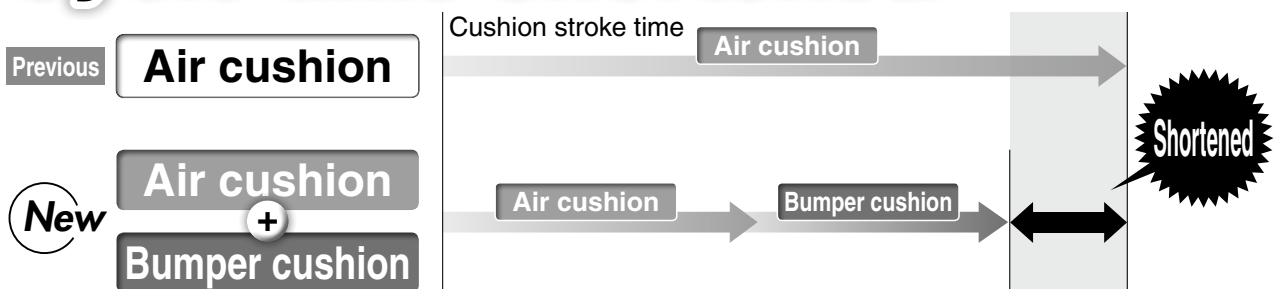


Lightweight Up to 15% Weight reduced

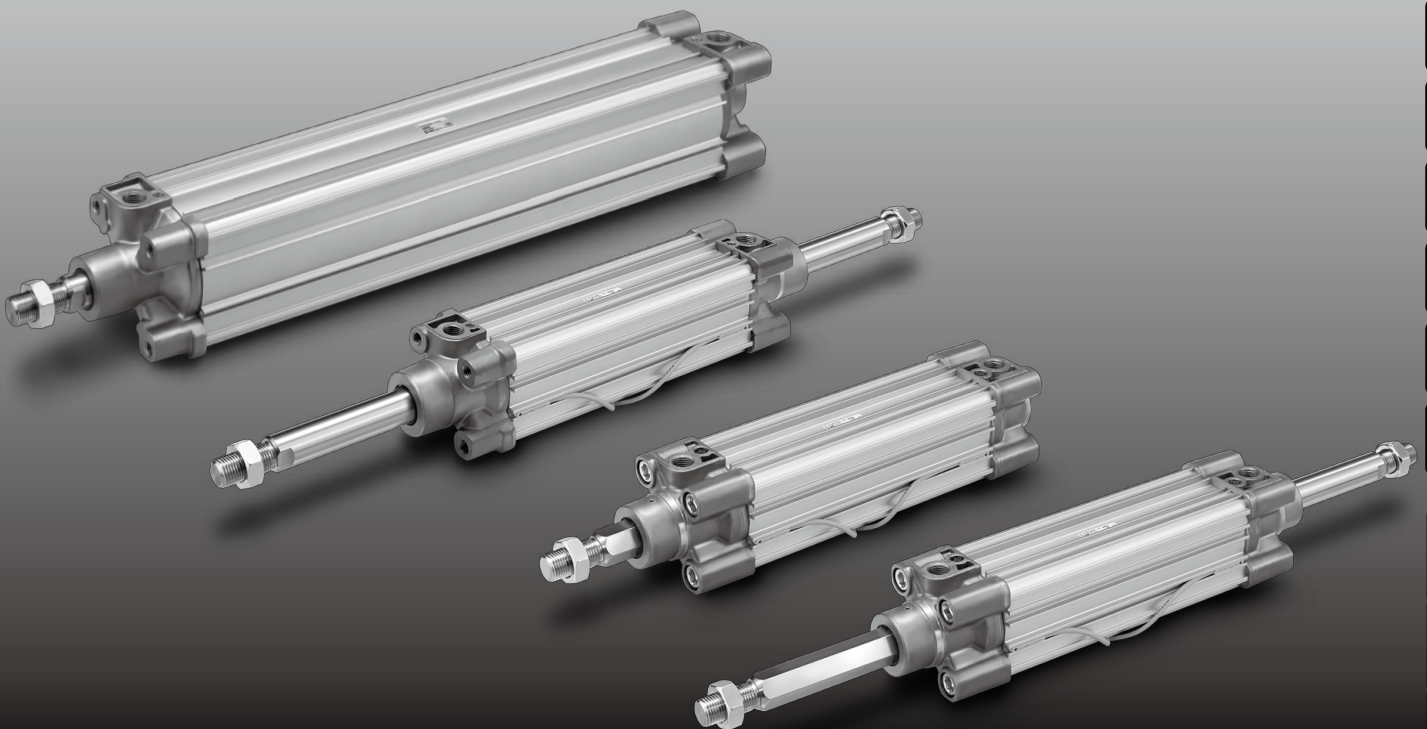
* Compared with the previous CP96 series (ø40, 100 mm stroke)

