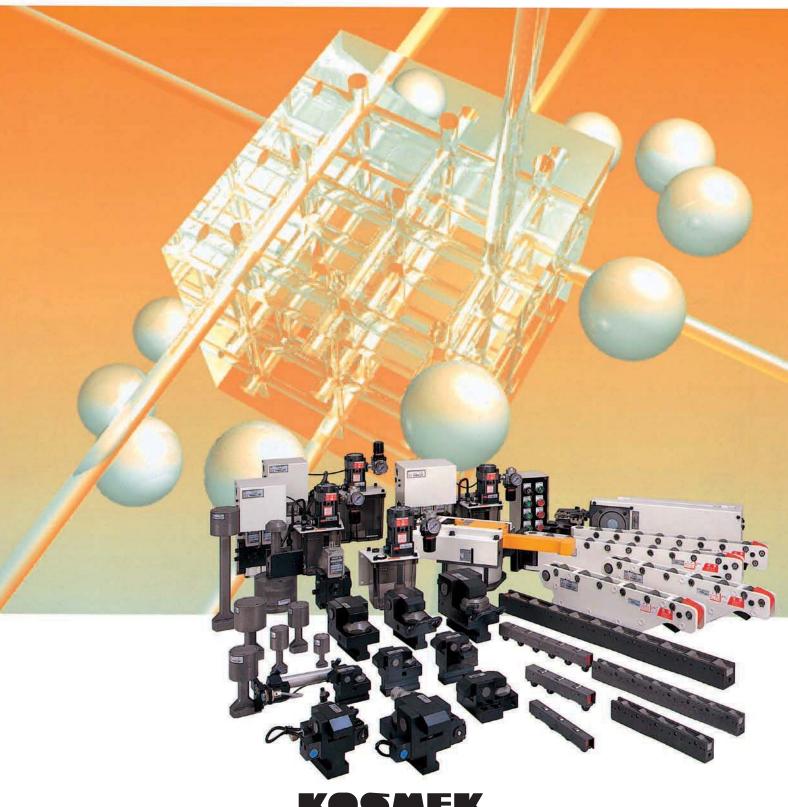
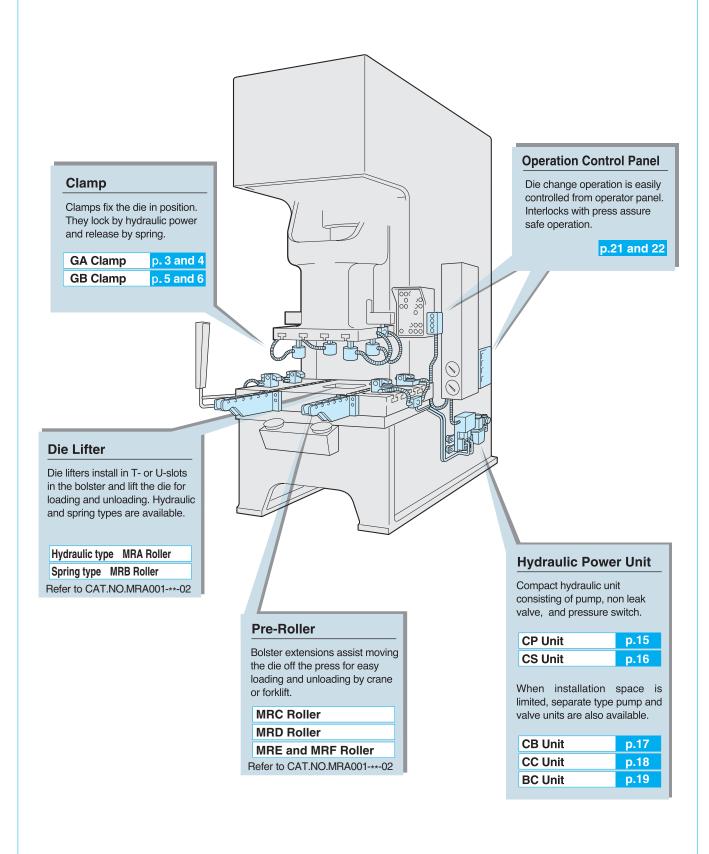
QUICK DIE CHANGE SYSTEMS

# 



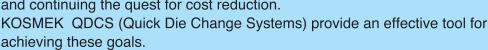
# **Quick Die Change System**

#### **Light Duty (C Frame)**

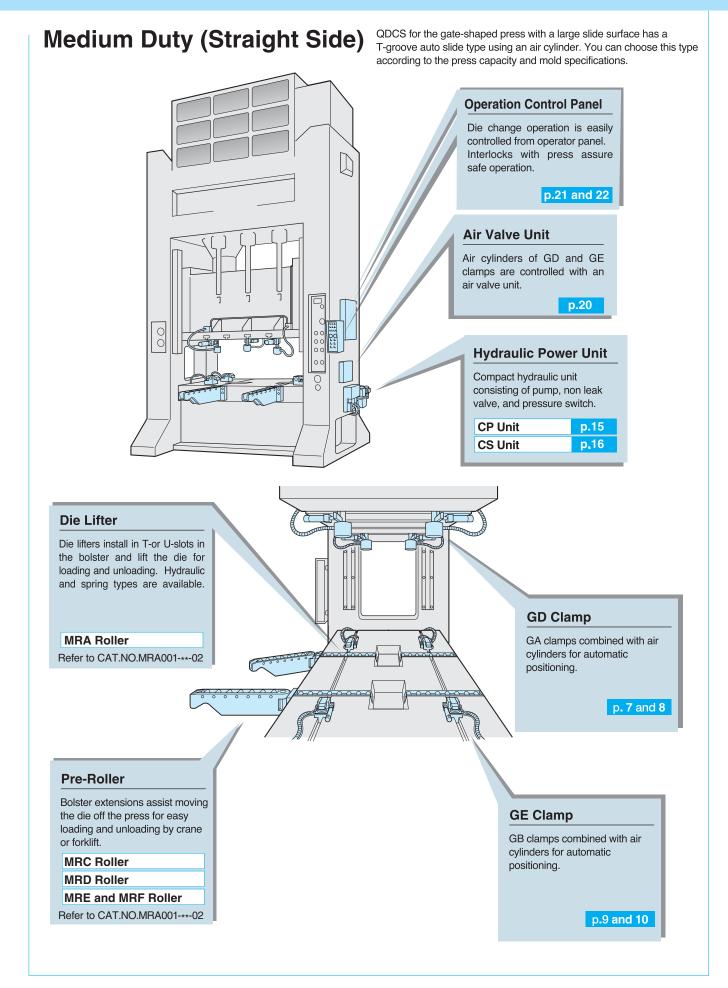


1

Today's factories are moving to Single Minute Setups, improving the working environment, preparing for diversified and small-lot production, and continuing the quest for cost reduction.











GA0100

98

6

4

2

2.5

8

20

(kN)

(MPa)

(MPa)

(MPa)

(mm)

(mm)

(mm)

GA0160

15.7

5.7

10

24

GA0250

24.5

8

12

32

GA0400

39.2

13

16

42

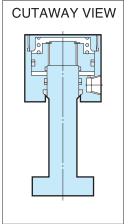
24.5 (for rated clamp force)

27.0

36.8

0 - 70°C (V type is available for 70°C - 120°C)

20 times/day (please contact us for more frequent use.)



GA0630

61.7

8

5

3

21

ISO - VG - 32 or equivalent

18

42

GA1000

98

31

GA1600

157

54

28

54

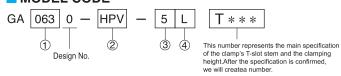
GA2500

245

76

36

#### MODEL CODE



- (1) Capacity (See specifications)
- 2 Options
  - Slide rod type (U-cut)
  - Slide rod type (tap) Fixed type (Embedded type 0250 1000)

  - Fixed type (Flange type)
    Extra height type (Rod matevial to be manufactured after receiving an order.)
    With proximity switch for die detection

  - (0400 and larger) Long stroke 12.5 mm

  - S2: Long stroke 20 mm
    T: T-slot lock type
    N: NPT port type
    V: High temperature type (70 120 °C)
- \*Following designations are required for "P" type.
- 3 Switch load voltage (current)

  - 1 : AC100V 2 : AC200V 5 : DC 24V (5 40 mA)
- 4 Switch mounting position

  - L : As illustrated
    R : Reverse of illustration

#### e.g. GA0400-HV-T11

- Clamp capacity 39.2 kN
- Extra height type
- High temperature type
- T111⇒h=50 A=20.5 B=36 C=19 d=60
- \*1. For other fluids, consult us.
- \*2. If fluid viscosity is higher, action will be slower.
- Action at low temperature will be slower as fluid viscosity is higher.

