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Find the *SMC CQ250-G2G01-100* at our website: ***Click HERE***



Compact Cylinder
Series CQ2

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Reduce the size and improve your machine´s performance with the world´s most flexible compact cylinder range from SMC



Small is definitely the new big:

The need for increased performance from smaller, more energy efficient machines are demands heard thoughout the world. Today, small is definitely the new big for the many machine designers and machine builders.

As the worldwide leading experts in pneumatics, our continued investment in developing smaller, more compact, energy efficient components for factory automation applications can be seen throughout our extensive product range.

However, we are constantly reviewing and improving our product range and our newly redesigned and improved compact air operated cylinder range – Series CQ2 – is just one small example of our constant quest for product perfection.

Gain competive advantage by discovering the benefits of using our improved CQ2 compact cylinder range



Series CQ2 – the facts:

The striking difference between our new CQ2 range and our previous model is the totally redesigned body, which offers improved auto-switch mounting possibilities plus an overall reduction of cylinder weight of between 5 -13% depending on the selected model, with any loss of body strenght.

Whilst still delivering the same powerful performance, the compact size of this cylinder range coupled with this weight reduction now makes mounting even easier.

Our new CQ2 cylinders in bore sizes bewteen Ø 32 to 200mm have been designed with slide in grooves which can accommodate auto-switches on all four cylinder sides without the need for auto-switch brackets. And, for smaller bore sizes between Ø 12 and 25mm, slide in grooves have also been integrated in the new body design to accommodate bracket free auto-switches on two surfaces.



Designed for use with our easy to set, dual colour, Series D-M9W auto-switch range, which illuminates green when the optimum position is located, the cylinders integrated auto-switch groove effectively eliminates the need for mounting brackets and protects the switch against accidental damage during installation and potential operator health and safety issued during machine maintenance checks.

Reduce your inventory costs and differentiate your machines from your competitors by discovering our new CQ2 compact cylinder range



Series CQ2 – the world´s most flexible pneumatic cylinder range:

Flexibility is not a word that´s often used to describe a pneumatic actuator, but with over 40 standard options, 6 mounting types and excellent auto switch mounting positionability, our improved Series CQ2, really is the most flexible, compact designed, air actuator in the world!

Suitable for almost all machine applications and available in 15 bore sizes from 12mm – 200mm (depending on your selected model), our CQ2 range could be the perfect solution - to help reduce your current stock inventory and also to differentiate your machines from your competitors.

Our Series CQ2 really is a truly outstanding range of pneumatic cylinders!

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Compact overall dimensions in any size

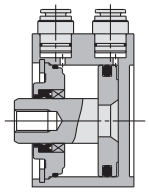
Exclusive bodies (-XB10) for ø32 to ø100 intermediate strokes (50 mm or more) now kept in inventory*, enabling shorter delivery times.
* Formerly produced upon receipt of order

Bore size (mm)	Stroke										
	50	55	60	65	70	75	80	85	90	95	100
ø32 to ø100	◆	●	●	●	●	◆	●	●	●	●	◆

◆ Standard stroke ● Currently stocked intermediate stroke

And the most innovative solutions in compact design

Built-in one-touch fittings



Cylinder with valve



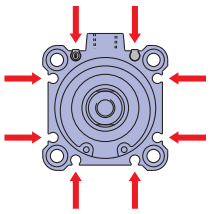
Compact Cylinder with air cushion



With the most compact and flexible auto-switch mounting

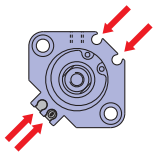
■ Auto-switches can be mounted on 4 surfaces.

ø32 to ø200



■ 2 switches can be mounted on the same surface.

ø12 to ø25



(ø12: One slot for each surface)

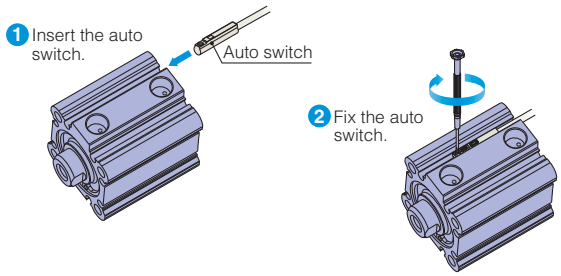
■ No protrusion of auto switch

- Prevention of damage to auto switch.
- Sleeves cannot get caught in the auto switch and its mounting rail.
- Reduction in labour for design.
  There is no need to check for interference with a machine, because the outer dimensions of the cylinder do not change when the auto switch is mounted.

■ Reduction in labour for work

NEW

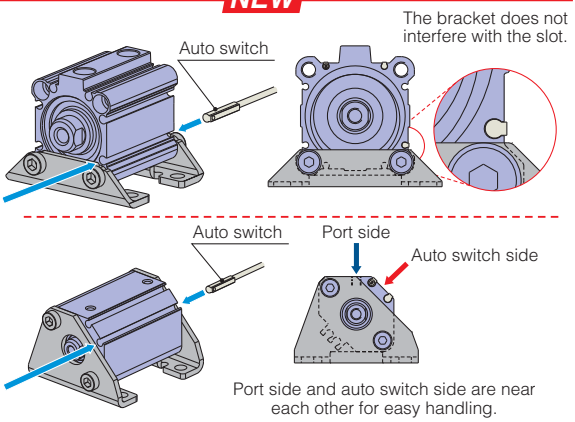
- Reduction in number of components
- No loss of components



■ Reduction in labour for design

- The auto switch can be replaced with the foot brackets mounted.

NEW



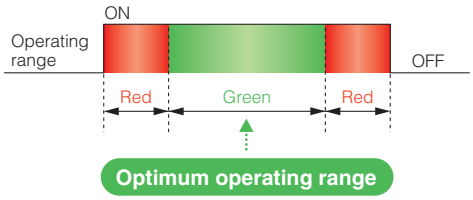
Port side and auto switch side are near each other for easy handling.