■ By adopting a new cushion method (Air cushion + Bumper cushion),

Cycle time shortened



■ Bumper cushion reduces the metal noise that occurs when piston stops



ISO Standard (15552)

Air Cylinder: Standard Type Double Acting, Single/Double Rod

CP96 Series

ø32, ø40, ø50, ø63, ø80, ø100



RoHS

The **CP96** series, standard type, ø125 is the same as the previous model. For details, refer to the **Web Catalog**.

How to Order

CP96S **B** **32** - **100** **C** **J** **W** - **□**

With auto switch **CP96SD** **B** **32** - **100** **C** **J** **W** - **M9BW** **S** - **□**

With auto switch • (Built-in magnet)

Mounting •

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis

* Mounting brackets are shipped together, but not assembled.

Bore size •

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

Cylinder stroke [mm] •
Refer to "Standard Strokes" on page 130.

Air cushion on both ends + Bumper cushion •

Rod boot •

Nil	Without rod boot
J	Nylon tarpaulin (One end)
JJ	Nylon tarpaulin (Both ends)
K	Heat-resistant tarpaulin (One end)
KK	Heat-resistant tarpaulin (Both ends)

Number of auto switches

Nil	2
S	1
3	3
n	n

Auto switch

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

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

Rod

Nil	Single rod
W	Double rod

Made to Order •
Refer to page 130 for details.

Applicable Auto Switches/Refer to the **Web Catalog** or Best Pneumatics 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		0.5 (Nil)	1 (M)	3 (L)	5 (Z)				
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N	●	●	●	○	○	IC circuit	Relay, PLC	
				3-wire (PNP)			M9P	●	●	●	○	○			
				2-wire			M9B	●	●	●	○	○			
	Diagnostic indication (2-color indicator)	Grommet		3-wire (NPN)	5 V, 12 V		M9NW	●	●	●	○	○	IC circuit		
				3-wire (PNP)			M9PW	●	●	●	○	○			
				2-wire			M9BW	●	●	●	○	○			
	Water-resistant (2-color indicator)	Grommet		3-wire (NPN)	5 V, 12 V		M9NA*1	○	○	●	○	○	IC circuit		
				3-wire (PNP)			M9PA*1	○	○	●	○	○			
				2-wire			M9BA*1	○	○	●	○	○			
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96	●	—	●	—	—	IC circuit	—
							100 V	A93	●	●	●	●	—	—	
			No	2-wire	24 V	12 V	100 V or less	A90	●	—	●	—	—	IC circuit	Relay, PLC

*1 Water-resistant type auto switches can be mounted on the above models, but SMC cannot guarantee water resistance.

* 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 "○" are produced upon receipt of order.

