

# Series AP



### Series AP

The AVENTICS Series AP offers a wide range of poppet valves with aluminium housing. With many actuation control versions available (roller, lever, pedal, push-button or plunger) the AP Series is the universal solution for automation systems and panel installation.

- Light and robust valves
- Various mechanical actuating controls
- panel installation



## Product overview

	Page
<b>Lever</b>	
2/2-directional valve, Series AP.....	6
Lever - 2/2 NC, with spring return	
3/2-directional valve, Series AP.....	8
Lever - 3/2, double solenoid	
3/2-directional valve, Series AP.....	10
Lever - 3/2, with spring return	
3/2-directional valve, Series AP.....	12
Lever - 3/2, double solenoid	
4/2-directional valve, Series AP.....	13
Lever - 4/2, double air pilot	
<b>Pedal</b>	
3/2-directional valve, Series AP.....	15
3/2, with spring return	
3/2-directional valve, Series AP.....	17
3/2, with spring return	
4/2-directional valve, Series AP.....	19
Pedal - 4/2, with spring return	
4/2-directional valve, Series AP.....	21
4/2, with spring return	
<b>Plunger</b>	
2/2-directional valve, Series AP.....	23
Plunger - 2/2, with spring return	
3/2-directional valve, Series AP.....	25
Plunger - 3/2, with spring return	
3/2-directional valve, Series AP.....	27
Plunger - 3/2, double solenoid	
3/2-directional valve, Series AP.....	29
Plunger - 3/2, with spring return	
4/2-directional valve, Series AP.....	31
4/2, with spring return	
<b>Push button</b>	
2/2-directional valve, Series AP.....	33
Push button - 2/2, with spring return	
3/2-directional valve, Series AP.....	35
Push button - 3/2, with spring return	
3/2-directional valve, Series AP.....	37
Push button - 3/2, double solenoid	
3/2-directional valve, Series AP.....	39
3/2, with spring return	
4/2-directional valve, Series AP.....	41
Push button - 4/2, with spring return	
<b>Roller</b>	
2/2-directional valve, Series AP.....	43
Roller - 2/2, with spring return	
2/2-directional valve, Series AP.....	45
Roller lever, one-way trip - 2/2, with spring return	

## Product overview

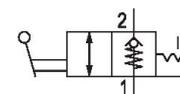
	Page
3/2-directional valve, Series AP.....	47
Roller - 3/2, with spring return	
3/2-directional valve, Series AP.....	49
Roller lever, one-way trip - 3/2, with spring return	
3/2-directional valve, Series AP.....	51
Roller - 3/2, double solenoid	
3/2-directional valve, Series AP.....	53
Roller lever, one-way trip - 3/2, double solenoid	
3/2-directional valve, Series AP.....	55
Roller - 3/2, with spring return	
3/2-directional valve, Series AP.....	57
Roller lever, one-way trip - 3/2, with spring return	
4/2-directional valve, Series AP.....	59
Roller - 4/2, with spring return	
<b>For panel installation</b>	
3/2-directional valve, Series AP.....	61
panel installation - 3/2, double solenoid	
3/2-directional valve, Series AP.....	63
panel installation - 3/2, with spring return	
Series AP - inch.....	65
<b>Accessories overview Rotary switch</b>	
Actuating controls for AP/ST series control panel valves.....	67
Rotary switch with two notched positions - Red	
Actuating controls for AP/ST series control panel valves.....	68
Rotary switch with two notched positions - Grey	
<b>Accessories overview Rotary lock</b>	
Actuating controls for AP/ST series control panel valves.....	69
Rotary lock with two keys - Grey - Rotary lock with two keys - Grey	
<b>Accessories overview Push button</b>	
Actuating controls for AP/ST series control panel valves.....	70
Push button - Red	
Actuating controls for AP/ST series control panel valves.....	71
Push button - Black	
Actuating controls for AP/ST series control panel valves.....	72
Push button - Yellow	
Actuating controls for AP/ST series control panel valves.....	73
Push button - Green	
Actuating controls for AP/ST series control panel valves.....	74
Push button with detent and rotary release - Black	
<b>Accessories overview Lever switch</b>	
Actuating controls for AP/ST series control panel valves.....	75
Lever switch - Red	
Actuating controls for AP/ST series control panel valves.....	76
Lever switch - White	
<b>Accessories overview Mushroom button</b>	
Actuating controls for AP/ST series control panel valves.....	77
Mushroom button - Red	

## Product overview

	Page
Actuating controls for AP/ST series control panel valves.....	78
Mushroom button - Green	
Actuating controls for AP/ST series control panel valves.....	79
Mushroom button - Yellow	
Actuating controls for AP/ST series control panel valves.....	80
Emergency OFF button, red, with detent and rotary release - Red	
<b>Accessories overview Mechanical accessories</b>	
Accessories for actuating controls for AP/ST series control panel valves.....	81
Label base - Anthracite	
Accessories for actuating controls for AP/ST series control panel valves.....	82
Name plates, angular - silver	
Accessories for actuating controls for AP/ST series control panel valves.....	83
Emergency OFF sign, round - Yellow	
Accessories for actuating controls for AP/ST series control panel valves.....	84
Blanking plug - Anthracite	
Accessories for actuating controls for AP/ST series control panel valves.....	85
Mounting nut M22x1 - Black	
Accessories for actuating controls for AP/ST series control panel valves.....	86
Spare key	
Accessories for actuating controls for AP/ST series control panel valves.....	87
Reduction , Ø30.5 to Ø22.5	
Accessories for actuating controls for AP/ST series control panel valves.....	88
Adapter kit to connect actuating controls to AP/ST series valves	
Protective cover, Series AP.....	89
Protective cover, Series AP.....	91
<b>Accessories overview Silencer</b>	
Silencers, series SI1, Sintered bronze.....	93

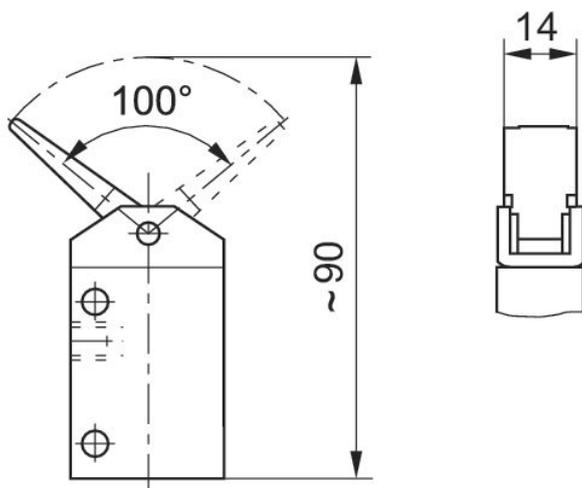
### 2/2-directional valve, Series AP

Flow: 350 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 350 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



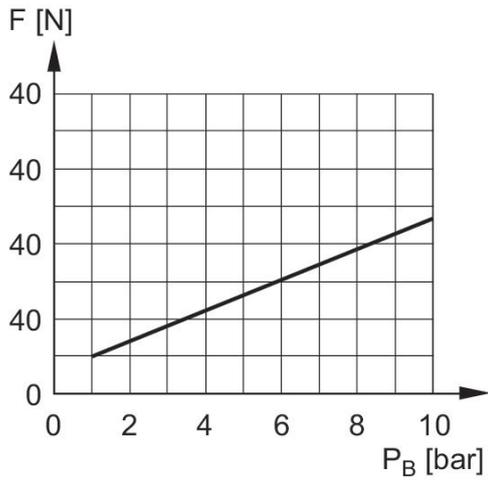
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Lever	2/2 NC, with spring return	G 1/8	G 1/8	0820404024

Dimensions in mm



actuating torque: 6 Ncm

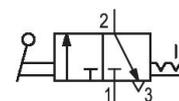
Actuating force+



F = actuating force  
P<sub>B</sub> = Working pressure

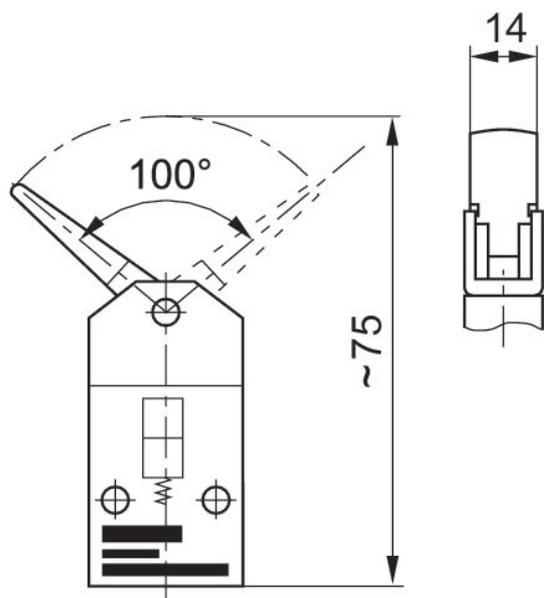
### 3/2-directional valve, Series AP

Flow: 190 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Lever	3/2, double air pilot	M5	M5	0820408005

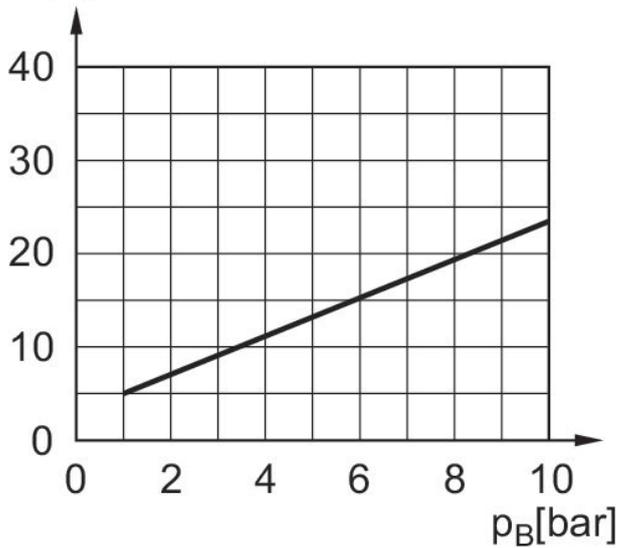
Dimensions in mm



actuating torque: 5 Ncm

Actuating force+

F [N]



F = actuating force  
 $p_B$  = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Qn 1 > 2: 250 l/min

Compressed air connection type: Internal thread

Compressed air connection input: G 1/8

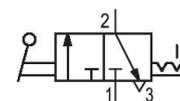
Compressed air connection output: G 1/8

Compressed air connection, exhaust: G 1/8

Ambient temperature min./max.: -30 °C ... 80 °C

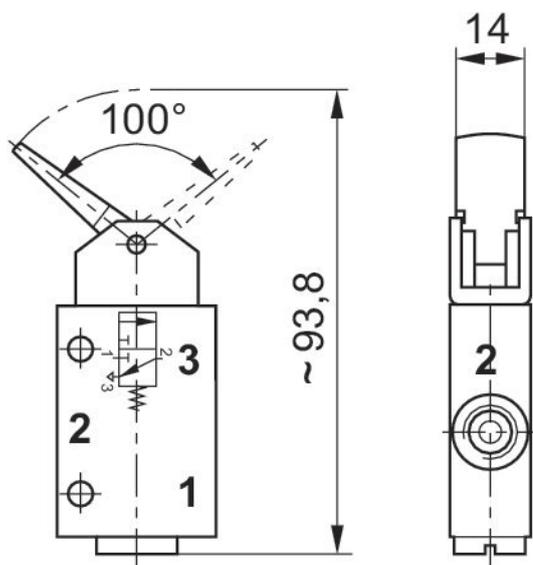
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



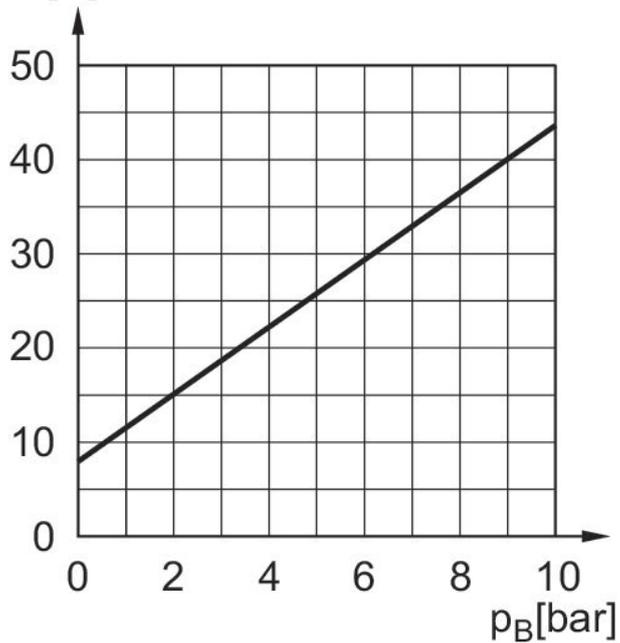
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Lever	3/2, with spring return	G 1/8	G 1/8	G 1/8	0820402105

Dimensions in mm



Actuating force+

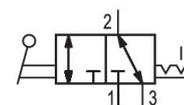
F [N]



F = actuating force  
 $p_B$  = Working pressure

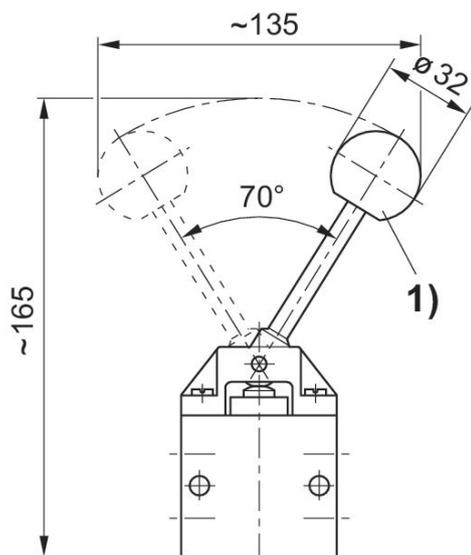
### 3/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Lever	3/2, double air pilot	G 1/4	G 1/4	G 1/4	0820400005

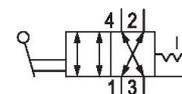
Dimensions in mm



actuating torque: 40 Ncm  
 1) Ball

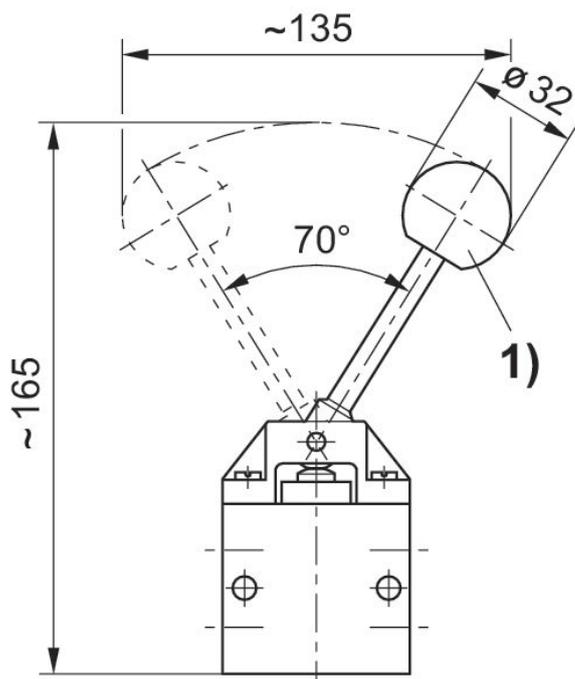
### 4/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar

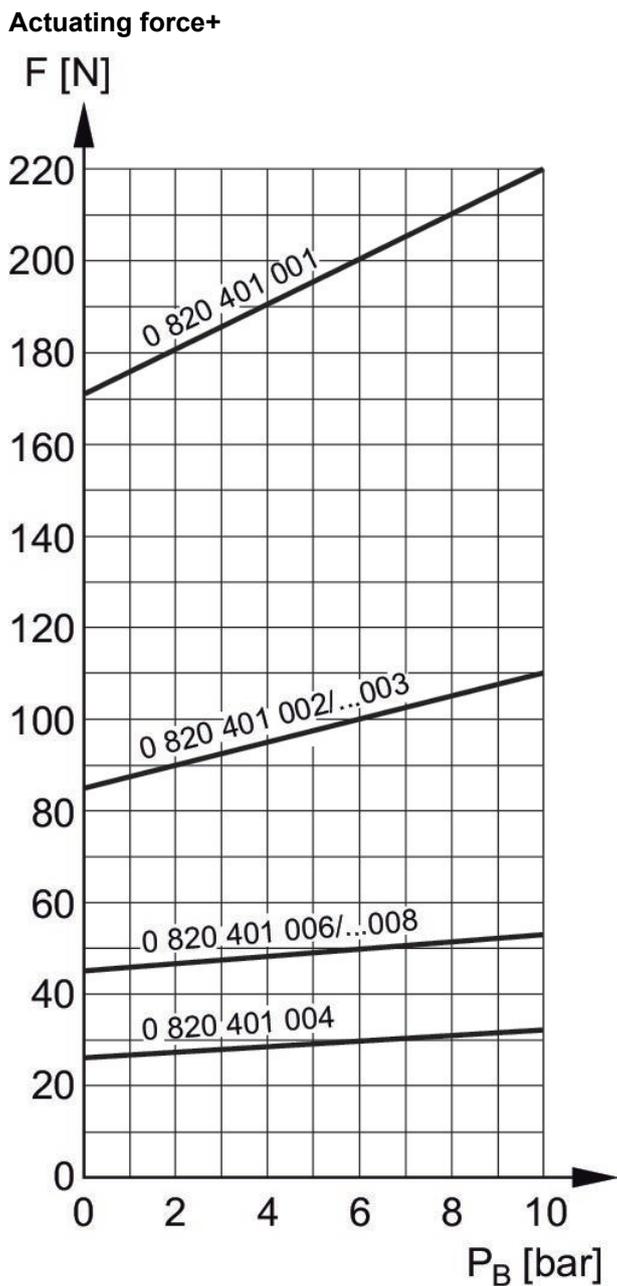


Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Lever	4/2, double air pilot	G 1/4	G 1/4	G 1/4	0820401005

