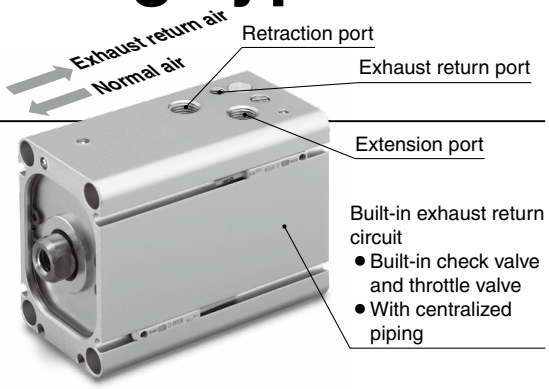
Compact Cylinder Air Saving Type/ Double Force Type

RoHS



Size: 45, 57, 71

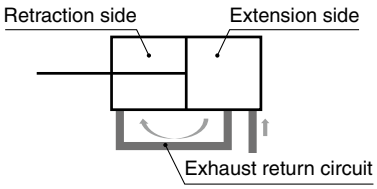
Air saving and more compact! Improvements due to the adoption of a built-in exhaust return circuit and a polygonal piston (new size)

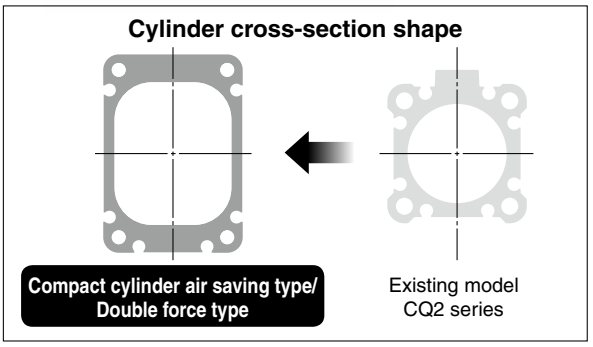
Air saving (Built-in exhaust return circuit)

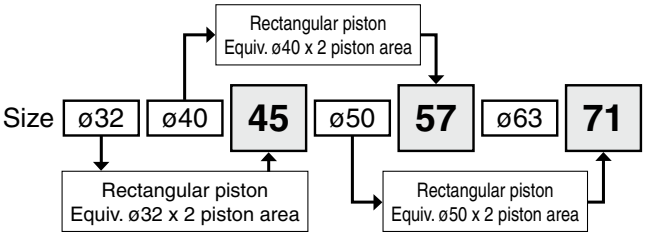
Air consumption

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**







Compact (Now with a polygonal piston)

This product is capable of providing double the force of the CQ2 series without changing the width.

Overall length

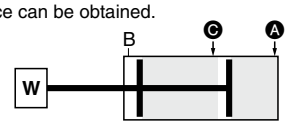
50% *1 **reduction**

130.5 mm ➡ **65.3 mm**

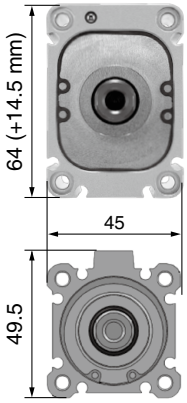
*1 Compared with the existing model (CDQ2B32-25+0DCZ-XC11 Dual stroke cylinder)

Dual stroke cylinder/ Double force

When air pressure is supplied to the A and C ports at the same time, double the force can be obtained.



