

# 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)		IC circuit	Relay, PLC
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	C76	●	●	—	—	—	IC circuit	—
				2-wire	24 V	12 V		100 V, 200 V	●	●	●			
	Diagnostic indication (2-color indication)	Connector	Grommet	Yes	2-wire	24 V	12 V	100 V	●	●	●	—	—	Relay, PLC
	2-wire				12 V	—	●	●	—	—				
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	H7A1	●	●	○	—	○	IC circuit	—
				3-wire (PNP)				12 V	—	●	●	○		
	Diagnostic indication (2-color indication)	Connector	Grommet	Yes	2-wire	24 V	12 V	—	●	●	○	—	—	Relay, PLC
					3-wire (NPN)	5 V, 12 V	—	●	●	○	—	IC circuit		
	Water resistant (2-color indication)	Grommet	Yes	3-wire (PNP)	5 V, 12 V	—	H7B	●	●	○	—		○	—
				2-wire	12 V	—	●	●	●	—	—	IC circuit		
	With diagnostic output (2-color indication)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	H7C	●	●	○			—	○
				3-wire (PNP)	12 V	—	●	●	○	—	—	IC circuit		
	—	Connector	Grommet	Yes	2-wire	24 V	12 V	—	●	●			○	—
					4-wire (NPN)	5 V, 12 V	—	●	●	○	—	—	IC circuit	
—	Grommet	Yes	Yes	3-wire (NPN)	5 V, 12 V	—	H7NW	●	●	○	—			○
				3-wire (PNP)	12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	2-wire	24 V	12 V	—	●	●	○			—	—
				4-wire (NPN)	5 V, 12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	3-wire (NPN)	5 V, 12 V	—	H7PW	●	●	○			—	○
				3-wire (PNP)	12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	2-wire	24 V	12 V	—	●	●	○			—	—
				4-wire (NPN)	5 V, 12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	3-wire (NPN)	5 V, 12 V	—	H7BW	●	●	○			—	○
				3-wire (PNP)	12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	2-wire	24 V	12 V	—	●	●	○			—	—
				4-wire (NPN)	5 V, 12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	3-wire (NPN)	5 V, 12 V	—	H7BA	—	●	○			—	○
				3-wire (PNP)	12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	2-wire	24 V	12 V	—	●	●	○			—	—
				4-wire (NPN)	5 V, 12 V	—	●	●	○	—	—	IC circuit		
—	Grommet	Yes	Yes	3-wire (NPN)	5 V, 12 V	—	H7NF	●	●	○			—	○
				3-wire (PNP)	12 V	—	●	●	○	—	—	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



JIS Symbol



**Made to Order Specifications**  
(For details, refer to page 9-16-1.)

Symbol	Specifications
-XA□	Change of rod end shape

## Model

Series	Type	Action	Bore size (mm)	Lock operation
CNG	Non-lube	Double acting	20, 25, 32, 40	Spring locking

## Cylinder Specifications

Type	Non-lube
Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa
Min. operating pressure	0.08 MPa
Piston speed	50 to 1000 mm/s *
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)
Cushion	Rubber bumper, Air cushion
Stroke length tolerance (mm)	Up to 800 st: $^{+1.4}_0$
Thread tolerance	JIS Class 2
Mounting	Basic style, Axial foot style, Rod side flange style, Head side flange style, Rod side trunnion style, Head side trunnion style, Clevis style (used for 90° change of port position)

\* When the piston is locked, the load weight is limited by the mounting orientation and the operating pressure.

## Lock Specifications

Bore size (mm)	20	25	32	40
Locking action	Spring locking (Exhaust locking)			
Unlocking pressure	0.20 MPa or more	0.25 MPa or more		
Lock starting pressure	0.15 MPa or less	0.20 MPa or less		
Operating pressure range	0.2 to 1.0 MPa	0.25 to 1.0 MPa		
Locking direction	Both directions			

## Standard Stroke

Bore size (mm)	Standard stroke (mm) <sup>(1)</sup>	Long stroke (mm)	Max. manufacturable stroke (mm)
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
25	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 400	
32		301 to 450	
40		301 to 800	

Note 1) Intermediate strokes other than the above are produced upon receipt of order. Spacers are not used for intermediate strokes.

Note 2) Long strokes are applicable to the axial foot style and rod side flange style.

In the case of other mounting brackets or when long stroke limits are exceeded, the maximum useable stroke is determined by the stroke selection table (information edition).

## Stopping Accuracy

Lock type	Piston speed (mm/s)			
	100	300	500	1000
Spring locking	±0.3	±0.6	±1.0	±2.0

Condition: Lateral, Supply pressure P = 0.5 MPa

Load weight ..... Upper limit of allowed value

Solenoid valve for locking: Mounted directly to unlocking port

Maximum value of stopping position dispersion from 100 measurements

## Holding Force of Spring Locking (Maximum static load)

Bore size (mm)	20	25	32	40
Holding force (N)	215	335	550	860

## Minimum Stroke for Auto Switch Mounting

Model	No. of auto switches mounted	
	2	1
D-C7/C8 D-B5/B6 D-H7 D-G5NTL	15 mm	10 mm
D-B59W	20 mm	15 mm

## Rod Boot Material

Symbol	Rod boot material	Max. operating temperature
J	Nylon tarpaulin	70°C
K	Heat resistant tarpaulin	110°C *

\* Maximum ambient temperature for the rod boot itself.