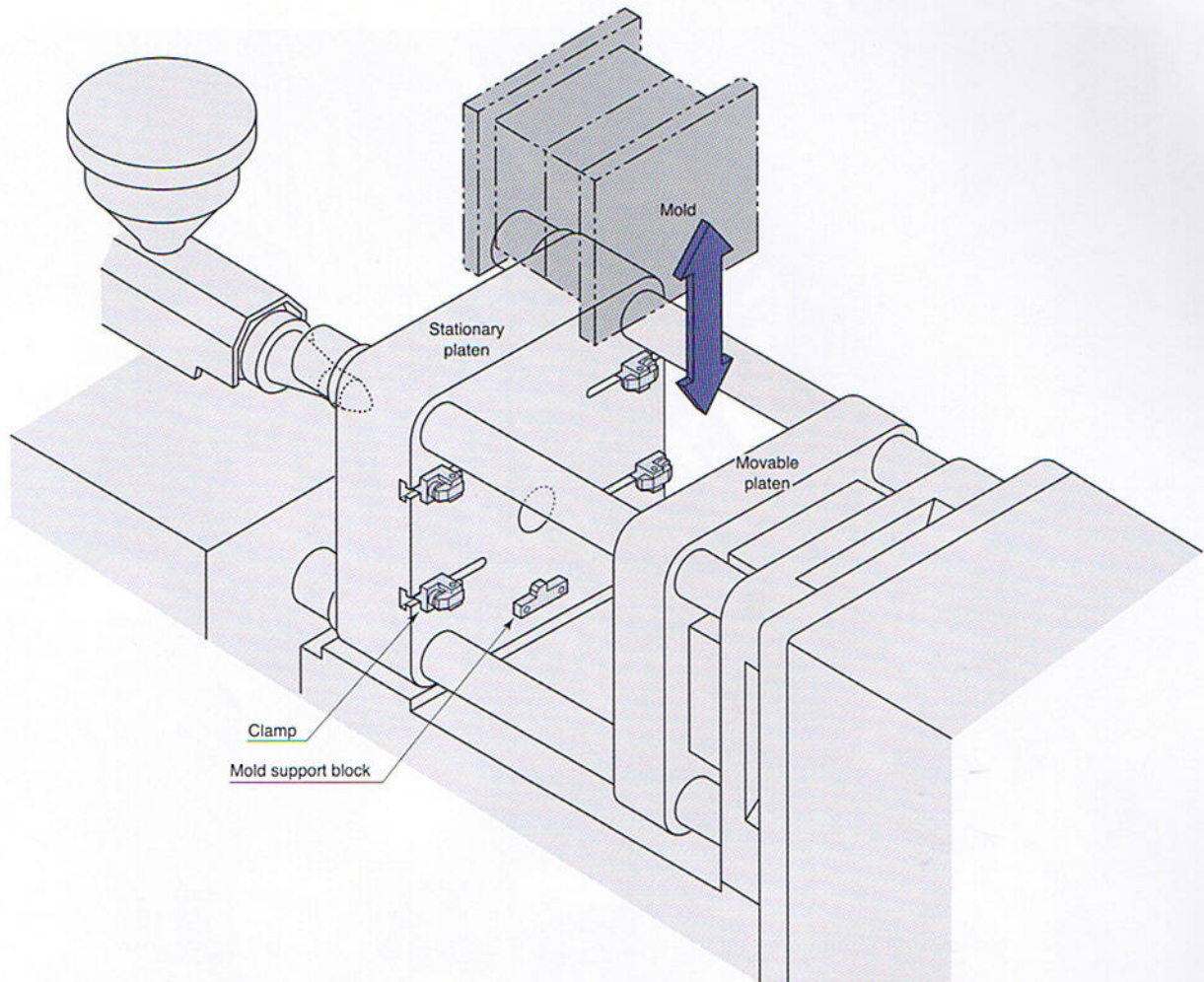


**KOSMEK®**

# 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 (GW) or sliding type (GM) according to the conditions of both the mold and I. M. M.

## Vertical loading

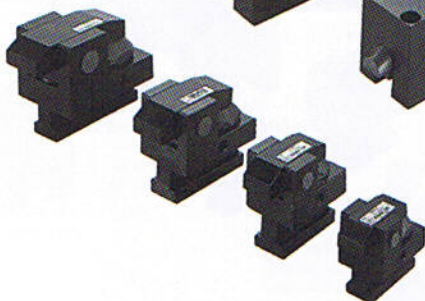


## KOSMEK QMCS EQUIPMENT

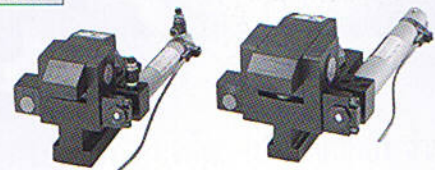
GW CLAMP



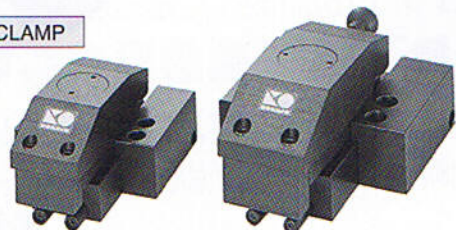
GB CLAMP



GE CLAMP

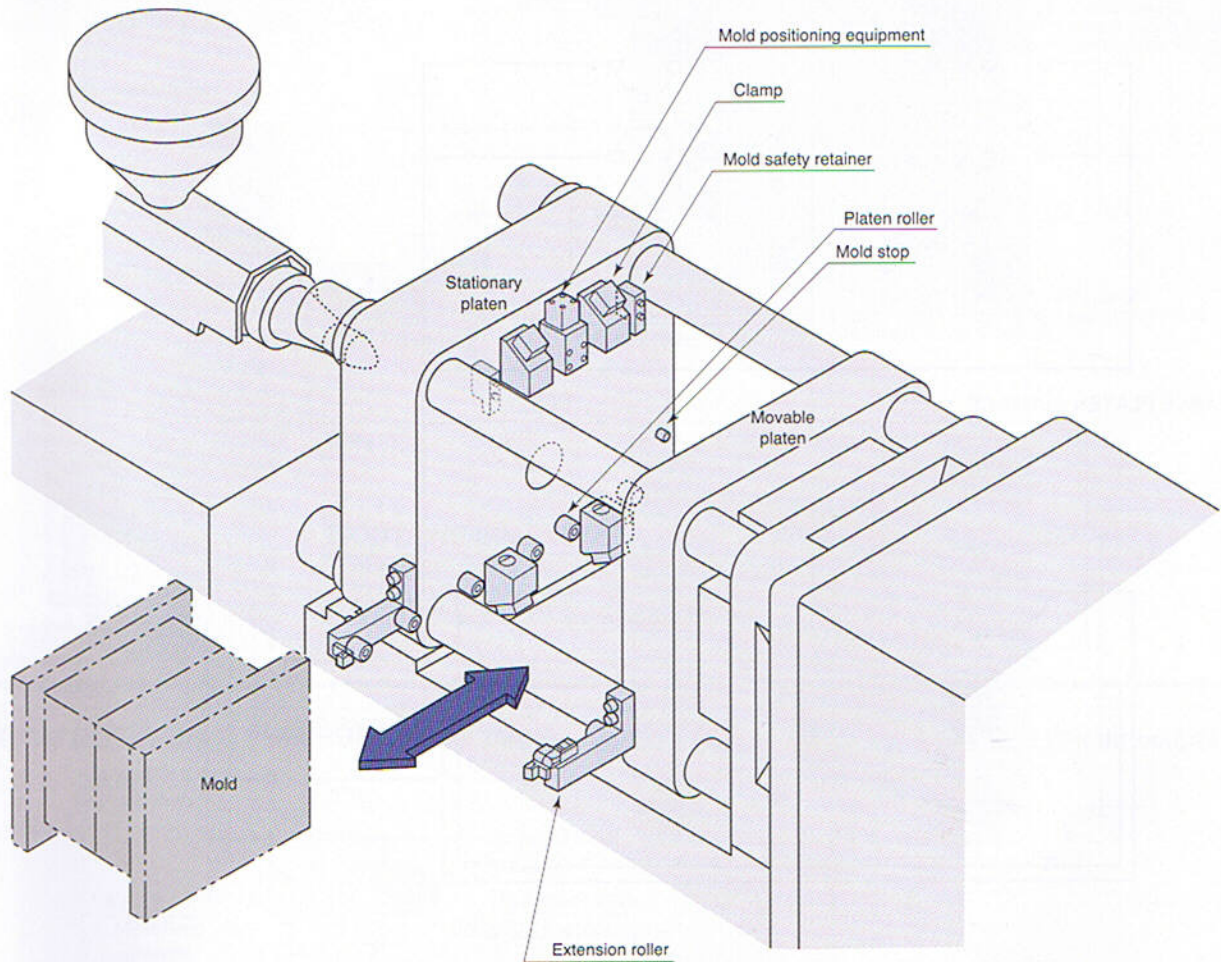


GM CLAMP



"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.

