

Hygienic Design Cylinder ISO Standard Type

HYC Series

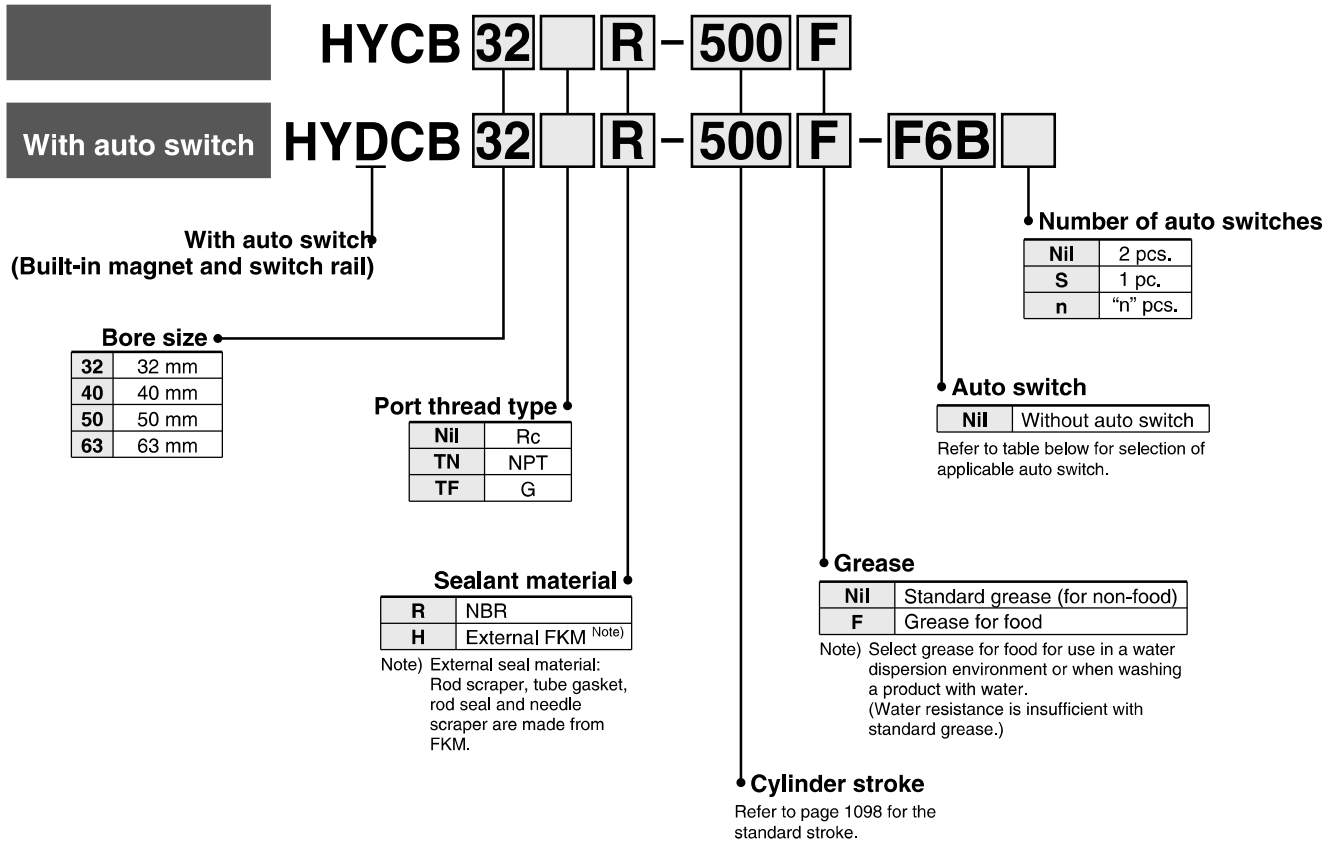
∅32, ∅40, ∅50, ∅63

CJ5
CG5

HY□

Water
Resistant

How to Order



Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch. (Example) HYDCB40R-300F

< Mounting bracket > Foot, flange, single clevis, double clevis, and clevis pin
< Option parts > Plug bolt
Please place an order for above mentioned parts separately, please refer to pages 1115 to 1119 for details.

Applicable Auto Switches/Refer to pages 1575 to 1701 for detailed auto switch specifications.

Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)*			Pre-wired connector	Applicable load	
				DC			0.5 (Nil)	3 (L)	5 (Z)		IC circuit	Relay, PLC
Solid state auto switch	Grommet	Yes	3-wire (NPN)	24 V	5 V	F6N	●	●	○	○		
			3-wire (PNP)		12 V	F6P	●	●	○			
			2-wire		12 V	F6B	●	●	○			

* Lead wire length symbols 0.5 m..... Nil (Example) F6B
3 m..... L (Example) F6BL
5 m..... Z (Example) F6BZ

* Auto switches marked with a "○" symbol are produced upon receipt of orders.

• Refer to pages 1648 and 1649 for detailed specifications about the auto switch with pre-wired connector.
* Auto switch is shipped not assembled with the cylinder.

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-X□

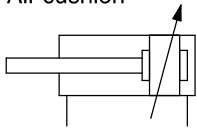
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Symbol

Air cushion



Specifications

Bore size (mm)	32	40	50	63
Action	Double acting, Single rod			
Fluid	Air			
Minimum operating pressure	0.15 MPa			
Maximum operating pressure	1.0 MPa			
Proof pressure	1.5 MPa			
Ambient and operating fluid temperature	Without auto switch 0°C to 70°C			
	With auto switch 0°C to 60°C			
Lubrication	Not required			
Piston speed	50 to 500 mm/s (With pressure at 1.0 MPa) ^{Note)}			
Cushion	Air cushion			
Stroke length tolerance	250 mm ^{+1.0} ₀ mm or less, 251 to 600 mm ^{+1.4} ₀ mm			
Piston rod material	Stainless steel 304 / Hard chrome plated			

Note) Use a cylinder below the allowable kinetic energy. Refer to page 1099 for the allowable kinetic energy.

Standard Stroke

Bore size (mm)	Standard stroke (mm)
32	25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500
40	25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500
50	25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600
63	25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600

* Intermediate strokes of 1 mm each can be produced. (The spacer is not used.)

Theoretical Output

Unit: N

Bore size (mm)	Operating direction	Operating pressure (MPa)		
		0.3	0.5	0.7
32	IN	207	346	484
	OUT	241	402	563
40	IN	318	530	742
	OUT	378	630	882
50	IN	495	825	1160
	OUT	588	980	1370
63	IN	840	1400	1960
	OUT	936	1560	2180

Weight

Without auto switch

Unit: kg

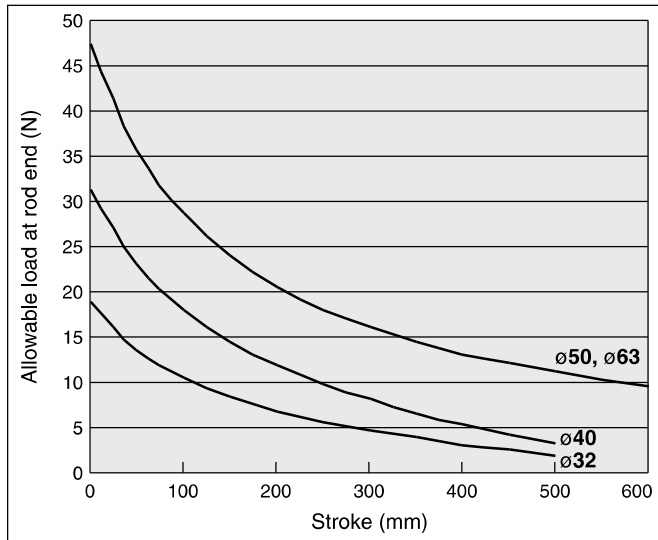
Bore size (mm)	Stroke (mm)											
	25	50	75	100	125	150	200	250	300	400	500	600
32	0.89	1.02	1.14	1.26	1.38	1.50	1.75	1.99	2.23	2.72	3.21	—
40	1.30	1.46	1.62	1.79	1.95	2.11	2.44	2.77	3.09	3.75	4.40	—
50	2.03	2.26	2.50	2.73	2.96	3.20	3.66	4.13	4.59	5.52	6.45	7.38
63	2.95	3.25	3.54	3.84	4.13	4.43	5.02	5.61	6.21	7.39	8.57	9.76

With auto switch (Built-in magnet and switch rail)