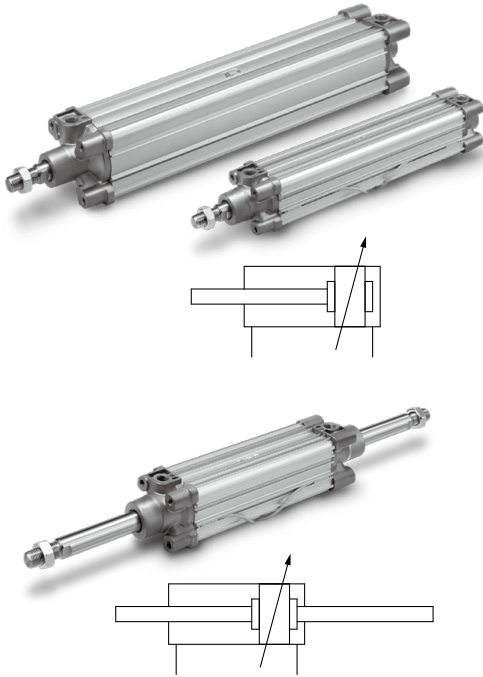
* Since there are other applicable auto switches than listed above, refer to page 146 for details.

* The D-A9□/M9□/M9□W/M9□A auto switches are shipped together, but not assembled. (Only the auto switch mounting brackets are assembled before shipment.)

* The D-Y59A, Y69A, Y7P, Y7□W, Z7□, Z80 cannot be mounted on the CP96 series.

Moreover, the D-M9□□ and A9□ auto switches cannot be mounted on square groove of the CP96 series.

Specifications



Bore size [mm]	32	40	50	63	80	100
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					
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					
Port size	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Mounting	Basic, Axial foot, Rod flange, Head flange, Single clevis, Double clevis					

Standard Strokes

Bore size [mm]	Standard stroke [mm]	Max. stroke*1
32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	2000
40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	2000
50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600	2000
63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600	2000
80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800	2000
100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800	2000

Intermediate strokes are available.

*1 Please consult with SMC for longer strokes.



Made to Order
(For details, refer to pages 148 to 155.)

Symbol	Specifications
-XA□	Change of rod end shape
-XB6	Heat-resistant cylinder (-10 to 150°C)
-XC4	With heavy duty scraper
-XC7	Tie-rod, tie-rod nut, etc. made of stainless steel
-XC10	Dual stroke cylinder/Double rod type
-XC11	Dual stroke cylinder/Single rod type
-XC22	Fluororubber seal
-XC35	With coil scraper
-XC65	Made of stainless steel (Combination of -XC7 and -XC68)
-XC68	Made of stainless steel (with hard chrome plated piston rod)
-XC88	Spatter-resistant coil scraper, Lube-retainer, grease for welding (Piston rod: Stainless steel 304)
-XC89	Spatter-resistant coil scraper, Lube-retainer, grease for welding (Piston rod: S45C)

Refer to pages 145 and 146 for cylinders with auto switches.

- Auto Switch Proper Mounting Position (Detection at stroke end)
- Minimum Stroke for Auto Switch Mounting
- Operating Range
- How to Mount and Move the Auto Switch

Accessories

	Mounting	Basic	Foot	Rod flange	Head flange	Single clevis	Double clevis
Standard	Rod end nut	●	●	●	●	●	●
	Clevis pin	—	—	—	—	—	●
Option	Rod end	●	●	●	●	●	●
	Rod clevis	●	●	●	●	●	●
	Rod boot	●	●	●	●	●	●

