

Cylinder with Lock Double Acting, Single Rod Series **CNG** ø20, ø25, ø32, ø40

How to Order

Without auto switch CNG **L** **N** 32 **100** **D**

With auto switch CDNG **L** **N** 32 **100** **D** **H7BW**

Built-in magnet •

Mounting style •

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
U	Rod side trunnion style
T	Head side trunnion style
D	Clevis style

* Mounting brackets are shipped together, (but not assembled).

Cushion type •

N	Non-lube/Rubber bumper
A	Non-lube/Air cushion

Bore size •

20	20 mm
25	25 mm
32	32 mm
40	40 mm

Thread type •

Nil	Rc
TN	NPT

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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* For the applicable auto switch model, refer to the table below.

Locking direction

D	Both directions
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With rod boot

Rod boot	Nil	None
	J	Nylon tarpaulin
	K	Heat resistant tarpaulin

* When equipped with rod boot, foot and rod side flange type brackets are attached before shipment.

Cylinder stroke (mm)
Refer to "Standard Stroke" on page 9-5-9.

Built-in Magnet Cylinder Model
In the case of built-in magnet without auto switch, the symbol for auto switch is "Nil".
(Example) CDNGLN40-100-D

Applicable Auto Switch/ Refer to page 9-15-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m) *				Pre-wire connector	Applicable load				
					DC	AC		0.5 (Nil)	3 (L)	5 (Z)	None (N)						
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	C76	●	●	—	—	—	IC circuit	—		
		Connector		2-wire	24 V	12 V	100 V, 200 V	B54	●	●	●	—	—	—		Relay, PLC	
							100 V	C73	●	●	●	—	—				
	Grommet	12 V					—	C73C	●	●	●	●	—				—
		12 V					—	B59W	●	●	—	—	—				—
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	H7A1	●	●	○	—	○	IC circuit	Relay, PLC		
		3-wire (PNP)		12 V		H7A2		●	●	○	—	○					
		Connector		2-wire		12 V		H7B	●	●	○	—	○				
	Grommet	3-wire (NPN)		5 V, 12 V		H7C		●	●	●	●	—	—				
		3-wire (PNP)		12 V		H7NW		●	●	○	—	○	IC circuit				
		2-wire		12 V		H7PW		●	●	○	—	○					
		Diagnostic indication (2-color indication)		12 V		H7BW		●	●	○	—	○	—				
				Water resistant (2-color indication)		12 V		H7BA	—	—	○	—	○	—			
				With diagnostic output (2-color indication)		4-wire (NPN)		5 V, 12 V	H7NF	●	●	○	—	○		IC circuit	

* Lead wire length symbols: 0.5 m Nil (Example) C73C
3 m L (Example) C73CL
5 m Z (Example) C73CZ
None N (Example) C73CN

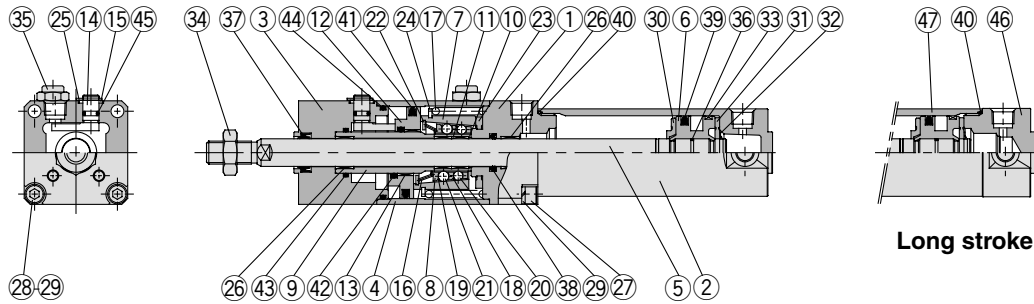
* Solid state switches marked with "○" are produced upon receipt of order.

