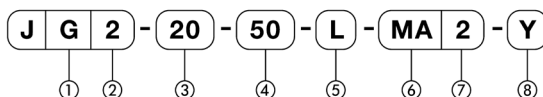


J Series

Air cylinder/Standard type

Ø20, Ø25, Ø32, Ø40

Ordering Instructions



① Magnet

C: No magnet (without switch available)

G: Cylinder with switch available (with built-in magnet)

② Action

2: Double-acting, single rod

1: Single-acting (Spring return)

0: Single-acting (Spring extend)

③ Bore (mm)

20: Ø20

25: Ø25

32: Ø32

40: Ø40

④ Stroke (mm)

Refer to Standard Stroke table

⑤ Mounting

N: Standard type

L: Axial foot

A: Mounting plate

C: Eye

T: Center trunnion

⑥ Sensor switch type

No symbol	No switch	
MA	MA-1 (AC110V, DC24V)	M type Reed switch
MB	MD-1 (DC24V)	
MC	MD-3 (DC5, 6V)	
MD	MR (AC, DC5~110V)	
ME	MA-2L (AC110V)	
MF	MA-2H (AC220V)	M type Proximity switch
MG	MT-3 (DC5~30V)	
MH	MT-3U (DC5~30V)	
MJ	MT-2 (DC24V)	
MK	MT-2U (DC24V)	

⑦ Number of switches

No symbol: No switch

2: With 2 units

1: With 1 unit

⑧ Accessories

No symbol: Rod end nut

Y: With rod end clevis

I: With rod end eye

(note) Y: Provided with pin

Model No. of Packing

Bore (mm)	Packing
Ø20	J20-PS
Ø25	J25-PS
Ø32	J32-PS
Ø40	J40-PS

Model No. of Sensor Switch Mounting Bracket

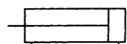
Bore (mm)	M type sensor switch
Ø20	J20-MJ
Ø25	J25-MJ
Ø32	J32-MJ
Ø40	J40-MJ

Model No. of Mounting Bracket

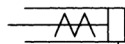
Bore (mm)	Ø20	Ø25	Ø32	Ø40
Axial foot mount bracket	J20-L	J25-L	J32-L	J40-L
Flange mount bracket	J20-A	J25-A	J32-A	J40-A
Eye mount bracket	—	—	J32-C	J40-C
Trunnion mount bracket	J20-T	J25-T	J32-T	J40-T



JIS Label



Double acting

Single acting
(Spring return)Single acting
(Spring extend)

Value shown in this catalog is shown in SI unit.
However, value within this output table is in generic
unit. Use the following formula to convert to SI unit :

$$\text{Pressure } Y (\text{MPa}) = X (\text{kgf/cm}^2) \times 9.80665 \times 10^{-2}$$

$$\text{Force } Y (\text{N}) = X (\text{kgf}) \times 9.80665$$

Specifications

Action	Unit	Double-acting	Single-acting
Fluid		Non-lubricated air/Lubricated air	
Pressure range	MPa(kgf/cm ²)	0.1~0.7(1.0~7.1)	0.2~0.7(2.0~7.1)
Temperature range	°C	5~60	
Piston speed range	mm/s	50~500	
Cushion		Built-in damper	
Piston stroke allowance	mm	+1.0 0	
Mounting		Standard type, Axial foot, Mounting plate, Eye, Center trunnion	

Standard stroke

(Unit : mm)

Action	Bore	Standard stroke	Max. stroke
Double-acting	Ø20	15, 25, 50, 75, 100, 125, 150	500
	Ø25	25, 50, 75, 100, 125, 150	
	Ø32	25, 50, 75, 100, 125, 150, 200, 250, 300	
	Ø40	50, 75, 100, 125, 150, 200, 250, 300	
Single-acting	Ø20	15, 25, 50	150
	Ø25	25, 50	

Spring force

(Unit : kgf)

Bore (mm)	Ø20			Ø25	
stroke (mm)	15	25	50	25	50
stroke 0	1.0	1.0	1.0	1.5	1.5
Max. stroke	3.0	4.4	4.4	4.6	4.6

Theoretical output

(Unit : mm)