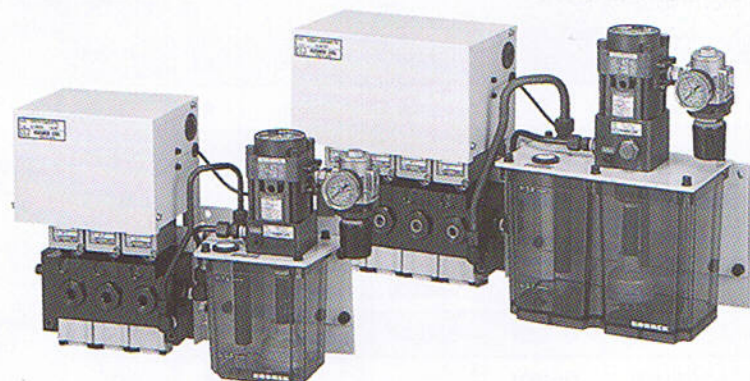
## Horizontal loading



OPERATION PANEL



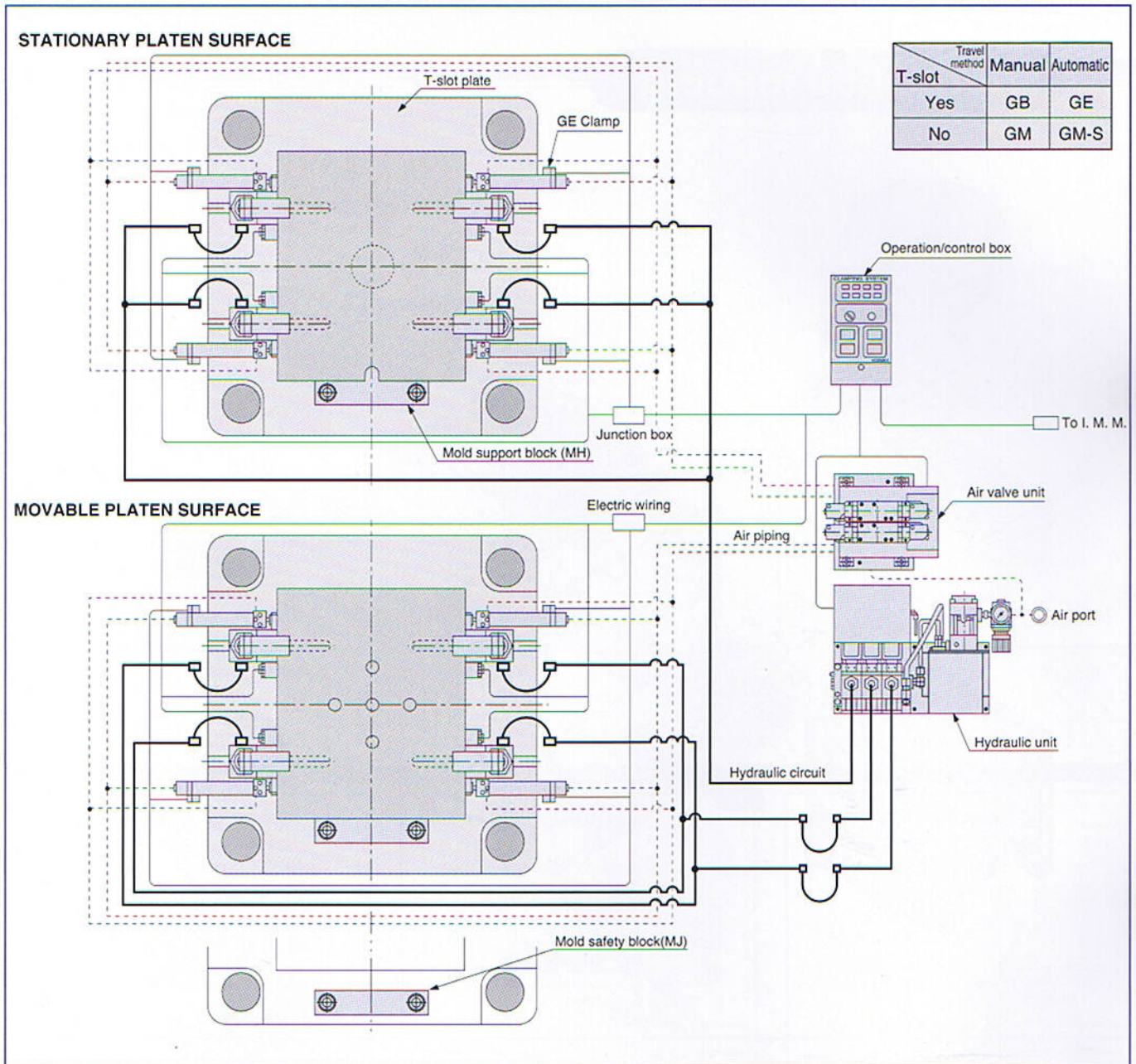
HYDRAULIC UNIT





## VERTICAL LOADING

<FOR VARIABLE WIDTH MOLDS>



T-slot	Travel method	
	Manual	Automatic
Yes	GB	GE
No	GM	GM-S

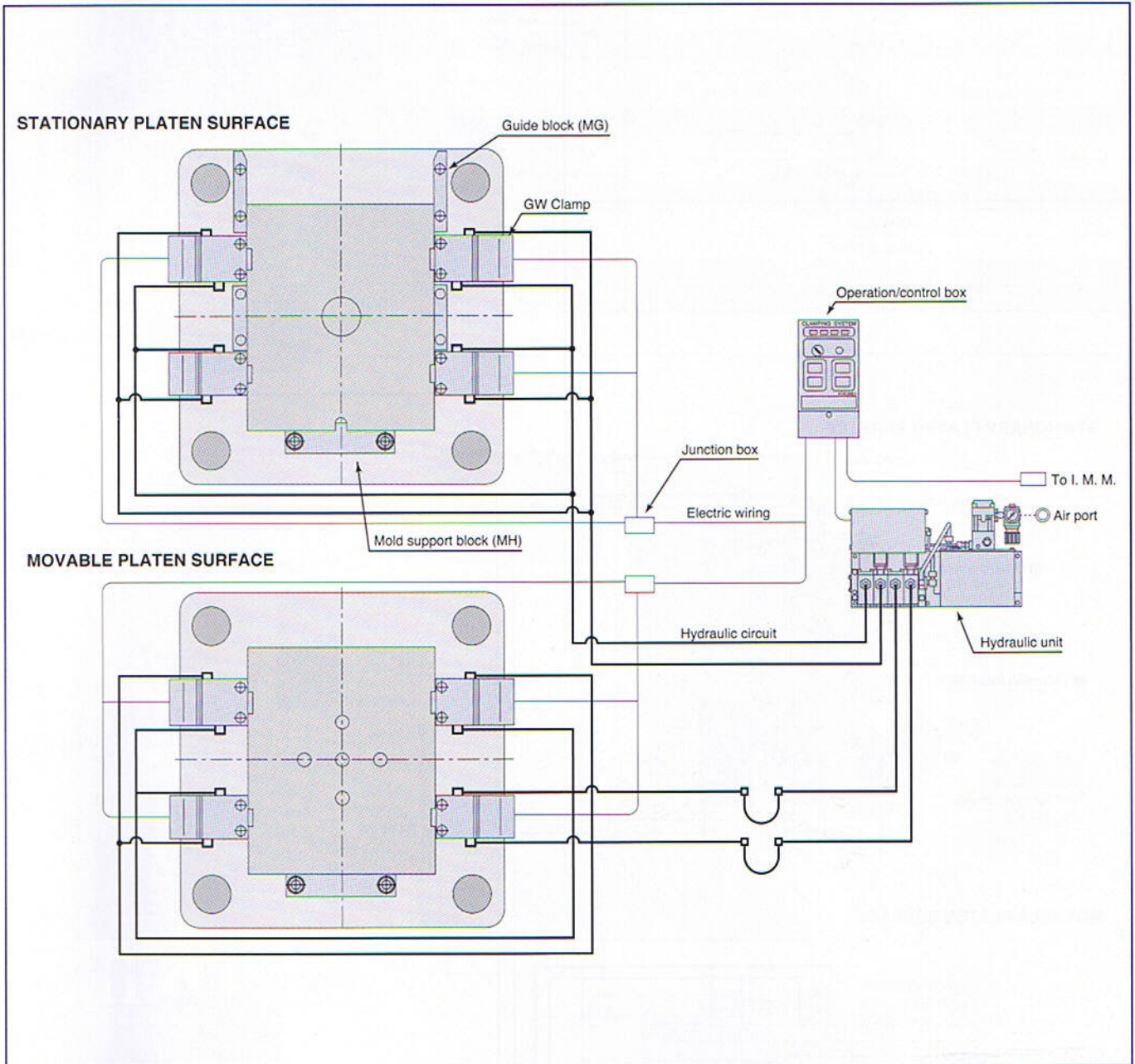
### STANDARD SYSTEM

I. M. M. Capacity (kN)	Clamp					Force corresponding to mold opening (kN)	Hydraulic power unit	Mold support block	Mold safety block	Air valve unit (GE and GM-S)
	GB	GE	GM	GM-S	Qty.					
- 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	CM20N2-URURUR-50	MH06	MJ0040	
- 13000	GB2500	GE2501	—	—	8	980		MH08	MJ0050	



## VERTICAL LOADING

<FOR UNIFORM WIDTH MOLDS>



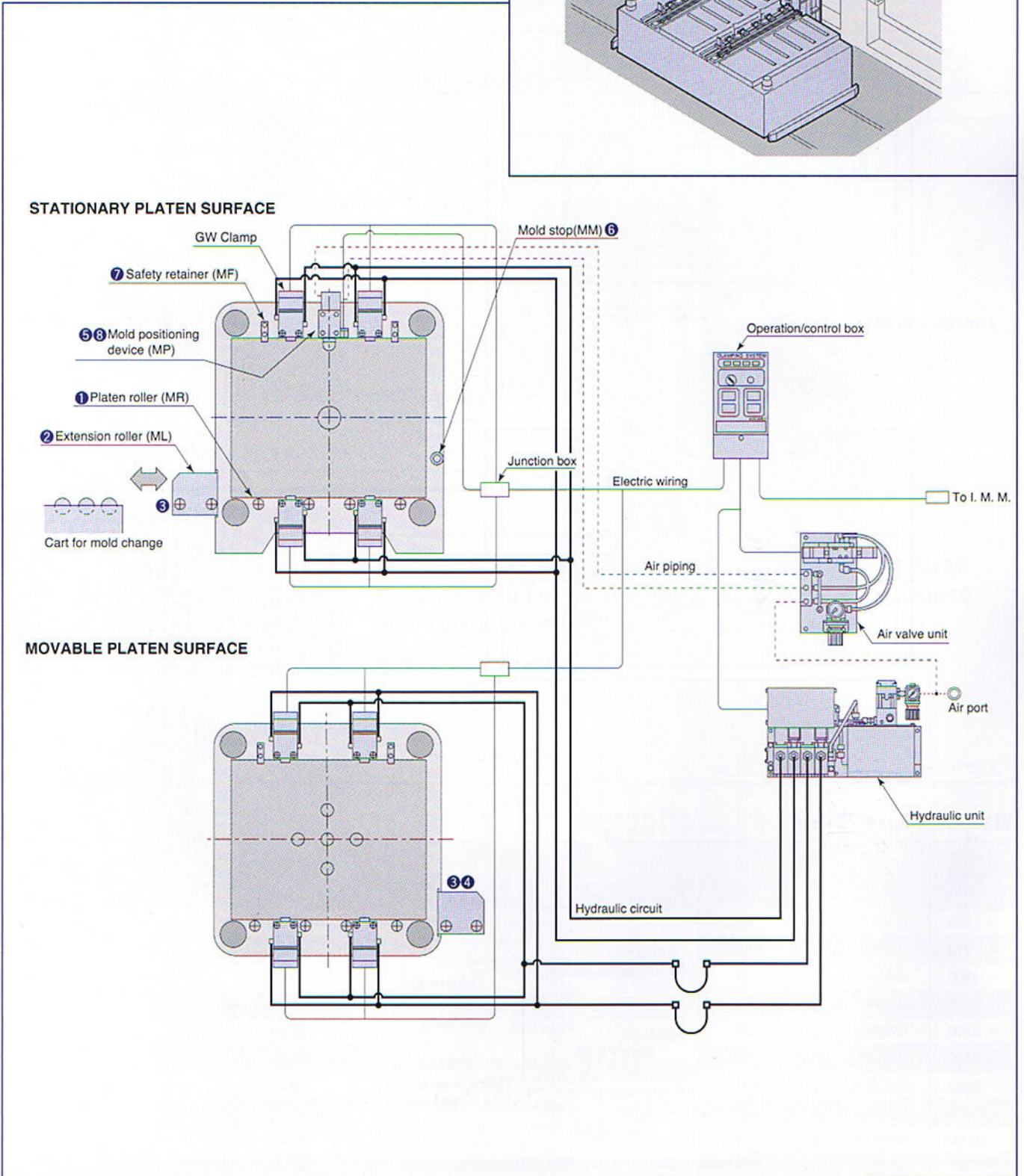
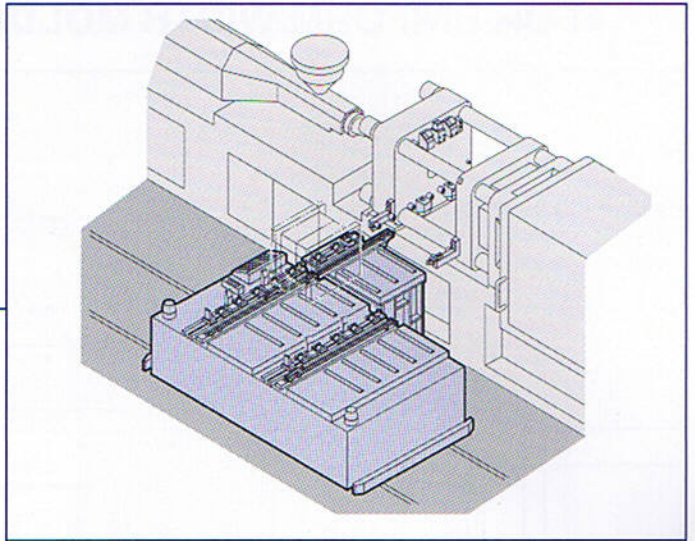
### STANDARD SYSTEM

I. M. M. Capacity (kN)	Clamp			Hydraulic power unit		Mold support block
	Model	Qty.	Force corresponding to mold opening(kN)	KOSMEK's hydraulic unit for QMCS	Hydraulic power from I. M. M.	
- 500	GW0101	8	39.2	CP20L1-PPRPPR-50	MV0011-5 (Hydraulic pressure 13.7MPa)	MH03
- 750	GW0161	8	62.7			MH03
- 1500	GW0251	8	98			MH04
- 2500	GW0401	8	157	CR5L31-PPRPPR-50	MV0021-5 (Hydraulic pressure 13.7 - 20.6MPa)	MH04
- 3500	GW0631	8	247			MH04
- 5500	GW1001	8	392	CM20L2-PPRPPR-50		MH06
- 8500	GW1601	8	627			MH06
- 13000	GW2501	8	980			MH08
- 20000	GW4001	8	1568			MH08
- 30000	GW5001	8	1960			MH10

