

Compact Cylinder With Solenoid Valve Series **CVQ** ø32, ø40, ø50, ø63



How to Order

CVQ **B** **32** - **30** - **M9BW** - **5** **M** - - - -

Mounting

B	Through-hole, Both ends tapped (Standard)
L	Foot
F	Rod flange
G	Head flange
D	Double clevis

* Mounting brackets are included, (but not assembled).

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm

Cylinder stroke (mm)

Please refer to the next page for "Standard Stroke" and "Intermediate Stroke".

Body option

Nil	Standard (Rod end female thread)
F	With boss in head end
M	Rod end male thread

The combination of body options is available.
Example) FM

Auto switch

Nil	Without auto switch (Built-in magnet)
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* For applicable auto switch models, refer to the below table.

Number of auto switches

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

Rated voltage

5	24 VDC
6	12 VDC

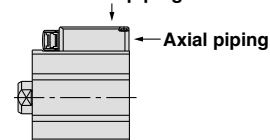
Port thread type

Nil	M5 x 0.8	ø32 ø40
	Rc	
F	G	ø50
N	NPT	ø63

Piping

Nil	Standard
P	Axial

Standard piping



Manual override

Nil	Non-locking push type
B	Locking slotted type

Surge voltage suppressor

Nil	Without surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

Electrical entry

M	MO
M-type plug connector with lead wire (300 mm)	M-type plug connector without connector

* For lead wire lengths other than 300 mm, refer to the plug connector lead wire (page 5).

Applicable Auto Switches / Refer to pages 14 through to 16 for detailed auto switch specifications.

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	Electrical entry		0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
								Perpendicular	In-line							
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5V, 12V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				M9PV	M9P	●	●	●	○	○		
	2-wire			M9BV				M9B	●	●	●	○	○			
	3-wire (NPN)			5V, 12V	M9NWW	M9NW		●	●	●	○	○	IC circuit			
	3-wire (PNP)				M9PWW	M9PW		●	●	●	○	○				
	2-wire				M9BWW	M9BW		●	●	●	○	○				
	Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96V	A96	●	—	●	—	—	IC circuit
2-wire					24 V	12 V	100 V	A93V	A93	●	—	●	—	—	IC circuit	Relay, PLC
						5 V, 12 V	100 V or less	A90V	A90	●	—	●	—	—		

* Lead wire length symbols: 0.5 m Nil (Example) M9NW
1 m M M9NWM
3 m L M9NWL
5 m Z M9NWX

* Solid state auto switches marked with "○" are produced upon receipt of order.
* For details about auto switches with pre-wired connector, refer to pages 1784 and 1785 of the "Best Pneumatics" Vol. 3 catalog.
* Auto switches are shipped together (not assembled).

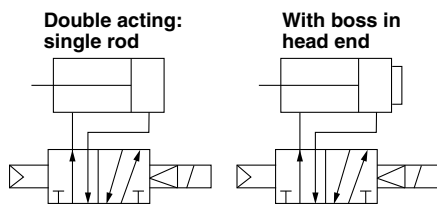
Series CVQ



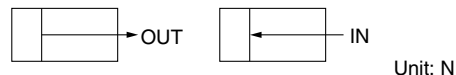
⚠ Caution

Do not separate the cylinder from the valve.

JIS Symbol



Theoretical Output



Unit: N

Bore size (mm)	Operating direction	Operating pressure (MPa)		
		0.3	0.5	0.7
32	IN	181	302	422
	OUT	241	402	563
40	IN	317	528	739
	OUT	377	628	880
50	IN	495	825	1150
	OUT	589	982	1370
63	IN	840	1400	1960
	OUT	936	1560	2184

Mounting Bracket Part No.

Bore size (mm)	Foot (Note)	Flange	Double clevis
32	CVQ-L032	CVQ-F032	CVQ-D032
40	CVQ-L040	CVQ-F040	CVQ-D040
50	CVQ-L050	CVQ-F050	CVQ-D050
63	CVQ-L063	CVQ-F063	CVQ-D063

Note) Order two foot brackets per cylinder.

* Parts belonging to each bracket are as follows.

Foot, Flange: Body mounting screws

Double clevis: Clevis pin, C-type retaining ring for shaft, Body mounting screws

Cylinder Specifications

Bore size (mm)	32	40	50	63
Action	Double acting, single rod			
Fluid	Air (Non-lube)			
Proof pressure	1.0 MPa			
Maximum operating pressure	0.7 MPa			
Minimum operating pressure	0.15 MPa			
Ambient and fluid temperature	-10 to 50°C (No freezing)			
Stroke tolerance	0 to +1.0 mm*			
Mounting method	Through-hole / Both ends tapped			
Piston speed	50 to 500 mm/s			
Cushion	Rubber bumper			

* Stroke length tolerance does not include variations in the bumper value.

Valve Specifications

Type of actuation	2 position single
Manual override	Non-locking push type / Locking slotted type
Pilot exhaust	Main/Pilot valve common exhaust type
Mounting orientation	Unrestricted (based on cylinder mounting orientation)
Enclosure	Dustproof

Solenoid Specifications

Electrical entry	M-type plug connector	
Coil rated voltage	DC	24/12 (V)
Allowable voltage fluctuation (Note)	±10% of the rated voltage	
Power consumption	DC	0.35 (With light: 0.4) W
Surge voltage suppressor	Diode (Non-polar type: Varistor)	
Indicator light	LED	

Note) The S and Z types of surge voltage suppressor have an internal circuit allowing voltage drop, so use within the following allowable voltage fluctuation range.

S, Z type 24 VDC: -7% to +10%
12 VDC: -4% to +10%

Standard Stroke

Bore size (mm)	Standard stroke (mm)
32 *1	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50 *2	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
63	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

*1 The outline dimensions for 5 mm stroke will be the same as those for 10 mm stroke.

*2 The outline dimensions for 10 mm stroke will be the same as those for 15 mm stroke.

Intermediate Stroke

Part no.	Refer to "How to Order" for standard model numbers (previous page).	
Description	Intermediate strokes are available by using spacers with standard stroke cylinders.	
	Bore size	Description
	32	Compatible with strokes of 1 mm increments.
Stroke range (mm)	40, 50, 63	Compatible with strokes of 5 mm increments.
	Bore size	Stroke range
	32	1 to 99
Applicable example	40, 50, 63	5 to 95
	Part no.: CVQB32-95-□ A spacer of 5 mm is installed in standard cylinder CVQB32-100-□. B dimension is 133 mm.	