■ Small auto switch

- 2-colour indication solid state auto switch
- Appropriate setting of the mounting position can be performed without mistakes.



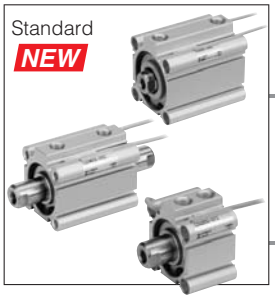
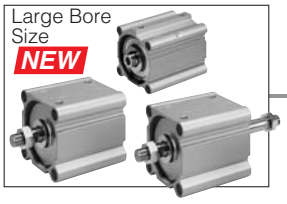
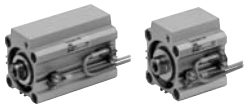
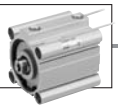
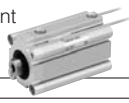
A green light illuminates up at the optimum operating range.



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With a short overall length, the space-saving cylinder helps to make various jigs and equipment more compact.

Series Variations

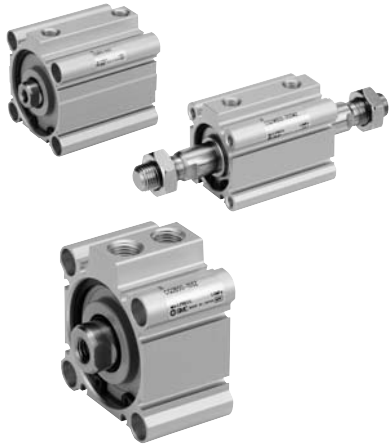
Series	Action	Type	Bore size (mm)	Standard stroke (mm)
Standard NEW 	Double acting	Single rod **CQ2**	12 16 20 25 32 40 50 63 80 100 125 140 160 180 200	ø12, ø16: 5 to 30 ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50 to ø100: 10 to 100
		Double rod **CQ2W**		ø12, ø16: 5 to 30 ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50 to ø100: 10 to 100
	Single acting	Spring return/ Spring extend **CQ2**		ø12 to ø40: 5, 10 ø50: 10, 20
Large Bore Size NEW 	Double acting	Single rod **CQ2**		10 to 300
		Double rod **CQ2W**		10 to 300
Long Stroke NEW 	Double acting	Single rod **CQ2**		125 to 300
Non-rotating Rod NEW 	Double acting	Single rod **CQ2K**		ø12, ø16: 5 to 30 ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50, ø63: 10 to 100
		Double rod **CQ2KW**		ø12, ø16: 5 to 30 ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50, ø63: 10 to 100
Axial Piping (Centralised piping type) 	Double acting	Single rod **CQP2**		ø12, ø16: 5 to 30 ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50 to ø100: 10 to 100
	Single acting	Spring return/ Spring extend **CQP2**		ø12 to ø40: 5, 10 ø50: 10, 20
Anti-lateral Load NEW 	Double acting	Single rod **CQ2□S**		ø32 to ø40: 5 to 100 ø50 to ø100: 10 to 100
With End Lock 	Double acting	Single rod **CBQ2**		ø20 to ø63: 10 to 100 ø80, ø100: 25 to 100
Water Resistant NEW 	Double acting	Single rod **CQ2□**		ø20, ø25: 5 to 50 ø32, ø40: 5 to 100 ø50 to ø100: 10 to 100
Smooth Cylinder (Low friction) CQ2Y 	Refer to Best Pneumatics No. 3.			
Low-speed Cylinder CQ2X 	Refer to Best Pneumatics No. 3.			

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Compact Cylinder: Standard
Single/Double Acting, Single/Double Rod

Series CQ2/CQ2W
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Without built-in magnet ø12 to ø25
Without built-in magnet ø32 to ø100
With built-in magnet

CQ2 □ B □ 20 □ – 30 □ □
CQ2 □ B □ 32 □ – 30 □ □ Z
CDQ2 □ B □ 32 □ – 30 □ □ Z

With built-in magnet

Type

—	Single rod
W	Double rod

Mounting

B	Through-hole (Standard)
A	Both ends tapped

∗ Cylinder mounting bolts are not included. Order them separately.

Type

—	Pneumatic
H	Air-hydro Note 1, 2)

Note 1) Bore sizes available for air-hydro type are ø20 to ø100.
Note 2) Option only available for double acting types.

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 Note 3)
80	80 mm Note 3)
100	100 mm Note 3)

Note 3) Bore available for double acting types.

Port thread type

—	M thread	ø12 to ø25
	Rc	ø32 to ø100
TN	NPT	
TF	G Note 4)	
F	Built-in one-touch fittings Note 5)	

Note 4) "TF" is not available for air-hydro type.
Note 5) Bore sizes available with one-touch fittings are ø32 to ø63. Besides, it is not possible to use for air-hydro type.
∗ For cylinders without auto switch, M threads are compatible only for ø32-5 mm stroke.

Auto switch mounting groove

Z	ø12 to ø25	2 surfaces
	ø32 to ø100	4 surfaces

Note 11) The made-to-order, heat resistant auto switch -XB14 is not applicable.

Body option

—	Standard (Rod end female thread)
F	With boss on head end Note 8)
C	With rubber bumper Note 9, 10)
M	Rod end male thread

∗ Combination of body options ("CM", "FC", "FM", "FCM") is available.
Note 8) Option only available for single rod types.
Note 9) Option only available for double acting types.
Note 10) Air-hydro type with rubber bumper is not available.

Action

D	Double acting Note 6)
S	Single acting, Spring return Note 7)
T	Single acting, Spring extend Note 7)

Note 6) Option for double acting types.
Note 7) Option only available for single acting types.

Cylinder stroke (mm)

Pneumatic type (Double Acting types)

Bore size	Standard stroke
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50 to 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Air-hydro type (Double Acting types)

Bore size	Standard stroke
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Single Acting types

Bore size	Standard stroke
12, 16, 20, 25, 32, 40	5, 10
50	10, 20

Manufacture of Intermediate Strokes (Except air-hydro type)

1. Spacer-installed type 1: Standard model number

Intermediate stroke with ◎ : Available in 1 mm intervals
A spacer is installed on tubes with a stroke longer than the specified stroke (◆).