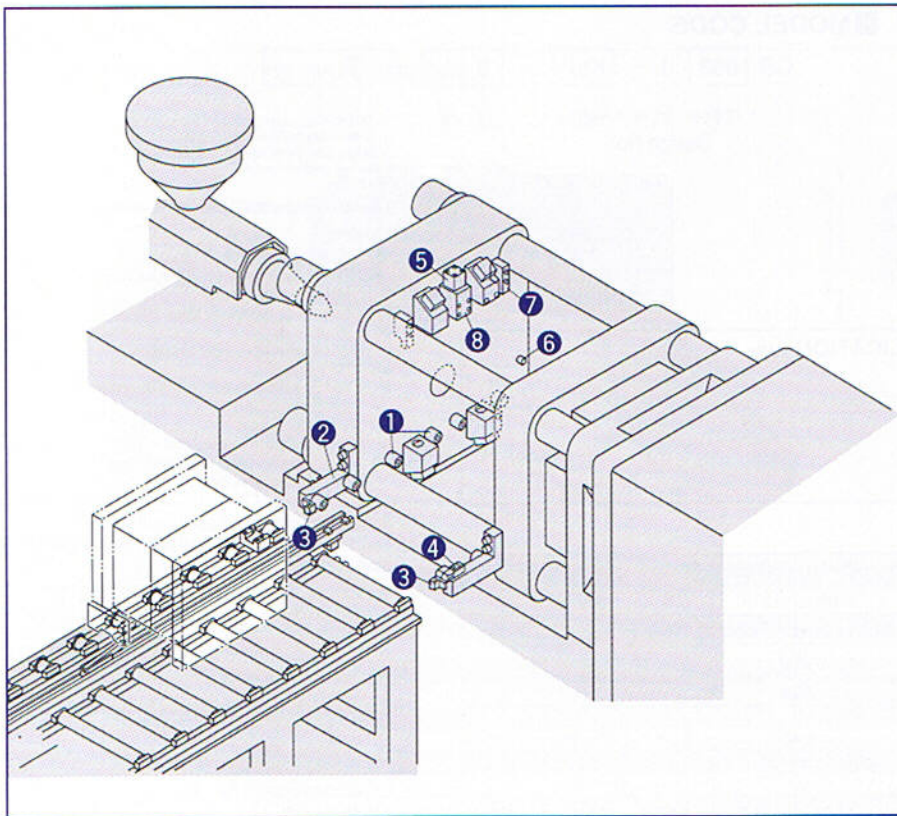


# HORIZONTAL LOADING

<MOLD SIZE MUST BE UNIFORM>



## 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 dropping 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

## STANDARD SYSTEM

I.M.M. Capacity (kN)	Clamp			Hydraulic power unit						
	Model	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	GW0101	8	39.2	CP20L1-PPRPPR-50	MV0011-5 (Hydraulic pressure 13.7MPa)	MR0270	ML02	MS4011-5	MS2030-5 (Limit switch type)	
- 750	GW0161	8	62.7			MR0270	ML02	MS4011-5		
- 1500	GW0251	8	98			MR0400	ML04	MS4011-5		
- 2500	GW0401	8	157			MR0400	ML04	MS4011-5		
- 3500	GW0631	8	247	CR5L31-PPRPPR-50	MV0021-5 (Hydraulic pressure 13.7 - 20.6MPa)	MR0400	ML04	MS4011-5		
- 5500	GW1001	8	392			MR0600	ML06	MS4021-5		
- 8500	GW1601	8	627	CM20L2-PPRPPR-50		MR0800	ML08	MS4021-5		MS2041-5 (Proximity switch type)
- 13000	GW2501	8	980			MR1000	ML10	MS4031-5		
- 20000	GW4001	8	1568			MR1600	ML16	MS4041-5		
- 30000	GW5001	8	1960			MR1600	ML16	MS4041-5		

Platen components ※1.2			Standard mold weight (t)
⑤⑧ 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

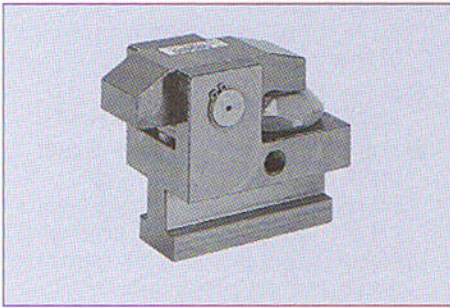
Note  
 ※1 Please refer to the above drawing for detailed specifications of platen components  
 ※2 Application of platen components may differ, due to I. M. M. or mold conditions.

■ Suitable oil should be used for KOSMEK hydraulic products to maximize performance and to assure trouble free operation for a long time.

Manufacturer	ISO viscosity grade: ISO-VG-32	
	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

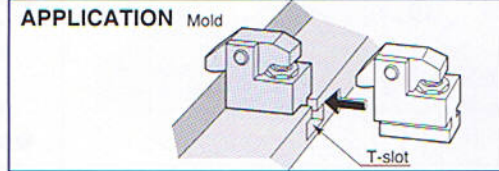
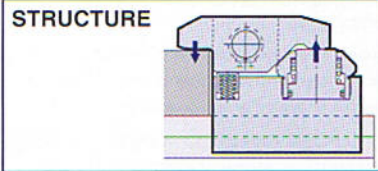
GB 063 0 - KLP - 5 L - T\*\*\*

①                      ②                      ③                      ④

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.

- 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



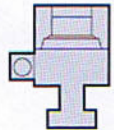
## SPECIFICATIONS

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
Working pressure (MPa)	24.5 (for rated clamp force)							
Max working pressure (MPa)	27.0							
Max rated 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 capacity at full stroke (cm <sup>3</sup> )	2.5	4.8	7	11.9	21.6	34.7	55.2	85.9
Working temperature	0 - 70°C (V type is available for 70 - 120°C)							
Frequency of use	20 times/day (please contact us for more frequent use.)							
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		

- \*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.

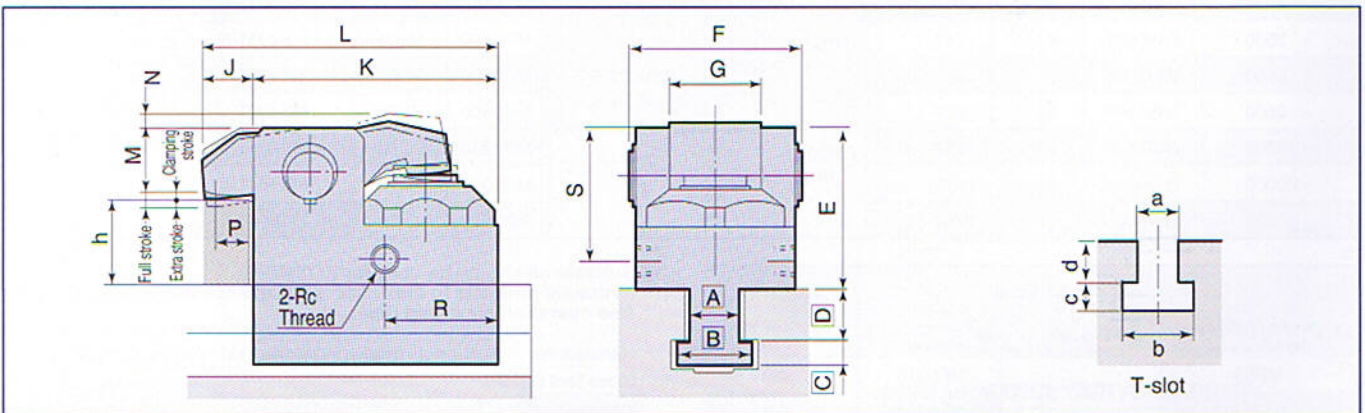
- \*1 Always specify U cut dimension of the mold.  
 \*2 The following code is required only when "P" is selected from Options.

- 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



- e.g. GB0630-DP-1R-T111  
 · Clamp 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 C17.2 D=24.3

## OUTLINE

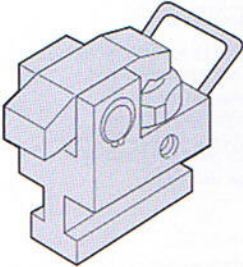
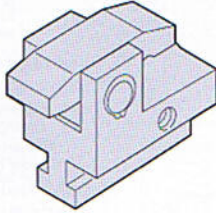
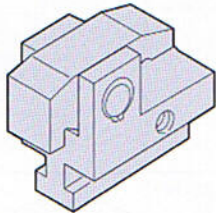
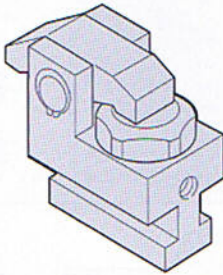
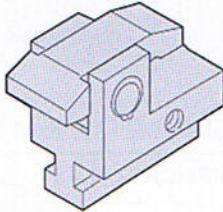
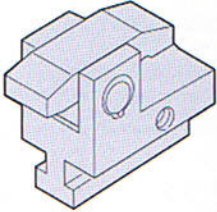
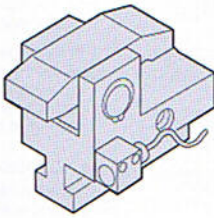
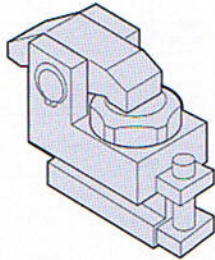
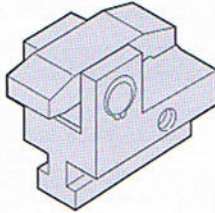
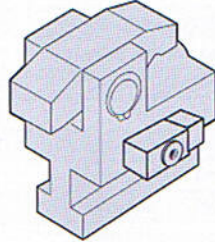


## OUTLINE DIMENSIONS

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

- \*1. Clamping strokes and extra strokes shown are standard; Custom strokes are available upon request.  
 \*2. Dimensions 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).



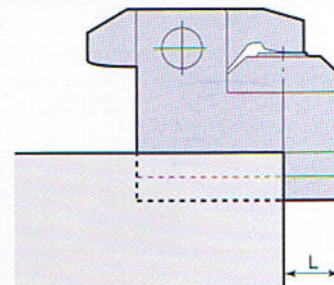
D	E	J	K	L
With handle (0630 and larger)	Reinforced body  For undersize of T-slot or large tolerance T-slot.	Low lever (less than min. h)	Rear port	Wide lever
				
N	P	T	V	W
NPT port	With proximity switch for die detection(0400 and larger)	T-slot lock	High temperature (70 - 120°C)	With check valve (1000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

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	○	○	○	○	○	○	○	○
T-slot lock	T	○	○	○	○	○	○	○	○
High temperature	V	○	○	○	○	○	○	○	○
With check valve	W	○	○	○	○	○	○	○	○

**<Precautions for mounting and operation>**

1. Working pressure should be 24.5 MPa.
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).

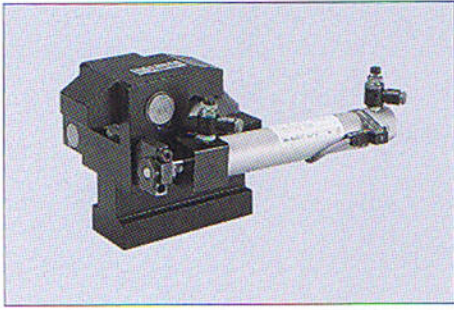
**● GB CLAMP: ALLOWABLE OVERHANG**



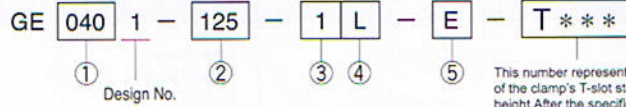
Model	L(mm)
GB0100	17.5
GB0160	21.0
GB0250	25.0
GB0400	32.0
GB0630	39.0
GB1000	45.0
GB1600	57.0
GB2500	69.5

# MODEL GE CLAMP

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



## MODEL CODE



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.

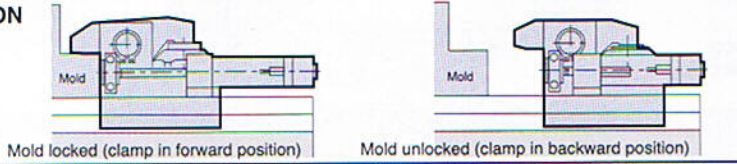
- ① Clamping capacity (See specifications)
- ② Slide stroke (See outline dimension)\*2  
075 : Clamp travel distance 75 mm  
180 : Clamp travel distance 180 mm  
\*When determining the travel distance, extra distance must be considered.
- ③ Switch load voltage (current)  
1 : AC100V  
2 : AC200V  
5 : DC24V(5 - 40 mA)
- ④ Air cylinder mounting position  
L : As illustrated  
R : Reverse of illustration
- ⑤ Options

- E: Reinforced body material
- J: Low type lever (when lower than minimum height)
- K: Rear side piping
- L: Wide lever (for U cut mold)\*1
- N: Piping port with NPT\*2
- Q: Double cylinder
- S: Special spacer
- V: For high temperature (0 - 120°C)
- Y: For diecast machine

\*1 Always specify U cut dimension of the mold.  
\*2 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.

