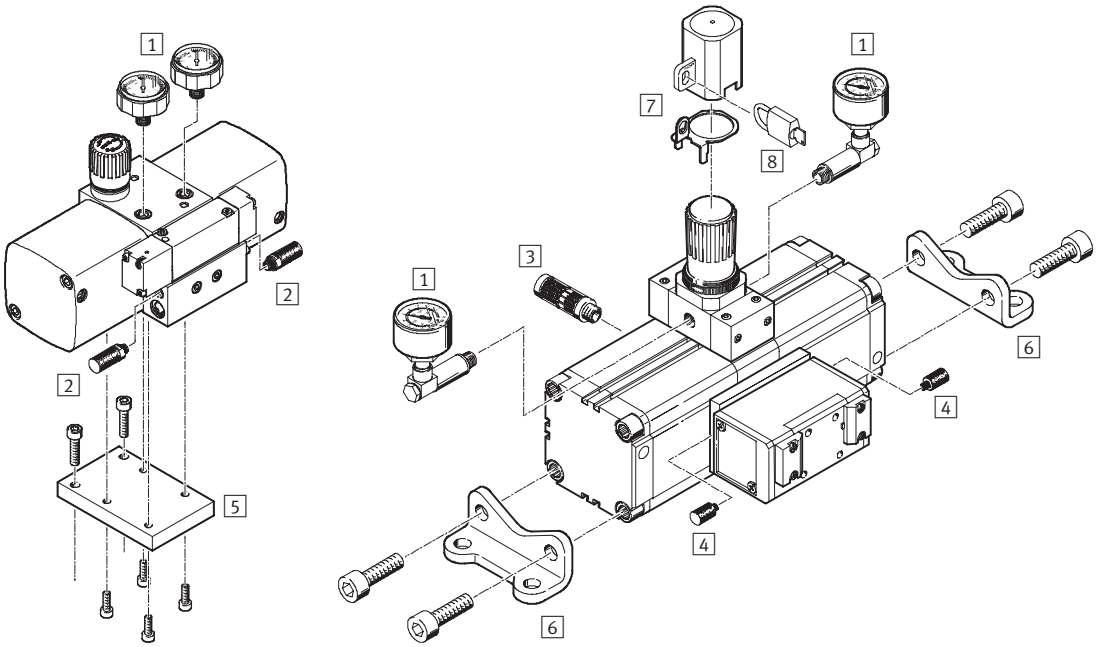
Pressure boosters DPA

Peripherals overview and type codes

FESTO

Peripherals overview

DPA-40 DPA-63/100



Mounting attachments and accessories

	Brief description	➔ Page
1 Pressure gauge set DPA-MA-SET	For monitoring the input and output pressure	3 / 4.7-8
2 Silencer UC	For noise reduction at the exhaust port	3 / 4.7-9
3 Silencer U-...-B	For noise reduction at the exhaust port	3 / 4.7-9
4 Silencer U-M3	For noise reduction at the valve exhaust port (included in the scope of delivery for DPA-40)	3 / 4.7-9
5 Flange mounting FDPA	For mounting the pressure booster on other machine parts	3 / 4.7-7
6 Foot mounting HUA	For mounting the pressure booster on other machine parts	3 / 4.7-7
7 Regulator lock LRVS with lock plate	Prevents unintentional, and in conjunction with an LRVS padlock, unauthorised adjustment of the rotary knob	3 / 4.7-9
8 Padlock LRVS-D	Accessory for LRVS	3 / 4.7-9

Type codes

DPA – 63 – 16

Basic function

DPA	Pressure booster

Piston ∅ [mm]

Output pressure [bar]

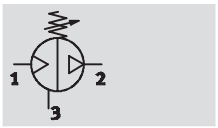
10	4 ... 10 (DPA-40: 4.5 ... 10)
16	4 ... 16 (DPA-40: 4.5 ... 16)

