



Expertise – Passion – Automation



Achieve more
SMC round and tie rod cylinders

SMC has been at the forefront of pneumatic technology for over 60 years, offering customers an unrivalled range of energy efficient air cylinders that deliver a solution for every need.

We are here to support you every step of the way, thanks to our European wide team of experts and quick delivery times, so find out how you can achieve more with SMC in four simple steps.

Discover

Discover our comprehensive range of round and tie rod cylinders.

Cylinder selection

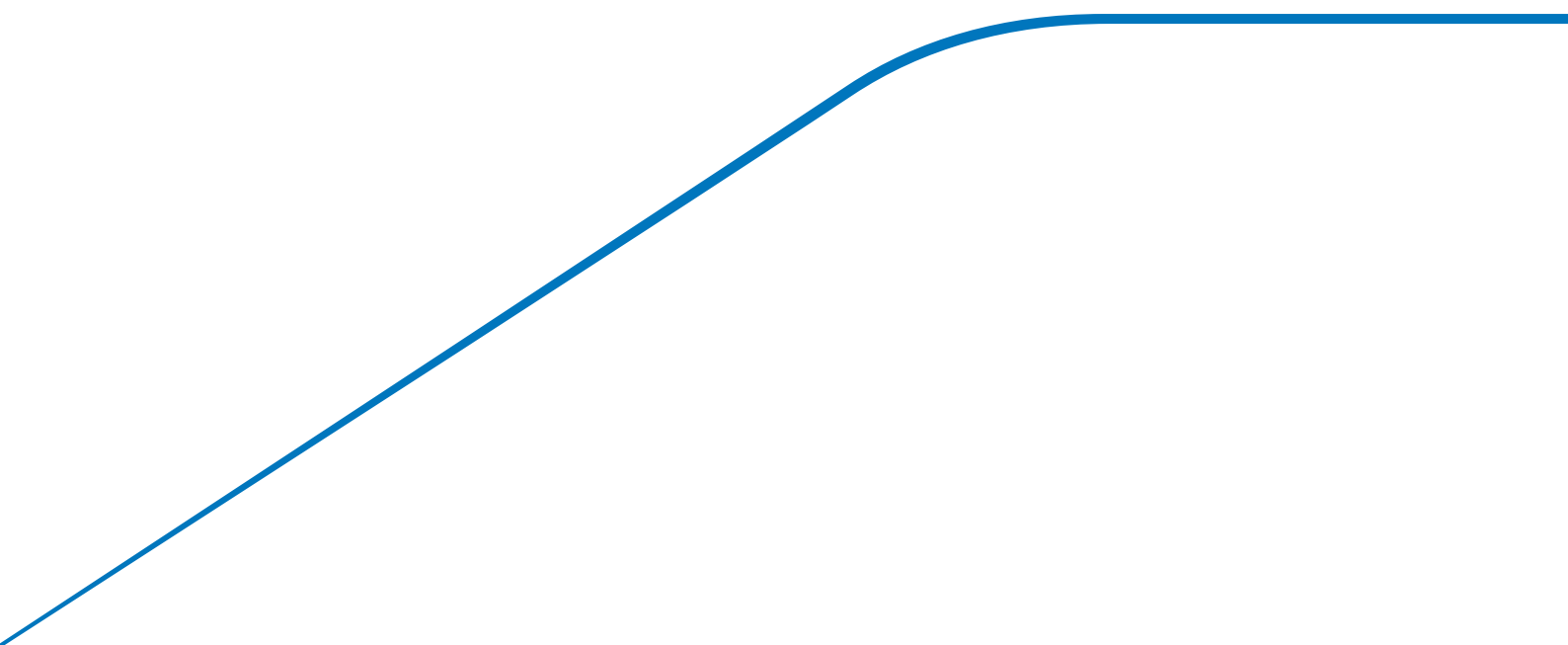
An intuitive online product selection, configuration and design tools for complex pneumatic and electric systems, as well as that human connection with access to one of our 1,500 expert engineers, located in 30 countries across Europe with the aim of making the product selection and design process as easy and seamless as possible.

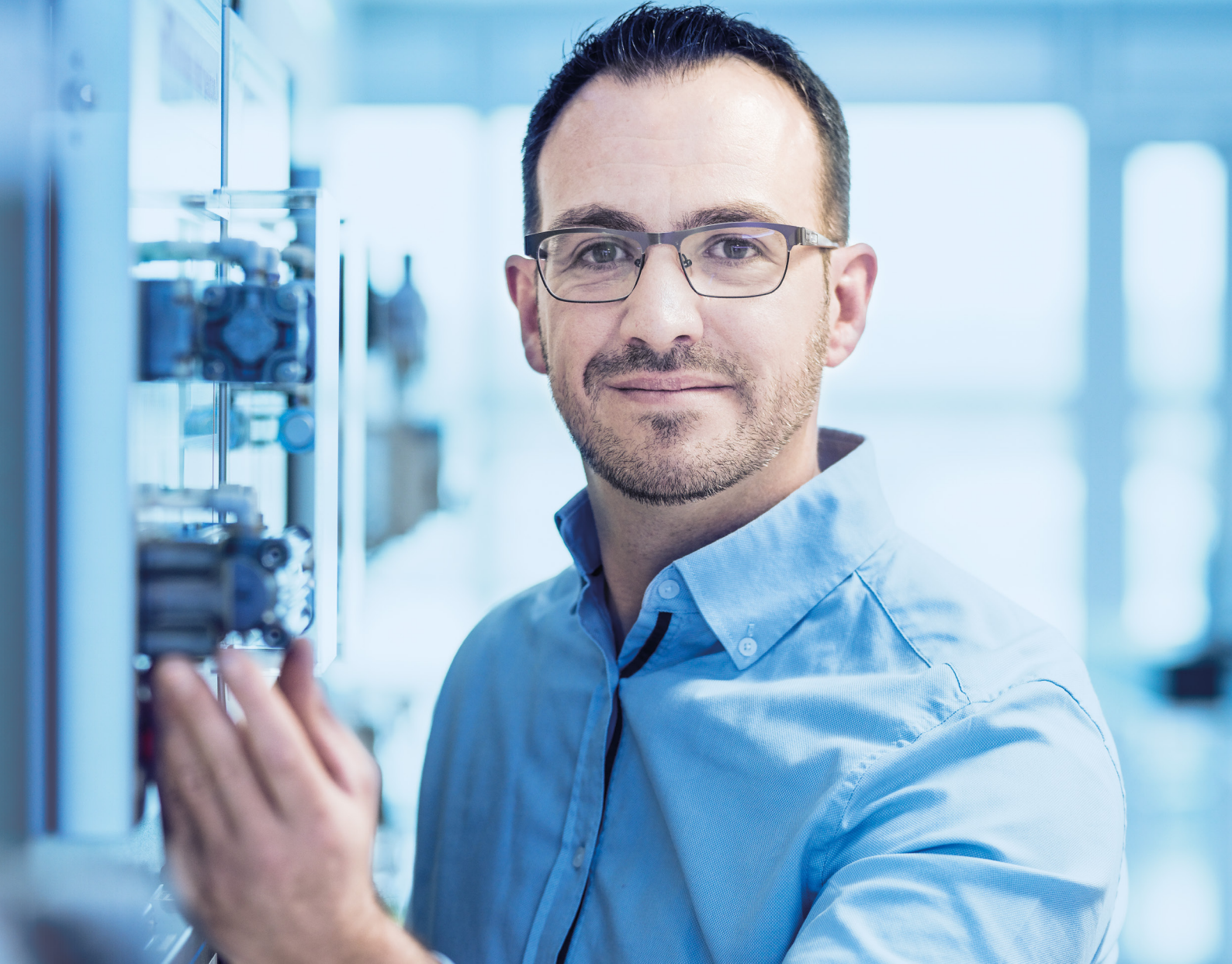
Customisation

Our accessories range, allows us to offer a full suite of solutions including speed controllers and auto switches to shock absorbers and floating joints.

Order fulfilment

With a strong infrastructure throughout Europe, featuring our main factory in the Czech Republic and central warehouse in Antwerp, Belgium, we can respond quickly to the demands of globalisation and fast changing customer requirements.





Achieve more SMC round and tie rod cylinders

Discover in the following pages our comprehensive range of round and tie rod cylinders specially designed to meet the growing needs of industrial automation industry. From ISO cylinders in case you have standard requirements to other cylinders, to our new JCM and CM2 series with big range of variations to fit to your application requirements.