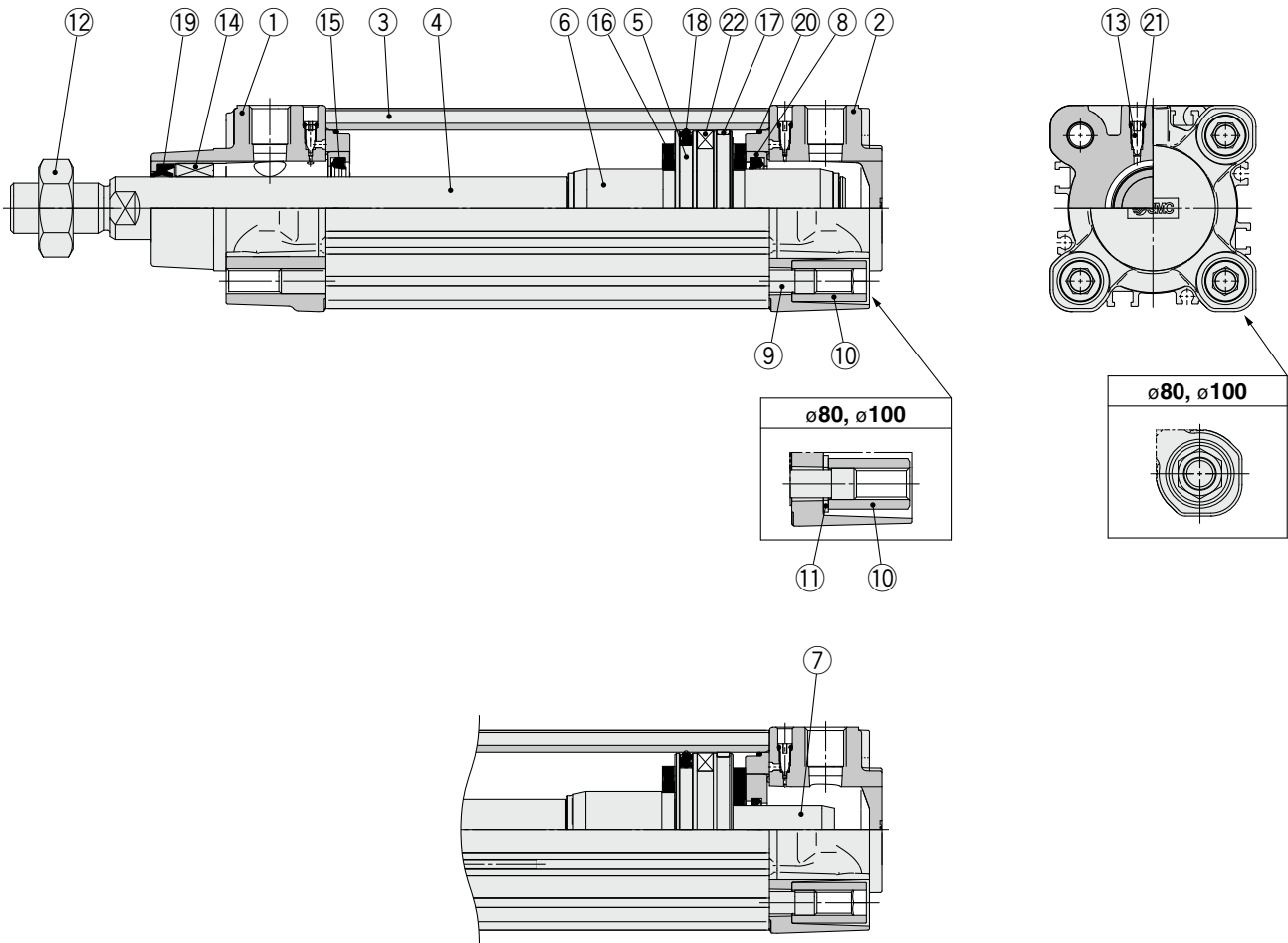
* Do not use a rod end (or floating joint) together with a single clevis with a ball joint (or clevis pivot bracket with a ball joint).

* Refer to pages 137 to 140 for dimensions and part numbers of the accessories.

⚠ Precautions

Be sure to read this before handling the products. Refer to page 219 for safety instructions. For actuator and auto switch precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <http://www.smcworld.com>

Construction



Component Parts

No.	Description	Material	Note
1	Rod cover	Aluminum die-cast	
2	Head cover	Aluminum die-cast	
3	Cylinder tube	Aluminum alloy	
4	Piston rod	Carbon steel	
5	Piston	Aluminum alloy	ø32 to ø63
		Aluminum die-cast	ø80, ø100
6	Cushion ring A	Aluminum alloy	
7	Cushion ring B	Aluminum alloy	
8	Cushion seal holder	Aluminum alloy	
9	Tie-rod	Carbon steel	
10	Tie-rod nut	Steel	
11	Flat washer	Steel	ø80, ø100
12	Rod end nut	Steel	
13	Cushion valve	Resin	
14	Bushing	Bearing alloy	
15	Cushion seal	Urethane	
16	Bumper	Urethane	
17	Wear ring	Resin	
18	Piston seal	NBR	
19	Rod seal	NBR	
20	Cylinder tube gasket	NBR	
21	Cushion valve seal	NBR	
22	Magnet		