#### OUTLINE DIMENSIONS

SPECIFICATIONS

Model

Clamping Force

Working Pressure

Max Working Pressure

Max Rated Pressure

Clamping Stroke

Cylinder Cap at Full Stroke (cm3)

Min T-slot Dimension "a" (JIS) (mm)

Max T-slot Dimension "a" (JIS) (mm)

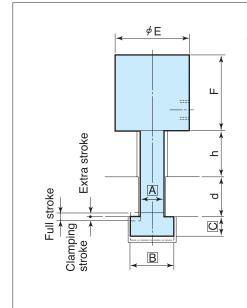
Working Temperature

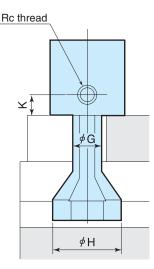
Frequency of Use

Working Fluid

Full Stroke

Extra Stroke



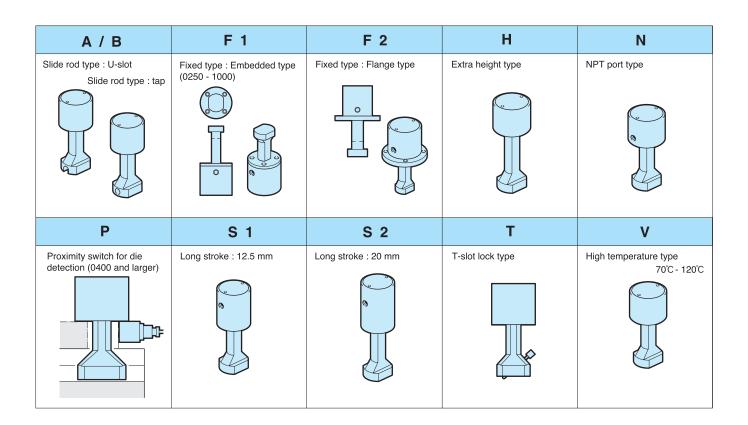




Model	Е	F	G	Н	К	MIN.C	Rc	MAX.h+d
GA0100	40	39	12	30	10	5	1/8	60
GA0160	43	48	15	38	12	6	1/8	70
GA0250	53	52	18.5	48	12	7	1/4	80
GA0400	62	58	23.5	58	15	9.5	1/4	90
GA0630	78	65	28.5	68	15	11	1/4	100
GA1000	98	71	38.5	78	15	15	1/4	110
GA1600	126	82	48.5	88	15	19	1/4	120
GA2500	150	100	58.5	98	15	24	1/4	140

- \*1. Clamping strokes and extra strokes shown are standard; Custom strokes are available upon request.
- \*2. DimensionsA,B and C are determined from T-slot dimensions.
- \*3. Specify T-slot dimensions (a,b,c,d) and clamping height (h) when ordering.

  \*4. Clamps with a dimension greater than MAX h+d are
- optionally available (H type).

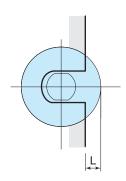


#### ⟨ Precautions for mounting and operation ⟩

- 1. Working pressure should be 24.5 MPa.
- 2.T-slot and clamp surface must be parallel, otherwise the clamp may deform and cause oil leakage.

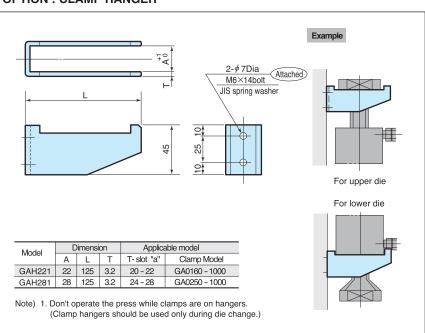
3. Never allow clamp overhang to exceed L (shown below)

#### • GA CLAMP: ALLOWABLE OVERHANG



Model	L (mm)
GA0100	13
GA0160	14
GA0250	17
GA0400	20
GA0630	26
GA1000	32
GA1600	42
GA2500	50

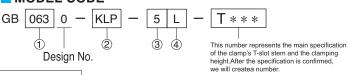
#### • OPTION : CLAMP HANGER

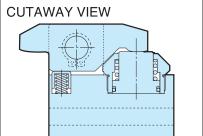






#### MODEL CODE





#### ① Capacity(See specifications)

#### 2 Options

- A B

- Ε
- Slide rod type (U-cut)
  Slide rod type (Tap)
  With handle (0630 and larger)
  Reinforced body (to be manufactured after receiving an order.)
  Extra height type (Body, material to be manufactured after receiving an order)
  Low lever type (less than min "h")
  Rear nord

- Rear port
  Wide lever (for U-cut in die)\*1
- NPT port
  With proximity switch for die detection (0400 and larger)\*2

- T-slot lock type
   High temperature type (70 120°C)
   With check valve (1000 and larger)
   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)

- : AC100V : AC200V : DC 24V (5 40mA)
- 4 Switch mounting position
  - L : As illustrated

    R : Reverse of illustration



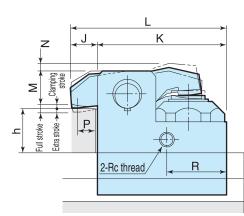
#### e.g. GB0630-DP-1R-T111

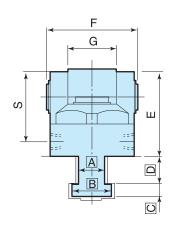
- Clamp capacity 61.7kN
- with handle
- with proximity switch for die detection AC100V
- Switch position is right side when viewed from rear
- T111⇒h=50 A=20.5 B=35 C=14 D=22.7
- \*1. For other fluids, consult us.
- \*2. If fluid viscosity is higher, action will be slower.
- \*3. Action at low temperature will be slower as fluid viscosity is higher.

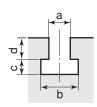
#### SPECIFICATIONS

Model	GB0100	GB0160	GB0250	GB0400	GB0630	GB1000	GB1600	GB2500			
Clamping Force (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	<b>'</b> .0						
Max Rated Pressure (MPa)		36.8									
Full Stroke (mm)	6	6 7				8					
Clamping Stroke (mm)	3		3.5		4						
Extra Stroke (mm)	3		3.5		4						
Cylinder Cap at Full Stroke (cm³)	2.5	4.8	7.2	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			ISC	- VG - 32	or equiva	lent					
Min T-slot dimestion "a" (JIS) (mm)	10	12	14	18	22	24	28	36			
Max T-slot dimestion "a" (JIS) (mm)	20	24	32	42	42 54						

#### OUTLINE DIMENSIONS



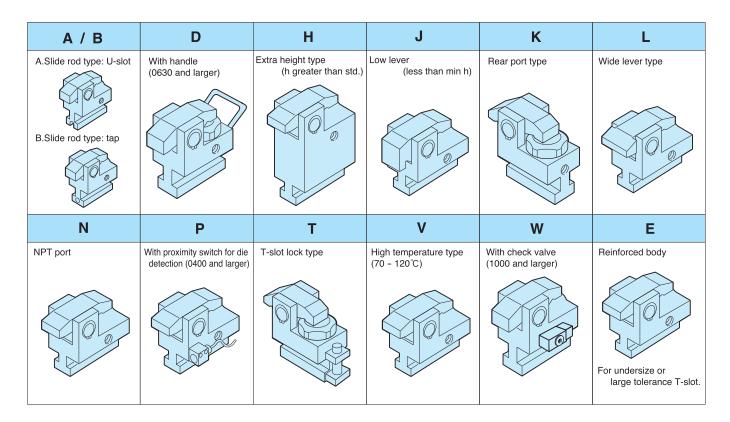




Model	MIN.E	F	G	J	K	L		M (h)		MAX.N	Р	R	S	Rc	MIN.C	MAX.h
GB0100	44.5	43	20	15	58	73	16.5 (25 - )	21.5 (20 - 25)	_	5.5	10	33	34.5	1/8	6.5	40
GB0160	51	53	26	18	70	88	17.5 (30 - )	22.5 (25 - 30)	27.5 (20 - 25)	6.5	12.5	37	41	1/8	8	40
GB0250	59	63	32	20	84	104	21.5 (34 - )	26.5 (29 - 34)	31.5 (24 - 29)	6.5	14	43.5	47	1/4	9.5	50
GB0400	67.5	73	40	23	105.5	128.5	29.5 (35 - )	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 - )	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 - )	54 (50 - 60)	64 (40 - 50)	8	20	68	95	1/4	16.5	70
GB1600	130	124	60	30	199	229	61 (65 - )	71 (55 - 65)	81 (45 - 55)	9	20	73	116	1/4	20	80
GB2500	152	152	73	30	240	270	78 (70 - )	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 then MAX h are optionally available (H type).