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Round body cylinder (ISO 6432)

C85 Series



ISO means Service with SMC



Benefits

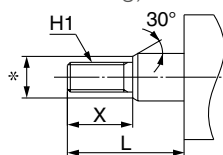
- **Get the qualified assistance you need** – Personalised and prompt advice from our experts
- **Put it to work the soonest** – Produced & Stocked in Europe
- **Let the cylinder adapt to your application** – Up to 30 rod end modifications available
- **Introduce flexibility in your designs** – Easy adjustment of auto switch position

Main features

- **Cushioning**
 - Air cushion
 - Rubber bumper.

Rod end modification

Short delivery times (European manufacturing)



- **Direct mounting**

Square rod cover makes direct mounting possible, allowing space saving.




Made of stainless steel: -XC6
Low speed cylinder (10 to 50 mm/s): -XB9

High and low temperatures




-XB6 Heat resistant cylinder (-10 to 150 °C)
-XB7 Cold resistant cylinder (-40 to 70 °C)

- Strokes up to 1000 mm
- High speed actuation, up to 1500 mm/s
- ATEX compliant version for explosive atmospheres

Speed controllers

Bore size Ø [mm]	Port size	Ø tube	Speed controller with one touch fitting	Speed controller with indicator	Compact speed controller. Right side	Compact speed controller. Left side
8	M5	4				
10						
12						
16						
20	1/8	6				
25						
			AS1201F-M5-04A	AS1201FS-M5-04A	JAS-LEA04-M5	JAS-LEB04-M5
			AS2201F-01-06SA	AS2201FS-01-06S	JAS-LEA06-01S	JAS-LEB06-01S

Auto switches

Type	Auto switch with indicator light (3 m lead wire)	General purpose with 2 colour indication with (3 m lead wire)	General purpose auto switch with pre-wired connector (M8-3pin) and 0.5 m lead wire
			
3-wire solid state, PNP	D-M9PL	D-M9PWL	D-M9PSAPC
2-wire solid state	D-M9BL	D-M9BWL	D-M9BSAPC
Reed	D-A93L	—	D-A93SAPC

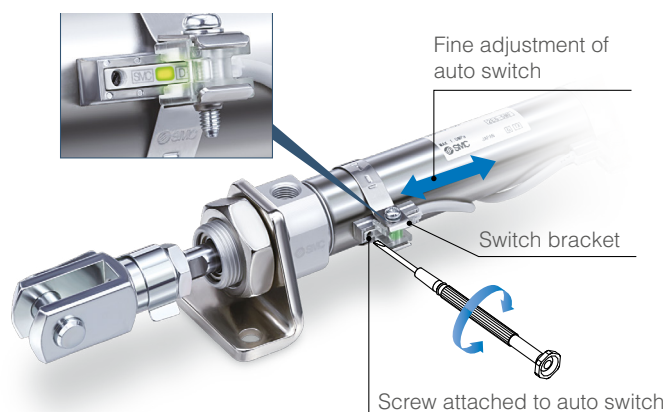


Series variations

- Single acting
- Double rod
- Non-rotating rod

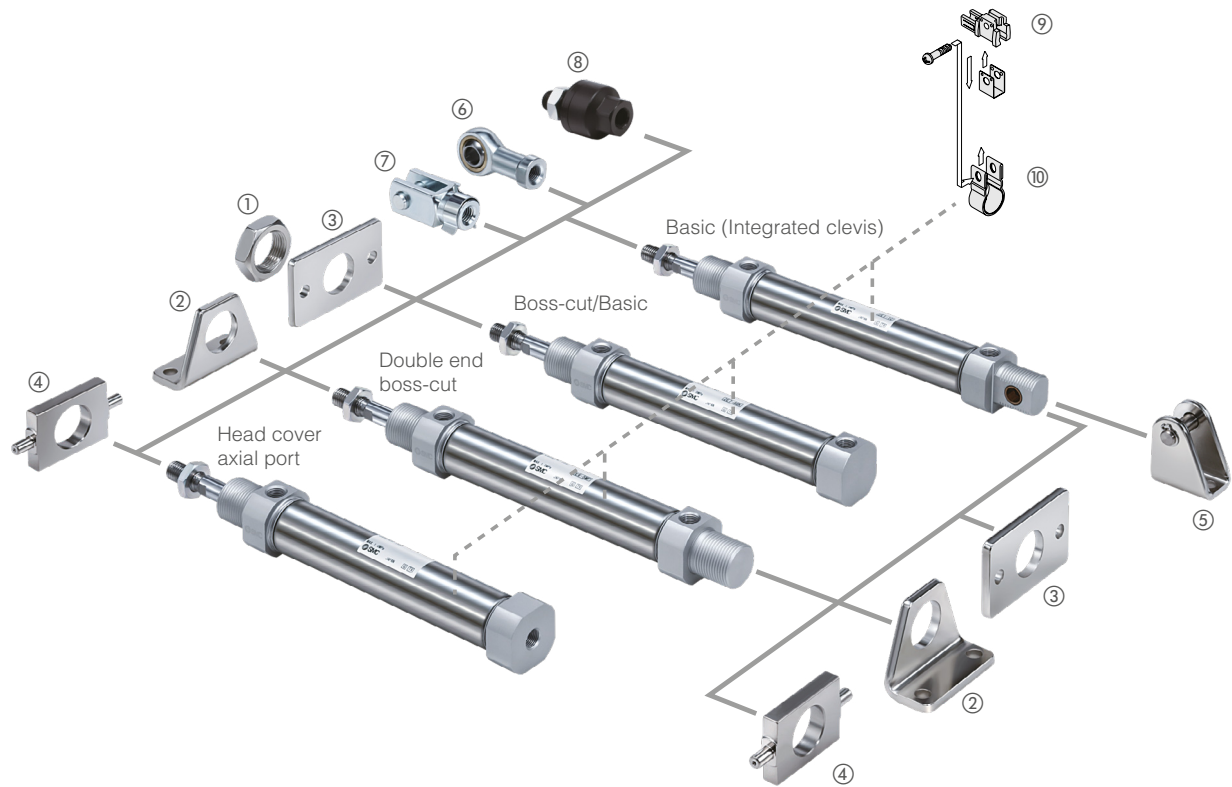
► Transparent switch bracket improves visibility of indicator LED

LED colour indicator



Mounting brackets

Bore size [mm]	① Mounting nut	② Foot	③ Flange	④ Trunnion	⑤ Clevis	⑥ Rod end	⑦ Double knuckle joint	⑧ Floating joint	⑨ Auto switch mounting bracket	⑩ Auto switch mounting band
8	C85SN10	C85L10A	C85F10	C85T10	C85C10	KJ4D	GKM4-8	JA10-4-070	BJ3-1	BJ2-008
10										BJ2-010
12	C85SN16	C85L16A	C85F16	C85T16	C85C16	KJ6D	GKM6-12	JA15-6-100		BJ2-012
16										BJ2-016
20	C85SN25	C85L25A	C85F25	C85T25	C85C25	KJ8D	GKM8-16	JA20-8-125		BM2-020
25						KJ10D				BM2-025



How to order

Discover all C85 options:
c85.smc.eu

Double acting, single rod C ① 85 ② ③ - ④ 40 ⑤ C ⑥ L ⑦ V - ⑧ B - ⑨ - ⑩

① Built-in magnet	
—	None
D	Built in magnet

② Head cover type	
N	Basic (Integrated clevis)
E	Double end boss-cut
F	Boss-cut/Basic
Y	Head cover axial port

③ Bore size	
8	8 mm
10	10 mm
12	12 mm
16	16 mm
20	20 mm
25	25 mm

④ Standard strokes

Bore size Ø [mm]	Standard stroke [mm] ^{2) 4)}	Max. stroke ³⁾ [mm]
8 ¹⁾	10, 25, 40, 50, 80, 100	200
10		
12	10, 25, 40, 50, 80, 100, 125, 160, 200	400
16		
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000
25		

1) Not available with air cushion.

2) Other strokes are available on request.

3) For exceeding the standard stroke range, it will be available as a special order (-X2018).

4) The minimum stroke with air cushion is 25 mm.

⑤ Cushion

—	Rubber bumper (Standard)
C	Air cushion ¹⁾

1) Except Ø 8.