Pressure boosters DPA

Technical data

FESTO

Funktion

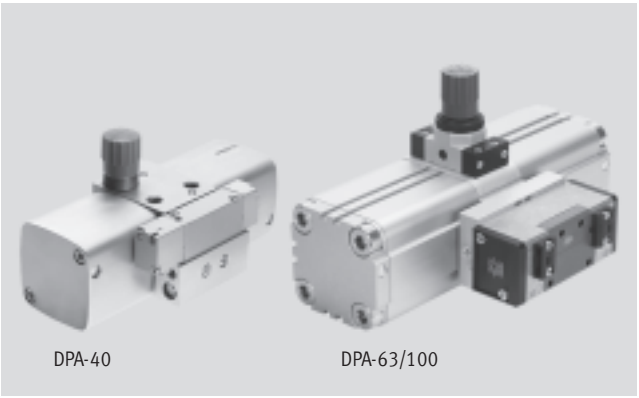


Temperature range
+5 … +60 °C

Pressure ratio
1:2

www.festo.com/en/
Spare_parts_service

Wearing parts kits
➔ 3 / 4.7-6



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 regulator is supplied with a non-compressed regulator spring. After the input 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 assembly position
- Long service life
- Compact construction and good design
- Minimal loss of volume with valve activation
- Short filling times

The pressure booster is a twin-piston pressure intensifier that can compress 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 input pressure, depending on the flow rate.
The air supply to both drive pistons is controlled by a pneumatic directional control valve, which reverses automatically when the stroke end-position is reached.
The reference value is set using a manually operated 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 input 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 application operation.

Calculation software

Pressure booster selection should be carried out using the booster selection software.
You can download this software from the Festo home page
➔ www.festo.com/download or request a copy on CD-ROM from Festo.

General technical data

Type		DPA-40-10	DPA-40-16	DPA-63-10	DPA-63-16	DPA-100-10	DPA-100-16
Piston ∅	[mm]	40		63		100	
Pneumatic connection 1, 2		G¼		G⅜		G½	
Pneumatic connection 3		M7		G⅜		G½	
Operating medium		Compressed air, filtered, unlubricated, grade of filtration 40 µm					
Design		Twin-piston pressure booster					
Type of mounting		Via female threads					
Assembly position		Any					
Input pressure p1	[bar]	2.5 … 8	2.5 … 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)]
Pressure indicator		G⅛ prepared		G⅛ prepared		G¼ prepared	

1) The differential pressure between the input 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

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

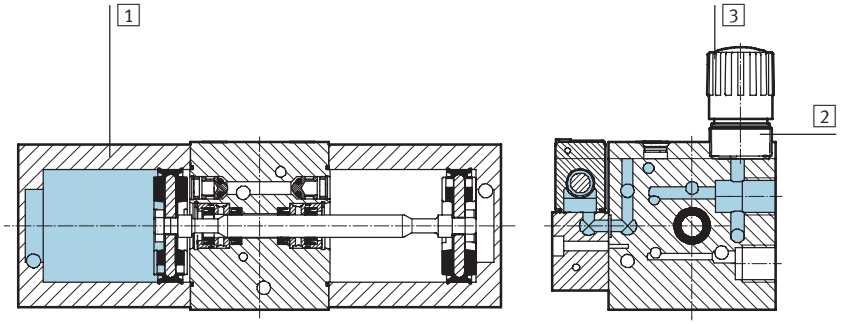
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

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

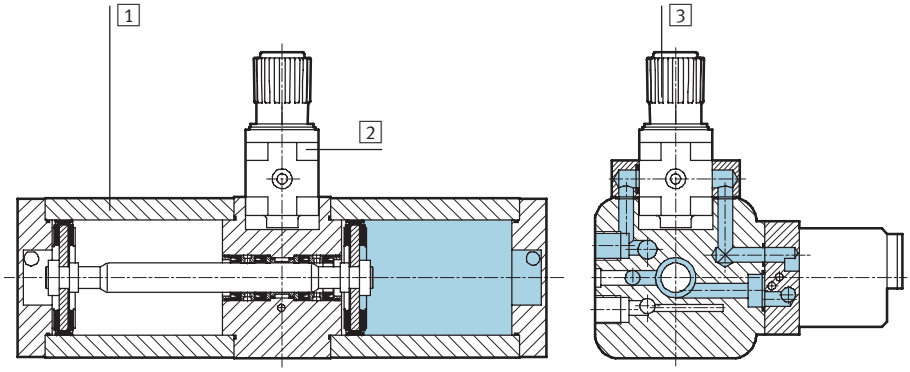
Recommended tubing		
	For input pressure	For output pressure
DPA-40	PAN-10x1,5-SI	PAN-8x1,25-SI
DPA-63	PAN-16x2-SI	PAN-12x1,75-SI
DPA-100	P-19-SW PAN-16x2-SI	PAN-16x2-SI

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	Polyacetate		
–	Piston/piston rod seals	Hydrogenated nitrile rubber		
–	Non-return valve seals	Nitrile rubber	Fluoro rubber	
–	Regulator/valve seals	Nitrile rubber		

