

Magnetically Coupled Rodless Cylinder: Basic Type

Series *CY3B*

ø6, ø10, ø15, ø20, ø25, ø32, ø40, ø50, ø63

How to Order

Basic type **CY3B** **25** **□** **300**

Basic type •

Bore size •

6	6 mm
10	10 mm
15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Standard stroke
Refer to the standard stroke table shown below.

Port thread type

Symbol	Type	Bore size
Nil	M thread	6, 10, 15
	Rc	20, 25, 32, 40
TN	NPT	50, 63
TF	G	

Standard Stroke

Bore size (mm)	Standard stroke (mm)	Maximum available stroke (mm)
6	50, 100, 150, 200	300
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	1000
20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1500
25		3000
32	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	3000
40		3000
50		5000
63		

Note 1) Long stroke specification (XB11) applies to the strokes exceeding 2000 mm. (Refer to page 25.)

Note 2) The longer the stroke, the larger the amount of deflection in a cylinder tube. Pay attention to the mounting bracket and clearance value.

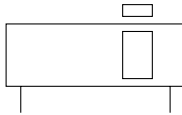
Magnetic Holding Force

Bore size (mm)	6	10	15	20	25	32	40	50	63
Holding force (N)	19.6	53.9	137	231	363	588	922	1471	2256

Specifications



JIS Symbol



Fluid	Air
Proof pressure	1.05 MPa
Max. operating pressure	0.7 MPa
Min. operating pressure	Refer to the minimum operating pressure table.
Ambient and fluid temperature	-10 to 60°C
Piston speed	50 to 500 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	0 to 250 st: $+1.0_0$, 251 to 1000 st: $+1.4_0$, 1001 st to: $+1.8_0$
Mounting orientation	Horizontal, Inclined, Vertical (Note)
Mounting nut (2 pcs.)	Standard equipment (accessory)

Note) When vertically mounting, it is impossible to perform an intermediate stop by means of a pneumatic circuit.



Made to Order
(Refer to pages 24 for details.)

Symbol	Specifications
-XB6	Heat resistant specifications
-XB9	Low speed specifications (15 to 50 mm/s)
-XB11	Long stroke
-XB13	Low speed specifications (7 to 50 mm/s)
-X116	Hydro specifications
-X132	Axial ports
-X160	High speed specifications
-X168	Helical insert thread specifications
-X206	Added mounting tap positions for slider
-X210	Oil-free exterior specifications
-X322	Outside of cylinder tube with hard chrome plating
-X324	Oil-free exterior specifications (with dust seal)
-X1468	Interchangeable specification with CY1□6
-XC24	With magnetic shielding plate
-XC57	With floating joint

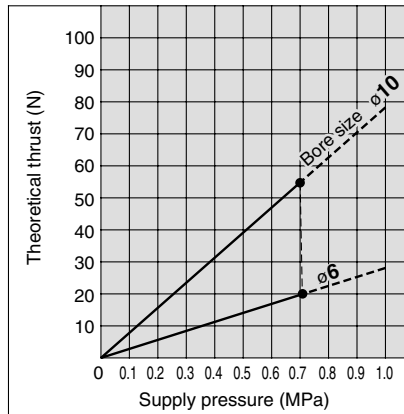
Theoretical Cylinder Thrust



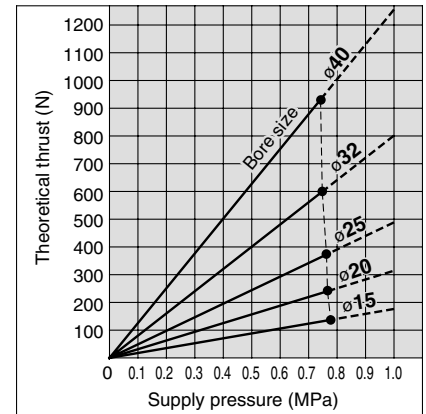
Caution

When calculating the actual thrust, design should consider the minimum actuating pressure.