⑥ Rod boot (Ø 20, Ø 25 only)

—	Without rod boot
J	Nylon tarpaulin (One end)
K	Heat resistant tarpaulin (One end)

⑦ Mounting bracket

—	None
L	Single foot
M	Double foot
G	Flange
U	Trunnion
N	Clevis

Applicable mounting bracket

Action	Head cover type	Mounting bracket				
		L	M	G	U	N
Rubber bumper	N	●	●	●	●	●
	E	●	●	●	●	—
	F	●	—	●	●	—
	Y	●	—	●	●	—
Air cushion	N ¹⁾	●	●	●	●	●

1) Except Ø 8

⑧ Accessory

—	Nonbe
V	Rod end
W	Double knuckle joint

⑨ Auto switch mounting type ¹⁾

A	Rail mounting
B	Band mounting

1) The symbol is “—” for no magnet.

⑩ Made to order

-XA	Change of compact rod end shape ¹⁾
-XB6	Heat resistant cylinder (-10 to 150 °C) ²⁾
-XB7	Cold resistant cylinder (-40 to 70 °C) ³⁾
-XB9	Low speed cylinder (10 to 50 mm/s) ³⁾
-XC4	With heavy duty scraper
-XC6 □	Made of stainless steel

1) Exclude Ø 8 air cushion.

2) Rubber bumper Ø 10 to Ø 25 only.

3) Rubber bumper Ø 20 and Ø 25 only.

Specifications

Bore size Ø [mm]		8	10	12	16	20	25
Type		Pneumatic					
Action		Double acting, single rod					
Fluid		Air					
Proof pressure		1.5 MPa					
Max. operating pressure		1.0 MPa					
Min. operating pressure	Rubber bumper	0.1 MPa	0.08 MPa		0.05 MPa		
	Air cushion	—					
Ambient and fluid temperature		Without auto switch: -20 to 80 °C (No freezing) With auto switch: -10 to 60 °C (No freezing)					
Lubrication		Not required (Non-lube)					
Stroke length tolerance		+1 ₀ ⁰ mm				+1 ₀ ⁴ mm	
Piston speed		50 to 1500 mm/s					
Cushion		Rubber bumper					
		—	Air cushion				
Allowable kinetic energy	Rubber bumper	0.02 J	0.03 J	0.04 J	0.09 J	0.27 J	0.4 J
	Air cushion	—	0.17 J	0.19 J	0.4 J	0.66 J	0.97 J

ISO cylinder (ISO 15552)

C(P)96 Series



ISO means Service with SMC



Benefits

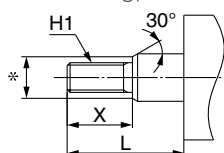
- **Get the qualified assistance you need** – Personalised and prompt advice from our experts
- **Put it to work the soonest** – Produced & Stocked in Europe
- **Let the cylinder adapt to your application** – Up to 30 rod end modifications available.

Main features

- **Bore sizes:** Ø 32 to Ø 125
- **ISO 15552 compliant**
- **Operating piston speed up to 1000 mm/s**
- **Strokes up to 2000 mm**
- **Air cushion and bumper cushion combined structure (Ø 32 to Ø 125)**

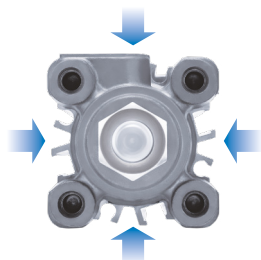
Rod end modification

Short delivery times (European manufacturing)



Maximum flexibility for auto-switch mounting



CNOMO and circular grooves are set on all four sides. Auto-switches can slide in the round grooves with no need for accessories.






Minimum piston rod deflection enhances the accuracy levels of your machine



Speed controllers

Bore size Ø [mm]	Port size	Ø tube	Speed controller with one touch fitting	Compact speed controller. Left side
				
32	1/8	6	AS2201F-01-06SA	AS2201FS-01-06S
40	1/4	8	AS2201F-02-08SA	AS2201FS-02-08S
50			AS2201F-02-08SA	AS2201FS-02-08S
63			AS3201F-03-10SA	AS3201FS-03-10S
80	3/8	10	AS3201F-03-10SA	AS3201FS-03-10S
100	1/2	12	AS4201F-04-12SA	AS4201FS-04-12S
125			AS4201F-04-12SA	AS4201FS-04-12S

Auto switches

Type	Auto switch with indicator light (3 m lead wire)	General purpose with 2 colour indication with (3 m lead wire)	General purpose auto switch with pre-wired connector (M8-3pin) and 0.5 m lead wire
			
3-wire solid state, PNP	D-M9PL	D-M9PWL	D-M9PSAPC
2-wire solid state	D-M9BL	D-M9BWL	D-M9BSAPC
Reed	D-A93L	—	D-A93SAPC



Easy adjustment of the cushion valve allows optimum control of the air cushion

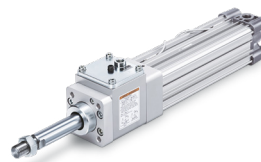
The adjustment is performed with a hexagon wrench.

Special environments

- ▶ **Heat resistant cylinder** -10 to 150 °C (XB6)
- ▶ **Cold resistant cylinder** -40 to 70 °C (XB7)
- ▶ **Spatter resistant coil scrapper Grease for welding** (XC88 and XC89)
- ▶ **Made of stainless Steel** (XC65)

Series variations

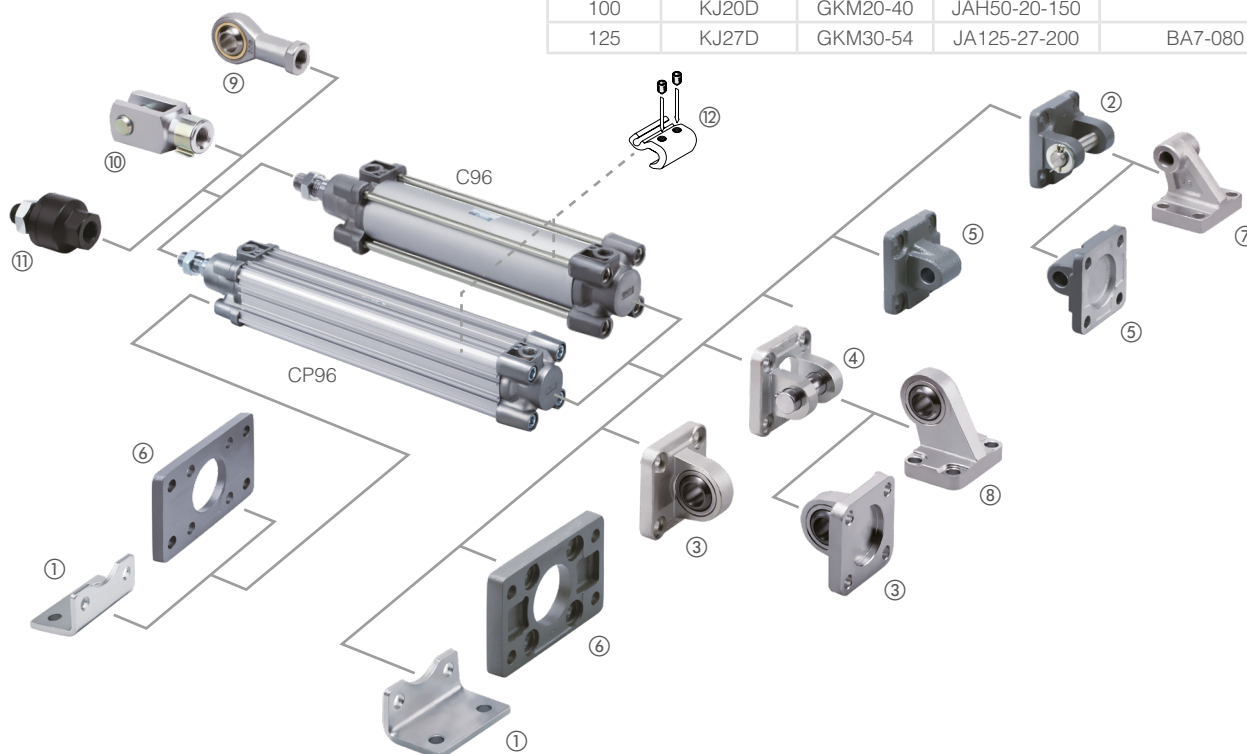
- ▶ **Double rod**
- ▶ **Non-rotating rod**
- ▶ **ATEX compliant**
- ▶ **Cylinder with lock unit**



