

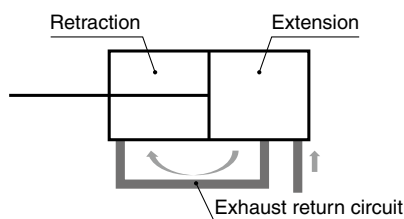
Compact Cylinder/Air Saving Type

RoHS

∅32, ∅40, ∅50

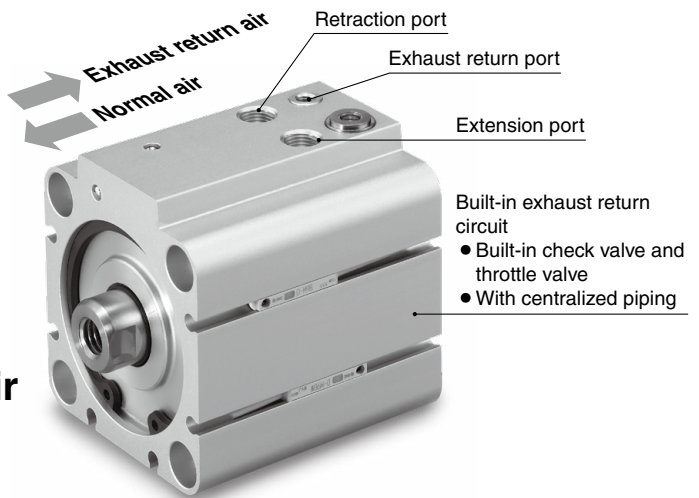
Air consumption
Max. 46% reduction

- Uses the air exhausted from the extension side to supply the retraction side, thus reusing the air (Built-in exhaust return circuit)
- Reduce air consumption just by piping to the product

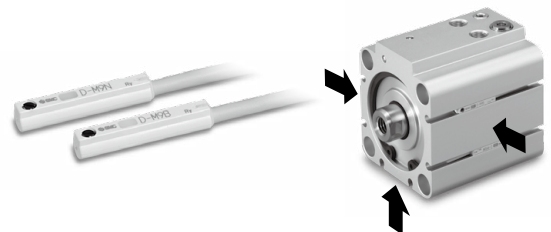


- The dimensions and mounting dimensions are the same as those of the existing CDQ2 series model.

* For the through-hole mounting type only



- With rubber bumper
- Small auto switches can be mounted on 3 surfaces.
Applicable auto switch: D-M9□



Specifications

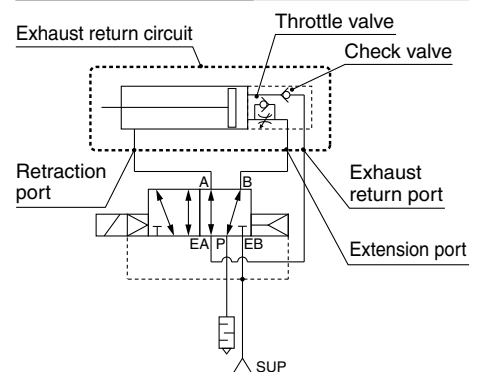
Bore size [mm]		32	40	50
Action		Double acting, Single rod		
Fluid		Air		
Proof pressure		1.0 MPa		
Max. operating pressure		0.7 MPa		
Min. operating pressure		0.4 MPa		
Ambient and fluid temperatures		With auto switch: -10 to 60°C (No freezing)		
Lubrication		Not required (Non-lube)		
Piston speed	Extending operation	50 to 500 mm/s		50 to 300 mm/s
	Retracting operation	50 to 300 mm/s		
Stroke length tolerance		0 to +1.0 mm*1		
Cushion		Rubber bumper		
Port size	Retraction port	M5 x 0.8		Rc1/8
	Extension port	M5 x 0.8		Rc1/8
	Exhaust return port		M5 x 0.8	
Mounting orientation		Horizontal lateral, Vertical upward		
Min. theoretical output*2	Retracting operation	32 N	55 N	85 N
Allowable kinetic energy		0.29 J	0.52 J	0.91 J
Allowable lateral load at rod end (At 30 stroke)		7.6 N	10.9 N	15.8 N
Mounting		Basic type (Through-hole)		

*1 Stroke length tolerance does not include the amount of bumper change.
*2 Be aware that the cylinder output is reduced during the retraction operation.
The cylinder output values in the table above are the min. values. Therefore, depending on the operating conditions, the output may be greater.
Please contact your local sales representative for more details.

