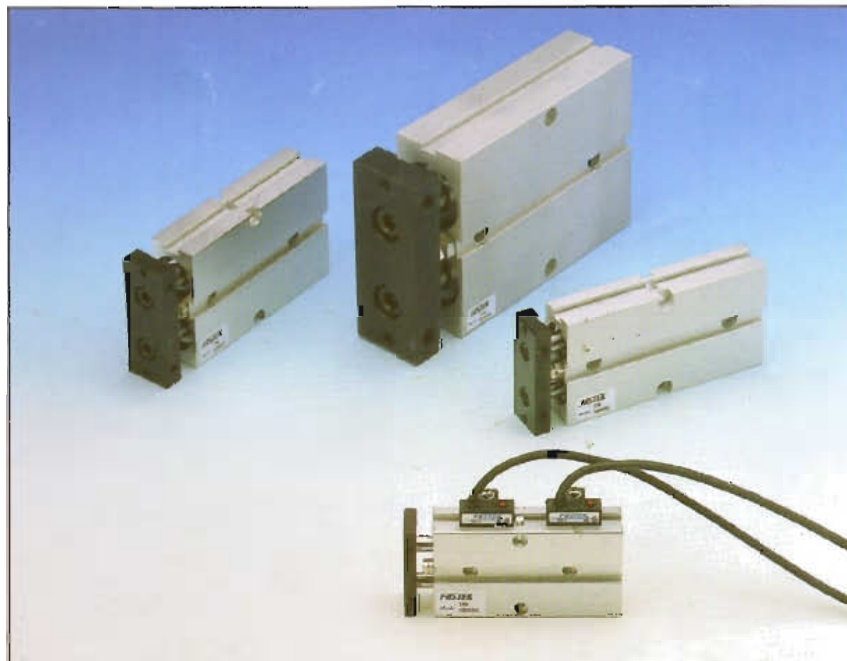




TWIN-ROD CYLINDER



Criteria for Selection : Cylinder Thrust

Bore size mm	Rod size mm	Operation		Pressure Area mm ²	Operating Pressure kgf/cm ²						
					1	2	3	4	5	6	7
10	6	Double acting type	Push side	157	—	3.14	4.70	6.28	7.84	9.42	10.98
			Pull side	100	—	2.00	3.00	4.00	5.00	6.00	7.00
16	8	Double acting type	Push side	402	4.02	8.04	12.06	16.08	20.10	24.12	28.14
			Pull side	301	3.01	6.02	9.03	12.04	15.05	18.06	21.07
20	10	Double acting type	Push side	628	6.28	12.56	18.84	25.12	31.40	37.68	43.96
			Pull side	471	4.71	9.42	14.13	18.84	23.55	28.26	32.97
25	12	Double acting type	Push side	981	9.81	19.62	29.43	39.24	49.05	58.86	68.67
			Pull side	755	7.55	15.10	22.65	30.20	37.75	45.30	52.86
32	16	Double acting type	Push side	1607	16.07	32.14	48.21	64.28	80.35	96.42	112.49
			Pull side	1205	12.05	24.10	36.15	48.20	60.25	72.30	84.35

Standard Type — Double Acting Type.....P.2

Sensor switchP.5

TWIN-ROD CYLINDER

Double Acting Type

Ordering code

TN — 25X50 —

Cylinder bore size X Stroke

Magnet type :

Blank - Without magnet

S - With magnet

TN - Double acting twin-rod cylinder

Specification

Bore size	mm	12	16	20	25	32
Action		Double acting type				
Fluid		Air				
Pressure range	MPa { kgf/cm ² }	0.15 ~ 0.7 { 1.5 ~ 7.1 }				
Proof pressure	MPa { kgf/cm ² }	1.35 { 13.5 }				
Temperature range	°C	0 ~ 70				
Speed range	mm/s	100 ~ 500				
Adjustable stroke	mm	-10 ~ 0				
Cushioning		—	Bumper			
Non-rotate tolerance		± 0.4 °	± 0.3 °			
Port size		M5*0.8				G 1/8"

Cylinder size and stroke (mm)