Bore (mm)	Mounting	Operating pressure (kgf/cm ²)						
		1	2	3	4	5	6	7
Ø20	Out stroke	3.1	6.2	9.4	12.5	15.7	18.8	21.9
	In stroke	2.3	4.7	7.1	9.4	11.8	14.1	16.5
Ø25	Out stroke	4.9	9.8	14.7	19.6	24.5	29.4	34.3
	In stroke	3.8	7.6	11.3	15.1	18.9	22.7	26.4
Ø32	Out stroke	8.0	16.1	24.1	32.2	40.2	48.3	56.3
	In stroke	6.5	13.0	19.5	26.0	32.5	39.0	45.5
Ø40	Out stroke	12.6	25.1	37.7	50.2	62.8	75.4	87.9
	In stroke	10.6	21.1	31.7	42.2	52.8	63.3	73.9

(Note) Effective output = Theoretical output x 0.85

Accessories

	Name	Standard type	Axial foot	Mounting plate	Eye	Center trunnion
Standard	Standard nut	○	○	○	—	—
	Rod end nut	○	○	○	○	○
Optional	With rod end clevis	○	○	○	○	○
	With rod end eye	○	○	○	○	○

Cylinder mass/Double-acting

(Unit: g)

Mounting	Bore (mm)	Stroke (mm)									
		15	25	50	75	100	125	150	200	250	300
Standard type	∅20	139	155	182	209	236	263	290	—	—	—
	∅25	—	289	326	363	400	437	474	—	—	—
	∅32	—	470	520	570	620	670	720	820	920	1020
	∅40	—	—	840	910	980	1050	1120	1260	1400	1540
Eye	∅20	137	153	180	207	234	261	288	—	—	—
	∅25	—	289	326	363	400	437	474	—	—	—

Cylinder mass/Single-acting (Unit: g)

Mounting	Bore (mm)	Stroke (mm)		
		15	25	50
Standard type	∅20	212	206	286
	∅25	—	366	475
Eye	∅20	210	204	284
	∅25	—	366	475

Accessories mass

(Unit: g)

Mounting	Bore (mm)			
	∅20	∅25	∅32	∅40
Axial foot	112	128	190	270
Mounting plate	50	65	80	170
Eye	—	—	90	160
Center trunnion	75	61	100	160

Model with switch

M type reed switch

Lead with wire



Model No.	Rated voltage (V)	Rated current (mA)	Pilot lamp (Lights up at ON)	Application
MA-1	AC110	5~45	○	Relay PLC
	DC24	5~45		
MD-1	DC24	25~65	○	Relay
MD-3	DC5, 6	Max.50 (Inductive load) Max.300 (Resistive load)	○	IC circuit
MR	AC DC 5~110	Max.50 (Inductive load) Max.300 (Resistive load)	No indicator	Relay PLC
MA-2L	AC110	5~150	○	Relay
MA-2H	AC220	5~150	○	Relay

M type proximity switch

Lead with wire



Model No.	Rated voltage (V)	Rated current range (mA)	Pilot lamp (Lights up at CN)	Application
MT-2 MT-2U	DC24 (DC10~30)	5~100	○	Relay PLC
MT-3 MT-3U	DC5~30	5~200	○	Relay PLC IC circuit

Minimum stroke with M type switch (Unit: mm)

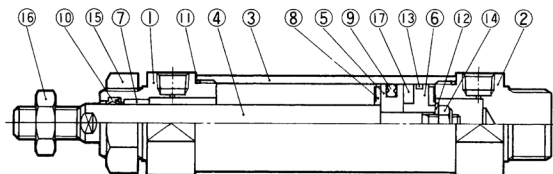
Bore	Number of switches		
	With 2 units (on the same surface)	With 2 units (on the different surfaces)	With 1 unit
∅20	50	15	5
∅25			
∅32			
∅40			

(Note) The MA-2L is the same as the MA-1 except that MA-2L is also equipped with protective circuit SS-2L.

The MA-2H is the same as the MA-1 except that MA-2H is also equipped with protective circuit SS-2H.

