

2/2-directional valve, Series AP

- $Q_n = 350$ l/min
- Compressed air connection output G 1/8
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Switching principle	2/2
Nominal flow Q_n	350 l/min
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 μ m
Oil content of compressed air	0 ... 5 mg/m ³
Weight	See table below

Technical data

Part No.		Actuating element	Compressed air connection
			Input
0820404020		Plunger	G 1/8
0820404021		Roller	G 1/8
0820404022		Roller lever, one-way trip	G 1/8
0820404023		Push button	G 1/8
0820404024		Lever	G 1/8

Part No.	Compressed air connection	Material actuating control	Weight	Fig.
	Output			
0820404020	G 1/8	Brass	0,065 kg	Fig. 1
0820404021	G 1/8	Polyoxymethylene	0,075 kg	Fig. 2
0820404022	G 1/8	Polyoxymethylene, Polyamide	0,075 kg	Fig. 3
0820404023	G 1/8	Polyamide	0,075 kg	Fig. 4
0820404024	G 1/8	Polyamide	0,065 kg	Fig. 5

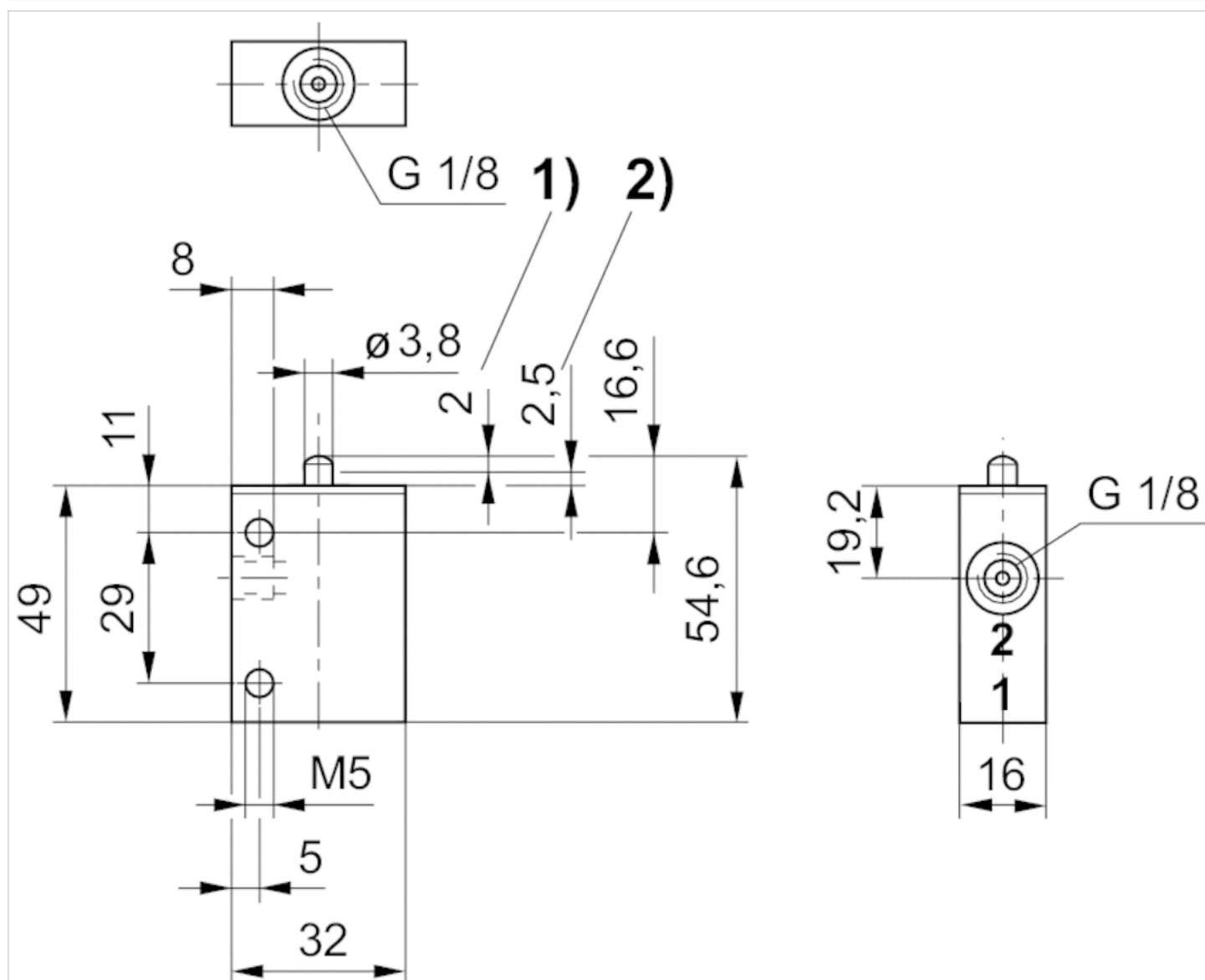
Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Actuating element	Brass, Polyoxymethylene, Polyoxymethylene, Polyamide, Polyamide

Dimensions

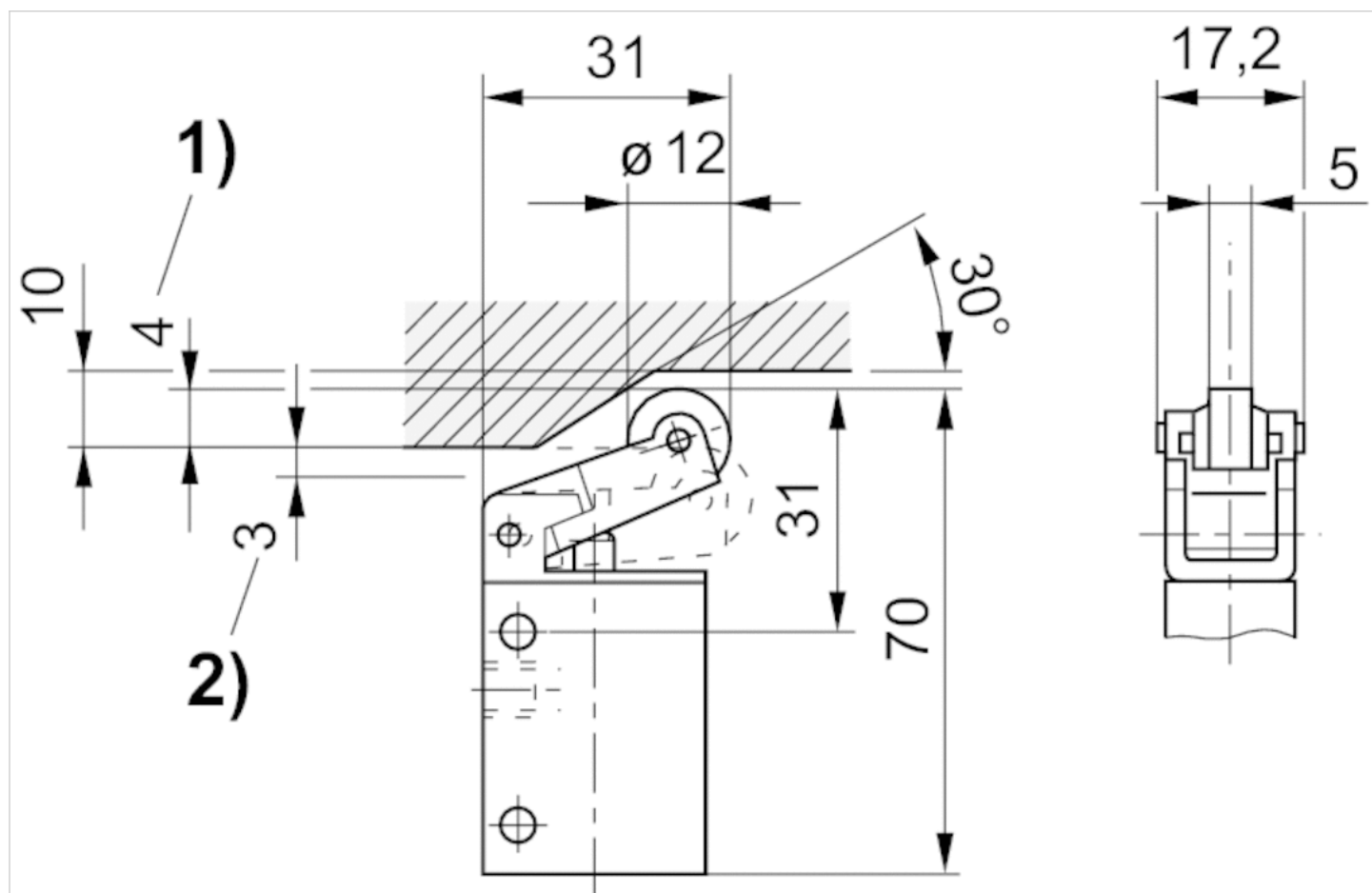
Dimensions Fig. 1



1) actuating stroke 2) overstroke

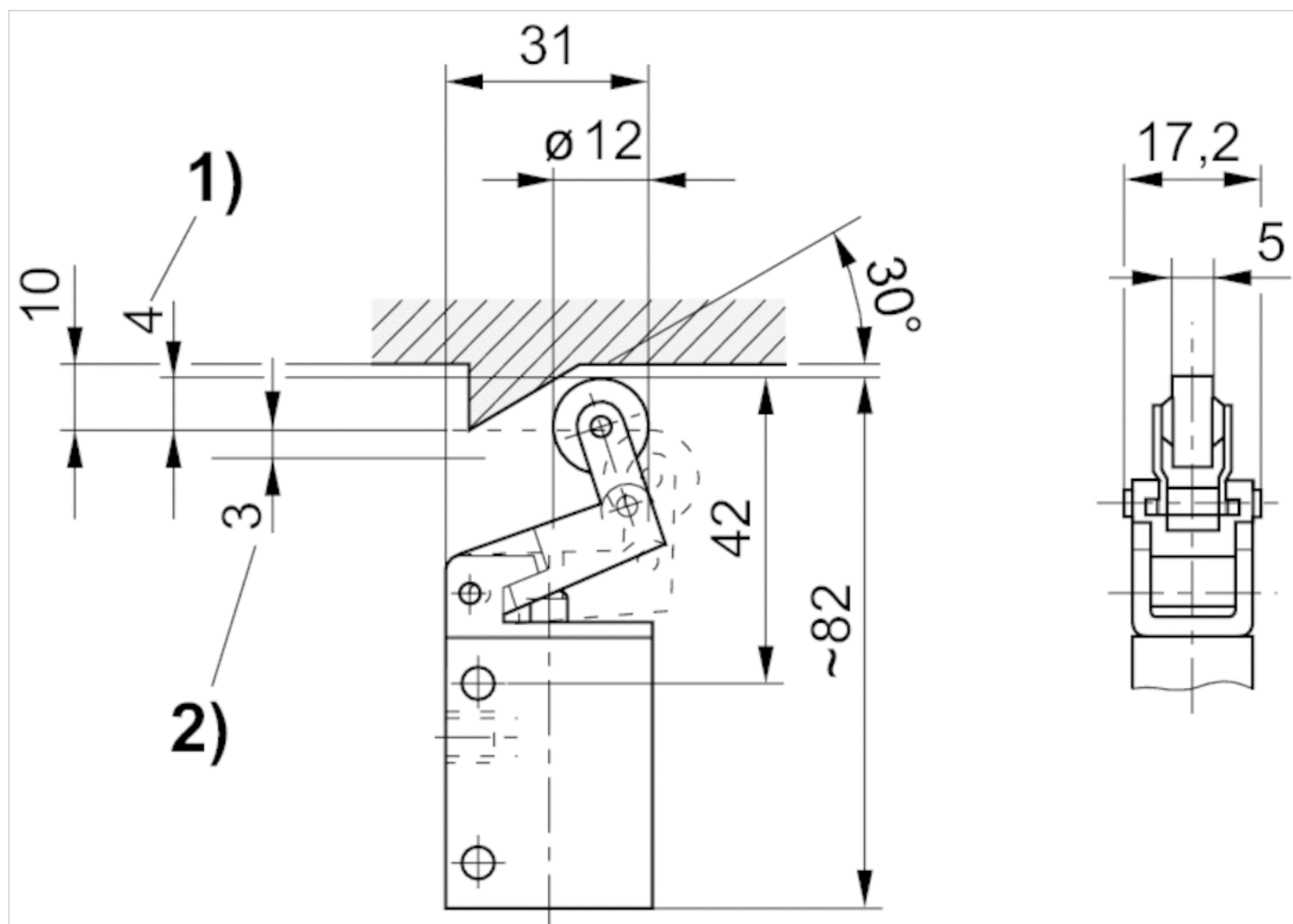
Dimensions of basic valve apply to all types of actuation.

Dimensions Fig. 2



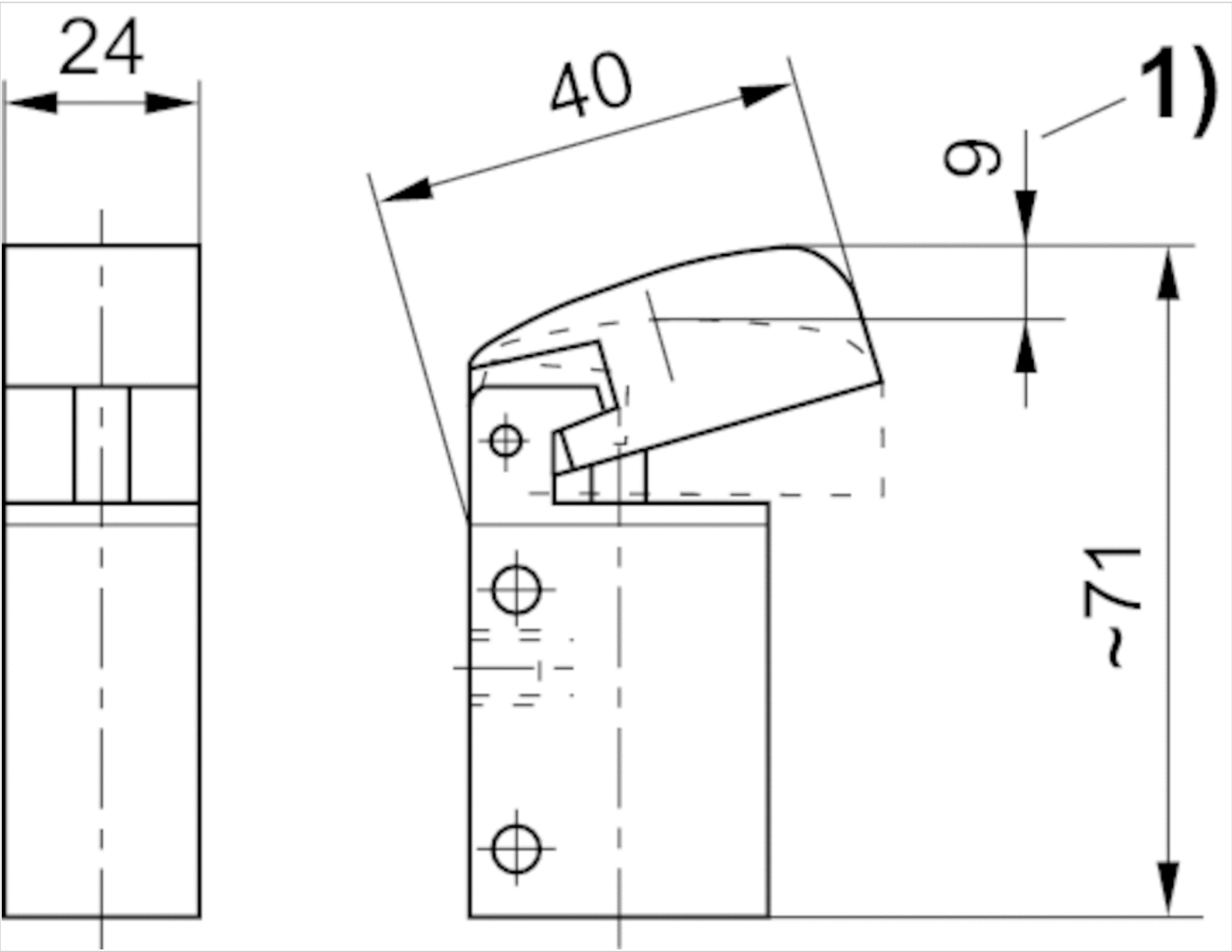
1) actuating stroke
2) overstroke

Dimensions Fig. 3



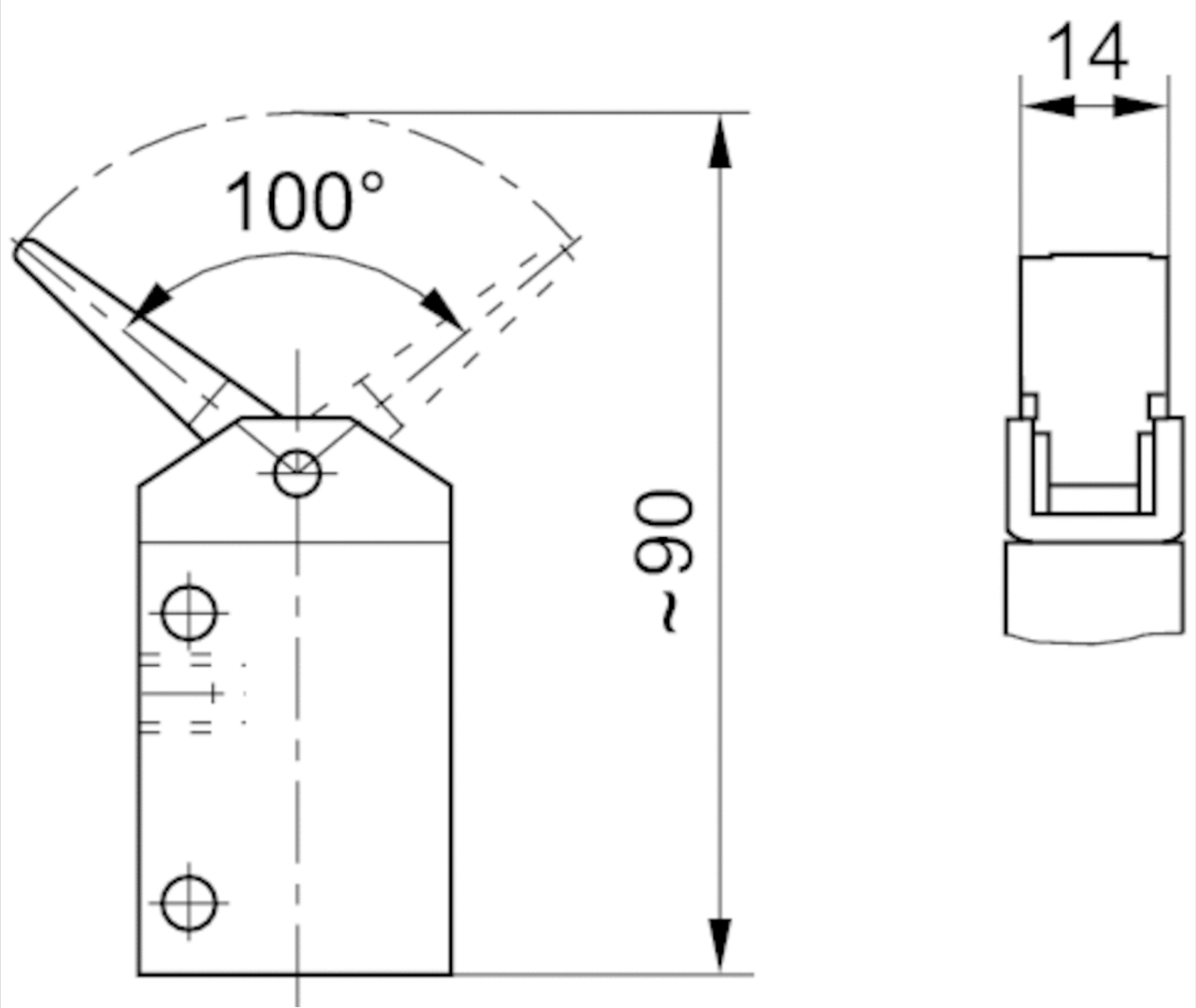
1) actuating stroke
2) overstroke

Dimensions Fig. 4



1) actuating stroke

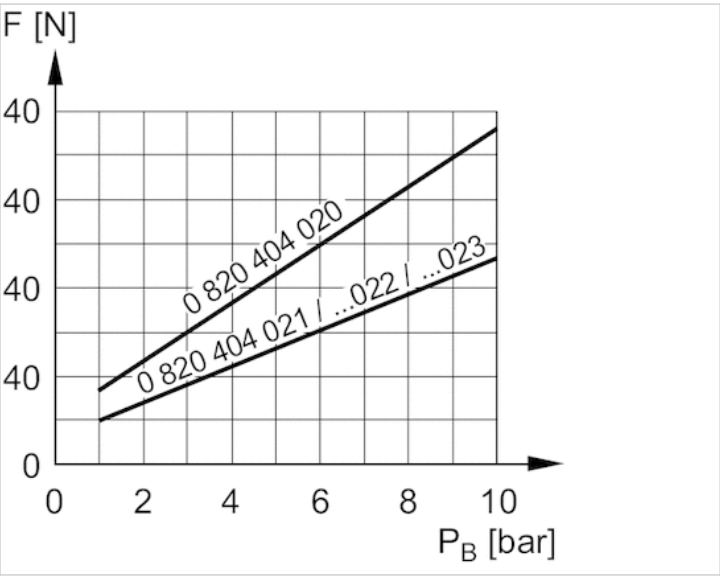
Dimensions Fig. 5



actuating torque: 6 Ncm

Diagrams

Actuating force+



F = actuating force
P= Working pressure

3/2-directional valve, Series AP

- Qn 1►2 = 190 l/min
- Qn 2►3 = 150 l/min
- Compressed air connection output M5
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Switching principle	3/2
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m³
Weight	See table below

Technical data

Part No.		Actuating element	Compressed air connection
			Input
0820408001		Plunger	M5
0820408002		Roller	M5
0820408003		Roller lever, one-way trip	M5
0820408004		Push button	M5
0820408005		Lever	M5
R450055451		panel installation	M5

Part No.	Compressed air connection	Flow		Weight	Fig.	
	Output	Qn 1 ► 2	Qn 2 ► 3			
0820408001	M5	190 l/min	150 l/min	0,036 kg	Fig. 1	-
0820408002	M5	190 l/min	150 l/min	0,05 kg	Fig. 2	-
0820408003	M5	190 l/min	150 l/min	0,055 kg	Fig. 3	-
0820408004	M5	190 l/min	150 l/min	0,05 kg	Fig. 4	-
0820408005	M5	190 l/min	150 l/min	0,042 kg	Fig. 5	-
R450055451	M5	190 l/min	150 l/min	0,068 kg	Fig. 6	1)