- Since there are other applicable auto switches than listed, refer to page 9-5-22 for details.
- For details about auto switches with pre-wire connector, refer to page 9-15-66.

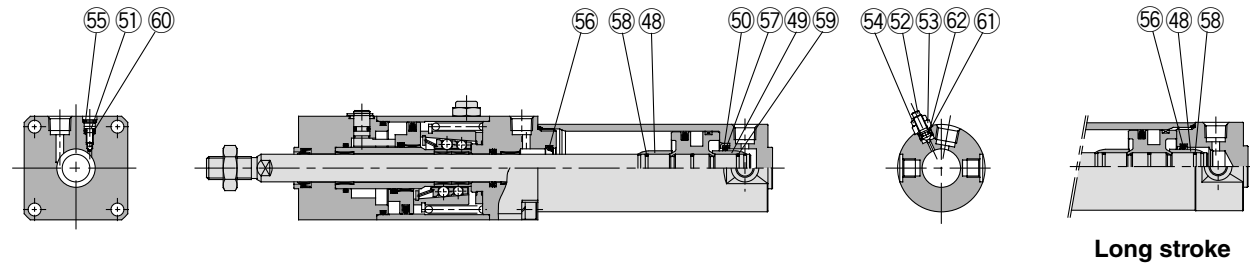
Cylinder with Lock Double Acting, Single Rod Series CNG

Construction

With rubber bumper: CNGBN



With air cushion: CNGBA



Component Parts

No.	Description	Material	Note
①	Rod cover	Aluminum alloy	Clear hard anodized
②	Tube cover	Aluminum alloy	Clear hard anodized
③	Cover	Aluminum alloy	Clear hard anodized
④	Intermediate cover	Aluminum alloy	Clear hard anodized
⑤	Piston rod	Carbon steel	Hard chrome plated
⑥	Piston	Aluminum alloy	Chromated
⑦	Taper ring	Carbon steel*	Heat treated
⑧	Ball retainer	Special resin	
⑨	Piston guide	Carbon steel	Zinc chromated
⑩	Brake shoe holder	Special steel	Heat treated
⑪	Brake shoe	Special friction material	
⑫	Release piston	Carbon steel	Zinc chromated
⑬	Release piston bushing	ø20 Oil-impregnated sintered alloy	
		ø25,ø32,ø40 Steel + Special resin	
⑭	Unlocking cam	Chromium molybdenum steel	Electroless nickel plated
⑮	Washer	Rolled steel plate	Electroless nickel plated
⑯	Retainer pre-load spring	Steel wire	Zinc chromated
⑰	Brake spring	Steel wire	Zinc chromated
⑱	Clip A	Stainless steel	ø25, ø32 only
⑲	Clip B	Stainless steel	ø25, ø32 only
⑳	Steel ball A	Carbon steel	
㉑	Steel ball B	Carbon steel	
㉒	Tooth ring	Stainless steel	
㉓	Bumper	Urethane	
㉔	C type retaining ring for taper ring	Carbon steel	
㉕	C type retaining ring for unlocking cam shaft	Carbon steel	
㉖	Bushing	Oil-impregnated sintered alloy	ø40 is lead-bronze casted
㉗	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉘	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉙	Spring washer for hex. socket head cap screw	Steel wire	Nickel plated
㉚	Bumper A	Urethane	
㉛	Bumper B	Urethane	ø40 is the same as damper A
㉜	Snap ring	Stainless steel	
㉝	Wear ring	Resin	
㉞	Rod end nut	Rolled steel	Nickel plated
㉟	BC element	Bronze	
㊱	Piston gasket	NBR	

Note) In the case of cylinders with auto switches, magnets are installed in the piston.

* The material for ø20 and ø25 cylinders equipped with auto switches is stainless steel.