Mounting brackets and rod end accessories

Bore size [mm]	① Axial foot	② Double clevis	③ Single clevis with ball joint	④ Double clevis pivot bracket	⑤ Single clevis	⑥ Head flange	⑦ Clevis pivot bracket	⑧ Clevis pivot bracket with ball joint
32	L5032	D5032	CS5032	DS5032	C5032	F5032	E5032	ES5032
40	L5040	D5040	CS5040	DS5040	C5040	F5040	E5040	ES5040
50	L5050	D5050	CS5050	DS5050	C5050	F5050	E5050	ES5050
63	L5063	D5063	CS5063	DS5063	C5063	F5063	E5063	ES5063
80	L5080	D5080	CS5080	DS5080	C5080	F5080	E5080	ES5080
100	L5100	D5100	CS5100	DS5100	C5100	F5100	E5100	ES5100
125 ¹⁾	L5125	D5125	CS5125	DS5125	C5125	F5125	E5125	ES5125

Bore size [mm]	⑨ Rod end	⑩ Rod clevis	⑪ Floating joint	⑫ Auto switch mounting bracket (C96 only)
32	KJ10D	GKM10-20	JA30-10-125	BMB5-032
40	KJ12D	GKM12-24	JA40-12-125	
50	KJ16D	GKM16-32	JA50-16-150	BA7-040
63	KJ16D	GKM16-32	JA50-16-150	
80	KJ20D	GKM20-40	JAH50-20-150	BA7-063
100	KJ20D	GKM20-40	JAH50-20-150	
125	KJ27D	GKM30-54	JA125-27-200	BA7-080



How to order

Discover all C(P)96 options:
c96-cp96.smc.eu



Round tube cylinder

Profile cylinder

C96 S D B 32 - 100 C J W -
 CP96 S D B 32 - 100 C J W -
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Type

S	Standard
K	Non-rotating rod
Y ¹⁾	Smooth cylinder

1) Except for bore size 125.

② Built-in magnet

—	None
D	Built in magnet

③ Mounting ¹⁾

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
T²⁾	Centre trunnion

1) Mounting brackets are shipped together, (but not assembled).

(except centre trunnion type)

2) For C96-C only.

④ Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm
125	125 mm

1) For C96 only.

⑤ Standard strokes

Bore size Ø [mm]	Standard stroke [mm]	Max. stroke C96	Max. stroke CP96
32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	1000	2000
40		1900	
50			
63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600		
80			
100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800		
125	—	2000	

1) Intermediate strokes are available.

2) Please consult with SMC for longer strokes.

3) C96 Ø 125 and double rod are produced upon receipt of order.

⑥ Cushion

—	Air cushion on both ends ¹⁾
C	Air cushion on both ends + Bumper cushion

1) For bore size 125 only.

⑦ Rod boot ¹⁾

—	Without rod boot
J	Nylon tarpaulin (One end)
JJ²⁾	Nylon tarpaulin (Both ends)
K	Heat resistant tarpaulin (One end)
KK²⁾	Heat resistant tarpaulin (Both ends)

1) Only for standard type.

2) In case of double rod.

⑧ Rod

—	Single rod
W	Double rod

⑨ Made to order

-XA□	Change of compact rod end shape
-XC14¹⁾	Change of trunnion bracket mounting position
-XB6	Heat resistant cylinder (-10 to 150 °C)
-XB7¹⁾	Cold resistant cylinder (-40 to 70 °C)
-XC4	With heavy duty scraper
-XC7	Tie-rod, tie-rod
-XC10	Dual stroke cylinder/Double rod type
-XC11	Dual stroke cylinder/Single rod type
-XC22	Fluororubber seal
-XC35	With coil scraper
-XC65²⁾	Made of stainless steel (combination of -XC7 and -XC68)
-XC68	Made of stainless steel (with hard chrome plated piston rod)
-XC88²⁾	Spatter resistant coil scraper, lube-retainer, grease for welding (Piston rod: Stainless steel 304)
-XC89²⁾	Spatter resistant coil scraper, lube-retainer, grease for welding (Piston rod: S45C)

1) For C96 only.

2) Except for bore size 125.

Specifications

Bore size Ø [mm]	32	40	50	63	80	100	125
Action	Double acting						
Fluid	Air						
Proof pressure	1.5 MPa						
Max. operating pressure	1.0 MPa						
Min. operating pressure	0.05 MPa						
Ambient and fluid temperature	Without auto switch: -20 to 70 °C (No freezing) With auto switch: -10 to 60 °C (No freezing)						
Lubrication	Not required (Non-lube)						
Operating piston speed	50 to 1000 mm/s					50 to 700 mm/s	
Allowable stroke tolerance	Up to 500 stroke: $^{+2}_0$, 501 to 1000 stroke: $^{+2.4}_0$ 1001 to 1500 stroke: $^{+2.8}_0$, 1501 to 2000 stroke: $^{+3.2}_0$						
Cushion	Air cushion on both ends + Bumper cushion					Air cushion on both ends	
Port size	G1/8	G1/4		G3/8		G1/2	
Mounting	Basic, axial foot, rod flange, head flange, single clevis, double clevis, centre trunnion ³⁾						
Allowable leakage rate ¹⁾	0.5 l/min (ANR)						
Non-rotating accuracy ²⁾	±0.5°				±0.3°		—
Allowable rotational torque [N·m] ²⁾	0.25	0.45	0.64		0.79		—

1) Only for C96 smooth cylinder.

2) Only for CP96 non-rotating rod type.

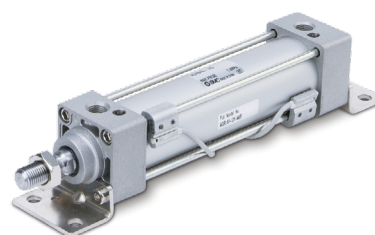
3) Only for C96.

Tie rod cylinder (ISO 6431)

C95 Series



ISO means Service with SMC




Benefits

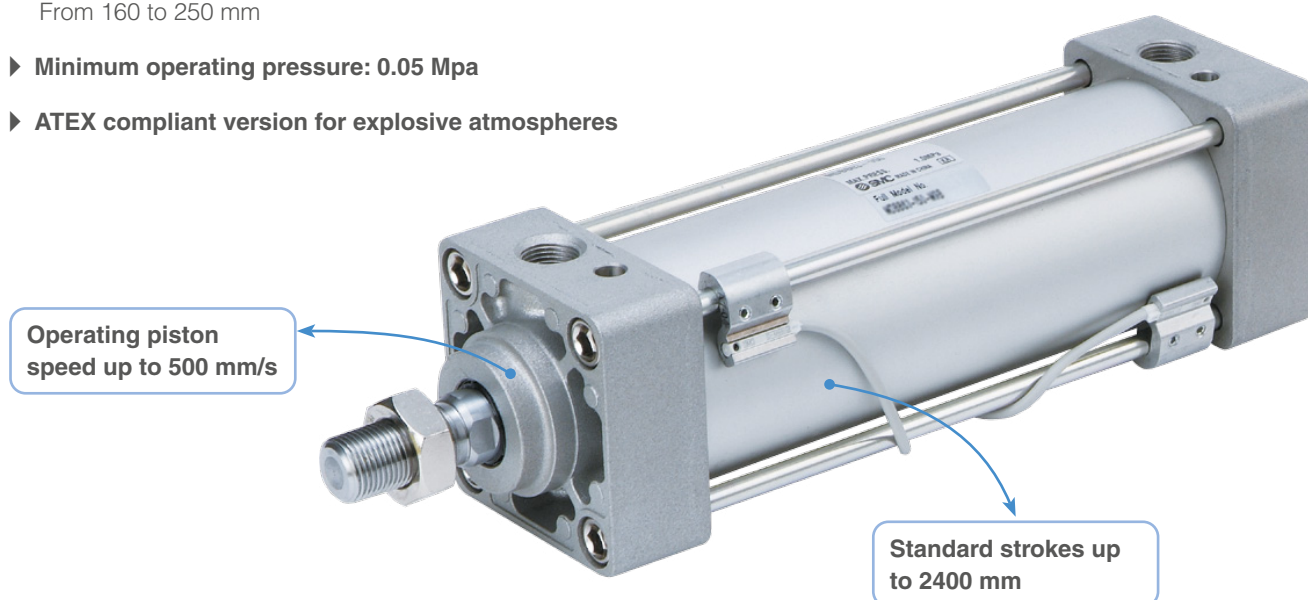
- **Get the qualified assistance you need** – Personalised and prompt advice from our experts
- **Put it to work the soonest** – Produced & Stocked in Europe
- **Let the cylinder adapt to your application** – Up to 30 rod end modifications available