Dimensions in mm



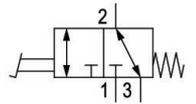
actuating torque: 40 Ncm  
 1) Ball



F = actuating force  
P<sub>B</sub> = Working pressure

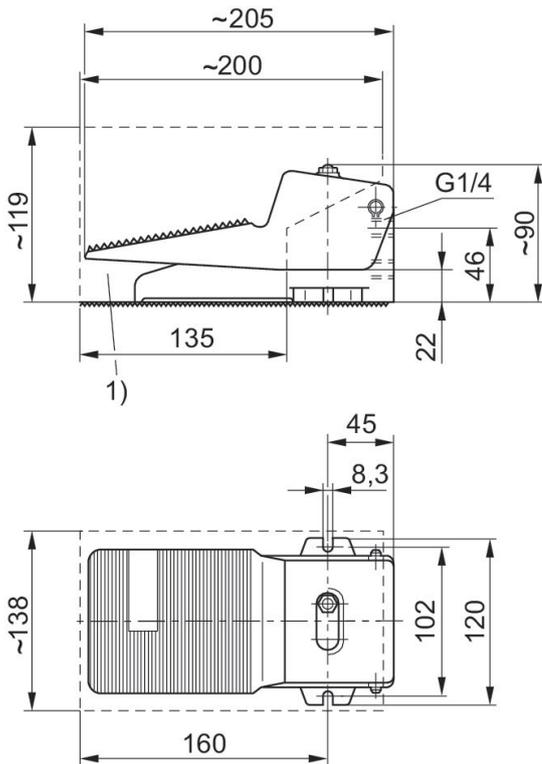
### 3/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Pedal	3/2, with spring return	G 1/4	G 1/4	G 1/4	082040006

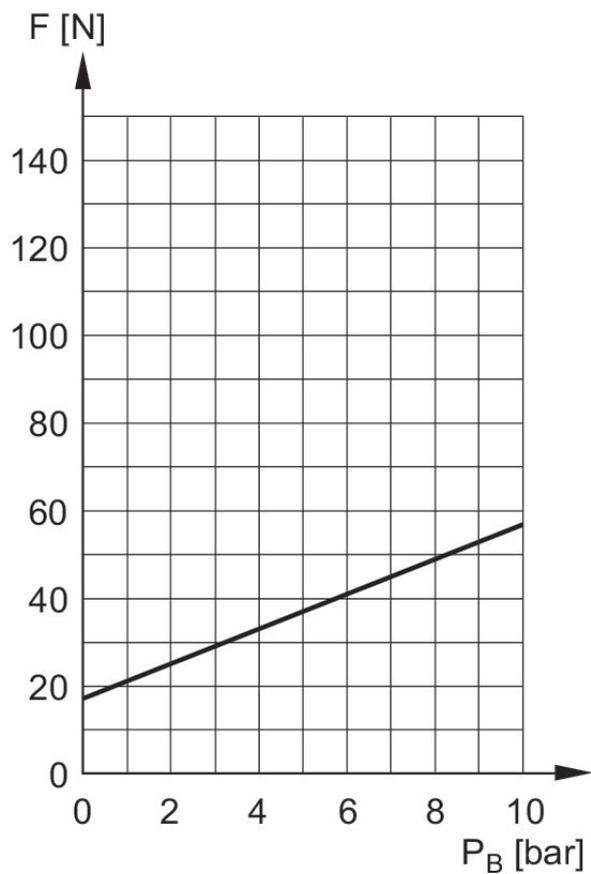
Dimensions in mm



1) optional protective cover, part number 1828104001

Actuating force+

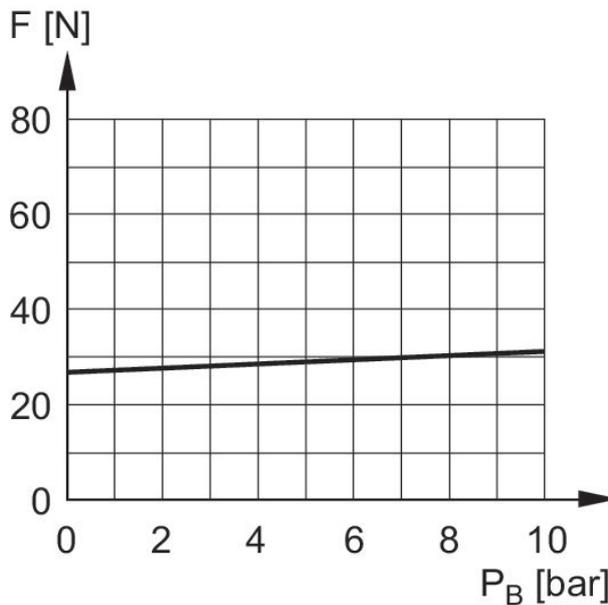
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

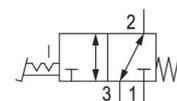
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

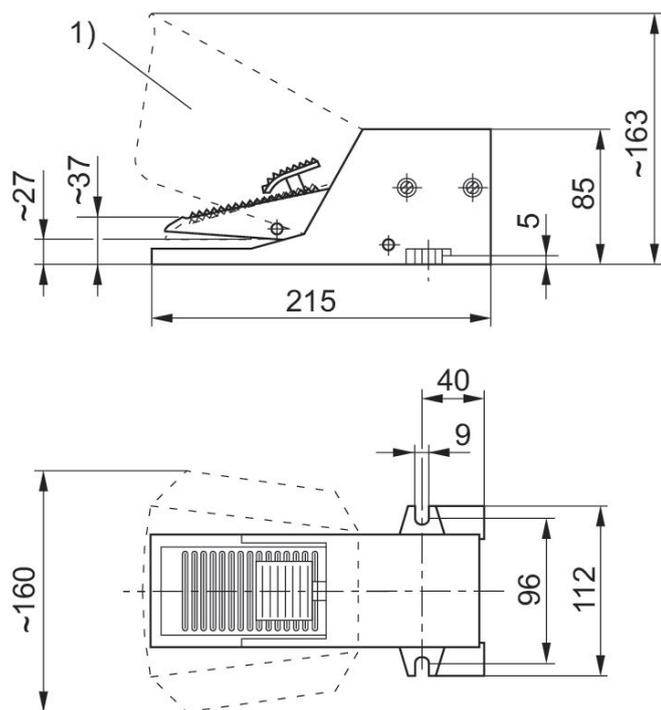
### 3/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Pedal, with detent	3/2, with spring return	G 1/4	G 1/4	G 1/4	0820400008

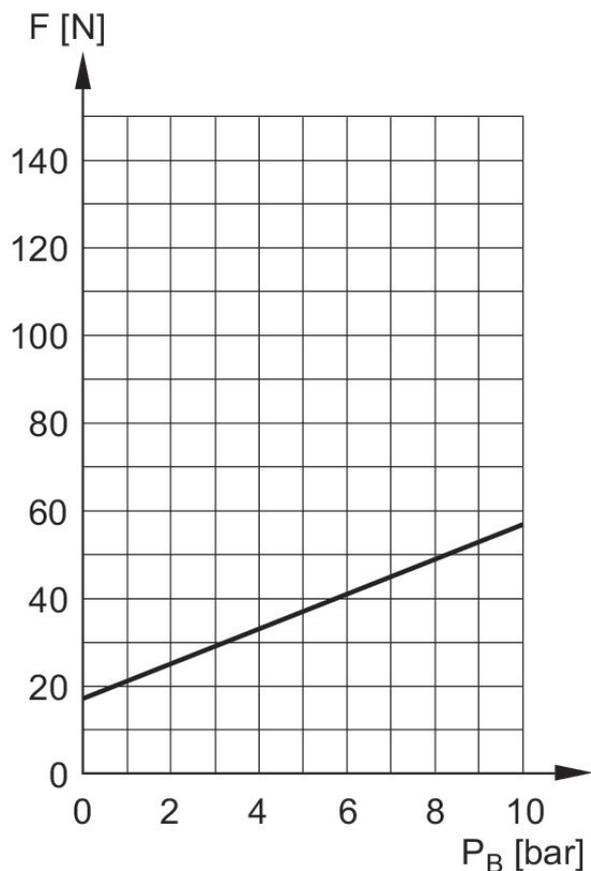
Dimensions in mm



1) optional protective cover, part number 1828104002

Actuating force+

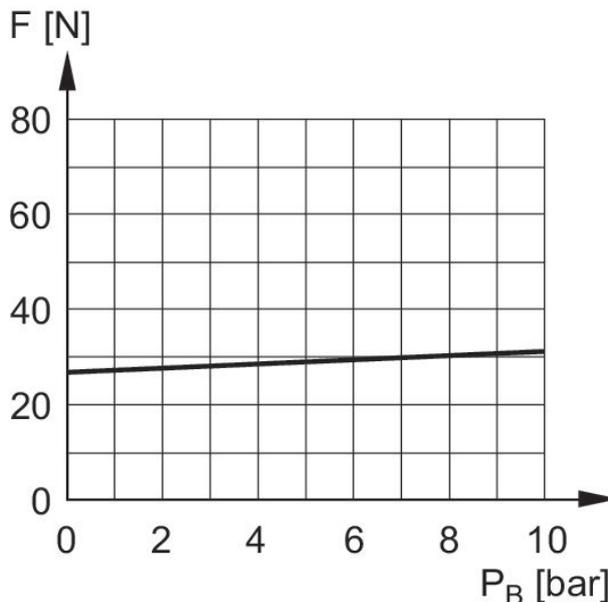
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

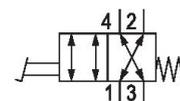
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

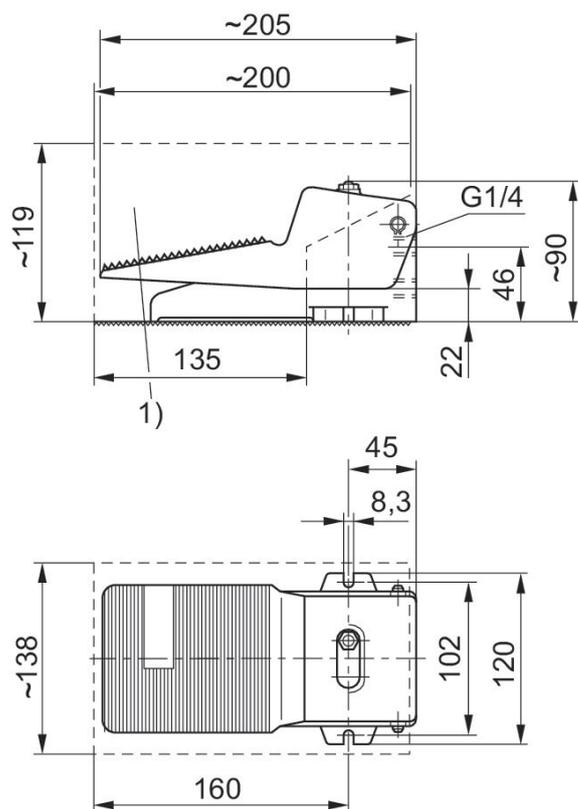
### 4/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar

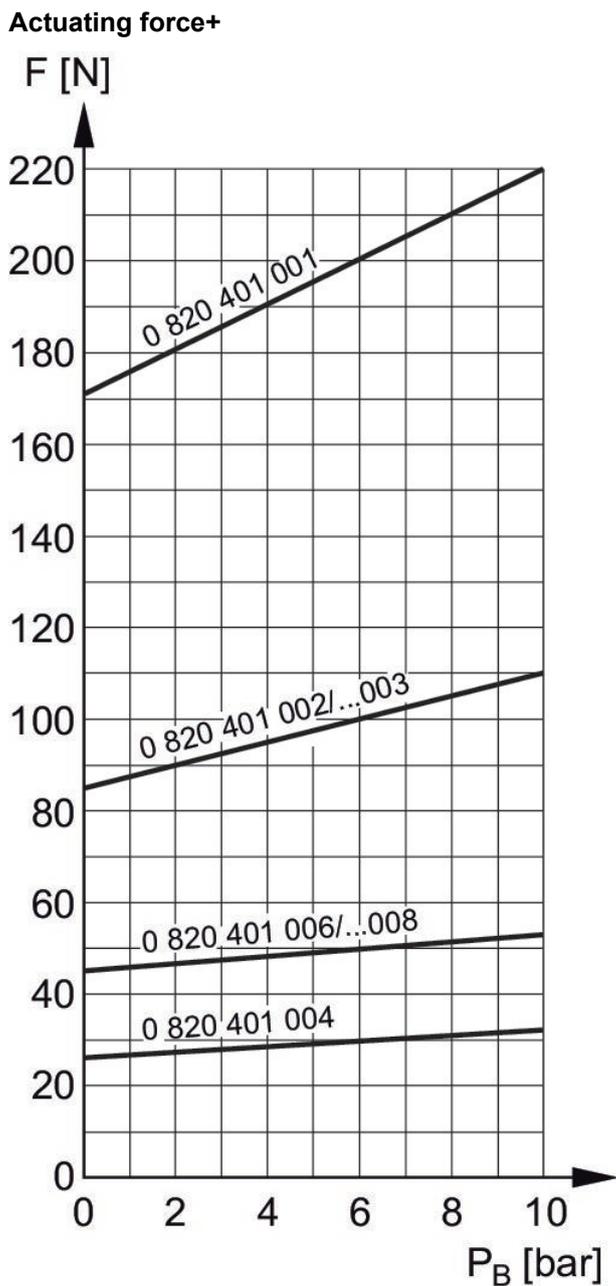


Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Pedal	4/2, with spring return	G 1/4	G 1/4	G 1/4	0820401006

Dimensions in mm



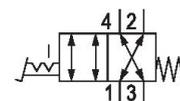
1) optional protective cover, part number 1828104001



F = actuating force  
P<sub>B</sub> = Working pressure

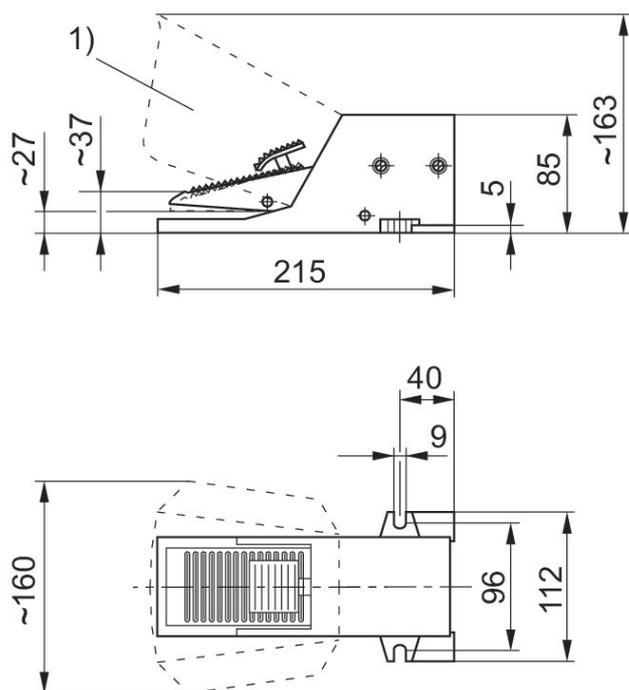
### 4/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar

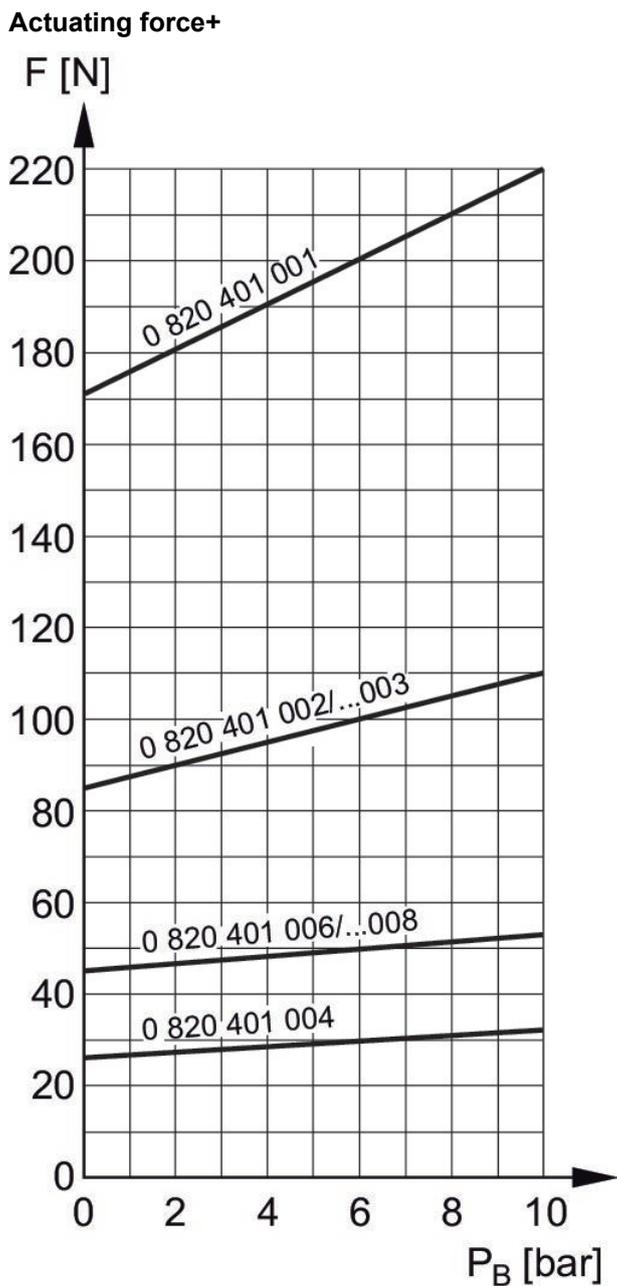


Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Pedal, with detent	4/2, with spring return	G 1/4	G 1/4	G 1/4	0820401008