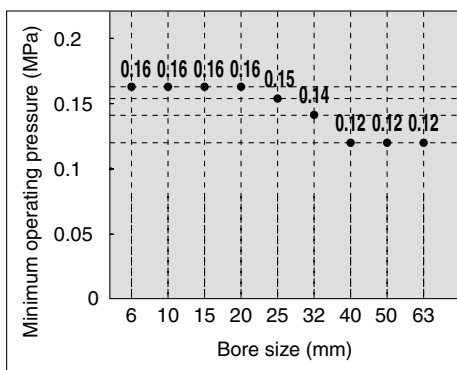
ø6, ø10



ø15, ø20, ø25, ø32, ø40

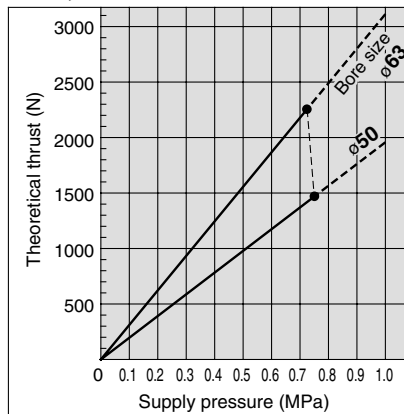


Minimum Operating Pressure



Note) Values show when the cylinder is driving without load.

ø50, ø63



Main Material

Description	Material	Note
Head cover	Aluminum alloy	Electroless nickel plated
Cylinder tube	Stainless steel	
Body	Aluminum alloy	Hard anodized
Magnet	Rare earth magnet	

Note) For details, refer to the construction drawings on page 9.

Weight

Unit: kg

Bore size (mm)	6	10	15	20	25	32	40	50	63
Basic weight (at 0 st)	0.052	0.08	0.275	0.351	0.672	1.287	2.07	3.2	5.3
Additional weight per 50 mm of stroke	0.004	0.014	0.015	0.02	0.023	0.033	0.04	0.077	0.096

Calculation method/Example: CY3B32-500

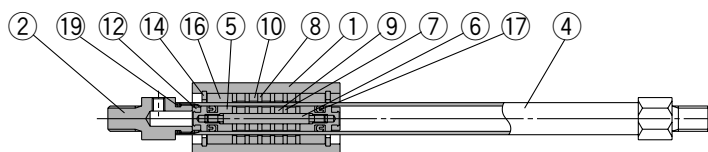
$$\left. \begin{array}{l} \text{Basic weight} \dots\dots\dots 1.287 \text{ kg} \\ \text{Additional weight} \dots\dots 0.033 \text{ kg/50 st} \\ \text{Cylinder stroke} \dots\dots\dots 500 \text{ st} \end{array} \right\} 1.287 + 0.033 \times 500 \div 50 = 1.617 \text{ kg}$$

Series CY3B

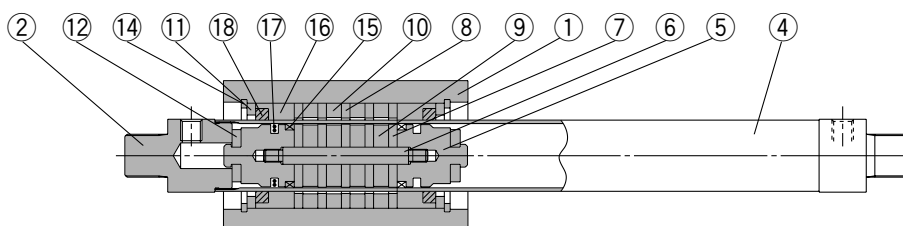
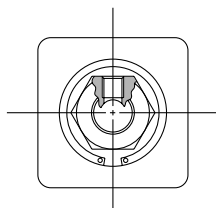
Construction