Main features




- **Large bore size cylinder**
From 160 to 250 mm
- **Minimum operating pressure: 0.05 Mpa**
- **ATEX compliant version for explosive atmospheres**

Speed controllers

Bore size Ø [mm]	Port size	Speed controller Large flow in-line type
		
160	G1/2	AS500-06
200	G3/4	AS500-06
250	G1	AS600-10

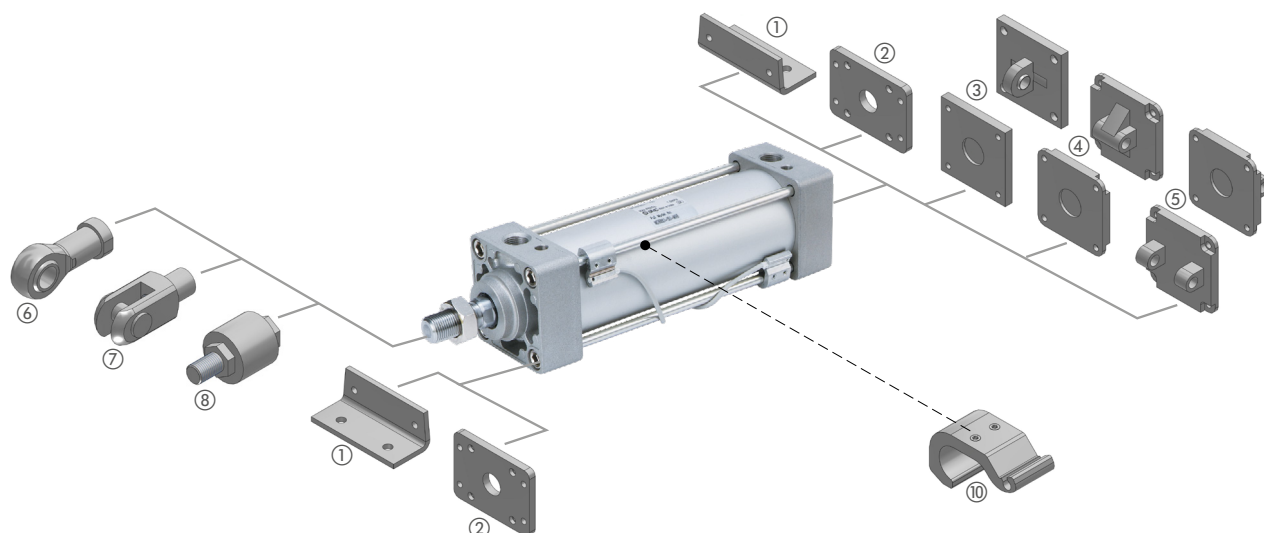


Auto switches

Type	Auto switch with indicator light (3 m lead wire)	General purpose with 2 colour indication with (3 m lead wire)	General purpose auto switch with pre-wired connector (M8-3pin) and 0.5 m lead wire
			
3-wire solid state, PNP	D-M9PL	D-M9PWL	D-M9PSAPC
2-wire solid state	D-M9BL	D-M9BWL	D-M9BSAPC
Reed	D-A93L	—	D-A93SAPC

Mounting brackets

Bore size [mm]	① Foot	② Flange	③ Single rear clevis	④ Double rear clevis	⑤ Male head end clevis with ball joint	⑥ Piston rod ball joint (ISO 8139)	⑦ Rod clevis (ISO 8140)	⑧ Floating joint	⑨ Auto switch mounting bracket
8	L5160	F5160	C5160	D5160	CS5160	KJ36D	GKM35-54	JA160-36-200	BS5-160
10	L5200	F5200	C5200	D5200	CS5200	KJ36D	GKM35-54	JA160-36-200	BS5-160
12	L5250	F5250	C5250	D5250	CS5250	KJ42D	GKM40-84	—	BT-20



How to order

C95 S D B 200 - 160

① ② ③ ④ ⑤

Discover all C95 options:
c95.smc.eu



① Standard

② Built-in magnet

—	None
D	Built in magnet

③ Mounting

B	Basic/Without bracket
L	Axial foot
F	Rod side flange
G	Head side flange
C	Single clevis
D	Double clevis
T	Centre trunnion

④ Bore size

160	160 mm
200	200 mm
250	250 mm

⑤ Stroke

Bore size Ø [mm]	Max. stroke [mm] ¹⁾
160	1600
200	2000
250	2400

1) Intermediate strokes are available.
2) Please consult with SMC for longer strokes.

Specifications

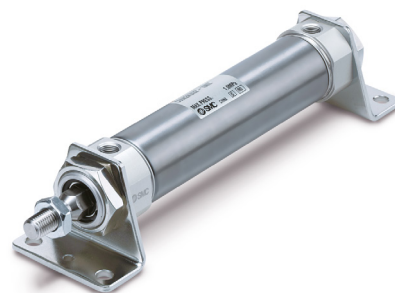
Bore size Ø [mm]	160	200	250
Action	Double acting		
Fluid	Air		
Proof pressure	1.5 MPa		
Max. operating pressure	1.0 MPa		
Min. operating pressure	0.05 MPa		
Ambient and fluid temperature	Without auto switch: -10 to 70 °C ¹⁾ (No freezing) With auto switch: -10 to 60 °C (No freezing)		
Lubrication	Not required (Non-lube)		
Operating piston speed	50 to 500 mm/s		
Cushion	Both ends (Air cushion)		
Allowable stroke tolerance	Up to 250: $+0^{+0}$, 251 to 1000: $+0^{+1.4}$ 1001 to 1500: $+0^{+1.8}$		
Cushion	Both ends (Air cushion)		
Port size	G3/4		G1
Mounting	Basic, axial foot, rod side flange, head side flange, single clevis, double clevis, centre trunnion		

Air cylinder

CM2 Series



The all rounder



Benefits

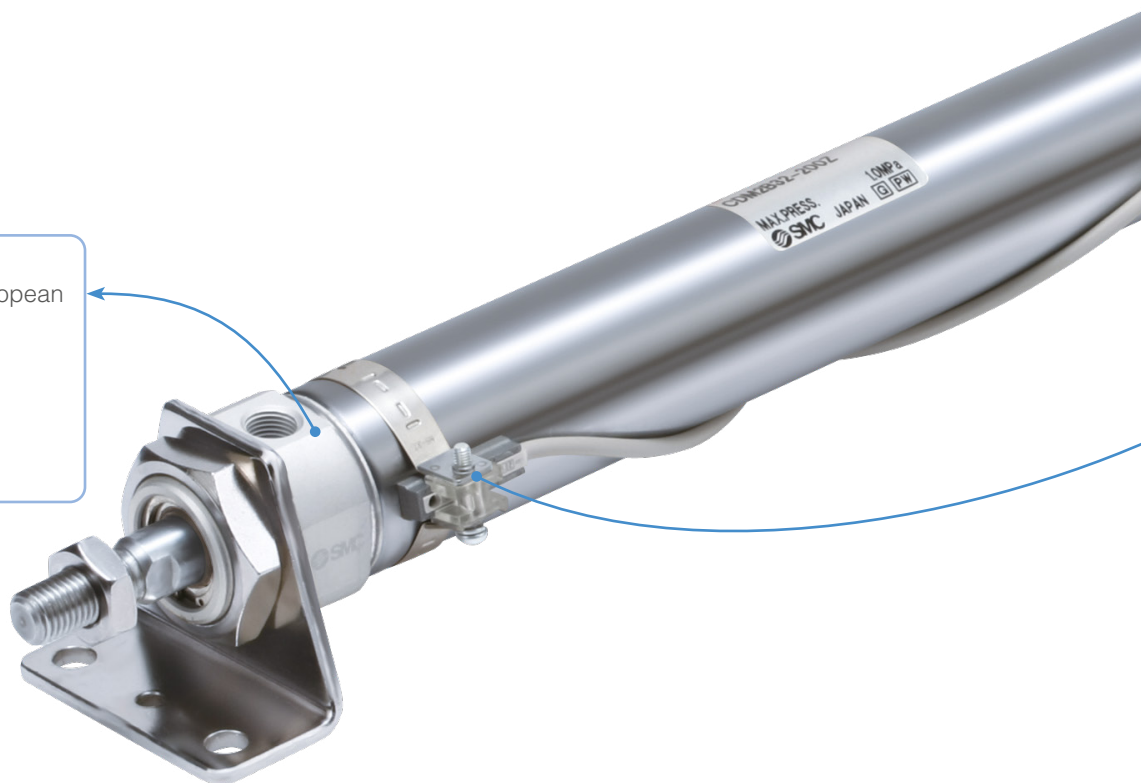
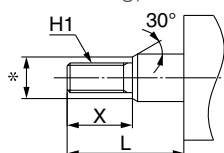
- ▶ **Fit CM2 to your application requirements** – big range of variations
- ▶ **Shorter total length** – when using female rod end and/or with boss-cut type
- ▶ **Improve your mounting freedom** – Various mounting bracket options