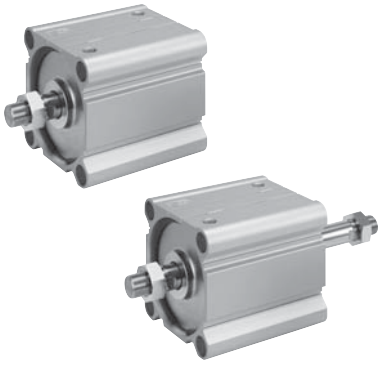
◆: Standard stroke

| Bore size (mm) | Stroke range | Type | Stroke | | |



Compact Cylinder: Large Bore Size
Double Acting, Single/Double Rod

Series CQ2/CQ2W
ø125, ø140, ø160, ø180, ø200



Without built-in magnet	CQ2 □ B 125 □ – 30 D C □ Z
With built-in magnet	CDQ2 □ B 125 □ – 30 D C □ Z

With built-in magnet

Type

—	Single rod
W	Double rod

Mounting

B	Through-hole/Both ends tapped common (Standard)

∗ Cylinder mounting bolts are not included. Order them separately.

Bore size

125	125 mm
140	140 mm
160	160 mm
180	180 mm
200	200 mm

Port thread type

—	Rc
TN	NPT
TF	G

Cylinder stroke (mm)

Bore size (mm)	Standard stroke
125, 140, 160 180, 200	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300

Action

D	Double acting

Cushion

C	Rubber bumper

Body option

—	Standard (Rod end female thread)
M	Rod end male thread

Auto switch mounting groove

Z	ø125 to ø200	4 surfaces

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Compact Cylinder: Long Stroke
Double Acting, Single Rod

Series CQ2
ø32, ø40, ø50, ø63, ø80, ø100



Without built-in magnet CQ2 A 32 □ – 200 DC □ Z

With built-in magnet CDQ2 A 32 □ – 200 DC □ Z

With built-in magnet

Mounting

A	Both ends tapped

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Port thread type

—	Rc
TN	NPT
TF	G
F	Built-in one-touch fittings Note)

Note) Bore sizes available with one-touch fittings are ø32 to ø63.

Cylinder stroke (mm)

Bore size	Standard stroke
32, 40, 50 63, 80, 100	125, 150, 175, 200, 250, 300

Action

D	Double acting

Cushion

C	Rubber bumper

Body option

—	Standard (Rod end female thread)
M	Rod end male thread

Auto switch mounting groove

Z	4 surfaces

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Compact Cylinder: Non-rotating Rod
Double Acting, Single/Double Rod

Series CQ2K/CQ2KW
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63

Without built-in magnet ø12 to ø25	**CQ2K B 20 – 30 D**
Without built-in magnet ø32 to ø63	**CQ2K B 32 – 30 D Z**
With built-in magnet	**CDQ2K B 32 – 30 D Z**



With built-in magnet

Non-rotating rod

Type

—	Single rod
W	Double rod

Mounting

B	Through-hole (Standard)	ø12 to ø63
A	Both ends tapped	ø40, ø50, ø63

∗ Cylinder mounting bolts are not included. Order them separately.

Auto switch mounting groove

Z	ø12 to ø25	2 surfaces
	ø32 to ø63	4 surfaces

Body option

—	Standard (Rod end female thread)
F	With boss on head end Note 3)
C	With rubber bumper (ø12 with auto switch only)
M	Rod end male thread

∗ Combination of body options ("FM") is available.
Note 3) Option only available for single rod types.

Action

D	Double acting

Bore size

12 Note 1)	12 mm	**32**	32 mm
16	16 mm	**40**	40 mm
20	20 mm	**50**	50 mm
25	25 mm	**63**	63 mm

Note 1) When ø12 with auto switch is required, the body option should be with rubber bumper (C).
Example) CDQ2KB12-30DCZ

Cylinder stroke (mm)

Bore size	Standard stroke
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Port thread type

—	M thread	ø12 to ø25
	Rc	ø32 to ø63
TN	NPT	
TF	G	
F	Built-in one-touch fittings Note 2)	

Note 2) Bore sizes available with one-touch fittings are ø32 to ø63.
∗ For cylinders without auto switch, M threads are compatible only for ø32-5 mm stroke model.

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Compact Cylinder: Axial Piping
Single/Double Acting, Single Rod

Series CQP2
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Without auto switch CQP2 B □ 50 □ – 30 D □

With auto switch CDQP2 B □ 50 □ – 30 D □



With auto switch
(Built-in magnet)

Axial piping

Mounting

B	Through-hole

∗ Cylinder mounting bolts are not included. Order them separately.

Type

—	Pneumatic
H	Air-hydro Note 1, 2)

Note 1) Bore sizes available for air-hydro type are ø20 to ø100.
Note 2) Option only available for double acting type.

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 Note 3)
80	80 mm Note 3)
100	100 mm Note 3)

Note 3) Bore only available for double acting type.

Port thread type

—	M thread	ø12 to ø25
	Rc	ø32 to ø100
TN	NPT	
TF	G	

Body option

—	Standard (Rod end female thread)
C	With rubber bumper Note 6, 7)
M	Rod end male thread

∗ Combination of body option ("CM") is available.
Note 6) Air-hydro type with rubber bumper is not available.
Note 7) Option only available for double acting type.

Action

D	Double acting Note 4)
S	Single acting, Spring return Note 5)
T	Single acting, Spring extend Note 5)

Note 4) Option for double acting type.
Note 5) Option only available for single acting type.