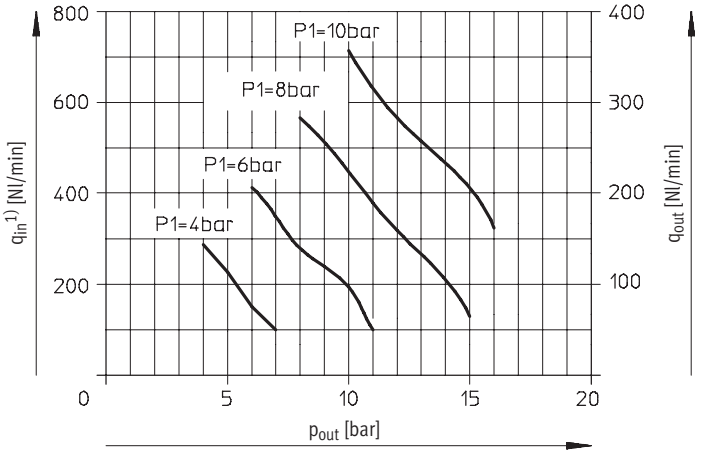
Pressure boosters DPA

Technical data

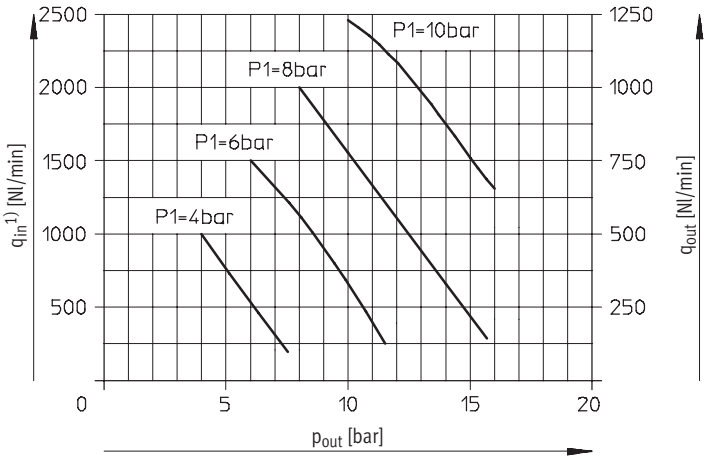
FESTO

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

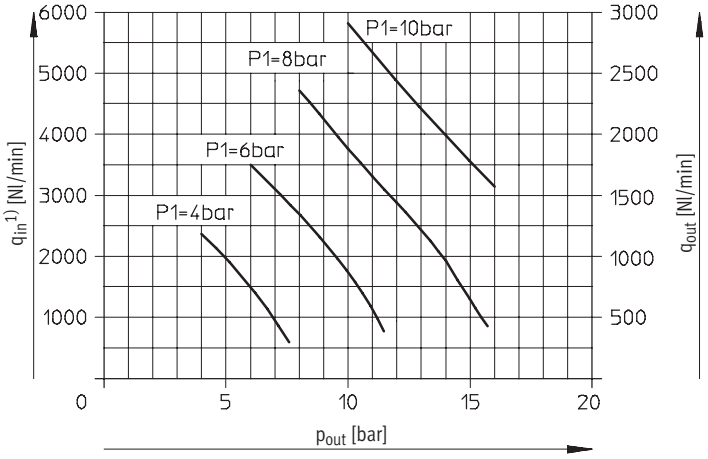
DPA-40



DPA-63



DPA-100



1) Theoretical values without switching losses and friction.