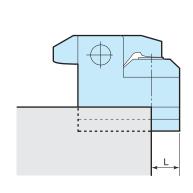


#### $\cdot\langle$ Precautions for mounting and operation angle

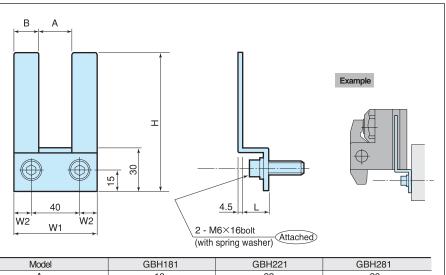
- 1. Working pressure should be 24.5 MPa.
- 2.T-slot and clamp surface must be parallel. Otherwise, the clamp may sustain damage.
- 3. Never allow clamp overhang to exceed L (shown below).

#### • GB CLAMP: ALLOWABLE OVERHANG

#### • OPTION: CLAMP HANGER OUTLINE DIMENSIONS



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



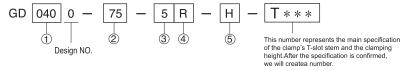
Model	GBH181	GBH221	GBH281
Α	18	22	28
В	21	21	
Н	10	110	
W1	6	70	
W2	1	15	
L	1	25	

Note) Don't operate the press while clamps are on hangers. (Clamp hangers should be used only during die change.)





#### MODEL CODE



- 1 Capacity (See specifications)
- ② Slide stroke (See outline dimension)\*1

  - 75 : Clamp travel distance 75 mm
    125 : Clamp travel distance 125 mm
    \*When determining the travel distance,
    extra distance must be considered.
- 3 Switch voltage (current)

  - 1 : AC100V 2 : AC200V 5 : DC 24V (5 40 mA)
- 4 Switch mounting position
  - L : As illustrated
  - R: Reverse of illustration
- (5) Options
  - H: Extraheight type (Rod material to be manufactured after an order placed)
    S1: Long stroke 12.5 mm

  - S2 : Long stroke 20mm N : Piping port with NPT\*1

  - V : For high temperature (70 120 °C)
- \*1 When "N" is selected from Options, each dimension is described in "inch"in the specifications and other documents. However the slide stroke is shown by mm value as a symbol.

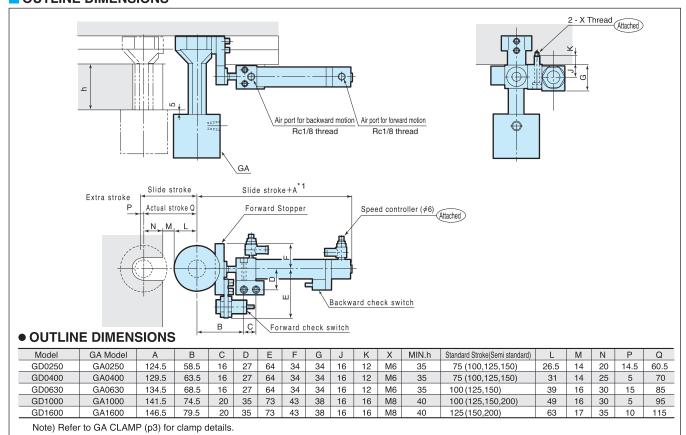
#### e.g. GD0400-100-5R-H-T111

- ■Clamp capacity 39.2 kN ■Slide distance 100 mm
- DC24V
- Switch position as illustrated
- Extra height type ■T111⇒h=50 A=20.5 B=36 C=19 d=60

#### SPECIFICATIONS

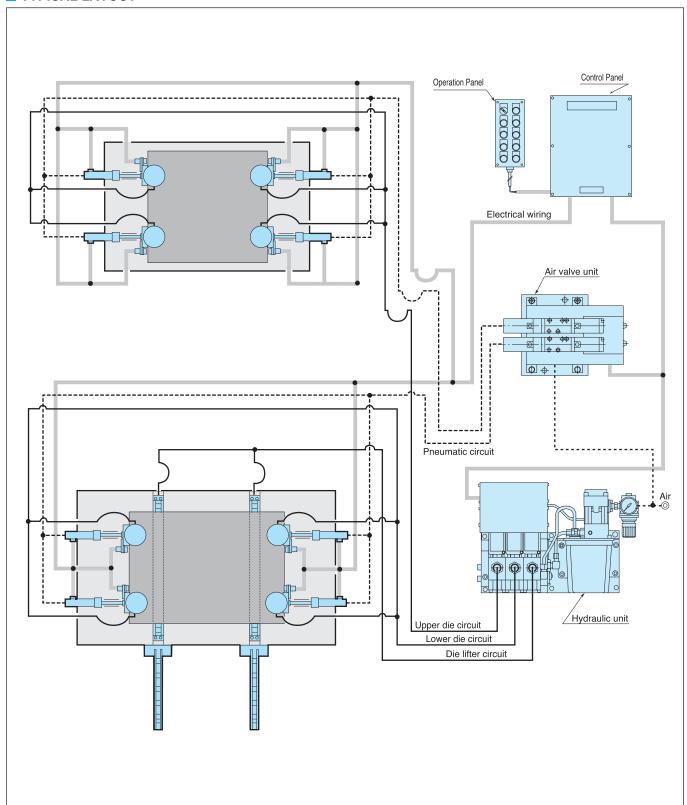
Model		GD0250	GD0400	GD0630	GD1000	GD1600		
Clamping Force	(kN)	24.5	39.2	61.7	98	157		
Working Pressure	(MPa)	24.5 (for rated clamp force)						
Max Working Pressure	(MPa)	27.0						
Max Rated Pressure	(MPa)	36.8						
Slide Stroke*1	(mm)	75 -	· 150	100 - 150	100 - 200	125 - 200		
Driving Air Pressure*2	(MPa)			0.39 - 0.49				
Switch Voltage			AC100V /	AC200V / DC2	4V			
Working Teperature			0 - 70°C (V typ	e is available for	70 - 120°C)			
Frequency of Use		20 times/day (please contact us for more frequent use.)						
Working Fluid		ISO - VG - 32or equivalent fluid						

- \*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.



GD is a GA type clamp with air cylinder for automatic positioning. It is used for inaccessible areas or at far side of operation.

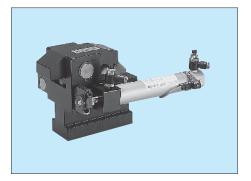
#### TYPICAL LAYOUT



#### - 〈 Precautions for mounting and operation 〉

- 1.Adjust speed controllers so that travel is completed within 2 3 seconds.
- 2. Proximity switch is used for die detections. Each die must have a clear target for the switch.
- 3. Sliding surfaces should be smooth.





GE0251

24.5

(kN)

(MPa)

(MPa)

(MPa)

(mm)

(MPa)

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

GE0401

39.2

25 - 200

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

GE0631

61.7

24.5 (for rated clamp force)

27.0

36.8

50 - 200

0.39 - 0.49

AC100V / AC200V / DC24V

 $0-70\,^{\circ}\mathrm{C}$  (V type is available for 70 - 120 $^{\circ}\mathrm{C}$ )

20times/day (please contact us for more frequent use.)

ISO - VG - 32 or equivalent

#### MODEL CODE

GE1601

157

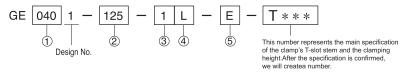
50 - 300

GE1001

98

GE2501

245



- 1 Capacity (See specifications)
- 2 Slide stroke (See outline dimension)\*2

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

  - E: Reinforced body material H: High type (Rod material to be manufactured after an order placed) 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 (70 120 ℃)

Air cylinder position as illustrated

Y: For diecast machine

e.g. GE0401-125-1L-L-T111 Clamp capacity 39.2 kNSlide distance 125 mm

- 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.

■ Wide lever type ■ T111⇒h=50 A=20.5 B=35 C=14 D=22.7

#### OUTLINE DIMENSIONS

SPECIFICATIONS

Clamping Force

Slide Stroke\*1

Switch Voltage

Working Fluid

Working Pressure

Max Working Pressure

Max Rated Pressure

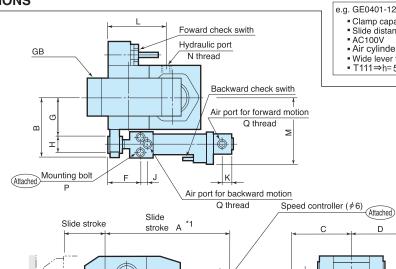
Driving Air Pressure\*2

Working Temperature

drawing is different.