Width comparison



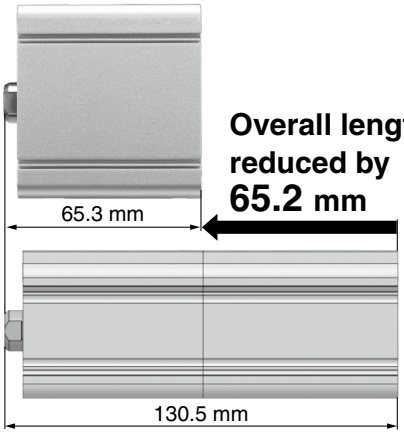
Compact cylinder air saving type/ Double force type

Size 45 (ø32 x 2), 25 mm stroke

Same width

Existing model
Dual stroke cylinder (Double force)
ø32, 25 mm stroke

Overall length comparison



Overall length reduced by 65.2 mm

- **With rubber bumper**
- **Small auto switches can be mounted.**

Applicable auto switch: **D-M9□**

Size 45: Mounting on 3 surfaces

Sizes 57, 71: Mounting on 4 surfaces

(For details, refer to the dimensions.)

CDQ2B-X3207

SMC

CDQ2B-X3207

Specifications

Size		**45** (Equiv. ø32 x 2 piston area)	**57** (Equiv. ø40 x 2 piston area)	**71** (Equiv. ø50 x 2 piston area)
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		5 to 60°C (No freezing)		
Lubrication		Not required (Non-lube)		
Piston speed	**Extending operation**	50 to 300 mm/s*3		
	Retracting operation	50 to 200 mm/s*3		
Cushion		Rubber bumper		
Stroke length tolerance		0 to +1.3 mm*1		
Port size	**Extension port**	Rc1/8		
	Retraction port	Rc1/8		
	Exhaust return port	M5 x 0.8	Rc1/8	
Mounting orientation		Horizontal lateral, Vertical upward		
Min. theoretical output*2	**Retracting operation**	73 N	113 N	177 N
Allowable kinetic energy		0.26 J	0.46 J	0.77 J
Allowable lateral load at rod end (At 25 st)		12.6 N	22.3 N	35.8 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.

Depending on the system configuration selected, the specified speed may not be satisfied.
*3 Maximum operating pressure and piston speed are different from the existing product (CQ2 series).

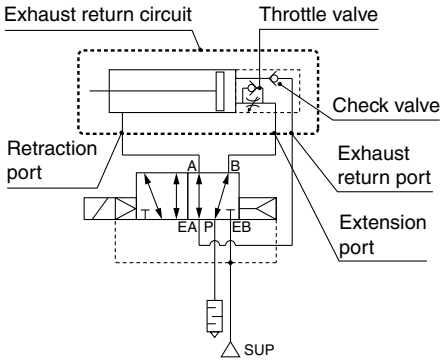
For sizes 45 and 57, the positions of the switch mounting grooves vary slightly from those of the polygonal piston standard type.

