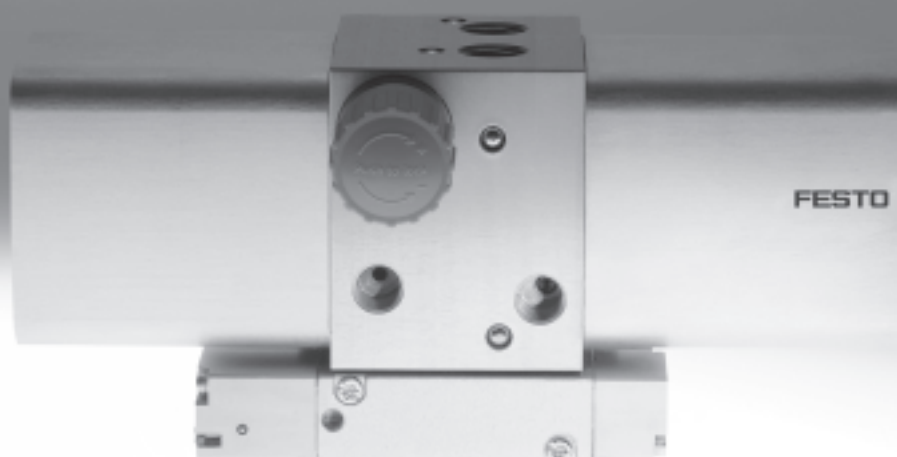


Pressure boosters DPA

FESTO

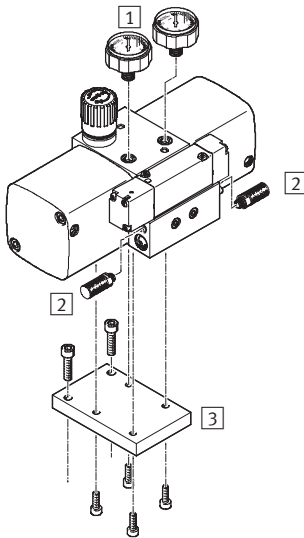


Pressure boosters DPA

Peripherals overview

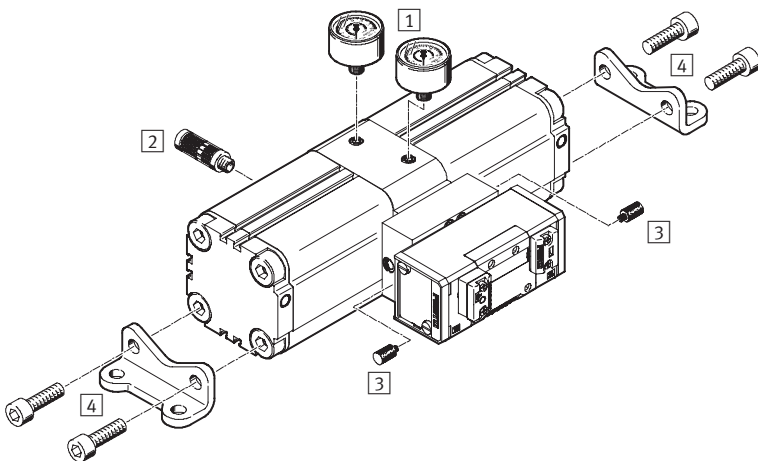
FESTO

DPA-40-10/16/D



Mounting attachments and accessories		
	Brief description	→ Page/Internet
1 Pressure gauge set DPA-MA-SET	For monitoring the supply and output pressure	14
2 Silencer UC	For noise reduction at the exhaust port	17
3 Flange mounting FDPA	For mounting the pressure booster on other machine parts	13

DPA-63/100-D



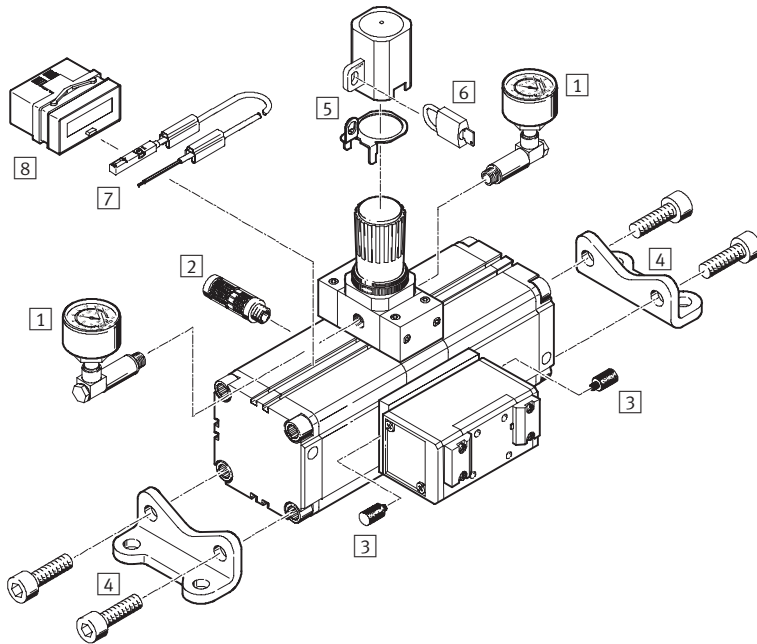
Mounting attachments and accessories		
	Brief description	→ Page/Internet
1 Pressure gauge MA	For monitoring the supply and output pressure	15
2 Silencer U-...-B	For noise reduction at the exhaust port	17
3 Silencer U-M3	For noise reduction at the valve exhaust port	17
4 Foot mounting HUA	For mounting the pressure booster on other machine parts	13

Pressure boosters DPA

Peripherals overview

FESTO

DPA-63/100-10/16(-A)