Frequency of Use

Model



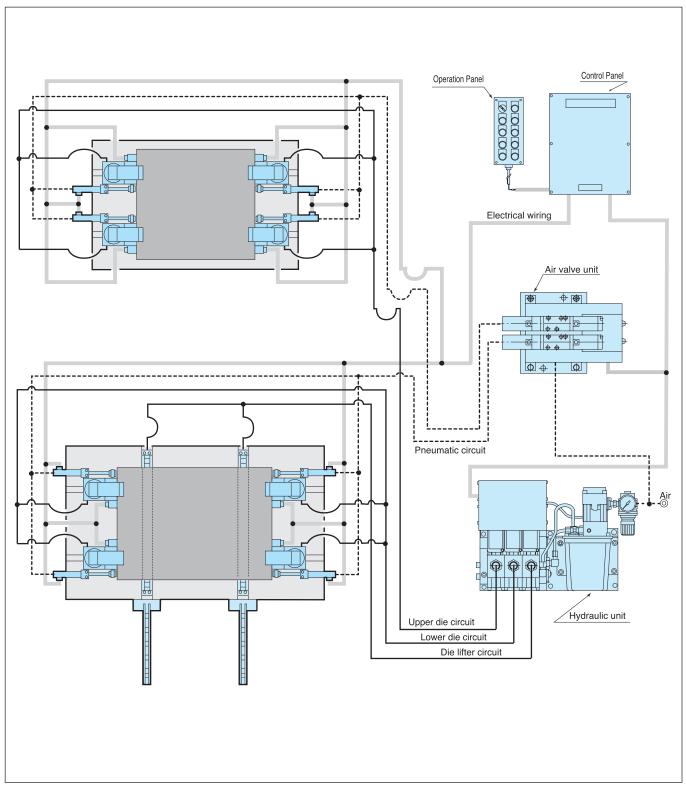
#### OUTLINE DIMENSIONS

Model	GB Model	۸	В		П	E	E	G	н		V		М	N		Р	0	R
Model	GD Wodel	А	Ь		U		Г	G	П	J	K	_	IVI	IN	Mounting bolt	Tapping	Q	
GE0251	GB0250	105	60	63.5	59	37	39	39	18	9	12	73	75.5	Rc1/8	M5 ×0.8×40	M5×0.8Depth 10		
GE0401	GB0400	105	65	68.5	64	37	39	44	18	9	12	93	80.5		M5 ×0.8×40	M5×0.8Depth 10		
GE0631	GB0630	112	81.5	84.5	74	48	45	55	22	10	12	81	96		M6 ×50	M6 × Depth 12	Rc1/8	<i>φ</i> 6
GE1001	GB1000	118	92.5	94.5	78.5	54	46	61	24	13	12	91	106.5	Rc1/4	M8 ×55	M8 ×Depth 16		
GE1601	GB1600	136	112	116.5	88.5	65	56	74	32	14	12	126	128		M10×70	M10 × Depth 20		
GE2501	GB2500	157	137	142	102	78	64	89	41	16	14	170.5	153		M12×85	M12 ×Depth 24	Rc1/4	<i>\$</i> 10

Note) Refer to GB clamp (p5) for clamp details.

GE is a GB clamp with air cylinder for automatic positioning. It is used for inaccessible areas at far side of operation.

#### TYPICAL LAYOUT



#### - $\langle$ Precautions for mounting and operation angle -

- 1.Adjust speed controllers so that travel is completed within 2 3 seconds.
- 2. Proximity switch is used for die detection. Each die must have a clear target for the switch.
- 3.When determining slide stroke, provide the forward end with an extra stroke between 2 and 5 mm considering dimensional accuracy of the air cylinder and detection distance of the proximity switch.
- 4. Sliding surfaces should be smooth.





#### MODEL CODE GN 063 0 -5 Design No.

NON STOCKING ITEM

SPECIFICATIONS

Model		GN0250	GN0400	GN0630	GN1000					
Clamping I	Force (kN)	24.5	39.2	61.7	98					
Working Pre	essure (MPa)	24.5 (for rated clamp force)								
Max Working P	ressure (MPa)	27.0								
Max Rated Pr	essure (MPa)		30	6.8						
Swing Ang	le		9	O°						
Full Stroke	(mm)	6	7.5	10	12					
Clamp Stro	oke (mm)	4	5	7	9					
Extra Strol	re (mm)	2 2.5 3								
Cylinder	Lock (cm <sup>3</sup> )	18.6	36	73.9	157.9					
Capacity	Release (cm <sup>3</sup> )	27.4	53.5	115.5	241.8					
Swing Air Pre	essure (MPa)	0.39 - 0.49								
Switch Vol	tage	AC100V / AC200V / DC24V								
Working T	emperature	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 F	luid		ISO - VG - 32	or equivalent						

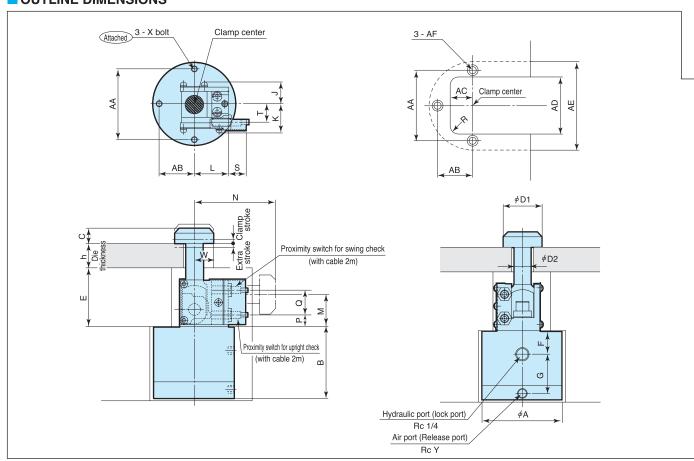
- ① Capacity (See specifications)
- 2 Mold thickness (h dimension)\*1
  - 25: h dimension 25 mm
  - 50: h dimension 50 mm
- 3 Switch load voltage (current)
- 1 : AC100V 2 : AC200V 5 : DC 24V (5 40 mA)
- 4 Options

  - N : Piping port with NPT\*1 V : For high temperature (70 120℃)
- \*1When "N" is selected from options, each dimension is described in "inch"in the specifications and other documents. However the die thickness is shown by mm value as a symbol.

#### e.g. GN0630-40-2

- Clamp capacity 61.7 kN
- Clamp height 40 mm
  AC200V

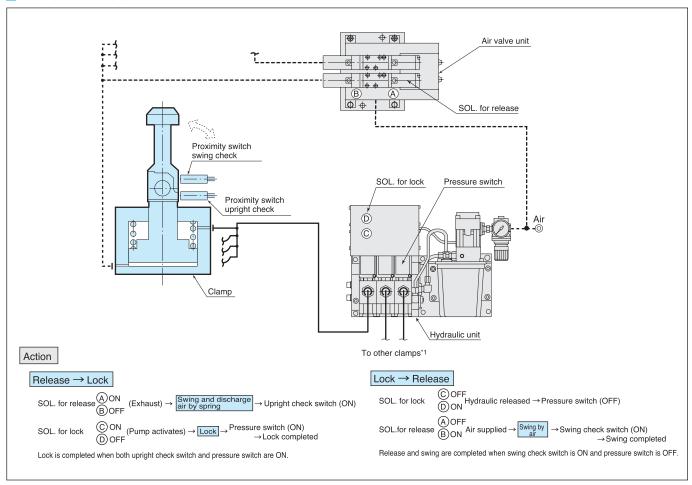
NOTE All types shall be produced after an order received.If you place an order, ask delivery time in advance.



<sup>\*</sup>Pressure lower than 0.39 MPa may cause malfunction.

Clamp rod of the GN clamp swings to avoid interfering with the die when loading or unloading the lower die.