- e.g. GE0400-125-1L-L-T111
- Clamp capacity 39.2 kN
  - Slide distance 125 mm
  - AC100V
  - Switch position as illustrated
  - Wide lever type
  - T111 ⇒ h=40 A=26.5 B=44 C17.2 D=24.3

## APPLICATION

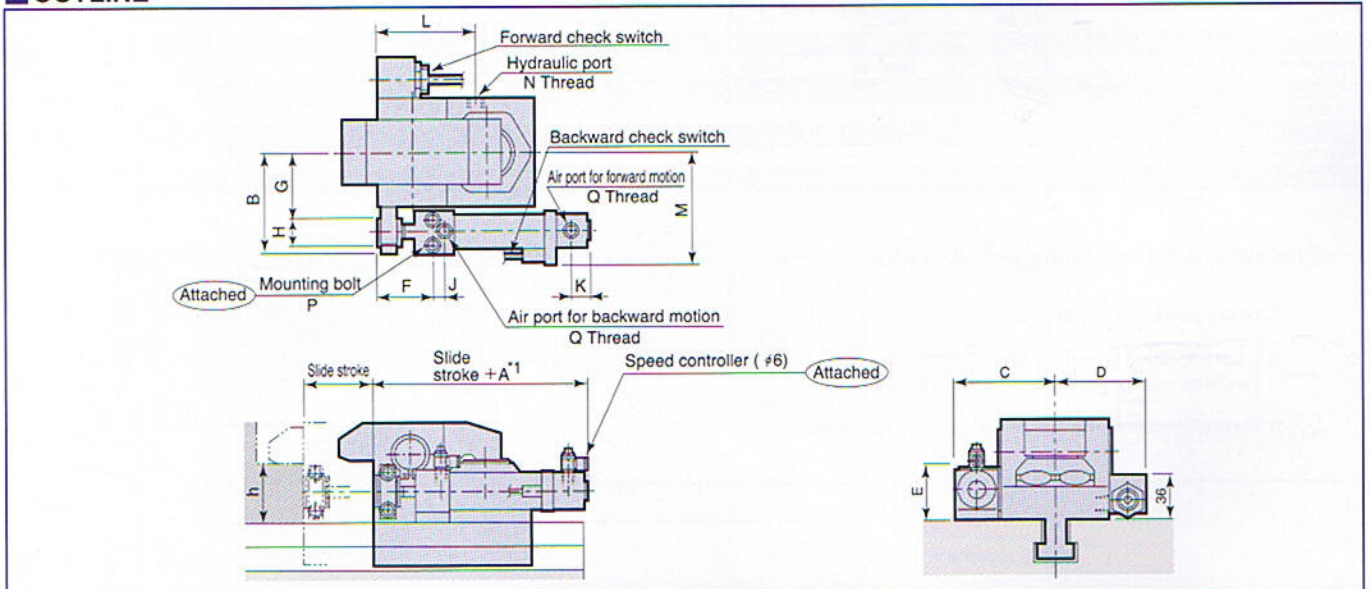


## SPECIFICATIONS

Model	GE0251	GE0401	GE0631	GE1001	GE1601	GE2501
Clamping capacity (kN)	24.5	39.2	61.7	98	157	245
Working pressure (MPa)	24.5 (for rated clamp force)					
Max working pressure (MPa)	27.0					
Max rated 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					
Working temperature	0 - 70°C (V type is available for 70°C - 120°C)					
Frequency of use	20times/day (please contact us for more frequent use.)					
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 0.39 MPa may result in malfunction.

## OUTLINE



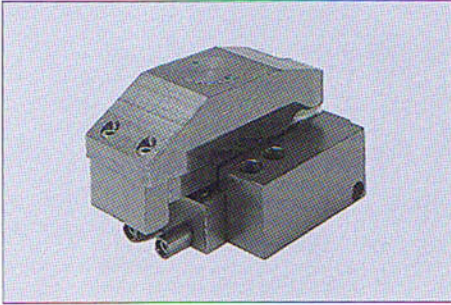
## OUTLINE DIMENSIONS

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 Depth 10	Rc1/8	φ 6
GE0401	GB0400	105	65	68.5	64	37	39	44	18	9	12	93	80.5		M5 × 0.8 × 40	M5 × 0.8 Depth 10		
GE0631	GB0630	112	81.5	84.5	74	48	45	55	22	10	12	81	96	Rc1/4	M6 × 50	M6 × Depth 12	Rc1/8	φ 6
GE1001	GB1000	118	92.5	94.5	78.5	54	46	61	24	13	12	91	106.5		M8 × 55	M8 × Depth 16		
GE1601	GB1600	136	112	116.5	88.5	65	56	74	32	14	12	126	128	Rc1/4	M10 × 70	M10 × Depth 20	Rc1/4	φ 10
GE2501	GB2500	157	137	142	102	78	64	89	41	16	14	170.5	153		M12 × 85	M12 × Depth 24		

Note) Refer to GB clamp (p7) for clamp details.

# MODEL GM CLAMP

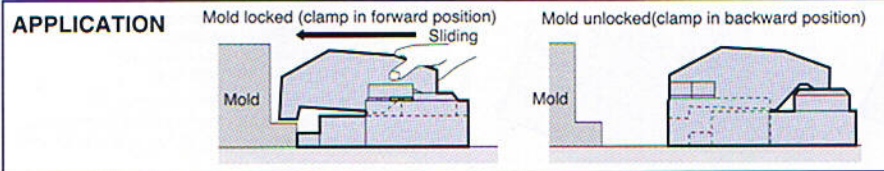
GM clamp is suitable for I. M. M. without T-slot.  
It can be used with molds of various widths and allows for the variation of "h" dimension up to 5mm.



## MODEL CODE



- ① Clamp 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 : DC 24V(5 - 40mA)
- ⑤ Switch mounting location  
L : As shown in the right drawing  
R : Opposite to the above



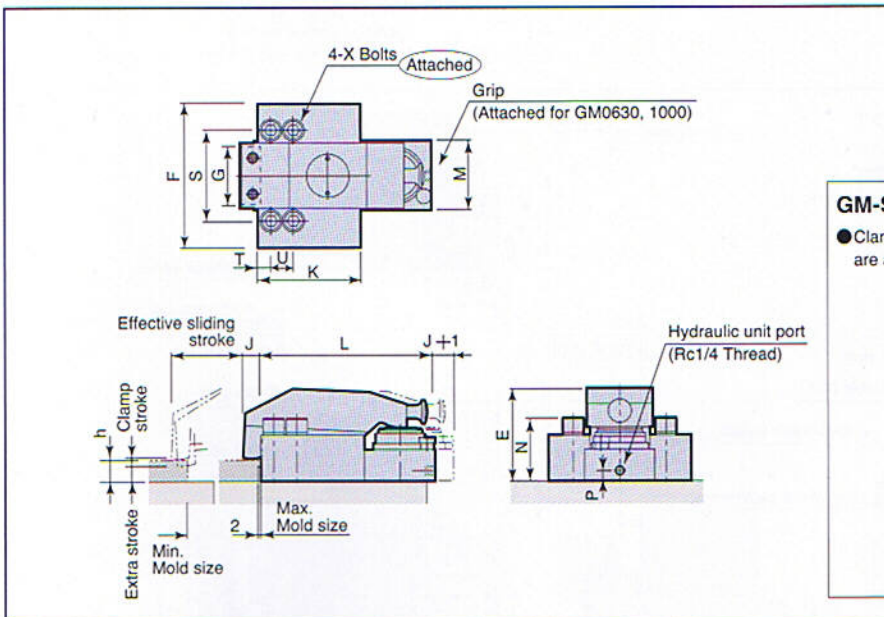
## SPECIFICATIONS

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 <sup>3</sup> )	9	18	26	41
Working temperature	70°C and below			
Frequency of use	20 time/day (Please contact us if it will be used more frequently.)			

\*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.

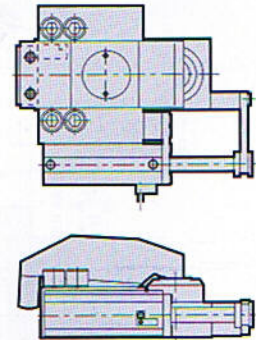
e.g. GM0400-30  
· Clamp capacity 39.2 kN  
· Mold thickness 30 mm

## OUTLINE



### GM-S CLAMP

● Clamps with slider are also available.



## OUTLINE DIMENSIONS

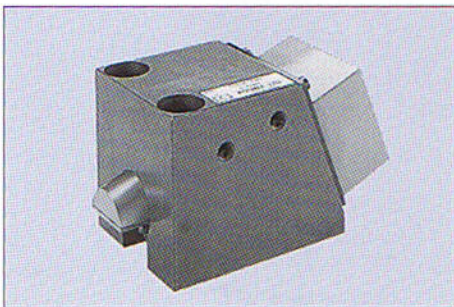
Model	E	F	G	J	K	L	M	N	P	Q	S	T	U	X	Min.R
GM0250	89	130	54	21	95	145	65	59.5	12	—	85	12	20	M12	95
GM0400	113	150	62	24	115	188	75	74.5	12	—	100	15	25	M16	115
GM0630	130	200	80	24	145	245	96	89.5	15	17.5	125	18	32	M20	145
GM1000	158.5	250	96	29	190	288	114	107	17	17.5	150	23	40	M24	190

## 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 GW CLAMP

GW 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.

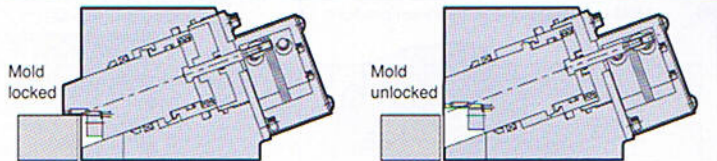


## MODEL CODE

GW 040 1 - 30 M0 R - K V

①     ②     ③     ④     ⑤     ⑥  
 Design No.

### POSITION OF CLAMP



## SPECIFICATIONS

Model	GW0101	GW0161	GW0251	GW0401	GW0631	GW1001	GW1601	GW2501	GW4001	GW5001
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 hydraulic pressure) (kN)	3.9	6.3	9.8	15.7	24.7	39.2	62.8	98.0	156.8	156.8
Extra stroke (mm)	1.0					1.5				
Cylinder capacity (cm <sup>3</sup> )	Locked	6.1	11	20	36	66	124	232	418	769
	Unlocked	2.4	4.3	8.0	14	25	49	104	180	354
Working temperature	max. 70°C									
Frequency of use	20 times/day (Please contact us if it will be used more frequently.)									

Note) 1. Tolerance of "h" (clamp height) should be less than  $\pm 0.5\text{mm}$

- ① Clamp capacity (See specifications)
- ② Clamped portion thickness\*1  
30 : Dimension "h" in the drawing 30 mm  
50 : Dimension "h" in the drawing 50 mm
- ③ Wiring system  
M0 : Metallic conduit specification\*2  
M4 : Metallic conduit specification with 4 m cable\*3  
C1 : Conduit with  $\phi 16$  mm hole  
C2 : Conduit with  $\phi 22$  mm 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)

\*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.

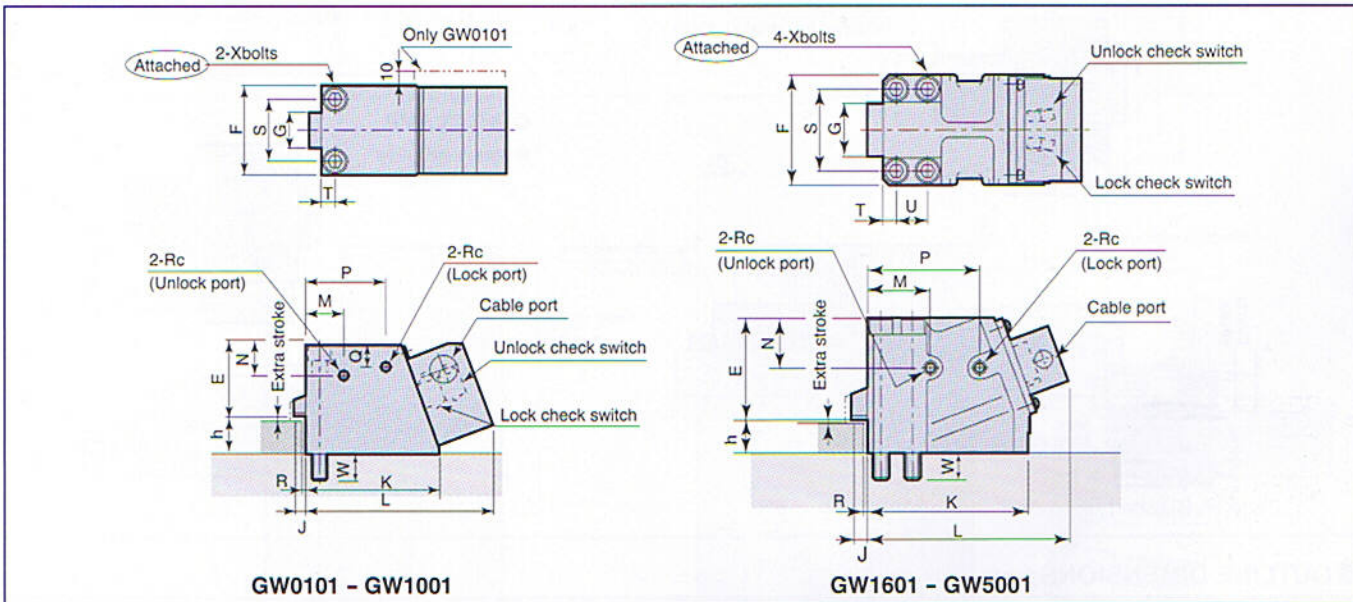
\*3 Cable end is composed of non-stranded wires covered by marker tube.