Construction

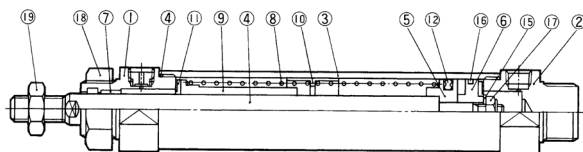
Double-acting



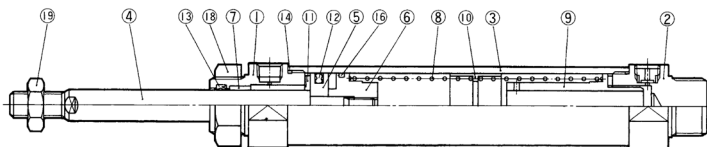
Parts List

No.	Name	No.	Name	No.	Name
1	Front cover	7	Bearing	13	Wear ring
2	End cover	8	Damper	14	U-shaped nut
3	Outer tube	9	Piston packing	15	Standard nut
4	Piston rod	10	Rod packing	16	Rod end nut
5	Piston A	11	O-ring for cover	17	Magnet
6	Piston B	12	End cover gasket		

Single-acting (Spring return)



Single-acting (Spring extend)



Parts List

No.	Name	No.	Name	No.	Name
1	Front cover	8	Resetting spring	15	End cover gasket
2	End cover	9	Stroke braker	16	Wear ring
3	Outer tube	10	Spring connect point	17	U-shaped nut
4	Piston rod	11	Damper	18	Standard nut
5	Piston A	12	Piston packing	19	Rod end nut
6	Piston B	13	Rod packing		
7	Bearing	14	O-ring for cover		

Packing list

Bore (mm)	9. Piston packing		10. Rod packing		11. O-ring for cover	
	Model No.	Amount	Model No.	Amount	Model No.	Amount
Ø20	PSD-20	1	PDU-10Z	1	SO-015-21	2
Ø25	PSD-25	1	PDU-12Z	1	SO-015-25	2
Ø32	PSD-32	1	PDU-14Z	1	SO-015-29	2
Ø40	PSD-40	1	PDU-16Z	1	SO-015-30	2

(Note) Packing repair and assembly kits are also available for purchase.

(Unit: mm)

Technical drawing of a piston assembly with the following dimensions and labels:

- Top Dimensions:** 34, 21, 13, 15, 109 + Stroke, 75 + Stroke.
- Left Side Dimensions:** 14, 5, 8, 15, 13.
- Internal Dimensions:** 1.5, 8, 8.
- Threaded Sections:** M8 x 1.25, 2-Rc(PT) 1/8, M18 x 1.5.
- Flange Dimensions:** Width across flats 13, Width across flats 24.
- Bore and Pin Dimensions:** $\phi 28$, $\phi 19$, $\phi 10$, $\phi 25$.

Technical drawing of a shaft assembly. The drawing includes a side view and a cross-sectional view. Key dimensions and labels are as follows:

- Overall Length:** 104 + Stroke
- Internal Thread Section:** 2-Rc(PT) $\frac{1}{8}$
- Flange Dimensions:**
 - Outer diameter: $\phi 28$
 - Inner diameter: $\phi 19_{-0.1}^0$
 - Width across flats: 13
- Shaft Diameter:** $\phi 25$
- End Flange Dimensions:**
 - Outer diameter: $\phi 15$
 - Inner diameter: $\phi 5^{+0.02}_0$
 - Width across flats: 12 ± 0.1
- Other Dimensions:**
 - 34 (total length of first section)
 - 21, 13, 15 (segment lengths)
 - 14, 5, 1.5, 8 (flange thicknesses)
 - 70 + Stroke (total length of second section)
 - 15, 8, 7 (segment lengths)
 - 8, 7.5 (flange thicknesses)
 - C3 (surface finish symbol)
- Labels:**
 - M8 $\times$ 1.25 (thread specification)
 - M18 $\times$ 1.5 (thread specification)

(Unit: mm)

Technical drawing of a shaft assembly. The drawing shows a shaft with various diameters and lengths. Key dimensions and labels include:

- Top dimensions: 119 + Stroke, 42, 77 + Stroke, 15, 15.
- Left side dimensions: 27, 15, 15, 20, 6, 1.5, 1.5, 10, 8.
- Thread specifications: M10 x 1.5, 2-Rc(PT) 1/8, M22 x 1.5.
- Diameters: $\phi 32$, $\phi 12$, $\phi 23_{-0.1}^0$, $\phi 30$.
- Widths: Width across flats 17, Width across flats 27.