Main features

- ▶ **Minimum operating pressure: 0.05 MP a**
- ▶ **ATEX compliant version for explosive atmospheres**
- ▶ **Strokes up to 2000 mm**
- ▶ **Cushioning**
 - Air cushion
 - Rubber bumper

Rod end modification




Short delivery times (European manufacturing)

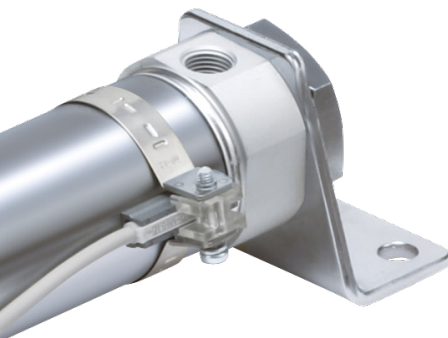


Speed controllers

Bore size Ø [mm]	Port size	Ø tube	Speed controller with one touch fitting	Speed controller with indicator	Compact speed controller. Right side	Compact speed controller. Left side
20	M5	4				
25						
32						
40						
20	1/8	6				
25						
32						
40						
			AS1201F-M5-04A	AS1201FS-M5-04A	JAS-LEA04-M5	JAS-LEB04-M5
			AS2201F-01-06SA	AS2201FS-01-06S	JAS-LEA06-01S	JAS-LEB06-01S

Auto switches

Type	Auto switch with indicator light (3 m lead wire)	General purpose with 2 colour indication with (3 m lead wire)	General purpose auto switch with pre-wired connector (M8-3pin) and 0.5 m lead wire
			
3-wire solid state, PNP	D-M9PL	D-M9PWL	D-M9PSAPC
2-wire solid state	D-M9BL	D-M9BWL	D-M9BSAPC
Reed	D-A93L	—	D-A93SAPC



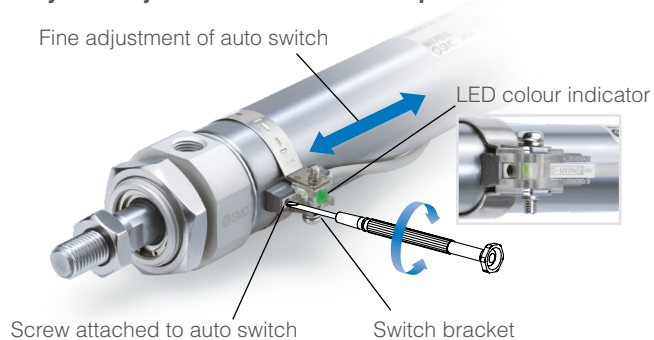
Special environments

- ▶ **Water resistant option**
Compact auto switch available
- ▶ **Stainless Steel**
- ▶ **Heat resistant**
- ▶ **Copper and zinc free version**
Compatible with secondary batteries

Series variations

- ▶ **Single acting**
- ▶ **Double rod**
- ▶ **Non-rotating rod**
- ▶ **Direct mounting**
- ▶ **Centralised piping**
- ▶ **With end lock**
- ▶ **Smooth cylinder**
- ▶ **Low speed (5 to 50 mm/s)**
- ▶ **Short type standard (CM3)**

Easy fine adjustment of auto switch position



Mounting brackets and rod end accessories

Bore size [mm]	① Foot ⁴⁾	② Flange	③ Single clevis ²⁾	④ Double clevis (with pin) ²⁾	⑤ Trunnion (with nut)	⑥ Single knuckle joint ³⁾	⑦ Double knuckle joint ³⁾	⑧ Clevis pivot bracket ⁵⁾	⑨ Pivot bracket ⁶⁾	⑩ Auto switch mounting bracket
20	CM-L020B	CM-F020B	CM-C020B	CM-D020B	CM-T020B	I-020B	Y-020B	CM-E020B	CM-B020	BM5-020
25	CM-L032B	CM-F032B	CM-C032B	CM-D032B	CM-T032B	I-032B	Y-032B		CM-B032	BM5-025
32										
40	CM-L040B	CM-F040B	CM-C040B	CM-D040B	CM-T040B	I-040B	Y-040B	CM-B040	BM5-040	

1) Mounting brackets are not available in direct mount type.

2) Not available in double rod types.

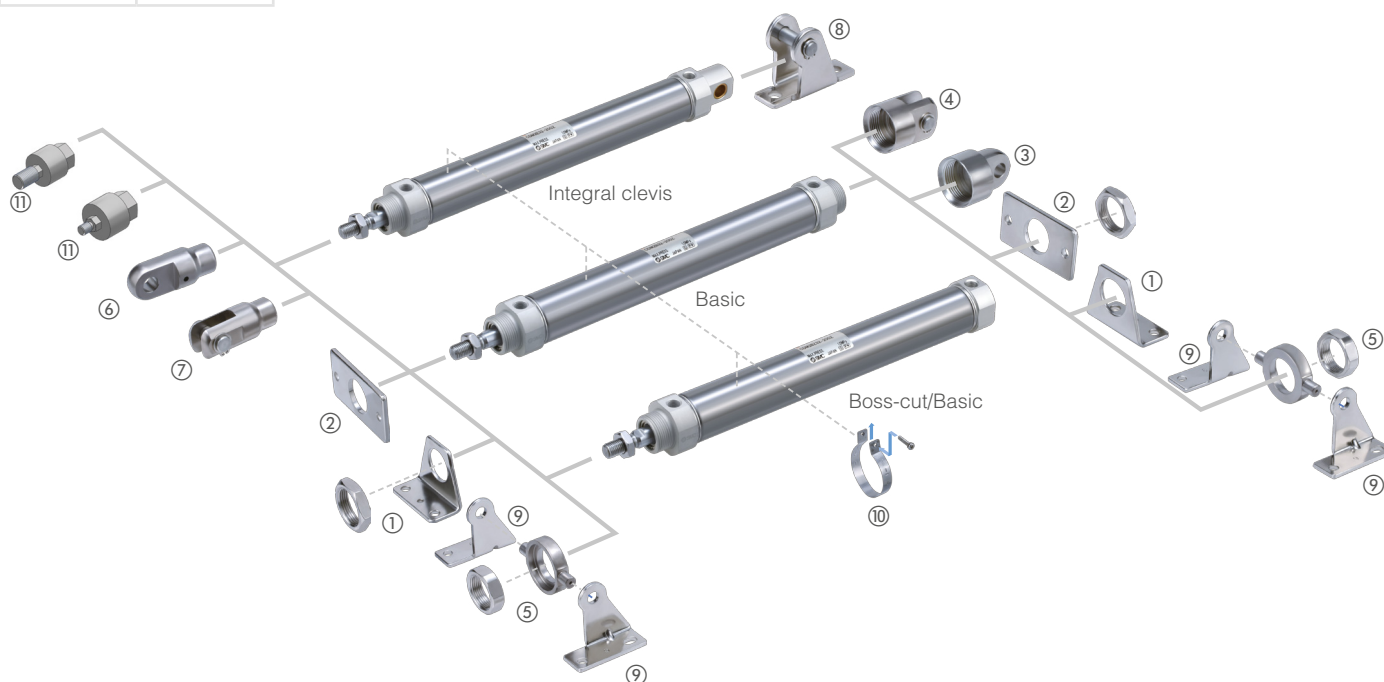
3) Not available in the female rod end type.