Nominal flow Qn at 6 bar and $\Delta p = 1$ bar

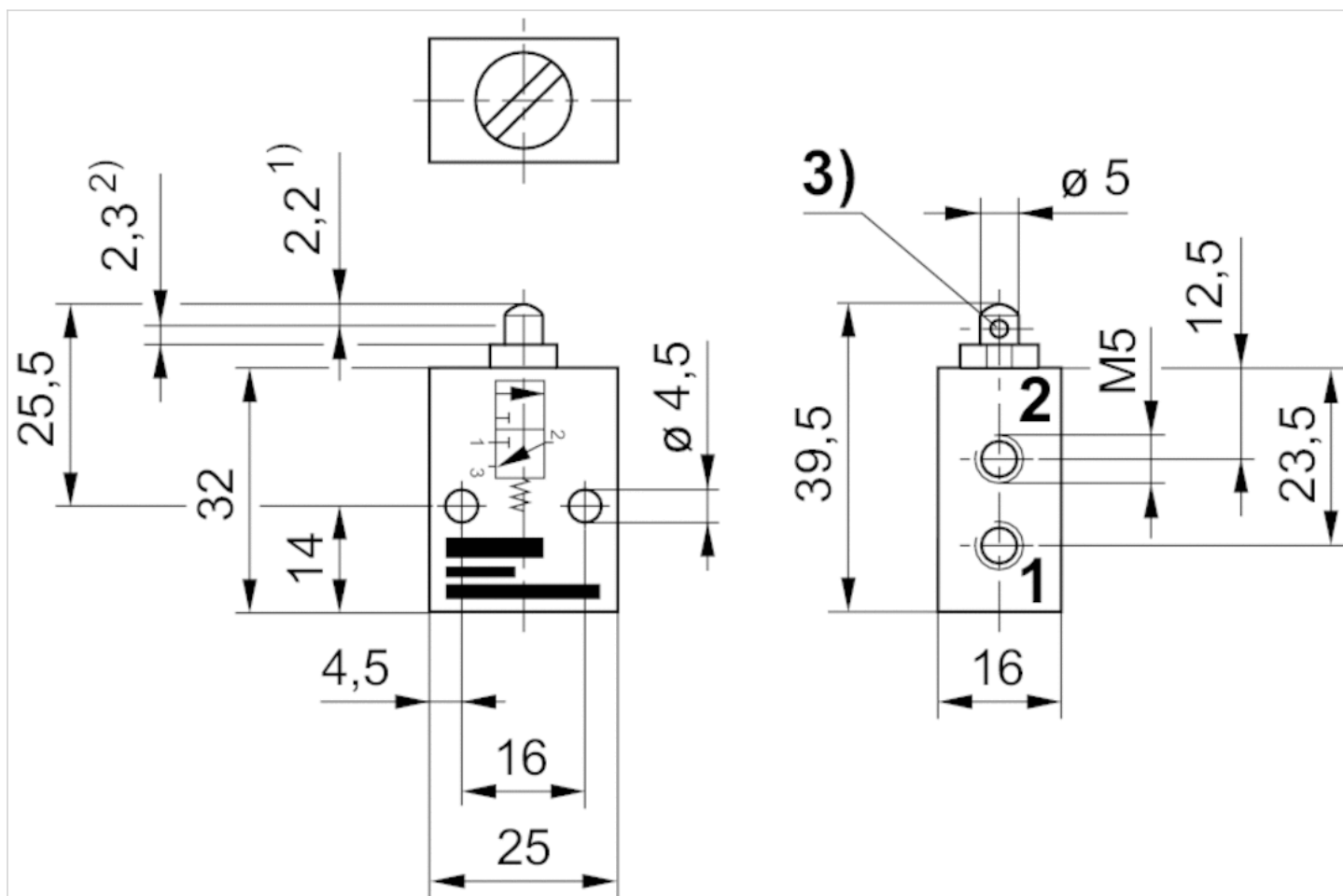
1) Please order control button separately., Cannot be combined with mushroom button with detent and rotary release R412012741

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

Dimensions Fig. 1 Basic valve

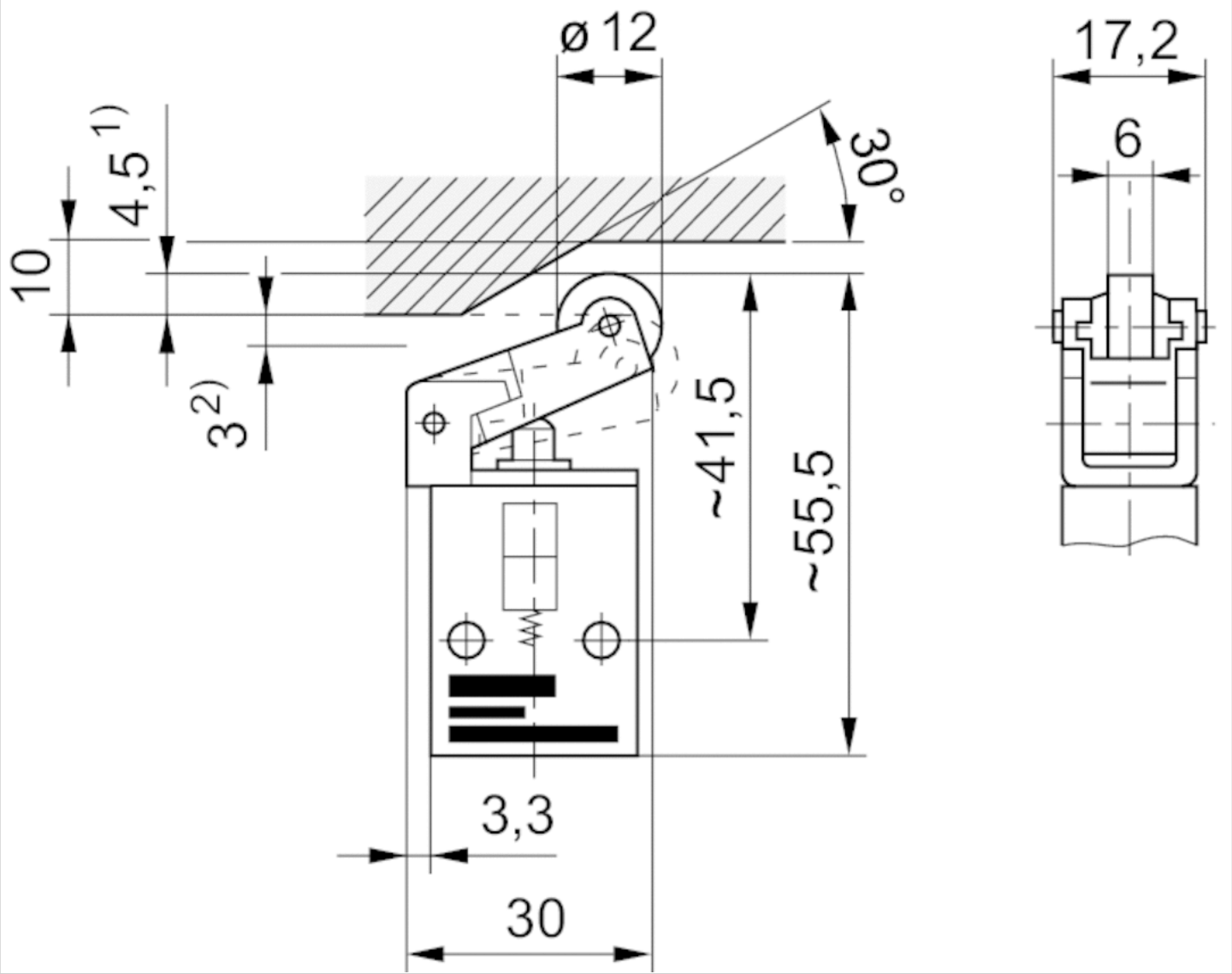


1) actuating stroke 2) overstroke

3) Exhaust

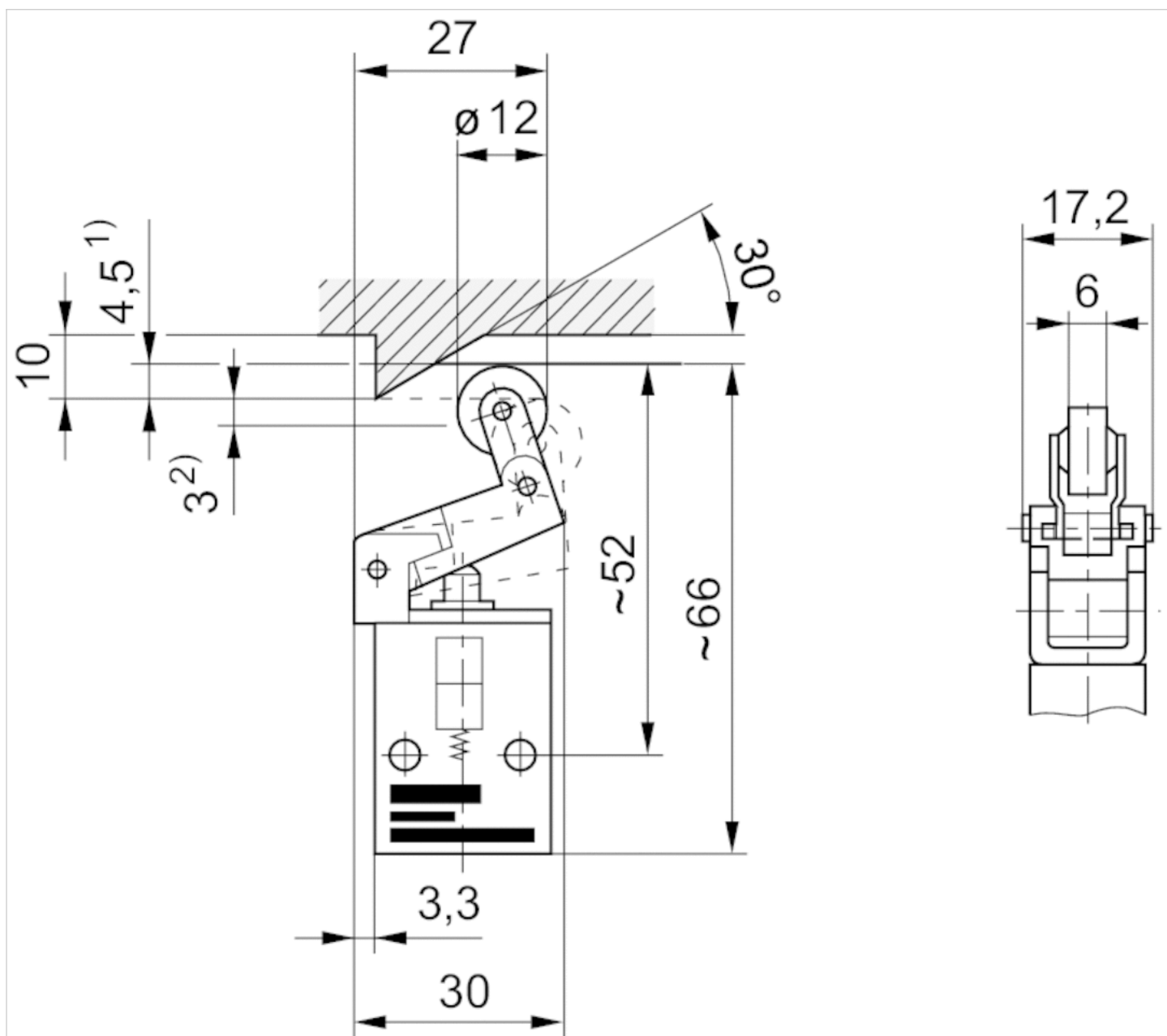
Dimensions of basic valve apply to all types of actuation.

Dimensions Fig. 2



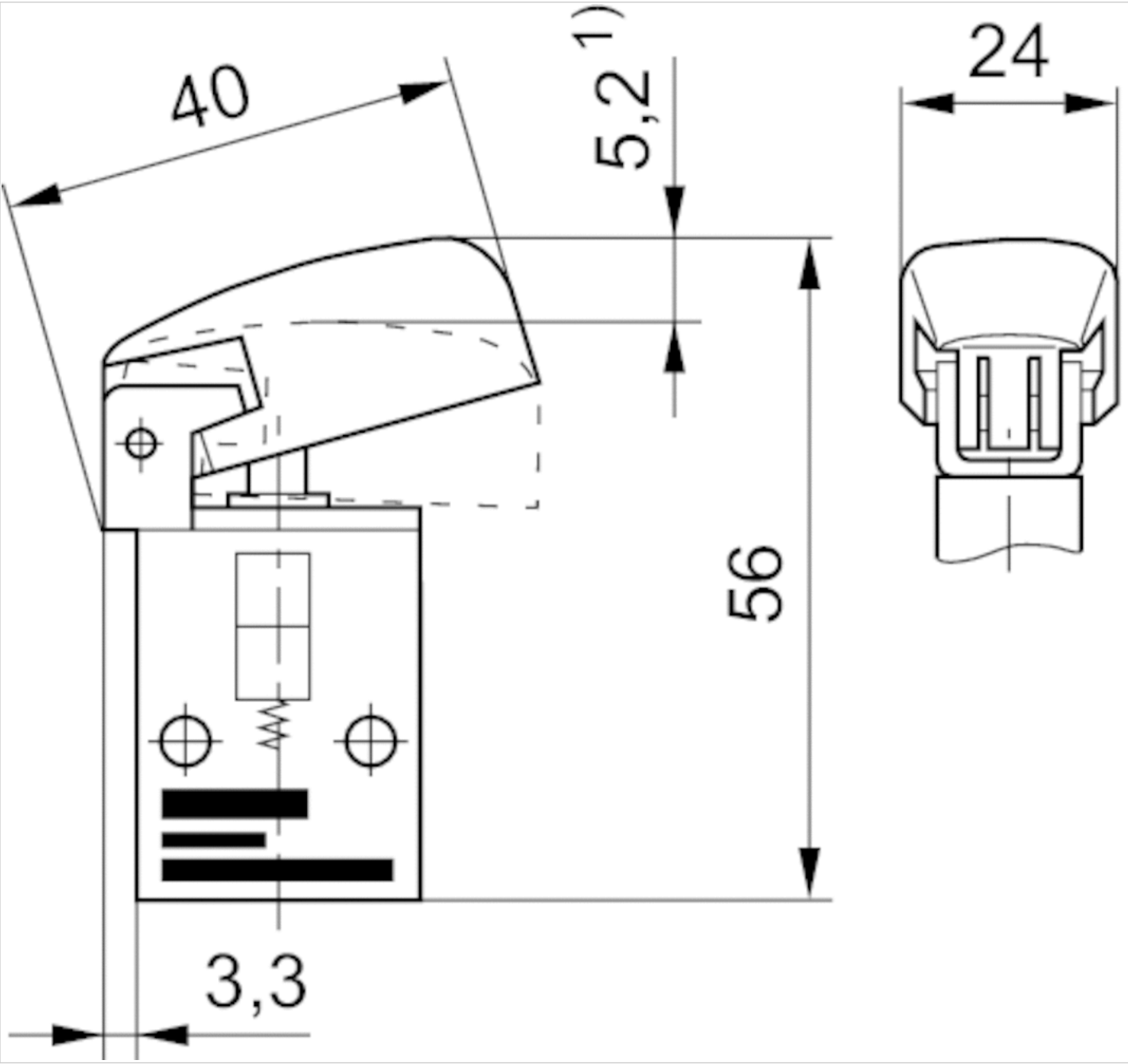
1) actuating stroke2) overstroke

Dimensions Fig. 3



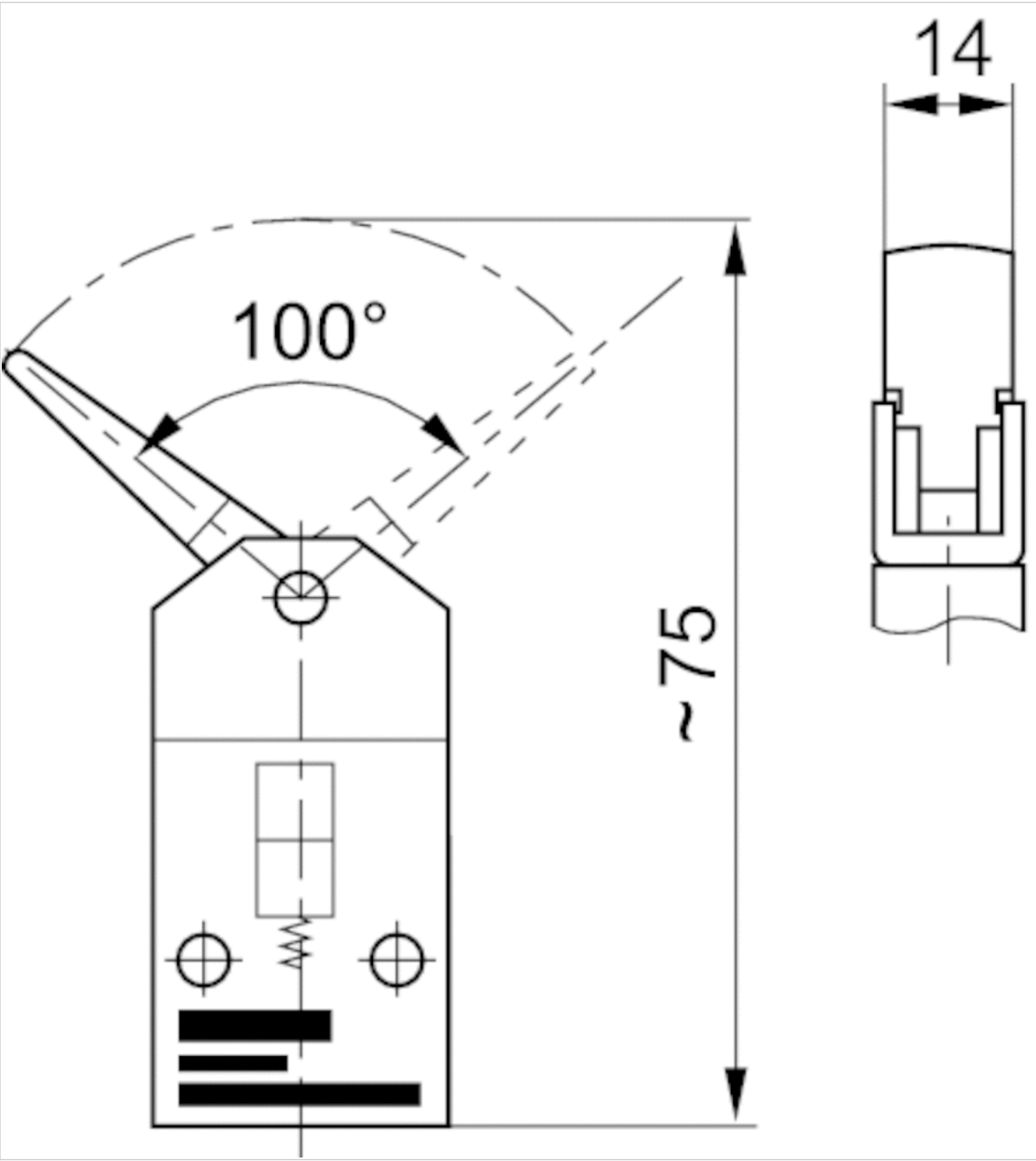
1) actuating stroke 2) overstroke

Dimensions Fig. 4



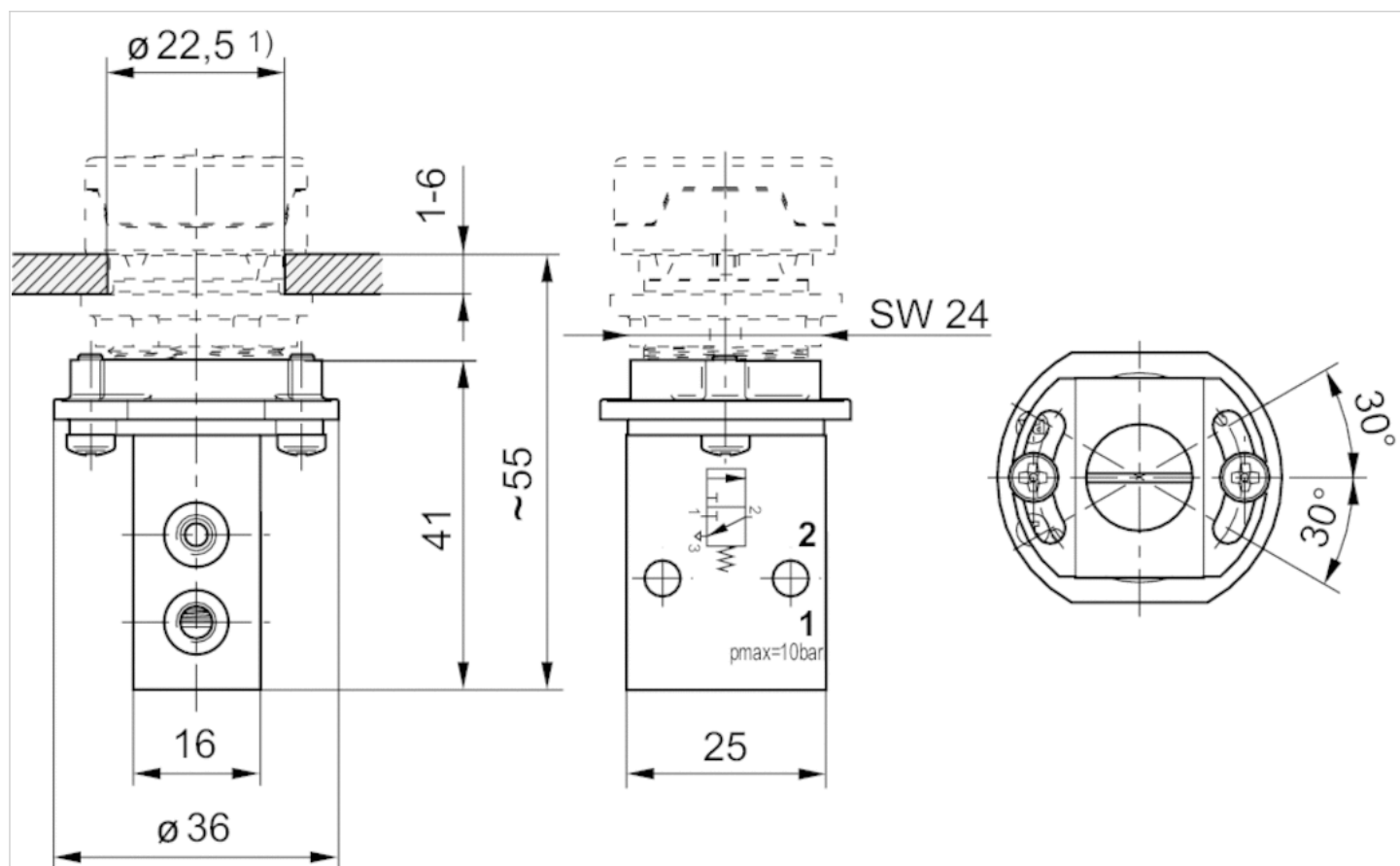
1) actuating stroke

Dimensions Fig. 5



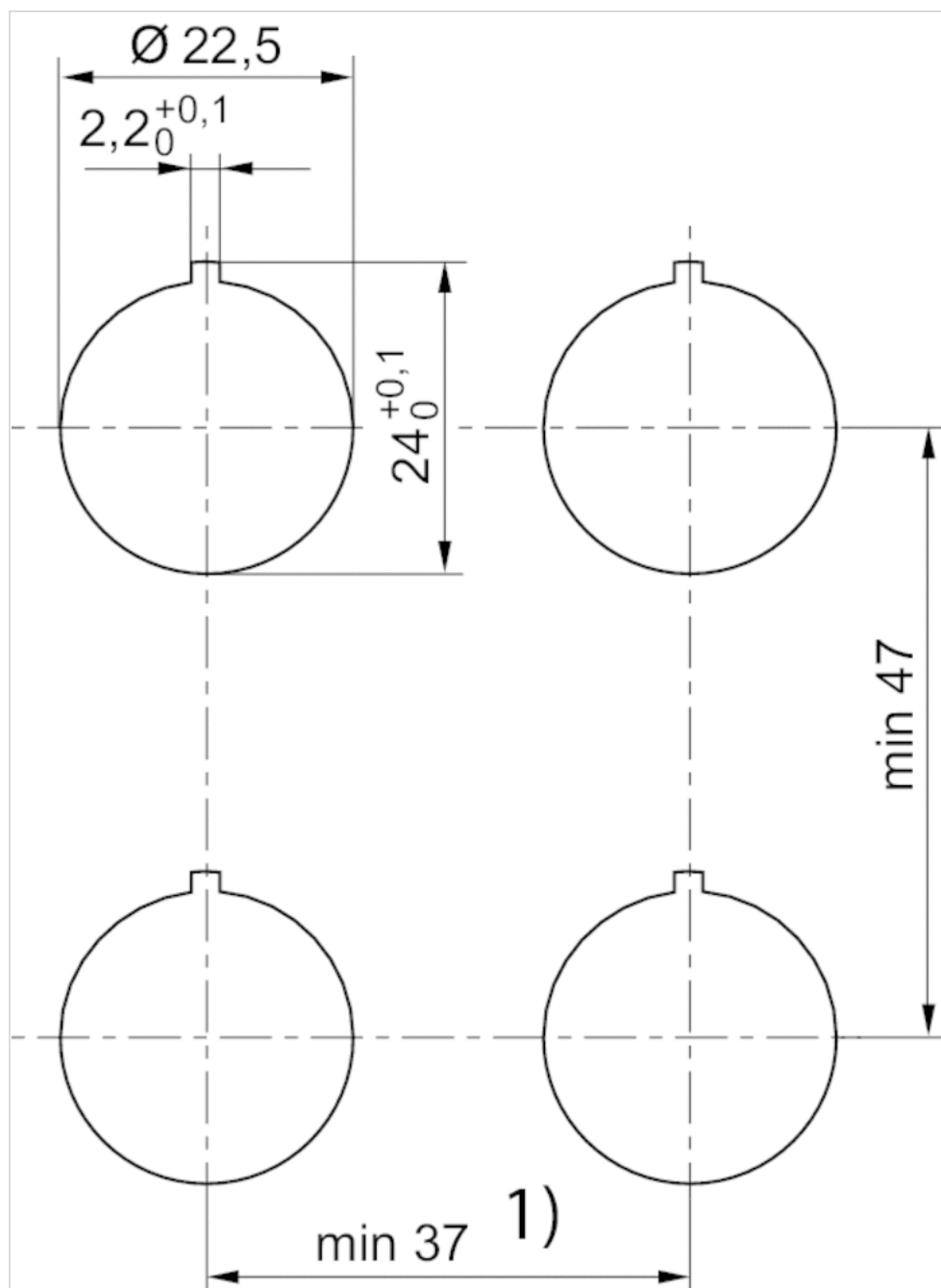
actuating torque: 5 Ncm

Dimensions Fig. 6



1) cut-out in the front plate

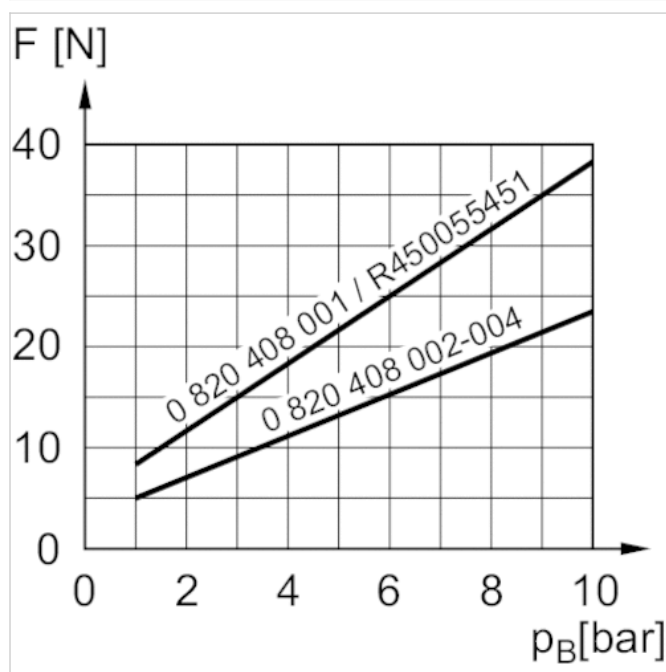
Dimensions cut-out in the front plate



1) For the mushroom buttons (R412012738, R412012739, R412012740) a minimum distance 41 mm must be ensured.