Technical drawing of the 1000 Series 1/2. The drawing includes a front view on the left and a side view on the right. The front view shows a square base with a central hexagonal hole and four smaller holes. Dimensions are: overall width 75, overall height 35, central hole diameter 55, distance from center to side holes 18, and hole diameter 4-φ6.8. The side view shows a cylindrical shaft with a diameter of 4.5 and a hexagonal section.

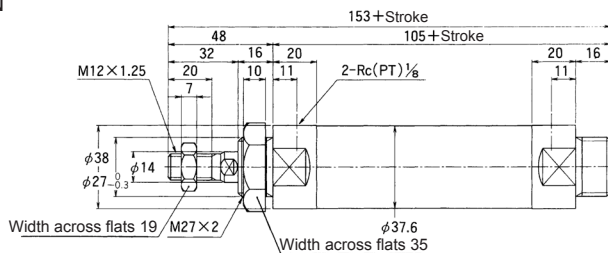
[illegible]

The technical drawing illustrates a shaft-hub assembly. The left view is a cross-section of the hub, which has an outer diameter of $\phi 66$. It features two mounting holes with diameters of $\phi 8^{+0.02}_{-0.06}$, spaced 9.5 units apart from each other and 47 units apart from the center. A central hole has a diameter of $\phi 30$. The total width of the hub is 14 units. The right view shows the shaft, which has a diameter of $\phi 7.6^{+0.1}_{-0.02}$ at its end. The shaft passes through the hub, and the distance from the end face of the shaft to the first keyway is 9 units. The total length of the shaft shown is 37.5 units.

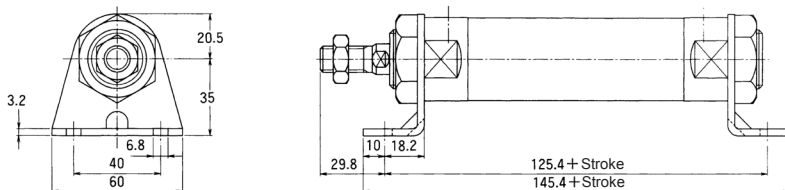
Double-acting $\varnothing 32/\text{JG2-32}$

(Unit: mm)

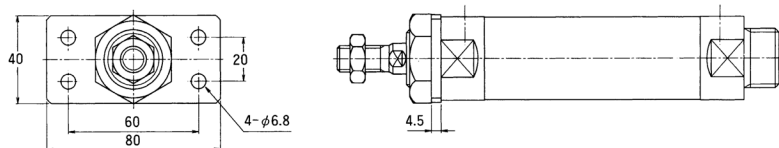
Standard type/N



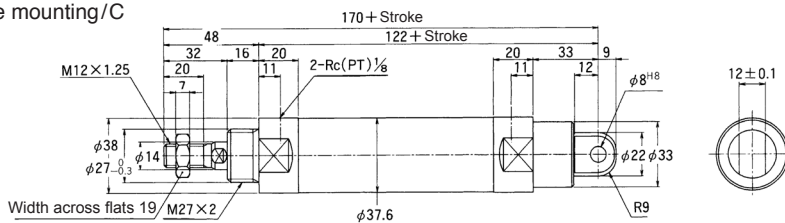
Axial foot mounting/L



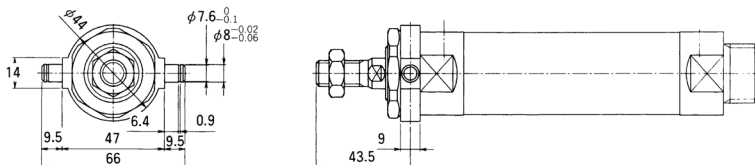
Mounting plate/A



Eye mounting/C

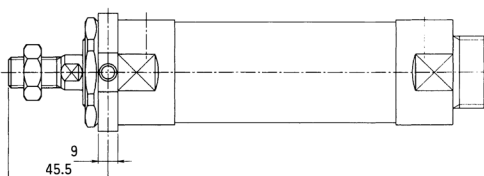
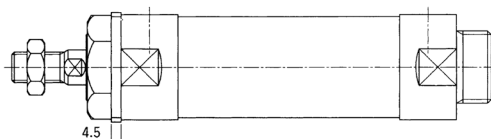
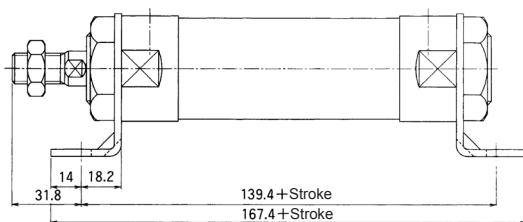
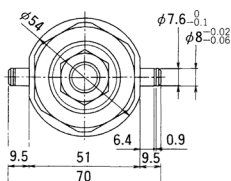