#### TYPICAL LAYOUT



#### • OUTLINE DIMENSIONS

Model	GN0250	GN0400	GN0630	GN1000		
Α	83	102	122	142		
В	71.5	77	90.5	111		
С	16	20	25	35		
D1	40	50	60	75		
D2	18	22	28	34		
E	60	75	90	115		
F	24	25	26.5	30		
G	40	44.5	54	70		
J	22.5	26	32.5	40		
K	28.5	32	38.5	49		
L	35	42	49	60		
М	33.5	41	53	67		
N	h+58.5	h+74	h+89	h+118		
Р	16.5	20	24	31		
Q	21	26	34	39		
S	18	22	24	17		
Т	18	21	26.5	35		
h		min.25 -	- max.50			
W	20	25	30	37.5		
AA	72	86	106	126		
AB	36	43	53	63		
AC	23	27	35	40		
AD	58	67	84	104		
AE	90	110	130	150		
AF	7 Drill hole Spot facing ∲11 Depth7	9 Drill hole				
R	10	12.5	15	17.5		
Х	M6		M8			
Υ		Rc 1/8		Rc 1/4		
Provided bolts	M6×60 (3pcs)	M8×75 (3pcs)	M8×90 (3pcs)	M8×115 (3pcs)		

Note) \*1. Although the GN Clamp is a hydraulic single action clamp, the unit circuit of the clamp is the U circuit because the clamp is controlled by double solenoids. When using the GN Clamp combining with other single action clamps, the clamp circuit should be the G circuit. When using the GN Clamp combining with the MRA rollers, the circuit should be the H circuit. Contact us for further information.

#### ⟨ Precautions for mounting and operation ⟩

- 1. Allowance of die clamping thickness is h  $\pm 0.5$ mm.
- 2. Clamp surface must be parallel with clamp mounting surface.
- 3. Hydraulic pressure for lock should be 24.5 MPa, and pneumatic pressure for release should be 0.39~0.49MPa.
- 4. Take care to prevent dust, sand, chips, slugs, etc. from entering clamp mechanism.
- 5. This clamp is not applicable to the upper die (swing rod downward).

Specify clamping height (h) when ordering. For specifications other than above, consult us.



GP is a fixed type clamp that slides on gibs to provide clearance for loading the die. T-slots are not necessary.



GP0100

9.8

6

3

3

2.5

(kN)

(MPa)

(MPa)

(MPa)

(mm)

(mm)

(mm)

(cm<sup>3</sup>)

GP0160

4.8

GP0250

24.5

7

3.5

3.5

7.2

GP0400

39.2

27.0

36.8

11.9 0 - 70°C (V type is available for 70 - 120°C)

20 times/day (Please contact us for more frequent use.)

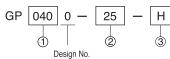
ISO - VG - 32 or equivalent

24.5 (for rated clamp force)

GP0630

61.7

#### MODEL CODE



GP1600

157

55.2

GP1000

98

8

4

4

34.7

- 1 Capacity (See specifications)
- 2 Mold thickness (h dimension)\*1 25: h dimension 25 mm
  - 35: h dimension 35 mm
- 3 Options
  - H: Extra height type (If the "h" dimension is greater than the maximum "h" dimension specified in the catalogue. Build to order)
  - J : Low lever type(less than min "h")

  - : Rear port : Wide lever (for U-cut in die)\*2

  - N : NPT port\*1 V : High temperature type (70 120°C)
- \*1 When "N" is selected from options, each dimension is described in "inch" in the specifications and other documents. However the mold thickness is shown by mm value as a symbol.
- \*2 When the mold has U-cut, the lever width may become insufficient. Be sure to designate U-cut dimension.
- e.g. GP0630-40-V
  - Clamping capacity 61.7kN • Mold thickness 40 mm
- For high temperature
- \*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.

155

22

46

117

60

199

229

9

33

116

M24

140

55

73

#### Working Fluid

SPECIFICATIONS

Model

Clamping Force

Full Stroke

Extra Stroke

Working Pressure

Clamping Stroke

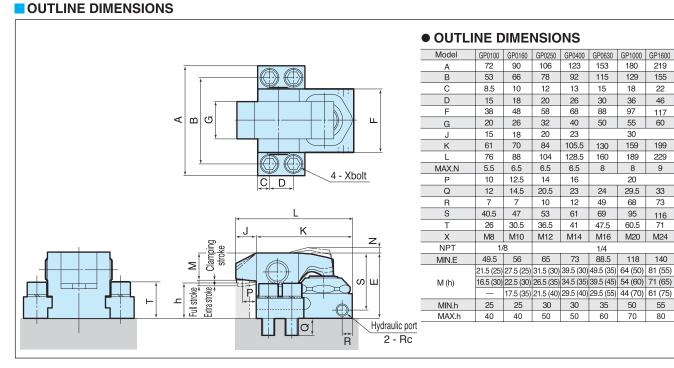
Max Woking Pressure

Cylinder Cap at Full Stroke

Working Temperature

Frequency of Use

Max Rated Pressure



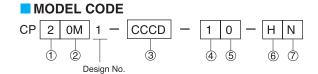
#### ⟨ Precautions for mounting and operation ⟩

- 1. Working pressure should be 24.5MPa.
- 2. Clamps mounting surface and clamping surface must be parallel.
- 3. Otherwise the clamps may be damaged and fail to operate properly.



CP is a compact hydraulic power unit generating 24.5MPa. It includes an AB pump, hydraulic valves, and pressure switches.





- 1 Tank capacity code
  - $\begin{array}{l} 2:2\,\ell\; tank(H.L.\text{-}L.L.\text{=}1.1\,\ell)\\ 5:5\,\ell\; tank(H.L.\text{-}L.L.\text{=}3.1\,\ell) \end{array}$
- 2 Normal pressure code\*1

0M: 24.5 MPa

Supply air pressure 0.45 MPa, without temperature compensating valve 0N: 24.5 MPa

\*Supply air pressure 0.41 MPa, with temperature compensating valve

- 3 Circuit symbol
  - C: Normal open circuit for clamp (single solenoid valve)

  - C: Normal open circuit for clamp (single solenoid valve)
    D: Normal close circuit for die lifter (single solenoid valve)
    R: Pressure compensating valve (micro flow relief valve)
    U: Double solenoid circuit for clamp
    V: Double solenoid circuit for die lifter

  - G : Normal open circuit for clamp\*2 H : Normal close circuit for die lifter\*2
  - \*2 When the U circuit is commonly used
- 4 Control voltage
  - 1: AC100V
  - 2: AC200V 3: AC110V

  - 4: AC220V 5: DC 24V
- (5) Working Fluid code
  - 0 : General working fluid (Refer to working fluid list in p24) ··· Standard
  - G: Water-Glycol (The tank to be made of steel)
- Options
  - Blank : Standard

  - H: With piping seat
    G: With primary pressure gauge
- 7 Gauge unit

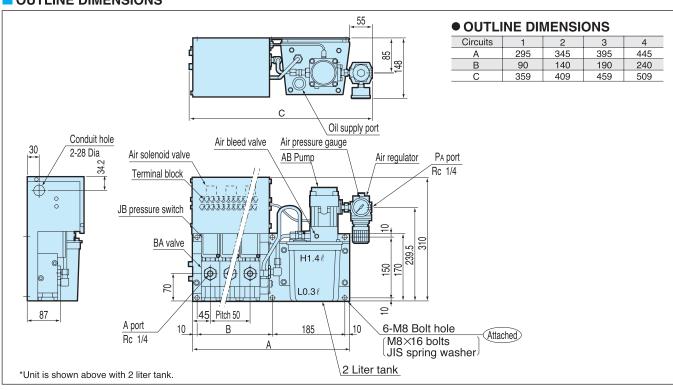
  - Blank: Standard MPa N: PSI unit and NPT piping exclusively used in USA P: PSI unit and Rc piping exclusively used in USA

Operating Pressure Code is classified according to the usage of the temperature relief valve.

#### SPECIFICATIONS

		Model	CP20M1- □ □ □-10	CP20N1- □R □R □R-10			
W	orking Pressure	e (MPa)	24	.5			
Ra	ated Pressure	(MPa)	36	5.8			
Ta	ink Capacity	(cm <sup>3</sup> )	2:2000 5:5000				
W	orking Tempera	ature	0 -	70℃			
W	orking Fluid		2.5 min / time :	20 times / day			
		Model	AB70	000-0			
	Duman	Set Discharge Pressure	24.5MPa	22.5MPa			
	Pump	Discharge Volume Under No Load	1.36 ℓ/min	1.30 ℓ/min			
nts		Set Air Pressure	0.45MPa	0.41MPa			
	Suction Filter	Model	JF1	030			
Ē	Suction Filter	Filter Element	174 µm (100mesh)				
mpone		Model	BA5011-0	BA5011 0/BA5R11-0			
Ξ	Valve	Orifice	12.6mm (P→A)	52.8mm (A→R)			
Co		Operating Pressure Ratio	1 / 62.5 (Pneun	natic/Hydraulic)			
		Clamp Circuit	JB280	00-M0			
<u>:</u>	Pump	Purpose/Set Pressure	Check inc. pressu	ıre/INC. 17.6MPa			
Mai	Fullip	Lifter Circuit	JB100	00-M0			
		Purpose/Set Pressure	Check dec. pressure/DEC. 2.94MPa				
	Suction Filter	Model	_	BR5N11-0			
	Suction Filler	Set Pressure	_	24.5 <sup>+2.45</sup> MPa			

- \*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.
- \*4. Auto drain type air filter should be used when air supply has much moisture or air supply is at the end of supply line.
  If hydraulic pressure gauge is used in the circuit,
- install damper or use gauge containing grease.
  \*6. Leave enough space under uint to remove tank in case oil or suction filter should be changed.