Cylinder stroke (mm)

Pneumatic type (Double Acting types)

Bore size	Standard stroke
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35 40, 45, 50, 75, 100
50, 63 80, 100	10, 15, 20, 25, 30, 35, 40 45, 50, 75, 100

Air-hydro type (Double Acting types)

Bore size	Standard stroke
20, 25	5, 10, 15, 20, 25, 30, 35 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35 40, 45, 50, 75, 100
50, 63 80, 100	10, 15, 20, 25, 30, 35, 40 45, 50, 75, 100

Single Acting types

Bore size	Standard stroke
12, 16, 20 25, 32, 40	5, 10
50	10, 20

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Compact Cylinder: Anti-lateral Load
Double Acting, Single Rod

Series CQ2
ø32, ø40, ø50, ø63, ø80, ø100



Without built-in magnet CQ2 B S 32 □ – 30 D □ C □ Z

With built-in magnet CDQ2 B S 32 □ – 30 D □ C □ Z

With built-in magnet

Mounting

B	Through-hole (Standard)
A	Both ends tapped

* Cylinder mounting bolts are not included. Order them separately.

Type

S	Anti-lateral load

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Port thread type

—	Rc
TN	NPT
TF	G

Cylinder stroke (mm)

Bore size	Standard stroke
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Action

D	Double acting

Body option 1

—	Standard
F	With boss on head end

Cushion

C	Rubber bumper

Body option 2

—	Standard (Rod end female thread)
M	Rod end male thread

Auto switch mounting groove

Z	4 surfaces

Compact Cylinder: With End Lock
Double Acting, Single Rod

Series CBQ2
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Without auto switch CBQ2 B 40 – 30 D C – H N

With auto switch CDBQ2 B 40 – 30 D C – H N

With auto switch
(Built-in magnet)

Mounting

ø20, ø25		ø32 to ø100	
B	Through-hole/Both ends tapped common (Standard)	B	Through-hole (Standard) Note 2)
		A	Both ends tapped
L	Foot	L	Foot
F	Rod flange	F	Rod flange
G	Head flange	G	Head flange
D	Double clevis	D	Double clevis

Note 1) Mounting brackets are shipped together, (but not assembled).
Note 2) At the 75 and 100 mm strokes with ø80, ø100, both ends tapped (A) is the standard. Through-hole (B) is not available.
Note 3) Mounting brackets are shipped together, (but not assembled).

Bore size

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

Port thread type

—	M thread	ø20, ø25
	Rc	ø32 to ø100
TN	NPT	
TF	G	

Cylinder stroke (mm)

Bore size	Standard stroke
20 a 63	10, 15, 20, 25, 50, 75, 100
80, 100	25, 50, 75, 100

Manual release type

N	Non-lock type
L	Lock type

Lock position

H	Head end lock
R	Rod end lock

Body option

—	Rod end female thread
CM	Rod end male thread

Cushion

C	Rubber bumper

Action

D	Double acting



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Compact Cylinder: Water Resistant
Double Acting, Single Rod

Series CQ2
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Without built-in magnet ø20, ø25	CQ2 B 20 □ R – 30 D □
Without built-in magnet ø32 to ø100	CQ2 B 32 □ R – 30 D □ Z
With built-in magnet	CDQ2 B 32 □ R – 30 D □ Z



With built-in magnet

Mounting

B	Through-hole (Standard)	(ø20 to ø100)
A	Both ends tapped	(ø40 to ø100)

∗ Cylinder mounting bolts are not included. Order them separately.

Bore size

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

—	M thread
	Rc
TN	NPT
TF	G

Water resistant cylinder

R	NBR seal (Nitrile rubber)
V	FKM seal (Fluororubber)

Auto switch mounting groove

Z	ø20 to ø25	2 surfaces
	ø32 to ø100	4 surfaces

Body option

—	Standard (Rod end female thread)
M	Rod end male thread

Action

D	Double acting

Cylinder stroke (mm)

Bore size	Standard stroke
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

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Specifications

Pneumatic type

Bore size (mm)		12	16	20	25	32	40	50	63	80	100	125	140	160	180	200
Fluid		Air														
Proof pressure		1.5 MPa													1.05 MPa	
Maximum operating pressure		1.0 MPa													0.7 MPa	
Minimum operating pressure	**Double acting type**	0.07 MPa		0.05 MPa												
	Single acting type	0.25 MPa		0.18 MPa		0.17 MPa	0.15 MPa	0.13 MPa	—							
Ambient and fluid temperature		Without auto switch: −10 to 70°C (No freezing) With auto switch: −10 to 60°C (No freezing)														
Lubrication		Not required (Non-lube)														
Piston speed		50 to 500 mm/s													20 to 400 mm/s	
Allowable kinetic energy (J)	**Standard**	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27	—				
	With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54	7.4	9.8	12.4		
Stroke length tolerance		$^{+1.0}_{0}$ mm Note)										$^{+1.4}_{0}$ mm Note)				

Note) Stroke length tolerance does not include the amount of bumper change.
With rubber bumper type is standard form ø25 to ø200 bore.

Air-hydro type

Bore size (mm)	20	25	32	40	50	63	80	100
Fluid	Turbine oil Note)							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.18 MPa			0.1 MPa				
Ambient and fluid temperature	5 to 60°C							
Piston speed	5 to 50 mm/s							
Cushion	None							
Stroke length tolerance	$^{+1.0}_{0}$ mm							

Note) Refer to “Handling Precautions for SMC Products” (M-E03-3) for Actuator Precautions (5).

Mounting Brackets/Part No.