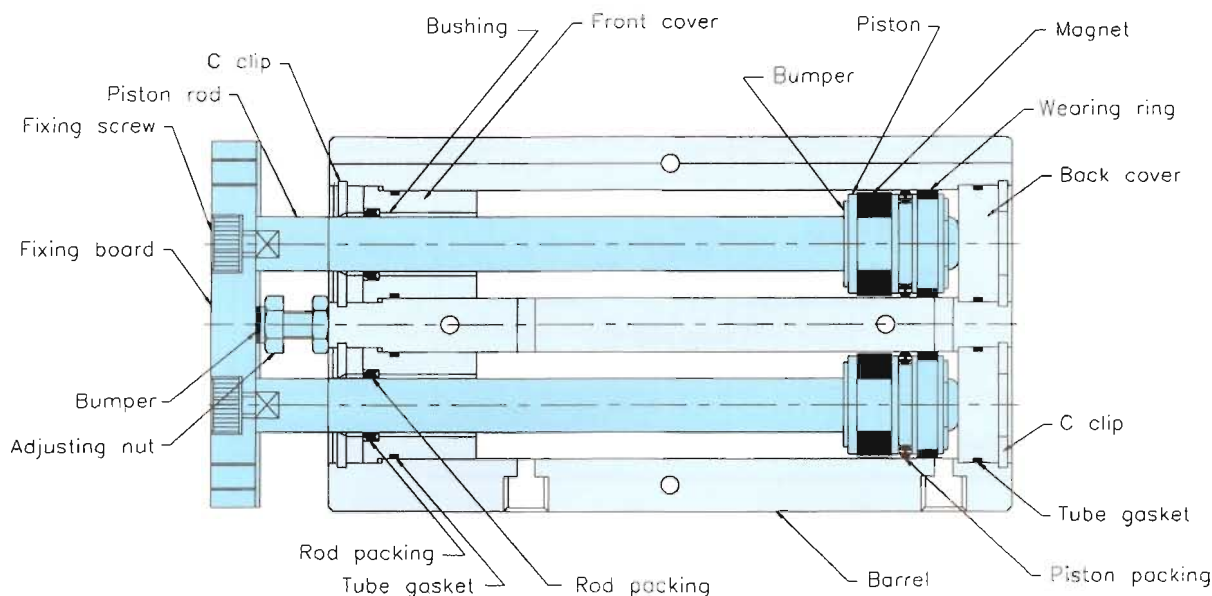
Bore size	Standard stroke	Maximum stroke	Available stroke
10	10 20 30 40 50 60 70	70	100
16	10 20 30 40 50 60 70 80 90 100 125 150	100	150
20	10 20 30 40 50 60 70 80 90 100 125 150 200	150	200
25	10 20 30 40 50 60 70 80 90 100 125 150 200	150	200
32	10 20 30 40 50 60 70 80 90 100 125 150 200	150	200

Note : 1. Stroke tolerance 0, +1.

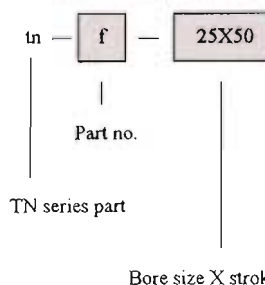
2. When the stroke exceeds the maximum stroke, minimum operating pressure is 0.2MPa.

Inner Construction and Major parts

ø10~ø32



How to order parts



Note. *. Bore size only for parts which strokes are not important.

Material of major parts

Item	Part no.	12	16	20	25	32
Body	b	Aluminum alloy				
Front cover	f	Copper	Aluminum alloy			
Back cover	bc	Copper	Aluminum alloy			
Piston	p	Copper		Aluminum alloy		
Piston rod	pr	Hi-carbon steel with Hard chrome plated				
Tube gasket	tg	NBR				
Piston packing	apa	NBR				
Rod packing	mya	NBR				
Piston gasket	pg	—			NBR	
Bushing	bs	—	Copper			
Magnet	m	Iron				
Fixing plate	fp	Aluminum alloy				
C Clip	c	Steel with nickel plated				
Filter	fi	Copper				
Bumper	b	PU				
Wearing ring	w	Plastic				
Adjusting screw	as	Steel				