\*4 Both sides of hydraulic port usable

Example GW0401-30M4R

- Clamp capacity 39.2 kN
- Wiring connection direction on the left viewed from the back
- Clamped portion thickness 30 mm
- Metallic conduit specification with 4 m cable

## OUTLINE

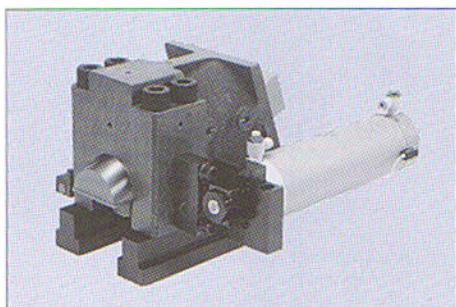


## OUTLINE DIMENSIONS

Model	E	F	G	J	K	L	M	N	P	Q	S	T	U	W	X	R	Rc	Standard h=0.5
GW0101	41	48	20	8	81	129	21.5	19.5	48.5	8.5	33	8	—	12	M8	1.5	1/8	20
GW0161	48	58	25	9	93	140	28	23	56.5	9.5	39	9.5	—	17	M10	2	—	30
GW0251	56	72	31.5	10	107	150	30.5	24	64	17	50	11	—	21	M12	3	—	35
GW0401	69	90	40	12	123	173	38	30	70.5	14	62	14	—	27	M16	3	—	40
GW0631	82	110	50	14	140	194	41	33	83	22	76	17	—	33	M20	5	—	40
GW1001	98	135	63	17	155	208	44	50	102	50	95	20	—	36	M24	5	—	40
GW1601	128	138	75	20	205	256	80	63	141.5	—	104	17	40	33	M20	5	—	40
GW2501	155	170	95	24	245	302	94	80	172	—	130	20	50	40	M24	5	—	40
GW4001	195	215	118	28	305	355	119	90	208	—	162	27	60	50	M30	5	—	40
GW5001	195	215	118	28	305	355	119	90	208	—	162	27	60	50	M33	5	3/8	50

# MODEL GL CLAMP

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



## MODEL CODE

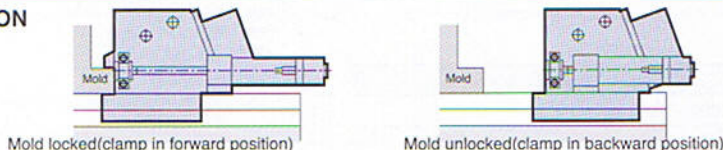
GL 160 2 - 40 M0 - 200 - 5 K L - V - T002

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.

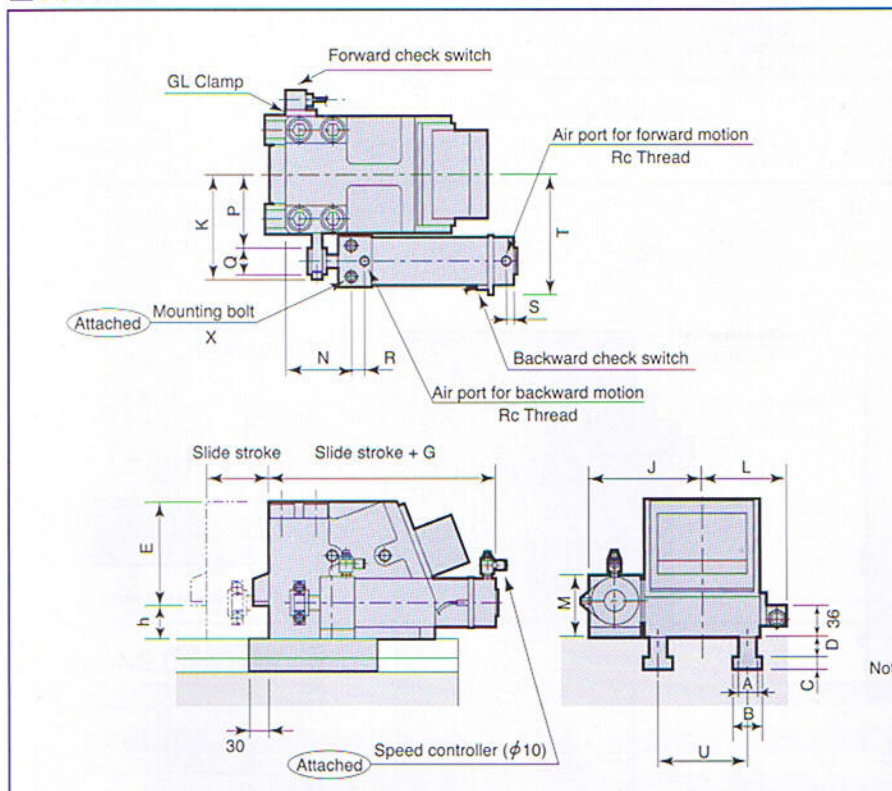
## APPLICATION



## SPECIFICATIONS

Model	GL1602	GL2502	GL4002	GL5002
Clamping capacity (kN)	157	245	392	490
Clamping force (at normal 13.7MPa) (kN)	157	245	392	392
Slide stroke (mm)	50 - 300			
Driving air pressure (MPa)	0.39 - 0.49			
Minimum T-slot width (a)	28	32	42	42
Working temperature	max.70°C			
Frequency of use	20 times/day (Please contact us if it will be used more frequently.)			

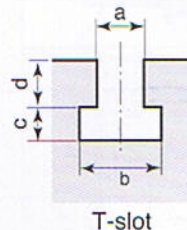
## OUTLINE



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

- \*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.

Example GL1602-40M0-200-5L  
 · Clamp capacity 157 kN  
 · Slide distance 200 mm  
 · For DC24V  
 · Cylinder mounting location as shown in outline drawing  
 · Metallic conduit specification without cable  
 · T002⇒A=41 B=65 C=30 D=42.5



- 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  $\pm 0.2$ mm.

## OUTLINE DIMENSIONS

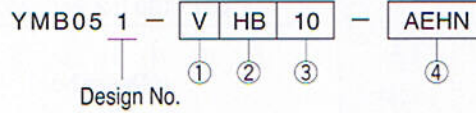
Model	E	G	J	K	L	M	N	P	Q	R	S	T	U	X		Rc
														Mounting bolt	Tapping	
GL1602	128	178	139	134	108	80.5	85	86	41	16	14	153	104	M12X85	M12 Depth24	1/4
GL2502	155	192	166.5	155.5	124	92.6	95	105	46	20	14	181	130	M16X100	M16 Depth32	
GL4002	195	228.5	273	222.5	146.5	149	100	133	120	37.5	19	260	162	M20X160	M20 Depyh40	
GL5002	195	228.5	273	222.5	146.5	149	100	133	120	37.5	19	260	162	M20X160	M20 Depth40	1/2

# OPERATION CONTROL PANEL

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



## MODEL CODE



- ① Mold exchange system  
V : Vertical loading system  
H : Horizontal loading system
- ② Clamp to be applied  
GB : GB clamp  
GE : GE/GM-S clamp  
GW : GW 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  
A : With AVR box  
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\*1

e.g. YMB051-VGB10-A  
 · For horizontal loading system  
 · For GB clamp  
 · With pressure switch in clamp circuit  
 · With AVR box

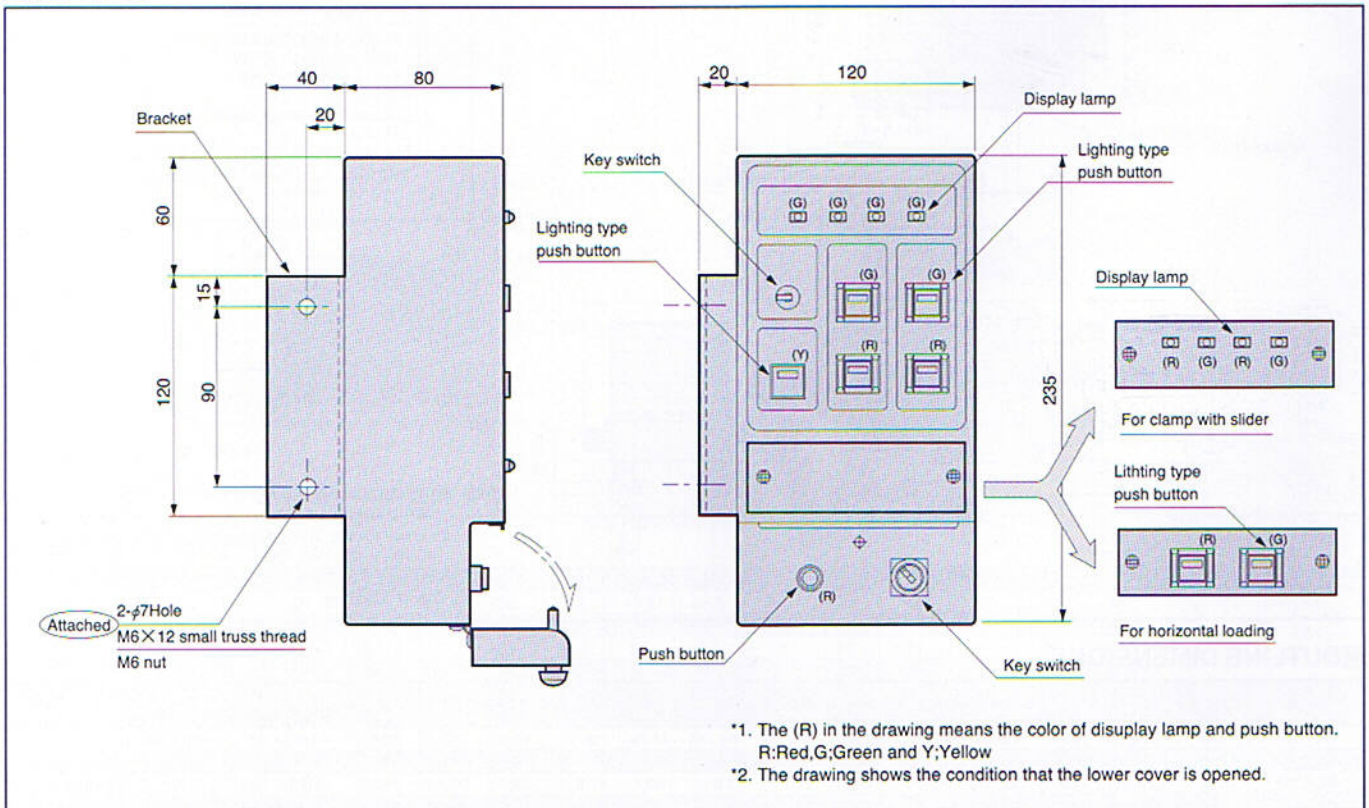
## MAIN SPECIFICATIONS

Model	YMB051-***10	YMB051-***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
YMB051-VGB10	V Vertical loading method	GB GB	10 KOSMEK's hydraulic unit for QMCS	A,E,H and N
YMB051-VGE10		GE GE and GM-S		A,H and N
YMB051-VGW10		GW GW		A and N
YMB051-VGW00	H Horizontal loading method	GW GW	00 Hydraulic power from I. M. M.	A and N
YMB051-HGW10		GW GW	10 KOSMEK's hydraulic unit for QMCS	A and N
YMB051-HGW00		GW GW	00 Hydraulic power from I. M. M.	A and N

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

## OUTLINE



**EXAMPLES OF OPERATION PROCEDURE [YMB051-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" lamp is 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  "Mold open OK" and "Mold close 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**

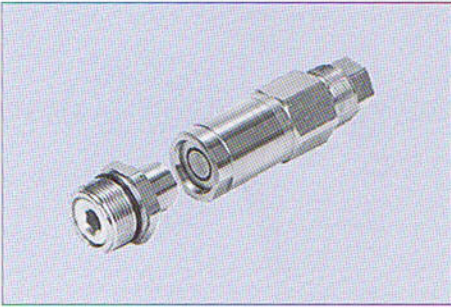
Molding machine output	Content
Mold change mode	A signal indicating machine is in low-speed mold set mode.
Pressurize (Mold touch)	A signal to ensure the mold is completely closed;required to release mold clamps to prevent mold dropping.
Nozzle backward limit	A signal to ensure the nozzle or injection 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	Content
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.

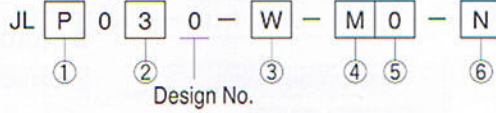
- Note)
1. Signals shall be sent and received at the dry contact.
  2. Use output contact for micro signal for the molding machine. (DC 24 V and 10 mA)
  3. Rating of output contact of the operation control panel is DC 24 V and 0.5 A.
  4. Be careful that each name may differ depending on the molding machine manufacturer.
  5. If you need input and output other than the above (special), contact us.