Diagrams

Actuating force+



F = actuating force
P= Working pressure

3/2-directional valve, Series AP

- Qn 1►2 = 250 l/min
- Qn 2►3 = 150 l/min
- Compressed air connection output G 1/8
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Switching principle	3/2
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m³
Weight	See table below

Technical data

Part No.		Actuating element	Compressed air connection
			Input
0820402101		Plunger	G 1/8
0820402102		Roller	G 1/8
0820402103		Roller lever, one-way trip	G 1/8
0820402104		Push button	G 1/8
0820402105		Lever	G 1/8
R450055452		panel installation	G 1/8

Part No.	Compressed air connection	Compressed air connection	Flow	Flow
	Output	Exhaust	Qn 1 ► 2	Qn 2 ► 3
0820402101	G 1/8	G 1/8	250 l/min	150 l/min
0820402102	G 1/8	G 1/8	250 l/min	150 l/min
0820402103	G 1/8	G 1/8	250 l/min	150 l/min
0820402104	G 1/8	G 1/8	250 l/min	150 l/min
0820402105	G 1/8	G 1/8	250 l/min	150 l/min
R450055452	G 1/8	G 1/8	250 l/min	150 l/min

Part No.	Weight	Fig.	
0820402101	0,07 kg	Fig. 1	-
0820402102	0,08 kg	Fig. 2	-
0820402103	0,085 kg	Fig. 3	-
0820402104	0,085 kg	Fig. 4	-
0820402105	0,075 kg	Fig. 5	-
R450055452	0,09 kg	Fig. 6	1)

Nominal flow Qn at 6 bar and $\Delta p = 1$ bar

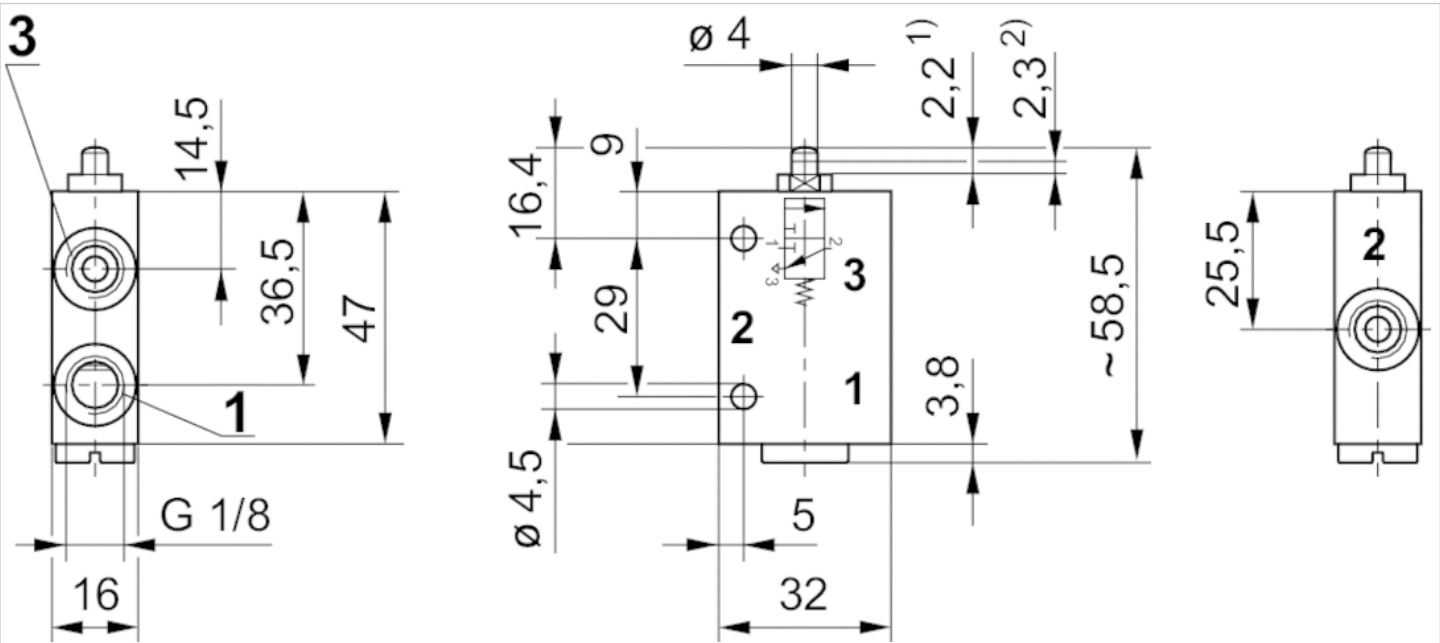
1) Please order control button separately., Cannot be combined with mushroom button with detent and rotary release R412012741

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

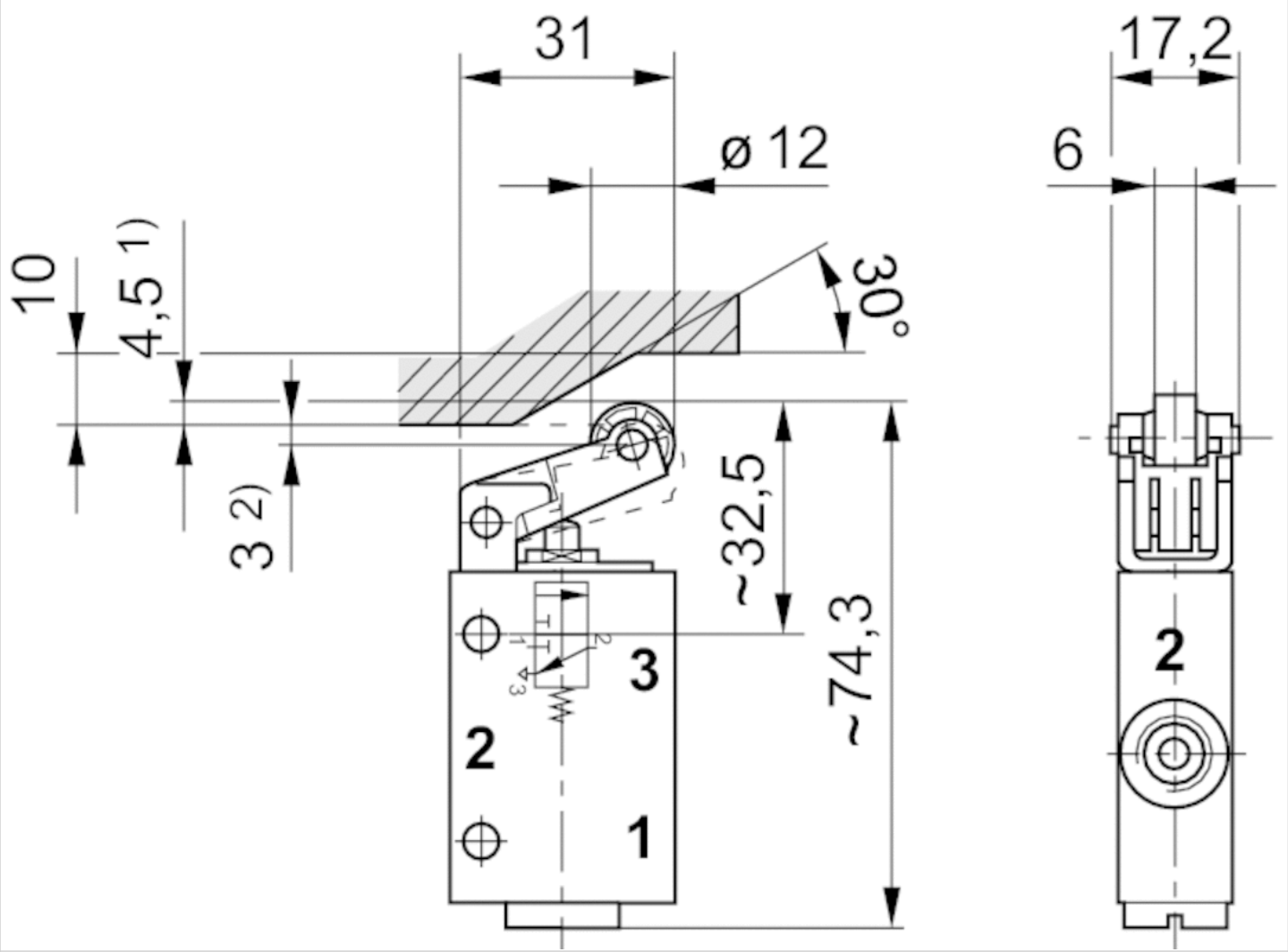
Dimensions Fig. 1 Basic valve



1) actuating stroke2) overstroke

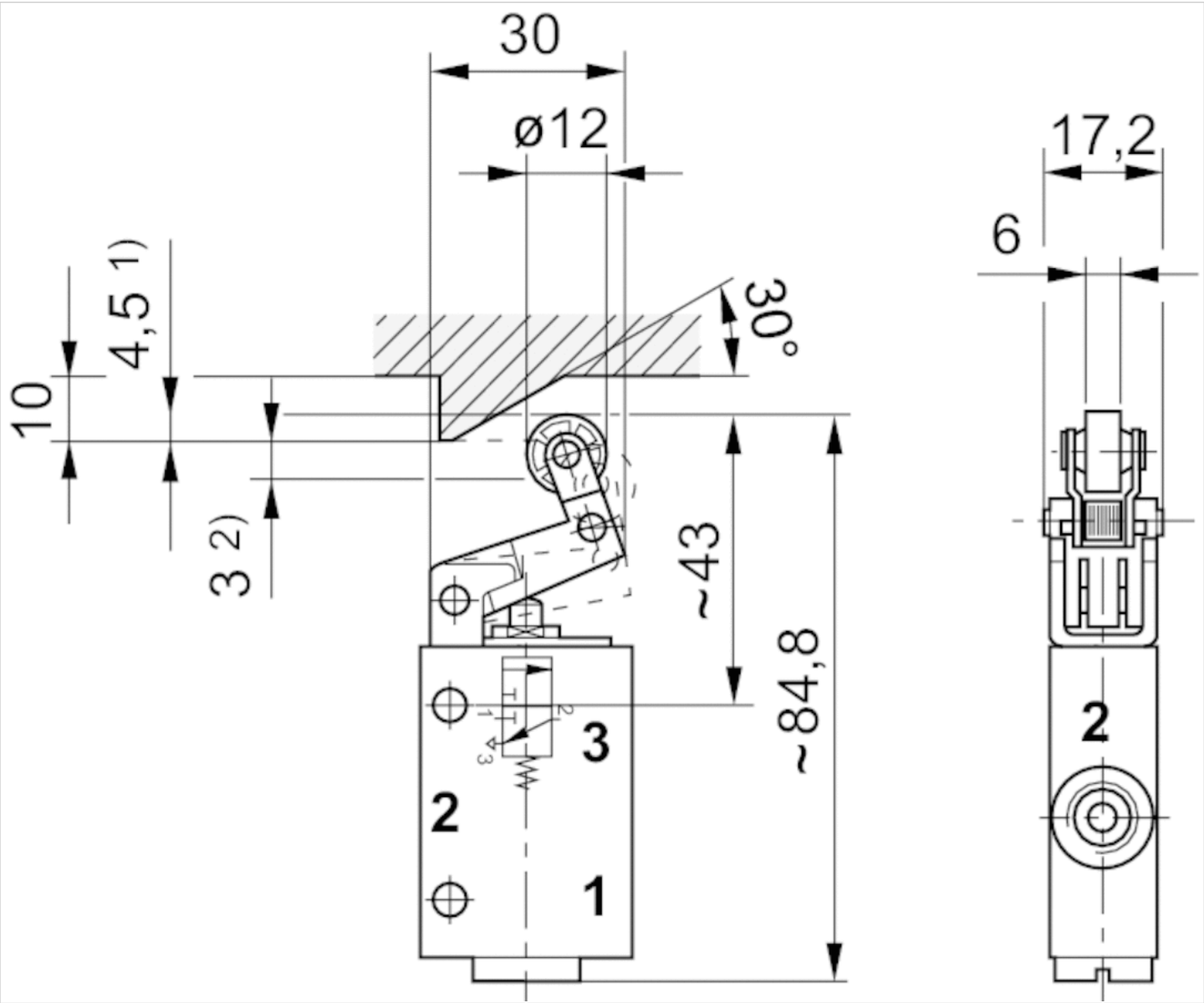
Dimensions of basic valve apply to all types of actuation.