4) Order two feet per cylinder.

5) For integral clevis.

6) For trunnion.

⑪ Floating joint for male thread	⑫ Floating joint for female thread
JA20-8-125	JB25-6-100
JA40-14-150	JB40-8-125



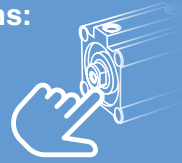
Specifications

Bore size Ø [mm]			20	25	32	40
Type			Pneumatic			
Action			Double Acting, Single Rod			
Fluid			Air			
Proof pressure			1.5 MPa			
Max. operating pressure			1.0 MPa			
Min. operating pressure			0.05 MPa			
Ambient and fluid temperature			Without auto switch: -10 °C to 70 °C (No freezing) With auto switch: -10 °C to 60 °C (No freezing)			
Lubrication			Not required (Non-lube)			
Stroke length tolerance			+1.4 0 mm			
Piston speed			50 to 750 mm/s			
Cushion			Rubber bumper, Air cushion			
Allowable kinetic energy	Rubber bumper	Male thread	0.27 J	0.4 J	0.65 J	1.2 J
		Female thread	0.11 J	0.18 J	0.29 J	0.52 J
	Air cushion (Effective cushion length [mm])	Male thread	0.54 J (11.0)	0.78 J (11.0)	1.27 J (11.0)	2.35 J (11.8)
		Female thread	0.11 J	0.18 J	0.29 J	0.52 J

1) Operate the cylinder with in the allowable kinetic energy.

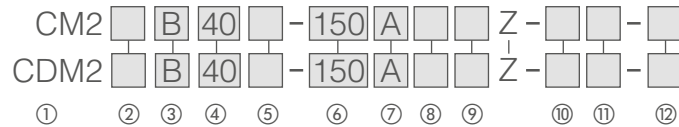
How to order

Discover all CM2 options:
cm2.smc.eu



Without auto switch

With auto switch



① With auto switch (Built in magnet)

② Type

—	Pneumatic
H	Air-hydro

③ Mounting

B	Basic (Double-side bossed)	T	Head trunnion
L	Axial foot	E	Integral clevis
F	Rod flange	V	Integral clevis (90°)
G	Head flange	BZ	Boss-cut/Basic
C	Single clevis	FZ	Boss-cut/Rod flange
D	Double clevis	UZ	Boss-cut/Rod trunnion
U	Rod trunnion		

④ Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

⑤ Port thread type

—	Rc
TN	NPT
TF	G

1) Air-hydro type: Rc only.

⑥ Standard strokes

Bore size Ø [mm]	Standard stroke [mm]	Max. manufacturable stroke [mm]
20		1000
25	25, 50, 75, 100, 125, 150, 200, 250,	1500
32	300	
40		2000

1) Intermediate strokes not listed above are produced upon receipt of order. Manufacture of intermediate strokes in 1 mm intervals is possible. (Spacers are not used.)

2) Applicable strokes should be confirmed according to the usage. For details, refer to "Air Cylinders Model Selection". In addition, the products that exceed the standard stroke might not be able to fulfill the specifications due to the deflection etc.

⑦ Cushion

—	Rubber bumper
A	Air cushion

1) Air-hydro cylinder: Rubber bumper only.

⑧ Rod end thread

—	Male rod end
F	Female rod end

⑨ Rod boot

—	None
J	Nylon tarpaulin
K	Heat resistant tarpaulin

1) For female rod end, no rod boot is provided.

⑩ Pivot bracket

—	None
N	Pivot bracket is shipped together with the product, but not assembled.

1) Only for C, T, U, E, V, UZ mounting types.

2) Pivot bracket is shipped together with the product, but not assembled.

⑪ Rod end bracket

—	None
V	Single knuckle joint
W	Double knuckle joint

1) No bracket is provided for the female rod end.

2) A knuckle joint pin is not provided with the single knuckle joint.

3) Rod end bracket is shipped together with the product, but not assembled.

4) Not applicable to XB12.

⑫ Made to order

-XA□	Change of rod end shape
-XB6	Heat resistant cylinder (-10 to 150 °C)
-XB7	Cold resistant cylinder (-40 to 70 °C) ¹⁾
-XB9	Low speed cylinder (10 to 50 mm/s) ¹⁾
-XB12	External stainless steel cylinder ²⁾
-XB13	Low speed cylinder (5 to 50 mm/s) ²⁾
-XC3	Special port location
-XC4	With heavy duty scraper
-XC5	Heat resistant cylinder (-10 to 110 °C)
-XC6	Made of stainless steel
-XC8	Adjustable stroke cylinder/Adjustable extension type
-XC9	Adjustable stroke cylinder/Adjustable retraction type
-XC10	Dual stroke cylinder/Double rod type ¹⁾
-XC11	Dual stroke cylinder/Single rod type
-XC12	Tandem cylinder ¹⁾
-XC13	Auto switch rail mounting
-XC20	Head cover axial port
-XC22	Fluororubber seal
-XC25	No fixed throttle of connection port ¹⁾
-XC27	Double clevis and double knuckle pins made of stainless steel
-XC29	Double knuckle joint with spring pin
-XC35	With coil scraper ¹⁾
-XC52	Mounting nut with set screw
-XC85	Grease for food processing equipment
-X446	PTFE grease

1) Rubber bumper only.

2) The shape is the same as the existing product.

Air cylinder

JCM Series



Compact all around



Benefits

- ▶ **Install it easily** – Direct mounting thanks to threaded covers
- ▶ **Increase your productivity** – Improved cycle times due to the cylinder's lightness
- ▶ **Reduce the dimensions of your machine** – Highly compact

Main features

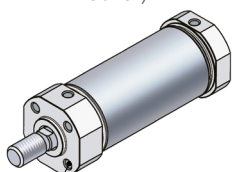
- ▶ **Male and female rod ends available**
- ▶ **Port size: M5 and Rc NPT 1/8 available**



Various cover types available

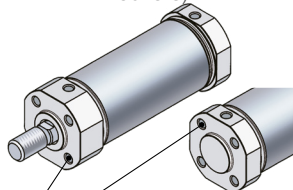
Direct mounting is possible.

Basic (Female thread on rod cover)



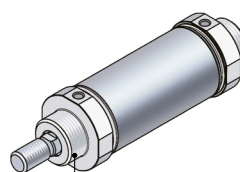
Mounting thread on rod side

Basic (Female thread on both covers)



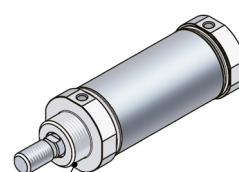
Mounting thread on rod and head sides

Male thread on both covers






Male mounting thread on both sides

Male thread on rod cover



Male mounting thread on one side




Speed controllers

Bore size Ø [mm]	Port size	Ø tube	Speed controller with one touch fitting	Speed controller with indicator	Compact speed controller. Right side	Compact speed controller. Left side
20	M5	4				
25						
32						
40						
20	1/8	6				
25						
32						
40						

Mounting accessories

Bore size Ø [mm]	Rod end nut	Mounting nut	Floating joint
20	NT-02	JSN-020B	JT20
25	NT-03	JSN-032B	JT32
32			
40	NT-04	JSN-040B	JT40

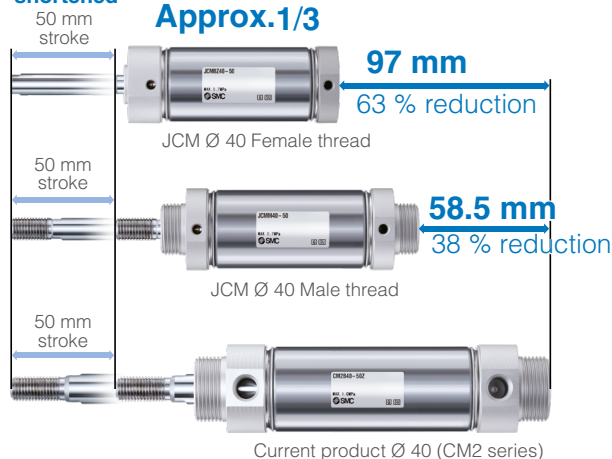
Auto switches

Type	Auto switch with indicator light (3 m lead wire)	General purpose with 2 colour indication with (3 m lead wire)	General purpose auto switch with pre-wired connector (M8-3pin) and 0.5 m lead wire
3-wire solid state, PNP			
2-wire solid state	D-M9PL	D-M9PWL	D-M9PSAPC
	D-M9BL	D-M9BWL	D-M9BSAPC