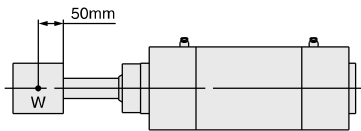
Unit: kg

Bore size (mm)	Stroke (mm)											
	25	50	75	100	125	150	200	250	300	400	500	600
32	0.93	1.06	1.19	1.32	1.44	1.57	1.83	2.09	2.34	2.86	3.37	—
40	1.34	1.51	1.68	1.85	2.02	2.19	2.53	2.87	3.21	3.89	4.57	—
50	2.07	2.31	2.55	2.79	3.03	3.27	3.75	4.23	4.71	5.66	6.62	7.58
63	3.00	3.30	3.60	3.91	4.21	4.51	5.12	5.72	6.33	7.54	8.75	9.96

Allowable Load at Rod End

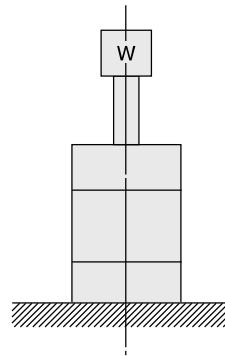
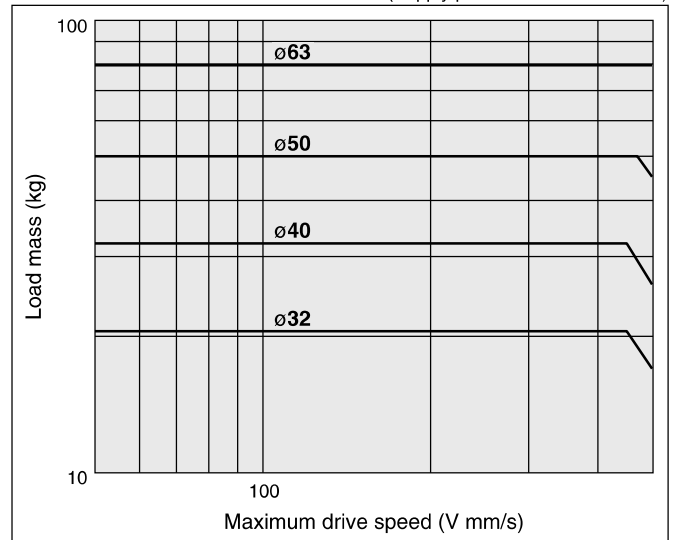


• A case where the center of gravity of the load rests 50 mm from the rod end.



Allowable Kinetic Energy

(Supply pressure: at P = 0.5 MPa)



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CG5

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Resistant

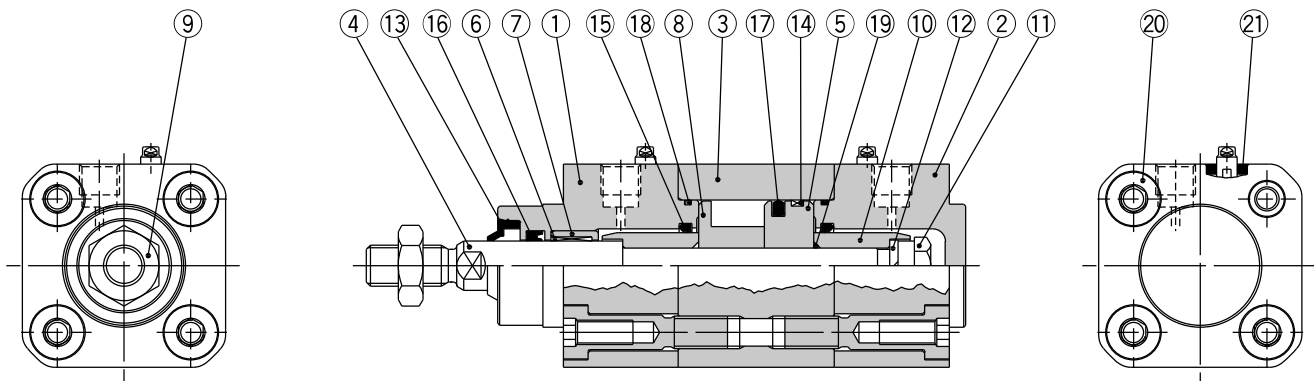
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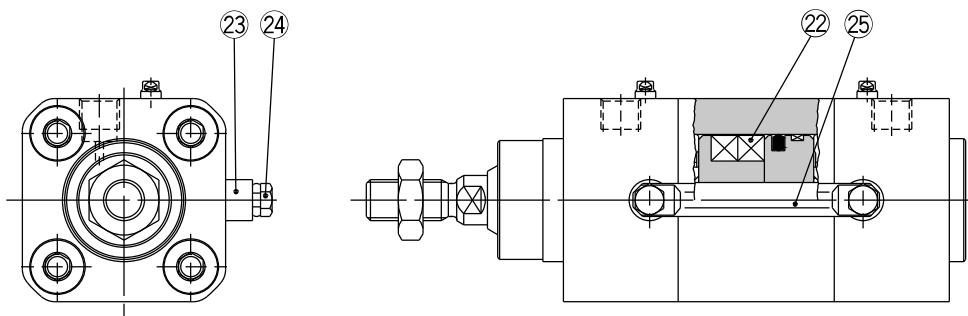
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Construction