Dimensions Fig. 2



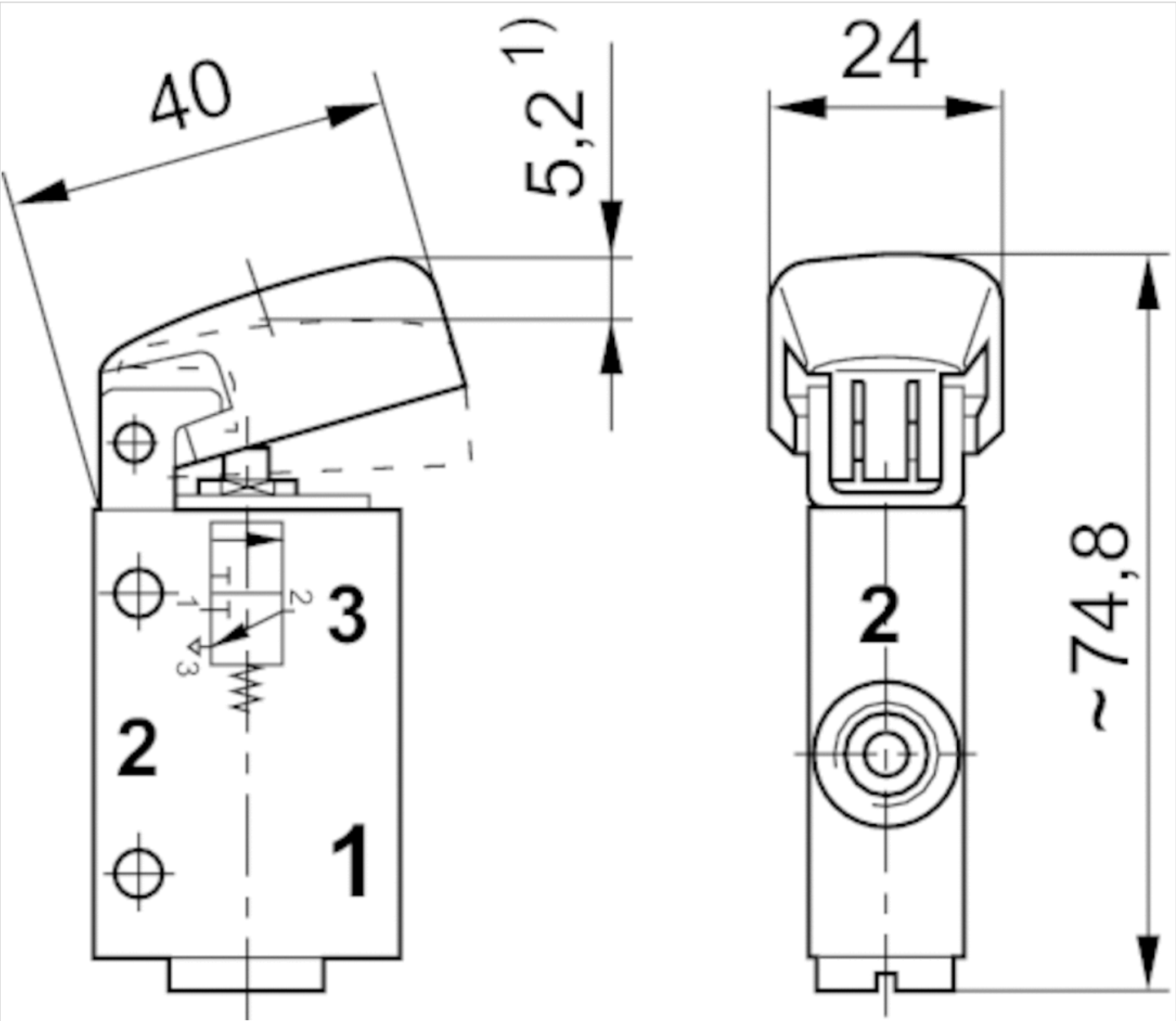
1) actuating stroke 2) overstroke

Dimensions Fig. 3



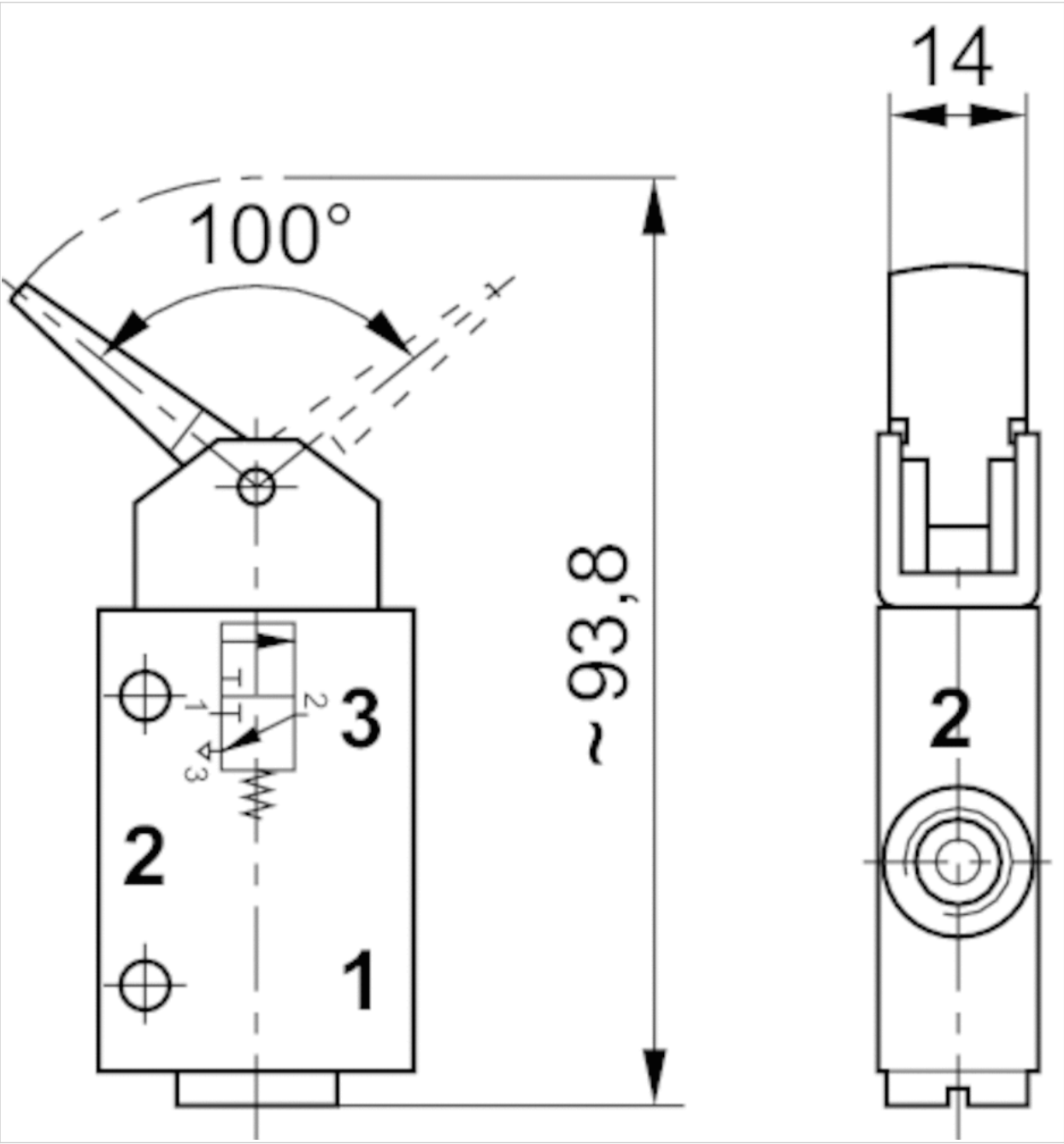
1) actuating stroke 2) overstroke

Dimensions Fig. 4

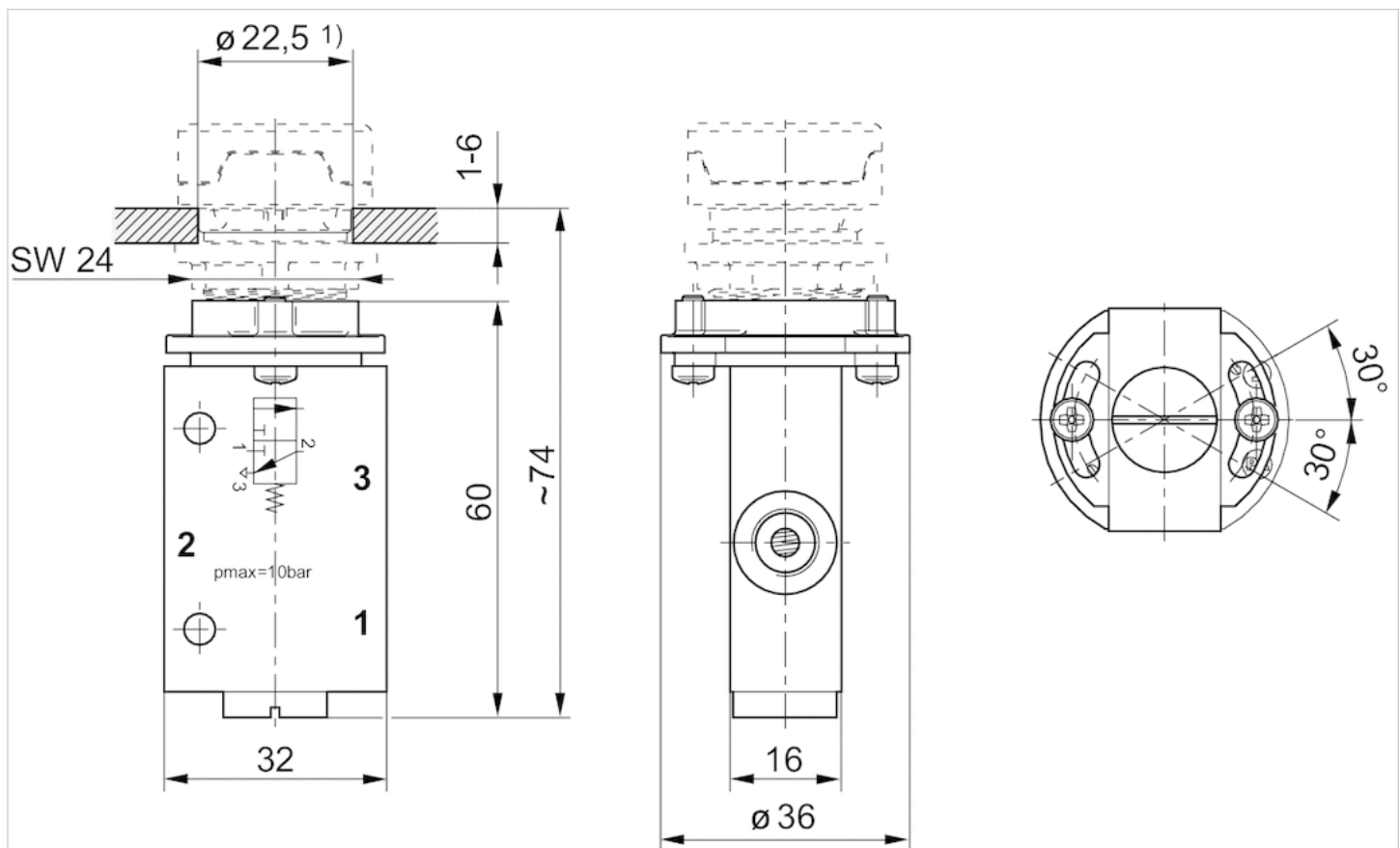


1) actuating stroke

Dimensions Fig. 5

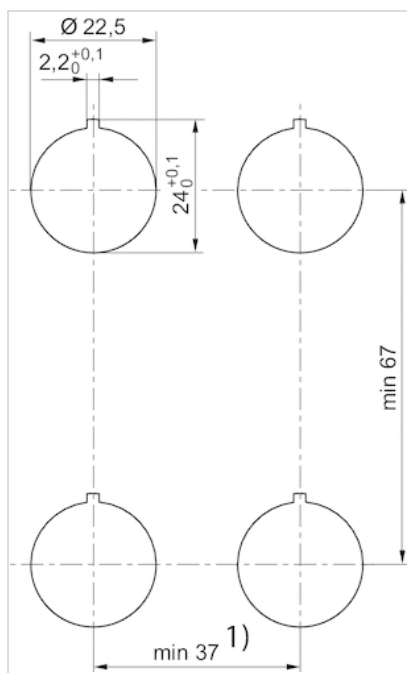


Dimensions Fig. 6



1) cut-out in the front plate

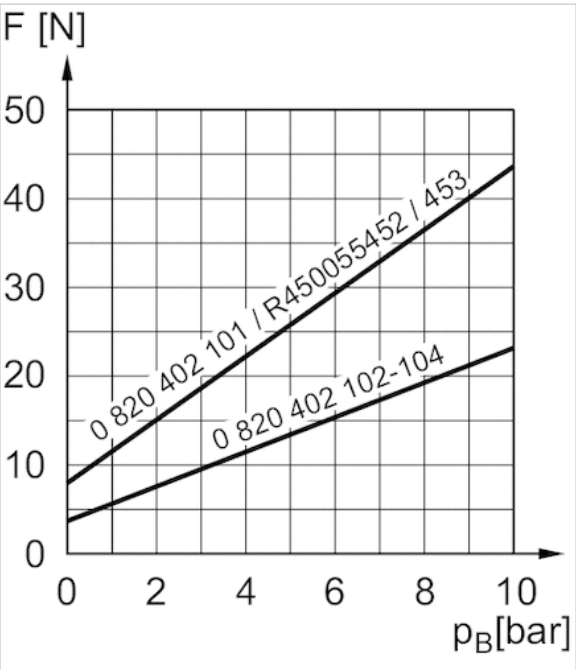
Dimensions cut-out in the front plate



1) For the mushroom buttons (R412012738, R412012739, R412012740) a minimum distance 41 mm must be ensured.

Diagrams

Actuating force+



F = actuating force
P= Working pressure

3/2-directional valve, Series AP

- Q_n = 550 l/min
- Compressed air connection output G 1/4
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Switching principle	3/2
Nominal flow Q _n	550 l/min
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m ³
Weight	See table below

Technical data

Part No.		Actuating element	Compressed air connection
			Input
0820400001		Plunger	G 1/4
0820400002		Roller	G 1/4
0820400003		Roller lever, one-way trip	G 1/4
0820400004		Push button	G 1/4
0820400005		Lever	G 1/4
0820400006		Pedal	G 1/4
0820400008		Pedal, with detent	G 1/4

Part No.	Compressed air connection	Compressed air connection
	Output	Exhaust
0820400001	G 1/4	G 1/4
0820400002	G 1/4	G 1/4
0820400003	G 1/4	G 1/4
0820400004	G 1/4	G 1/4
0820400005	G 1/4	G 1/4
0820400006	G 1/4	G 1/4
0820400008	G 1/4	G 1/4

Part No.	Material actuating control	Weight	Fig.
0820400001	Steel	0,165 kg	Fig. 1
0820400002	Polyoxymethylene	0,265 kg	Fig. 2
0820400003	Polyoxymethylene, Steel	0,28 kg	Fig. 3
0820400004	Aluminum	0,29 kg	Fig. 4
0820400005	Steel, Polyamide	0,27 kg	Fig. 5
0820400006	Aluminum	1,2 kg	Fig. 6
0820400008	Aluminum	1,22 kg	Fig. 7

Nominal flow Qn at 6 bar and Δp = 1 bar

Technical information

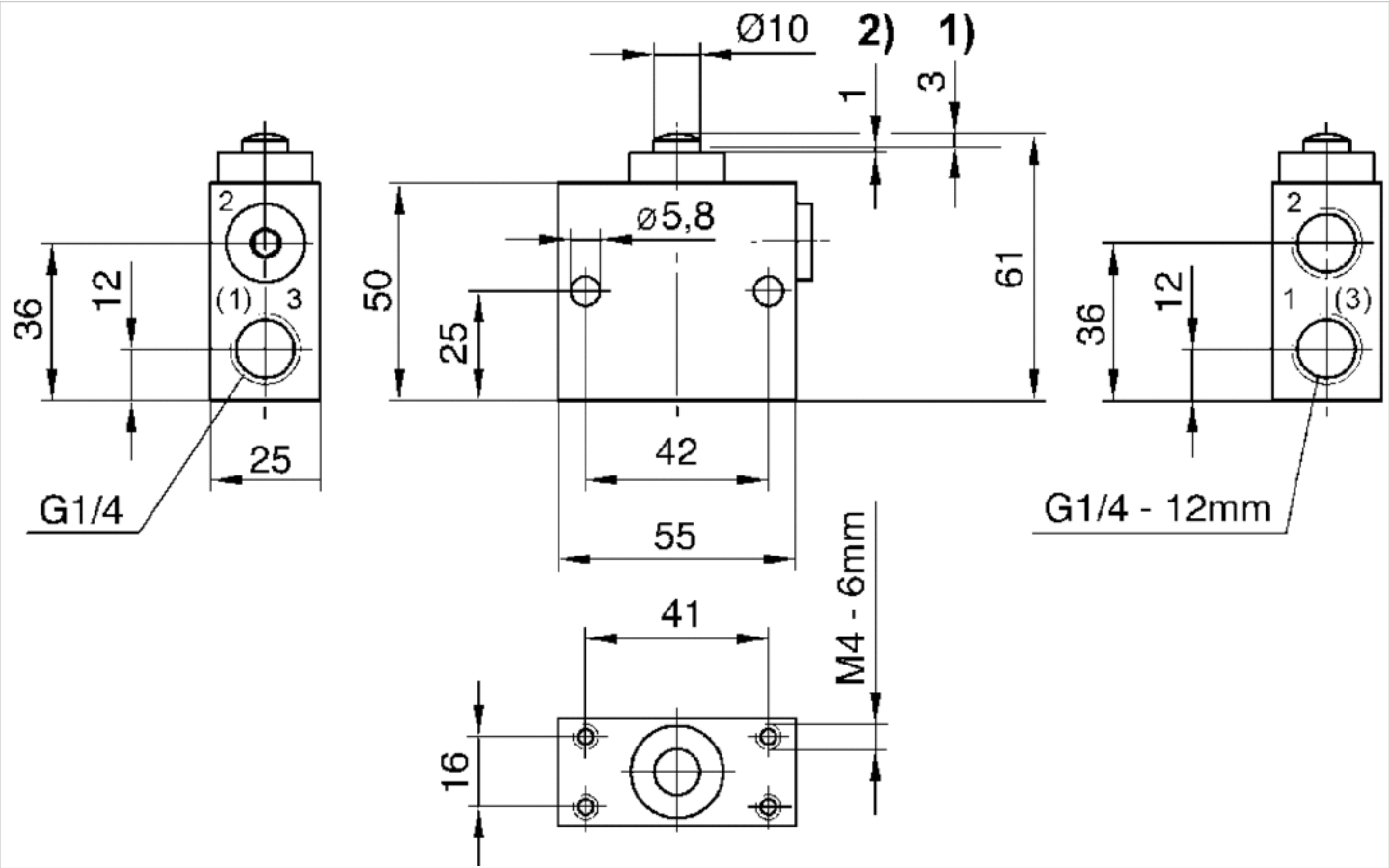
Sound pressure level measured at 6 bar at 1 m distance

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Actuating element	Steel, Polyoxymethylene, Polyoxymethylene, Steel, Aluminum, Steel, Polyamide

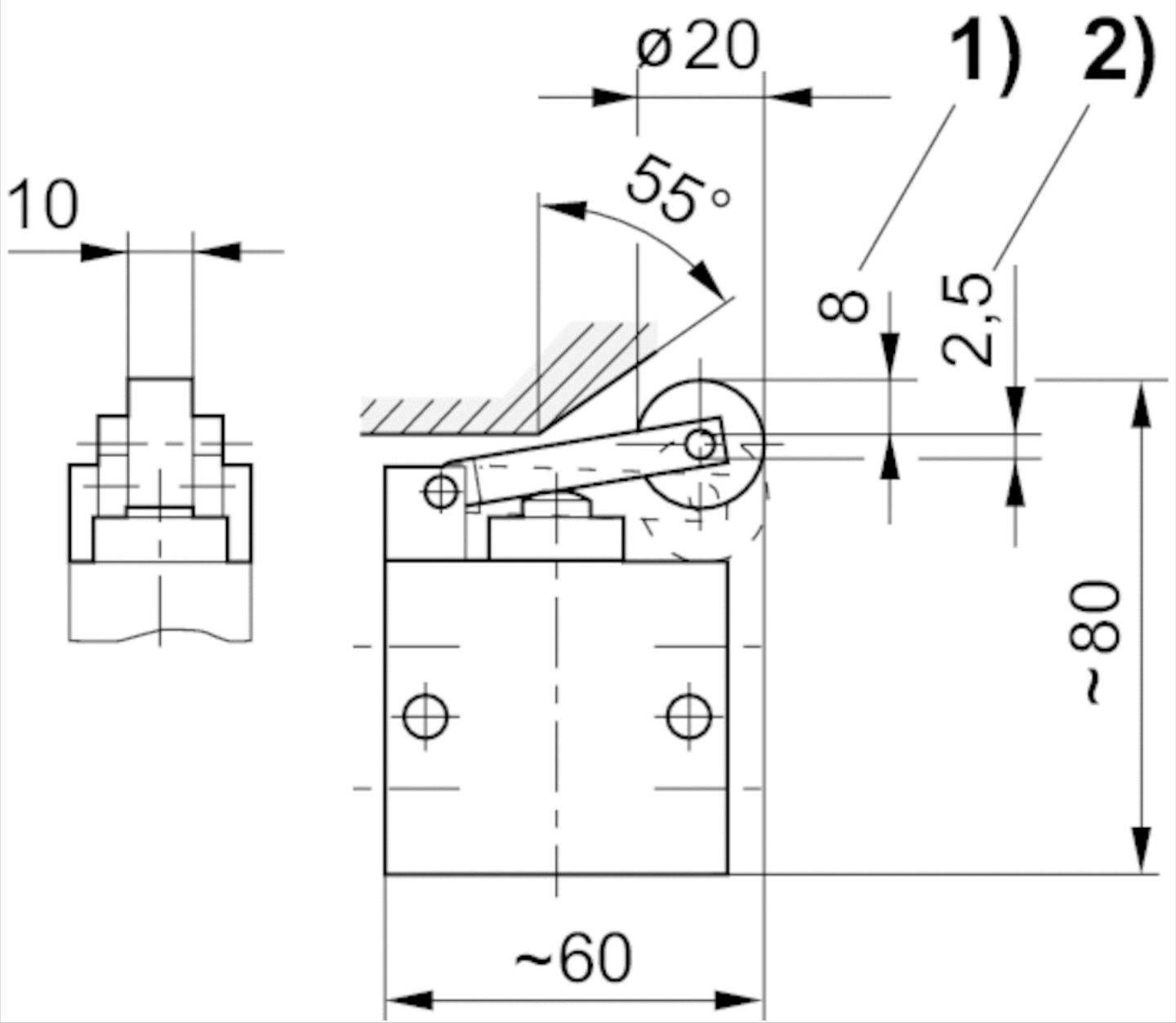
Dimensions

Dimensions Fig. 1



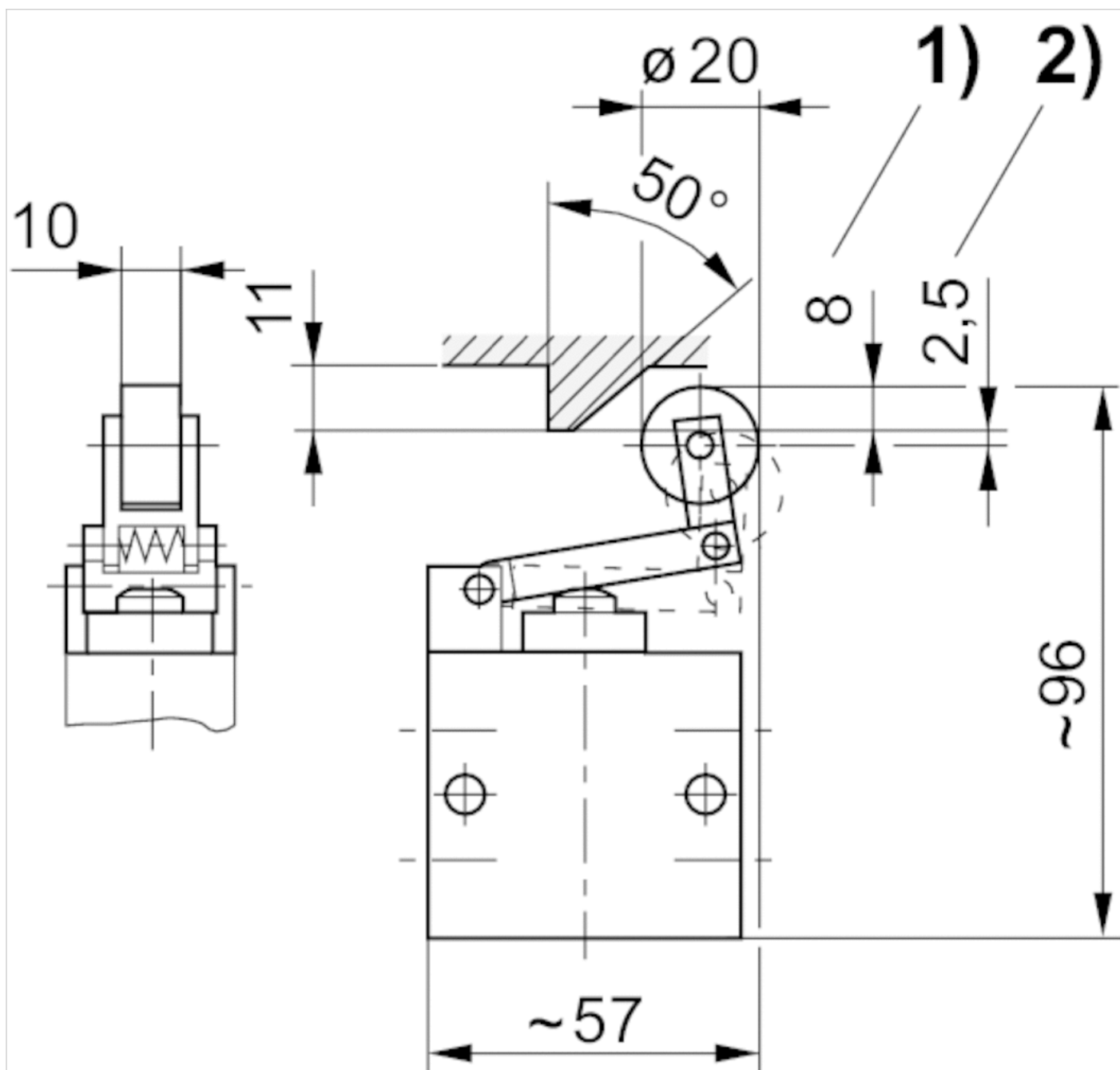
1) actuating stroke2) overstroke
 Dimensions of basic valve apply to all types of actuation.