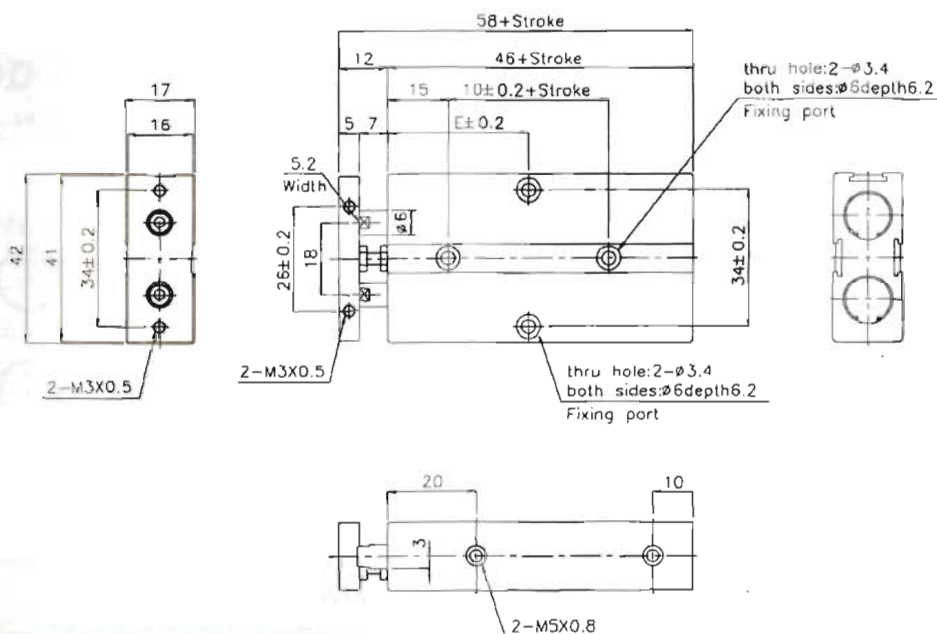
Note : Detail part number of packing please refer to packing list.

Packing list

Bore size	mm	Rod packing	Piston packing	Piston gasket	Tube gasket
12		mya-12*2	apa-12*2	—	S14*2
16		mya-16*2	apa-16*2	—	1.5*14.5*2
20		mya-20*2	apa-20*2	—	1.5*19.5*2
25		mya-25*2	apa-25*2	pg-25*2	1.5*24.5*2
32		mya-32*2	apa-32*2	pg-32*2	1.5*31.5*2

Dimensions of Basic Type

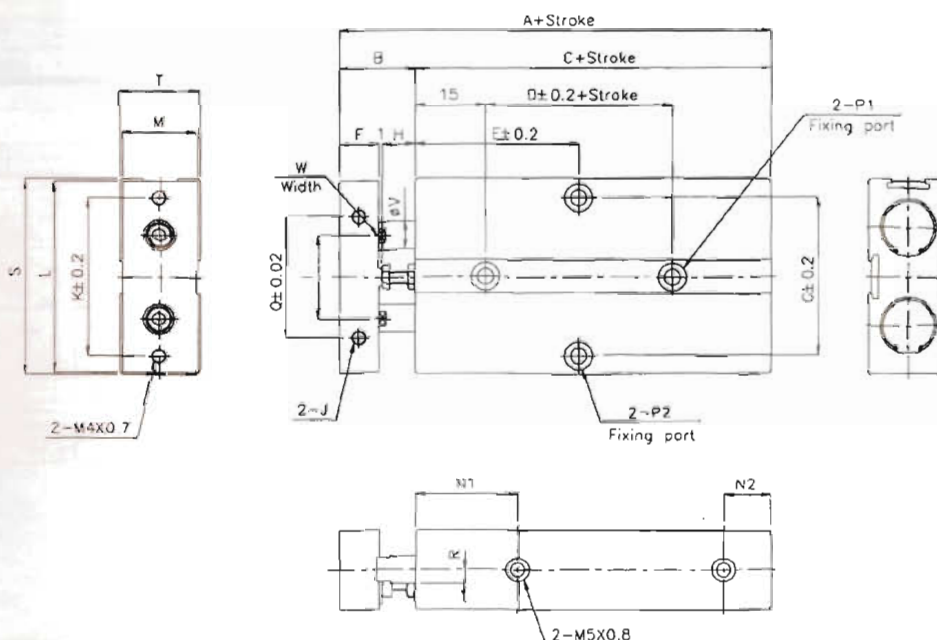
ø10



Bore size mm	A	B	C	D	E						
					10	20	30	40	50	60	70
10	58	12	46	10	30	30	35	40	45	50	55