Built-in magnet



Component Parts

No.	Description	Material	Qty.	Note
1	Rod cover	Aluminum alloy	1	Anodic oxide film
2	Head cover	Aluminum alloy	1	Anodic oxide film
3	Cylinder tube	Aluminum alloy	1	Anodic oxide film
4	Piston rod	Stainless steel	1	Hard chromium plated
5	Piston	Aluminum alloy	1	Chromated
6	Bushing	Resin	1	
7	Bushing retainer	Aluminum alloy	1	Chromated
8	Magnet holder	Aluminum alloy	1	Chromated
9	Rod end nut	Stainless steel	1	
10	Cushion ring	Steel	2	Zinc chromated
11	Piston nut	Stainless steel	1	
12	Spring washer	Steel	1	
13	Rod scraper	NBR	1	(FKM can be selected.)
14	Wearing	Resin	1	
15	Cushion seal	Resin	2	
16	Rod seal	NBR	1	(FKM can be selected.)
17	Piston seal	NBR	1	
18	Cylinder tube gasket	NBR	2	(FKM can be selected.)
19	Piston gasket	NBR	1	
20	Tie-rod bolt	Stainless steel	8	
21	Needle scraper	NBR	2	(FKM can be selected.)

No.	Description	Material	Qty.	Note
22	Magnet	—	2	(Only built-in magnet)
23	Switch rail base	Stainless steel	2	(Only built-in magnet)
24	Hexagon bolt	Stainless steel	2	(Only built-in magnet)
25	Switch rail	Stainless steel	1	(Only built-in magnet)

Replacement Parts: Seal Kit

Bore Size	Part no.	Set contents
32	HYCB32□-PS	Set of nos. above (15, 16, 17, 18 and 21)
40	HYCB40□-PS	
50	HYCB50□-PS	
63	HYCB63□-PS	

Place the seal material symbol in □.

Symbol	Material
R	NBR
H	External FKM*

* External seal: Rod seal, the tube gasket and needle scraper are made from FKM.

* Seal kit includes 15, 16, 17, 18 and 21. Order the seal kit based on each bore size.

* Since the seal kit does not include a grease pack, order it separately.

Grease for food part no.: GR-H-010 (10 g)

Standard grease part no.: GR-S-010 (10 g)