Center trunnion mounting/T



(Unit: mm)

Axial foot mounting/L

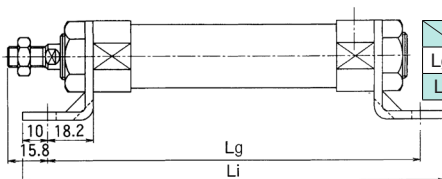


(Unit: mm)

Technical drawing of a shaft with dimensions and labels:

- Overall length: L
- Distance from left end to first step: M
- Step dimensions: 34, 21, 13, 15, 14, 8, 1.5
- Threaded section: $M8 \times 1.25$
- Inner diameter: $\phi 10$
- Outer diameter: $\phi 28$
- Inner diameter: $\phi 19_{-0.1}$
- Width across flats: 13
- Threaded section: $M18 \times 1.5$
- Outer diameter: $\phi 25$
- Width across flats: 24
- Surface finish: $Rc(PT) \frac{1}{8}$
- Step dimensions: 15, 13, 8

	15st	25st	50st
L	159	159	209
M	125	125	175



	15st	25st	50st
Lg	148.4	148.4	198.4
Li	168.4	168.4	218.4

[illegible]

	15st	25st	50st
L	154	154	204
M	120	120	170

(Unit: mm)

Technical drawing of a shaft-hub assembly. The drawing shows a shaft with a diameter of $\phi 30$ mm at the left end, which fits into a hub with a bore diameter of $\phi 23_{-0.1}^0$ mm. The shaft has a step change in diameter to $\phi 32$ mm towards the right. The hub has a total length of 42 mm, with a section of 15 mm at each end. The shaft has a total length of L mm, with a section of M mm between the two hubs. The distance from the center of the left hub to the start of the shaft's second diameter section is 27 mm. The distance from the center of the right hub to the end of the shaft's second diameter section is 27 mm. The shaft has a thread of M22 x 1.5 at the left end. The hub has a surface finish requirement of Rc(PT) 1/8. The width across flats of the shaft is 17 mm, and the width across flats of the hub is 27 mm.

	25st	50st
L	169	219
M	127	177

Technical drawing of the 1000 Series Ball Valve, showing front and side views with dimensions.

Front View Dimensions:

- Top flange thickness: 3.2
- Top flange outer diameter: 60
- Top flange inner diameter: 40
- Top flange hole diameter: 6.8
- Top flange hole offset: 16.5
- Body height: 28

Side View Dimensions:

- Body length: L_g
- Body diameter: 18.2
- Body offset: 10
- Body offset distance: 23.8
- Body diameter: L_i

	25st	50st
Lg	148.4	198.4
Li	168.4	218.4

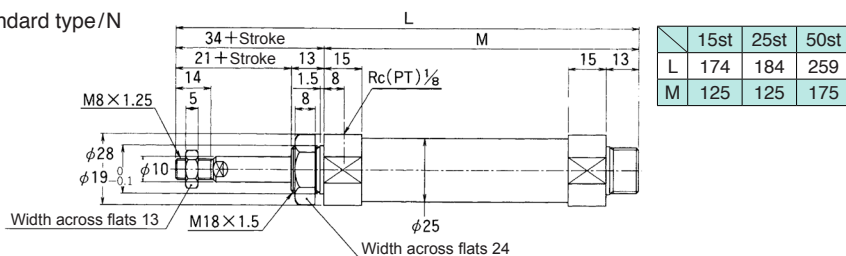
[illegible]

	25st	50st
L	165	215
M	123	173

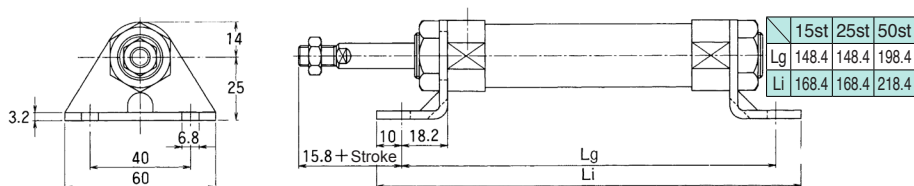
Single-acting (spring extend) $\varnothing 20/J\Box 0-20$