Dimensions Fig. 2



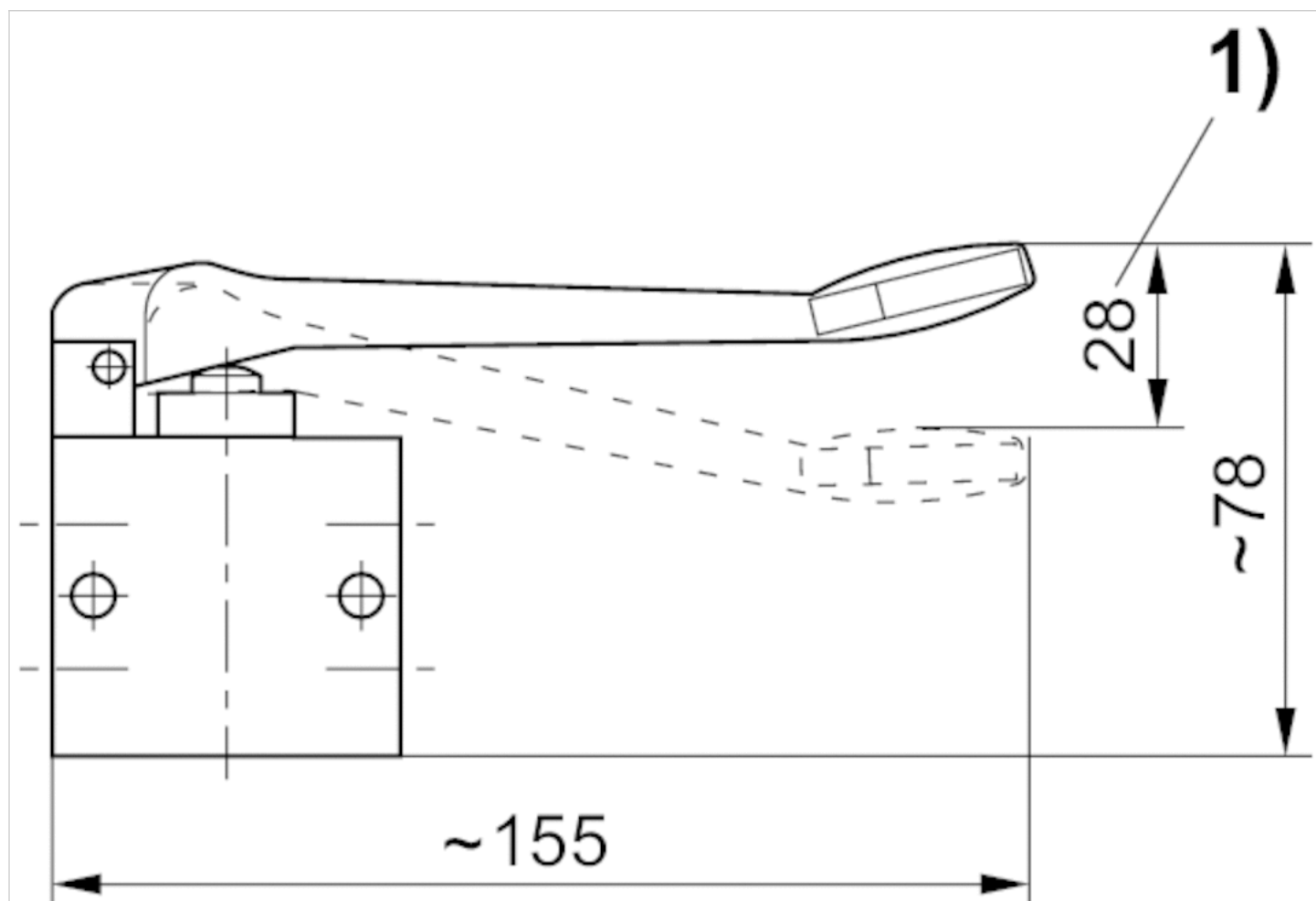
1) actuating stroke2) overstroke

Dimensions Fig. 3



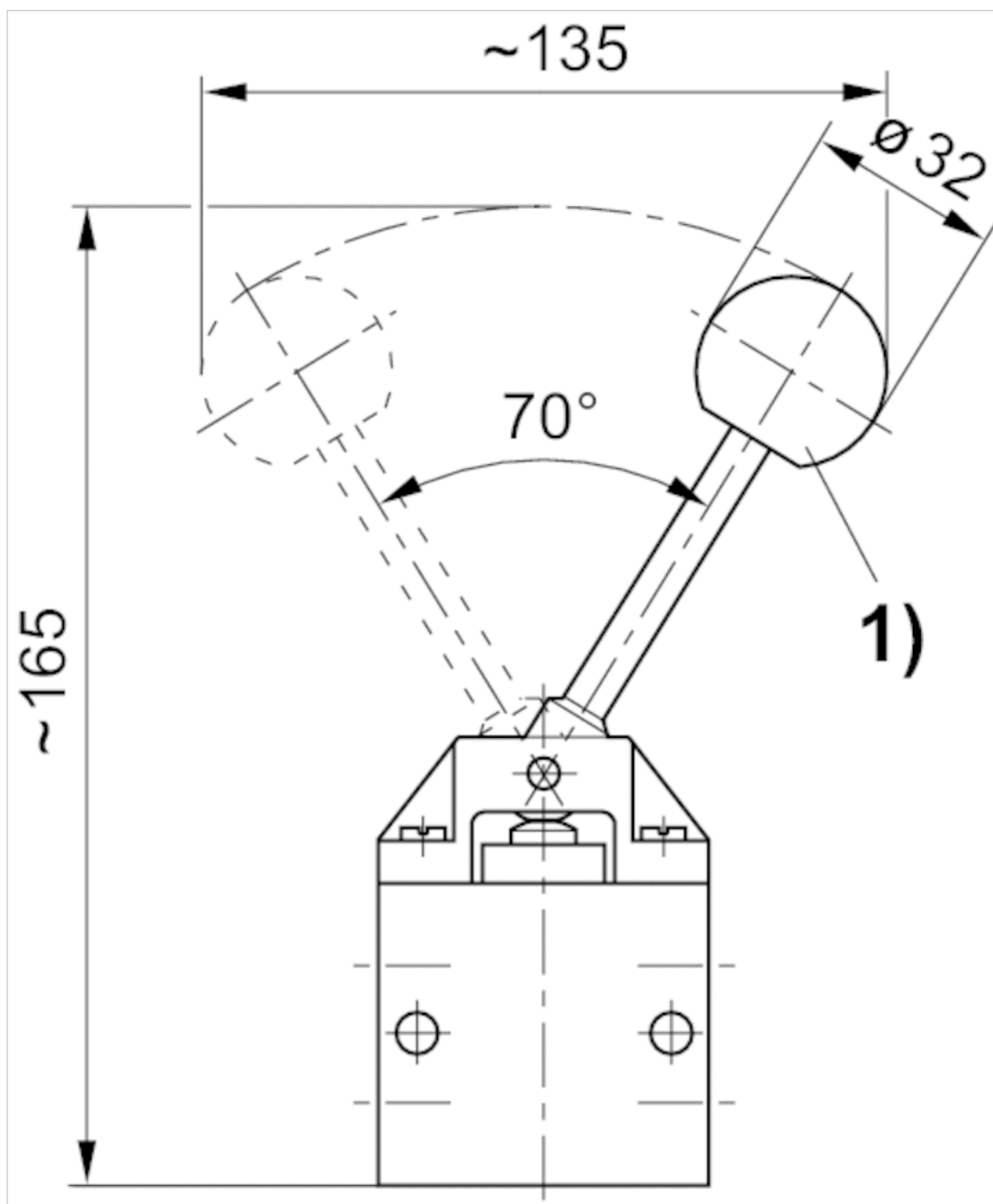
1) actuating stroke 2) overstroke

Dimensions Fig. 4



1) actuating stroke

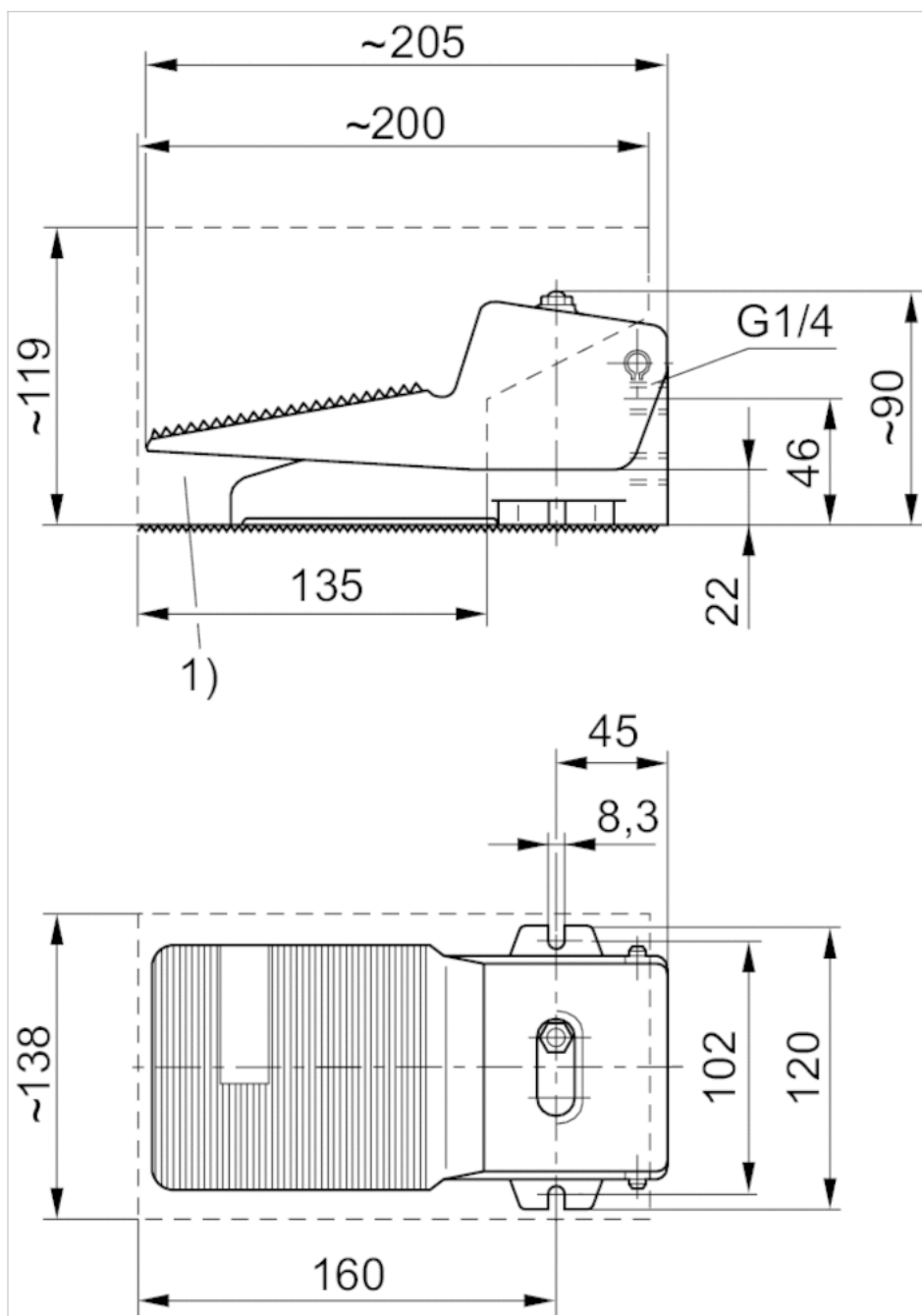
Dimensions Fig. 5



actuating torque: 40 Ncm

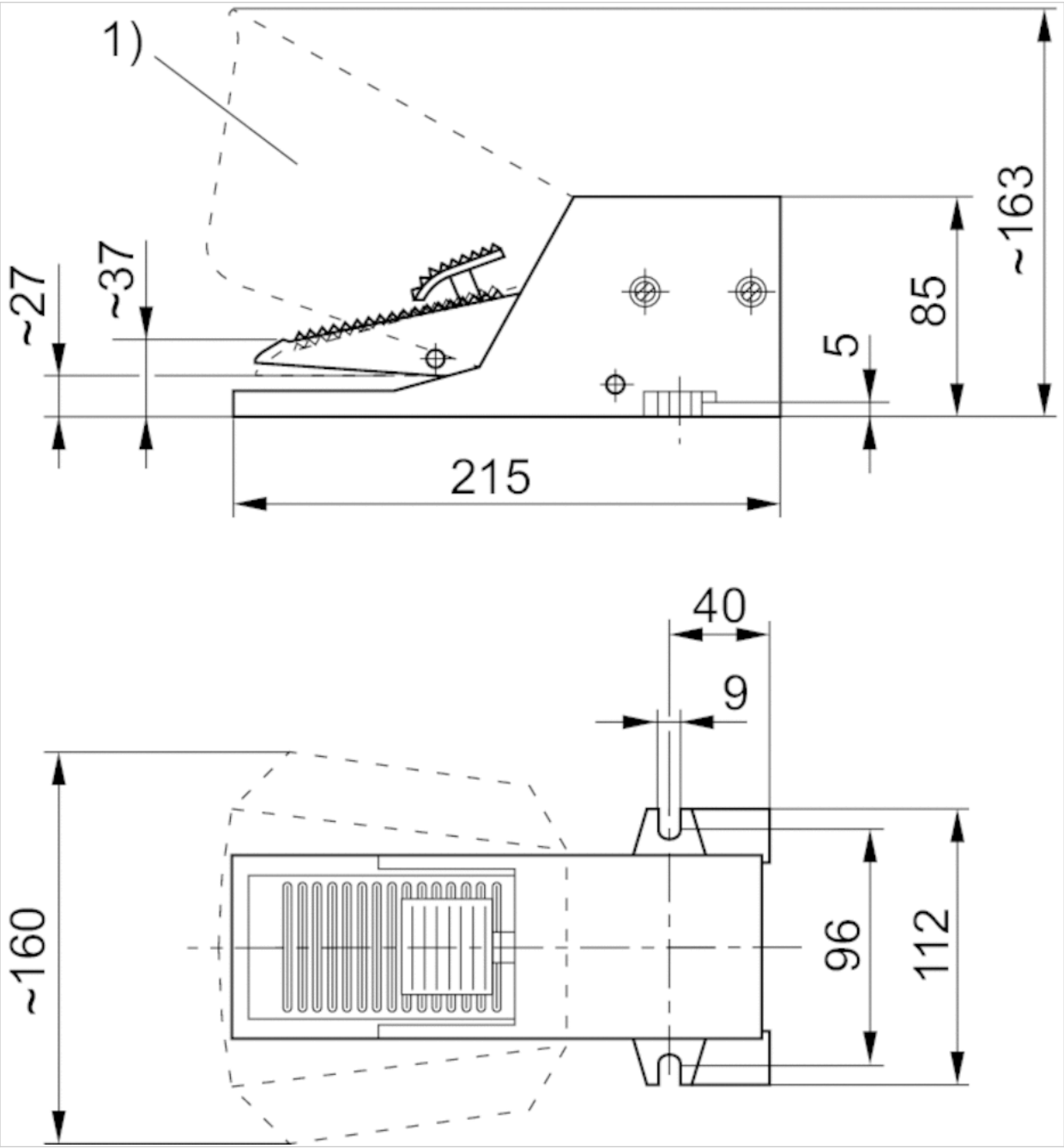
1) Ball

Dimensions Fig. 6



1) optional protective cover, part number 1828104001

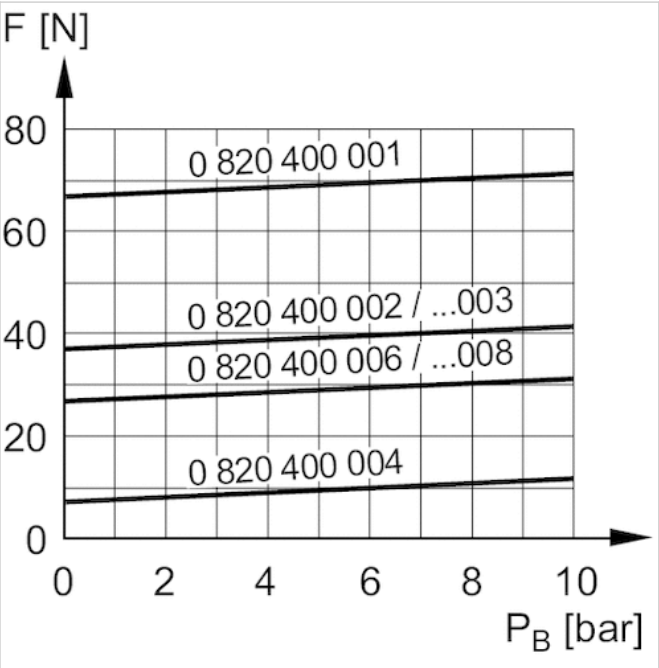
Dimensions Fig. 7



1) optional protective cover, part number 1828104002

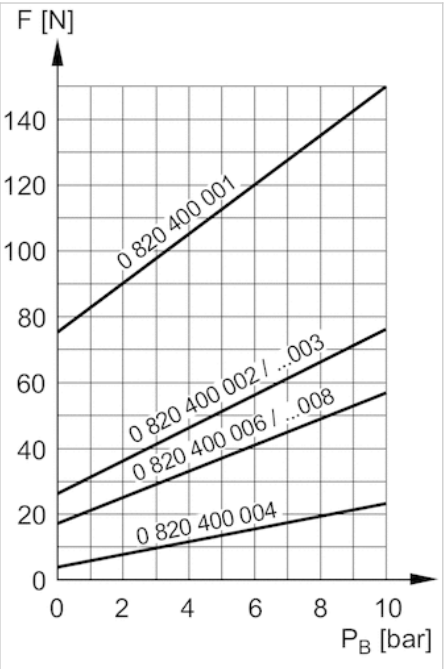
Diagrams

Actuating force+ Compressed air at port 1



F = actuating force
P= Working pressure

Compressed air at port 3



4/2-directional valve, Series AP

- $Q_n = 550 \text{ l/min}$
- Compressed air connection output G 1/4
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Nominal flow Q_n	550 l/min
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 ... 5 mg/m ³
Weight	See table below

Technical data

Part No.		Actuating element	Compressed air connection
			Input
0820401001		Plunger	G 1/4
0820401002		Roller	G 1/4
0820401004		Push button	G 1/4
0820401005		Lever	G 1/4
0820401006		Pedal	G 1/4
0820401008		Pedal, with detent	G 1/4

Part No.	Compressed air connection	Compressed air connection
	Output	Exhaust
0820401001	G 1/4	G 1/4
0820401002	G 1/4	G 1/4
0820401004	G 1/4	G 1/4
0820401005	G 1/4	G 1/4
0820401006	G 1/4	G 1/4
0820401008	G 1/4	G 1/4

Part No.	Material actuating control	Weight	Fig.
0820401001	Steel	0,33 kg	Fig. 1
0820401002	Polyoxymethylene, Steel	0,5 kg	Fig. 2
0820401004	Aluminum	0,52 kg	Fig. 3
0820401005	Steel, Polyamide	0,53 kg	Fig. 4
0820401006	Aluminum	1,3 kg	Fig. 5
0820401008	Aluminum	1,42 kg	Fig. 6

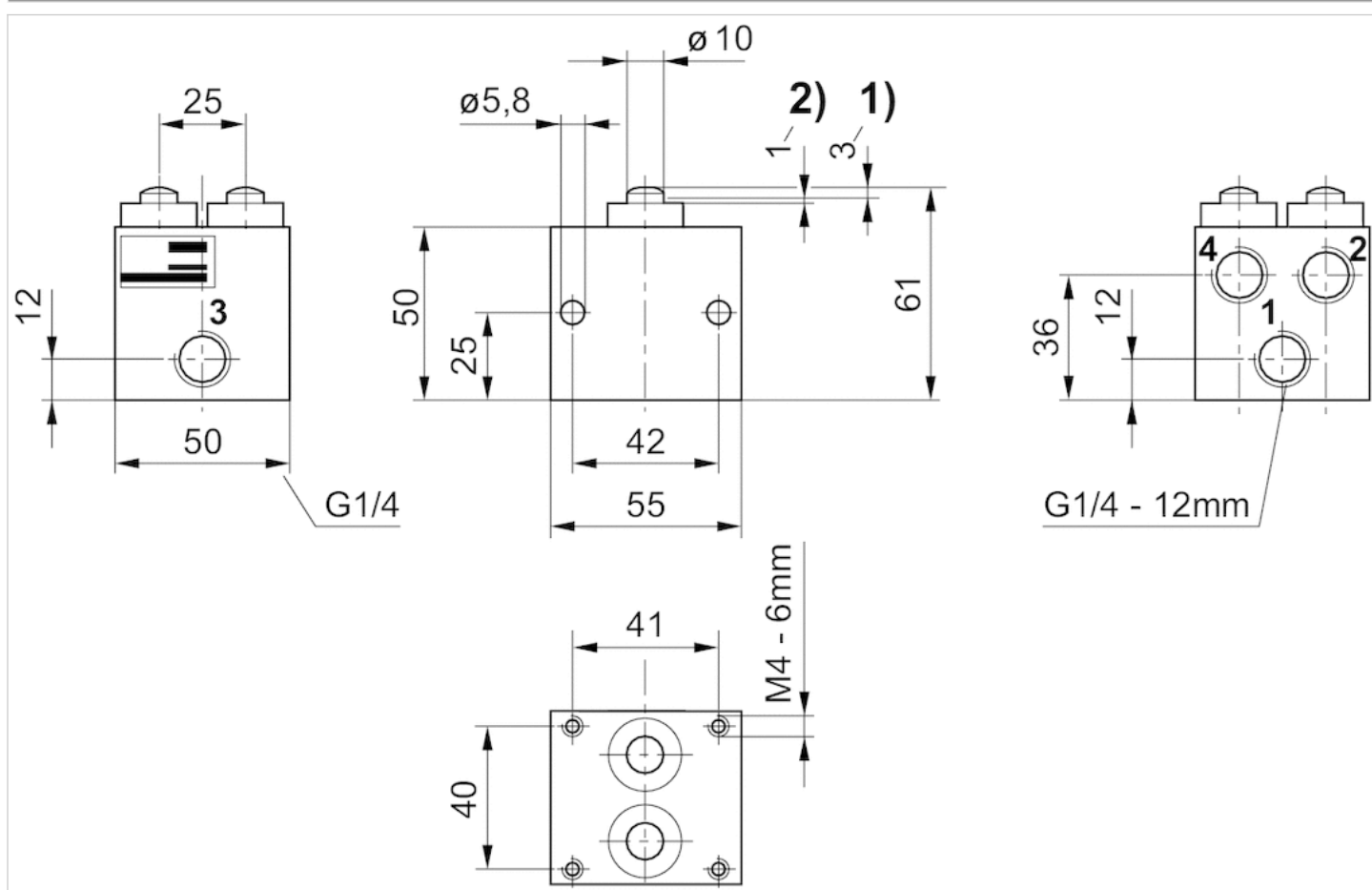
Nominal flow Q_n at 6 bar and $\Delta p = 1 \text{ bar}$

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Actuating element	Steel, Polyoxymethylene, Steel, Aluminum, Steel, Polyamide

Dimensions

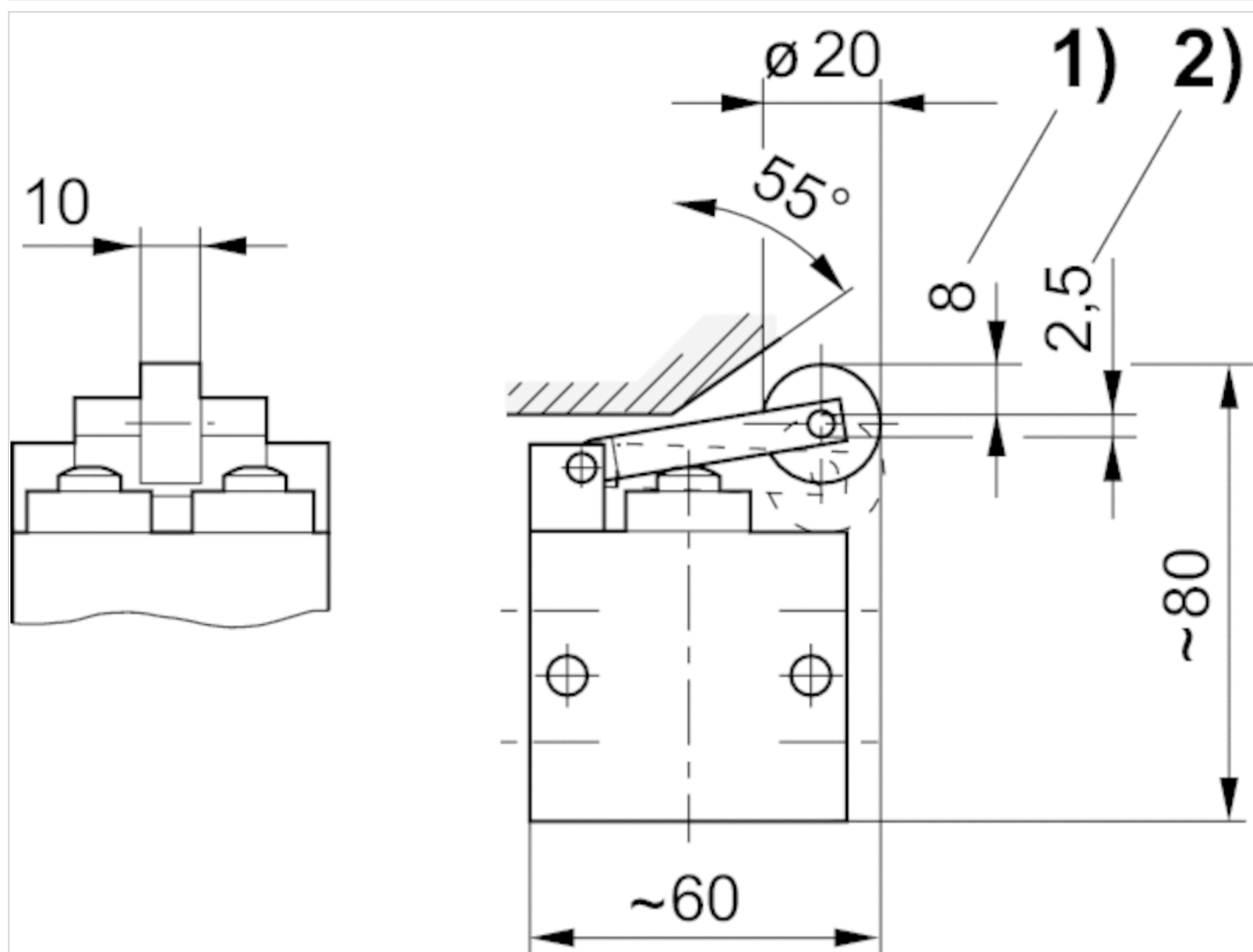
Dimensions Fig. 1



1) actuating stroke 2) overstroke

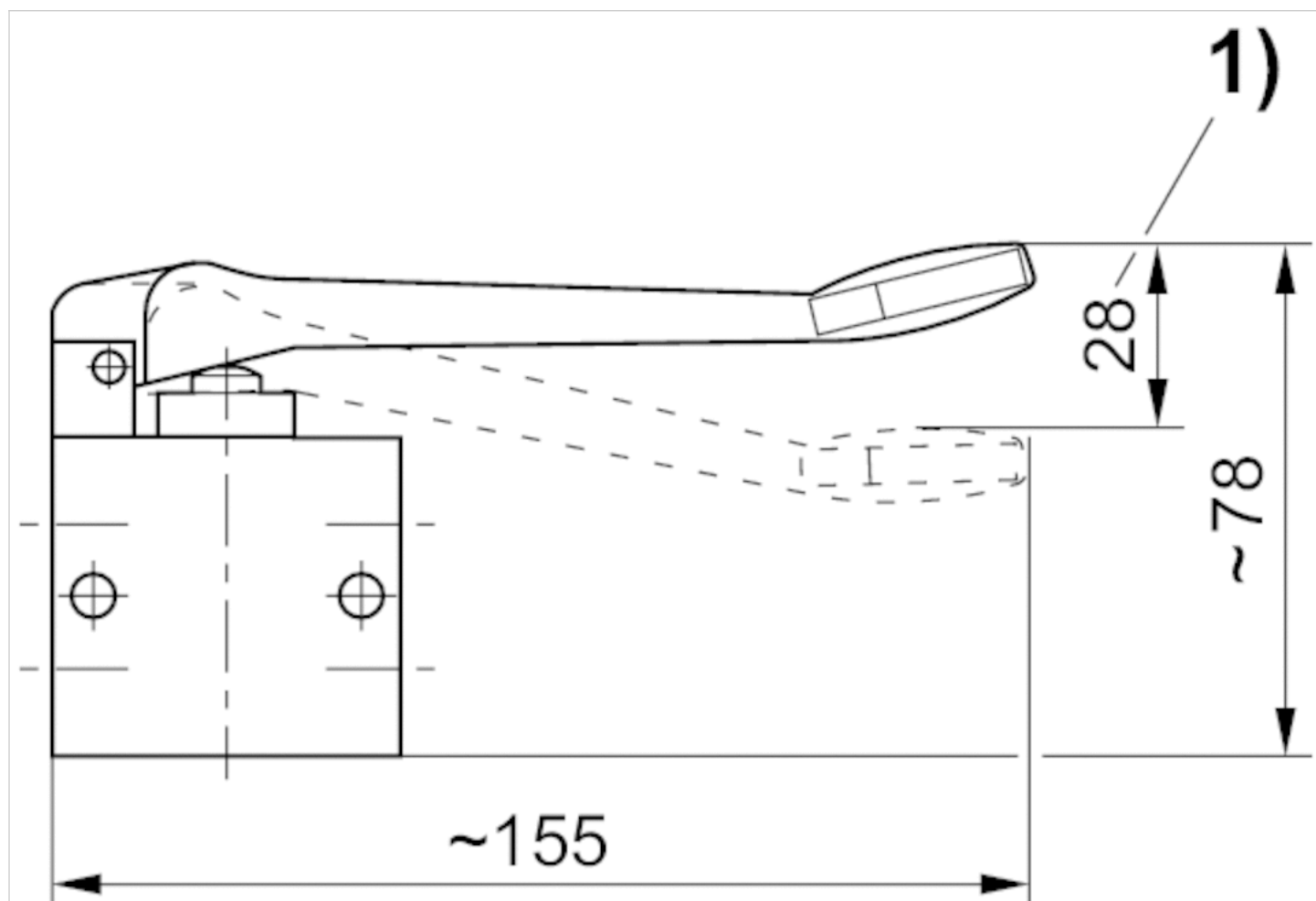
Dimensions of basic valve apply to all types of actuation.