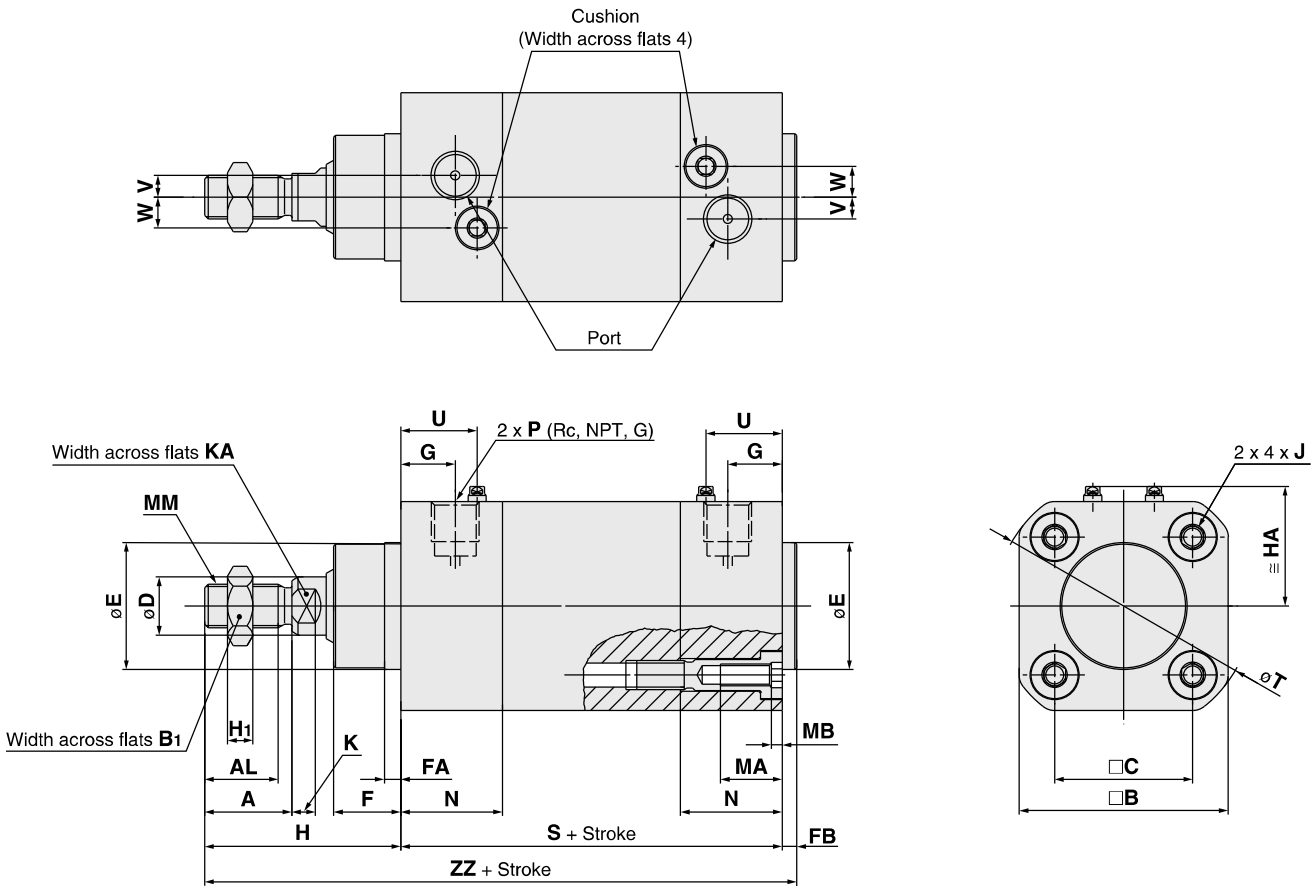
Construction

Without auto switch: **HYCB32 to 63**

CJ5
CG5

HY□

Water
Resistant



(mm)

Bore size	Stroke range	A	AL	B	B ₁	C	D	E ^{e11}	F	FA	FB	G	H	H ₁	MA	MB	J	K	KA	MM	N	P	S	T	U	V	W	HA	ZZ
32	500 or less	22	18	50	17	32.5	12	30	16	5	4	14	48	6	16	3.2	M6 x 1	6	10	M10 x 1.25	28	1/8	94	62	21	6	6.5	30	146
40	500 or less	24	20	58	19	38	16	35	18.5	4.5	4	15	54	7	16	3.2	M6 x 1	6.5	13	M12 x 1.25	28	1/4	105	71	21	6	8.5	34	163
50	600 or less	32	27	70	24	46.5	20	40	23	5	4	17	69	10	16	4.2	M8 x 1.25	8	16	M16 x 1.5	32	1/4	106	88	25	8	11	40	179
63	600 or less	32	27	84	24	56.5	20	45	23	5	4	17	69	10	16	4.2	M8 x 1.25	8	16	M16 x 1.5	32	3/8	121	102	25	10	9	47	194

Note 1) Refer to pages 1115 to 1119 for details about the rod end nut, mounting bracket and accessory bracket.
Note 2) When the unit is installed, ensure that dirt does not collect in the rod end (threaded portion).