(Unit: mm)

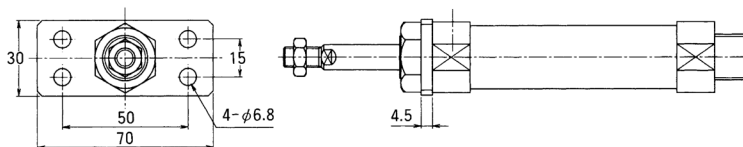
Standard type/N



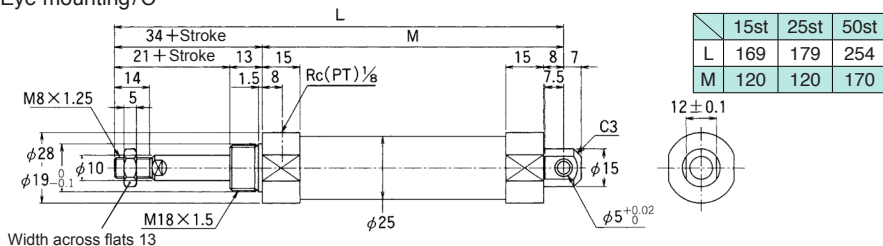
Axial foot mounting/L



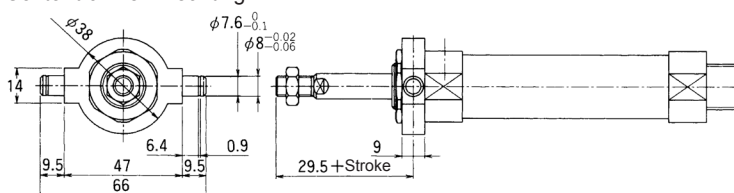
Mounting plate/A



Eye mounting/C



Center trunnion mounting/T



(Unit: mm)

Technical drawing of a shaft assembly. The drawing shows a shaft with various components and dimensions. Key dimensions include:

- Overall length: L
- Distance from left end to first component: $27 + \text{Stroke}$
- Distance between first and second components: 15
- Distance between second and third components: 15
- Distance from right end to third component: 15
- Distance from right end to fourth component: 15
- Distance from left end to second component: $42 + \text{Stroke}$
- Distance from left end to third component: M
- Distance from left end to fourth component: 20
- Distance from left end to fifth component: 6
- Distance from left end to sixth component: 1.5
- Distance from left end to seventh component: 8
- Distance from left end to eighth component: 10
- Distance from left end to ninth component: 15
- Distance from left end to tenth component: 15
- Distance from left end to eleventh component: 15
- Distance from left end to twelfth component: 15
- Distance from left end to thirteenth component: 15
- Distance from left end to fourteenth component: 15
- Distance from left end to fifteenth component: 15
- Distance from left end to sixteenth component: 15
- Distance from left end to seventeenth component: 15
- Distance from left end to eighteenth component: 15
- Distance from left end to nineteenth component: 15
- Distance from left end to twentieth component: 15
- Distance from left end to twenty-first component: 15
- Distance from left end to twenty-second component: 15
- Distance from left end to twenty-third component: 15
- Distance from left end to twenty-fourth component: 15
- Distance from left end to twenty-fifth component: 15
- Distance from left end to twenty-sixth component: 15
- Distance from left end to twenty-seventh component: 15
- Distance from left end to twenty-eighth component: 15
- Distance from left end to twenty-ninth component: 15
- Distance from left end to thirtieth component: 15
- Distance from left end to thirty-first component: 15
- Distance from left end to thirty-second component: 15
- Distance from left end to thirty-third component: 15
- Distance from left end to thirty-fourth component: 15
- Distance from left end to thirty-fifth component: 15
- Distance from left end to thirty-sixth component: 15
- Distance from left end to thirty-seventh component: 15
- Distance from left end to thirty-eighth component: 15
- Distance from left end to thirty-ninth component: 15
- Distance from left end to fortieth component: 15
- Distance from left end to forty-first component: 15
- Distance from left end to forty-second component: 15
- Distance from left end to forty-third component: 15
- Distance from left end to forty-fourth component: 15
- Distance from left end to forty-fifth component: 15
- Distance from left end to forty-sixth component: 15
- Distance from left end to forty-seventh component: 15
- Distance from left end to forty-eighth component: 15
- Distance from left end to forty-ninth component: 15
- Distance from left end to fiftieth component: 15
- Distance from left end to fifty-first component: 15
- Distance from left end to fifty-second component: 15
- Distance from left end to fifty-third component: 15
- Distance from left end to fifty-fourth component: 15
- Distance from left end to fifty-fifth component: 15
- Distance from left end to fifty-sixth component: 15
- Distance from left end to fifty-seventh component: 15
- Distance from left end to fifty-eighth component: 15
- Distance from left end to fifty-ninth component: 15
- Distance from left end to sixtieth component: 15
- Distance from left end to sixty-first component: 15
- Distance from left end to sixty-second component: 15
- Distance from left end to sixty-third component: 15
- Distance from left end to sixty-fourth component: 15
- Distance from left end to sixty-fifth component: 15
- Distance from left end to sixty-sixth component: 15
- Distance from left end to sixty-seventh component: 15
- Distance from left end to sixty-eighth component: 15
- Distance from left end to sixty-ninth component: 15
- Distance from left end to seventieth component: 15
- Distance from left end to seventy-first component: 15
- Distance from left end to seventy-second component: 15
- Distance from left end to seventy-third component: 15
- Distance from left end to seventy-fourth component: 15
- Distance from left end to seventy-fifth component: 15
- Distance from left end to seventy-sixth component: 15
- Distance from left end to seventy-seventh component: 15
- Distance from left end to seventy-eighth component: 15
- Distance from left end to seventy-ninth component: 15
- Distance from left end to eightieth component: 15
- Distance from left end to eighty-first component: 15
- Distance from left end to eighty-second component: 15
- Distance from left end to eighty-third component: 15
- Distance from left end to eighty-fourth component: 15
- Distance from left end to eighty-fifth component: 15
- Distance from left end to eighty-sixth component: 15
- Distance from left end to eighty-seventh component: 15
- Distance from left end to eighty-eighth component: 15
- Distance from left end to eighty-ninth component: 15
- Distance from left end to ninetieth component: 15
- Distance from left end to ninety-first component: 15
- Distance from left end to ninety-second component: 15
- Distance from left end to ninety-third component: 15
- Distance from left end to ninety-fourth component: 15
- Distance from left end to ninety-fifth component: 15
- Distance from left end to ninety-sixth component: 15
- Distance from left end to ninety-seventh component: 15
- Distance from left end to ninety-eighth component: 15
- Distance from left end to ninety-ninth component: 15
- Distance from left end to one hundredth component: 15

Labels and dimensions include:

- $M10 \times 1.5$
- $\phi 32$
- $\phi 23_{-0.1}^0$
- $\phi 12$
- Width across flats 17
- $M22 \times 1.5$
- Width across flats 27
- $\phi 30$
- $Rc(PT) \frac{1}{8}$

	25st	50st
L	194	269
M	127	177

	25st	50st
Lg	148.4	198.4
Li	168.4	218.4

	25st	50st
Lg	148.4	198.4
Li	168.4	218.4

[illegible]

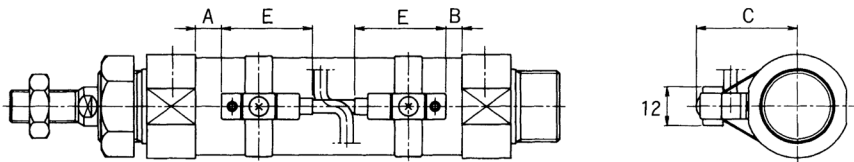
	25st	50st
L	190	265
M	123	173

Technical drawing of the 1000 Series Hydraulic Cylinder. The drawing includes a front view (left) and a side view (right). The front view shows a cylinder with a diameter of $\phi 38$ and a total length of 66. The side view shows a cylinder with a diameter of $\phi 7.6^{+0.1}_{-0.02}$ and a total length of $37.5 + \text{Stroke}$. The side view also shows a diameter of $\phi 8^{+0.02}_{-0.06}$ for the mounting bracket. The front view dimensions include a mounting bracket width of 14, a mounting bracket thickness of 9.5, a mounting bracket hole diameter of 47, a mounting bracket hole offset of 6.4, and a mounting bracket hole offset of 0.9. The side view dimensions include a mounting bracket thickness of 9 and a mounting bracket hole diameter of 37.5 + Stroke.