# MODEL JL AUTO JOINT

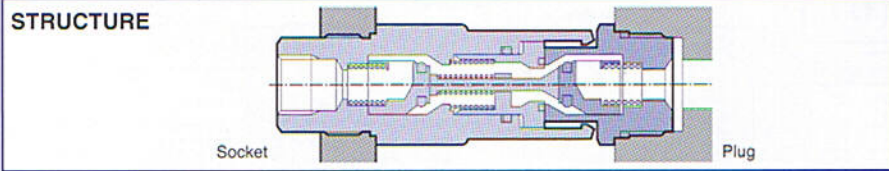
JL AUTO JOINT is for automatic fluid coupling, enabling the automation of mold change system.



## MODEL CODE



- 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



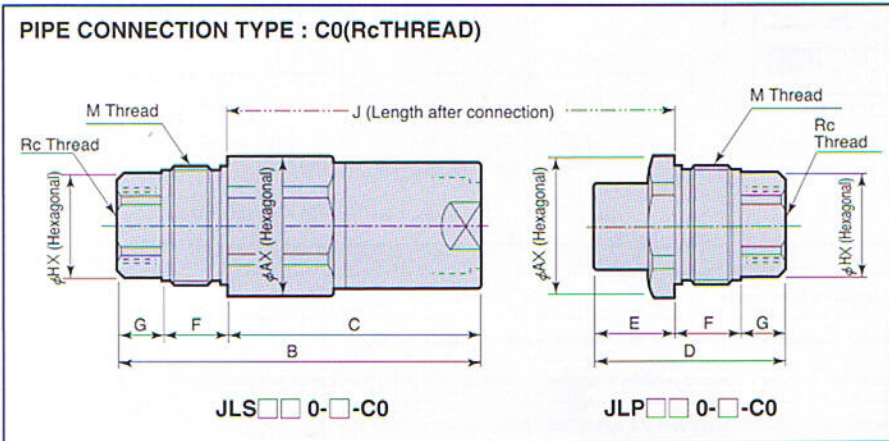
## SPECIFICATIONS

Model	Plug		JLP020	JLP030	JLP040	JLP060	JLP080	
	Socket		JLS020	JLS030	JLS040	JLS060	JLS080	
Size			02	03	04	06	08	
Minimum flow area	(mm <sup>2</sup> )		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.)							

\*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.

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.

## OUTLINE



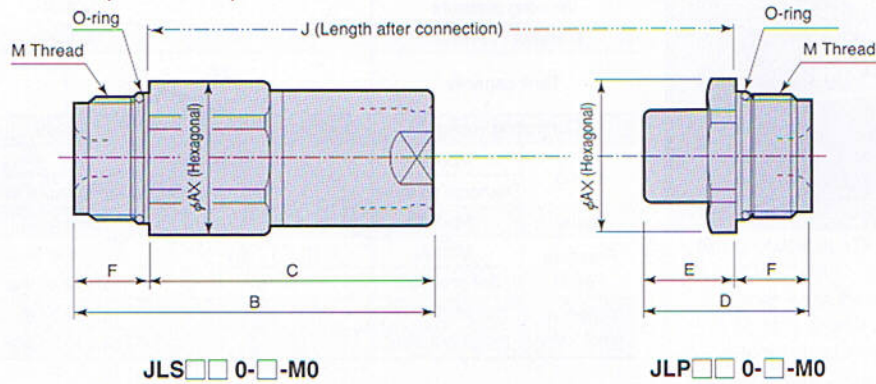
## OUTLINE DIMENSIONS

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

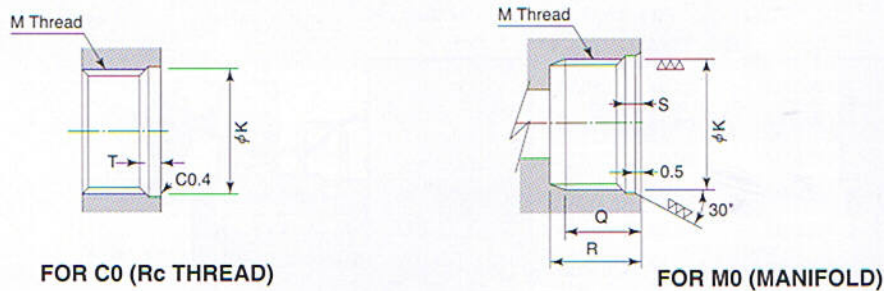
### PIPE CONNECTION TYPE : M0(MANIFOLD)



## 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

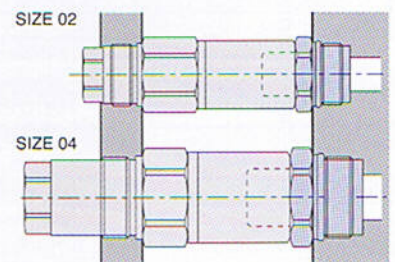
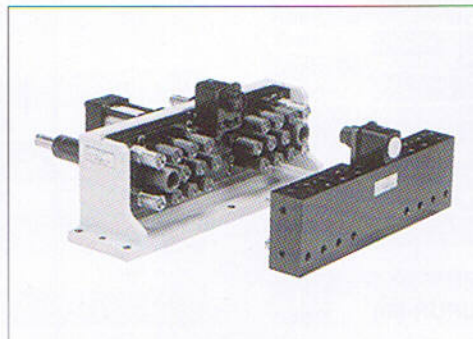


## MACHINING DIMENSIONS

Size	02	03	04	06	08
φK	φ25H8 <sup>+0.033</sup>	φ28H8 <sup>+0.033</sup>	φ34H8 <sup>+0.036</sup>	φ45.5H8 <sup>+0.039</sup>	φ51H8 <sup>+0.040</sup>
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

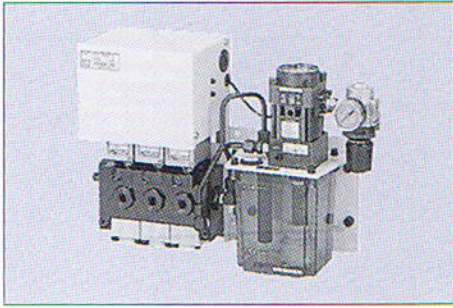
## MULTI-AUTO JOINT

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

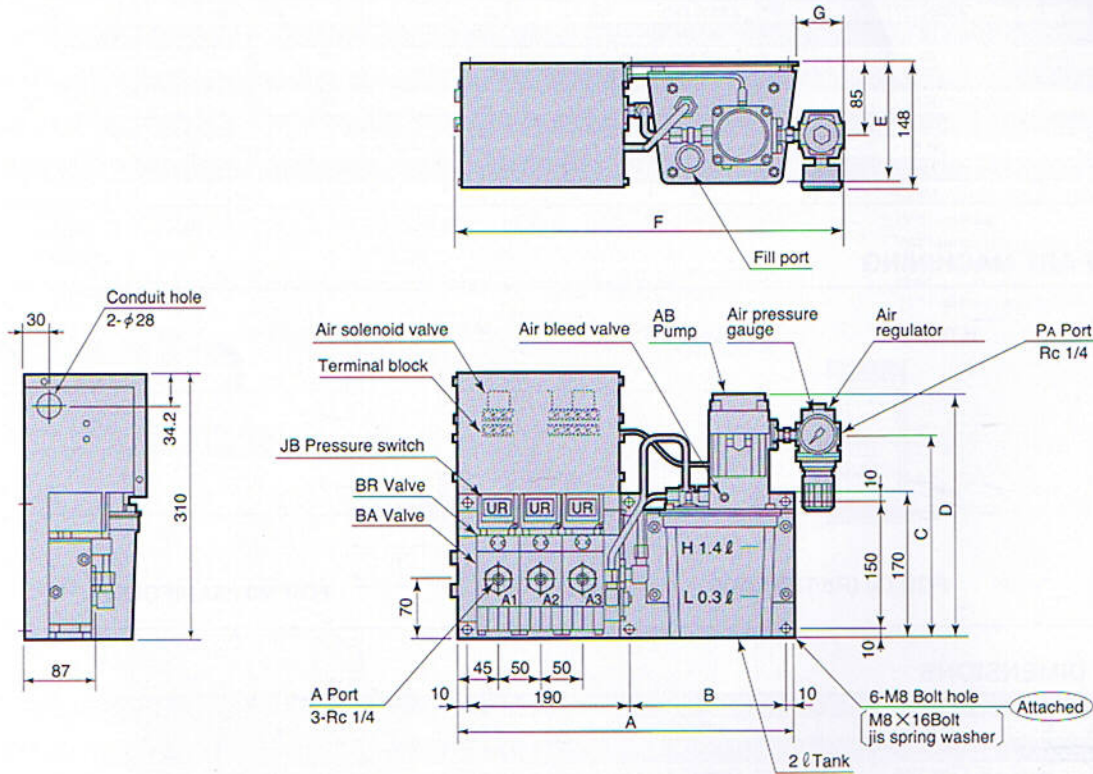
This is a compact hydraulic unit consisting of pump, valves, pressure relief valve and pressure switch with working pressure of 24.5MPa



## SPECIFICATIONS

Model	CP20N1-URURUR-50	CR5N31-URURUR-50
Working pressure	24.5MPa	
Maximum pressure	36.8MPa	
Tank capacity	2ℓ (H.L.-L.L.950cm <sup>3</sup> )	5ℓ (H.L.-L.L.1920cm <sup>3</sup> )
Controlling voltage	DC24V	
Pump	Model	AB7000-0
	Discharge pressure	22.5MPa(Air pressure at 0.41MPa)
Valve	Model	BA5R11-0
Pressure switch	Model	JB2800-M0
	Set pressure	INC.17.6MPa
Pressure relief valve	Model	BR5N11-0
	Relief pressure	24.5 <sup>+2.45</sup> <sub>0</sub> MPa

## OUTLINE

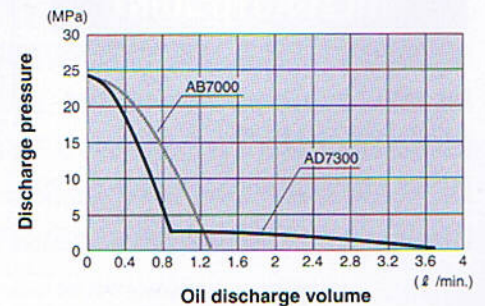


## OUTLINE DIMENSIONS

Model	CP20N1-URURUR-50	CR5N31-URURUR-50
A	395	500
B	185	290
C	239.5	288
D	287	335.5
E	140	160
F	459	509
G	55	0

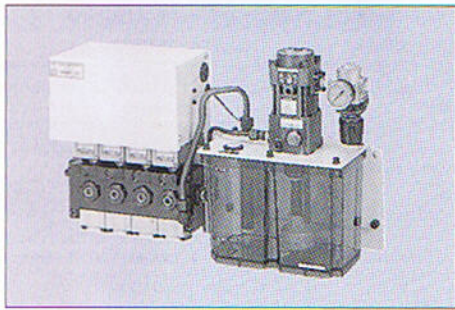
(This drawing shows the CP20N1-URURUR-50)

## PERFORMANCE CURVE OF PUMP



# HYDRAULIC UNIT FOR GW/GL CLAMP

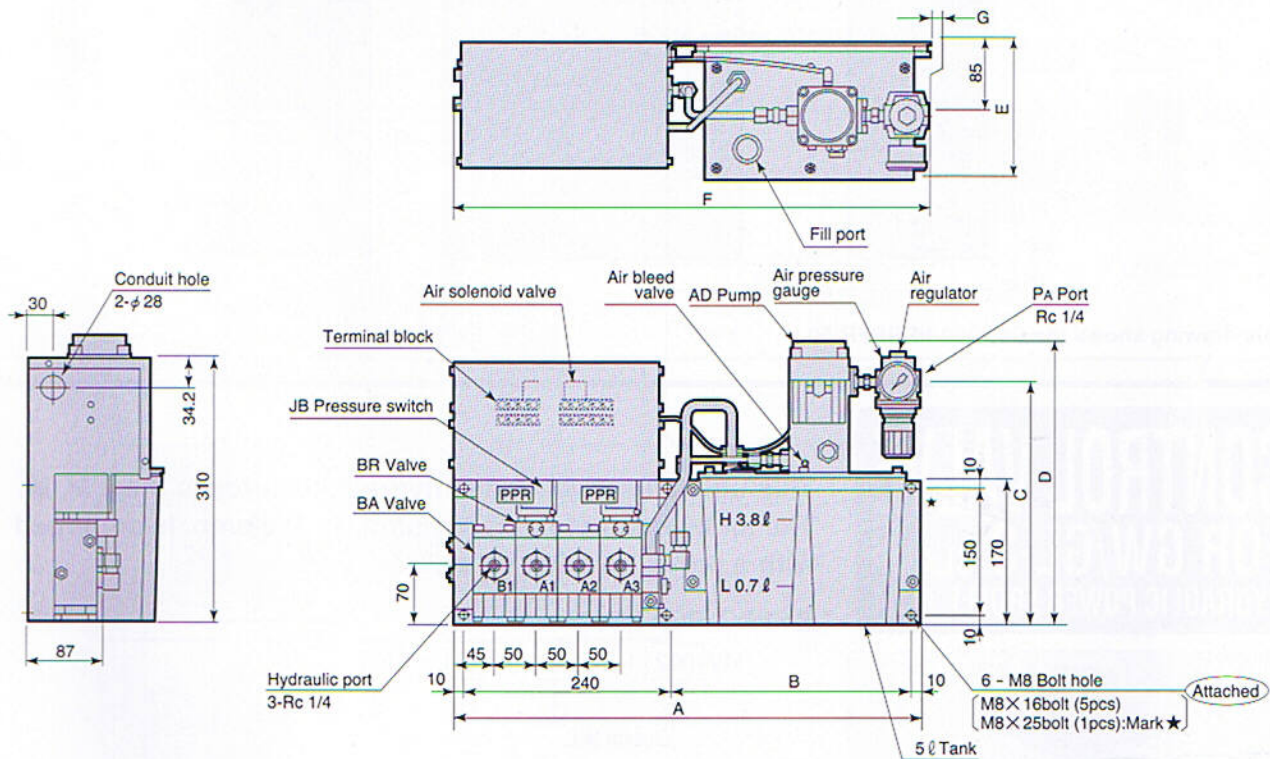
This is a compact hydraulic unit for GW clamp, GL-S clamp with working pressure of 13.7MPa