Standard Note 4)

Bore size (mm)		Model	Foot Note 1)	Flange	Double clevis Note 3)
12	Without switch	CQ2□□-□D	CQ-L012	CQ-F012	CQ-D012
	With switch	CQ2□□-□DZ	CQ-LZ12		
16	Without switch	CQ2□□-□D	CQ-L016	CQ-F016	CQ-D016
	With switch	CQ2□□-□DZ	CQ-LZ16		
20	Without switch	CQ2□□-□D	CQ-L020	CQ-F020	CQ-D020
	With switch	CQ2□□-□DZ	CQ-LZ20		
25	Without switch	CQ2□□-□D	CQ-L025	CQ-F025	CQ-D025
	With switch	CQ2□□-□DZ	CQ-LZ25		
32		CQ2□□-□DZ	CQ-L032	CQ-F032	CQ-D032
40		CQ2□□-□DZ	CQ-L040	CQ-F040	CQ-D040
50		CQ2□□-□DZ	CQ-L050	CQ-F050	CQ-D050
63 Note 2)		CQ2□□-□DZ	CQ-L063	CQ-F063	CQ-D063
80 Note 2)		CQ2□□-□DZ	CQ-L080	CQ-F080	CQ-D080
100 Note 2)		CQ2□□-□DZ	CQ-L100	CQ-F100	CQ-D100

Long stroke; Non-rotating single rod; Antilateral load; Water resistant; With end lock Note 5)

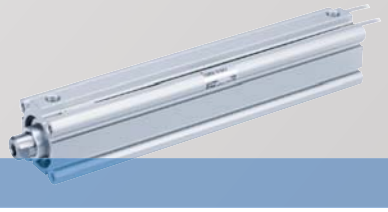
Bore size (mm)	Foot Note 6)	Flange	Double clevis Note 4)
20 Note 7)	CQS-L020	CQS-F020	CQS-D020
25 Note 7)	CQS-L025	CQS-F025	CQS-D025
32 Note 8)	CQ-L032	CQ-F032	CQ-D032
40	CQ-L040	CQ-F040	CQ-D040
50	CQ-L050	CQ-F050	CQ-D050
63	CQ-L063	CQ-F063	CQ-D063
80 Note 9)	CQ-L080	CQ-F080	CQ-D080
100 Note 9)	CQ-L100	CQ-F100	CQ-D100

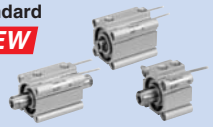
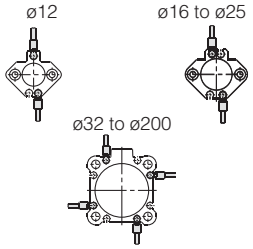
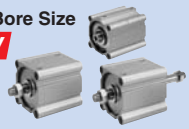
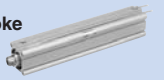
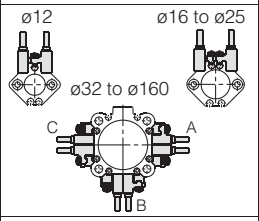
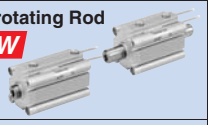
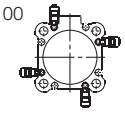
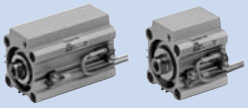
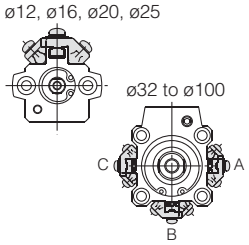
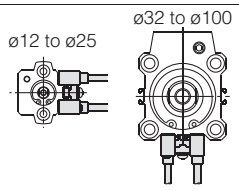
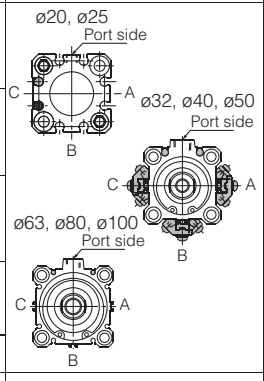
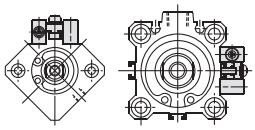
Non-rotating, double rod

Bore size (mm)	Foot Note 6)	Flange
40	CQ-L040	CQ-F040
50	CQ-L050	CQ-F050
63	CQ-L063	CQ-F063

Note 1) When ordering a foot bracket, the required quantity will be different depending on the bore size.
ø12 to ø25: • Without switch: Order 2 pieces per cylinder.
• With switch: Order 1 piece per cylinder. (Part number for a set of 2 foot brackets)
ø32 to ø100: • Order 2 pieces per cylinder.
Note 2) Not applicable to single acting types.
Note 3) Not applicable to double acting, double rod types.
Note 4) Parts belonging to each bracket are as follows.
Foot or Flange: Body mounting bolts
Double clevis: Clevis pin, Type C retaining rings for axis, Body mounting bolts
Note 5) Clevis pin and retaining rings are included with double clevis.
Note 6) When ordering a foot bracket, order 2 pieces per cylinder.
Note 7) Only applicable to CQ2 with end lock types.
Note 8) Not applicable to non-rotating single rod type and water resistant type.
Note 9) Not applicable to non-rotating single rod type.