Dimensions of Basic Type

ø16~ø25

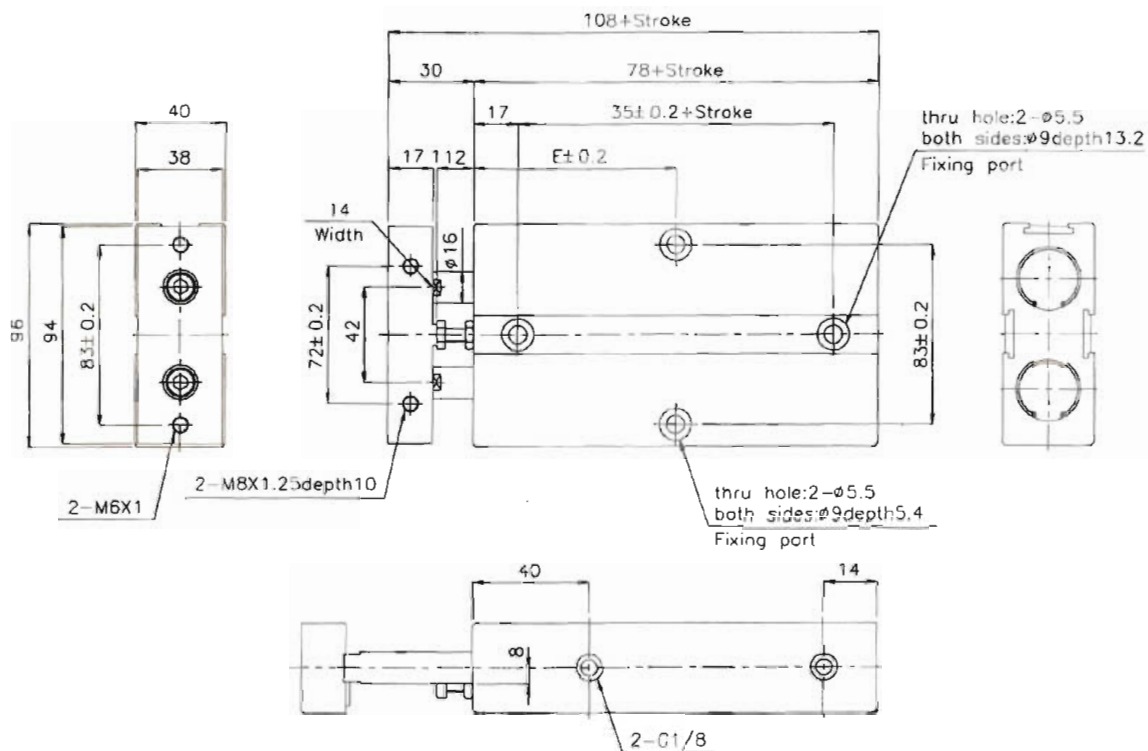


Bore size mm	A	B	C	D	E												F	G	H	I	J	K	L
					10	20	30	40	50	60	70	80	90	100	125	150							
16	68	15	53	20	30	35	40	45	50	55	60	65	70	75	87.5	100	8	47	6	24	M4*0.7 Depth 5mm	47	53
20	78	20	58	20	35	35	40	45	50	55	60	65	70	75	87.5	100	10	55	9	28	M4*0.7 Depth 5mm	55	61
25	81	19	62	30	40	40	45	50	55	60	65	70	75	80	92.5	105	10	66	8	34	M5*0.8 Depth 6mm	66	72