Standard Strokes

Bore size	Standard stroke [mm]
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Circuit Diagram



CDQ2B-X3150

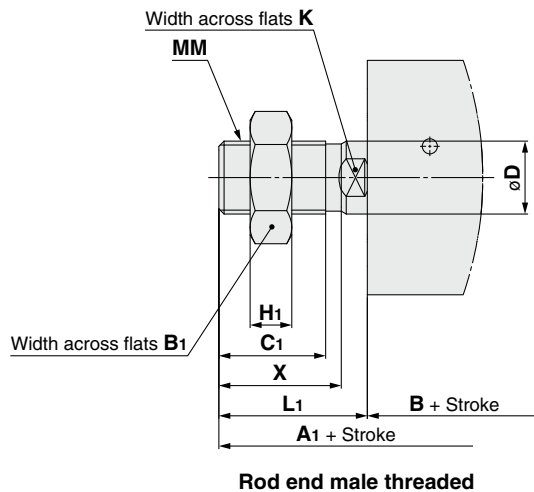
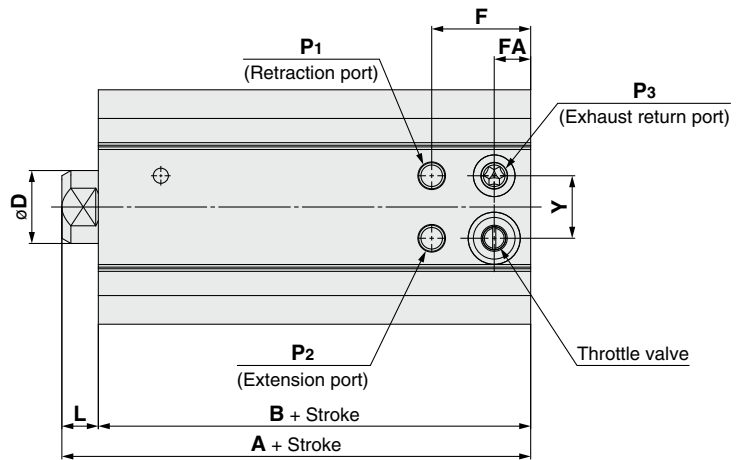
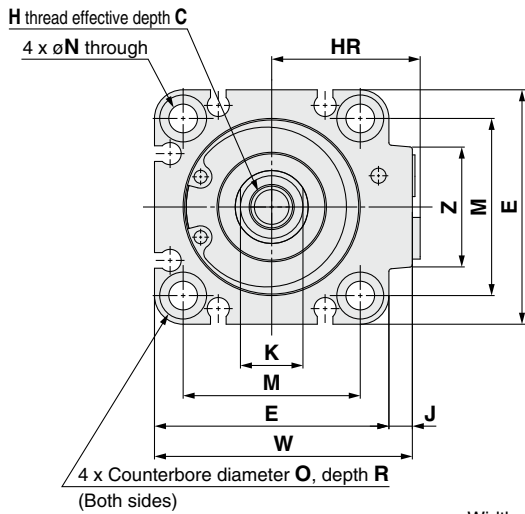