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Applicable CQ2 cylinder		Part number	Wiring output	Model	Lead wire lenght	Pre-wired connector	Mounting surface	Mounting bracket
Standard NEW 	General purpose solid state auto-switch	D-M9BWL	2 wire	In-line	3 m	—	ø12 ø16 to ø25 ø32 to ø200 	Not required
		D-M9BWVL		Perpendicular				
		D-M9PWL	3 wire (PNP)	In-line	3 m	—		
		D-M9PWVL		Perpendicular				
		D-M9PWSAPC	3 wire (PNP)	In-line	0,5 m	M8 (3 pin)		
		D-M9PWVSAPC		Perpendicular				
Large Bore Size NEW 	Water resistant solid state auto-switch	D-M9BAL	2 wire	In-line	3 m	—		
		D-M9BAVL		Perpendicular				
		D-M9PAL	3 wire (PNP)	In-line	3 m	—		
		D-M9PASAPC			0,5 m	M8 (3 pin)		
	General purpose reed auto-switch	D-A93L	2 wire	In-line	3 m	—		
		D-A93VL		Perpendicular				
		D-A93SAPC		In-line	0,5 m	M8 (3 pin)		
Long Stroke NEW 		D-A73L	2 wire	Perpendicular	3 m	—	ø12 ø16 to ø25 ø32 to ø160 C A B 	Bore size / Bracket ø12 to ø25 — BQ4-012 ø32 to ø160 — BQ5-032
Non-rotating Rod NEW 		D-A73SAPC			0,5 m	M8 (3 pin)		
Water Resistant NEW **Anti-lateral Load** NEW 	Magnetic field resistant auto-switch	D-P3DWL	3 wire (PNP)	In-line	3 m	—	ø32 to ø100 	BQ3-032S
		D-P3DWSC			0,5 m	M8 (3 pin)		
Axial Piping (Centralised piping type) 	General purpose solid state auto-switch	D-M9BWL	2 wire	In-line	3 m	—	ø12, ø16, ø20, ø25 ø32 to ø100 C A B 	Bore size / Bracket ø12, ø16, ø20, ø25 — BQ-1 BQ-012 ø32 to ø100 — BQ-2 BQ-012 Note) Two kinds of auto switch brackets are used as a set.
		D-M9BWVL		Perpendicular				
		D-M9PWL	3 wire (PNP)	In-line	3 m	—		
		D-M9PWVL		Perpendicular	0,5 m	M8 (3 pin)		
		D-M9PWSAPC		In-line				
		D-M9PWVSAPC		Perpendicular				
	General purpose reed auto-switch	D-A93L	2 wire	In-line	3 m	—		
		D-A93VL		Perpendicular				
		D-A93SAPC		In-line	0,5 m	M8 (3 pin)		
		D-A73L	2 wire	Perpendicular	3 m	—	ø12 to ø25 ø32 to ø100 	Bore size / Bracket ø12, ø16, ø20, ø25 — BQ-1 ø32 to ø100 — BQ-2
		D-A73SAPC			0,5 m	M8 (3 pin)		
With End Lock 	General purpose solid state auto-switch	D-M9BWL	2 wire	In-line	3 m	—	ø20, ø25 Port side ø32, ø40, ø50 Port side ø63, ø80, ø100 Port side C A B 	Bore size / Bracket ø20, ø25, ø63, ø80, ø100 — Not required ø32 to ø50 — BQ-2 BQ-012 Note) Two kinds of auto switch brackets are used as a set.
		D-M9BWVL		Perpendicular				
		D-M9PWL	3 wire (PNP)	In-line	3 m	—		
		D-M9PWVL		Perpendicular				
		D-M9PWSAPC	3 wire (PNP)	In-line	0,5 m	M8 (3 pin)		
		D-M9PWVSAPC		Perpendicular				
	General purpose reed auto-switch	D-A93L	2 wire	In-line	3 m	—		
		D-A93VL		Perpendicular				
		D-A93SAPC		In-line	0,5 m	M8 (3 pin)		
		D-A73L	2 wire	Perpendicular	3 m	—	ø32 to ø100 	Bore size / Bracket ø32 to ø100 — BQ-2
		D-A73SAPC			0,5 m	M8 (3 pin)		
-XB14 Made to Order Cylinder with Heat Resistant Auto Switch How to Order CDQ2 [Standard model no.] — F7NJL — XB14 Cylinder with heat resistant auto switch Note) The body shape is the same as the existing product. "Z" is not included in the model number.	Heat resistant solid state auto-switch	D-F7NJL	3-wire (NPN)	In-line	3 m	—	ø16 to ø25 ø32 to ø63 	Bore size / Bracket ø16, ø20, ø25 — BQ-1 ø32, ø40 ø50, ø63 — BQJ1-032

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Simple Specials/Made to Order

Series CQ2

The following special specifications can be ordered as a simplified made-to-order.
There is a specification sheet available on paper and CD-ROM. Please contact your SMC sales representatives if necessary.

■ **Simple Specials**

Symbol	Specifications	CQ2 (Standard)				CQ2 (Large Bore Size)	
		Double acting		Single acting		Double acting	
		Single rod	Double rod	Single rod/ Spring return	Single rod/ Spring extend	Single rod	Double rod
-XA1 to 30	Special rod end shape	●	●	●		●	●

■ **Made to Order**

Symbol	Specifications	CQ2 (Standard)				CQ2 (Large Bore Size)	
		Double acting		Single acting		Double acting	
		Single rod	Double rod	Single rod/ Spring return	Single rod/ Spring extend	Single rod	Double rod
-XB6	Heat resistant cylinder (–10 to 150°C)	●	●				
-XB7	Cold resistant cylinder (–40 to 70°C)	●	●				
-XB9	Low-speed cylinder (10 to 50 mm/s)	●	●				
-XB10	Intermediate stroke (Exclusive body type)	●	●	●		●	●
-XB10A	Intermediate stroke (Spacer-installed type) Note 3)	●					
-XB11	Long stroke (Air-hydro type only)	●					
-XB13	Low-speed cylinder (5 to 50 mm/s)	●	●				
-XB14	Cylinder with heat resistant auto switch Note 2)	●					
-XC4	With heavy-duty scraper	●	●				
-XC6	Piston rod/Retaining ring/Rod end nut material: Stainless steel	●	●	●	●		
-XC8	Adjustable stroke cylinder/Adjustable extension type	●					
-XC9	Adjustable stroke cylinder/Adjustable retraction type	●					
-XC10	Dual stroke cylinder/Double rod	●					
-XC11	Dual stroke cylinder/Single rod	●					
-XC26	With split pins for double clevis pin/double knuckle joint pin and flat washers	●		●	●		
-XC27	Double clevis pin/Double knuckle joint pin material: Stainless steel 304	●		●	●		
-XC35	With coil scraper	●	●				
-XC36	With boss on rod side	●	●	●	●		
-X144	Special port location	●	●	●	●		
-X202	Full length dimension is the same as Series CQ1	●		●	●		
-X203	L dimension from rod cover is the same as Series CQ1	●		●	●		
-X235	Special rod end for double rod cylinder		●				●
-X271	Fluororubber seals	●	●	●	●	●	●
-X293	Full length dimension is the same as Series CQ1W		●				
-X525	Long stroke of adjustable extension stroke cylinder (-XC8)	●					
-X526	Long stroke of adjustable retraction stroke cylinder (-XC9)	●					
-X633	Intermediate stroke of double rod cylinder		●				●
-X636	Long stroke of dual stroke single rod cylinder	●					
-X1876	Cylinder tube: With concave boss on head side	●		●	●		

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Note 1) For ø40 to ø63 only. ø12 to ø32 are available as a special product.
Note 2) The body shape is the same as the existing product.
Note 3) For ø32 to ø100 only.