Bore size mm	M	N1	N2	P1				P2				Q	R	S	T	V	W
16	20	22	10	ø4.5 (thru hole)	ø7.5 Depth 7.2 (both side)	ø4.5 (thru hole)	ø8 Depth 4.4 (both side)	34	4	54	21	8	6.2				
20	24	25	12	ø4.5 (thru hole)	ø7.5 Depth 7.2 (both side)	ø4.5 (thru hole)	ø8 Depth 4.4 (both side)	44	6	62	25	10	8.2				
25	29	30	12	ø4.5 (thru hole)	ø7.5 Depth 7.2 (both side)	ø4.5 (thru hole)	ø8 Depth 4.4 (both side)	56	7	73	30	12	10.2				

Dimensions of Basic Type

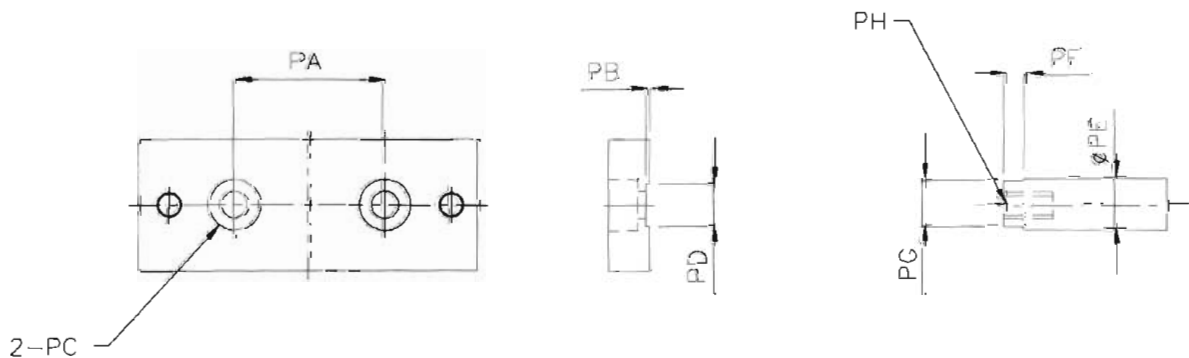
ø32



Bore size mm	E											
	10	20	30	40	50	60	70	80	90	100	125	150
32	45	50	55	60	65	70	75	80	85	90	102.5	115

Dimensions of Fixing Plate

ø10~ø32



Bore size mm	PA	PB	PC	PD	PE	PF	PG	PH
10	18	0.5	ø4.5 (thru hole) ø6.2 Depth 3.5 (both side)	5.2	6	3	5.2	M3*0.5 Depth 5mm
16	24	1	ø4.5 (thru hole) ø7.8 Depth 4.6 (both side)	6.2	8	3	6.2	M4*0.7 Depth 6mm
20	28	1	ø4.5 (thru hole) ø11 Depth 6.8 (both side)	8.2	10	3	8.2	M5*1 Depth 8mm
25	34	1	ø4.5 (thru hole) ø11 Depth 6.8 (both side)	10.2	12	3	10.2	M6*1 Depth 8mm
32	42	2	ø4.5 (thru hole) ø17 Depth 12 (both side)	14	16	3	14	M10*1.5 Depth 14mm

TWIN ROD CYLINDER

Sensor Switch

Ordering code

CS1

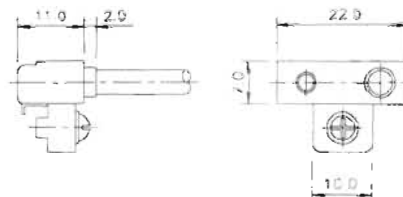
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Sensor type :

J : Band type (Twin-rod cylinder used)

Sensor switch



Specification

Sensor Switch Type		J
Operating voltage range		DC5-DC24V AC24V-AC220V
Operating current range (mA)		5 ~ 100
Switching Characteristic	Response time	0.3ms max.
	Bouncing time	0.3ms max.
	Releasing time	0.05ms max.
	Frequency range	3-250Hz
Withstand voltage of contact point		200VDC min.
Temperature		0 ~ 60 °C (32 ~ 140 °F)
Shock resistance		30G (Non-repeated shock)
Vibration resistance		7g max.(10-55Hz)
Indicator lamp		Green LED goes on when in ON position
Lead wire		Gray ø4 X 2M
Electrical life		5X10 ⁶ min.