Dimensions in mm



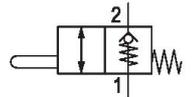
1) optional protective cover, part number 1828104002



F = actuating force  
 $P_B$  = Working pressure

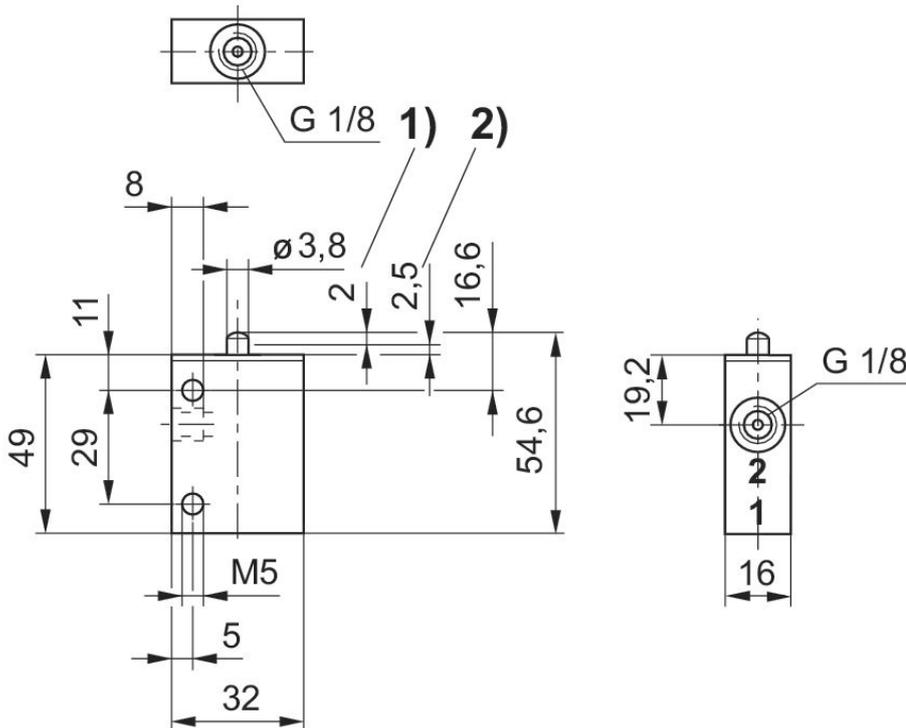
**2/2-directional valve, Series AP**

Flow: 350 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



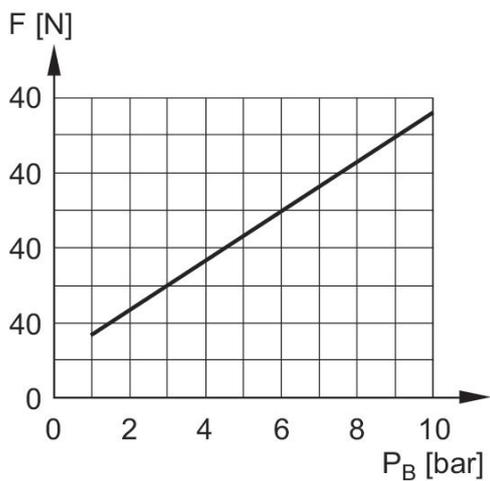
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Plunger	2/2, with spring return	G 1/8	G 1/8	0820404020

Dimensions in mm



1) Actuating stroke  
 2) Overstroke  
 Dimensions of basic valve apply to all types of actuation.

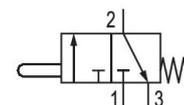
Actuating force+



F = actuating force  
P<sub>B</sub> = Working pressure

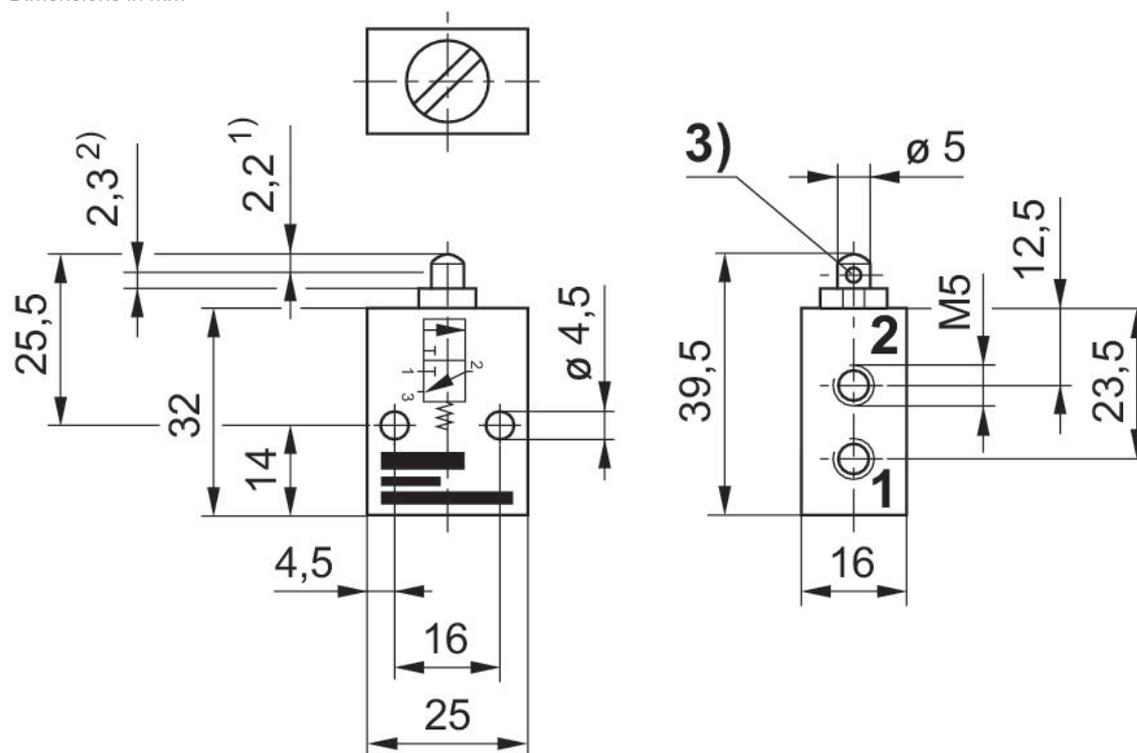
### 3/2-directional valve, Series AP

Flow: 190 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Plunger	3/2, with spring return	M5	M5	0820408001

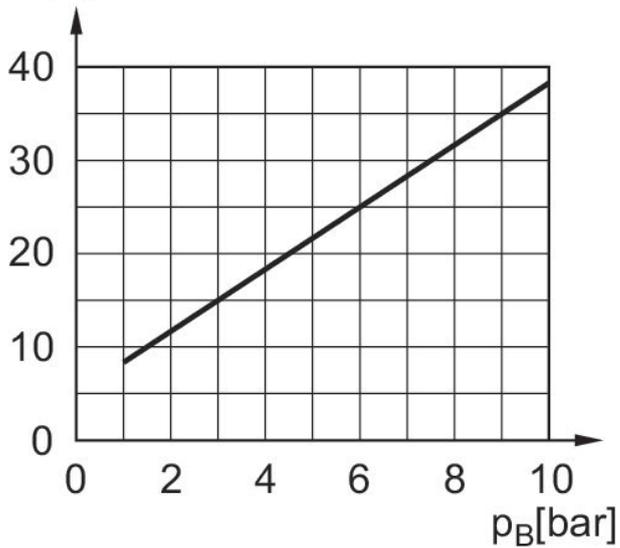
Dimensions in mm



1) Actuating stroke  
 2) Overstroke  
 3) Exhaust  
 Dimensions of basic valve apply to all types of actuation.

Actuating force+

F [N]



F = actuating force  
 $p_B$  = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Qn 1 > 2: 250 l/min

Compressed air connection type: Internal thread

Compressed air connection input: G 1/8

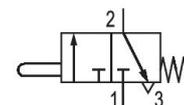
Compressed air connection output: G 1/8

Compressed air connection, exhaust: G 1/8

Ambient temperature min./max.: -30 °C ... 80 °C

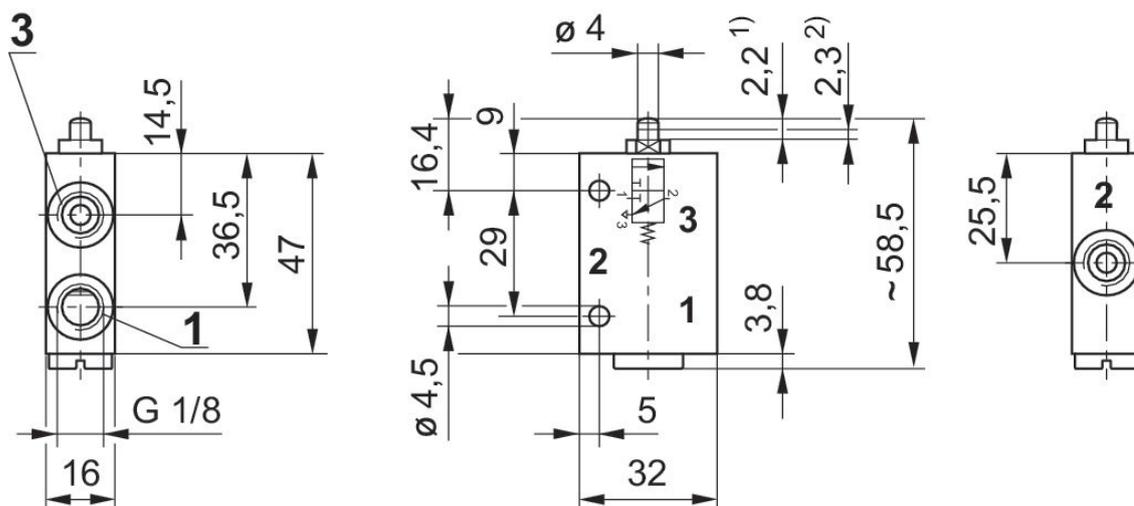
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Plunger	3/2, double air pilot	G 1/8	G 1/8	G 1/8	0820402101

Dimensions in mm



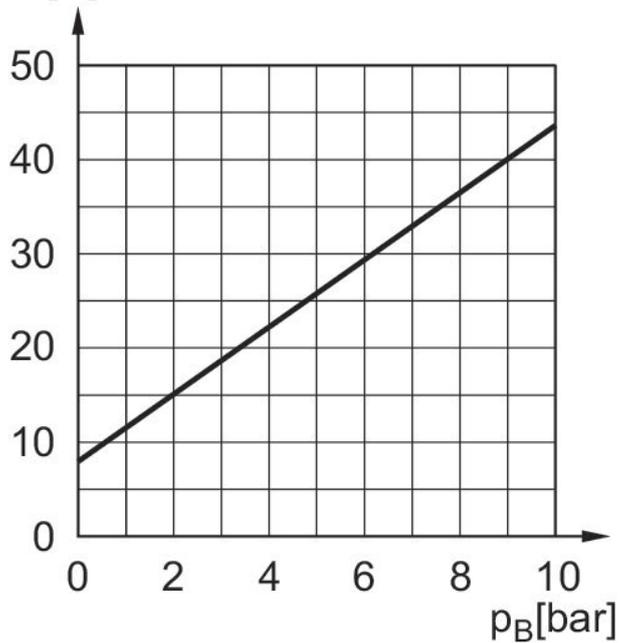
1) Actuating stroke

2) Overstroke

Dimensions of basic valve apply to all types of actuation.

Actuating force+

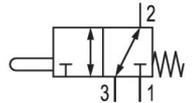
F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

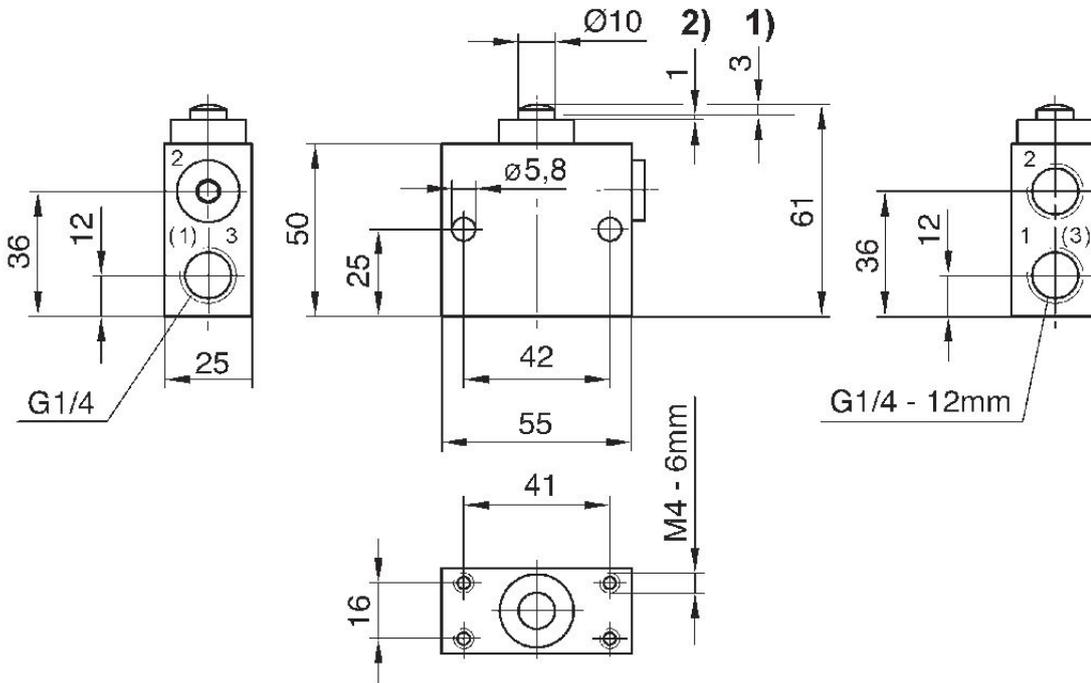
**3/2-directional valve, Series AP**

Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Plunger	3/2, with spring return	G 1/4	G 1/4	G 1/4	0820400001

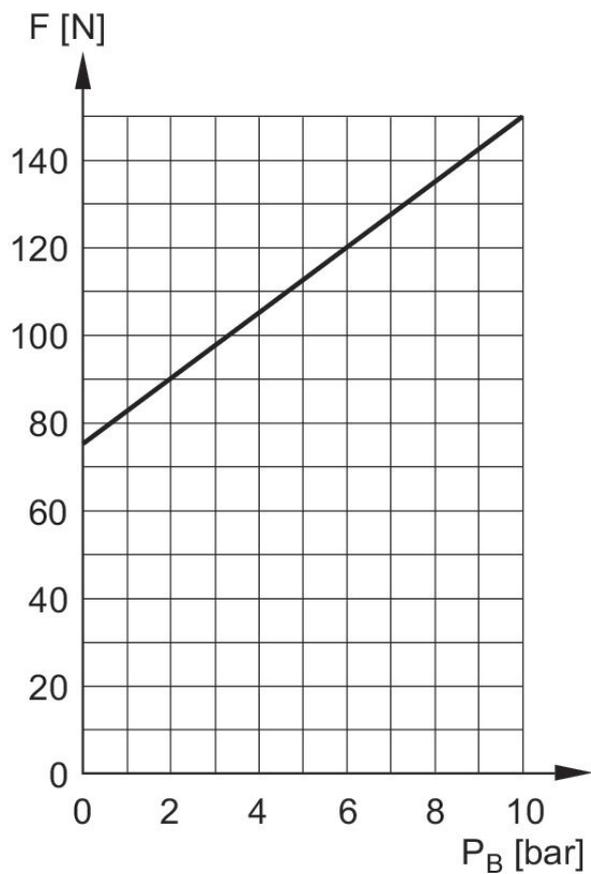
Dimensions in mm



1) Actuating stroke  
 2) Overstroke  
 Dimensions of basic valve apply to all types of actuation.