## SPECIFICATIONS

Model	CP20L1-PPRPPR-50	CR5L31-PPRPPR-50
Working pressure	13.7MPa	
Maximum pressure	20.6MPa	
Tank capacity	2 ℓ (H.L.-L.L.950cm <sup>3</sup> )	5 ℓ (H.L.-L.L.1920cm <sup>3</sup> )
Controlling voltage	DC24V	
Pump	Model	AB6000-0
	Discharge pressure	12.7MPa(air pressure at 0.37MPa)
Valve	Model	BA5011-0 and BA5R11-0
Pressure switch	Model	JB2800-M0
	Set pressure	INC.9.8MPa
Pressure relief valve	Model	BR5L11-0
	Relief pressure	13.7 <sup>+1.96</sup> <sub>0</sub> MPa

## OUTLINE

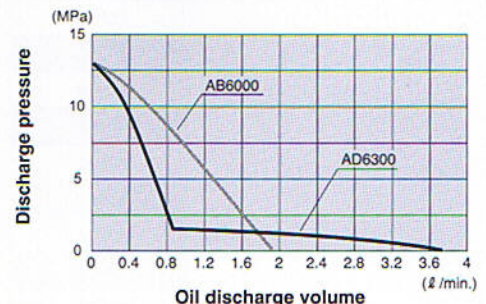


## OUTLINE DIMENSIONS

Model	CP20L1-PPRPPR-50	CR5L31-PPRPPR-50
A	445	550
B	185	290
C	239.5	288
D	287	335.5
E	140	160
F	510	560
G	55	0

(This drawing shows the CR5L31-PPRPPR-50)

## PERFORMANCE CURVE OF PUMP



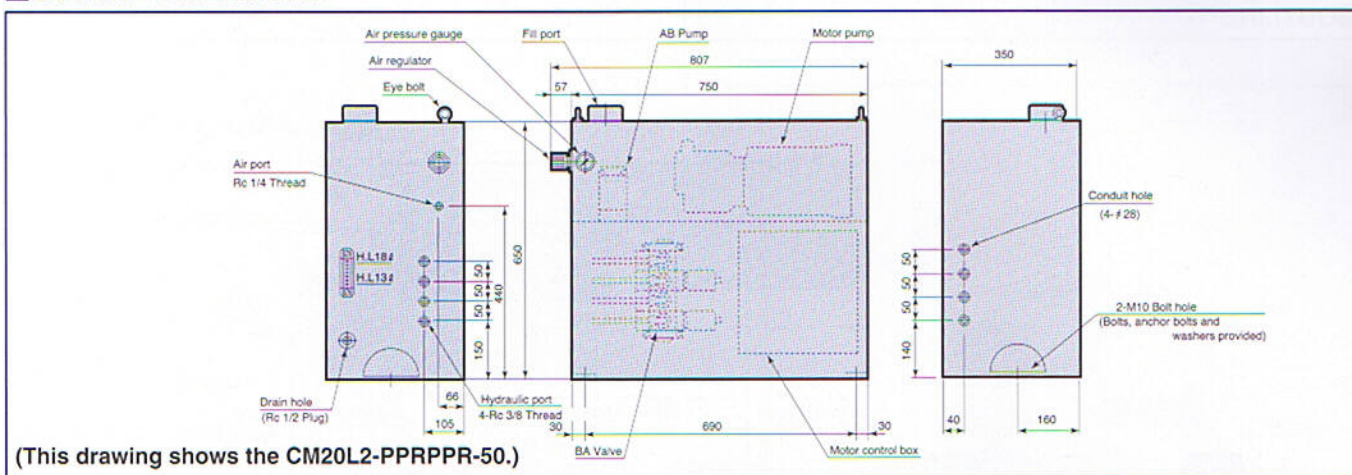
# HYDRAULIC UNIT FOR LARGE CLAMP

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

## SPECIFICATIONS

Application	For large GB and GE Clamps	For large GW Clamps
Model	CM20N2-URURUR-50	CM20L2-PPRPPR-50
Working pressure	24.5MPa	13.7MPa
Maximum pressure	36.8MPa	20.6MPa
Tank capacity	18ℓ (H.L.-L.L.5ℓ)	
Voltage of power source	AC 200/220V, 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
	Model	BA5011-0 and BA5R11-0
Pressure switch	Model	JB2800-M0
	Set pressure	INC.17.6MPa
Pressure relief valve	Model	BR5N11-0
	Relief pressure	24.5 <sup>+2.45</sup> MPa
		13.7 <sup>+1.96</sup> MPa

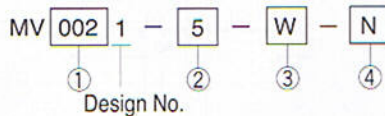
## OUTLINE DIMENSIONS



# CONTROL VALVE FOR GW/GL-S 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 GW clamp, GL-S clamp is equipped with a pressure relief valve.

## SPECIFICATIONS



- ① Size code  
001 : Hydraulic pressure at 13.7MPa  
002 : 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\*1

\*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.

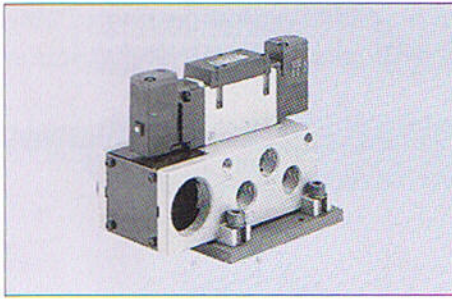
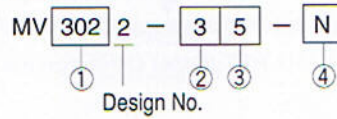
\*2 When "N" is selected from the special symbols, an adapter for NPT connection is added. And dimensions in documents such as specifications are indicated in inch.

# AIR VALVE UNIT

## FOR GE, GM-S AND GL CLAMP

This air valve controls the movement of clamps.

### MODEL CODE



#### 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 die circuit

#### ③ Valve control voltage

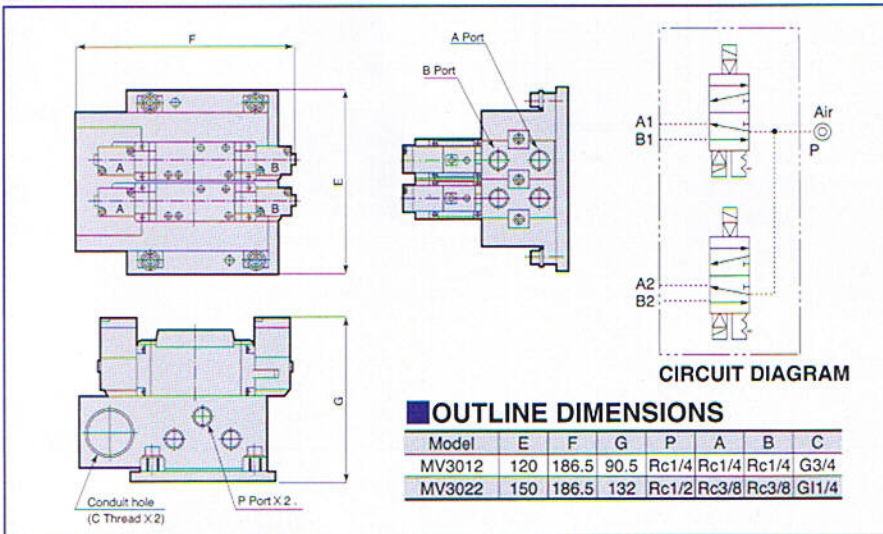
- 1 : AC100V
- 2 : AC200V
- 5 : DC 24V

#### ④ Special symbols

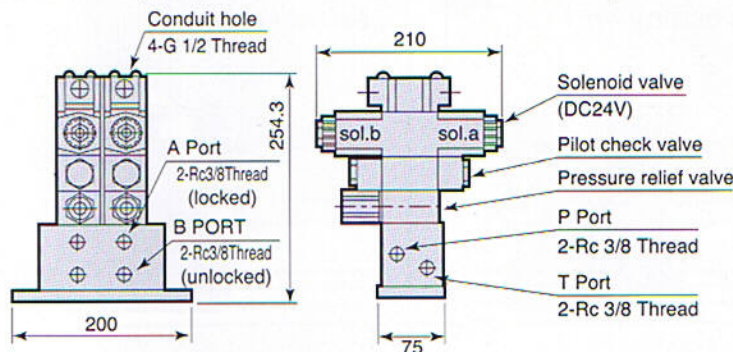
No indication : standard  
N : \*1

\*1When "N" is selected from the options, dimensions are described in inch in documents such as the specifications.

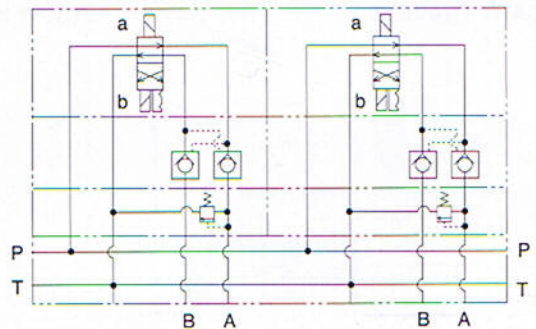
### OUTLINE



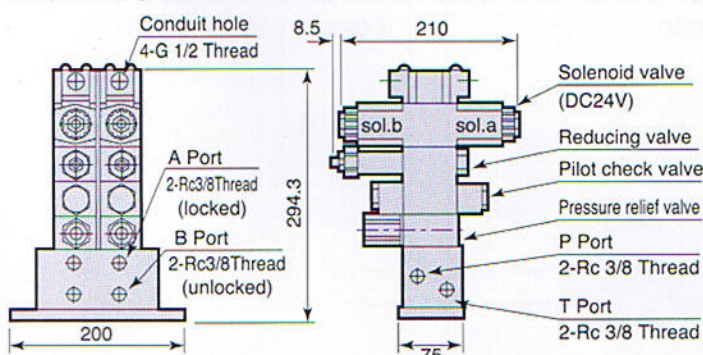
### MV0011-5 (HYDRAULIC PRESSURE AT 13.7MPa)