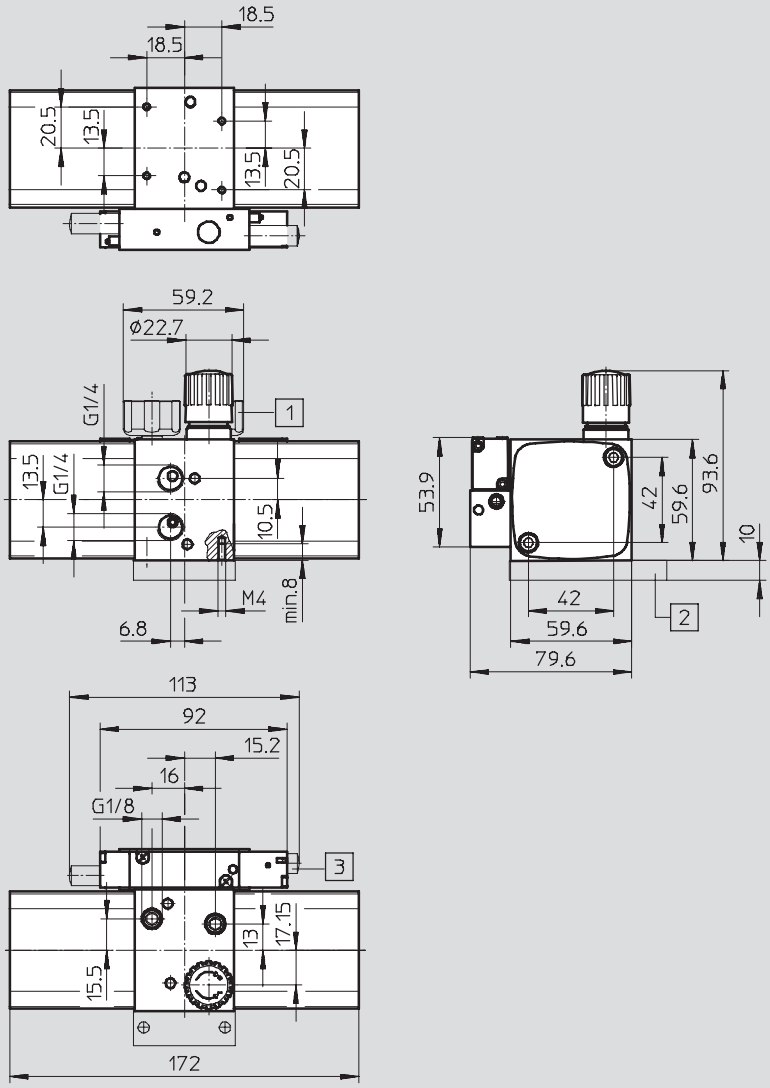
Pressure boosters DPA

Technical data

FESTO

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

DPA-40



1 Pressure gauge set DPA-MA-SET

2 Flange mounting FDPA

3 Silencer UC

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

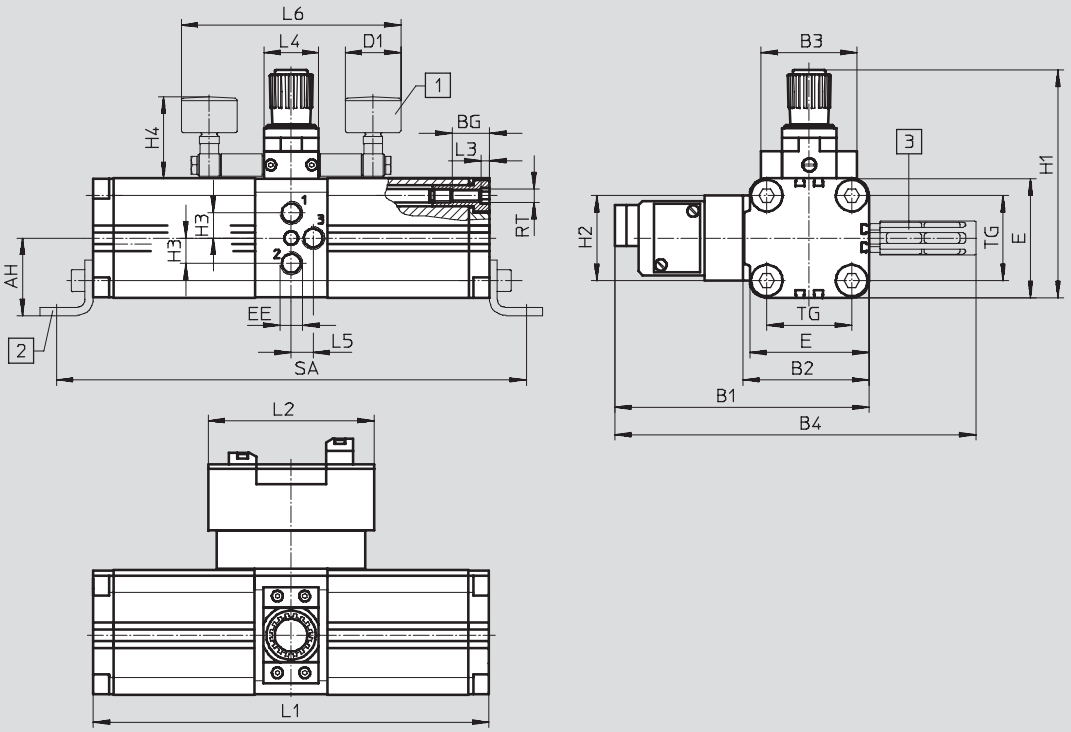
Pressure boosters DPA

Technical data

FESTO

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

DPA-63/100



1 Pressure gauge set DPA-MA-SET

2 Foot mounting HUA

3 Silencer U

Type	AH	B1	B2	B3	B4	BG	D1 ∅	E	EE	H1	H2
DPA-63	56.5	187	92.5	70	266	25	41	88	G3/8	169	62
DPA-100	81	244	133	102	352	30		128	G1/2	244	71

Type	H3	H4	L1	L2	L3	L4	L5	L6	RT	TG	SA
DPA-63	17.5	60	289	122	6	40	19	161	M10	62	343
DPA-100	27	73	367	145.5		55	11	175		103	433

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

Ordering data

Piston ∅ [mm]	Output pressure 4[1] ... 10 bar Part No.	Type		Output pressure 4[1] ... 16 bar Part No.	Type	