Dimensions Fig. 2



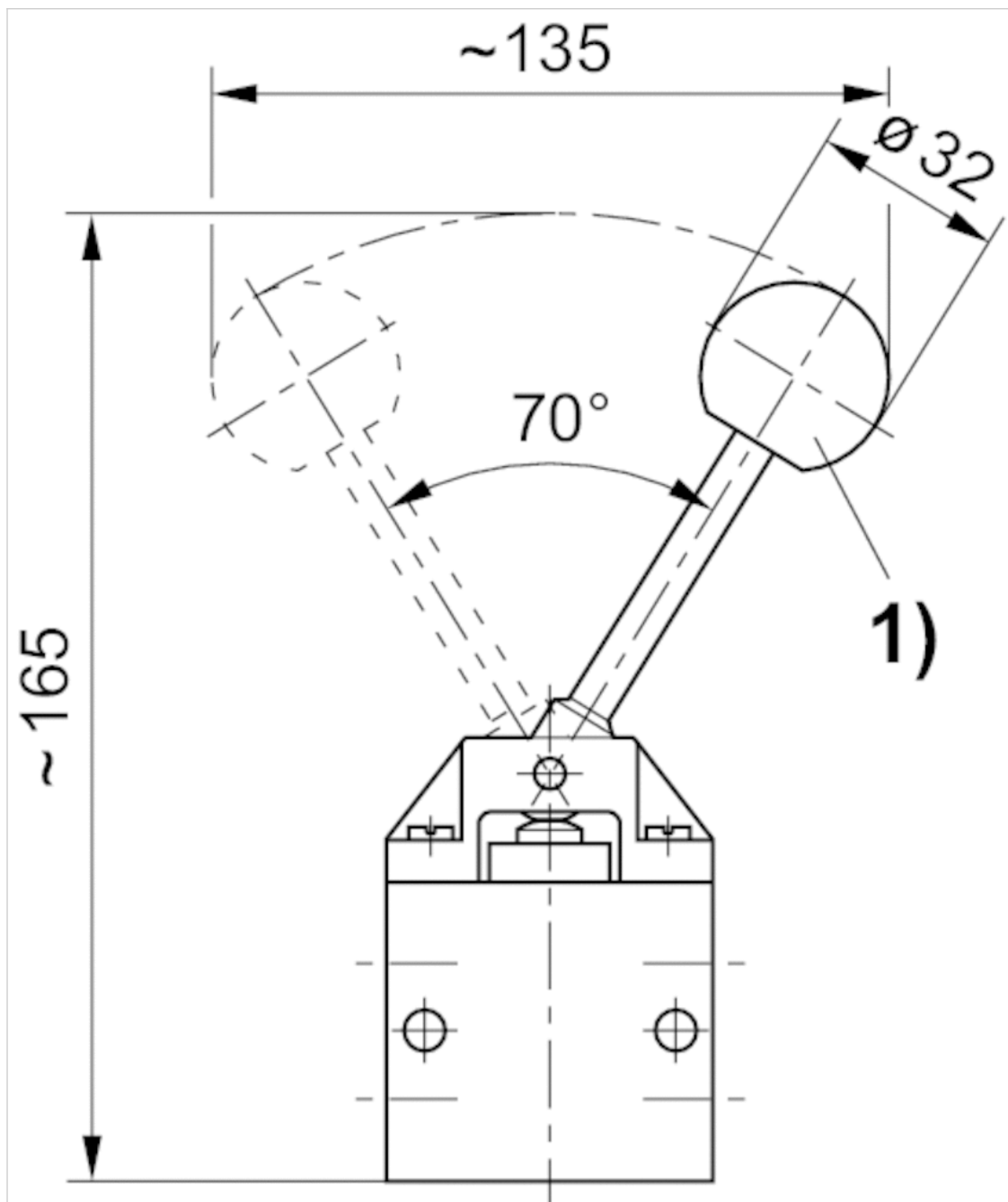
1) actuating stroke 2) overstroke

Dimensions Fig. 3



1) actuating stroke

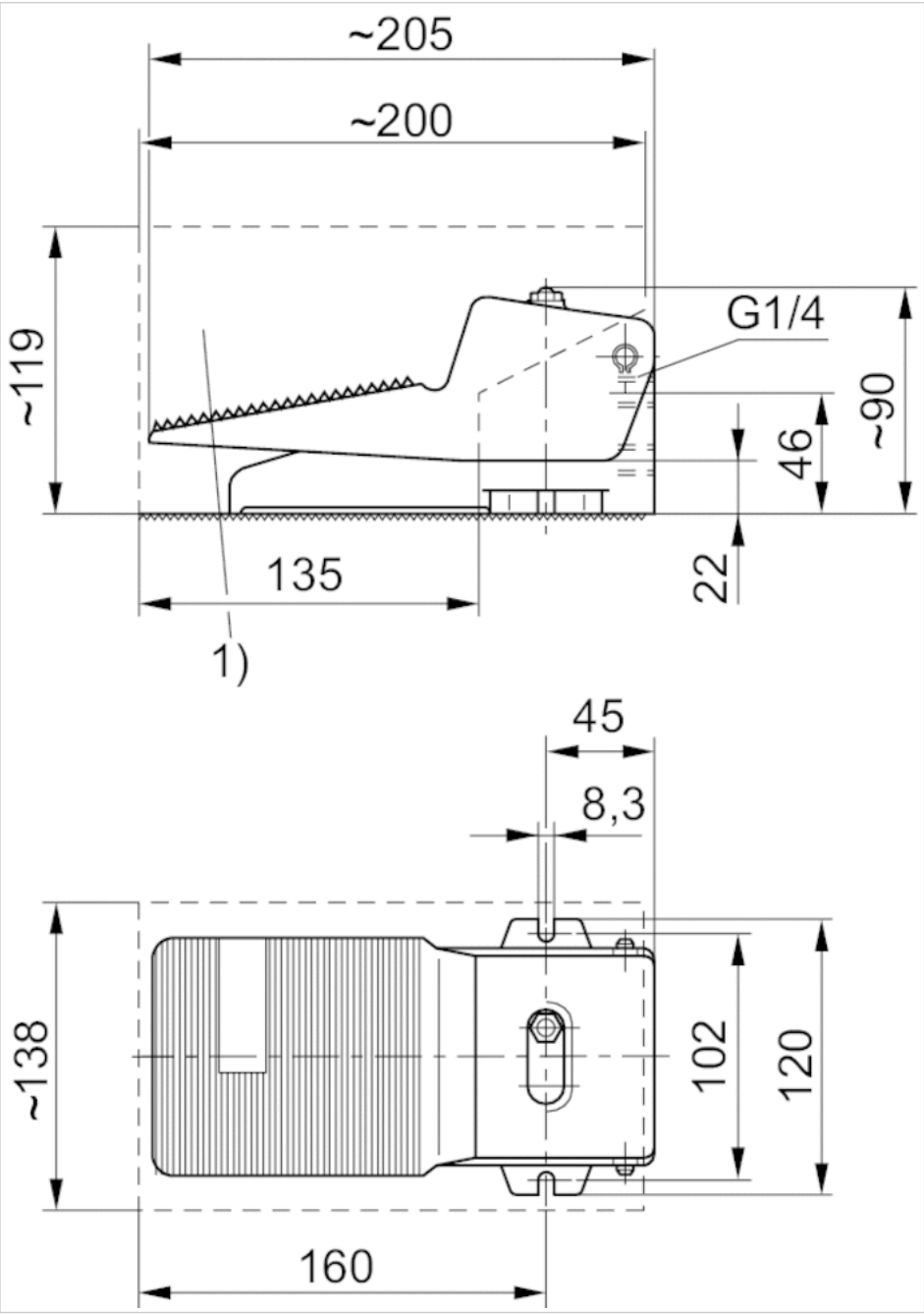
Dimensions Fig. 4



actuating torque: 40 Ncm

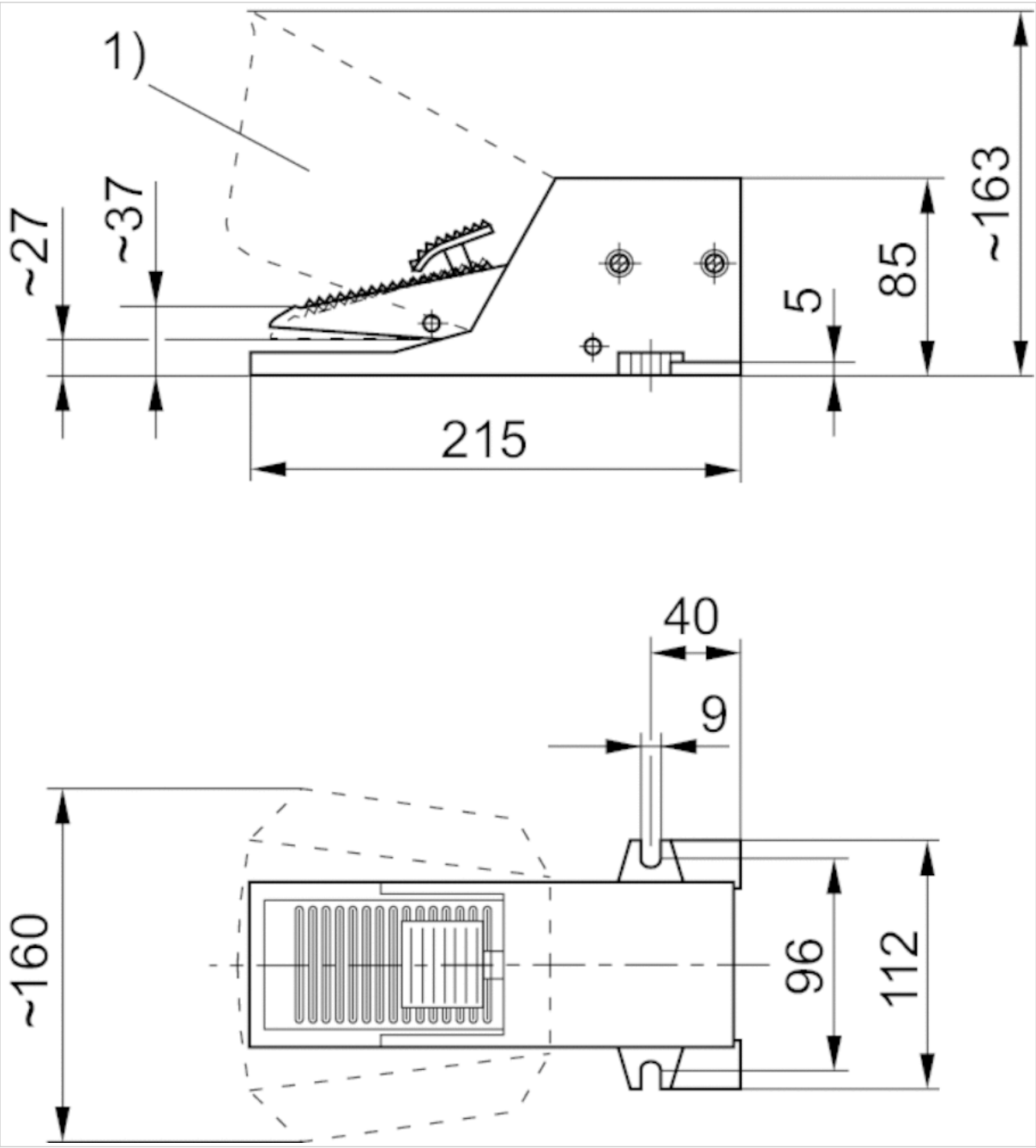
1) Ball

Dimensions Fig. 5



1) optional protective cover, part number 1828104001

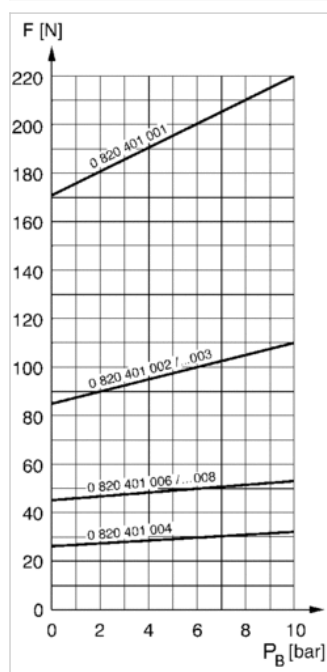
Dimensions Fig. 6



1) optional protective cover, part number 1828104002

Diagrams

Actuating force+



F = actuating force

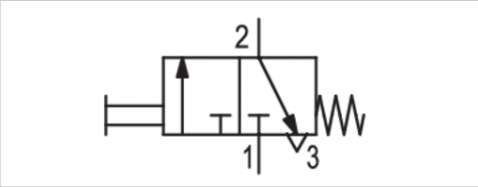
P = Working pressure

Series AP - inch

- Qn 1►2 = 250 l/min
- Qn 2►3 = 150 l/min
- Compressed air connection output 1/8-27 NPTF
- Pipe connection



Version	Poppet valve
Activation	Mechanical
Actuating element	panel installation
Switching principle	3/2
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-30 ... 80 °C
Medium temperature min./max.	-30 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m³
Weight	0,09 kg



Technical data

Part No.	Compressed air connection	
	Input	Output
R450055453	1/8 NPT	1/8-27 NPTF

Part No.	Compressed air connection	Flow	Flow
	Exhaust	Qn 1 ► 2	Qn 2 ► 3
R450055453	1/8 NPT	250 l/min	150 l/min

Nominal flow Qn at 6 bar and Δp = 1 bar

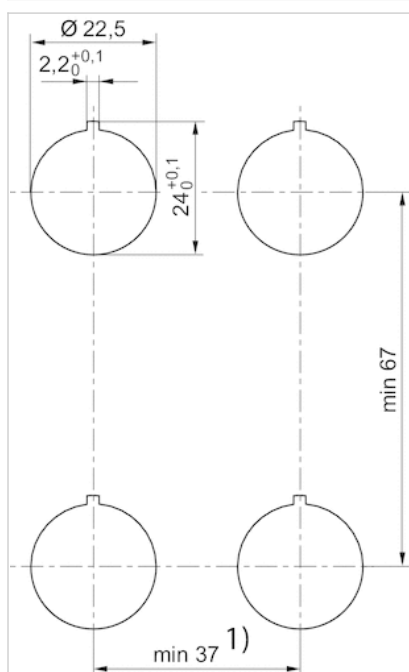
Please order control button separately., Cannot be combined with mushroom button with detent and rotary release R412012741

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

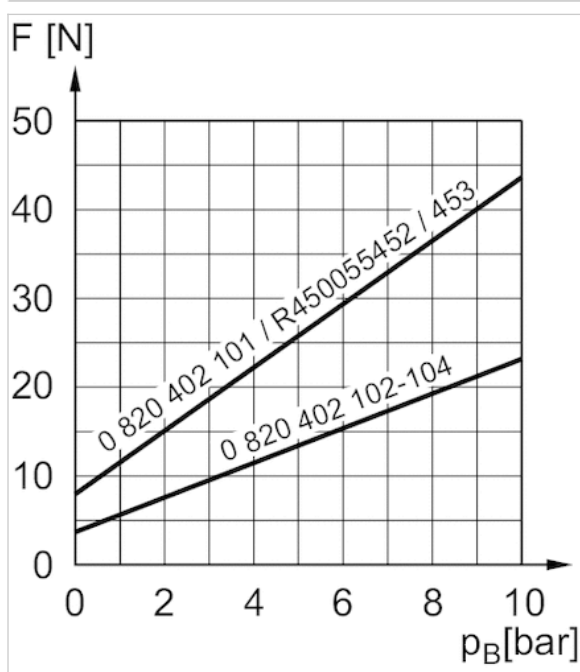
Dimensions cut-out in the front plate



1) For the mushroom buttons (R412012738, R412012739, R412012740) a minimum distance 41 mm must be ensured.

Diagrams

Actuating force+



F = actuating force
P = Working pressure

Actuating controls for AP/ST series control panel valves

- for series AP, ST



Ambient temperature min./max.

Weight

-30 ... 70 °C

See table below

Technical data

Part No.	Type	Color	Scope of delivery
R412012734	Push button	Red	1 piece
R412012735	Push button	Black	1 piece
R412012736	Push button	Yellow	1 piece
R412012737	Push button	Green	1 piece
R412012738	Mushroom button	Red	1 piece
R412012739	Mushroom button	Green	1 piece
R412012740	Mushroom button	Yellow	1 piece
R412012741	Mushroom button with detent and rotary release	Red	1 piece
R412012742	Lever switch	Red	1 piece
R412012743	Lever switch	White	1 piece
R412012744	Rotary switch with two notched positions	Red	1 piece
R412012745	Rotary switch with two notched positions	Grey	1 piece
R412012748	Push button with detent and rotary release	Black	1 piece
R412012746	Rotary lock with two keys	Grey	1 piece
R412015479	Rotary lock with two keys	Grey	1 piece

Part No.	Weight	Fig.	
R412012734	0,011 kg	Fig. 1	-
R412012735	0,011 kg	Fig. 1	-
R412012736	0,011 kg	Fig. 1	-
R412012737	0,011 kg	Fig. 1	-
R412012738	0,024 kg	Fig. 2	-
R412012739	0,024 kg	Fig. 2	-
R412012740	0,024 kg	Fig. 2	-
R412012741	0,047 kg	Fig. 3	1)
R412012742	0,014 kg	Fig. 4	-
R412012743	0,014 kg	Fig. 4	-

Part No.	Weight	Fig.	
R412012744	0,02 kg	Fig. 5	-
R412012745	0,02 kg	Fig. 5	-
R412012748	0,032 kg	Fig. 6	-
R412012746	0,05 kg	Fig. 7	2)
R412015479	0,05 kg	Fig. 7	3)

- 1) Only for ST series spring-return valves (R422002211, R422002213)
- 2) The key can be removed only if the button is in the actuated state.
- 3) The key can be removed in the actuated or non-actuated state.

Technical information

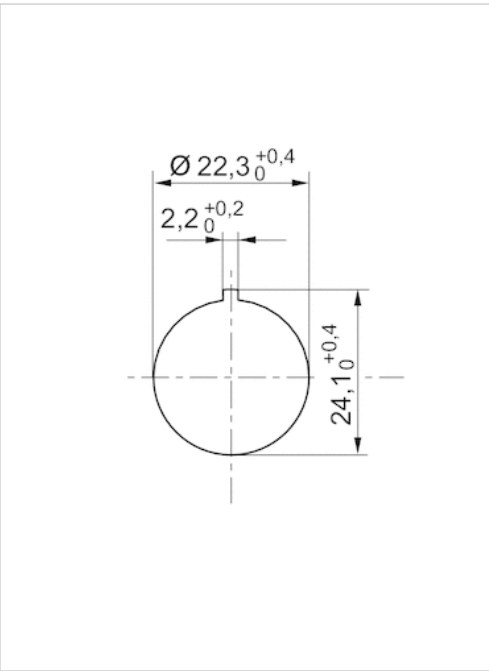
Combining an ST control panel valve with an actuating control may create an emergency OFF control device, which must comply with the applicable regulations in the EC Machinery Directive 2006/42/EC and the EN ISO 13850 and EN ISO 13849 standards. In terms of EN ISO 13849, an ST control panel valve is a single-channel component. A sturdier architecture must be selected to attain a higher performance level (c, d, e).

Technical information

Material	
Housing	Polyamide

Dimensions

Dimensions cut-out in the front plate single valve



When arranging multiple valves, see “cut-out in the front plate” of the AP or ST series.