The CS unit is a hydraulic unit equipped with the AC pump used for the system requiring a flow rate higher than that of the CP unit.



#### MODEL CODE CS5 OM O - CCCD 5 (3)

Design No.

NON STOCKING ITEM

#### 1 Normal pressure code

0M: 24.5 MPa

Supply air pressure 0.47 MPa, without temperature compensating valve

0N: 24.5 MPa

Supply air pressure 0.44 MPa, with temperature compensating valve

#### ② Circuit symbol

- Normal open circuit for clamp (single solenoid valve)
- Normal close circuit for die lifter (single solenoid valve)
  Pressure compensating valve (micro flow relief valve)
  Double solenoid circuit for clamp
  Double solenoid circuit for die lifter

- Normal open circuit for clamp\*2 Normal close circuit for die lifter\*2
- \*2 When the U circuit is commonly used

#### 3 Control voltage

- 1 : AC100V 2 : AC200V
- 3: AC110V
- 4: AC220V
- 5: DC 24V

#### 4 Working Fluid

- 0 : General working fluid (Refer to working fluid list in p24) ··· Standard
- S: Silicone oil G: Water-Glycol (The tank to be made of steel)

#### (5) Options

Blank : Standard H : With piping seat

G: With primary pressure gauge

#### (6) Gauge unit

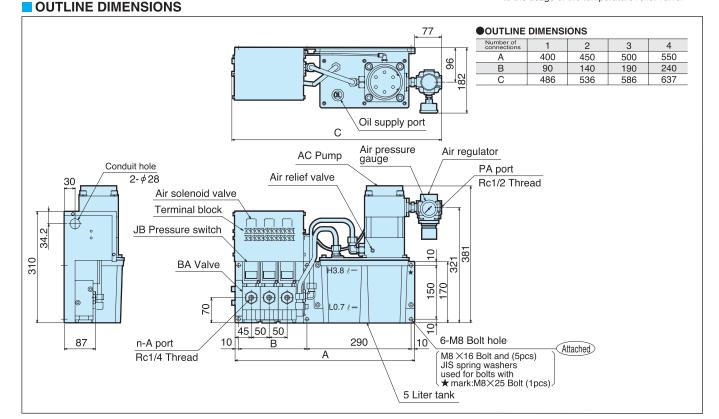
Blank: Standard MPa
N: PSI unit and NPT piping exclusively used in USA
P: PSI unit and Rc piping exclusively used in USA

Operating Pressure Code is classified according to the usage of the temperature relief valve.

#### SPECIFICATIONS

		Model	CS50M0	CS50N0- RRRR R-0			
W	orking Pressure	e (MPa)	24.	5			
Ra	ted Pressure	(MPa)	36.	8			
Ta	nk Capacity	(cm <sup>3</sup> )	5000				
W	orking Tempera	ature	0 - 7	0℃			
Fre	equency of Use	9	2.5 min / time :	20 times / day			
		Model	AC70	000			
	D	Set Discharge Pressure	24.5MPa	22.5MPa			
S	Pump	Discharge Volume under No Load	2.79 ℓ/min	2.70 ℓ/min			
T T		Set Air Pressure	0.47MPa	0.44MPa			
n e	Suction Filter	Model	JF10	30			
0	Suction Filter	Filter Element	174 µm (100 mesh)				
d L		Model	BA5011-0	BA5011-0/BA5R11-0			
omp	Valve	Orifice	12.6mm²( P→A) 52.8mm²( A →R)				
O		Operating Pressure Ratio	1/62.5				
⊏		Clamp Circuit	JB280	O-M0			
Mai	Pressure	Purpose/Set Pressure	Check inc. pressu	re/INC. 17.6MPa			
Σ	Switch	Lifter Circuit	JB100	O-M0			
		Purpose/Set Pressure	Check dec. pressu	re/DEC. 2.94MPa			
	Relief Valve	Model	_	BR5N11-0			
	nellel valve	Set Pressure	<u> </u>	24.5 <sup>+2.45</sup> MPa			

- \*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.
- \*4. Auto drain type air filter should be used when air supply has moisture.
- \*5. If hydraulic perssure gauge is used in the circuit, install damper or use gauge containing grease.
- \*6. Leave enough space under uint to remove tank in case oil or suction filter should be changed.





CB is a compact air driven hydraulic power unit generating 24.5MPa. It is used in conjunction with nonleak type valves.



#### MODEL CODE 2 | ON | O -

Design No.

- 1 Tank capacity code 2 : 2  $\ell$  tank(H.L.-L.L.=1.1 $\ell$ ) 5 : 5  $\ell$  tank(H.L.-L.L.=3.1 $\ell$ )
- 2 Normal pressure code\*1 0M: 24.5 MPa Supply air pressure 0.45 MPa 0N: 24.5 MPa
  - Supply air pressure 0.41MPa, for BC Unit with temperature compensating valve
- 3 Fluid code
  - 0 : General working fluid
  - (Refer to working fluid list in p24) ··· Standard S : Silicone oil

  - G : Water-glycol (The tank to be made of steel)

- Blank: Standard air regulator only
  D: With filter regulator (Automatic drain type)
  Q: With level switch

#### ⑤ Gauge unit

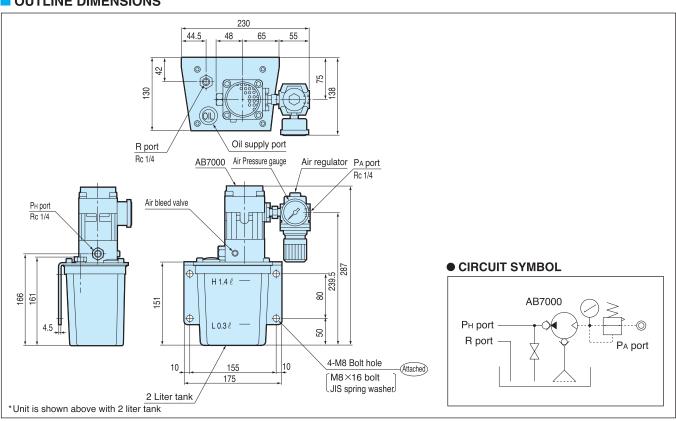
Blank : Standard MPa N : PSI unit and NPT piping exclusively used in USA P : PSI unit and Rc piping exclusively used in USA

Operating Pressure Code is classified according to the usage of the temperature relief valve of the BC unit.

SPECIFICATIONS

Model			CB □0M0-0	CB□0N0-0
W	orking Pressure	(MPa)	24	5
Ra	ted Pressure	(MPa)	36	5.8
Ta	nk Capacity	(cm <sup>3</sup> )	2:2000	5:5000
Working Temperature			0 - 7	'0℃
Frequency of Use			2.5 min /time : 20 times / day	
ts		Model	AB7000-0	
len		Set Discharge Pressure	24.5MPa	22.5MPa
ğ	Pump	Discharge Volume under No Load		1.30 ℓ/min
Components		Air Consumption	max. 0.4m <sup>3</sup> (l	Normal) /min
		Set Air Pressure	0.45MPa	0.41MPa
Main	Suction Filter	Model	JF1	030
2	Suction Filler	Filter Element	174 μm (100 mesh)	

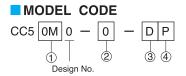
- \*1. For other fluids, consult us.
- \*2. If fluid viscosity is higher, action will be slower
- \*3. Action at low temperature will be slower as fluid viscosity is higher.
  \*4. Auto drain type air filter should be used when air supply has moisture.
- \*5. CD pump is not designed for continuous (open circuit) operation.
- \*6. If used valves that have internal leakage, pump will run continuously ,greatly reducing life expectancy. We recommend KOSMEK non-leak valves.





This is a high flow rate air-driven pump unit to be used in combination with a 3-port Non-leak Valve Unit (BC or BH).