Replacement Parts/Seal Kit (Single rod)

Bore size [mm]	Kit no.	Contents
32	CS95-32	Kits include items 15, 17 to 20.
40	CS95-40	
50	CS95-50	
63	CS95-63	
80	CS95-80	
100	CS96-100	

* Seal kits consist of items 15, 17 to 20 and can be ordered by using the seal kit number corresponding to each bore size.

* The seal kit includes a grease pack (10 g for ø32 to ø50, 20 g for ø63 and ø80, 30 g for ø100).

Order with the following part number when only the grease pack is needed.
Grease pack part number: GR-S-010 (10 g), GR-S-020 (20 g)

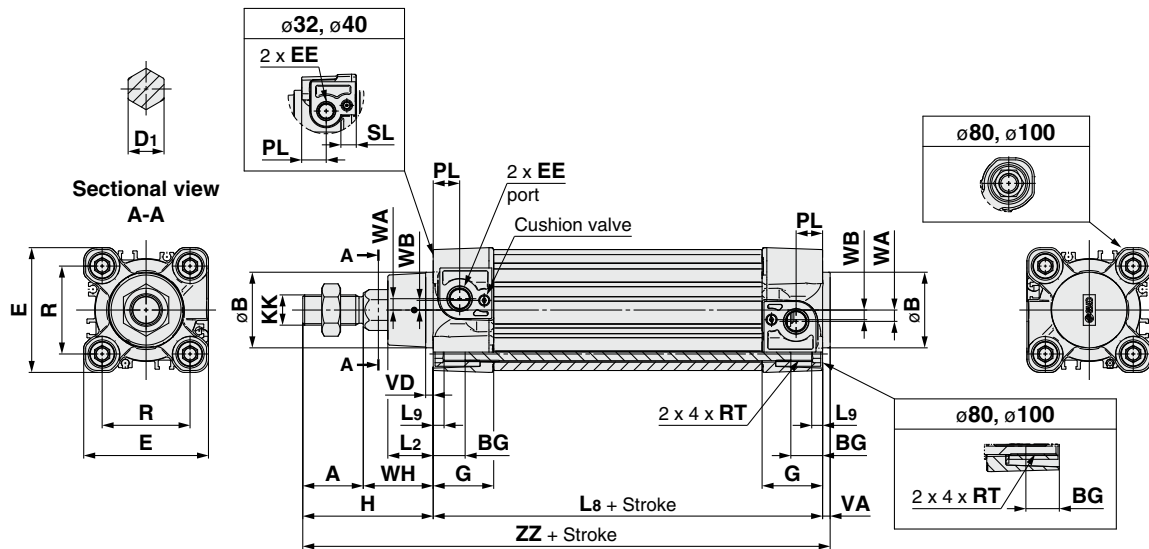
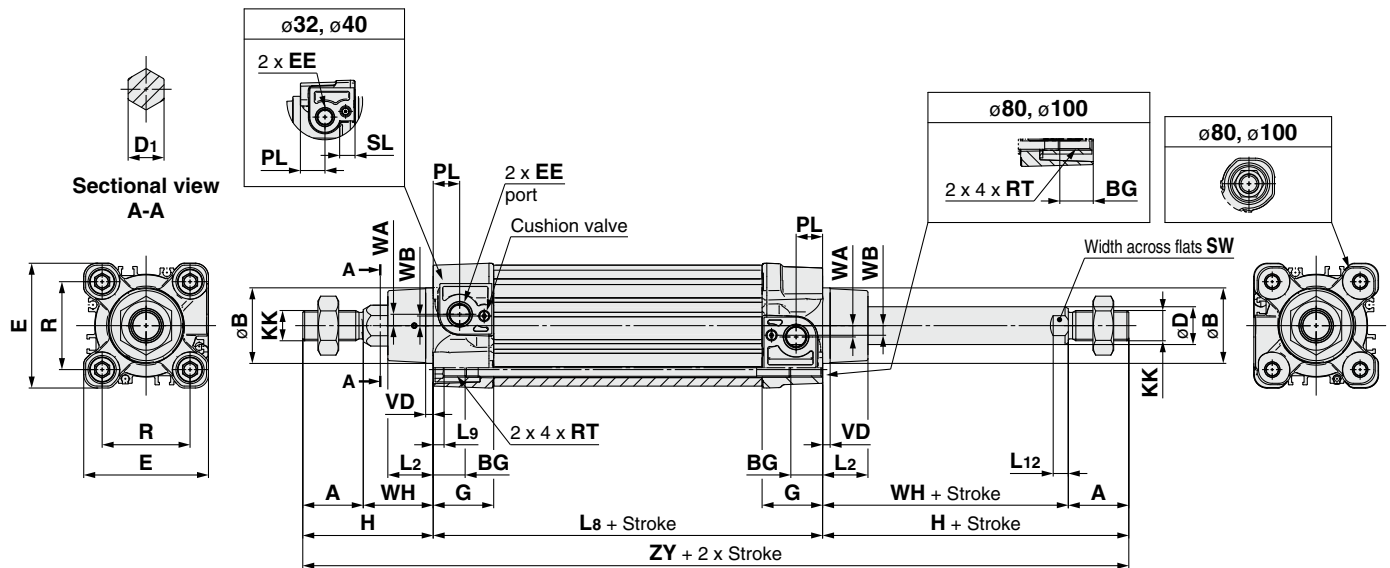
Seal Kit (Double rod)