Mounting attachments and accessories		
	Brief description	→ Page/Internet
1 Pressure gauge set DPA-MA-SET	For monitoring the supply and output pressure	14
2 Silencer U-...-B	For noise reduction at the exhaust port	17
3 Silencer U-M3	For noise reduction at the valve exhaust port	17
4 Foot mounting HUA	For mounting the pressure booster on other machine parts	13
5 Regulator lock LRVS-D with lock plate	Prevents unintentional, and in conjunction with an LRVS padlock, unauthorised adjustment of the rotary knob	17
6 Padlock LRVS-D	Accessory for regulator lock LRVS-D	17
7 Proximity sensor SME-8M/SMT-8M	For registering individual strokes of the drive piston (only DPA-...-A)	16
8 Adding counter CCES	For counting the switching cycles (only DPA-...-A)	16

Pressure boosters DPA

Type codes

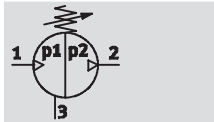
FESTO

		DPA	–	63	–	16	–	A
Basic function								
DPA	Pressure booster							
Piston Ø								
40	40 mm							
63	63 mm							
100	100 mm							
Output pressure [bar]								
DPA-40								
10	4,5 ... 10, adjustable with pressure regulator							
16	4,5 ... 16, adjustable with pressure regulator							
D	Double supply pressure, without pressure regulator							
DPA-63/100								
10	4 ... 10, adjustable with pressure regulator							
16	4 ... 16, adjustable with pressure regulator							
D	Double supply pressure, without pressure regulator							
Sensing (DPA-63/100-10/16 only)								
	No sensing possibility							
A	With sensing possibility							

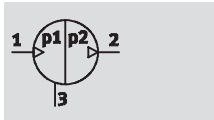
Pressure boosters DPA

Technical data

Function
with pressure regulator

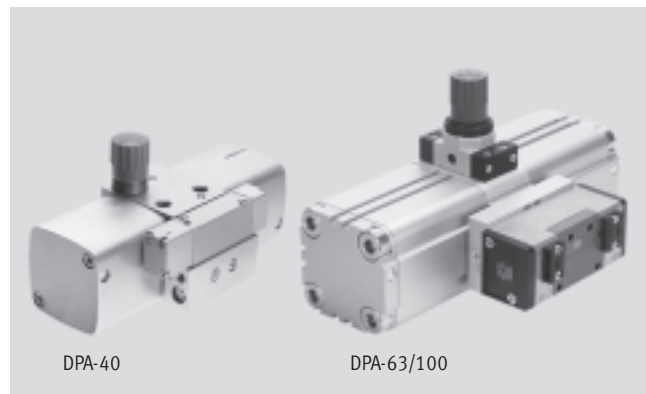


without pressure regulator



-  Temperature range
+5 ... +60 °C
-  Pressure ratio
1:2
-  www.festo.com

Wearing parts kits
→ 12



 Note

Pressure boosters are intended for the occasional bleeding of compressed air. Pressure boosters are not suitable for use as compressor sets, as wear on seals and drive pistons increases significantly during continuous operation without breaks.

 Note

The pressure regulator is supplied with a non-tensioned regulator spring (DPA-...-10/16 only). After the supply pressure is applied, the regulator spring is pretensioned by turning the regulating knob until the desired output pressure is achieved.

A pressure gauge is strongly recommended to monitor the output pressure. In the case of the DPA-63/100, the regulator setting can be secured against unauthorised adjustment by means of the regulator lock LRVs.

All benefits at a glance

- Any mounting position
- Long service life
- Compact construction and good design
- Minimal loss of volume due to valve activation
- Short filling times

The pressure booster is a twin-piston pressure intensifier intended solely for compressing air. When the DPA is pressurised with compressed air, integrated directional control and non-return valves automatically facilitate pressure build-up on the secondary side up to twice the normal supply pressure, depending on the flow rate. In the case of pres-

sure boosters without pressure regulator DPA-...-D, the output pressure is always double the supply pressure. The air supply to both drive pistons is controlled by a pneumatic directional control valve that reverses automatically when the stroke end position is reached. In the case of the DPA-...-10/16, the reference value is set using a man-

ually operated pressure regulator, which supplies compressed air to the drive pistons on the secondary side and ensures stable operation of the pressure booster. The pressure booster starts automatically when the supply pressure is applied and the desired output pressure has not yet been reached.

When the set output pressure is reached, the pressure booster stops operating to save energy but restarts automatically if the pressure drops due to an application operation. With the DPA-...-A it is possible to record the individual strokes of the drive piston using an external sensor and an adding counter.

General technical data – DPA with pressure regulator										
	No sensing possibility						With sensing possibility			
Type DPA-	40-10	40-16	63-10	63-16	100-10	100-16	63-10-A	63-16-A	100-10-A	100-16-A
Piston Ø [mm]	40		63		100		63		100	
Pneumatic connection 1, 2	G¼		G⅜		G½		G⅜		G½	
Pneumatic connection 3	M7		G⅜		G½		G⅜		G½	
Operating medium	Filtered compressed air, unlubricated, grade of filtration 40µm									
Constructional design	Twin-piston pressure booster						Twin-piston pressure booster			
	–						With magnetic piston rod			
Type of mounting	Via female thread									
Installation position	Any									
Supply pressure p1 [bar]	2.5 ... 8	2.5 ... 10	2 ... 8	2 ... 10	2 ... 8	2 ... 10	2 ... 8	2 ... 10	2 ... 8	2 ... 10
Output pressure p2 [bar]	4.5 ... 10 ¹⁾	4.5 ... 16 ¹⁾	4 ... 10 ¹⁾	4 ... 16 ¹⁾	4 ... 10 ¹⁾	4 ... 16 ¹⁾	4 ... 10 ¹⁾	4 ... 16 ¹⁾	4 ... 10 ¹⁾	4 ... 16 ¹⁾
Pressure indicator	G⅛ prepared		G⅛ prepared		G¼ prepared		G⅛ prepared		G¼ prepared	