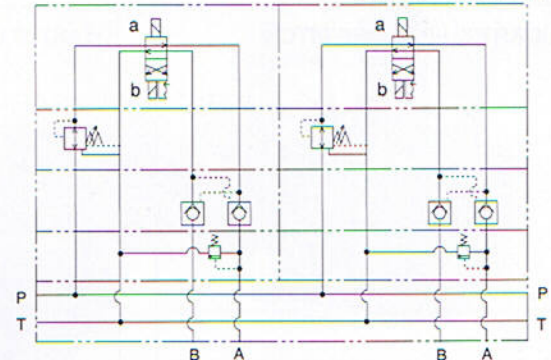
### CIRCUIT DIAGRAM



### MV0021-5 (HYDRAULIC PRESSURE AT 13.7 - 20.6MPa)



### CIRCUIT DIAGRAM



# MOLD CHANGER

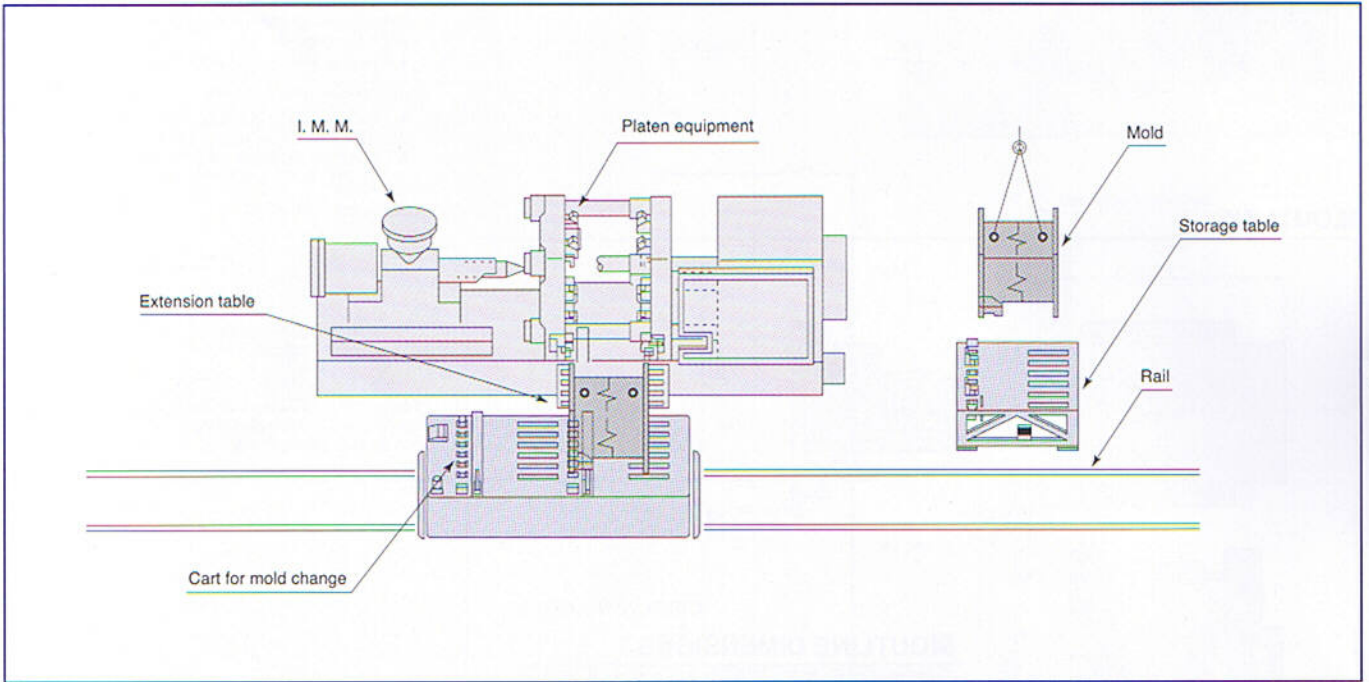
## ADVANTAGES

INCREASED PRODUCTIVITY

SAFE MOLD HANDLING

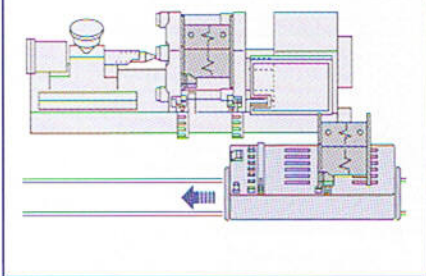
ENABLES DIVERSIFIED AND SMALL-LOT PRODUCTION.

## BASIC STRUCTURE

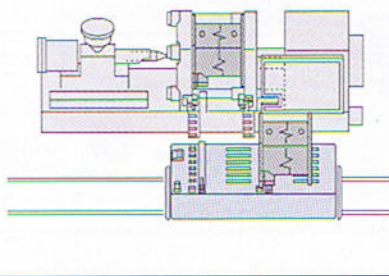


## SEQUENCE

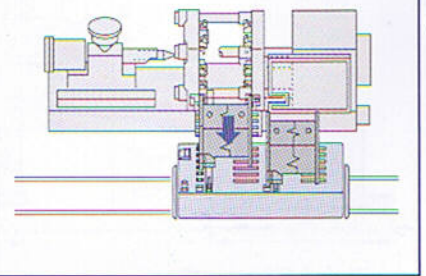
① CART TRAVELS



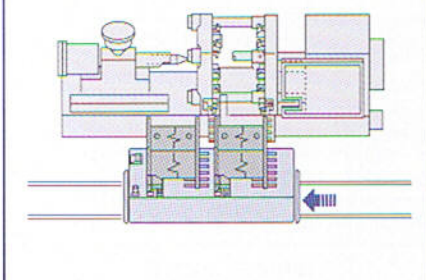
② CART IN POSITION



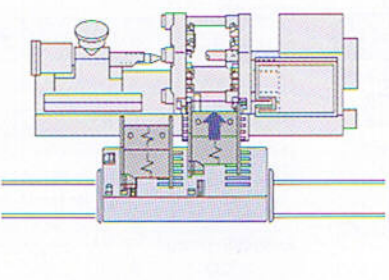
③ MOLD UNLOADING



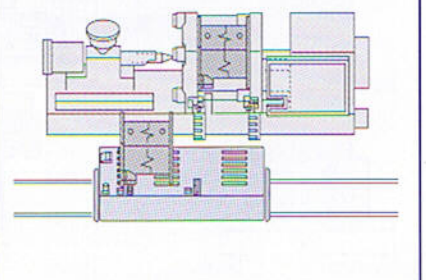
④ CART SHIFTS ONE PITCH



⑤ MOLD LOADING



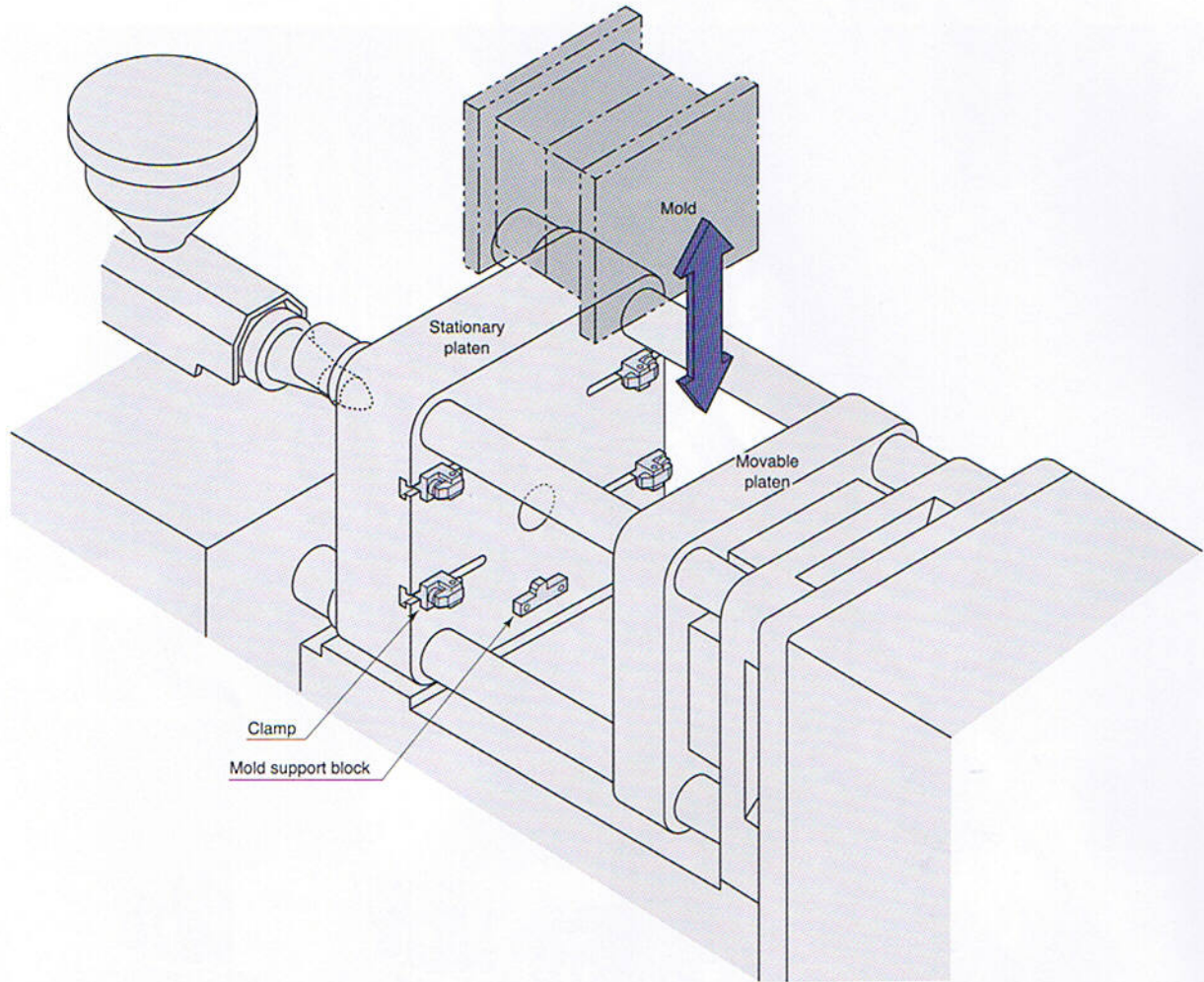
⑥ OPERATION FINISHED



# 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 (GW) or sliding type (GM) according to the conditions of both the mold and I. M. M.

## Vertical loading

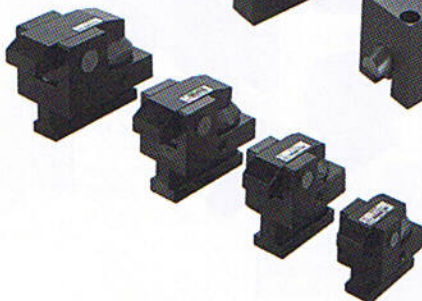


## KOSMEK QMCS EQUIPMENT

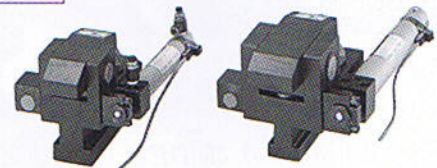
GW CLAMP



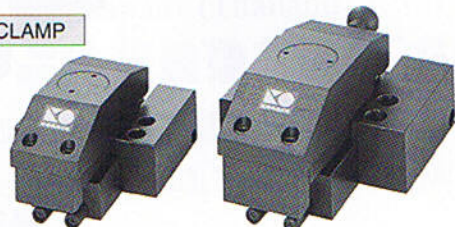
GB CLAMP



GE CLAMP



GM CLAMP



## 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



# KDCS

KOSMEK DIECAST CLAMPING SYSTEMS

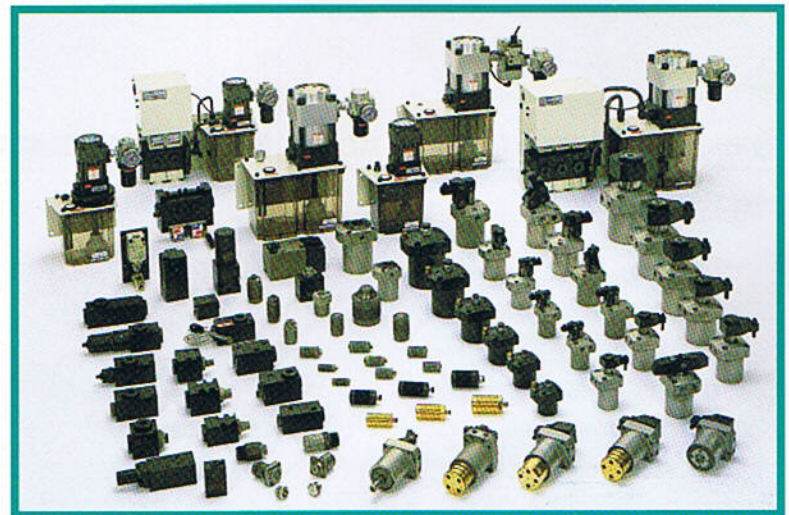


# KWCS

KOSMEK WORK CLAMPING SYSTEMS

Components for hydraulic jig  
of various machine tools.

L (7MPa) Series  
T (25MPa) Series



# KOSMEK®

HEAD OFFICE: 1-5, 2-CHOME, MUROTANI, NISHI-KU, KOBE 651-2241  
TEL.81-78-991-5115 FAX.81-78-991-8787

BRANCH OFFICE: KOSMEK (U.S.A.) LTD.  
9824 S. INDUSTRIAL DRIVE SUITE B.BRIDGEVIEW, ILLINOIS 60455, U.S.A.  
TEL.708-598-5772 FAX.708-598-6215

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



JQA-QMA10823



JAB QS Accreditation R009



บริษัท ยามาโตะ (ประเทศไทย) จำกัด  
Yamato (Thailand) Co., Ltd.

# Yamato

75/11 Moo 11, Phaholyothin Road, T.Klongnueng, Tel : (02) 9081421-5  
A.Klongluang, Pathumthani 12120, Thailand. Fax : (02) 9081429