No.	Description	Material	Note
㊲	Rod seal A	NBR	
㊳	Rod seal B	NBR	
㊴	Piston seal	NBR	
㊵	Cylinder tube gasket	NBR	
㊶	Release piston seal	NBR	
㊷	Rod seal C	NBR	
㊸	Piston guide gasket	NBR	
㊹	Intermediate cover gasket	NBR	
㊺	Unlocking cam gasket	NBR	
㊻	Head cover	Aluminum alloy	Clear hard anodized
㊼	Cylinder tube	Aluminum alloy	Hard anodized
㊽	Cushion ring A	Brass	
㊾	Cushion ring B	Brass	Same as cushion ring A except ø20, 25 standard stroke
㊿	Seal retainer	Rolled steel	Zinc chromated long strokes not available
51	Cushion valve A	Chromium molybdenum steel	Electroless nickel plated
52	Cushion valve B	Rolled steel	Electroless nickel plated
53	Valve retainer	Rolled steel	Electroless nickel plated
54	Lock nut	Rolled steel	Nickel plated
55	Snap ring	Stainless steel	
56	Cushion seal A	Urethane	
57	Cushion seal B	Urethane	Same as cushion seal A except ø20, 25 standard stroke
58	Cushion ring gasket A	NBR	
59	Cushion ring gasket B	NBR	Same as cushion ring gasket A except ø20, 25 standard stroke
60	Valve seal A	NBR	
61	Valve seal B	NBR	
62	Valve retainer gasket	NBR	

Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
20	CG1N20-PS	Set of above nos. ㊲, ㊳, ㊴
25	CG1N25-PS	
32	CG1N32-PS	
40	CG1N40-PS	

* Since the lock section for Series CNG is normally replaced as a unit, kits are for the cylinder section only. These can be ordered using the order number for each bore size.

CL

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

MLGP

RLQ

MLU

ML1C

D-

-X

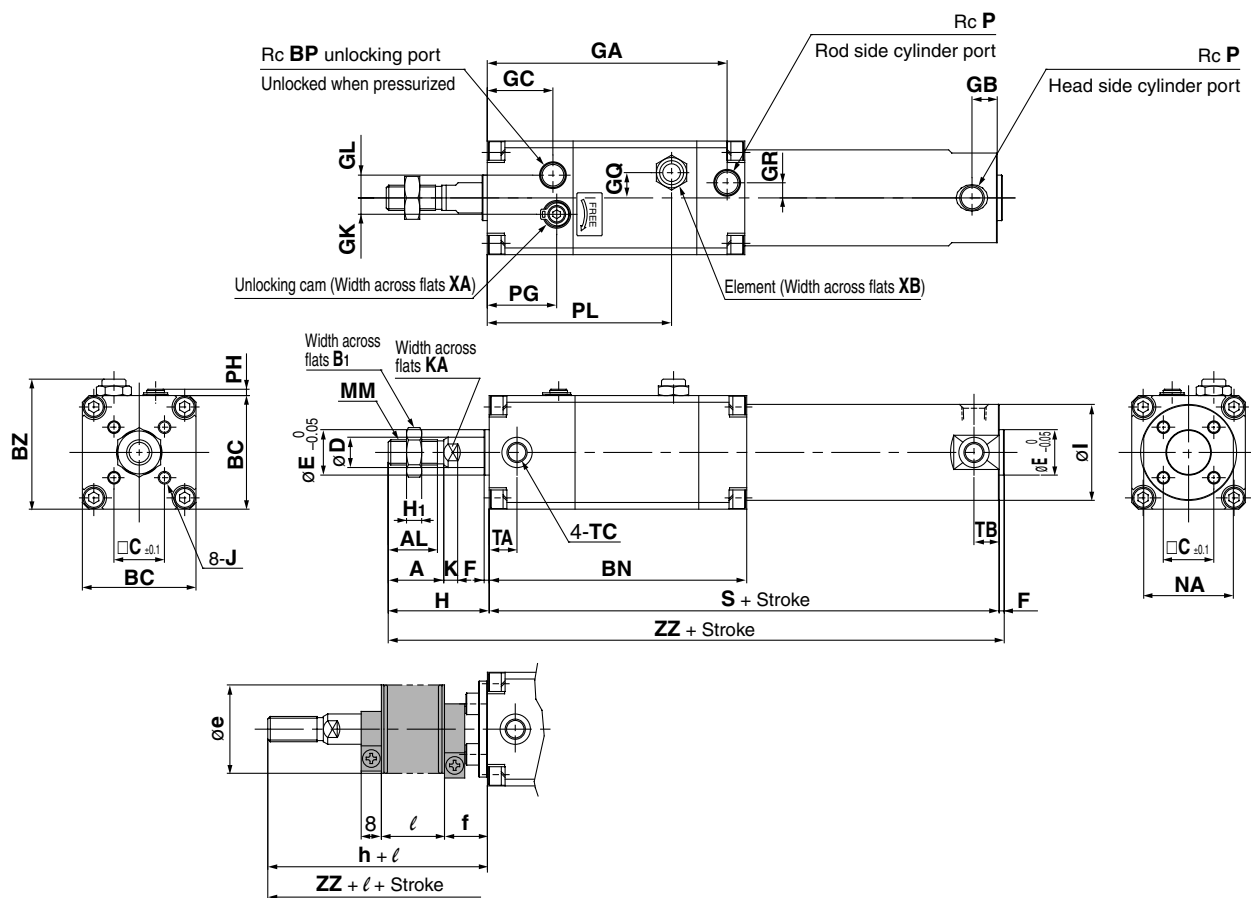
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Data