1) The differential pressure between the supply and output pressure must be at least 2 bar.
 Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure boosters DPA

Technical data

FESTO

General technical data – DPA without pressure regulator			
Type DPA-	40-D	63-D	100-D
Piston Ø [mm]	40	63	100
Pneumatic connection 1, 2	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Pneumatic connection 3	M7	G $\frac{3}{8}$	G $\frac{1}{2}$
Operating medium	Filtered compressed air, unlubricated, grade of filtration 40µm		
Constructional design	Twin-piston pressure booster		
Type of mounting	Via female thread		
Installation position	Any		
Supply pressure p1 [bar]	2.5 ... 8	2 ... 8	2 ... 8
Output pressure p2 [bar]	5 ... 16	4 ... 16	4 ... 16
Pressure indicator	G $\frac{1}{8}$ prepared		

– † – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ambient conditions		
Ambient temperature [°C]	+5 ... +60	
Storage temperature [°C]	+5 ... +60	
Corrosion resistance CRC ¹⁾	2	

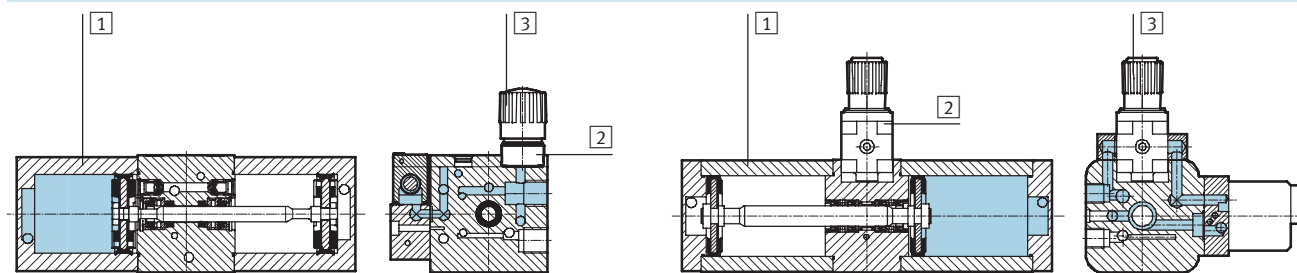
1) Corrosion resistance class 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]			
Type DPA-	40	63	100
Pressure booster	1,500	6,000	13,000

Recommended tubing			
Type DPA-	40	63	100
For supply pressure	PAN-10x1,5-SI	PAN-16x2-SI	P-19-SW, PAN-16x2-SI
For output pressure	PAN-R-8x1,5-SI	PAN-R-16x3-SI	PAN-R-16x3-SI

Materials	
Sectional view DPA-40	Sectional view DPA-63/100



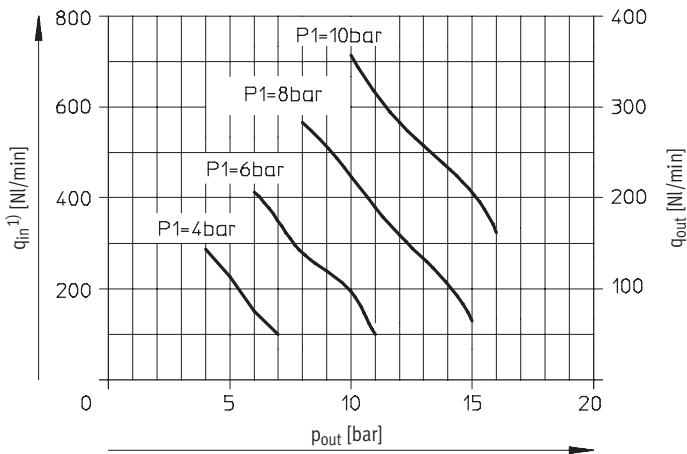
Pressure booster	DPA-40	DPA-63/100-10	DPA-63/100-16
1 Housing	Aluminium		
2 Support	Aluminium	Polyester	Aluminium
3 Rotary knob	Polyacetal		
– Piston/piston rod seals	Hydrogenated nitrile rubber	Polyurethane	
– Non-return valve seals	Nitrile rubber	Fluoro-elastomer	
– Regulator/valve seals	Nitrile rubber		

Pressure boosters DPA

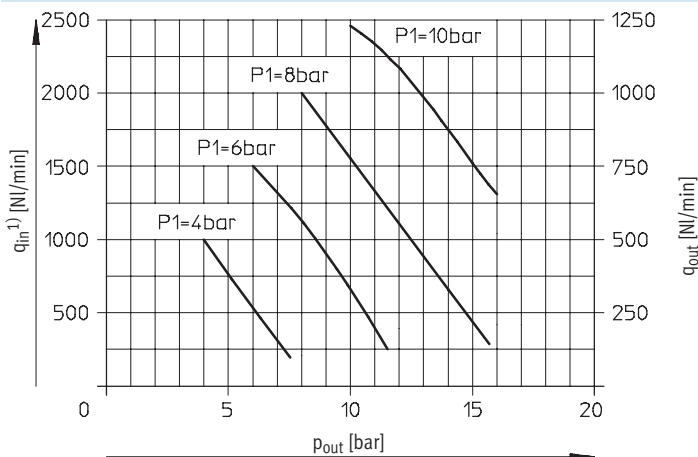
Technical data

Flow rate at input $q_{in}^{(1)}$ and flow rate at output q_{out} as a function of output pressure p_{out}

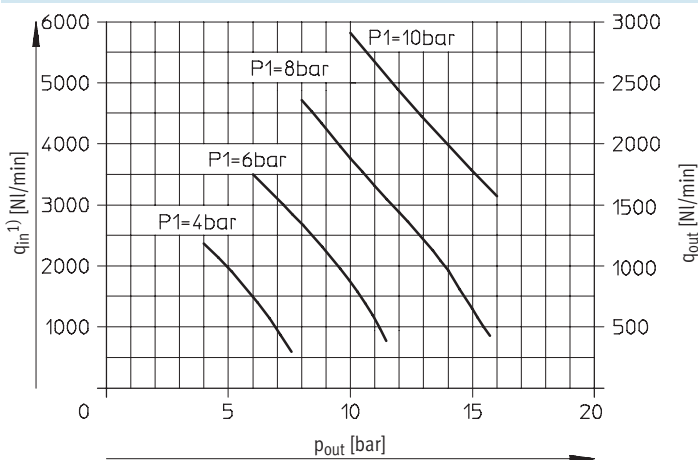
DPA-40



DPA-63



DPA-100



1) Theoretical values without switching losses and friction.