Actuating force+

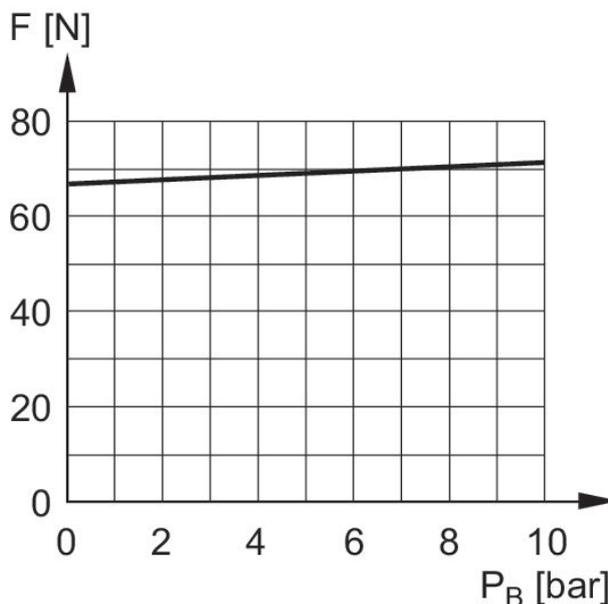
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

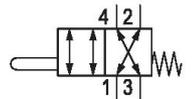
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

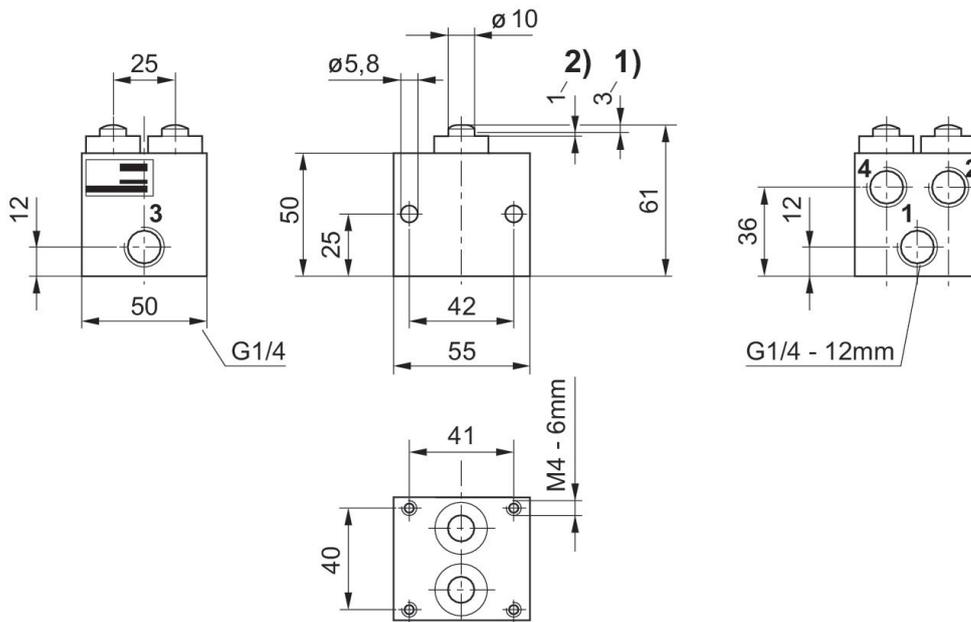
**4/2-directional valve, Series AP**

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



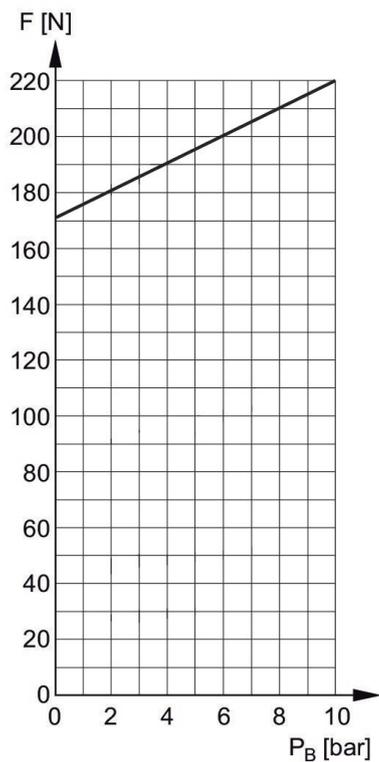
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Plunger	4/2, with spring return	G 1/4	G 1/4	G 1/4	0820401001

Dimensions in mm



1) Actuating stroke  
 2) Overstroke  
 Dimensions of basic valve apply to all types of actuation.

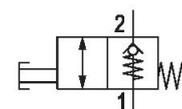
Actuating force+



F = actuating force  
P<sub>B</sub> = Working pressure

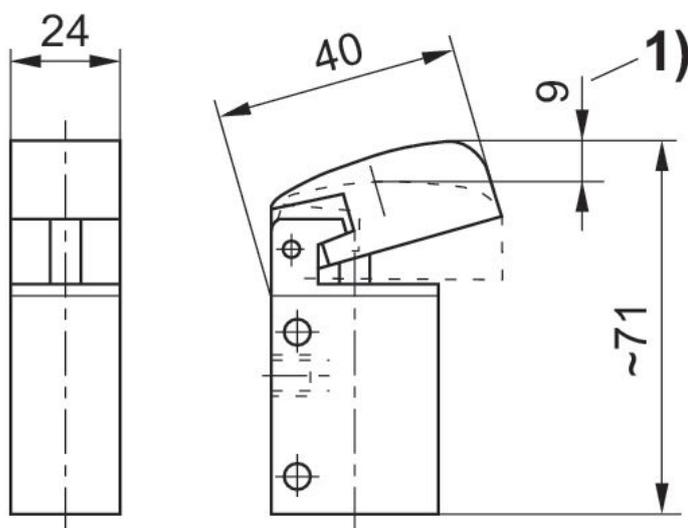
### 2/2-directional valve, Series AP

Flow: 350 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 350 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



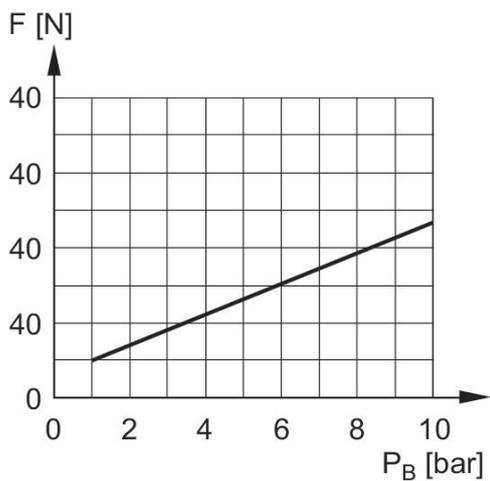
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Push button	2/2, with spring return	G 1/8	G 1/8	0820404023

Dimensions in mm



1) Actuating stroke

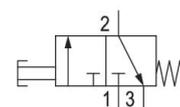
Actuating force+



$F$  = actuating force  
 $P_B$  = Working pressure

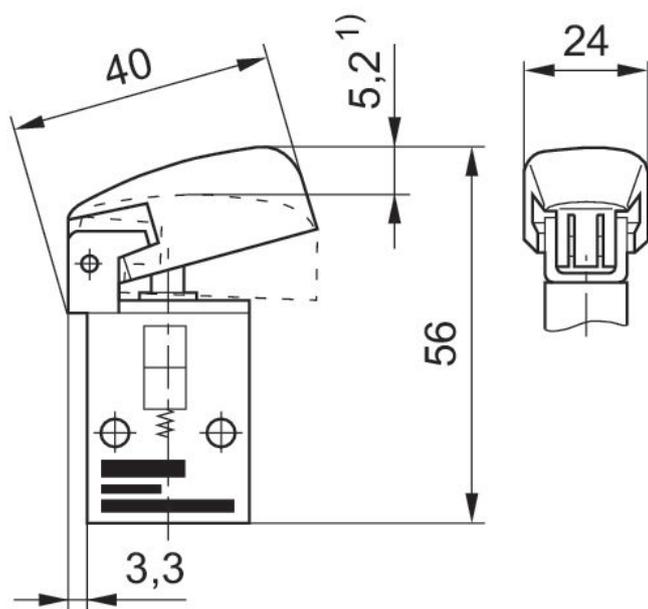
### 3/2-directional valve, Series AP

Flow: 190 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Push button	3/2, with spring return	M5	M5	0820408004

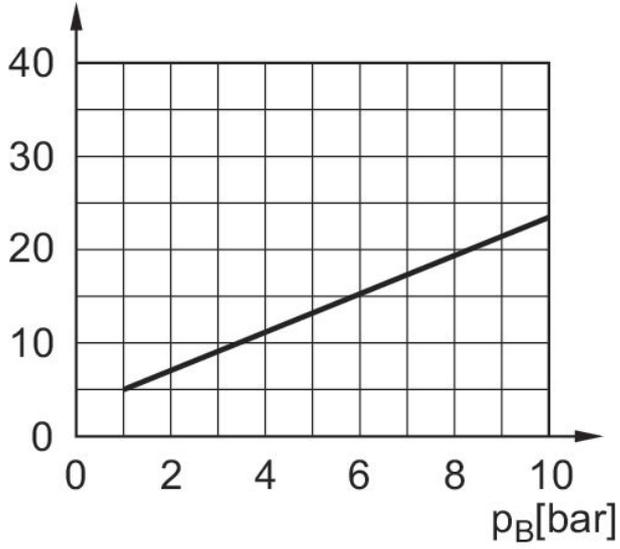
Dimensions in mm



1) Actuating stroke

Actuating force+

F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Qn 1 > 2: 250 l/min

Compressed air connection type: Internal thread

Compressed air connection input: G 1/8

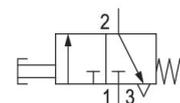
Compressed air connection output: G 1/8

Compressed air connection, exhaust: G 1/8

Ambient temperature min./max.: -30 °C ... 80 °C

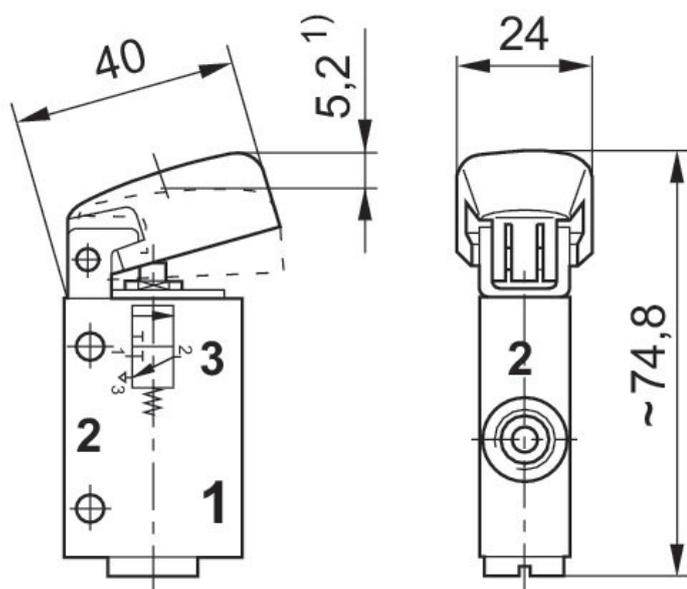
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Push button	3/2, double air pilot	G 1/8	G 1/8	G 1/8	0820402104

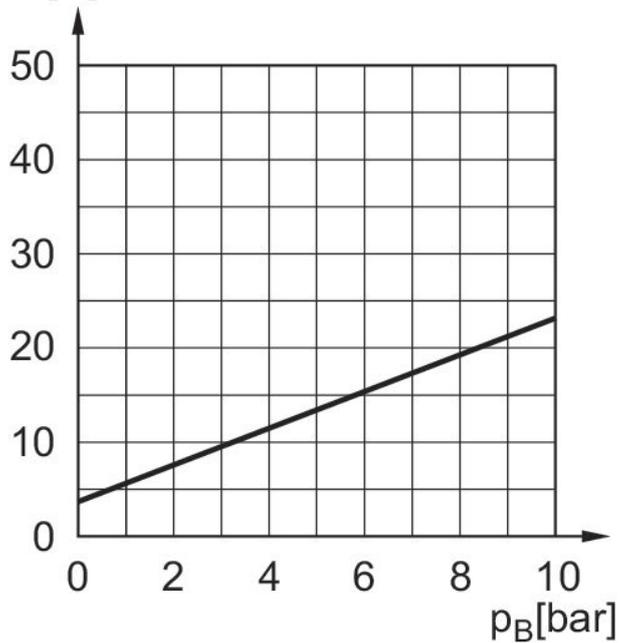
Dimensions in mm



1) Actuating stroke

Actuating force+

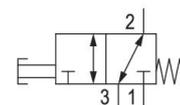
F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

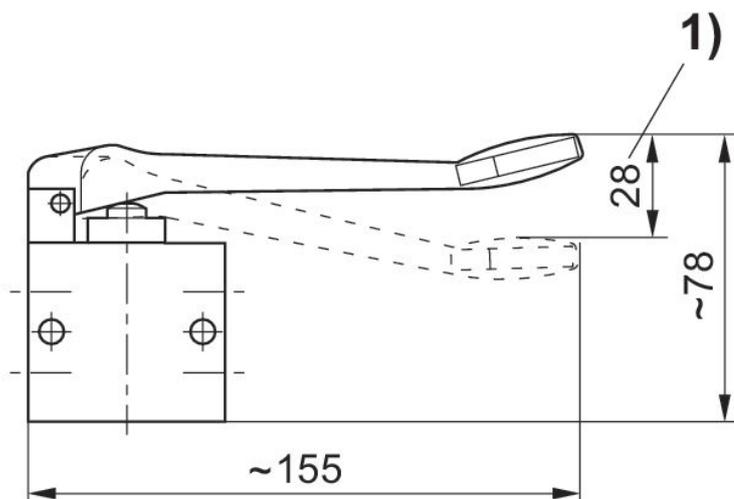
### 3/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Push button	3/2, with spring return	G 1/4	G 1/4	G 1/4	0820400004

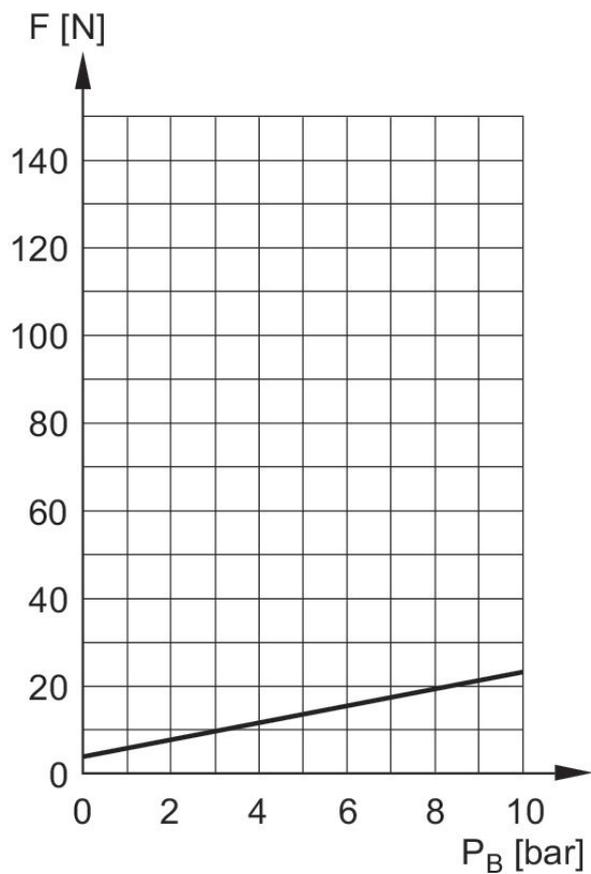
Dimensions in mm



1) Actuating stroke

Actuating force+

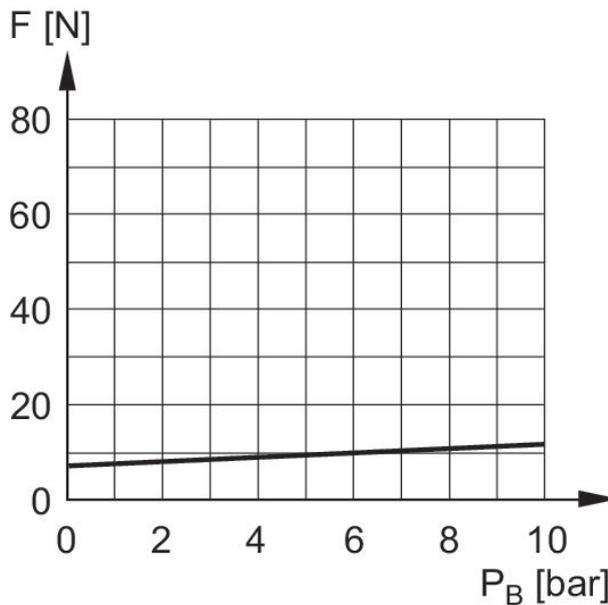
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

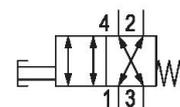
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

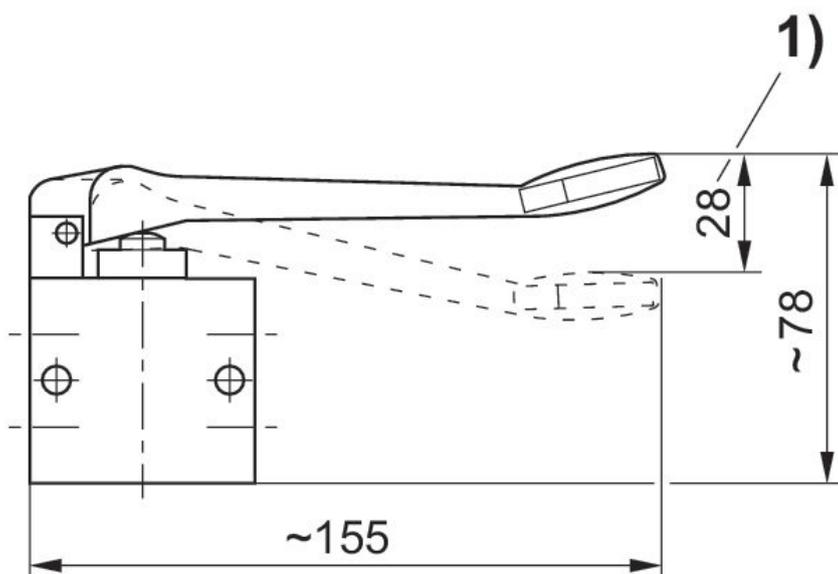
### 4/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar

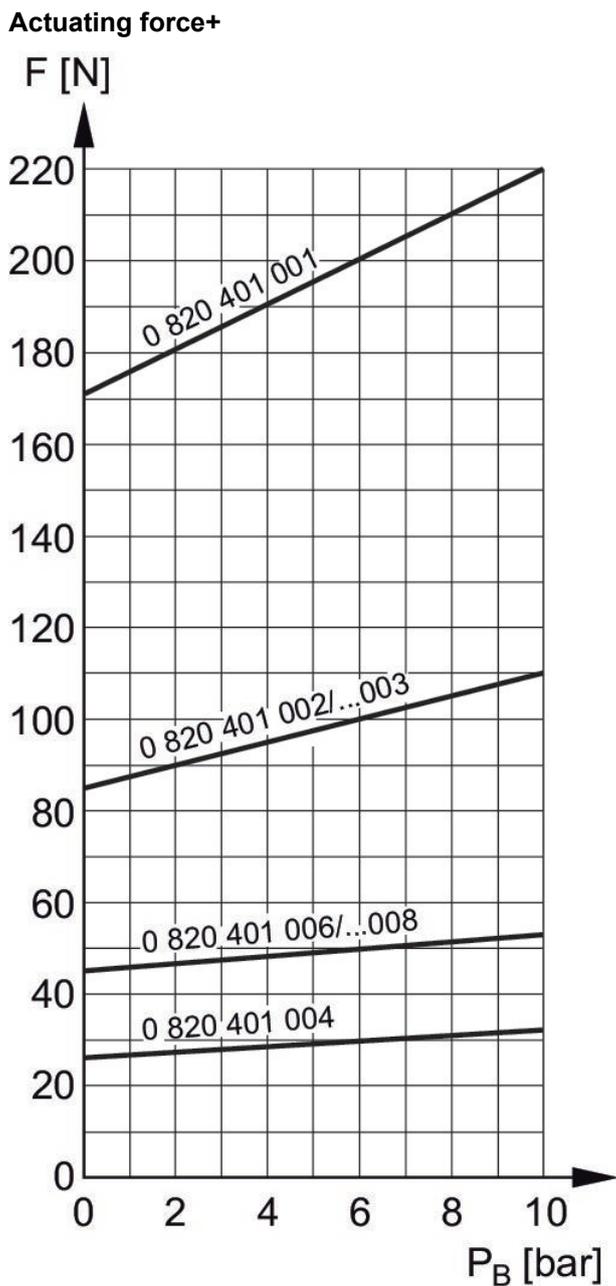


Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Push button	4/2, with spring return	G 1/4	G 1/4	G 1/4	0820401004

Dimensions in mm



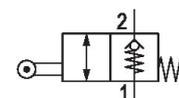
1) Actuating stroke



F = actuating force  
 $P_B$  = Working pressure

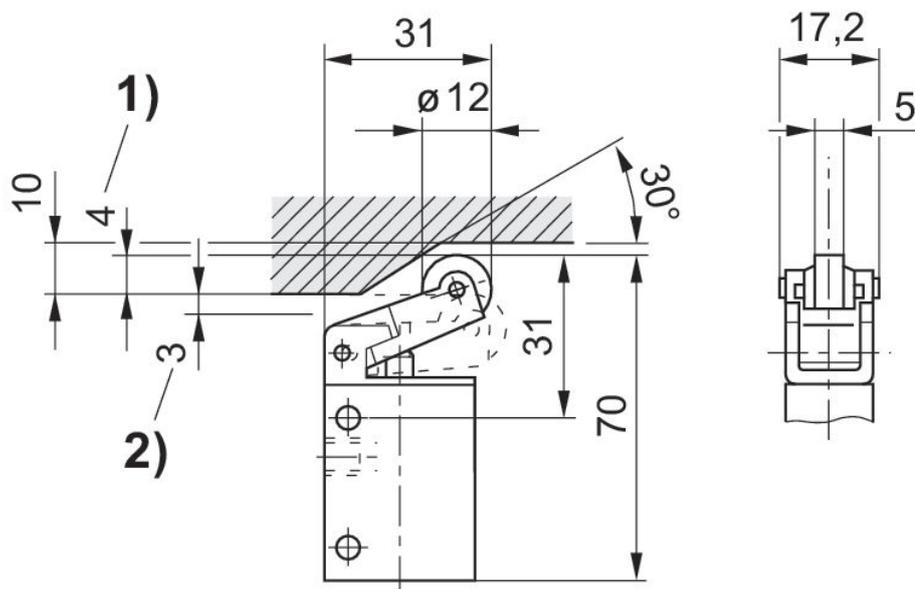
### 2/2-directional valve, Series AP

Flow: 350 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 350 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



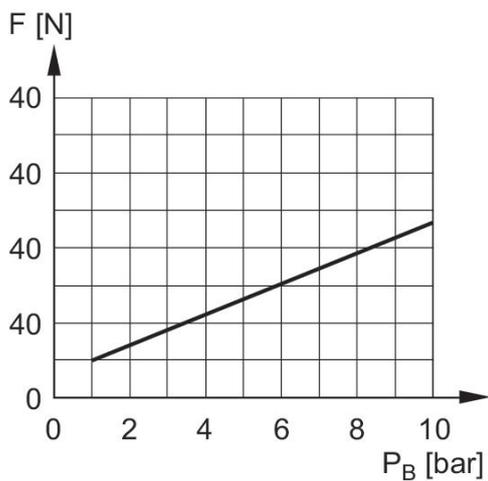
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Roller	2/2, with spring return	G 1/8	G 1/8	0820404021

Dimensions in mm



1) Actuating stroke  
 2) Overstroke

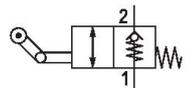
Actuating force+



$F$  = actuating force  
 $P_B$  = Working pressure

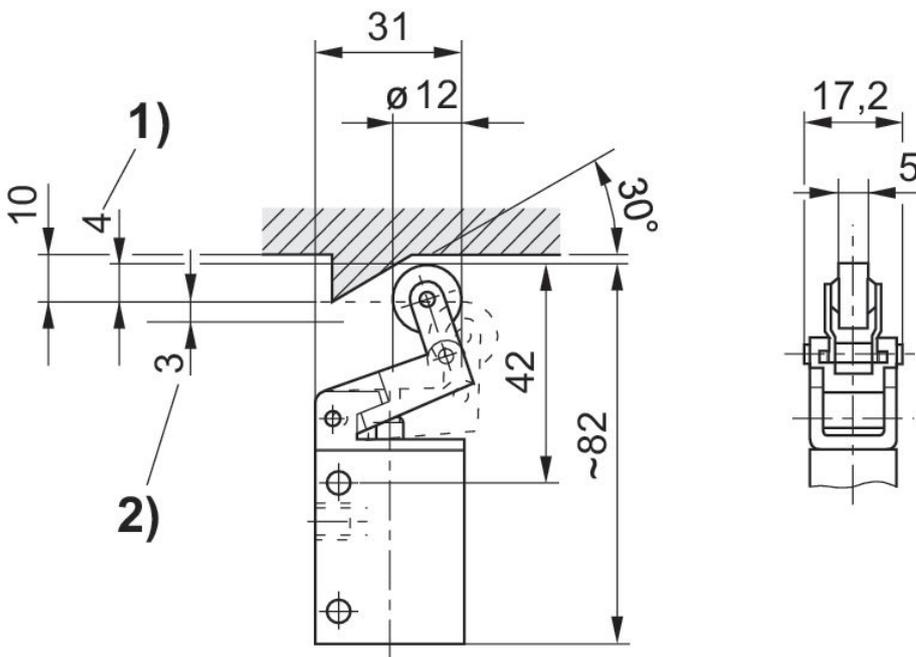
**2/2-directional valve, Series AP**

Flow: 350 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 350 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



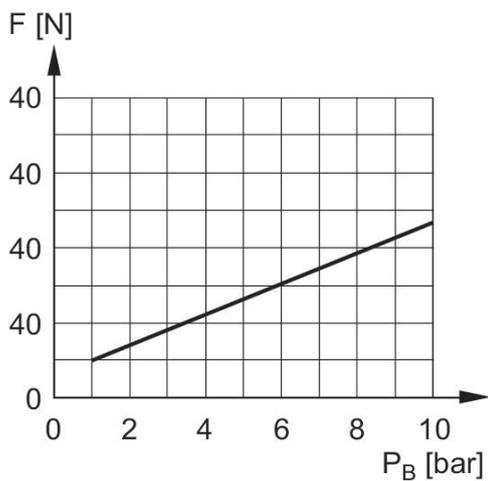
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Roller lever, one-way trip	2/2, with spring return	G 1/8	G 1/8	0820404022

Dimensions in mm



1) Actuating stroke  
 2) Overstroke

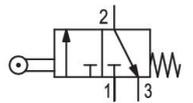
Actuating force+



F = actuating force  
P<sub>B</sub> = Working pressure

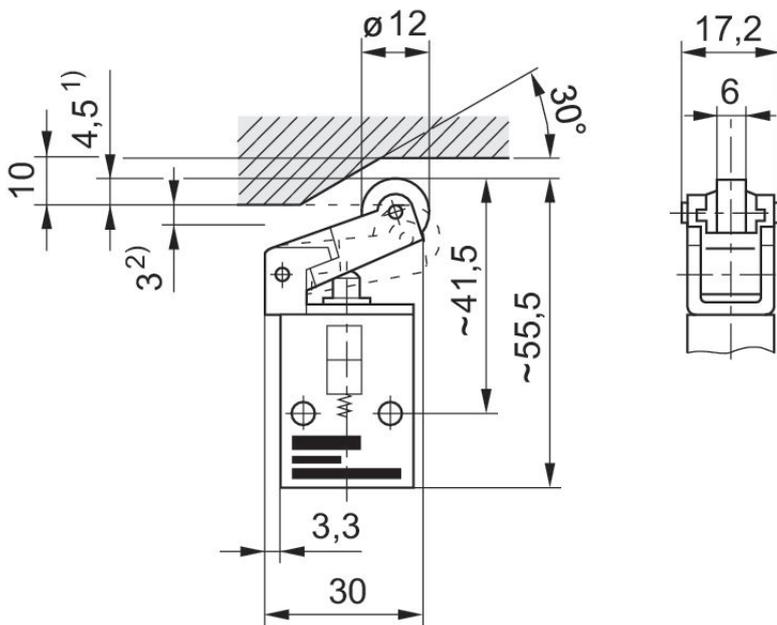
### 3/2-directional valve, Series AP

Flow: 190 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Roller	3/2, with spring return	M5	M5	0820408002

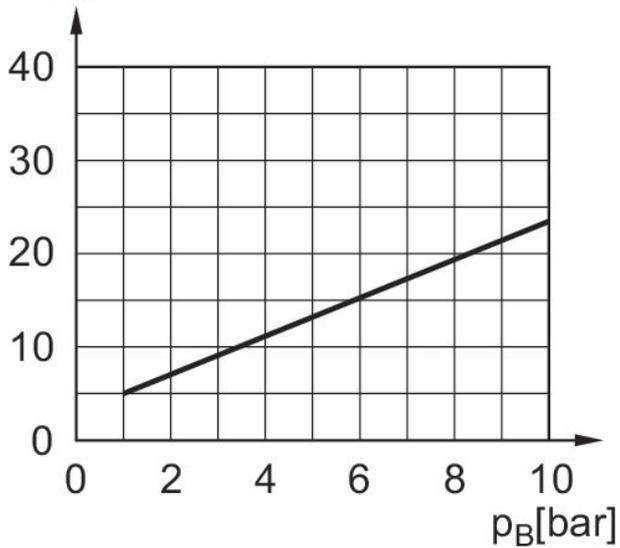
Dimensions in mm



- 1) Actuating stroke
- 2) Overstroke

Actuating force+

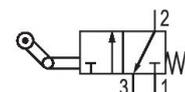
F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

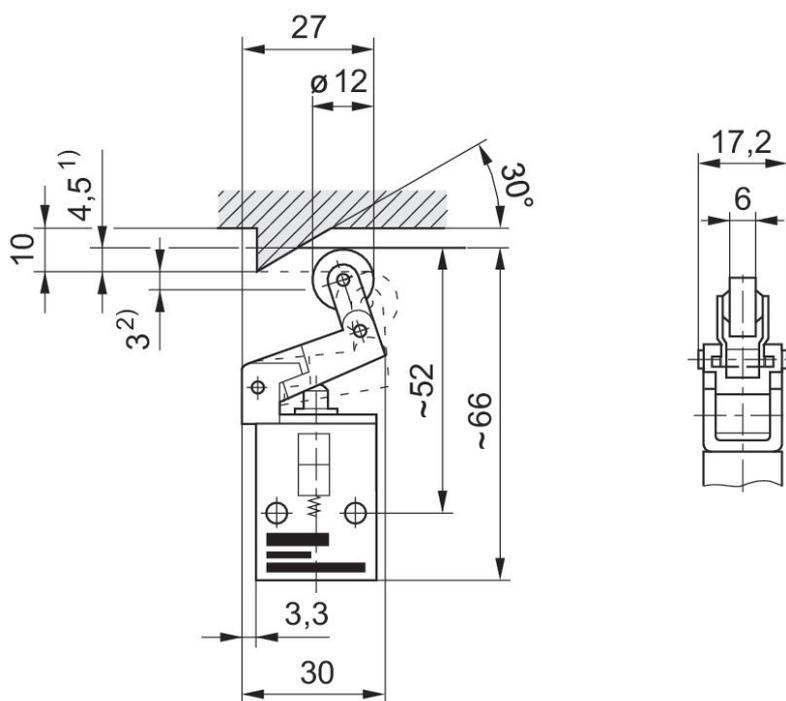
### 3/2-directional valve, Series AP

Flow: 190 l/min  
 Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
Roller lever, one-way trip	3/2, with spring return	M5	M5	0820408003

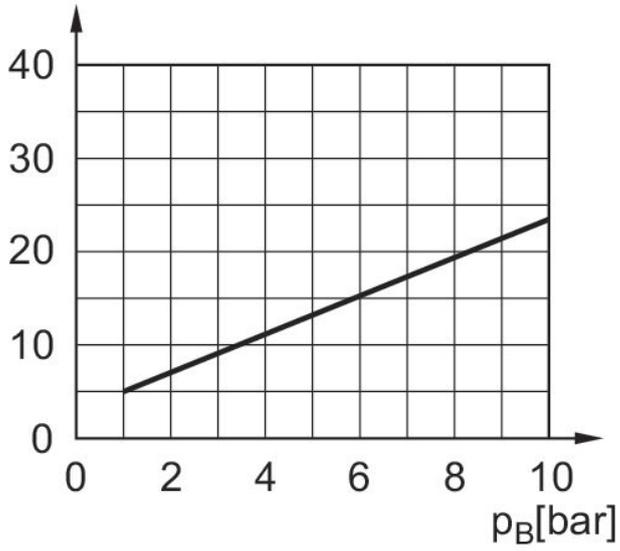
Dimensions in mm



- 1) Actuating stroke
- 2) Overstroke

Actuating force+

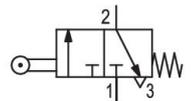
F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

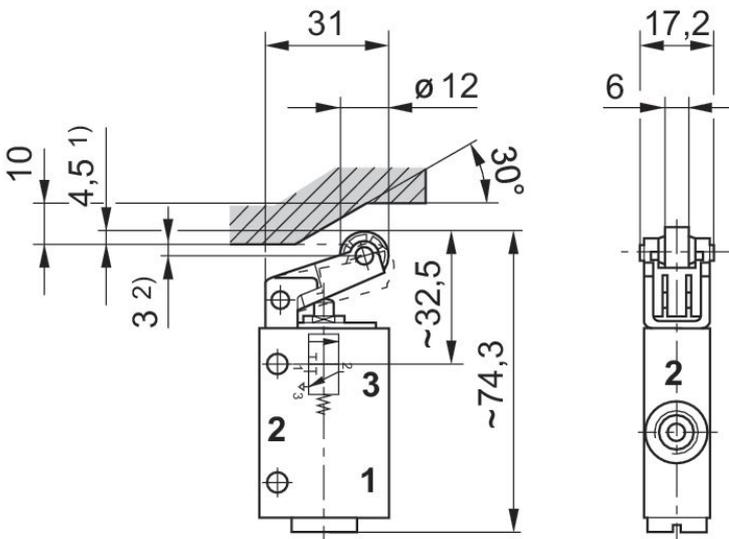
### 3/2-directional valve, Series AP

Activation: Mechanical  
 Qn 1 > 2: 250 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Compressed air connection, exhaust: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



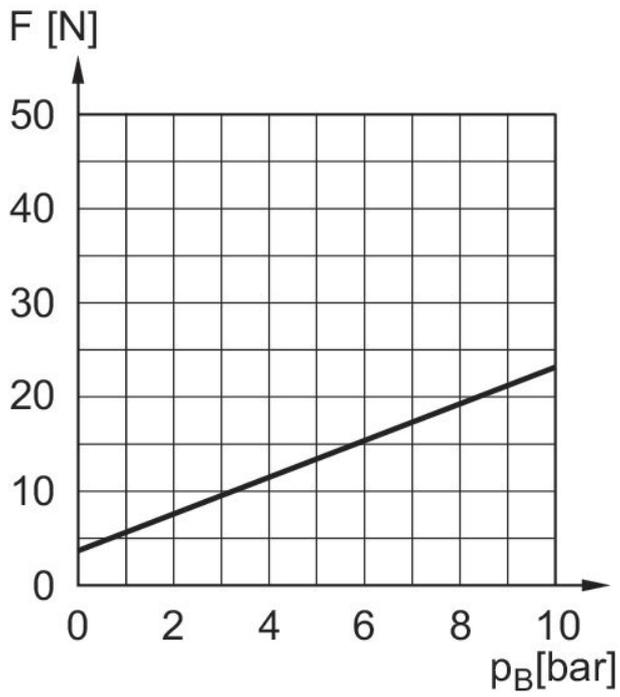
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Roller	3/2, double air pilot	G 1/8	G 1/8	G 1/8	0820402102