Bore size [mm]	Kit no.	Contents
32	CS95W-32	Kits include items 15, 18 to 20.
40	CS95W-40	
50	CS95W-50	
63	CS95W-63	
80	CS95W-80	
100	CS96W-100	

* Seal kits consist of items 15, 18 to 20 and can be ordered by using the seal kit number corresponding to each bore size.

* The seal kit includes a grease pack (10 g for ø32 to ø50, 20 g for ø63 and ø80, 30 g for ø100).

Order with the following part number when only the grease pack is needed.
Grease pack part number: GR-S-010 (10 g), GR-S-020 (20 g)

Dimensions (Without mounting bracket)**CP96K (D) B** Bore size – Stroke **C****CP96K (D) B** Bore size – Stroke **CW**

* Mounting brackets are the same as standard type. Refer to page 136 for details.

Bore size [mm]	Stroke range [mm]	A	øB d11	D ₁	øD	EE	PL	RT	L ₁₂	KK	SW	G	BG	L ₈	VD	VA	WA	WB	WH	ZZ	ZY	E	R	L ₂	L ₉	H	SL
32	Up to 500	22	30	12.2	12	G 1/8	13	M6 x 1	6	M10 x 1.25	10	28.9	16	94	4	4	4	7	26	146	190	47	32.5	15	4	48	8
40	Up to 500	24	35	14.2	16	G 1/4	14	M6 x 1	6.5	M12 x 1.25	13	32.6	16	105	4	4	5	8.9	30	163	213	54	38	17	4	54	8
50	Up to 600	32	40	19	20	G 1/4	14	M8 x 1.25	8	M16 x 1.5	17	32	16	106	4	4	6	5.1	37	179	244	66	46.5	24	5	69	—
63	Up to 600	32	45	19	20	G 3/8	16	M8 x 1.25	8	M16 x 1.5	17	38.6	16	121	4	4	9	6.3	37	194	259	77	56.5	24	5	69	—
80	Up to 800	40	45	23	25	G 3/8	16	M10 x 1.5	10	M20 x 1.5	22	38.4	17	128	4	4	11.5	6	46	218	300	99	72	30	—	86	—
100	Up to 800	40	55	23	25	G 1/2	18	M10 x 1.5	10	M20 x 1.5	22	42.9	17	138	4	4	17	10	51	233	320	118	89	32	—	91	—