Pressure boosters DPA

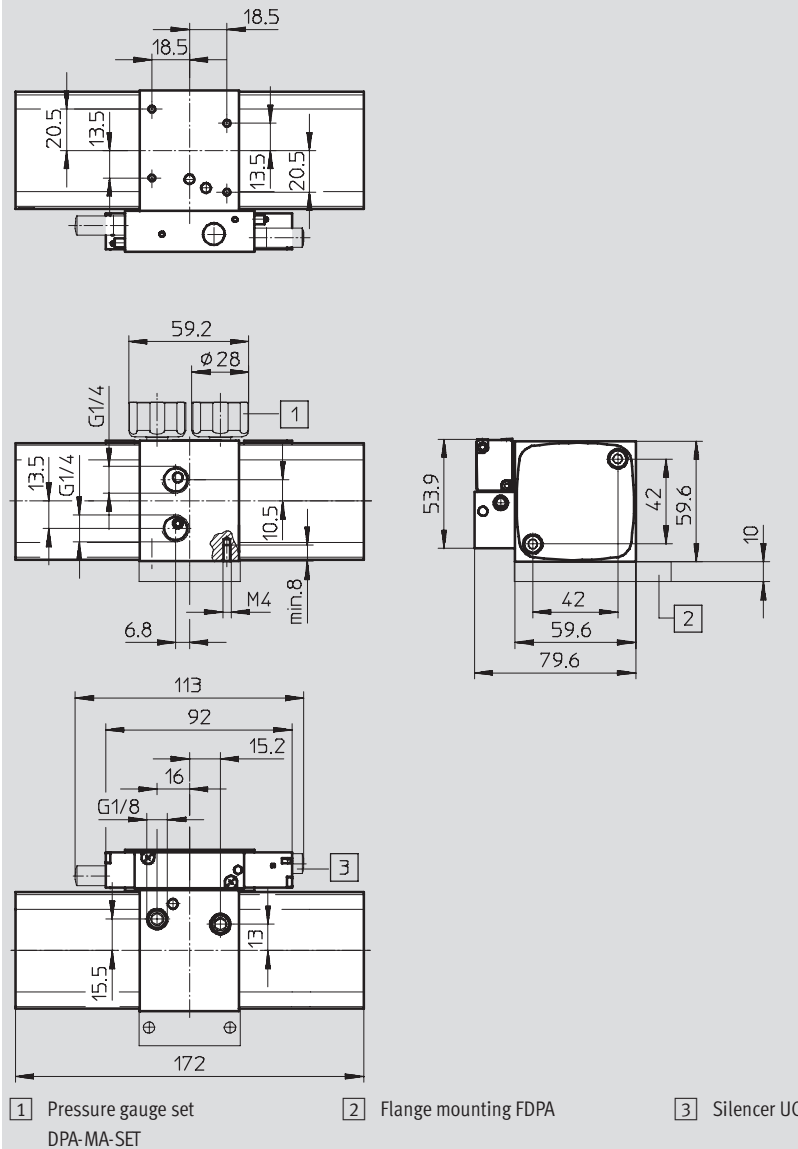
Technical data

FESTO

Dimensions – DPA without pressure regulator

Download CAD data → www.festo.com

DPA-40-D



• • Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

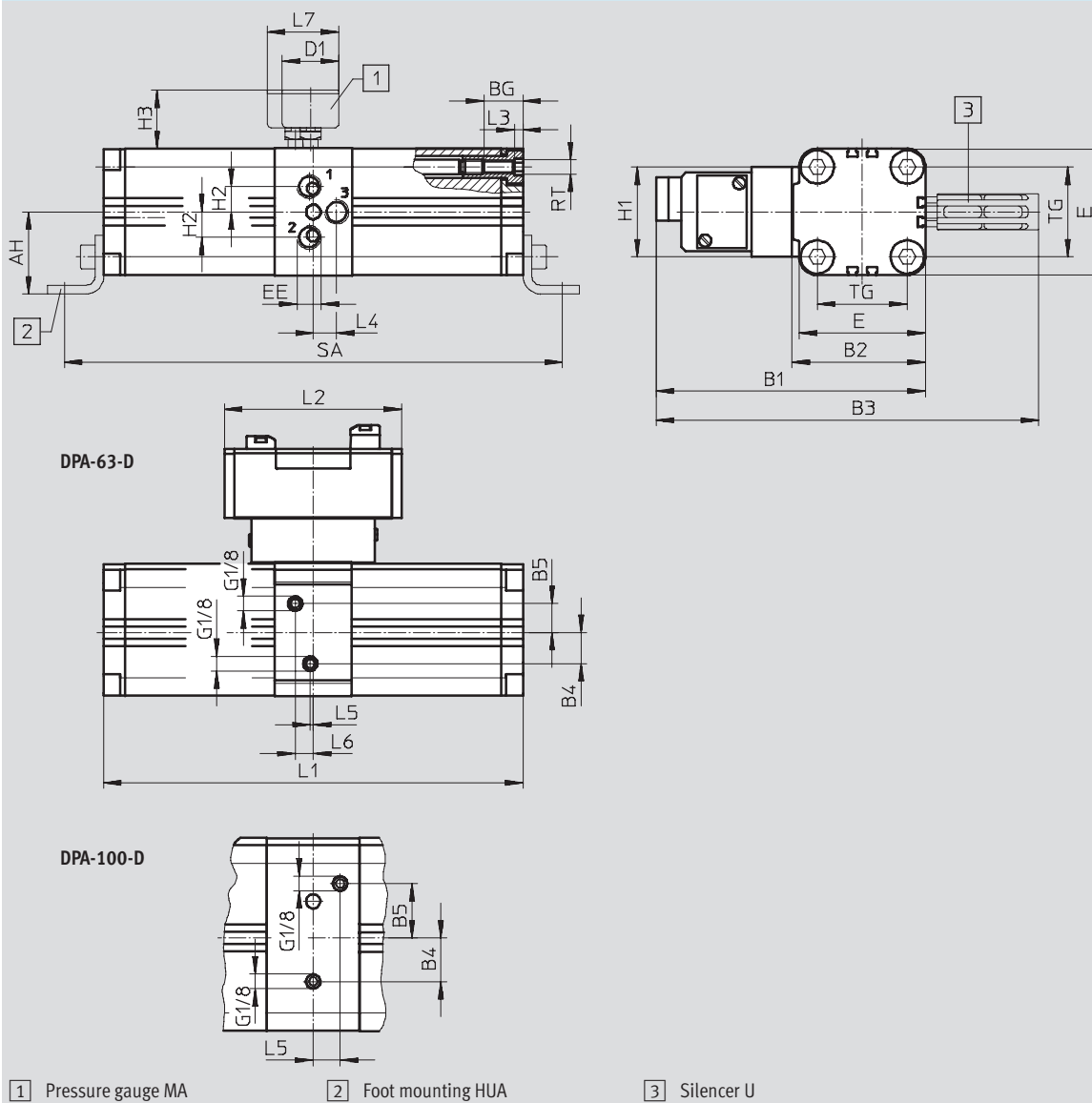
Pressure boosters DPA

Technical data

Dimensions – DPA without pressure regulator

Download CAD data → www.festo.com

DPA-63/100-D



Type	AH	B1	B2	B3	B4	B5	BG	D1 Ø	E	EE	H1	H2
DPA-63	56.5	187	92.5	266	21.4	19.9	25	39	88	G $\frac{3}{8}$	62	17.5
DPA-100	81	244	133	352	30	37.5	30		128	G $\frac{1}{2}$	71	27

Type	H3	L1	L2	L3	L4	L5	L6	L7	RT	TG	SA
DPA-63	40.5	289	122	6	19	2	12.4	49.4	M10	62	343
DPA-100	40	367	145.5		11	18.5	–	57.5		103	433

– Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure boosters DPA

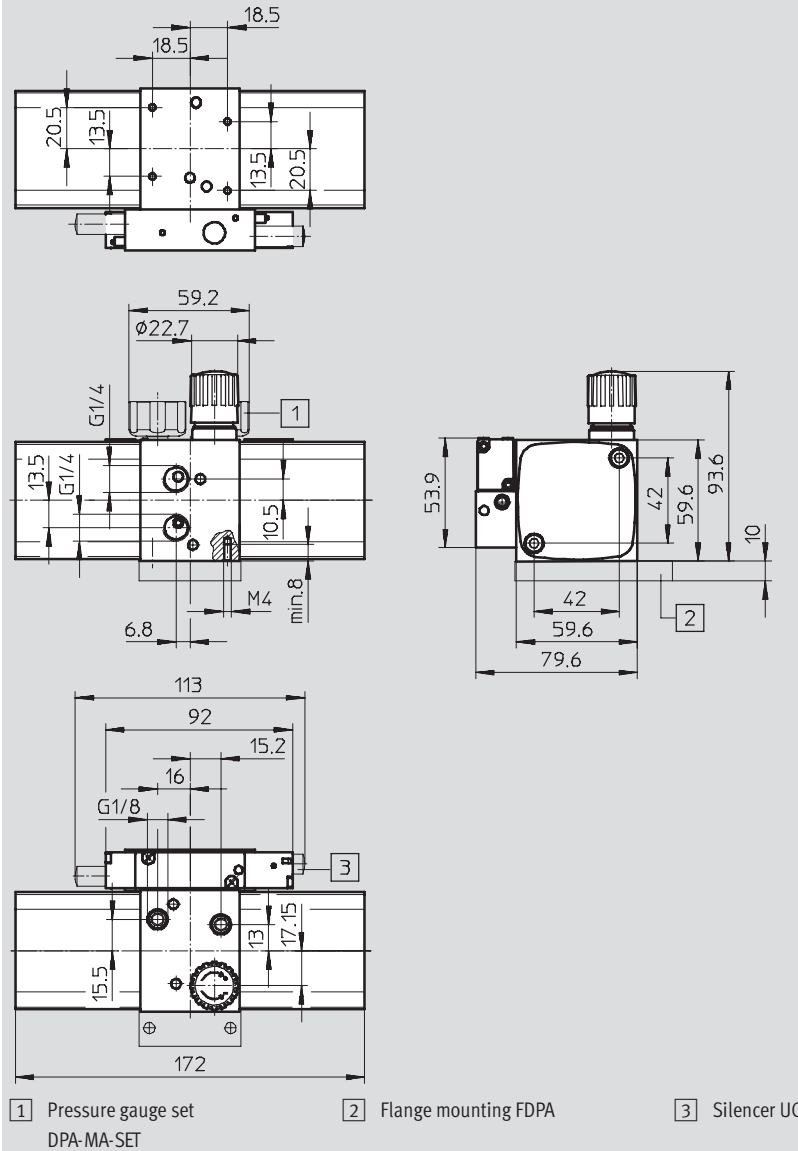
Technical data

FESTO

Dimensions – DPA with pressure regulator

Download CAD data → www.festo.com

DPA-40-10/16



• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure boosters DPA

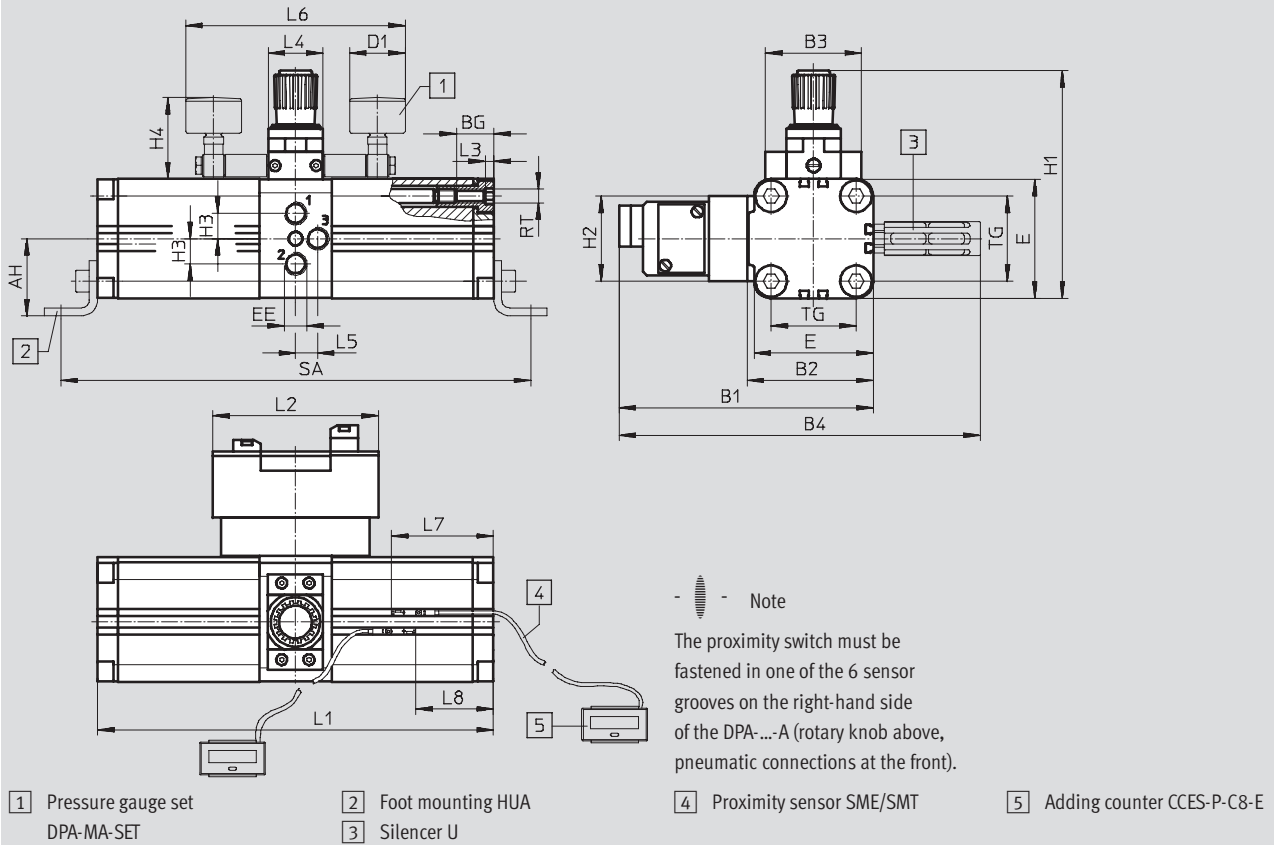
Technical data

FESTO

Dimensions – DPA with pressure regulator

Download CAD data → www.festo.com

DPA-63/100-10/16(-A)



Type	AH	B1	B2	B3	B4	BG	D1 Ø	E	EE	H1	H2	H3
DPA-63	56.5	187	92.5	70	266	25	39	88	G $\frac{3}{8}$	169	62	17.5
DPA-100	81	244	133	102	352	30		128	G $\frac{1}{2}$	244	71	27

Type	H4	L1	L2	L3	L4	L5	L6	L7	L8	RT	TG	SA
DPA-63	65	289	122	6	40	19	159	74.5	56.5	M10	62	343
DPA-100	75	367	145.5		55	11	173	93	75		103	433

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure boosters DPA

Technical data

FESTO

Ordering data						
Piston Ø [mm]	Output pressure 4 ¹⁾ ... 10 bar		Output pressure 4 ¹⁾ ... 16 bar		Double supply pressure	
	Part No.	Type	Part No.	Type	Part No.	Type
No sensing possibility						
40	537 273	DPA-40-10	537 274	DPA-40-16	549 396	DPA-40-D 
63	184 518	DPA-63-10	193 392	DPA-63-16	549 397	DPA-63-D 
100	184 519	DPA-100-10	188 399	DPA-100-16	549 398	DPA-100-D 
With sensing possibility						
63	549 399	DPA-63-10-A 	549 400	DPA-63-16-A 	–	
100	549 401	DPA-100-10-A 	549 402	DPA-100-16-A 	–	

1) For DPA-40: 4,5 bar

Ordering data – Wearing parts kits		
	Part No.	Type
DPA-63	397 400	DPA-63-10/16
DPA-100	397 401	DPA-100-10/16