Basic type

CY3B6

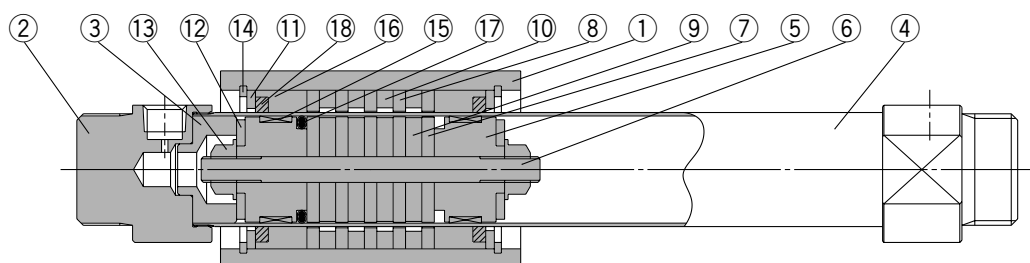
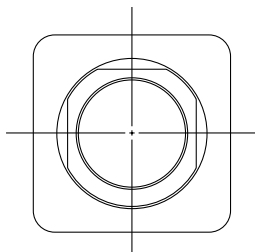


CY3B10, 15

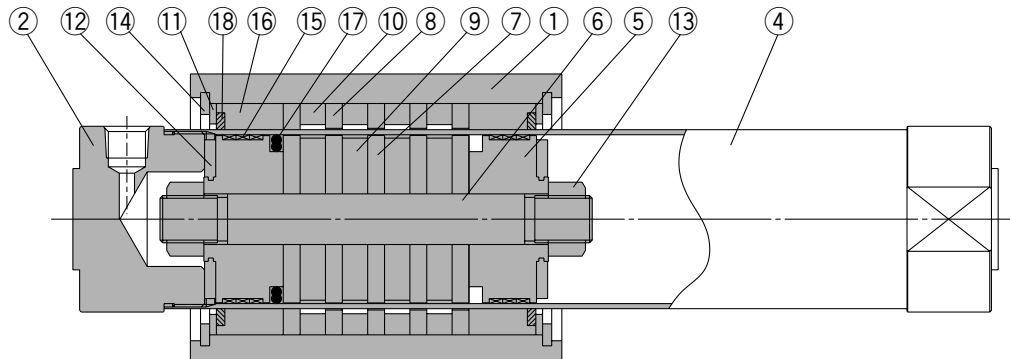
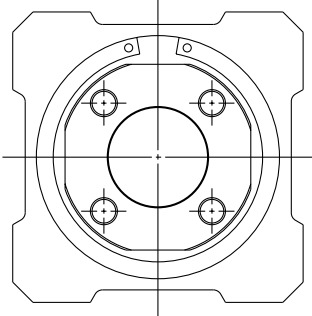


* The above drawing is $\phi 15$. (3 magnets are used in $\phi 10$.)

CY3B20 to 40



CY3B50, 63



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2	Head cover	$\phi 6, \phi 10$ Brass	Electroless Ni plated
		$\phi 15$ to $\phi 63$ Aluminum alloy	
3	End collar	Aluminum alloy	$\phi 20$ to $\phi 40$ only
4	Cylinder tube	Stainless steel	
5	Piston	$\phi 6$ to $\phi 15$ Brass	$\phi 6$ to $\phi 15$ Electroless Ni plated
		$\phi 20$ to $\phi 63$ Aluminum alloy	$\phi 20$ to $\phi 63$ Chromated
6	Shaft	Stainless steel	
7	Piston side yoke	Rolled steel	Zinc chromated
8	External slider side yoke	Rolled steel	Zinc chromated
9	Magnet A	Rare earth magnet	
10	Magnet B	Rare earth magnet	
11	Spacer	Aluminum alloy	Black anodized ($\phi 6$: not available)
12	Bumper	Urethane rubber	
13	Piston nut	Carbon steel	$\phi 6$ to $\phi 15$: not available
14	C type snap ring for hole	Carbon tool steel	Nickel plated
15	Wear ring A	Special resin	
16	Wear ring B	Special resin	
17	Piston seal	NBR	
18	Lubretainer	Special resin	$\phi 6$: not available
19	Cylinder tube gasket	NBR	$\phi 6, \phi 10$ only