40	**537 273**	**DPA-40-10**	New	**537 274**	**DPA-40-16**	New
63	**184 518**	**DPA-63-10**		**193 392**	**DPA-63-16**	
100	**184 519**	**DPA-100-10**		**188 399**	**DPA-100-16**	

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**

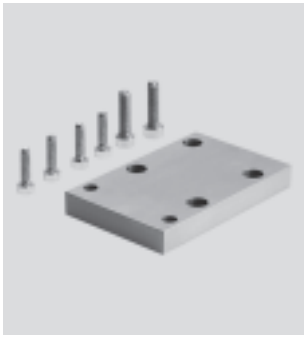
Pressure boosters DPA

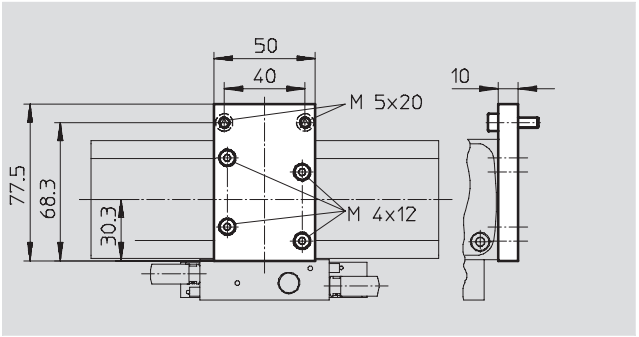
Accessories

FESTO

Flange mounting FDPA
for DPA-40

Material:
Mounting: Anodised aluminium
Screws: Galvanised steel
Free of copper and PTFE



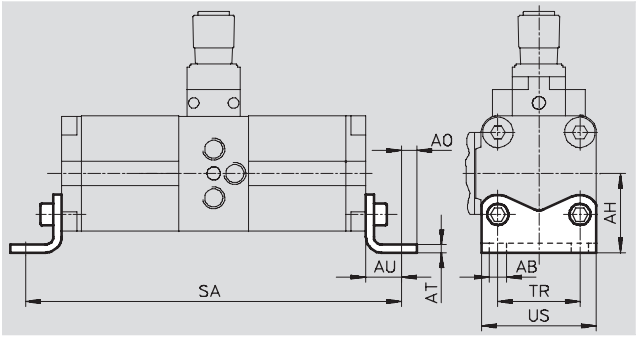


Ordering data				
For type	CRC[1]	Weight [g]	Part No.	Type
DPA-40	2	120	**540 783**	**FDPA-40** New

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. 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 ∅	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 according to Festo standard 940 070
Components requiring moderate corrosion resistance. 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