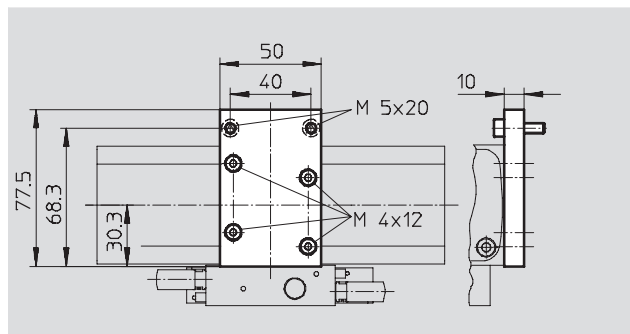
Pressure boosters DPA

FESTO

Accessories

Flange mounting FDPA for DPA-40

Material:
Mounting: anodised aluminium
Screws: galvanised steel
Free of copper and PTFE

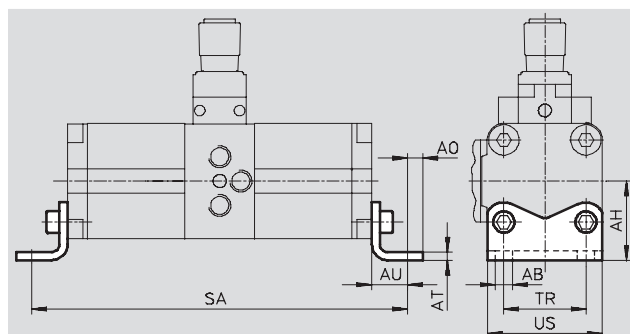


Ordering data				
For type	CRC ¹⁾	Weight [g]	Part No.	Type
DPA-40	2	120	540 783	FDPA-40

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Foot mounting HUA for DPA-63/100

Material:
Mounting, screws: galvanised steel
Free of copper and PTFE



Ordering data											
For type	AB Ø	AH	AO	AT	AU	SA	TR	US	CRC ¹⁾	Weight [g]	Part No. Type
DPA-63	11	56.5	11.75	6	27	343	62	85.5	2	550	157 315 HUA-63
DPA-100	13.5	81	11.75	8	33	433	103	126.5	2	1,050	157 317 HUA-100

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Pressure boosters DPA

Accessories

FESTO

Pressure gauge set DPA-MA-SET for DPA-40-10/16/D

Material:

Housing: polyamide

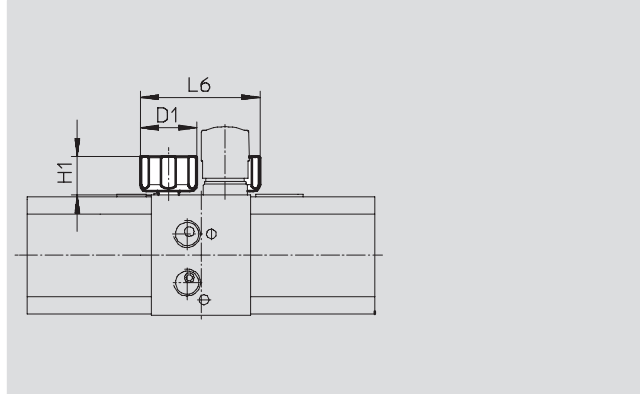
Dial cover: polystyrene

Connection piece: polyamide

The pressure gauges generally have to
be sealed with PTFE sealing tape.

Single pressure gauge MA-27-...-R1/8:

Technical data → Internet: ma-27



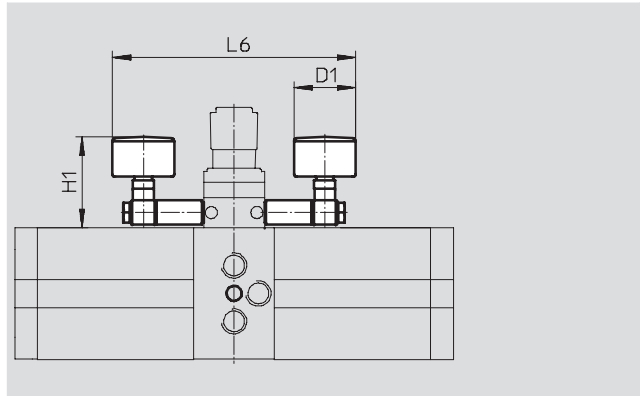
for DPA-63/100-10/16

Material:

Housing: acrylic butadiene styrene

Dial cover: polystyrene

Connection piece: brass



Dimensions				
For type	Pneumatic connection	D1 Ø	H1	L6
DPA-40	R1/8	28	19	59.2
DPA-63	G1/8	39	65	159
DPA-100	G1/4	39	75	173

Ordering data						
For type	Nominal tubing size, pressure gauge	Measurement accuracy class	Weight [g]	Operating pressure 10 bar		Operating pressure 16 bar
				Part No.	Type	Part No. Type
DPA-40	27	4	16	540 781	DPA-40-10-MA-SET	540 782 DPA-40-16-MA-SET
DPA-63	40	2.5	250	526 096	DPA-63-10-MA-SET	526 097 DPA-63-16-MA-SET
DPA-100	40	2.5	305	526 098	DPA-100-10-MA-SET	526 099 DPA-100-16-MA-SET

Pressure boosters DPA

Accessories

FESTO

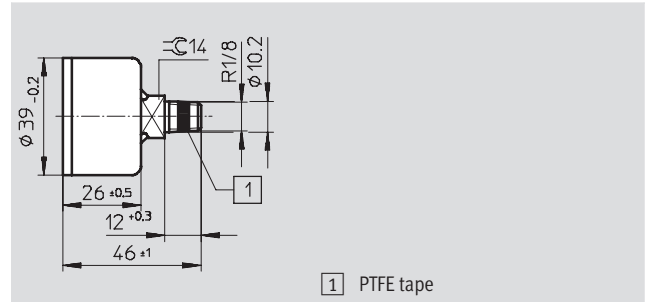
Pressure gauge MA, to DIN EN 837-1 for DPA-63/100-D

Material:

Housing: acrylic butadiene styrene

Dial cover: polystyrene

Connection piece: brass



General technical data	
Nominal tubing size	40
Pneumatic connection	R1/8
Operating medium	Liquid media
	Gaseous media
	Not permitted: Oxygen
	Not permitted: Acetylene
Type of mounting	With male thread
Connection position	Centre, rear side
Measurement accuracy class	2.5
Protection class	IP43
Weight [g]	60