19-E720

CDQ2B-X3150

Bore size

Dimensions **∅32, ∅40, ∅50**



Rod end male threaded

Bore size	Standard stroke	A	B	C	D	E	F	FA	H	HR	J	K	L	M	N
32	5, 10, 15, 20, 25, 30, 35, 40,	40	33	13	14	45	19	7	M8 x 1.25	28	4.5	12	7	34	5.5
	45, 50, 75, 100	46.5	39.5	13	14	52	20.5	9	M8 x 1.25	32	5	12	7	40	5.5
50	10, 15, 20, 25, 30, 35, 40,	48.5	40.5	15	18	64	24	9.5	M10 x 1.5	41	7	16	8	50	6.6
	45, 50, 75, 100														

Bore size	O	P1	P2	P3	R	W	Y	Z	A1	B1	C1	H1	L1	MM	X
32	9	M5 x 0.8	M5 x 0.8	M5 x 0.8	7	49.5	12	23	61.5	22	20.5	8	28.5	M14 x 1.5	23.5
40	9	M5 x 0.8	M5 x 0.8	M5 x 0.8	7	57	12	23	68	22	20.5	8	28.5	M14 x 1.5	23.5
50	11	Rc1/8	Rc1/8	M5 x 0.8	8	71	18	33	74	27	26	11	33.5	M18 x 1.5	28.5

Handling

Warning

1. Residual pressure will remain in the exhaust return piping of this circuit.

To completely exhaust all of the residual pressure, install a 3-port valve for residual pressure exhaust in the exhaust return piping.

2. The adjustment range for the throttle valve for retraction operation speed adjustment is, starting from the fully closed position, within the number of rotations shown in the table below.

Bore size [mm]	Number of rotations
32, 40	3.5 rotations or less
50	4.5 rotations or less

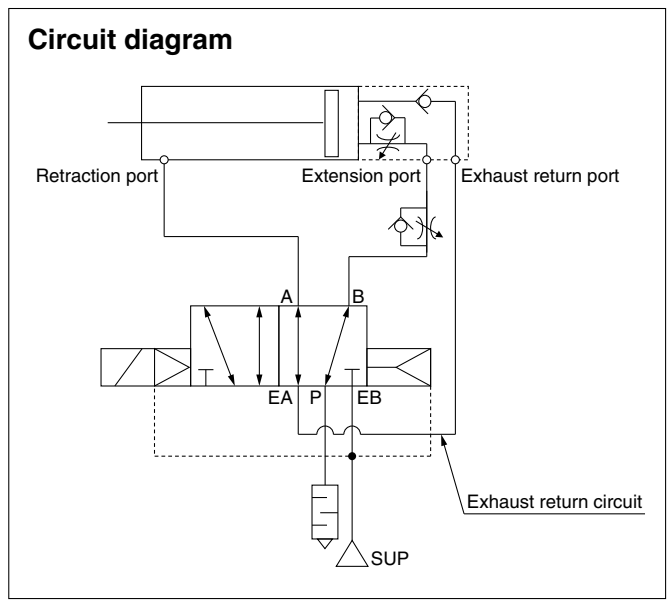
To adjust the throttle valve, use a 3 mm flat head watchmaker's screwdriver.

The adjustment range for the throttle valve is, between the fully closed position and the open position, within the range indicated in the table above.

A retaining mechanism prevents the throttle valve from slipping out; however, it may spring out during operation if it is rotated beyond the range shown above.

Caution

1. Pipe according to the circuit diagram shown below when using this cylinder.



2. For exhaust return, the selection and installation of suitable fittings, tubes, and devices is required. Please contact your local sales representative for more details.

3. For the solenoid valve, select a single unit (body ported or base ported) external pilot type.

4. Follow the instructions below to adjust the speed of this cylinder.

Extending operation: Use the speed controller (meter-in) installed between the extension port and the solenoid valve.

Retracting operation: Use the built-in throttle valve on the cylinder.

5. As the retracting operation of this cylinder is performed with low pressure and low thrust, refrain from applying more external force than necessary.

6. Pivot brackets cannot be used.

Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and the "CQ2 Series Specific Product Precautions" before use.

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