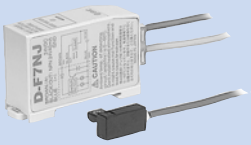
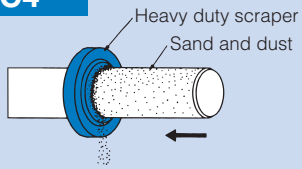
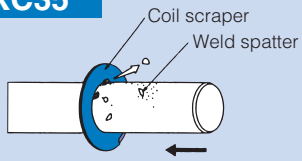
CQ2 (Long Stroke)	CQ2K (Non-rotating Rod)		CQP2 (Axial Piping) Note 2)			CQ2□S (Anti-lateral Load)	CBQ2 (With End Lock) Note 2)
Double acting	Double acting		Double acting	Single acting		Double acting	Double acting
Single rod	Single rod	Double rod	Single rod	Single rod/ Spring return	Single rod/ Spring extend	Single rod	Single rod

CQ2 (Long Stroke)	CQ2K (Non-rotating Rod)		CQP2 (Axial Piping)			CQ2□S (Anti-lateral Load)	CBQ2 (With End Lock)
Double acting	Double acting		Double acting	Single acting		Double acting	Double acting
Single rod	Single rod	Double rod	Single rod	Single rod/ Spring return	Single rod/ Spring extend	Single rod	Single rod

Note 1)

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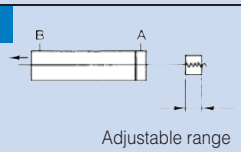
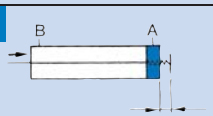
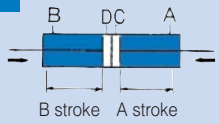
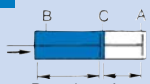
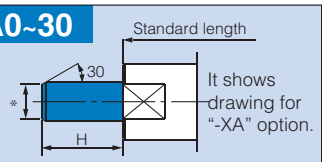
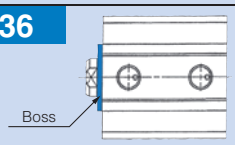
CQ2 made to order options to meet different requirements

Symbol	Details	How to order
For special enviroments		
-XB6 —	**Heat resistant cylinder (–10~150°C)** Air cylinder in which the materials of the seals and the grease have been changed so that the cylinder can be operated at high ambient temperature of up to 150°C.	CQ2 CQ2W CQP2 Standard model no. –XB6
-XB7 —	**Cold resistant cylinder (–40~70°C)** Air cylinder in which the materials of the seals and the grease have been changed so that the cylinder can be operated at ambient temperature as low as –40°C.	CQ2 CQ2W CQP2 Standard model no. –XB7
-XB14 	**Cylinder with heat resistant auto switch** Heat resistant compact cylinder Series CDQ2 (ø16 to ø63) which can mount heat resistant solid state switch. (D-F7NJL, D-F7NJZ, Max. 150°C)	CDQ2 Standard model no. – F7NJL– XB14
-XC4 	**With heavy duty scraper** As it is incorporated with a heavy duty scraper as a wiper ring, it is suitable for use in dusty area and also in earth and sand area such as casting machine, construction machine, industrial vehicle, etc.	C□Q2 C□QP2 Standard model no. –XC4
-XC6 —	**Piston rod, Rod end nut made of stainless steel** It is suitable for rusty and/or corrosive area subject to water splashing.	C□Q2 C□Q2W C□QP2 C□Q2□S Standard model no. –XC6
-XC35 	**With coil scraper** It avoids entrance of frost, ice, weld spatter, cutting chips adhered to the piston rod, and protects the seals, etc.	CQ2 CQ2W CQP2 Standard model no. –XC35
-X271	**Fluoro rubber for seals** Material for seals is changed to fluoro rubber.	C□Q2 Standard model no. –X271
For special spped conditions		
-XB9 —	**Low speed cylinder (10~50 mm/s)** Operates smoothly without sticking or slipping even at low speeds of 10~50 mm/s.	C□Q2 C□Q2W C□QP2 Standard model no. –XB9
-XB13 —	**Low speed cylinder (5~50 mm/s)** Operates smoothly without sticking or slipping even at low speeds of 5~50 mm/s.	C□Q2 C□Q2W C□QP2 Standard model no. –XB13
-XB9 	**Smood cylinder** (Low friction)	C□Q2Y□□□-□DC□-□□
-XB9 	**Low speed cylinder**	C□Q2X□□□-□D□-□□