NON STOCKING ITEM

① Normal pressure code\*1
OM: 24.5 MPa
Supply air pressure 0.47 MPa
ON: 24.5 MPa
Supply air pressure 0.44 MPa, for BC Unit with temperature compensating valve

2 Fluid code

0 : General working fluid

(Refer to working fluid list in p24) ··· Standard S : Silicone oil

G : Water-glycol (Excluding AC8000 and AC9000)

(The tank to be mede of steel)

3 Options

Blank : Standard air regulator only D : With filter regulator (automatic drain type)

Q : With level switch

4 Gauge unit

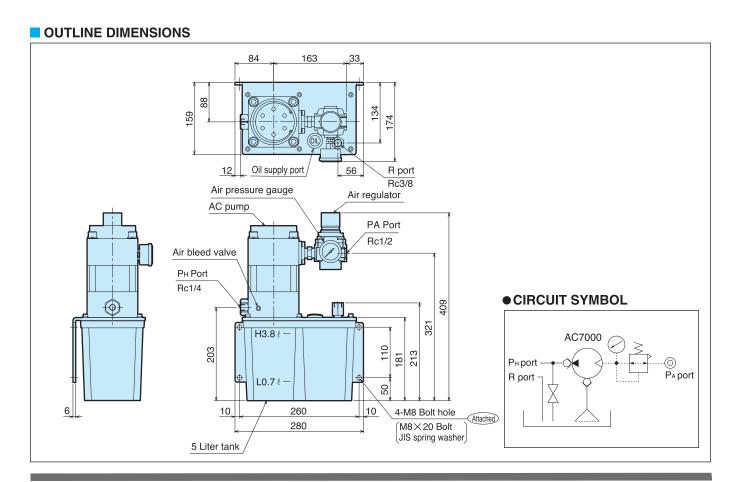
Blank : Standard MPa
N : PSI unit and NPT piping exclusively used in USA
P : PSI unit and Rc piping exclusively used in USA

Operating Pressure Code is classified according to the usage of the temperature relief valve of the BC unit.

#### SPECIFICATIONS

Model			CC50M0-0	CC50N0-0			
W	orking Pressure	(MPa)	24	.5			
Ra	ated Pressure	(MPa)	36	5.8			
Ta	nk Capacity	(cm³)	50	00			
Working Temperature			0 - 7	70℃			
Frequency of Use			2.5 min /time : 20 times / day				
ts	Model		AC7000				
neu		Set Discharge Pressure	24.5MPa	22.5MPa			
Components	Pump	Discharge Volume under No Load	2.79 ℓ/min	2.70 ℓ/min			
Son		Set Air Pressure	0.47MPa	0.44MPa			
	Suction Filter	Model	JF1	030			
Main	Suction Filter	Filter Element	174 μm (100 mesh)				

- \*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.
- \*4. Auto drain type air filter should be used when air supply has moisture.
- \*5. CD pump is not designed for continuous (open circuit) operation.
- \*6. If used valves that have internal leakage, pump will run continuously, greatly reducing life expectancy. We recommend KOSMEK non-leak valves.





#### BC is an electrical controlled air-piloted non-leak hydraulic valve.



SPECIFICATIONS

Working Pressure

Rated Pressure

Control Voltage

Working Fluid

Valve

Pressure

Switch

Relief Valve

\*1. For other fluids, consult us.

Main Conponents

Frequency of Use

Working Temperature

Model

Model

Orifice

Clamp Circuit

Lifter Circuit

Set Pressure

Model

\*2. If fluid viscosity is higher, action will be solwer.

\*3. Action at low temperature will be slower as fluid

Operating Pressure Ratio

Purpose/Set Pressure

Purpose/Set Pressure

#### MODEL CODE

BC00M1- -10

BA5011-0

24.5

36.8

AC100V (60/50Hz)

0 - 70℃

ISO-VG-32 or equivalent hydraulic fluid

1/62.5

JB2800-M0

Check inc.pressure/INC. 17.6MPa

JB1000-M0 Check dec.pressure-DEC. 2.94MPa

\*4. Auto drain type air filter should be used when

range of valve. Higher pressure will damage the seals.

20times/day

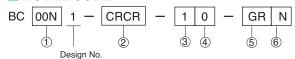
52.8mm<sup>2</sup> (A→R)

2.5min/time:

12.6mm<sup>2</sup> (P→A)

(MPa)

(MPa)



BC00N1- RRRR-10

BA5011-0/BA5R11-0

BR5N11-0

24.5<sup>+24.5</sup><sub>0</sub> MPa

1 Normal Pressure Code\*1

00M: 24.5 MPa

(without temperature compensating valve)

00N : 24.5 MPa

(with temperature compensation valve)

- 2 Circuit symbol
  - C : Normal open circuit for clamp (single solenoid valve) D : Normal close circuit for die lifter (single solenoid valve)

  - Pressure compensating valve (micro flow relief valve)

    Double solenoid circuit for clamp

  - V : Double solenoid circuit for die lifter G : Normal open circuit for clamp\*2

  - H: Normal close circuit for die lifter\*2
  - \*2 When the U circuit is commonly used

#### (3) Control voltage

- 1: AC100V 2: AC200V 3: AC110V 4: DC220V
- 5: DC 24V

#### 4 Working Fluid

- 0 : General working fluid (Refer to working fluid list in p24) ··· Standard
- S : Silicone oil G: Water-Glycol

#### ⑤ Options

Blank : Standard

GR: Provided with primary pressure gauge on the right GL: Provided with primary pressure gauge on the left

H : Provided with piping seat on the left (PH port)

#### 6 Gauge unit

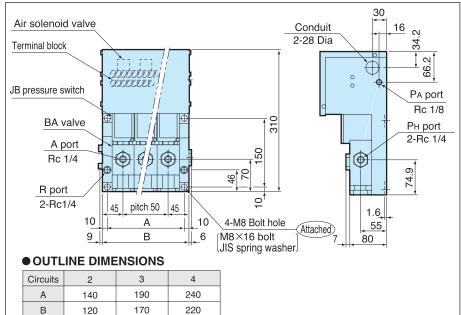
Blank : Standard MPa

N : PSI unit and NPT piping exclusively used in USA P : PSI unit and Rc piping exclusively used in USA

#### Note \*1

The marks of "Normal pressure code" change depending on the existence of the temperature compensating valve shown in "Circuit type" of BC Unit to be used.

#### viscosity is higher. OUTLINE DIMENSIONS



#### air supply has moisture. CIRCUIT SYMBOL \*5. Working pressure must be kept within working

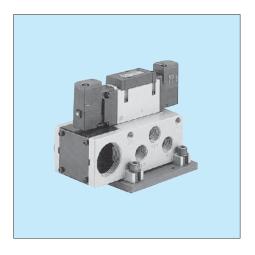
Action Symbol	Normal open (Circuit for clamp)	Normal close (Circuit for lifter)
С	1	_
CC	2	_
CCC	3	_
CCD	2	1
CCCD	3	1

\*Above is only a partial list of available circuits. For other circuit, please consult us

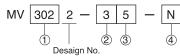
#### \*When die lifter circuit only







#### MODEL CODE



1 Size Designation

301 : For small and medium clamps 302 : For large clamps \*Please consult us when a large number of clamps are used

2 Number of Control Circuits

1 : 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 \*Please contact us for other circuits

③ Control voltage

1: AC100V 2: AC200V 5: DC 24V \*Please contact us for other voltage

4 Options

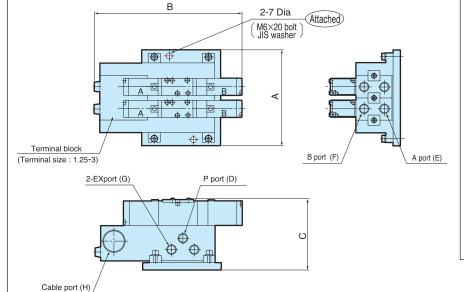
Blank: standard N: NPT port \*1

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

#### SPECIFICATIONS

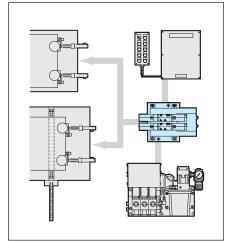
Model	MV3012	MV3022	
Type	Metal seal /5 port piloted		
Solenoid Position and Number	2 position	n double	
Port Size	Rc 1/4 Rc 3/8		
Effective Area	15 mm²	36 mm²	
Working Fluid	Air		
Maximum Working Pressure	1.0MPa		
Rated Pressure	1.5MPa		
Temperature of Working Fluid	-10 to +60°C		
Oil Supply	not required		
Protection	dust-proof		
Solenoid Model (SMC Model)	VFS2200	VFS3200	

#### OUTLINE DIMENSIONS



#### TYPICAL LAYOUT

\*Supply clean air through an air filter.