Standard Strokes

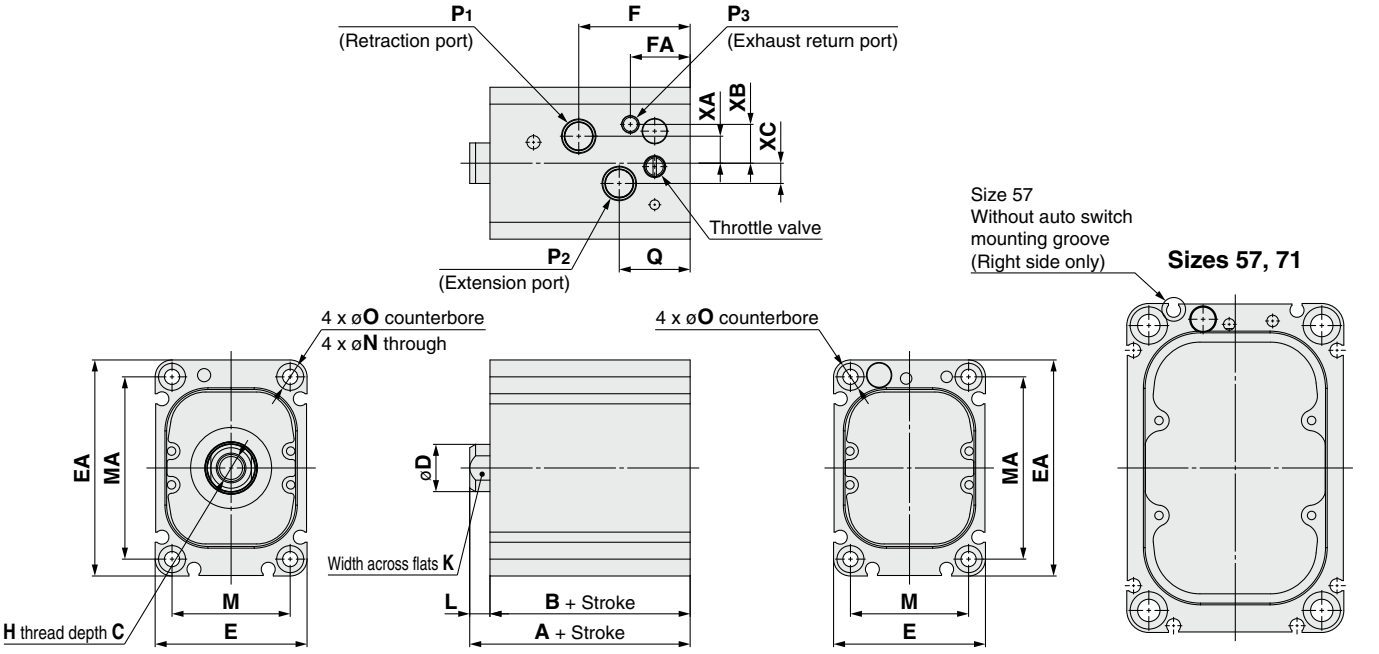
[mm]

Size	Standard stroke
45	25, 50
57	
71	

Circuit Diagram



Dimensions



Details of auto switch mounting grooves

[mm]

Size	A	B	C	D	E	EA	F		FA	H	K	L	M	MA	N	O
							25 mm stroke	50 mm stroke								
45	40.3	34.3	13	14	45	64	—	33	17.7	M8 x 1.25	12	6	35	54	4.5	8 depth 6
57	48.3	40.3	15	18	52	81	49.7	46.1	22.6	M10 x 1.5	16	8	41	70	5.5	9 depth 7
71	53.6	44.6	21	22	64	97	52.7	45.3	24.8	M14 x 2.0	19	9	51	84	6.6	11 depth 8

Size	P1	P2	P3	Q	XA		XB	XC
					25 mm stroke	50 mm stroke		
45	Rc1/8	Rc1/8	M5 x 0.8	21	—	8	11.5	6
57	Rc1/8	Rc1/8	Rc1/8	34.1	5	5	5.5	9.3
71	Rc1/8	Rc1/8	Rc1/8	34.3	9	9	10	6

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
45, 57, 71	3 rotations

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

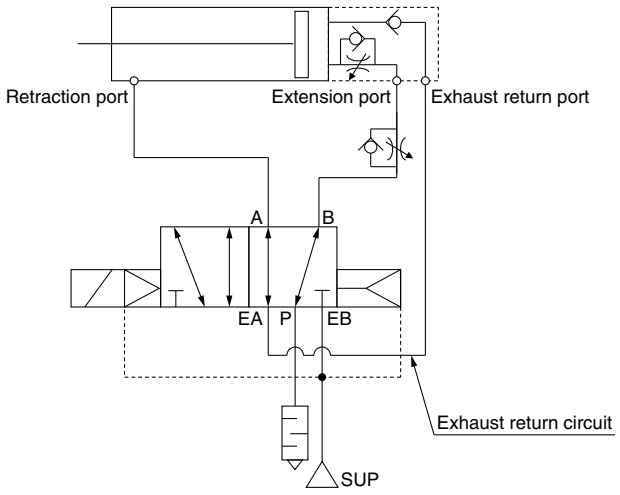
The adjustment range for the throttle valve is, between the fully closed position and the open position, within the range indicated in the table above.

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.

Circuit diagram



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.

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