

# Cylinder with Lock Double Acting, Single Rod Series CNS

ø125, ø140, ø160

## How to Order

**CNS L 125 100 - D -**

**With auto switch CDNS L 125 100 - D - M9BW**

**With auto switch (Built-in magnet)**

**Mounting style**

B	Basic style
L	Foot style
F	Rod side flange style
G	Head side flange style
C	Single clevis style
D	Double clevis style
T	Center trunnion style

**Tubing material**

Nil	Aluminum tube
F*	Steel tube

\* Auto switches are not available with steel tube.

**Bore size**

125	125 mm
140	140 mm
160	160 mm

**Thread type**

Nil	Rc
TN	NPT
TF	G

**Cylinder stroke (mm)**

Refer to page 761 for maximum stroke.

**Number of auto switches**

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

**Auto switch**

Nil	Without auto switch
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\* Select applicable auto switch part numbers from the table below.

**Locking direction**

D	Both directions
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**Made to Order**

Refer to page 761 for details.

**With rod boot/cushion**

Rod boot	J	Nylon tarpaulin
	K	Heat resistant tarpaulin
Cushion	Nil	With double-side cushion
	N	Without cushion
	R	With rod cushion
	H	With head cushion

\* When the symbols are two or more, indicate them alphabetically.

### 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) CDNSL140-100-D

### Applicable Auto Switch/Refer to pages 1719 to 1827 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-wired connector	Applicable load				
					DC	AC	Tie-rod mounting	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)						
Solid state switch		Grommet		3-wire (NPN)	24 V	5 V, 12 V	—	M9N	●	●	●	○	○	IC circuit				
				3-wire (PNP)				M9P	●	●	●	○	○					
		2-wire	—	100 V, 200 V	J51	●	—	●	○	○	—							
		3-wire (NPN)			M9B	●	●	●	○	○								
	Terminal conduit		3-wire (NPN)	24 V	5 V, 12 V	—	12 V	—	G39	—	—	—	—	IC circuit				
			2-wire					—	K39	—	—	—	—	—	—			
	Diagnostic indication (2-color indication)		Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NW	●	●	●	○	○	IC circuit			
					3-wire (PNP)				M9PW	●	●	●	○	○				
	Water resistant (2-color indication)		Grommet		2-wire	24 V	12 V	—	M9BW	●	●	●	○	○	—			
					3-wire (NPN)				M9NA	—	○	○	●	○		○		
With diagnostic output (2-color indication)		Grommet		3-wire (PNP)	24 V	5 V, 12 V	—	M9PA	—	○	○	●	○	IC circuit				
				2-wire				M9BA	—	○	○	●	○		○			
Reed switch				3-wire (NPN equivalent)	24 V	5 V	—	A96	●	—	●	—	—	IC circuit				
								Terminal conduit	12 V	100 V	A93	—	●		—	●	—	—
									5 V, 12 V	100 V or less	A90	—	●		—	●	—	—
									100 V, 200 V	A54	—	●	—		●	●	—	—
		DIN terminal		Yes	2-wire	24 V	12 V	—	100 V, 200 V	—	A33	—	—	—	—	—		
										—	A34	—	—	—	—		—	
		Diagnostic indication (2-color indication)		Grommet		3-wire (NPN equivalent)	24 V	5 V, 12 V	—	A59W	●	—	●	—	—	IC circuit		
										—	—	—	—	—	—		—	

\* Lead wire length symbols: 0.5 m ..... Nil (Example) M9NW  
1 m ..... M (Example) M9NWM  
3 m ..... L (Example) M9NWL  
5 m ..... Z (Example) M9NWZ

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

\* There are other applicable auto switches than listed above. For details, refer to page 775.

\* For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.

\* D-A9□/M9□/M9□W/M9□AL auto switches are shipped together (not assembled). (Only auto switch brackets are assembled at the time of shipment.)

# Cylinder with Lock Double Acting, Single Rod **Series CNS**

## Cylinder Specifications



Bore size (mm)	125	140	160
<b>Lube</b>	Not required (Non-lube)		
<b>Fluid</b>	Air		
<b>Proof pressure</b>	1.57 MPa		
<b>Max. operating pressure</b>	0.97 MPa		
<b>Min. operating pressure</b>	0.08 MPa		
<b>Piston speed</b>	50 to 500 mm/s *		
<b>Ambient and fluid temperature</b>	Without auto switch: 0 to 70°C (No freezing) With auto switch: 0 to 60°C (No freezing)		
<b>Cushion</b>	Air cushion		
<b>Stroke length tolerance</b>	Up to 250: $^{+10}_0$ , 251 to 1000: $^{+14}_0$ , 1001 to 1500: $^{+18}_0$ , 1501 to 1600: $^{+22}_0$		
<b>Mounting</b>	Basic style, Axial foot style, Rod side flange style, Head side flange style, Single clevis style, Double clevis style, Center trunnion style		

\* Load limits exist depending upon piston speed when locked, mounting direction and operating pressure.

## Lock Specifications

Bore size (mm)	125	140	160
<b>Locking action</b>	Spring locking (Exhaust lock)		
<b>Unlocking pressure</b>	0.25 MPa or more		
<b>Lock starting pressure</b>	0.20 MPa or less		
<b>Operating pressure range</b>	0.25 to 0.7 MPa		
<b>Locking direction</b>	Both directions		
<b>Holding force (kN)</b>	8.4	10.5	13.8

\* Be sure to make cylinder selections in accordance with the method given on page 758.

## Cylinder Stroke

Tube material	Aluminum alloy			Carbon steel pipe	
	Bore size (mm)	Basic style, Head side flange style, Single clevis style, Double clevis style, Center trunnion style	Basic style, Head side flange style, Single clevis style, Double clevis style, Center trunnion style	Foot style, Rod side flange style	
<b>125, 140</b>	Up to 1000	Up to 1000	Up to 1000	Up to 1600	
<b>160</b>	Up to 1200	Up to 1200	Up to 1200	Up to 1600	

## Cylinder Stroke/Auto Switch Mounting on Cylinder Unit (Built-in Magnet)

Refer to the minimum auto switch mounting stroke (page 774) for those with an auto switch.

Bore size (mm)	Basic style, Head side flange style, Single clevis style, Double clevis style, Center trunnion style	Foot style, Rod side flange style
<b>125, 140</b>	Up to 1000	Up to 1400
<b>160</b>	Up to 1200	Up to 1400

## Stopping Accuracy

Lock type	Piston speed (mm/s)		
	100	300	500
Spring locking	±0.5	±1.0	±2.0

Condition: Lateral, Supply pressure P = 0.5 MPa  
Load mass ..... Upper limit of allowed value  
Solenoid valve for locking .... Mounted directly to unlocking port  
Maximum value of stopping position dispersion from 100 measurements

### JIS Symbol



**Made to Order Specifications**  
(For details, refer to pages 1836 and 1844.)

Symbol	Specifications
—XA□	Change of rod end shape
—XC14	Change of trunnion bracket mounting position

Refer to pages 773 to 775 for cylinders with auto switches.

- Minimum auto switch mounting stroke
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Switch mounting bracket: Part no.

CLJ2

CLM2

CLG1

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

RLQ

MLU

MLGP

ML1C

D-□

-X□

Individual  
-X□