Operating and environmental conditions	
Ambient temperature [°C]	−20 ... +60
Temperature of medium [°C]	−20 ... +60
Storage temperature [°C]	−40 ... +70
Based on standard	DIN EN 837-1

Ordering data				
For type	Pressure control	Indicating range		Part No. Type
		[bar]	[psi]	
DPA-63/100-D	For supply pressure	0 ... 16	0 ... 232	529 046 MA-40-16-1/8-EN-DPA
	For output pressure	0 ... 25	0 ... 360	526 167 MA-40-25-1/8-EN

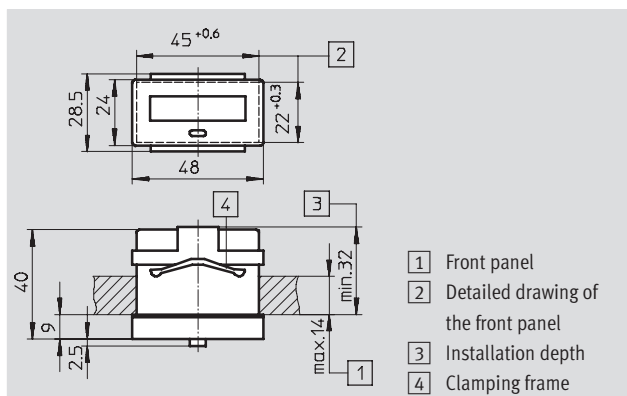
Pressure boosters DPA

Accessories

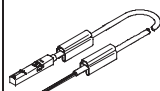
FESTO

Adding counter CCES for DPA-63/100-...-A

Material:
Housing: Polycarbonate
Conforms to RoHS



Ordering data				Technical data → Internet: cces	
For type	Display	Power supply	Weight [g]	Part No.	Type
DPA-63/100-...-A	8-digit	Lithium battery (nominal value retention 7 years)	30	549 403	CCES-P-C8-E 

Ordering data – Proximity sensor SME/SMT for adding counter CCES					Technical data → Internet: sme-8m, smt-8m	
	Switching element function	Switch output	Electrical connection	Cable length [m]	Part No.	Type
	N/O contact	Contacting, bipolar	Cable, 3-wire	2.5	543 862	SME-8M-DS-24V-K-2,5-OE
		PNP	Cable, 3-wire	2.5	543 867	SMT-8M-PS-24V-K-2,5-OE

 **Note**

Please note the following points:

- The abovementioned proximity sensor SME can be connected to the adding counter as a 2-wire switch without additional power supply.
- If using other proximity sensors, an additional power supply is needed
- and the clock pulse input of the adding counter must be reprogrammed from NPN to PNP.
- Screened cables must be used for cables longer than 3 m.
- The maximum permissible cable length is 30 m.

Pressure boosters DPA

Accessories

FESTO

Regulator lock LRVS for DPA-63/100

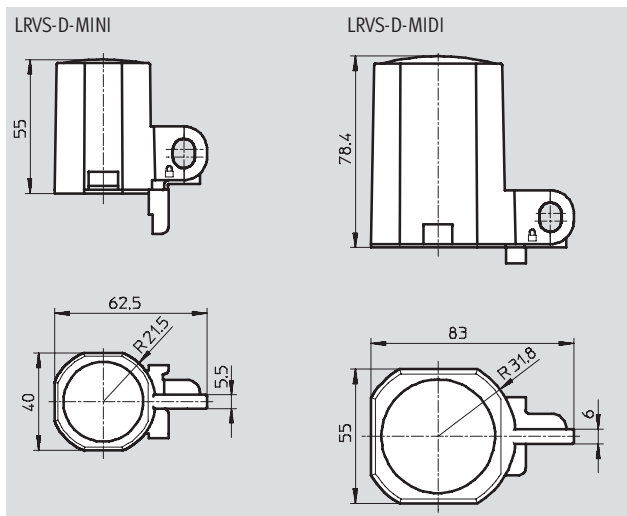
Material:

Cap: polyacetal

Lock plate: steel

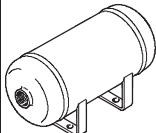
Knurled nut: aluminium

Free of copper and PTFE



Ordering data			
For type	Weight [g]	Part No.	Type
DPA-63	40	193 781	LRVS-D-MINI
DPA-100	60	193 782	LRVS-D-MIDI

Ordering data				
	Pneumatic connection	Part No.	Type	PU ¹⁾ [m]
Silencer UC				
Technical data → Internet: u				
	M7	161 418	UC-M7	
Silencer U-...-B				
Technical data → Internet: u				
	G3/8	6843	U-3/8-B	
	G1/2	6844	U-1/2-B	
Silencer U-M3				
Technical data → Internet: u				
	M3	163 978	U-M3	
Plastic tubing P/PAN				
	-	152 701	PAN-10x1,5-SI	50
		152 703	PAN-16x2-SI	50
		2 235	P-19-SW	40
		541 676	PAN-R-8x1,5-SI	50
		541 679	PAN-R-16x3-SI	50

	Volume [l]	Part No.	Type
Compressed air reservoir			
Technical data → Internet: vzs			
	Stainless steel		
	0.1	160 233	CRVZS-0.1
	0.4	160 234	CRVZS-0.4
	0.75	160 235	CRVZS-0.75
	2	160 236	CRVZS-2
	5	192 159	CRVZS-5
	10	160 237	CRVZS-10
	20	534 845	CRVZS-20
	Standard		
	5	192 160	VZS-5-B
10	151 923	VZS-10-B	
20	192 161	VZS-20-B	
Padlock LRVS-D			
	-	193 786	LRVS-D

1) Packaging unit