Dimensions in mm



- 1) Actuating stroke
- 2) Overstroke

Actuating force+



F = actuating force  
 $p_B$  = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Qn 1 > 2: 250 l/min

Compressed air connection type: Internal thread

Compressed air connection input: G 1/8

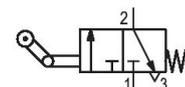
Compressed air connection output: G 1/8

Compressed air connection, exhaust: G 1/8

Ambient temperature min./max.: -30 °C ... 80 °C

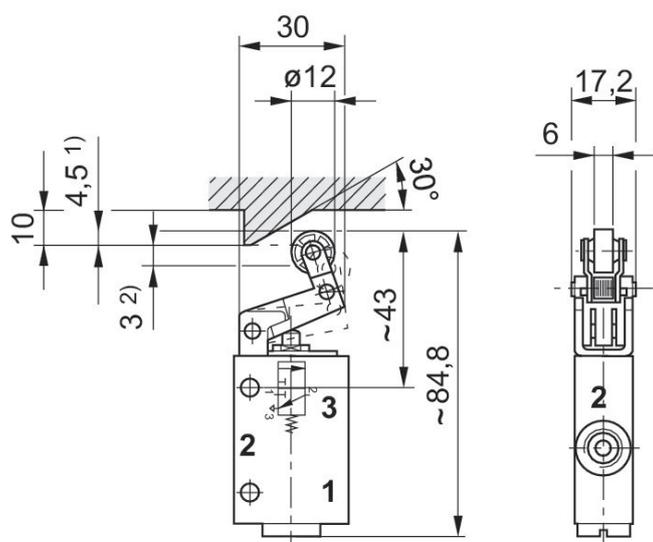
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Roller lever, one-way trip	3/2, double air pilot	G 1/8	G 1/8	G 1/8	0820402103

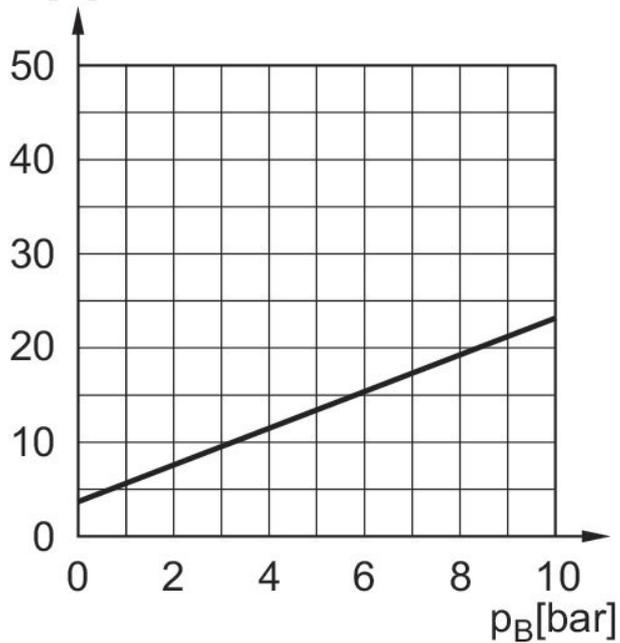
Dimensions in mm



- 1) Actuating stroke
- 2) Overstroke

Actuating force+

F [N]



F = actuating force  
 $p_B$  = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Compressed air connection type: Internal thread

Compressed air connection input: G 1/4

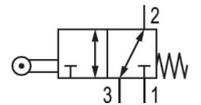
Compressed air connection output: G 1/4

Compressed air connection, exhaust: G 1/4

Ambient temperature min./max.: -30 °C ... 80 °C

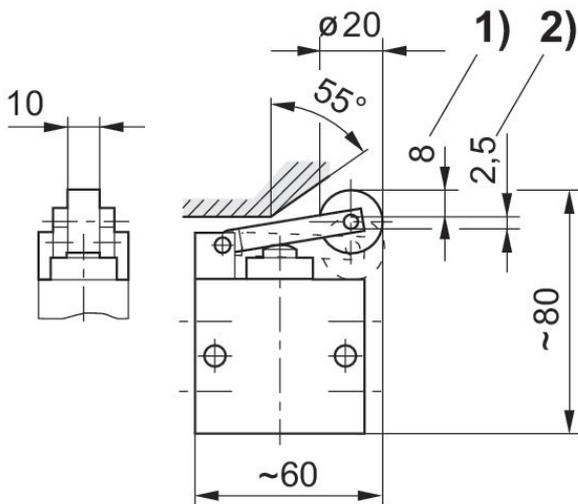
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Roller	3/2, with spring return	G 1/4	G 1/4	G 1/4	0820400002

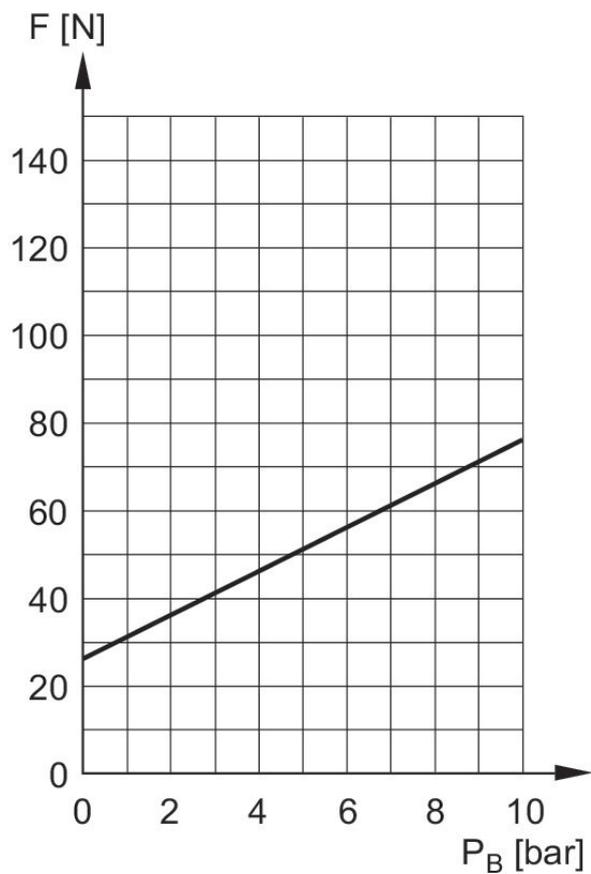
Dimensions in mm



- 1) Actuating stroke
- 2) Overstroke

Actuating force+

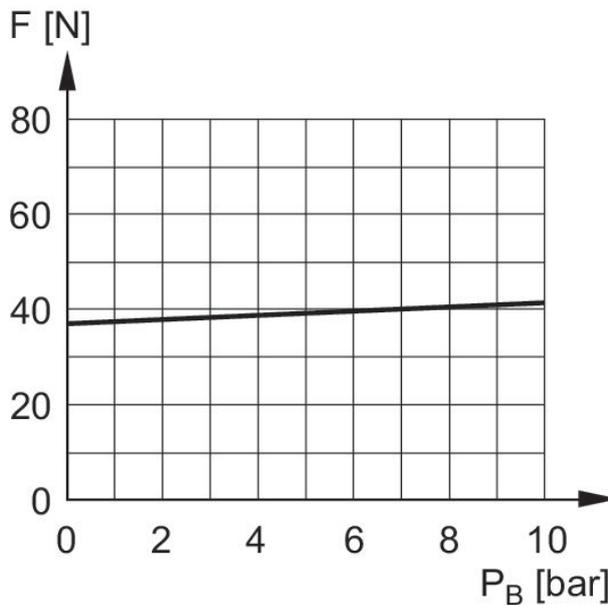
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

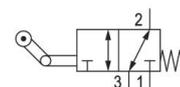
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

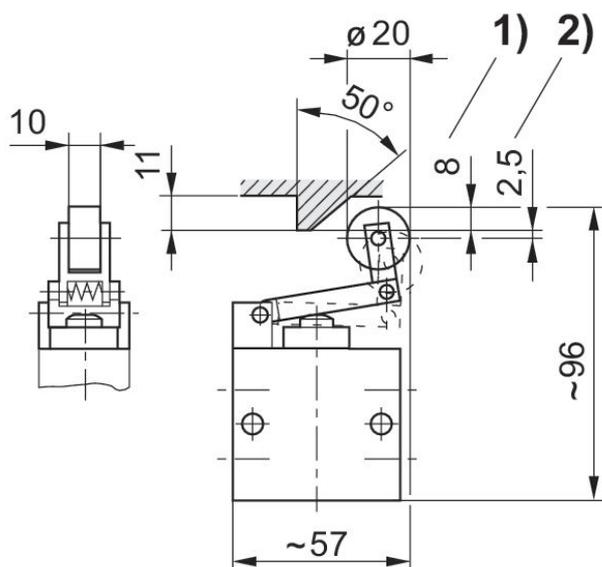
### 3/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Roller lever, one-way trip	3/2, with spring return	G 1/4	G 1/4	G 1/4	0820400003

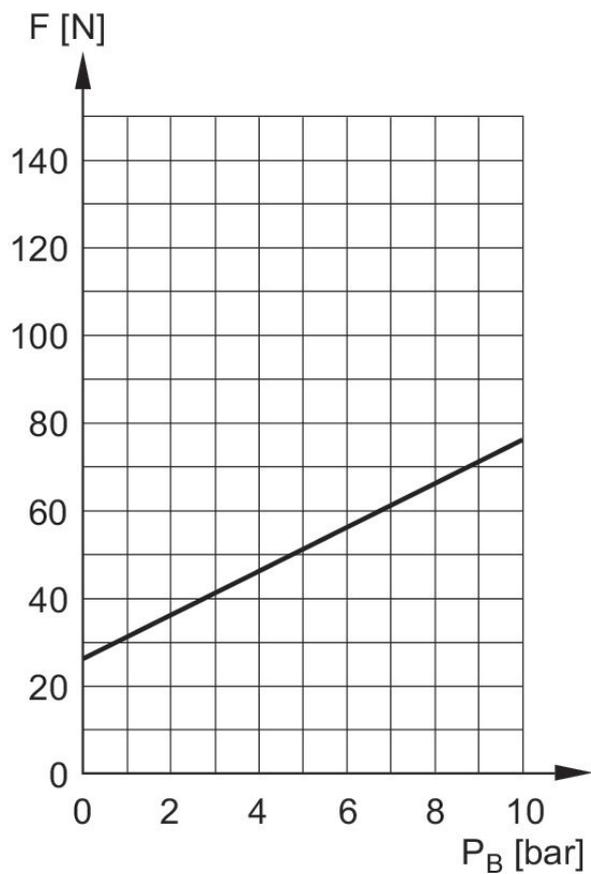
Dimensions in mm



1) Actuating stroke  
 2) Overstroke

Actuating force+

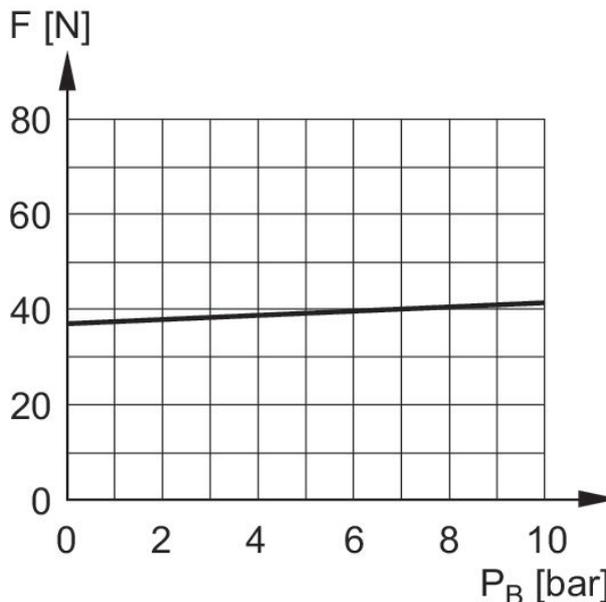
Compressed air at port 3



F = actuating force  
 $P_B$  = Working pressure

Actuating force+

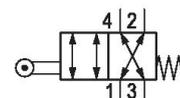
Compressed air at port 1



F = actuating force  
 $P_B$  = Working pressure

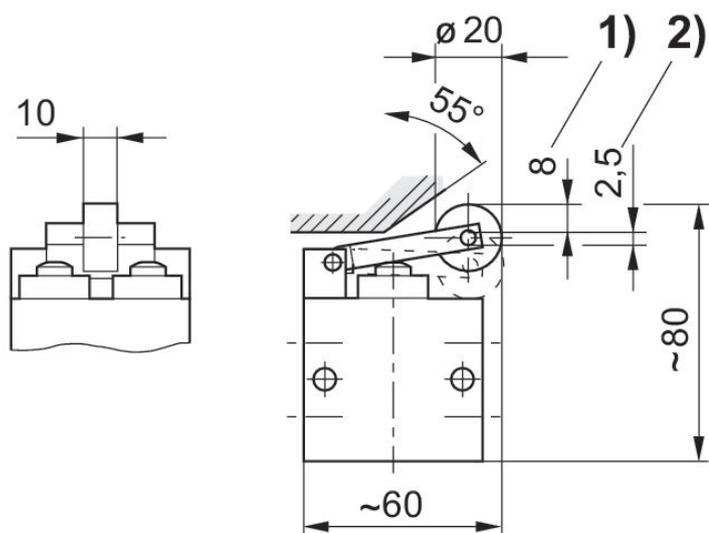
### 4/2-directional valve, Series AP

Flow: 550 l/min  
 Activation: Mechanical  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/4  
 Compressed air connection output: G 1/4  
 Compressed air connection, exhaust: G 1/4  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar

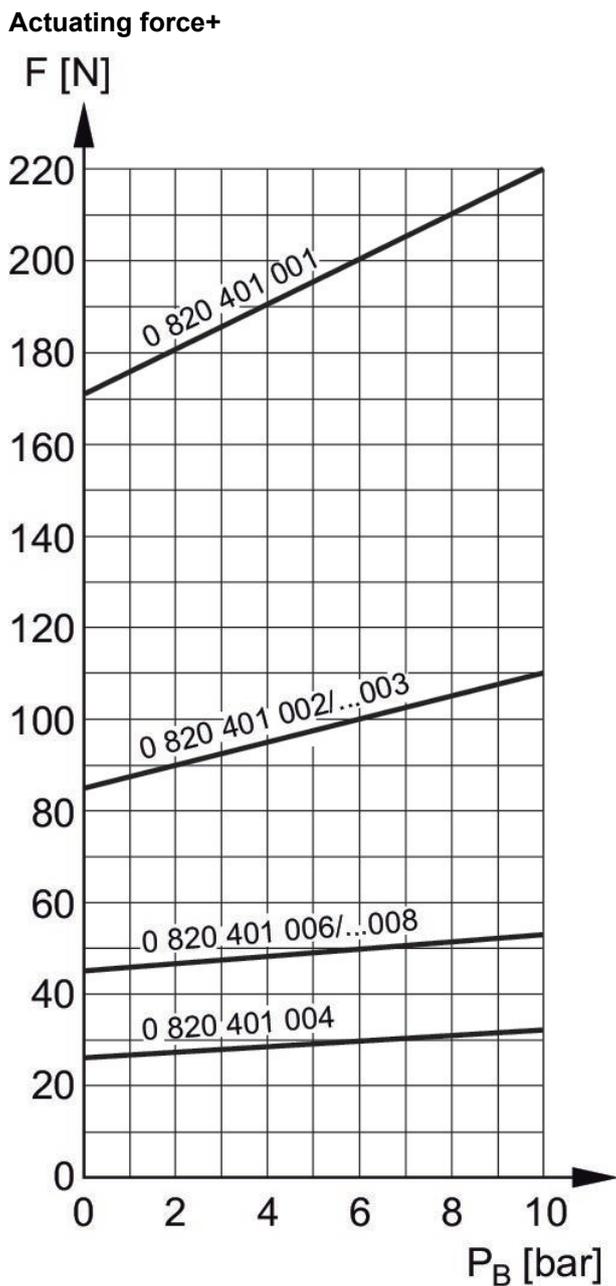


Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
Roller	4/2, with spring return	G 1/4	G 1/4	G 1/4	0820401002

Dimensions in mm



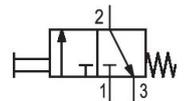
- 1) Actuating stroke
- 2) Overstroke



F = actuating force  
P<sub>B</sub> = Working pressure

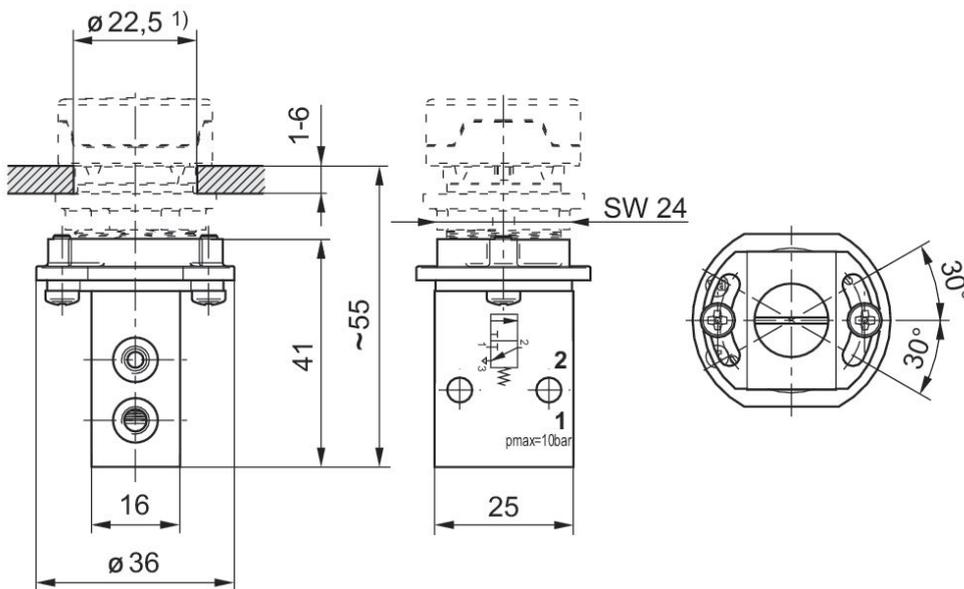
### 3/2-directional valve, Series AP

Activation: Mechanical  
 Qn 1 > 2: 190 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: M5  
 Compressed air connection output: M5  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Part No.
panel installation	3/2, double air pilot	M5	M5	R450055451