Replacement Parts: Seal Kit

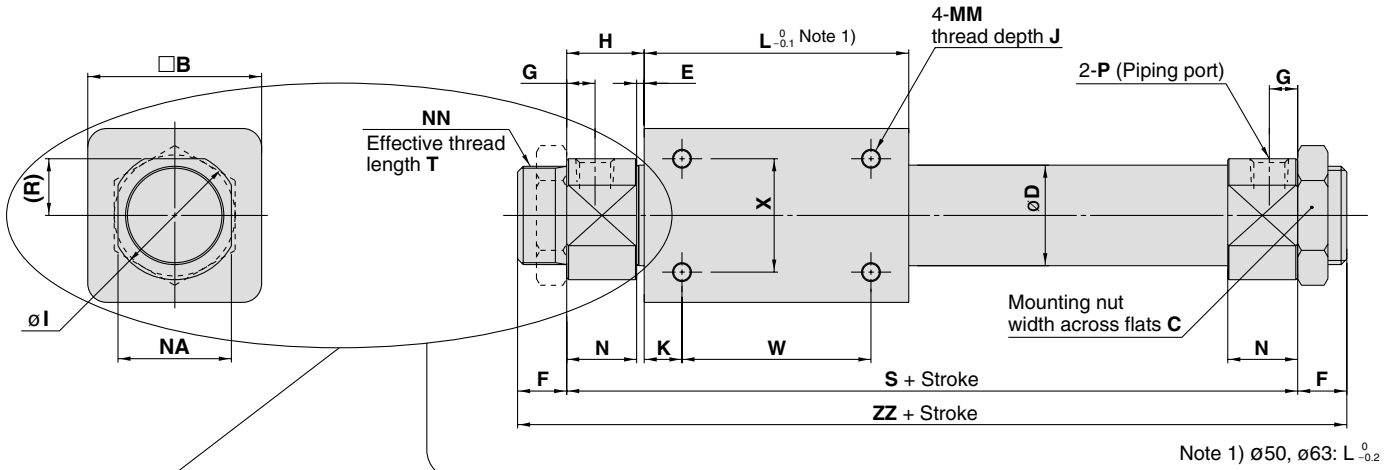
Bore size (mm)	Kit no.	Contents
6	CY3B6-PS	Numbers 15, 16, 17, 19 above
10	CY3B10-PS	Numbers 15, 16, 17, 18, 19 above
15	CY3B15-PS	Numbers 15, 16, 17, 18 above
20	CY3B20-PS	
25	CY3B25-PS	
32	CY3B32-PS	
40	CY3B40-PS	
50	CY3B50-PS	
63	CY3B63-PS	

* Seal kits are sets consisting of numbers 15 through 19. Order using the kit number corresponding to each bore size.