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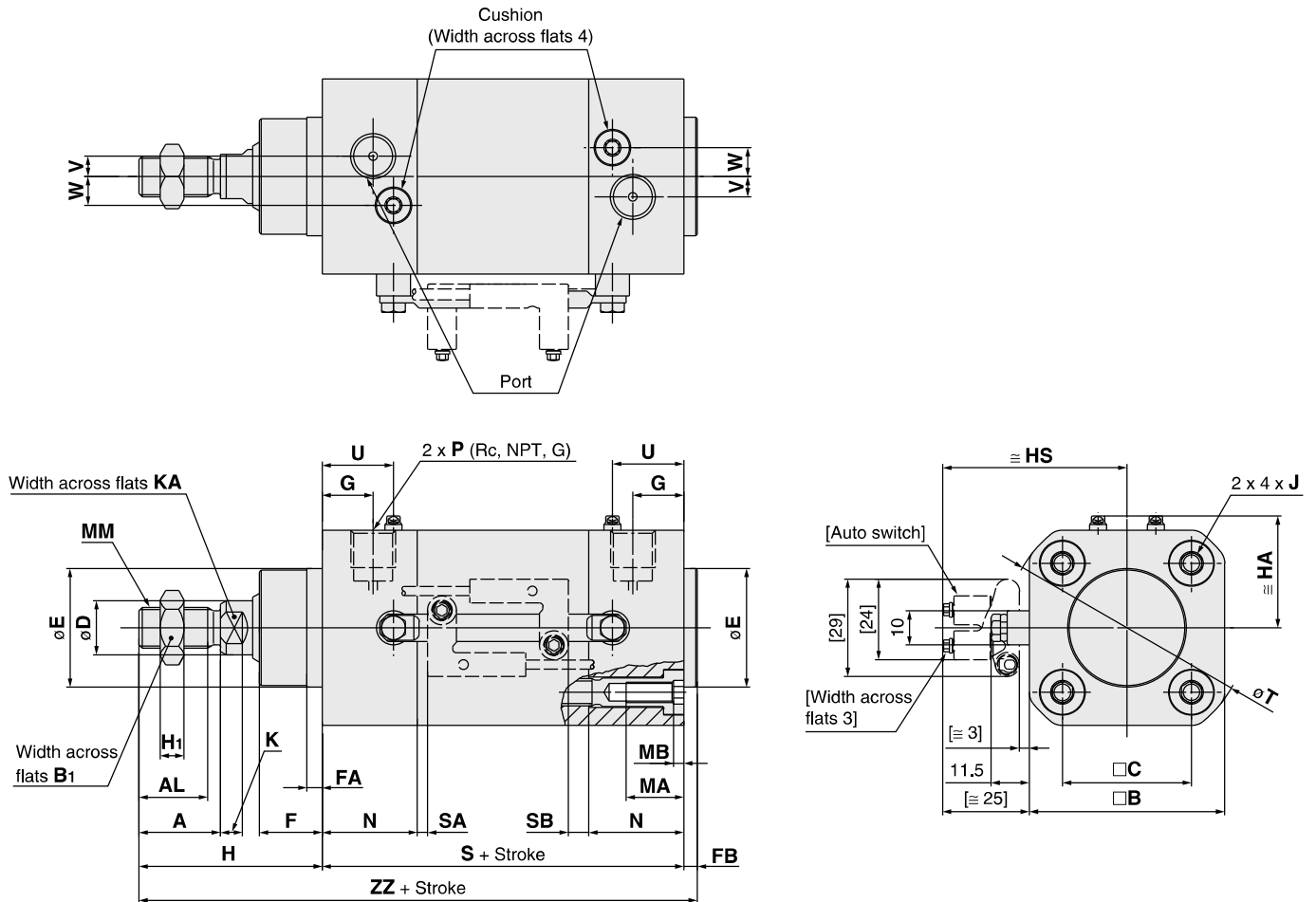
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Technical
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Construction

With auto switch: HYDCB32 to 63



(mm)

Bore size	Stroke range	A	AL	B	B ₁	C	D	E ^{e11}	F	FA	FB	G	H	H ₁	MA	MB	J	K	KA	MM	N	P	S	T	U	V	W	SA
32	500 or less	22	18	50	17	32.5	12	30	16	5	4	14	48	6	16	3.2	M6 x 1	6	10	M10 x 1.25	28	1/8	94	62	21	6	6.5	7.5
40	500 or less	24	20	58	19	38	16	35	18.5	4.5	4	15	54	7	16	3.2	M6 x 1	6.5	13	M12 x 1.25	28	1/4	105	71	21	6	8.5	12
50	600 or less	32	27	70	24	46.5	20	40	23	5	4	17	69	10	16	4.2	M8 x 1.25	8	16	M16 x 1.5	32	1/4	106	88	25	8	11	9
63	600 or less	32	27	84	24	56.5	20	45	23	5	4	17	69	10	16	4.2	M8 x 1.25	8	16	M16 x 1.5	32	3/8	121	102	25	10	9	19

Bore size	SB	HS	HA	ZZ
32	16.5	50	30	146
40	23	54	34	163
50	19	60	40	179
63	24	67	47	194

Note 1) The [] value denotes dimensions with the auto switch D-F6□ mounted, which is dedicated to the Hygienic Design Cylinder.

Note 2) Refer to pages 1115 to 1119 for details about the rod end nut, mounting bracket and accessory bracket.

Note 3) When the unit is installed, ensure that dirt does not collect in the rod end (threaded portion).