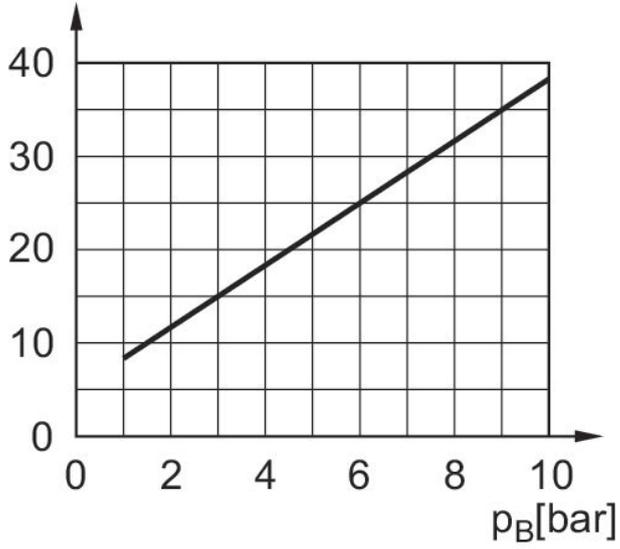
Dimensions in mm



1) cut-out in the front plate

Actuating force+

F [N]



F = actuating force  
 $p_B$  = Working pressure

### 3/2-directional valve, Series AP

Activation: Mechanical

Qn 1 > 2: 250 l/min

Compressed air connection type: Internal thread

Compressed air connection input: G 1/8

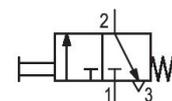
Compressed air connection output: G 1/8

Compressed air connection, exhaust: G 1/8

Ambient temperature min./max.: -30 °C ... 80 °C

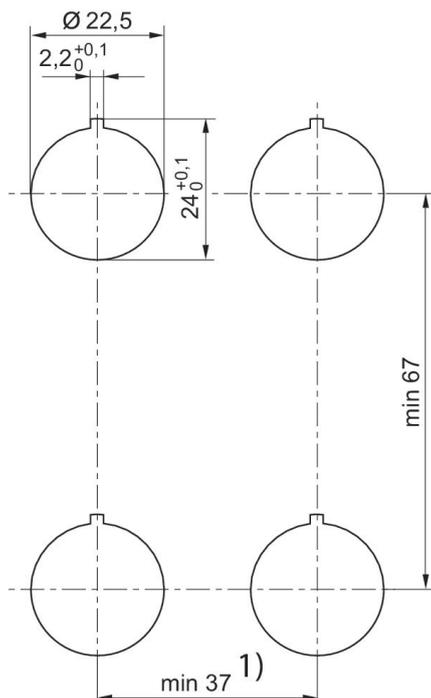
Medium temperature min./max.: -30 °C ... 80 °C

Working pressure min./max.: 0 bar ... 10 bar



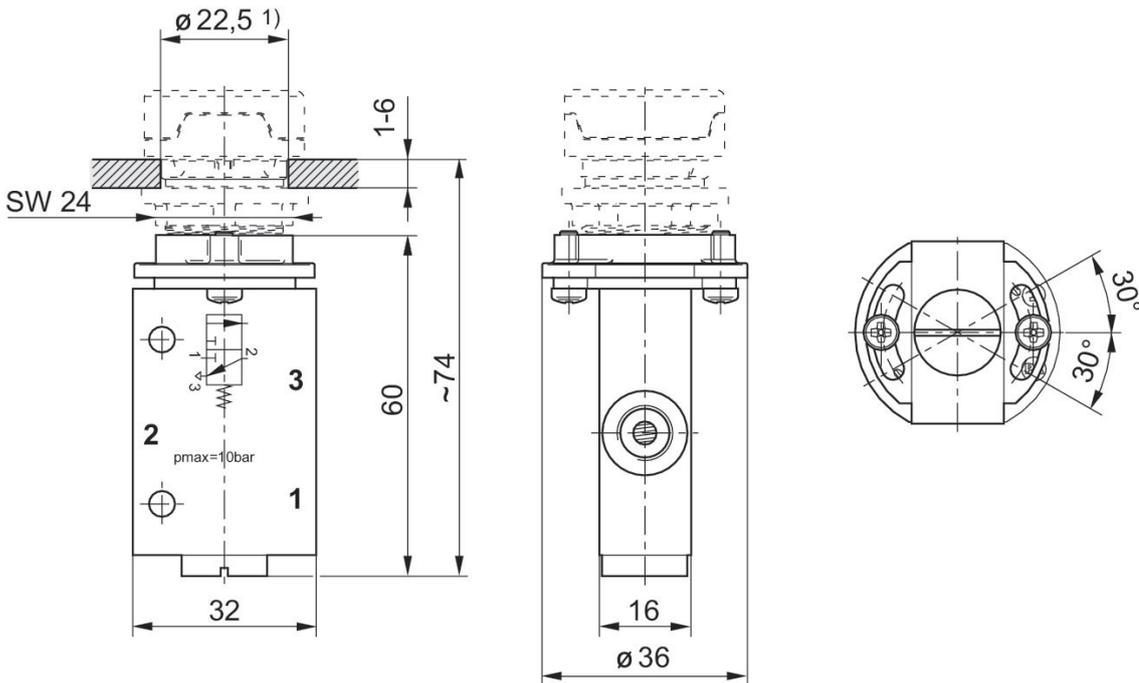
Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
panel installation	3/2, with spring return	G 1/8	G 1/8	G 1/8	R450055452

cut-out in the front plate



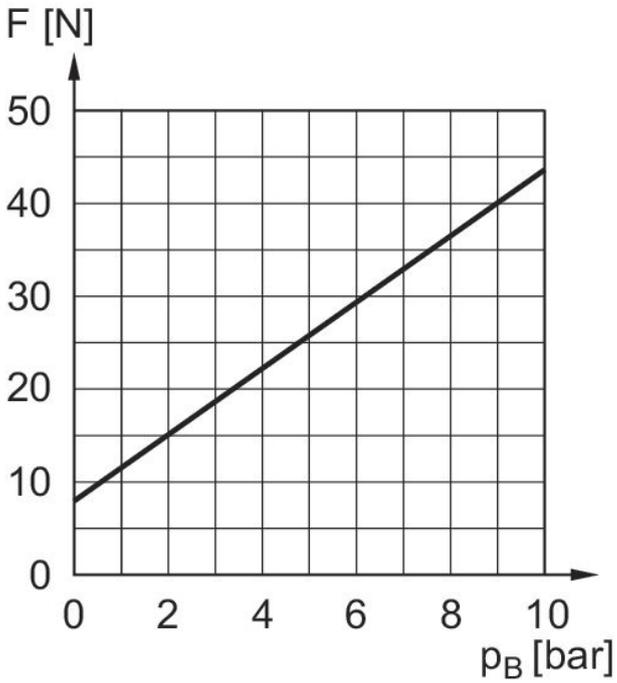
1) For the mushroom buttons (R412012738, R412012739, R412012740) a minimum distance [[41] mm] must be ensured.

Dimensions in mm



1) cut-out in the front plate

Actuating force+

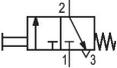


$F$  = actuating force  
 $p_B$  = Working pressure

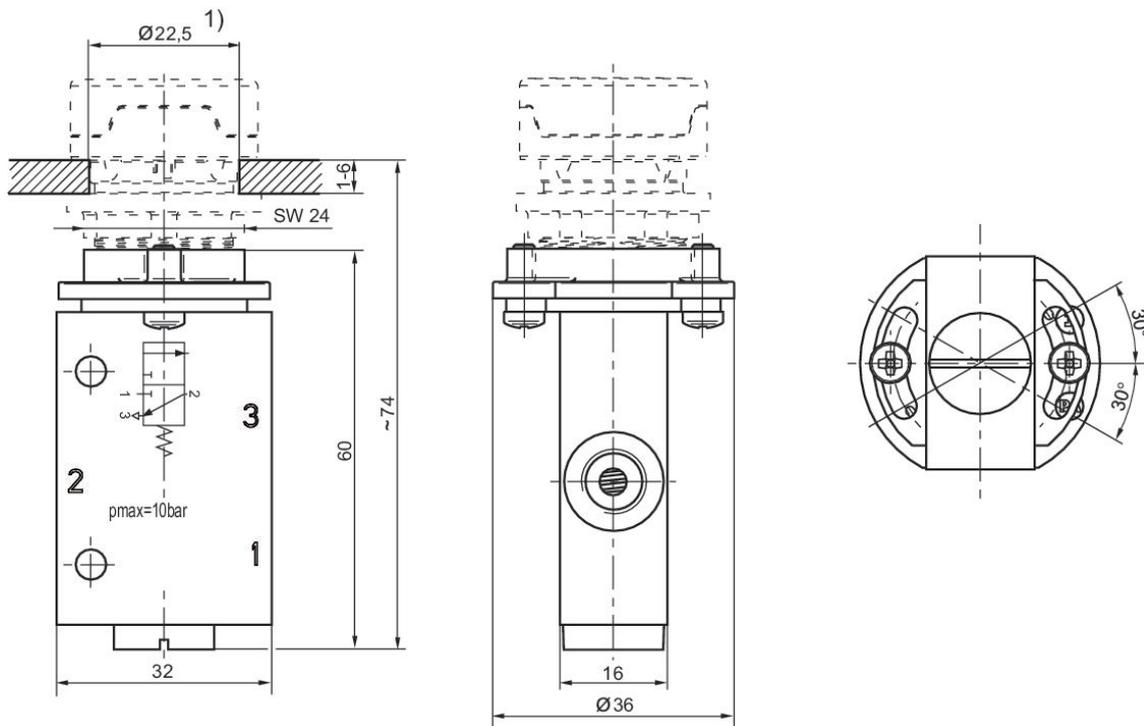
Series AP - inch

Activation: Mechanical  
 Qn 1 > 2: 250 l/min  
 Compressed air connection type: Internal thread  
 Compressed air connection input: G 1/8  
 Compressed air connection output: G 1/8  
 Compressed air connection, exhaust: G 1/8  
 Ambient temperature min./max.: -30 °C ... 80 °C  
 Medium temperature min./max.: -30 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



	Actuating element	Switching principle	Compressed air connection input	Compressed air connection output	Compressed air connection, exhaust	Part No.
	panel installation	3/2	1/8 NPT	1/8-27 NPTF	1/8 NPT	R450055453

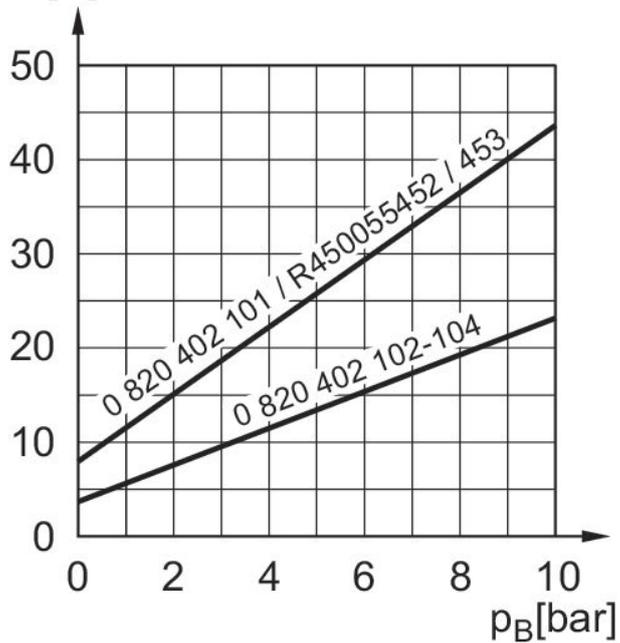
Dimensions



1) cut-out in the front plate

Actuating force+

F [N]



F = actuating force  
P<sub>B</sub> = Working pressure

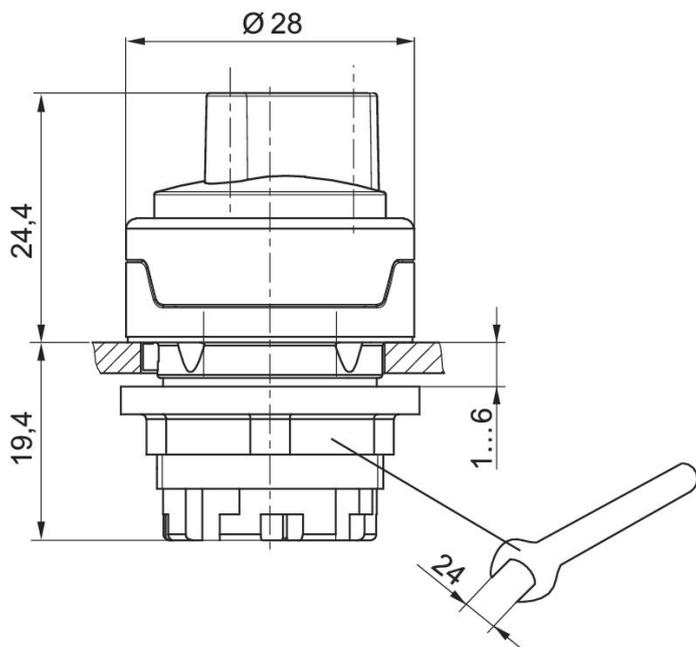
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Rotary switch with two notched positions	Red	R412012744

Dimensions in mm



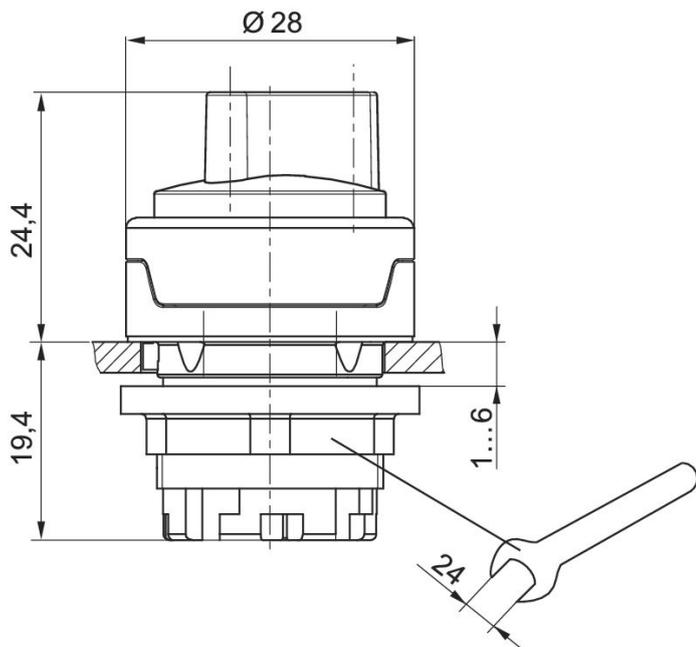
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Rotary switch with two notched positions	Grey	R412012745

Dimensions in mm



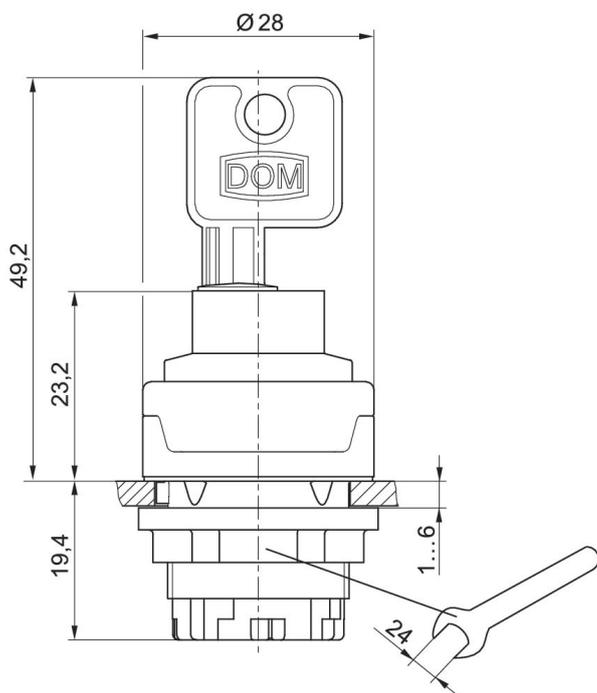
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Note	Color	Part No.
Rotary lock with two keys	The key can be removed only if the button is in the actuated state.	Grey	R412012746
Rotary lock with two keys	The key can be removed in the actuated or non-actuated state.	Grey	R412015479