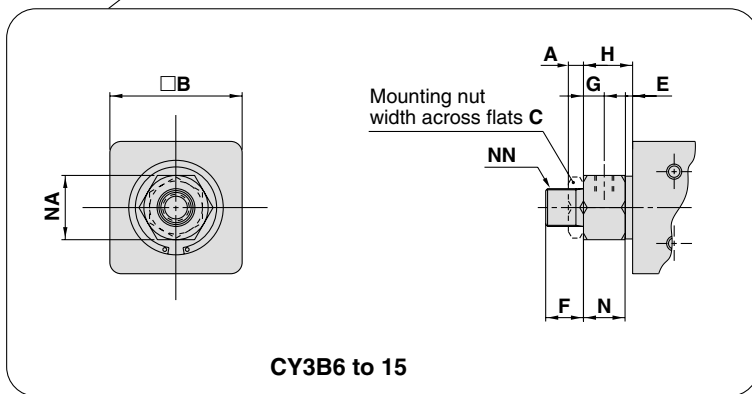
Dimensions

Basic type

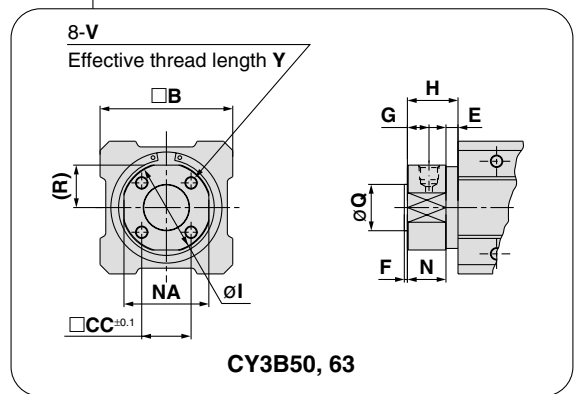
CY3B6 to 63



Note 1) $\phi 50, \phi 63: L_{-0.2}^0$



CY3B6 to 15



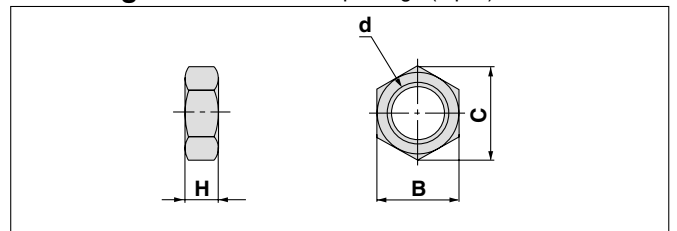
CY3B50, 63

Model	A	B	C	CC	D	E	F	G	H	I	J	K	L	MM	N	NA	NN	Q	R	S	T	V
CY3B6	4	17	8*	—	7.6	4	8*	5	13.5*	—	4.5	5	35	M3 x 0.5	9.5*	10*	M6 x 1*	—	—	62*	6.5	—
CY3B10	4	25	14	—	12	1.5	9	5	12.5	—	4.5	4	38	M3 x 0.5	11	14	M10 x 1	—	—	63	7.5	—
CY3B15	4	35	14	—	16.6*	2	10	5.5	13	—	6	11	57	M4 x 0.7	11	17	M10 x 1	—	—	83	8	—
CY3B20	8	36	26	—	21.6*	2*	13	7.5*	20	28	6	8	66	M4 x 0.7	18*	24	M20 x 1.5	—	12*	106	10	—
CY3B25	8	46	32	—	26.4*	2*	13	7.5*	20.5	34	8	10	70	M5 x 0.8	18.5*	30	M26 x 1.5	—	15*	111	10	—
CY3B32	8	60	32	—	33.6*	2*	16	8*	22	40	8	15	80	M6 x 1	20*	36	M26 x 1.5	—	18*	124	13	—
CY3B40	10	70	41	—	41.6*	3*	16	11	29	50	10	16	92	M6 x 1	26*	46	M32 x 2	—	23*	150	13	—
CY3B50	—	86	—	32	52.4*	8	2	14	33	58*	12	25	110	M8 x 1.25	25	55	—	30 ^{-0.007/-0.037}	27.5*	176	—	M8 x 1.25
CY3B63	—	100	—	38	65.4*	8	2	14	33	72*	12	26	122	M8 x 1.25	25	69	—	32 ^{-0.007/-0.043}	34.5*	188	—	M10 x 1.5

Model	W	X	Y	ZZ	P (Piping port)		
					Nil	TN*	TF*
CY3B6	25	10	—	78*	M3 x 0.5*	—	—
CY3B10	30	16	—	81	M5 x 0.8	—	—
CY3B15	35	19	—	103	M5 x 0.8	—	—
CY3B20	50	25	—	132	Rc 1/8	NPT 1/8	G 1/8
CY3B25	50	30	—	137	Rc 1/8	NPT 1/8	G 1/8
CY3B32	50	40	—	156	Rc 1/8	NPT 1/8	G 1/8
CY3B40	60	40	—	182	Rc 1/4	NPT 1/4	G 1/4
CY3B50	60	60	16	180	Rc 1/4	NPT 1/4	G 1/4
CY3B63	70	70	16	192	Rc 1/4	NPT 1/4	G 1/4

Note 2) The asterisk denotes the dimensions which are different from the CY1B series.

Mounting Nut/Included in the package (2 pcs).



Part no.	Applicable bore size (mm)	d	H	B	C
SNJ-006B	6	M6 x 1.0	4	8	9.2
SNJ-016B	10, 15	M10 x 1.0	4	14	16.2
SN-020B	20	M20 x 1.5	8	26	30
SN-032B	25, 32	M26 x 1.5	8	32	37
SN-040B	40	M32 x 2.0	10	41	47.3