Sensor switch mounting position / M type sensor switch

(Unit: mm)

M type sensor switch



Action	Bore & Stroke		M type reed switch		M type proximity switch	
			A	B	A	B
Double -acting	Ø20		8	6	11	10
	Ø25		8	6	12	9
	Ø32		16	15	19	19
	Ø40		17	16	20	20
Single-acting (Spring return)	Ø20	15st	43	6	46	10
		25st	33	6	36	10
		50st	58	6	61	10
	Ø25	25st	33	6	37	9
		50st	58	6	62	9
Single-acting (Spring extend)	Ø20	15st	8	41	11	45
		25st	8	31	11	35
		50st	8	56	11	60
	Ø25	25st	8	31	12	34
		50st	8	56	12	59

Bore	M type sensor switch	
	C	
Ø20	29	
Ø25	31	
Ø32	35	
Ø40	39	

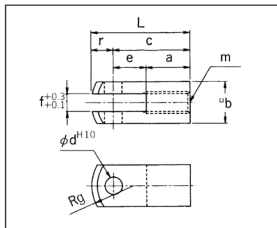
Switch	E
M type reed switch	28
M type proximity switch	26.5(24)

(Note) value within bracket is of the MT-*U type.

Accessories

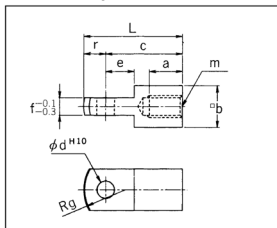
(Unit: mm)

Rod end clevis



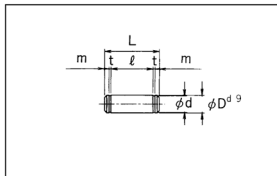
Model No.	Applicable bore	L	a	b	c	d	e	f	g	m	r
J20-Y	Ø20	45	20	19	35	8	15	8	19	M8×1.25	10
J25-Y	Ø25	45	20	19	35	8	15	8	19	M10×1.5	10
J32-Y	Ø32	57	27	22	45	10	18	10	22	M12×1.25	12
J40-Y	Ø40	57	27	22	45	10	18	10	22	M14×1.5	12

Rod end eye



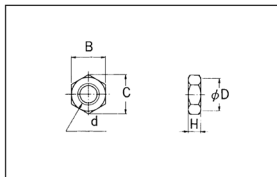
Model No.	Applicable bore	L	a	b	c	d	e	f	g	m	r
J-20-I	Ø20	45	20	19	35	8	13	8	19	M8×1.25	10
J-25-I	Ø25	45	15	19	35	8	13	8	19	M10×1.5	10
J-32-I	Ø32	57	20	22	45	10	15	10	22	M12×1.25	12
J-40-I	Ø40	57	20	22	45	10	15	10	22	M14×1.5	12

Clevis fixed shaft type



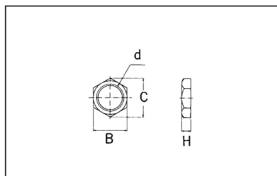
Model No.	Applicable bore	D	L	d	l	m	t	Snap ring
J20-YP	Ø20, Ø25	8	25	7.6	19.2	2	0.9	E7
J32-YP	Ø32, Ø40	10	28	9.6	22.3	1.7	1.15	C10

Rod end nut



Model No.	Applicable bore	d	H	B	C	D
J20-RN	Ø20	M8×1.25	5	13	15	12.5
J25-RN	Ø25	M10×1.5	6	17	19.6	16.5
J32-RN	Ø32	M12×1.25	7	19	21.9	18
J40-RN	Ø40	M14×1.5	8	22	25.4	21

Standard nut



Model No.	Applicable bore	d	H	B	C
J20-NN	Ø20	M8×1.25	8	24	27.7
J25-NN	Ø25	M22×1.5	10	27	31.2
J32-NN	Ø32	M27×2	10	35	40.4
J40-NN	Ø40	M33×2	11	41	47.3