Fig. 1

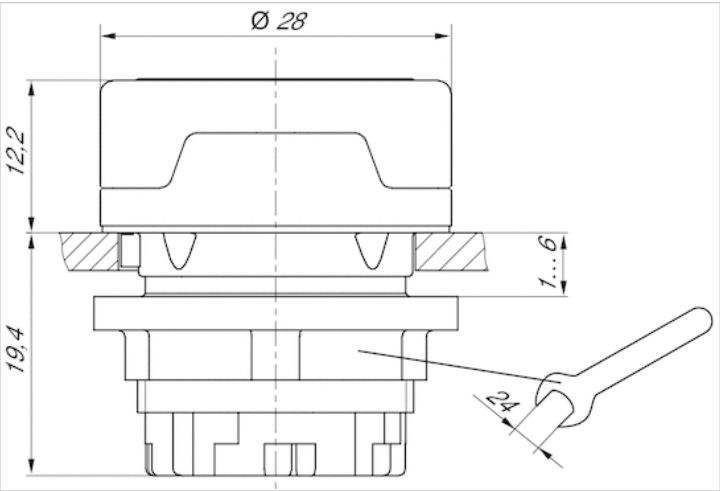


Fig. 2

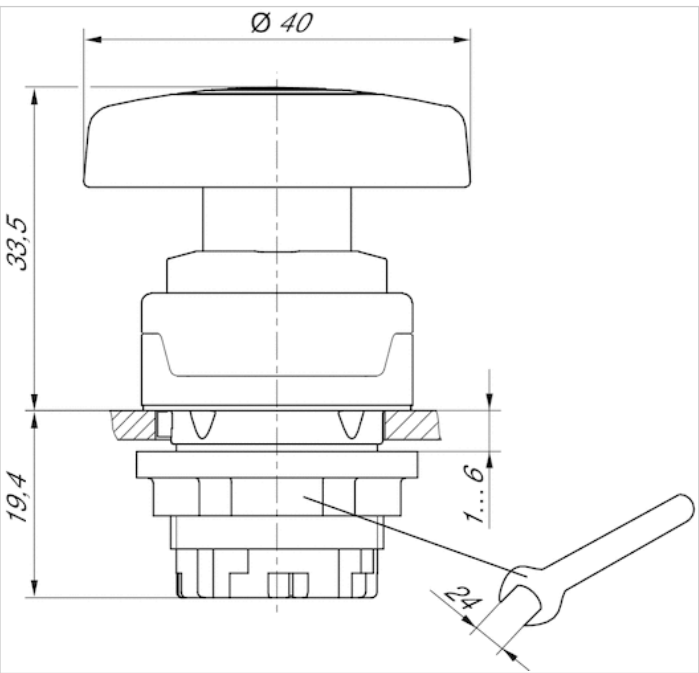
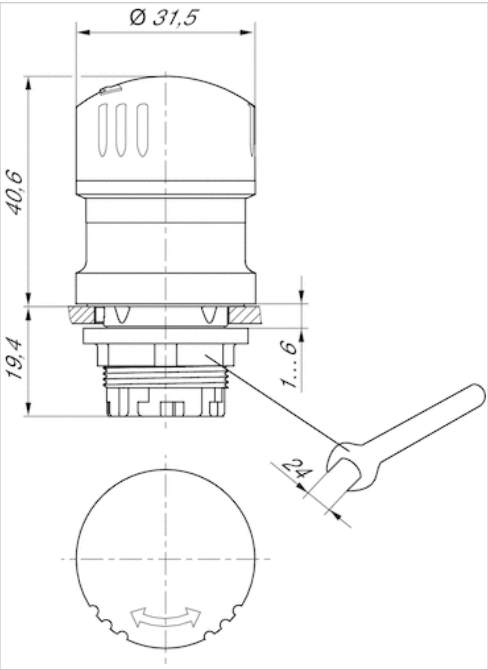


Fig. 3



Only for ST series spring-return valves (R422002211, R422002213)

Fig. 4

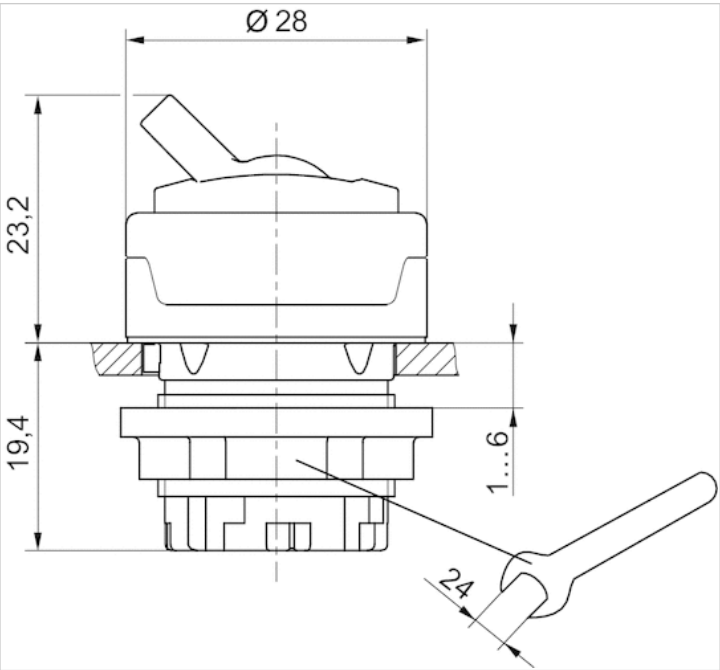


Fig. 5

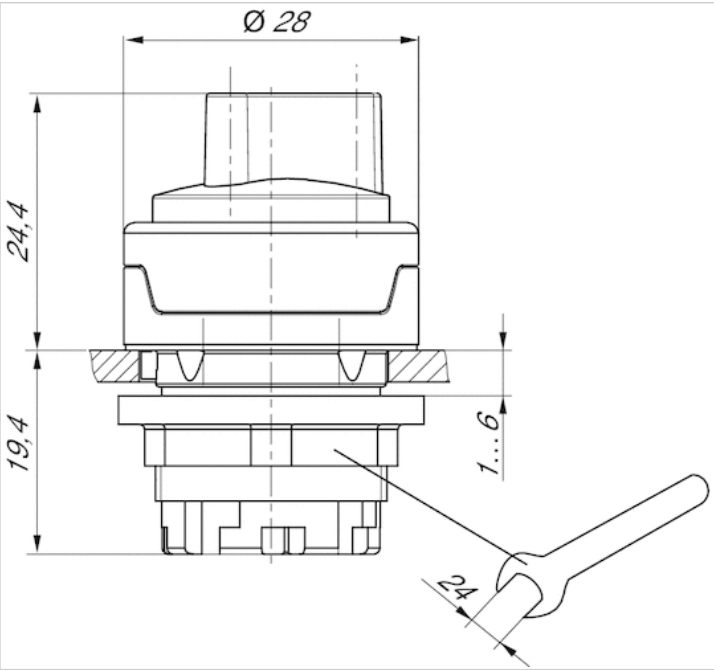


Fig. 6

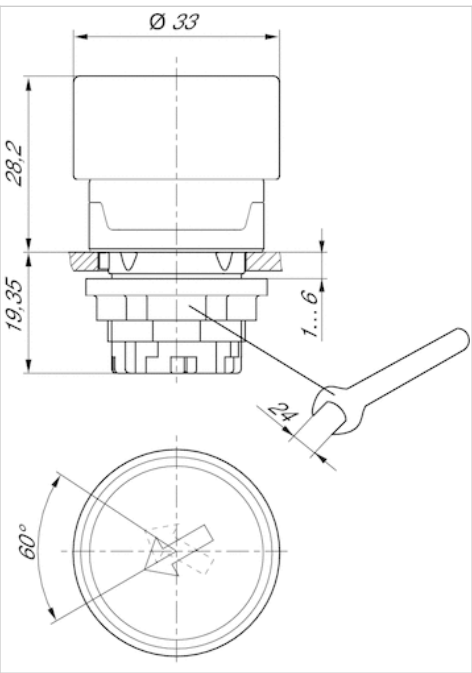
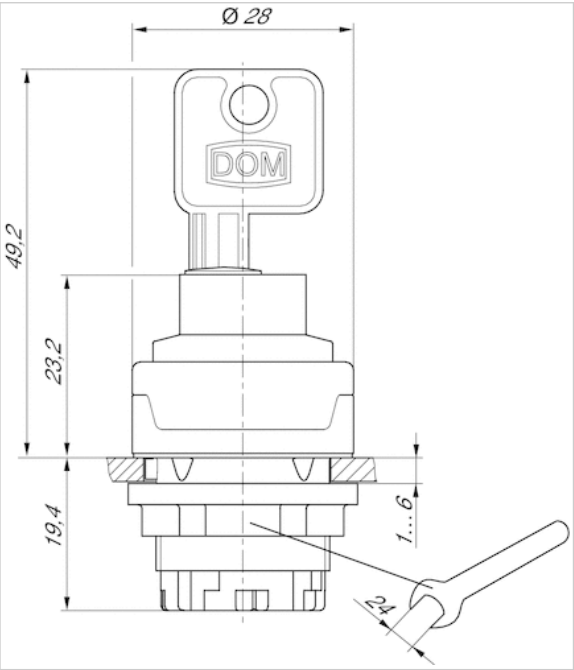
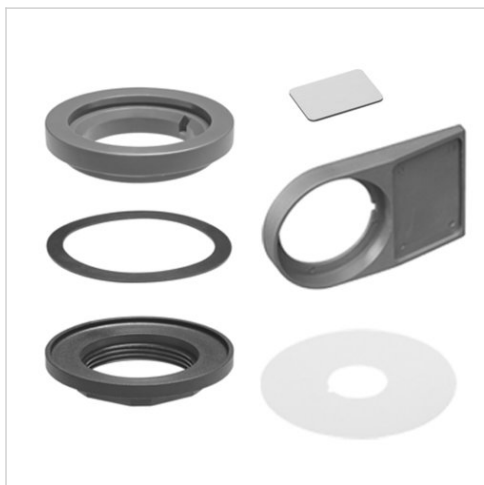


Fig. 7



Accessories for actuating controls for AP/ST series control panel valves

- for series AP, ST



Ambient temperature min./max.

-30 ... 70 °C

Weight

See table below

Technical data

Part No.	Type	Color	Material	Weight	Fig.	
R412012749	Label base	Anthracite	Polyamide	0,003 kg	Fig. 1	-
R412012750	Name plates, angular	silver	Polyvinyl chloride	0,001 kg	Fig. 2	-
R412012751	Emergency OFF sign, round	Yellow	Polyvinyl chloride	0,001 kg	Fig. 3	1)
R412012752	Blanking plug	Anthracite	Polyamide	0,026 kg	Fig. 4	-
R412012753	Mounting nut M22x1	Black	Polyamide	0,007 kg	Fig. 5	-
R412012989	Spare key	-	-	0,001 kg	Fig. 6	-
R412015512	Reduction , Ø30.5 to Ø22.5	-	Polyamide	0,001 kg	Fig. 7	-

1) Only for ST series spring-return valves (R422002211, R422002213)

Technical information

Material	
Housing	Polyamide, Polyvinyl chloride

Dimensions

Fig. 7

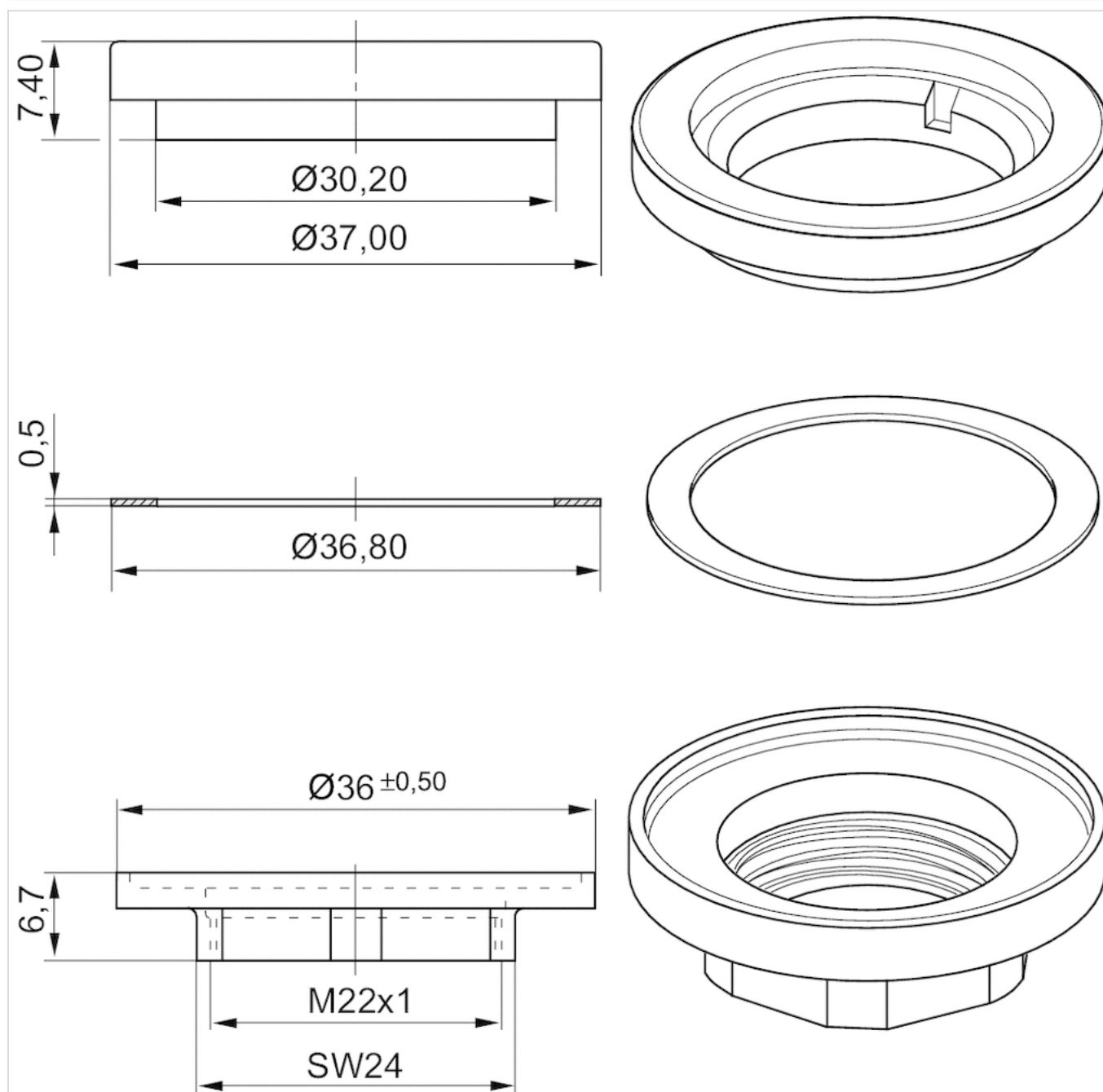


Fig. 1

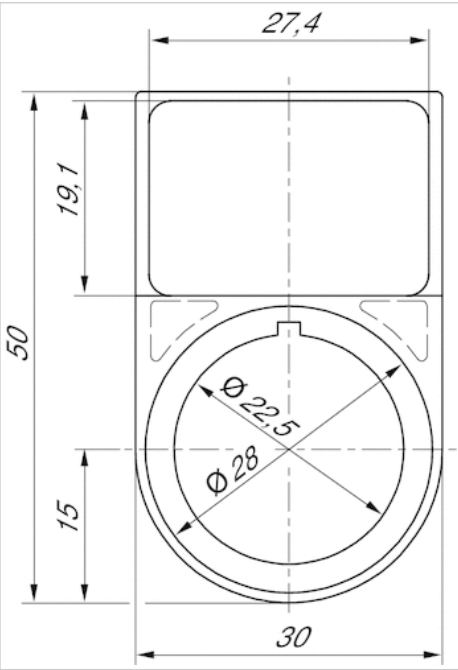


Fig. 2

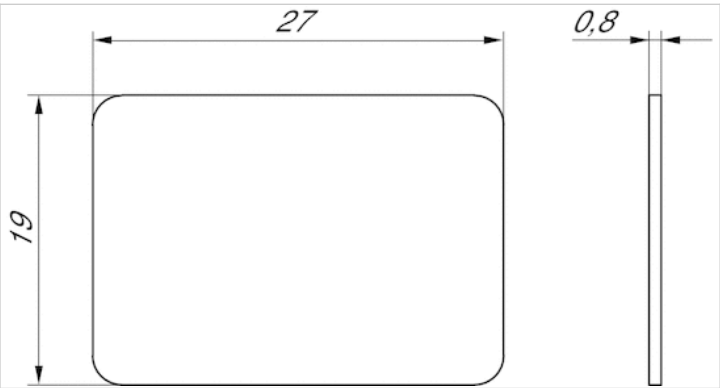
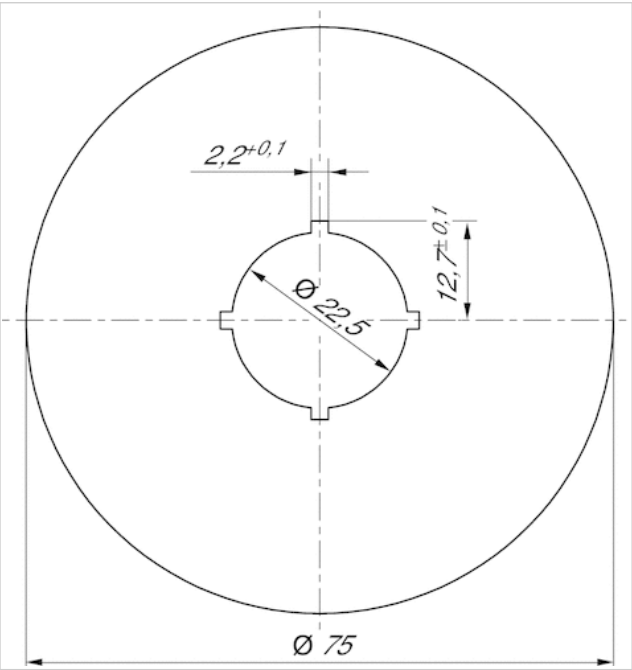


Fig. 3



Only for ST series spring-return valves (R422002211, R422002213)

Fig. 4

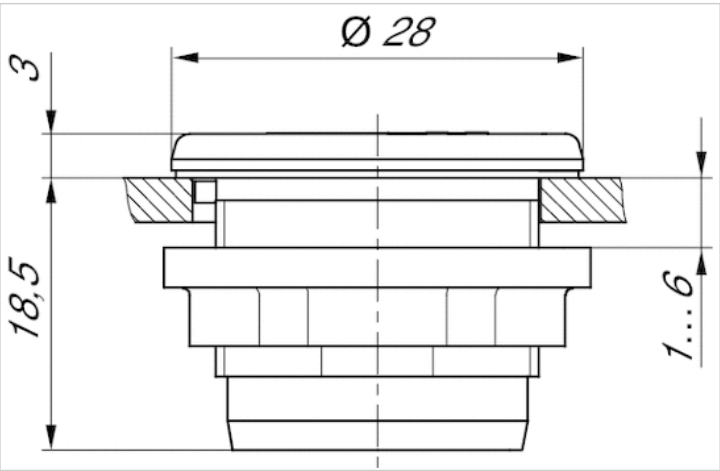


Fig. 5

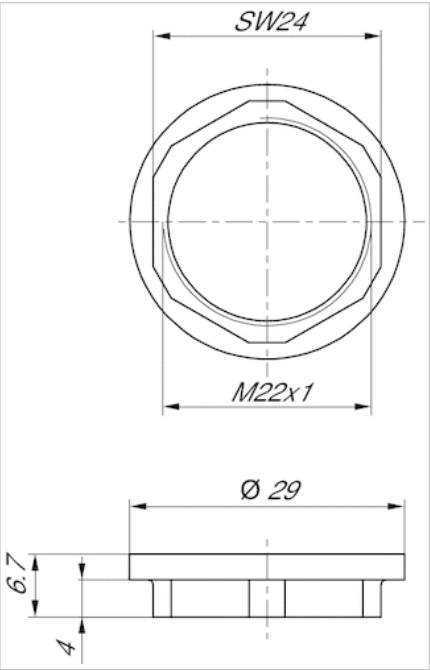
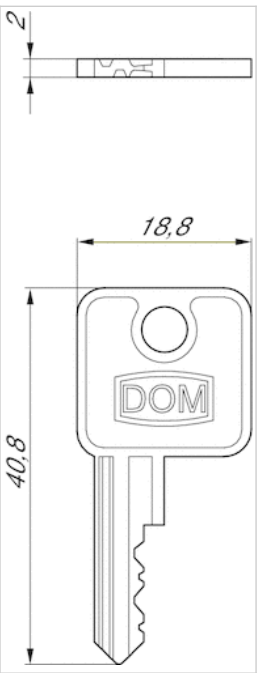
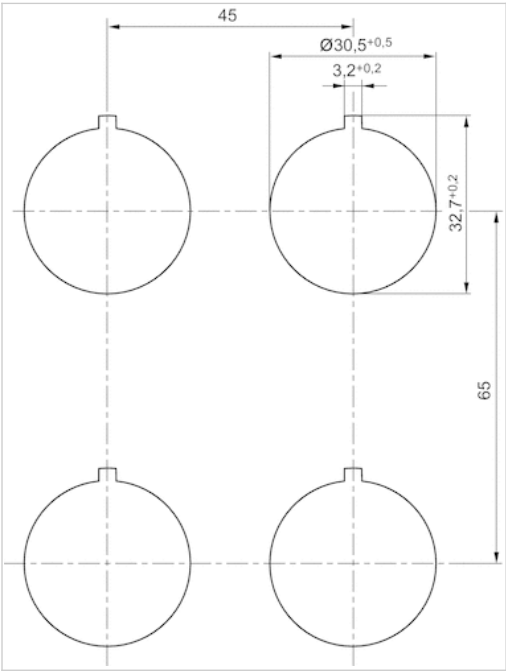


Fig. 6





Adapter kit to connect actuating controls to AP/ST series valves

- for series AP, ST



Ambient temperature min./max.

-30 ... 70 °C

Weight

0,003 kg

Technical data

Part No.	Type
R422002219	Adapter

Technical information

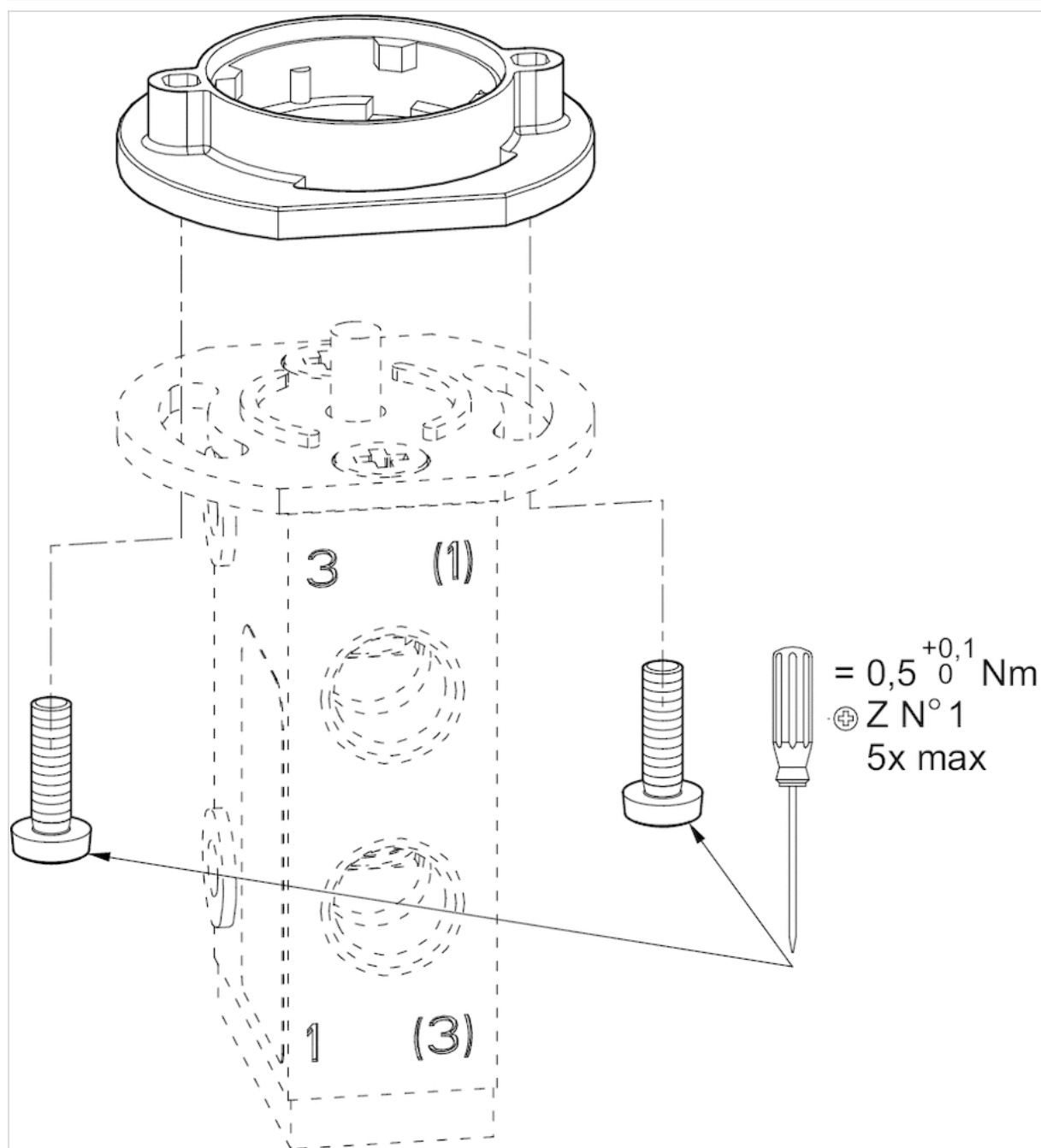
The adapter kit is only needed to connect the following actuating controlsR412012734, R412012735,R412012736, R412012737, R412012738, R412012739, R412012740,R412012741, R412012742, R412012743, R412012744, R412012745, R412012746, R412012748to the following valves 0820402024, 0820402025, 0820403024, 0820403025, 0820402106, 0820408007, 0820404025.

