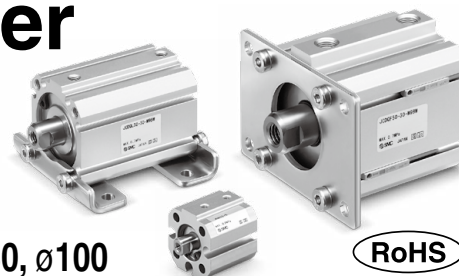


Compact Cylinder

Double Acting, Single Rod

JCQ Series

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



RoHS

How to Order

Without auto switch

JCQ 12 - 30 -

With auto switch

JCDQ 12 - 30 - L - M9BW -

Mounting

Nil	Through-hole (Standard)	ø12 to ø100
A	Both ends tapped	
L	Axial foot	ø32 to ø100
F	Rod flange	
G	Head flange	

* For the cylinder for the axial foot type or the rod flange type mounting bracket, the cylinder rod protrusion dimensions (Dimensions L and L₁) vary from those of the standard cylinder. When ordering only the cylinder, refer to the cylinder for the foot type or the rod flange type mounting bracket (-XC103) on page 14.

Bore size

12	12 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Port thread type

Nil	M thread	ø12 to ø40
	Rc	
TN	NPT	ø50 to ø100
TF	G	

Auto switch

Nil	Without auto switch
-----	---------------------

* For applicable auto switches, refer to the table below.

Mounting bolt

Nil	None
L	Shipped with the product

* A mounting bolt is shipped with the product only when the mounting symbol is Nil (through-hole).
* For details on mounting bolt sizes, refer to page 7.
* The mounting bolt is shipped with the product.

Cylinder stroke [mm]
Refer to page 4 for standard strokes.

Number of auto switches

Nil	2
S	1
n	n

• Made to order (For details, refer to page 4.)

Applicable Auto Switches/Refer to the Web Catalog 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	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)				
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	●	○	—	○	IC circuit	Relay, PLC
	3-wire (PNP)			M9PV				M9P	●	●	●	○	—	○			
	2-wire			M9BV				M9B	●	●	●	○	—	○			
	3-wire (NPN)			M9NV				M9N	●	●	●	○	—	○			
	3-wire (PNP)			M9PV				M9P	●	●	●	○	—	○			
	2-wire			M9BV				M9B	●	●	●	○	—	○			
	3-wire (NPN)			M9NAV*1				M9NA*1	○	○	●	○	—	○			
	3-wire (PNP)			M9PAV*1				M9PA*1	○	○	●	○	—	○			
	2-wire			M9BAV*1				M9BA*1	○	○	●	○	—	○			
	Water resistant (2-color indicator)																

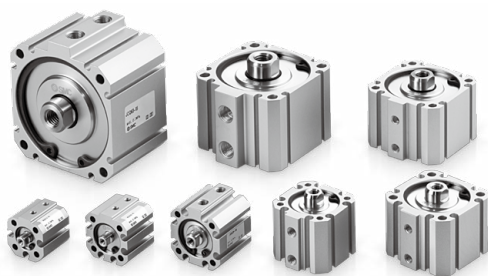
*1 Water-resistant type auto switches can be mounted on the above models, but SMC cannot guarantee water resistance. Please contact SMC regarding water-resistant types with the above model numbers.

* 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 a "○" are produced upon receipt of order.

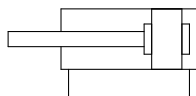
* For details on auto switches with pre-wired connectors, refer to the Web Catalog.

* Auto switches are shipped together with the product but do not come assembled.



Symbol

Rubber bumper



Made to Order
(For details, refer to page 14.)

-XC103 Cylinder for the foot type or the rod flange type mounting bracket

Specifications

Bore size [mm]	12	16	20	25	32	40	50	63	80	100
Action	Double acting, Single rod									
Fluid	Air									
Proof pressure	1.0 MPa									
Max. operating pressure	0.7 MPa*2									
Min. operating pressure	0.07 MPa		0.05 MPa							
Ambient and fluid temperatures	5 to 60°C									
Lubrication	Not required (Non-lube)									
Piston speed*3	50 to 500 mm/s*2					50 to 300 mm/s*2				
Cushion	Rubber bumper									
Allowable kinetic energy [J]	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
Rod end thread	Female thread									
Stroke length tolerance	+1.3 0.0 mm*1									

*1 Stroke length tolerance does not include the deflection of the bumper.

*2 Max. operating pressure and piston speed are different from those of the existing model (CQ2 series).

*3 Depending on the system configuration selected, the specified speed may not be satisfied.

Standard Strokes

* When using with auto switches, refer to the Minimum Stroke for Auto Switch Mounting table on page 12.

Bore size [mm]	Standard stroke [mm]
12, 16	5, 10, 15, 20, 25, 30
20, 25, 32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50

* Intermediate strokes are available as a special order.

Mounting Brackets/Part Nos.

Mounting bracket	Min. order quantity	Bore size [mm]						Contents
		32	40	50	63	80	100	
Foot bracket*1	2	JCQ-L032	JCQ-L040	JCQ-L050	JCQ-L063	JCQ-L080	JCQ-L100	1 foot bracket, 2 hexagon socket head cap screws
Flange bracket	1	JCQ-F032	JCQ-F040	JCQ-F050	JCQ-F063	JCQ-F080	JCQ-F100	1 flange bracket, 4 hexagon socket head cap screws

*1 Order 2 pieces per cylinder.

Mounting Brackets/Material, Surface Treatment

Segment	Description	Material	Surface treatment
Mounting brackets	Foot bracket	Carbon steel	Zinc chromating
	Flange bracket	Carbon steel	Zinc chromating

Theoretical Output



Refer to page 12 for cylinders with auto switches.

- Auto Switch Proper Mounting Position (detection at stroke end) and Mounting Height
- Minimum Stroke for Auto Switch Mounting
- Operating Range
- Auto Switch Mounting

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm ²]	Operating pressure [MPa]						
				0.2	0.3	0.4	0.5	0.6	0.7	
12	6	OUT	113	23	34	45	57	68	79	
		IN	85	17	25	34	42	51	59	
16	6	OUT	201	40	60	80	101	121	141	
		IN	173	35	52	69	86	104	121	
20	8	OUT	314	63	94	126	157	188	220	
		IN	264	53	79	106	132	158	185	
25	10	OUT	491	98	147	196	245	295	344	
		IN	412	82	124	165	206	247	289	
32	12	OUT	804	161	241	322	402	483	563	
		IN	691	138	207	276	346	415	484	
40	14	OUT	1257	251	377	503	628	754	880	
		IN	1103	221	331	441	551	662	772	
50	18	OUT	1963	393	589	785	982	1178	1374	
		IN	1709	342	513	684	855	1025	1196	
63	18	OUT	3117	623	935	1247	1559	1870	2182	
		IN	2863	573	859	1145	1431	1718	2004	
80	22	OUT	5027	1005	1508	2011	2513	3016	3519	
		IN	4646	929	1394	1859	2323	2788	3252	
100	26	OUT	7854	1571	2356	3142	3927	4712	5498	
		IN	7323	1465	2197	2929	3662	4394	5126	