Air Cylinder

Series CS2

ø125, ø140, ø160

How to Order

CS2 **L** **125** □ – **300** □ – □

With auto switch **CDS2** **L** **125** □ – **300** □ – **M9BW** □ – □

With auto switch
(Built-in magnet)

Mounting

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

Bore size

125	125 mm
140	140 mm
160	160 mm

Port thread type

Nil	Rc
TN	NPT
TF	G

Cylinder stroke (mm)
Refer to the next page for the "Maximum Stroke" table.

Suffix for cylinder

Rod boot	**Nil**	None
	J	Nylon tarpaulin
	K	Heat resistant tarpaulin

∗ With air cushions on both sides only.

Auto switch

Nil	Without auto switch

∗ Refer to the table below for the applicable auto switch model.

Number of auto switches

Nil	2 pcs.
3	3 pcs.
S	1 pc.
n	"n" pcs.

Made to Order
For details, refer to the next page.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without auto switch is required, there is no need to enter the symbol for auto switch.
(Example) CDS2B125-200

Applicable Auto Switches / For detailed auto switch specifications, refer to Best Pneumatics No. 2.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage DC	Load voltage AC	Auto switch model: Tie-rod mounting	Auto switch model: Band mounting	Lead wire length (m): 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	Pre-wired connector	Applicable load	
Solid state switch	——	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	**M9N**	—	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				**M9P**	—	●	●	●	○	○		
				2-wire		12 V		**M9B**	—	●	●	●	○	○	—	
					—	—	100 V, 200 V	**J51**	—	●	—	●	○	—		
		Terminal conduit		3-wire (NPN)	24 V	5 V, 12 V	—	—	**G39**	—	—	—	—	—	IC circuit	
				2-wire		12 V		—	**K39**	—	—	—	—	—	—	
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)		5 V, 12 V		**M9NW**	—	●	●	●	○	○	IC circuit	
				3-wire (PNP)				**M9PW**	—	●	●	●	○	○		
				2-wire		12 V		**M9BW**	—	●	●	●	○	○	—	
	Water resistant (2-color indication)			3-wire (NPN)		5 V, 12 V		**M9NA**	—	○	○	●	○	○	IC circuit	
				3-wire (PNP)				**M9PA**	—	○	○	●	○	○		
				2-wire		12 V		**M9BA**	—	○	○	●	○	○	—	
	Diagnostic indication (2-color indication)			4-wire (NPN)		5 V, 12 V		**F59F**	—	●	—	●	○	○	IC circuit	
Reed switch	——	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	**A96**	—	●	—	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	**A93**	—	●	—	●	—	—	—	Relay, PLC
			No			5 V, 12 V	100 V or less	**A90**	—	●	—	●	—	—	IC circuit	
			Yes			12 V	100 V, 200 V	**A54**	—	●	—	●	●	—	—	
			No				200 V or less	**A64**	—	●	—	●	—	—		
		Terminal conduit	Yes				—	—	**A33**	—	—	—	—	—	—	PLC
		DIN terminal					100 V, 200 V	—	**A34**	—	—	—	—	—		Relay, PLC
	Diagnostic indication (2-color indication)	Grommet				—	—	**A59W**	—	●	—	●	—	—		

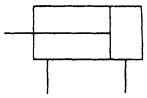
∗ Lead wire length symbols: 0.5 m ····· Nil (Example) M9NW
1 m ····· M (Example) M9NWM
3 m ····· L (Example) M9NWL
5 m ····· Z (Example) M9NWZ

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

∗ Since there are applicable auto switches other than listed, refer to page 23 for details.
∗ For details about auto switches with pre-wired connector, refer to Best Pneumatics No. 2.
∗ D-A9□, M9□, M9□W, M9□AL are shipped together (but not assembled). (Only auto switch mounting bracket is assembled at the time of shipment.)

JIS Symbol

Double acting



Made to Order Specifications

(For details, refer to pages 25 to 29.)

Symbol	Specifications
-XA□	Change of rod end shape
-XC3	Special port position
-XC14	Change of trunnion bracket mounting position
-XC15	Change of tie-rod length
-XC26	Double clevis pin/Double knuckle pin with split pin and flat washer
-XC27	Double clevis pin and double knuckle pin made of stainless steel
-XC30	Rod side trunnion mounted on the front of the rod cover
-XC68	Made of stainless steel (With hard chrome plated piston rod)
-XC86	With rod end bracket

Rod Boot Material

Symbol	Material	Max. ambient temperature
J	Nylon tarpaulin	70°C
K	Heat resistant tarpaulin	110°C*

* Maximum ambient temperature for the rod boot itself.

For the specifications of cylinders with auto-switch, please refer to pages 21 to 24.

- Minimum stroke for auto switch mounting
- Auto switch proper mounting position (detection at stroke end) and its mounting height
- Operating range
- Auto switch mounting bracket part no.

Specifications

Bore size (mm)	**125**	**140**	**160**
Action	Double acting, Single rod		
Fluid	Air		
Proof pressure	1.57 MPa		
Maximum operating pressure	0.97 MPa		
Minimum operating pressure	0.05 MPa		
Piston speed	50 to 500 mm/s		
Cushion	Air cushion		
Ambient and fluid temperature	Without auto switch	0 to 70°C (No freezing)	
	With auto switch	0 to 60°C (No freezing)	
Lubrication	Not required (Non-lube)		
Stroke length tolerance (mm)	Stroke	Tolerance	
	250 or less	$^{+1.0}_{0}$	
	251 to 1000	$^{+1.4}_{0}$	
	1001 to 1500	$^{+1.8}_{0}$	
	1501 to 1600	$^{+2.2}_{0}$	
Mounting	Basic, Foot, Rod flange, Head flange, Single clevis, Double clevis, Center trunnion		

Maximum Stroke

(mm)

Mounting bracket / Bore size	Maximum stroke	
	Basic, Head flange, Single clevis, Double clevis, Center trunnion	Foot, Rod flange
125	1000 or less	1600 or less
140		
160	1200 or less	

Accessory

Mounting		Basic	Foot	Rod flange	Head flange	Single clevis	Double clevis	Center trunnion
Standard equipment	Clevis pin	—	—	—	—	—	●	—
Option	Rod end nut	●	●	●	●	●	●	●
	Single knuckle joint	●	●	●	●	●	●	●
	Double knuckle joint (Knuckle pin, Split pin)	●	●	●	●	●	●	●
	Rod boot	●	●	●	●	●	●	●

* If using the rod end nut with a single knuckle joint or a double knuckle joint, use the type with rod end bracket (-XC86) or refer to page 11.

Mounting Bracket Part No.

Bore size (mm)	**125**	**140**	**160**
Foot*	CS2-L12	CS2-L14	CS2-L16
Flange	CS2-F12	CS2-F14	CS2-F16
Single clevis	CS2-C12	CS2-C14	CS2-C16
Double clevis**	CS2-D12	CS2-D14	CS2-D16

* Order two foot brackets per cylinder.

** When ordering the double clevis style, the clevis pin and 2 split pins are included as accessories.