Technical information

Material	
Housing	Polyamide

Dimensions

Dimensions



for panel-mounted valves

Protective cover, Series AP



Weight

1 kg

Technical data

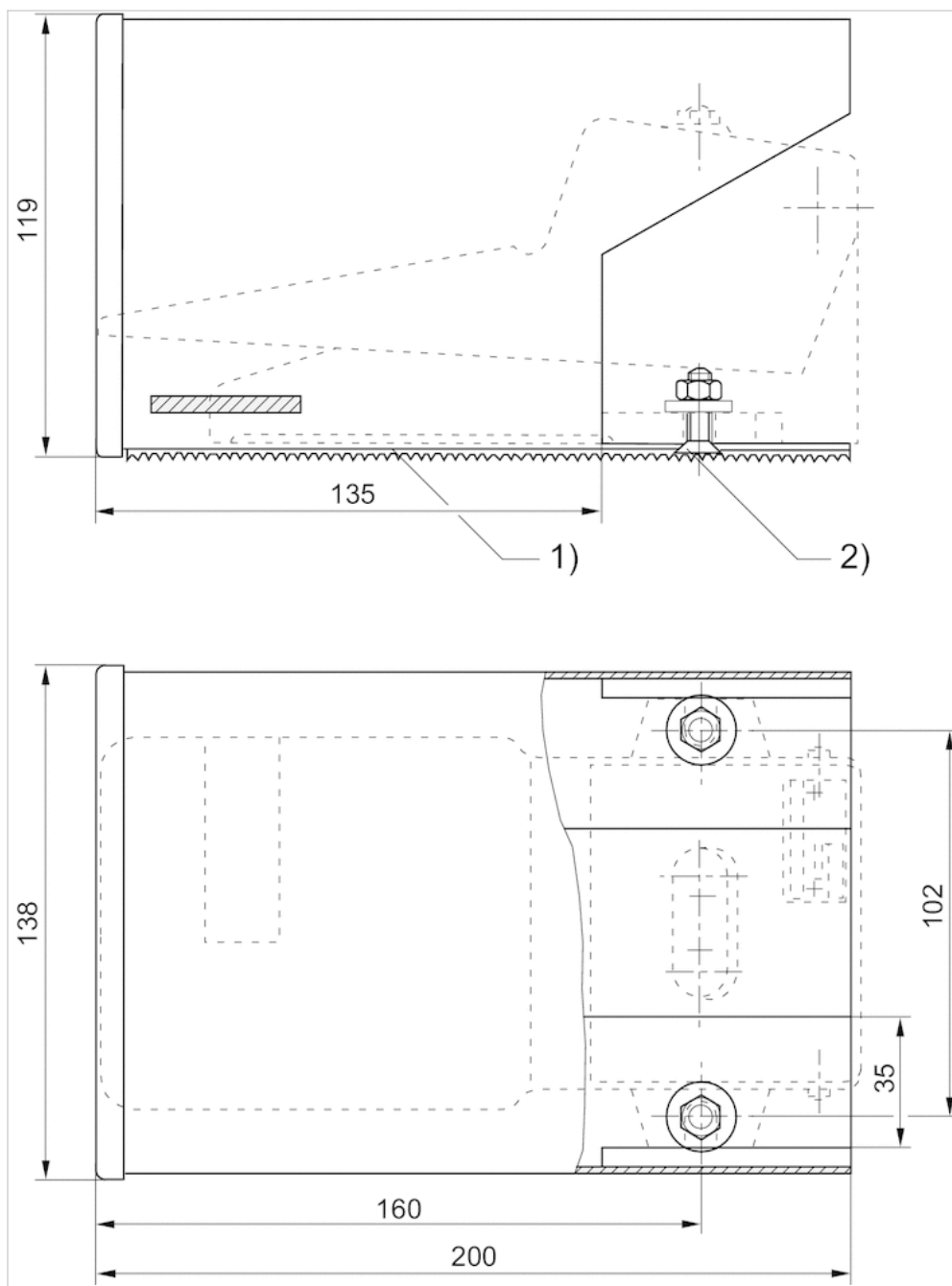
Part No.	Type	Suitable for
1828104001	Protective cover for valve foot pedal	Valve foot pedal

Delivery incl. seal and mounting screw

Technical information

Material	
Housing	Steel, painted gray

Dimensions



1) Ribbed rubber 2) Countersunk screw with hexagon socket M6 x20

Protective cover, Series AP



Weight

0,35 kg

Technical data

Part No.	Type
1828104002	Protective cover for valve foot pedal, with detent

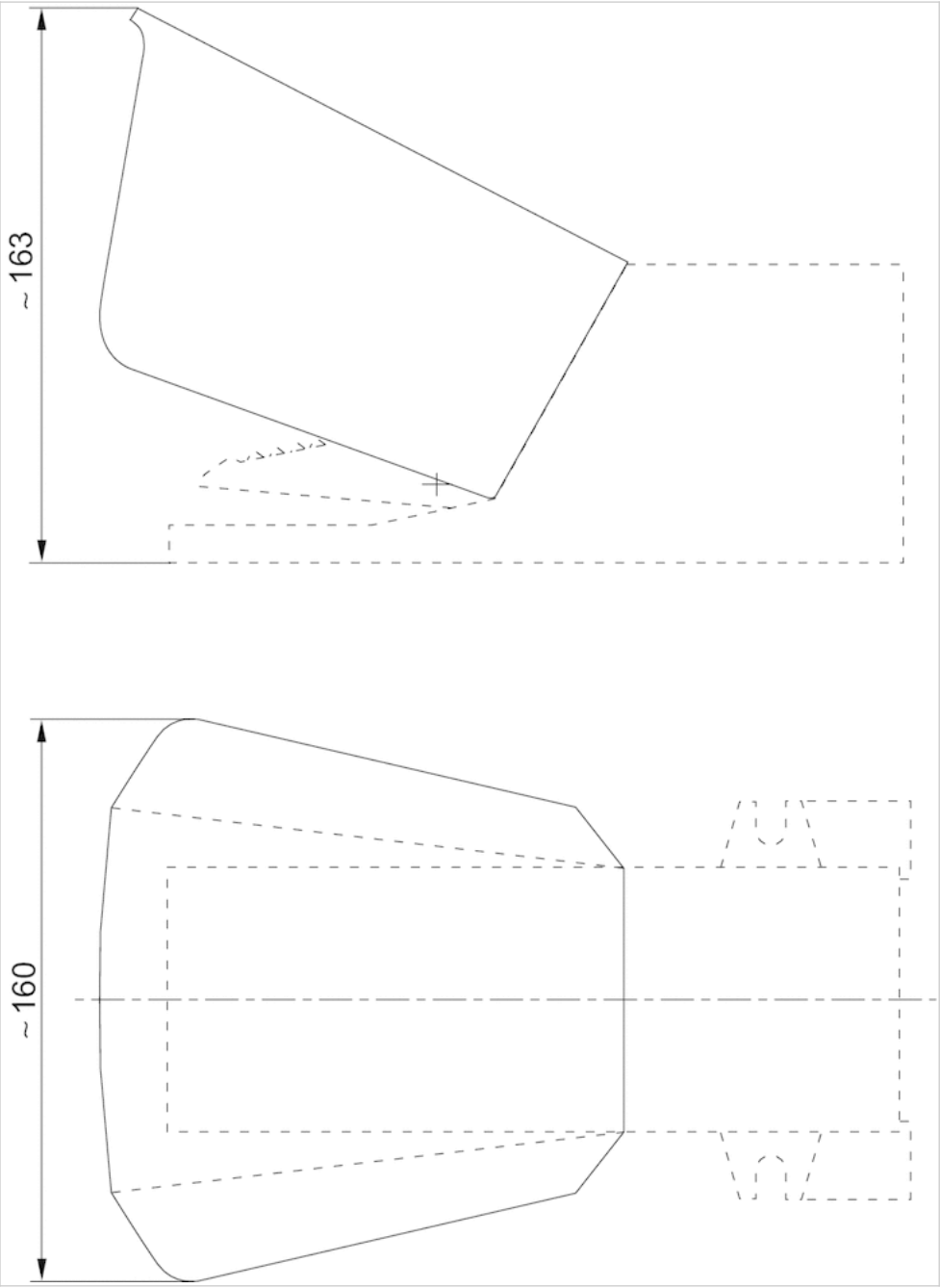
Part No.	Suitable for
1828104002	Valve foot pedal, with detent

Delivery incl. 2 mounting screws

Technical information

Material	
Housing	Aluminum, painted gray

Dimensions



Silencers, series SI1

- Sintered bronze



Working pressure min./max.

0 ... 10 bar

Ambient temperature min./max.

-25 ... 80 °C

Medium

Compressed air

Sound pressure level

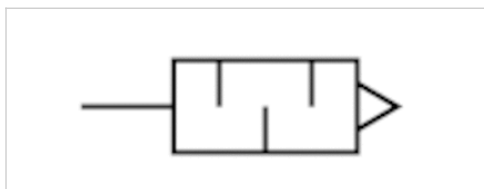
See table below

Weight

See table below

Comment

Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Sound pressure level	Flow	Delivery unit	Weight
			Qn		
1827000000	G 1/8	75 dB	1623 l/min	10 piece	0,01 kg
1827000001	G 1/4	79 dB	3390 l/min	10 piece	0,02 kg

Weight per piece

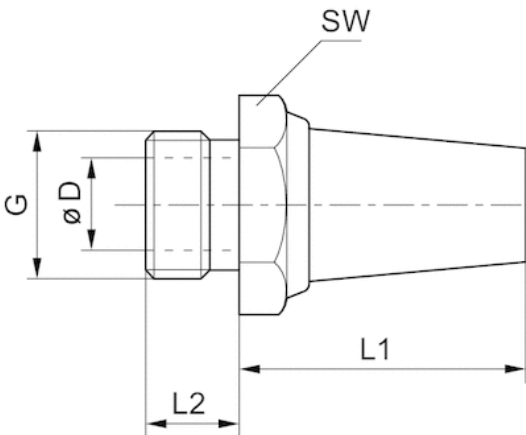
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencers	Sintered bronze
Thread	Brass

Dimensions

Dimensions

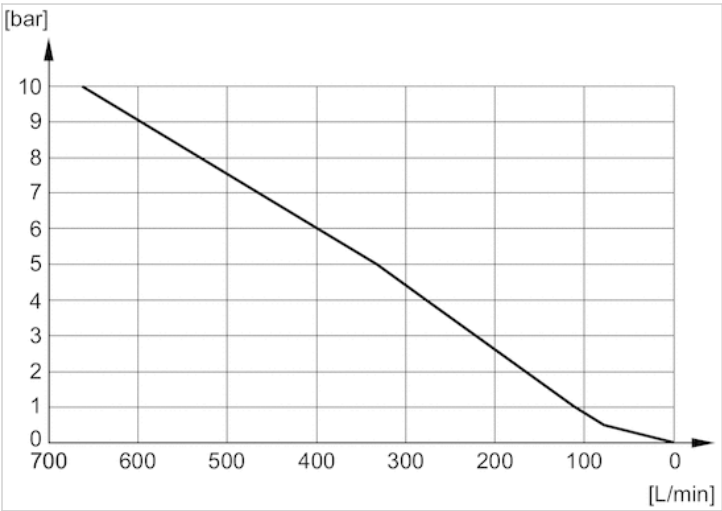


Dimensions

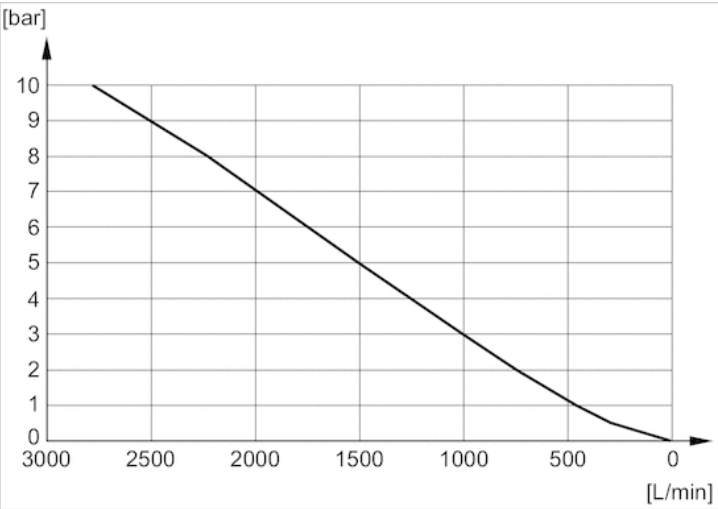
Part No.	Port G	SW	Ø D	L1	L2
1827000000	G 1/8	13	6	18	6
1827000001	G 1/4	17	8.5	25	8

Diagrams

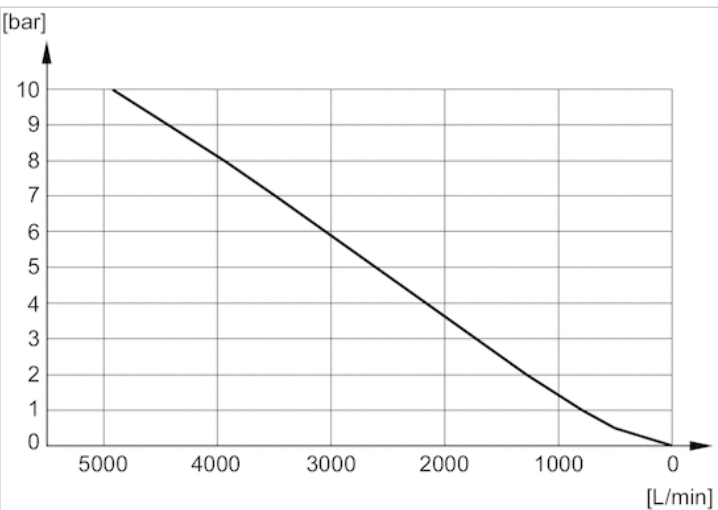
Flow diagram 1827000006



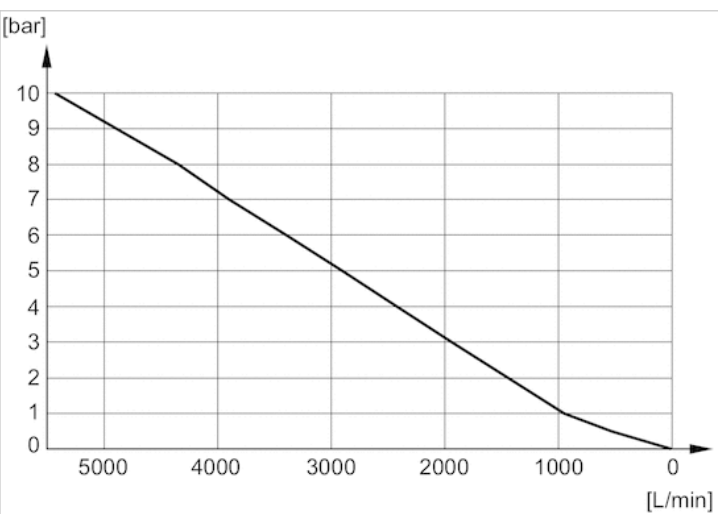
Flow diagram 5324001110



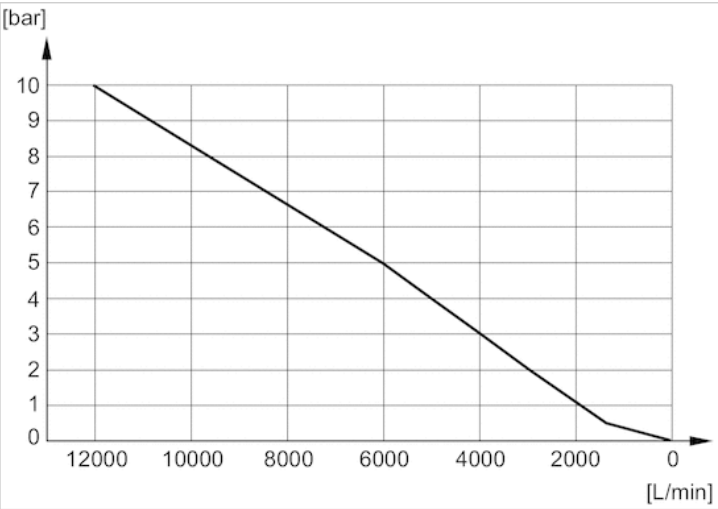
Flow diagram 5324001170



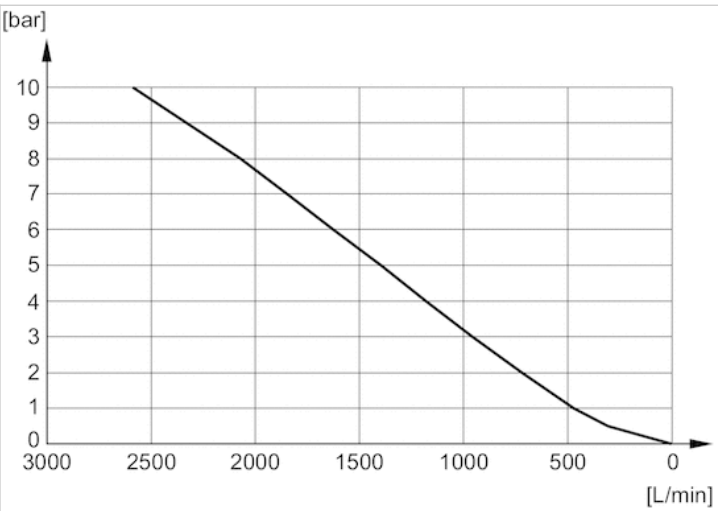
Flow diagram 5324001120



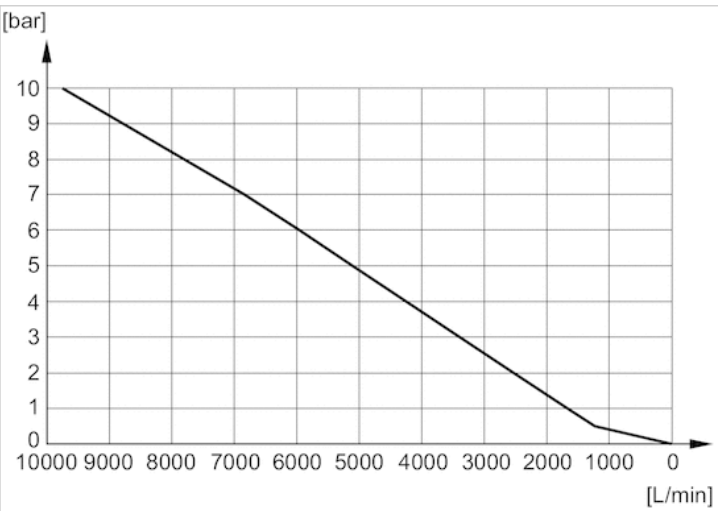
Flow diagram 5324001140



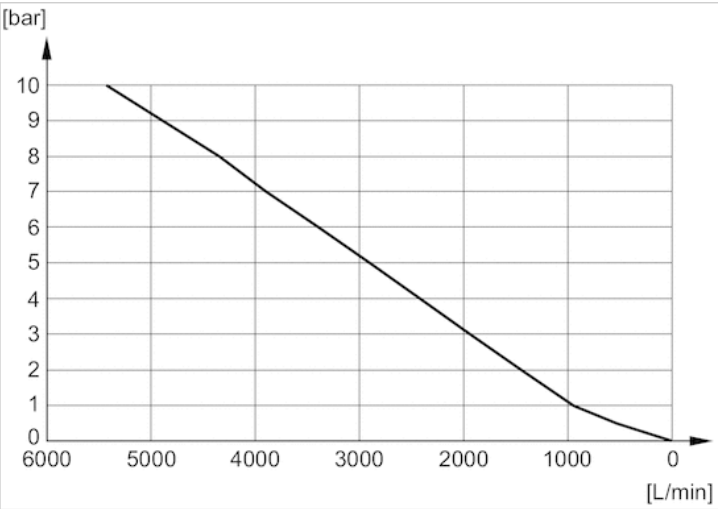
Flow diagram 1827000000



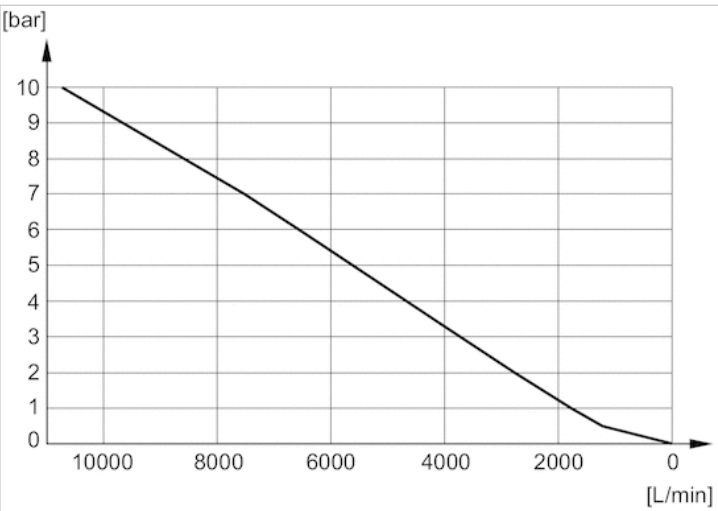
Flow diagram R412004817



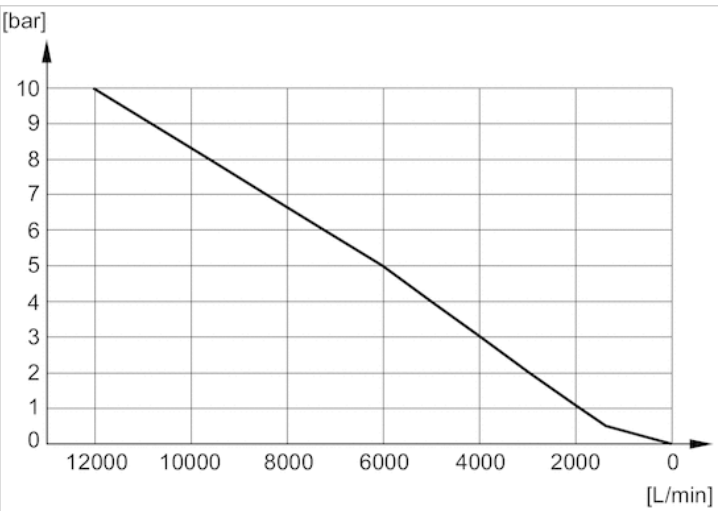
Flow diagram 1827000001



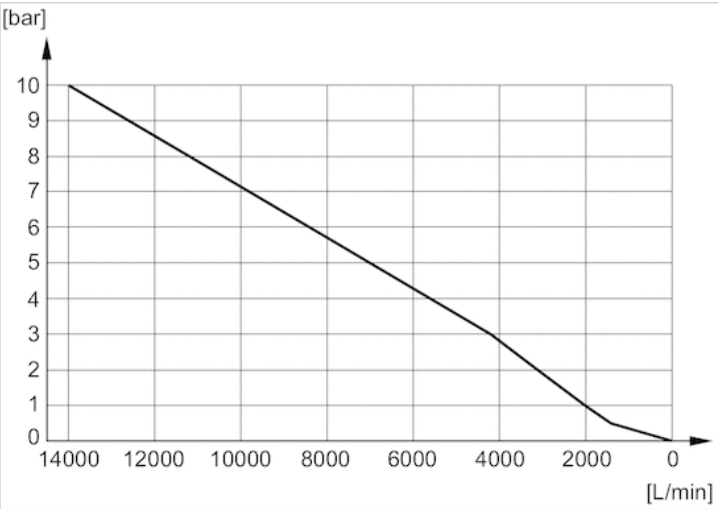
Flow diagram 1827000002



Flow diagram 1827000003



Flow diagram 1827000004



Flow diagram 1827000005