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CQ2 made to order options

Symbol	Details	How to order
For adjusting cylinder stroke to cylinder lengh		
-XB10 —	**Intermediate stroke (Using exclusive body)** When using a cylinder with a non-standard intermediate stroke, this cylinder uses a special body without a spacer in order to shorten its overall dimensions and thus minimize the installation space.	C□Q2 C□Q2W C□Q2K C□Q2KW C□Q2□S Standard model no. – XB10
-XB10A —	**Intermediate stroke** (Using exclusive body already in stock with an spacer)	C□Q2 Standard model no. – XB10 A
-XC8 	**Adjustable stroke cylinder / Adjustable extension type** A stroke adjustment mechanism is provided in the head side to adjust the extend stroke. (After the stroke is adjusted, cylinder with cushion on both sides is altered to with single-sided cushion.)	C□Q2B(H) C□Q2K Bore size – Stroke D(C)(M)(Z) – XC8
-XC9 	**Adjustable stroke cylinder / Adjustable retraction type** The retract stroke of the cylinder can be adjusted by the adjusting bolt.	C□Q2B Bore size – Stroke D(M)(Z) – XC9
-XC10 	**Dual stroke cylinder / Double rod type** Two cylinders are constructed as one cylinder in a back-to-back configuration allowing the cylinder stroke to be controlled in three steps.	C□Q2B C□Q2K Bore size – Stroke S1 + Stroke S2 D(C)(M)(Z) – XC10
-XC11 	**Dual stroke cylinder / Single rod type** Two cylinders can be integrated by connecting them in line, and the cylinder stroke can be controlled in two stages in both directions.	C□Q2B Bore size – Stroke S1 + Stroke S1 - S2 D(C)(M)(Z) – XC11
For additional mounting possibilities and accuracy		
-XA0~30 	**Change of rod end shape** Thirty typical diagrams are available. Fill in any special dimension you desire.	CQ2 CQ2W CQ2K CQ2KW CQ2P CQ2S Standard model no. – XA□
-XC36 	**With boss in rod side** Cylinder with boss in rod side.	CQ2 CQ2W Standard model no. – XC36 CQP2
-X1876 —	**With concave boss on head end**	C□Q2 C□Q2K Mounting Bore size – Stroke D(C)(M)(Z) S(M)(Z) T(M)(Z) – X1876 C□Q2□S
-X144 —	**Special port location** Special port location (only for ø12 to ø25 with auto switches).	CDQ2 Standard model no. – X144□
Additional variations		
CQ2□F —	**With one-touch fittings**	C□Q2□□□F-□□□Z
CQ2□H —	**Air-hydro type**	C□Q2□□H□□-□D□Z
10-, 11- —	**Clean series**	10-C□Q2B□-□D(M)Z 11-C□Q2B□-□D(M)Z
20- —	**Copper and fluorine-free series**	20-C□Q2B□-□D(C)(M)Z

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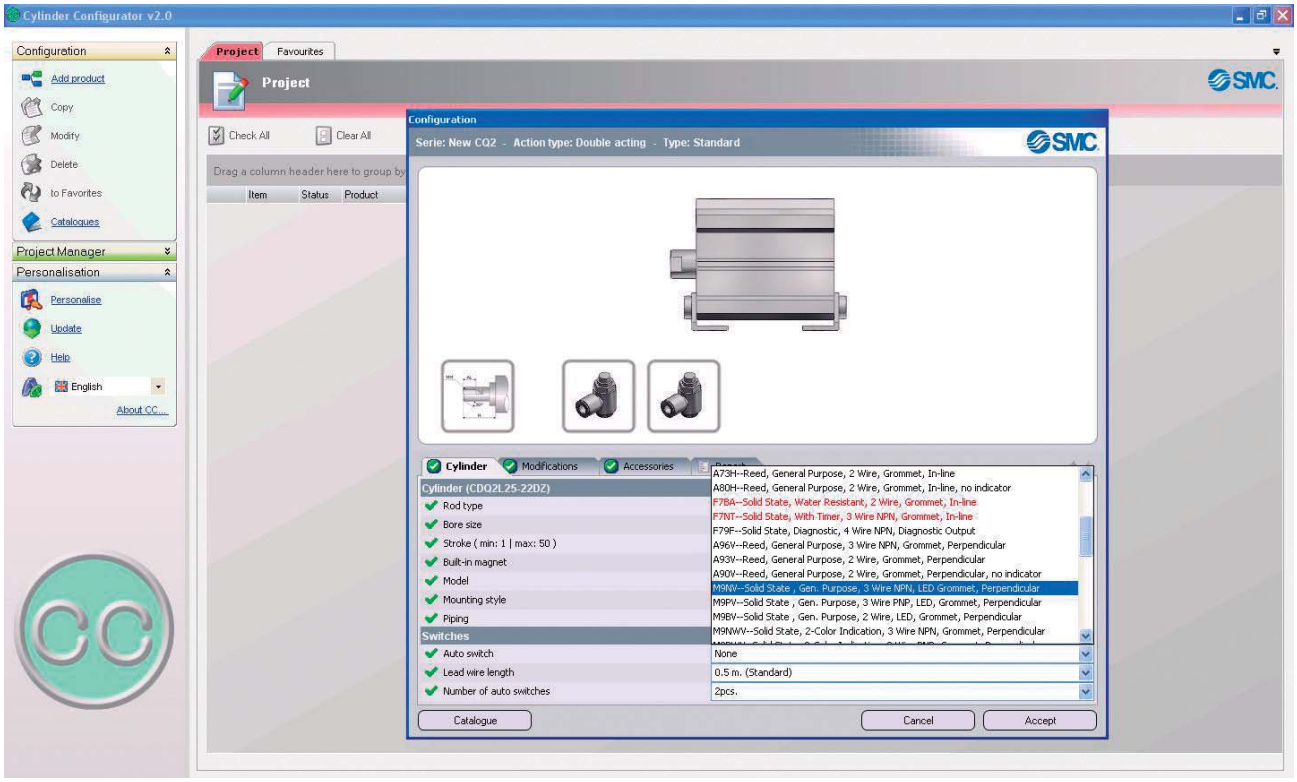
■ **For more information about the new CQ2 series:**

To help you find the right CQ2 Cylinder for your application needs, simply check out our new **Cylinder Configurator v 2.0.(CC v2.0)**.

This user friendly configurator had been specifically developed to make the selection of standard CQ2 Cylinders, including Simple Special options and accessories, even easier than before .

To download our new CC v2.0 please go to **www.smc.eu** and click "software and downloads".

Suitable for almost all machine applications our Series CQ2 really is the most flexible compact air operated cylinder in the world.



CQ2-LEAF01B-UK

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