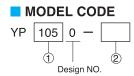
#### OUTLINE DIMENSIONS

OOTEINE	OUTLINE BINICIONO								
Model	Circuit	Α	В	С	D	E	F	G	Н
MV3012-1	1	75	166.5	74				Rc <sup>1</sup> /8	G 1/2
MV3012-2	2	120	186.5	90.5	Rc 1/4	Rc 1/4	Rc 1/4	Rc 1/4	G3/4
MV3012-3	3	150	180.5	90.5				RC /4	G 74
MV3022-1	1	90	170.5	102	Rc <sup>3</sup> /8			Rc <sup>3</sup> /8	G <sup>1</sup> / <sub>2</sub>
MV3022-2	2	150	181	132	D- 14	Rc <sup>3</sup> /8	Rc <sup>3</sup> /8	Rc 1/2	G1 1/4
MV3022-3	3	185	101	102	Rc 1/2	· ·		Rc ½	G1 /4

\*Two circuit valve illustrated above.

# OPERATION AND CONTROL PANEL





#### NON STOCKING ITEM

- ① Control circuit number : Refer to circuit configuration list.
- 2 Options
  - : Contact us.

#### e.g. YP1050-N

- Circuit configuration
- Upper GE clamp
- Lower GB clamp
- MRA die lifter
- Written in English

• written in Engi

NOTE All types shall be produced after an order received.If you place an order, ask delivery time in advance.

#### **SPECIFICATIONS**

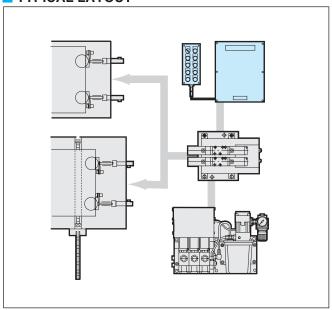
Туре		Separate Operator and Control Panel Type	
Power Supply Volta	ige	AC100V 50/60Hz	
Power Supply Capacity		5A	
Controls	Power	Circuit Protector (in Control Enclosure)	
	Die Change Selector	Key Switch	
	Each Operation	Illuminated Push Button	

#### DESCRIPTION OF ACTIONS AND INTERLOCKS

	Die Change Mode	OFF
leste el entre	Upper Die	Lock (from pressure switch)
Interlocks (for press operation)	Lower Die	Lock (from pressure switch)
(ioi piodo opoianoii)	Auto-Slider	Forward End (from forward check switch)
	Die Lifter	Down (from pressure switch)
	Die Change Mode	ON
	Upper Clamp	Press Slide Lower Dead Point (from press)
Interlocks		Die Lifter ··· Down (from pressure switch)
(for clamp operation)	Lower Clampr	Die Lifter Down (from pressure switch)
	D: 1:0	Press Slide ··· Upper Dead Point (from press)
	Die Lifter	Lower Clamp ···Released (from pressure switch)

<sup>\*</sup>When using YP series control panels, press interface should be prepared by customer.

#### TYPICAL LAYOUT



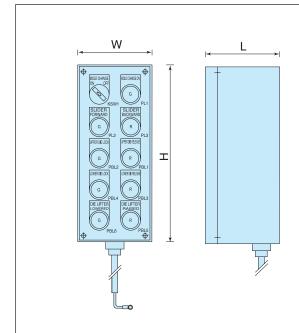
#### **CIRCUIT CONSTRUCTION**

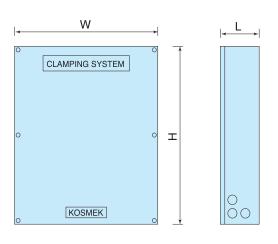
Model	Upper clamp		Lower clamp			Hydraulic Unit
Model	Front	Back	Front	Back	Die lifter	Model
YP1000	cla	mp	cla	amp	_	CC
YP1010	cla	mp	cla	amp	0	CCD
YP1020	clamp	clamp+slider	cla	amp	_	CC
YP1030	clamp	clamp+slider	clamp		0	CCD
YP1040	clamp-	+slider	clamp		_	CC
YP1050	clamp-	+slider	clamp		0	CCD
YP1060	clamp	clamp+slider	clamp clamp+slider		_	CC
YP1070	clamp	clamp+slider	clamp	clamp+slider	0	CCD
YP1080	clamp+slider		clamp	clamp+slider	_	CC
YP1090	clamp+slider		clamp	clamp+slider	0	CCD
YP1100	clamp +slider		clamp+slider		_	CC
YP1110	clamp+slider		clamp	+slider	0	CCD

<sup>\*</sup>Four upper clamps and four lower clamps are standard. For more clamps, consult us.

This control system provides safe operation of clamping systems. Select model according to system specifications.

#### **OUTLINE DIMENSIONS**





#### ullet Operation $\cdot$ Control Panel (W×H×L)

Model	Operaion Panel	Control Panel
YP1000 YP1010	120×230×120	450 × 350 × 120
YP1020	120×230×120	
YP1030	120×280×120	
YP1040	120×230×120	
YP1050	120×280×120	
YP1060	120×230×120	450 × 530 × 120
YP1070	120×280×120	
YP1080	120×230×120	
YP1090	120×280×120	
YP1100	120×230×120	
YP1110	120×280×120	

#### **• STANDARD PAINT COLOR**

	Operator Panel and Control Panel	
Outer	5Y8.4/0.5	
Inner		

When specifying paint color,

- 1.Please indicate by Munsell No.or sample color.
- 2.For colors other than standard, an extra charge will be applied.

### **ACCESSORIES**

# PS/COUPLER SWITCH 9 41.2 Conduit G1/2 Thread G5 52 G65 GM6×20Bolt) Exclusive coupler 2HS(3HS) ( ) shows the dimension of a PS0711

**JGA** and **JGB**/PRESSURE GAUGE

□14

R1/4 Thread

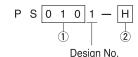
54.5

**JGA** 

JGB

The press is interlocked through electrical signals to ensure the disengagement of the hydraulic hose.

#### MODEL CODE



Application 010:2HS(Nitto Koki) for Rc1/4 thread 071:3HS(Nitto Koki) for Rc3/8 thread Switch manufacturer
 H:Standard
 (manufactured by Yamatake)
 T:Special(manufactured by Omron)

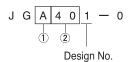
NOTE Types inside shall be produced after an order received. If you place an order. ask delivery time in advance.

Type	PS0101	PS0711	
Limit switch	5LS1-J (Yamatake)		
	10A-125, 250, 480VAC		
Eta aleta augus	0.8A-115VDC		
Electric rating	0.4A-230VDC		
	0.1A-550VDC		
Circuit type	Two-circuit dual shutoff type (1	a1b)	
Compatible coupler type	oler 2HS 3		



Remarks:Select an applicable coupler having the same specifications as the BK valve.

#### MODEL CODE

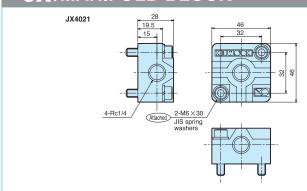


①Type A:Bottom port type B:Back port type ②Maximum indicating pressure 40:40.0 MPa

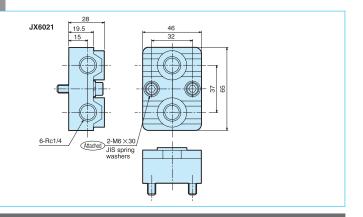
NOTE 1)Products with PSI unit are not available. We recommend you to

Туре	JGA401 JGB401		
Maximum range MPa	40.0		
Accuracy	JIS Class 1.6		
		(Filled with glycerine)	

#### **JX**/MANIFOLD BLOCK



Width across flats 12





#### RECOMMENDED HYDRAULIC OIL LIST

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	

#### Notes for placing an order

- ① Specify the model designation completely.
- ② Some of the model designations of our product have our control number at its end. This number showing a production design lot does not affect compatibility between products. You need not specify this number when placing an order.
- ③ Even if products having different control numbers are delivered at the same time, there exists no problem concerning the compatibility.
- ④ In addition to the products that are described to be manufactured after obtaining an order, some products may be manufactured according to the mold specifications and so on. Contact us for the delivery time.

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 datails.

**QUICK MOLD CHANGE SYSTEMS** 



## **KDCS**

**KOSMEK DIECAST CLAMPING SYSTEMS** 



**KOSMEK WORK CLAMPING SYSTEMS** 

Components for hydraulic jig of various machine tools.

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





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.

1441 BRANDING AVENUE, SUITE 110 DOWNERS GROVE, IL 60515 USA TEL.630-241-3465 FAX.630-241-3834

- FOR FURTHUR INFORNATION ON UNLISTED
- SPECIFICATIONS ON THIS LEAFLET ARE SUBJECTED TO CHANGE WITHOUT NOTICE.