Compact

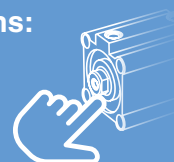
- 54 % lighter than CM2
- Overall length 1/3 of CM2

Overall length shortened



How to order

Discover all JCM options:
jcm.smc.eu



Without auto switch

With auto switch

JCM

JCDM

BZ	20		-	100		
BZ	20		-	100		
①	②	③	④	⑤	⑥	⑦

① With auto switch
(Built in magnet)

② Mounting

BZ	Basic (Female thread on rod cover)
B	Basic (Female thread on both covers)
M	Male thread on both covers
MZ	Male thread on rod cover

③ Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

④ Port thread type

—	M5
TR	Rc1/8
TN	NPT1/8

⑤ Standard strokes

Bore size Ø [mm]	Standard stroke [mm] ¹⁾
20	
25	25, 50, 75, 100, 125, 150, 200, 250, 300
32	
40	

1) Intermediate strokes not listed above are produced upon receipt of order. The minimum stroke is 25 mm.

⑥ Rod end thread

—	Male rod end
F	Female rod end

⑦ Mounting nut

—	None
D	With mounting nut (1 pc.) ¹⁾

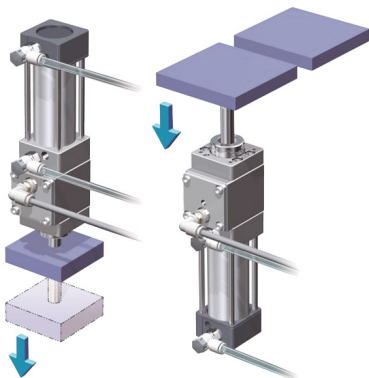
1) For M and MZ only.
Mounting nut is shipped together with the product, but not assembled.

Specifications

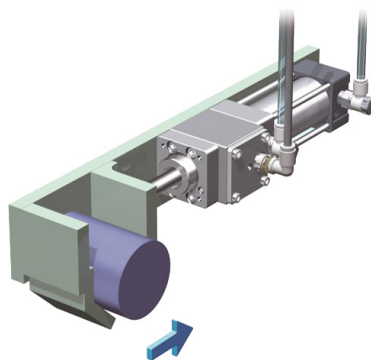
Bore size Ø [mm]		20	25	32	40
Type		Pneumatic			
Action		Double Acting, Single Rod			
Fluid		Air			
Proof pressure		1.0 MPa			
Max. operating pressure		0.7 MPa ²⁾			
Min. operating pressure		0.05 MPa			
Ambient and fluid temperature		5 °C to 60 °C (No freezing)			
Lubrication		Not required (Non-lube)			
Stroke length tolerance		+2 ₀ mm			
Piston speed ¹⁾		50 to 500 mm/s ²⁾			
Cushion		Rubber bumper			
Allowable kinetic energy [J]	Male thread	0.11 J	0.18 J	0.29 J	0.52 J
	Female thread			0.18 J	

Applications

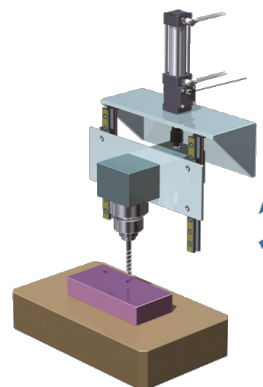
Work piece drop prevention (Vertical and downward)



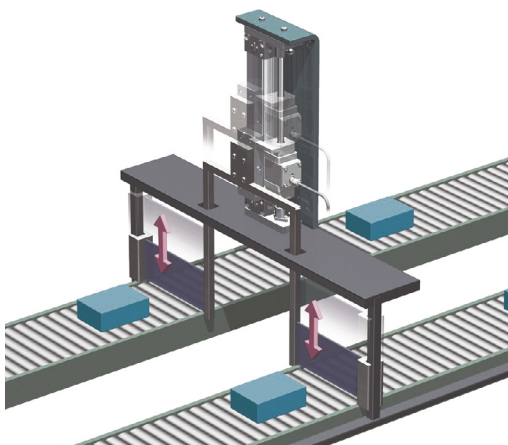
Work piece clamping Prevent cylinder opening)



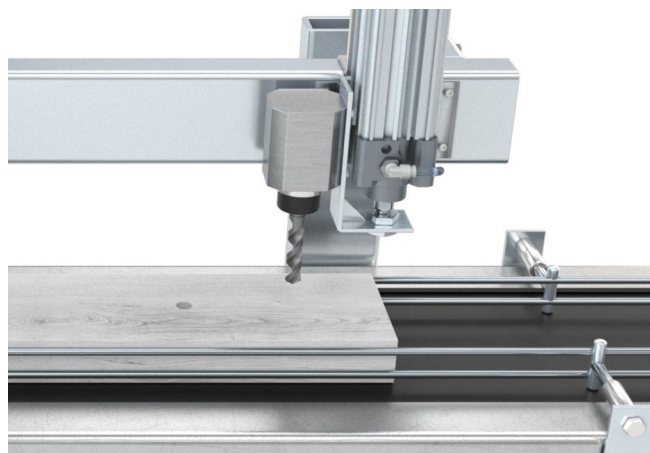
Main shaft balancer of processing machine



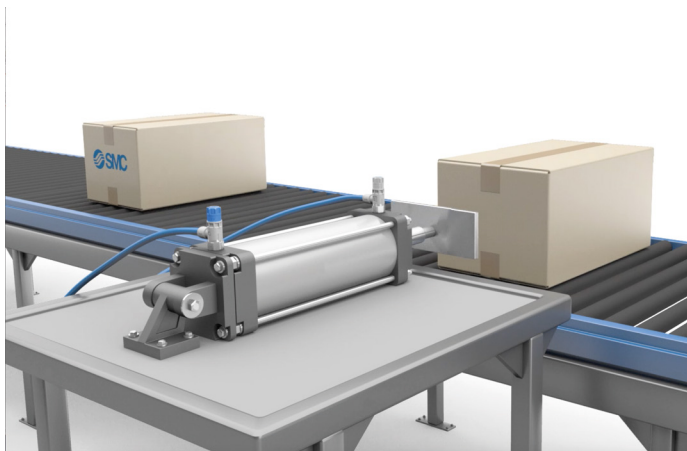
Moving work piece on the conveyor



For vertical movements



Packaging industry



Conveyor applications



Related products

Round body cylinders



 CG1 Series

- Bore sizes: 20 to 100 mm
- Stroke up 1500 mm
- Simple construction and no foreign particles accumulation
- Easy fine adjustment of auto switch position



 CG3 Series


- Bore sizes: 20 to 100 mm
- Stroke up 300 mm
- Compact design with clean profile to not accumulate dirty



 CM3 Series

- Bore sizes: 20 to 40
- Stroke up 300 mm
- Space saving: Shorter and lighter than the conventional model (CM2)




 CJ2 Series

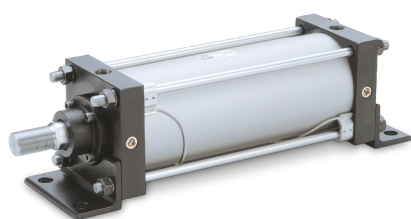
- Bore sizes: 6 to 16 mm
- Stroke up 400 mm
- 7 mounting types and 4 rod end brackets available
- Fine auto switch position adjustment

Tie rod cylinders



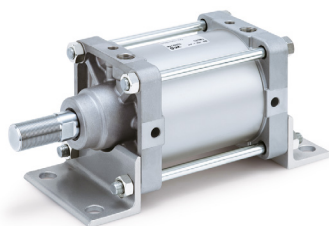
 CA2 Series

- Bore sizes: 40 to 100 mm
- Stroke up 1800 mm



 CS1 Series

- Bore sizes: 125 to 300 mm
- Stroke up 2400 mm
- Many special options available



 CS2 Series

- Bore sizes: 125 to 160 mm
- Stroke up 1600 mm
- Weight reduced up to 58% compared with CS1



Expertise – Passion – Automation

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