Series CNG

Dimensions

Basic style (B): With rubber bumper CNGBN



With rod boot

Bore size (mm)	Stroke range without rod boot		Stroke range with rod boot		A	AL	B ₁	BC	BN	BP	BZ	C	D	E	F	GA	GB	GC	GK	GL	GR	GQ	H1	I
	Standard	Long stroke	Standard	Long stroke																				
20	Up to 200	201 to 350	20 to 200	201 to 350	18	15.5	13	38	93	1/8	44.5	14	8	12	2	85	10 (12)	18	5.5	6	4	8	5	26
25	Up to 300	301 to 400	20 to 300	301 to 400	22	19.5	17	45	103	1/8	51.5	16.5	10	14	2	96	10 (12)	25	6.5	9	7	10	6	31
32	Up to 300	301 to 450	20 to 300	301 to 450	22	19.5	17	45	104	1/8	51.5	20	12	18	2	97	10 (12)	25	6.5	9	7	10	6	38
40	Up to 300	301 to 800	20 to 300	301 to 800	30	27	19	52	112	1/8	58.5	26	16	25	2	104	10 (13)	26	7	11	7	12	8	47

Bore size (mm)	J	K	KA	MM	NA	P	PG	PH	PL	S	TA	TB	TC	XA	XB	Without rod boot		With rod boot					
																H	ZZ	e	f	h	ℓ	ZZ	
20	M4 x 0.7 depth 7	5	6	M8 x 1.25	24	1/8	21.5	2	65	141 (149)	11	11	M5 x 0.8	3	12	35	178 (186)	30	16	55	0.25 x Stroke	198 (206)	
25	M5 x 0.8 depth 7.5	5.5	8	M10 x 1.25	29	1/8	26.5	2.5	73	151 (159)	11	11	M6 x 0.75	3	12	40	193 (201)	30	17	62		215 (223)	
32	M5 x 0.8 depth 8	5.5	10	M10 x 1.25	35.5	1/8	26.5	2.5	73	154 (162)	11	10 (11)	M8 x 1.0	3	12	40	196 (204)	35	17	62		218 (226)	
40	M6 x 1 depth 12	6	14	M14 x 1.5	44	1/8	28	2.5	81	169 (178)	12	10 (12)	M10 x 1.25	4	12	50	221 (230)	35	17	70		241 (250)	

Note) (): Denotes the dimensions for long stroke.