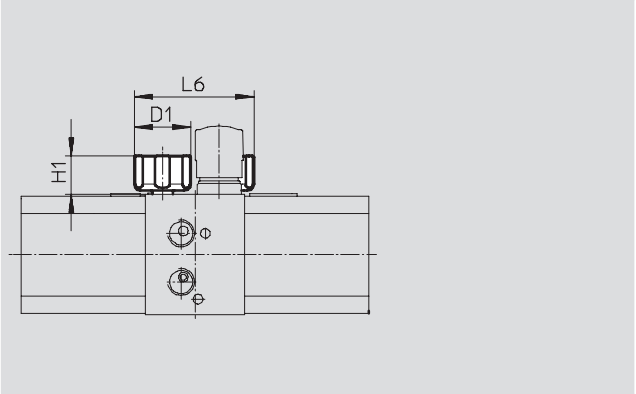
Accessories

FESTO

Pressure gauge set DPA-MA-SET for DPA-40

Material:
Housing: Polyamide
Dial cover: Polystyrene
Connection piece: Polyamide

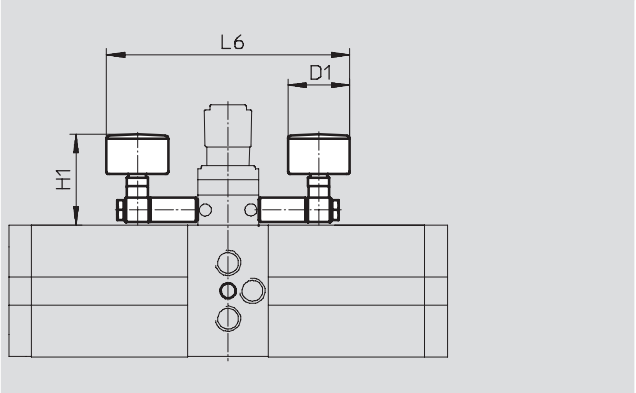
The pressure gauges generally have to be sealed with PTFE sealing tape.
Single pressure gauge MA-27-...-R⅛:
➔ 3 / 4.8-6



for DPA-63/100

Material:
Housing: Acrylic butadiene styrene
Dial cover: Polystyrene
Connection piece: Brass

If the pressure gauge scale is to be aligned, PTFE sealing tape must be used instead of the included sealing rings.



Dimensions

For type	Pneumatic connection	D1 ∅	H1	L6
DPA-40	R⅛	28	19	59.2
DPA-63	G⅛	41	60	161
DPA-100	G¼	41	73	175

Ordering data

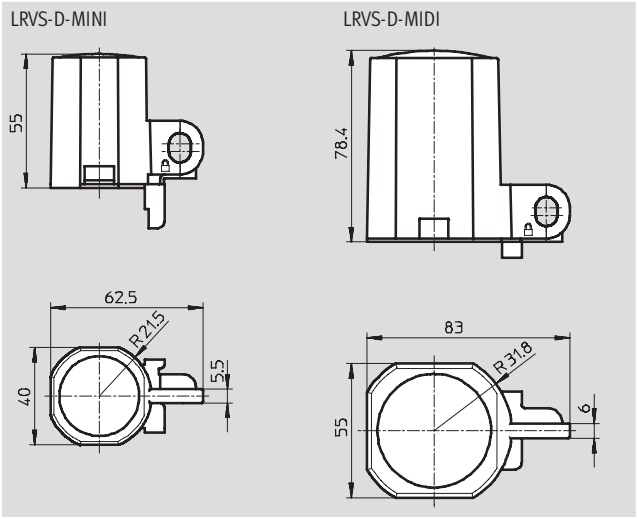
For type	Nominal tubing size, pressure gauge	Accuracy of measurement, class	Weight [g]	Operating pressure 10 bar Part No.	Type	Operating pressure 16 bar Part No.	Type
DPA-40	27	4	16	**540 781**	**DPA-40-10-MA-SET**	**540 782**	**DPA-40-16-MA-SET**
DPA-63	40	2.5	250	**526 096**	**DPA-63-10-MA-SET**	**526 097**	**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

Regulator lock LRVS
for DPA-63/100

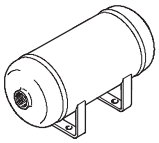
Material:
Cap: Polyacetate
Lock plate: Steel
Knurled nut: Aluminium
Free of copper and PTFE



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 ➔ 3 / 6.1-5	
	M7	**161 418**	**UC-M7**	
Silencer U-...-B			Technical data ➔ 3 / 6.1-4	
	G3/8	**6843**	**U-3/8-B**	
	G1/2	**6844**	**U-1/2-B**	
Silencer U-M3			Technical data ➔ 3 / 6.1-3	
	M3	**163 978**	**U-M3**	
Plastic tubing P/PAN				
	–	**152 700**	**PAN-8x1,25-SI**	**50**
		152 701	**PAN-10x1,5-SI**	**50**
		152 702	**PAN-12x1,75-SI**	**50**
		152 703	**PAN-16x2-SI**	**50**
		2 235	**P-19-SW**	**40**

	Volume [l]	Part No.	Type
Air reservoir			Technical data ➔ 3 / 6.2-1
	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.