Dimensions in mm



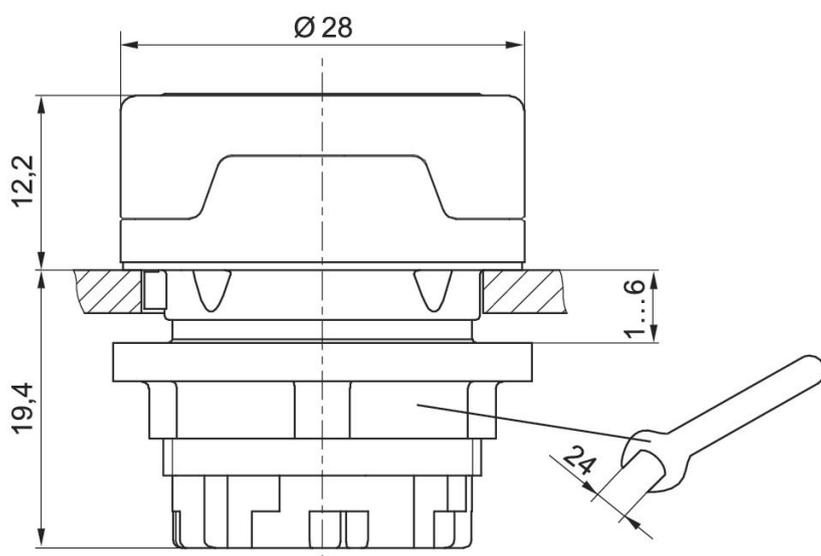
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Push button	Red	R412012734

Dimensions in mm



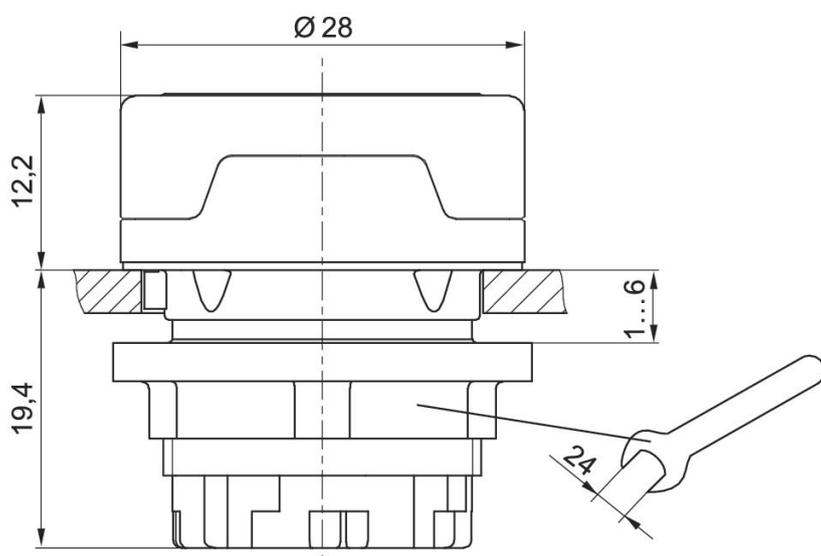
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Push button	Black	R412012735

Dimensions in mm



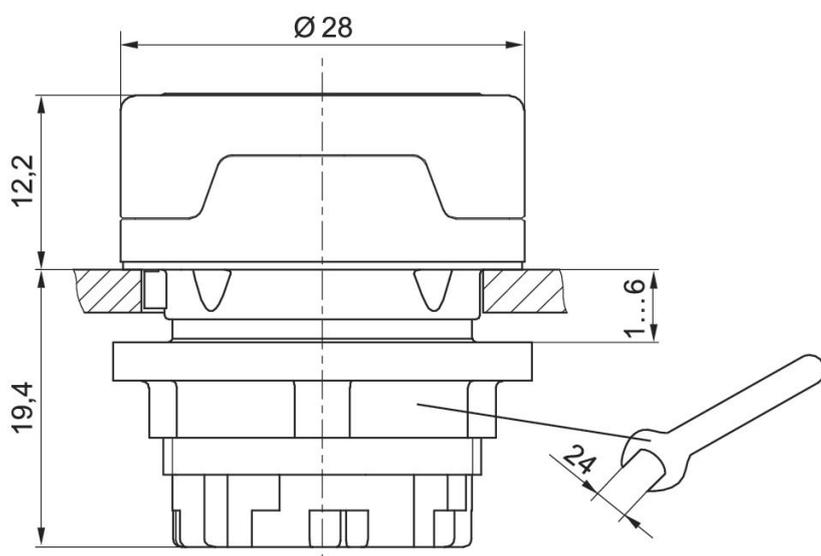
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Push button	Yellow	R412012736

Dimensions in mm



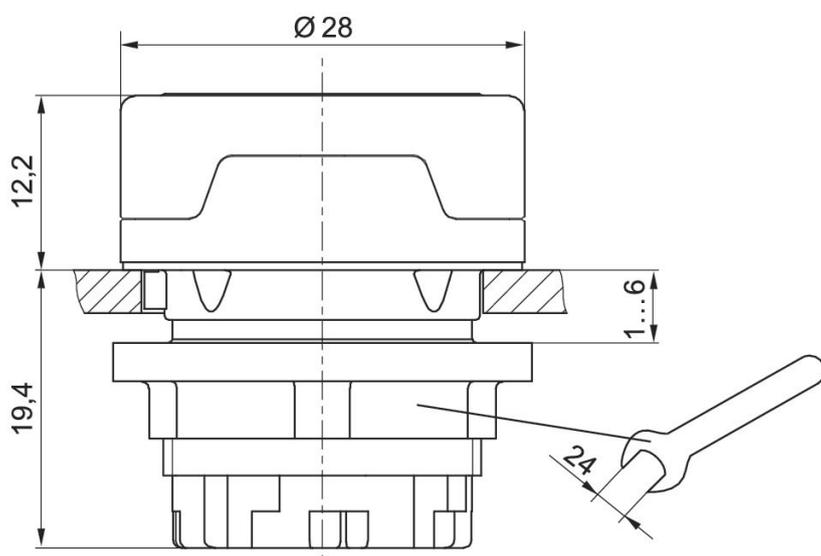
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Push button	Green	R412012737

Dimensions in mm



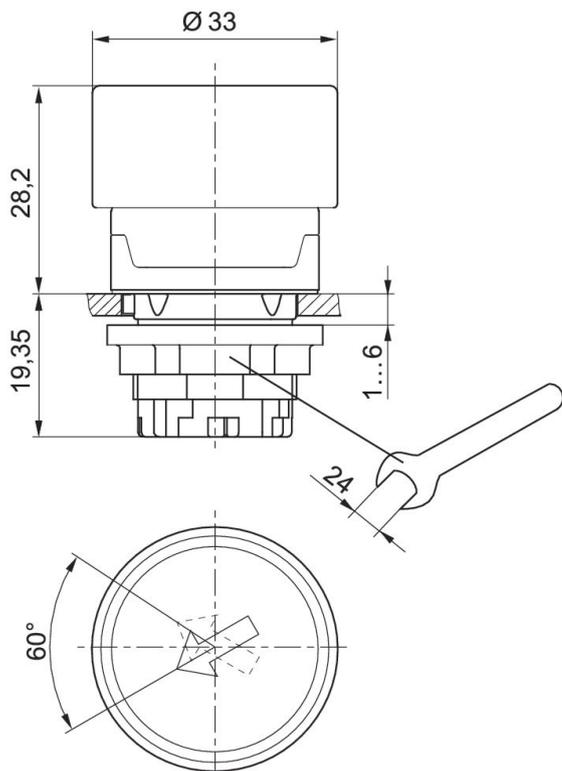
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Push button with detent and rotary re-release	Black	R412012748

Dimensions in mm



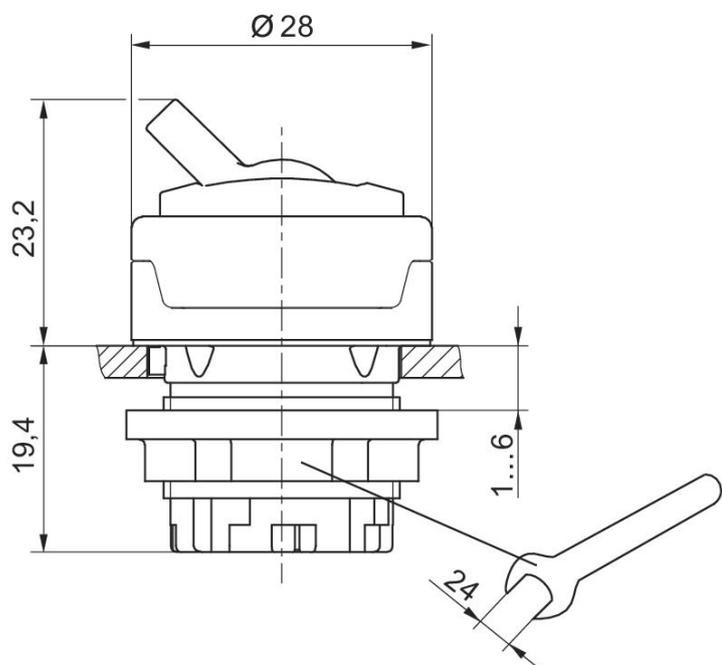
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Lever switch	Red	R412012742

Dimensions in mm



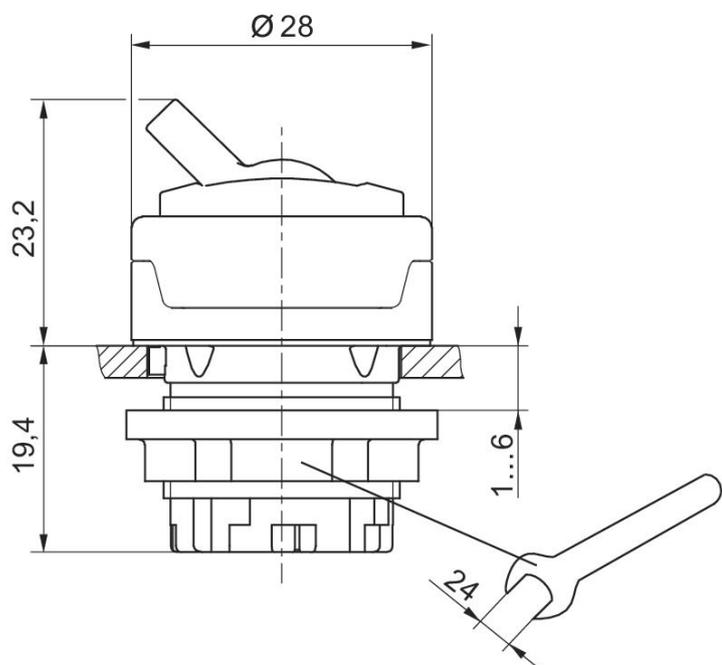
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Lever switch	White	R412012743

Dimensions in mm



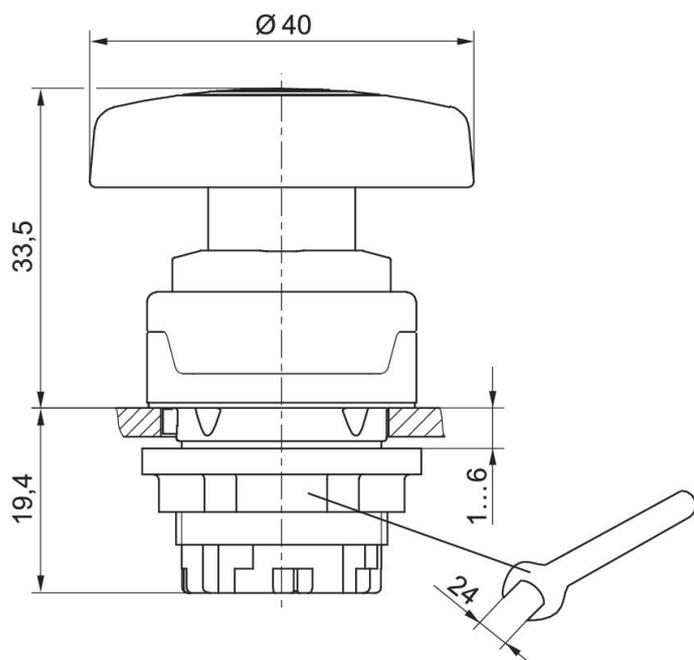
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Mushroom button	Red	R412012738

Dimensions in mm



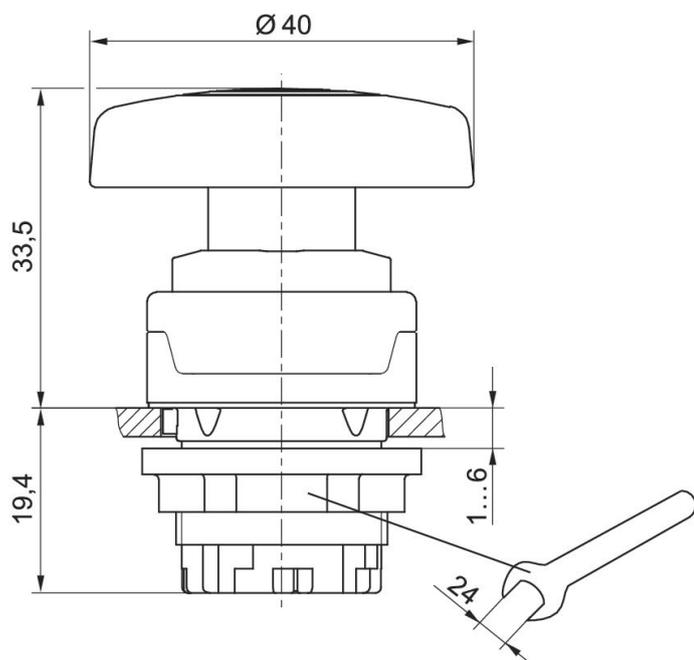
**Actuating controls for AP/ST series control panel valves**

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Mushroom button	Green	R412012739

Dimensions in mm



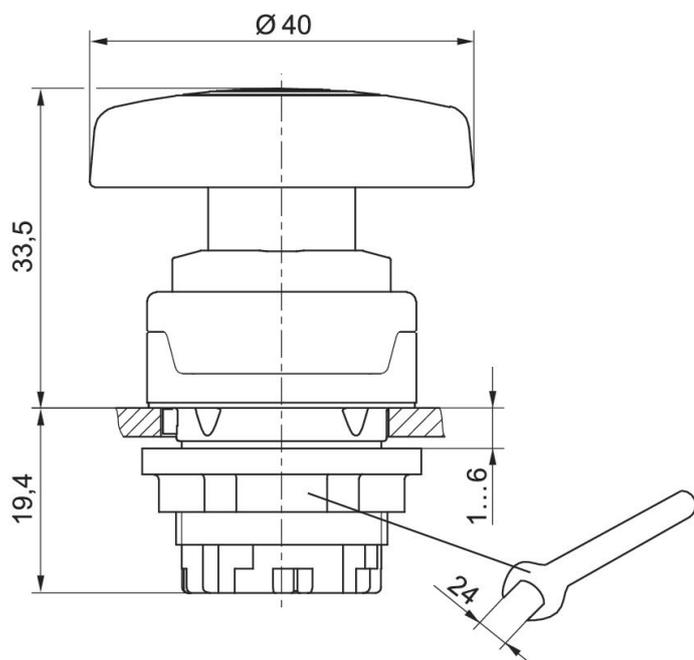
Actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Mushroom button	Yellow	R412012740

Dimensions in mm



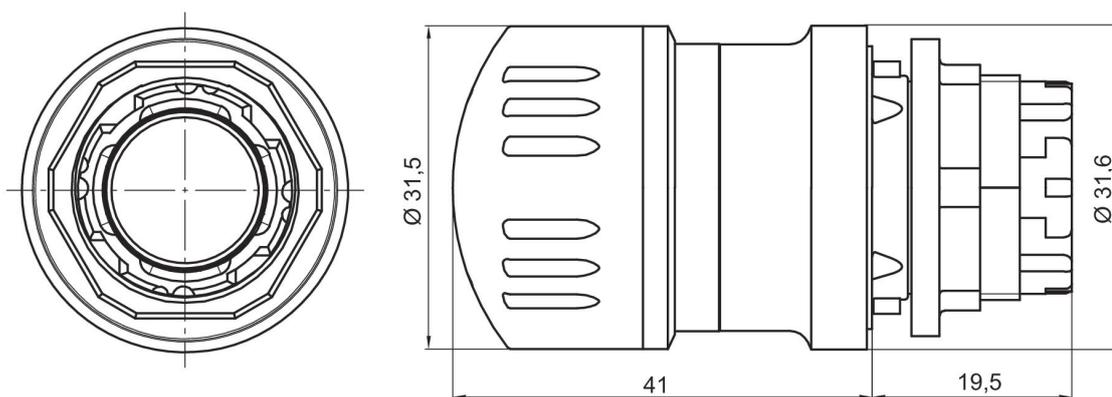
**Actuating controls for AP/ST series control panel valves**

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Note	Color	Part No.
Emergency OFF button, red, with detent and rotary release	Only for ST series spring-return valves (R422002211, R422002213)	Red	R412012741

Dimensions in mm



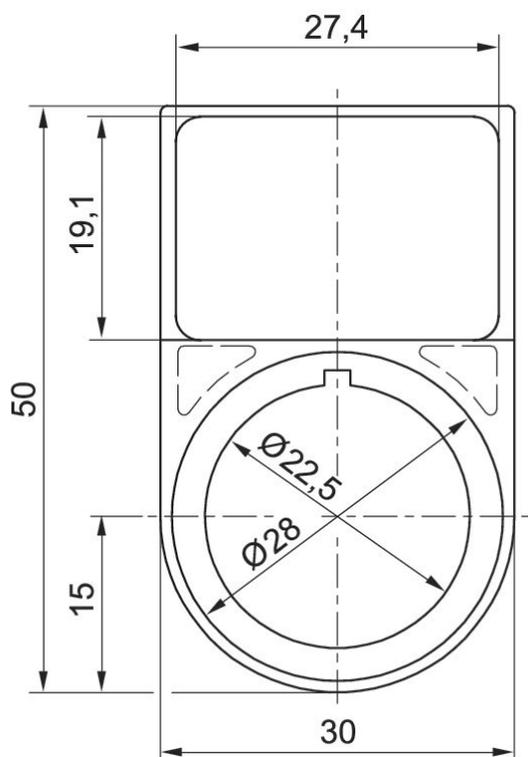
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Label base	Anthracite	R412012749

Dimensions in mm



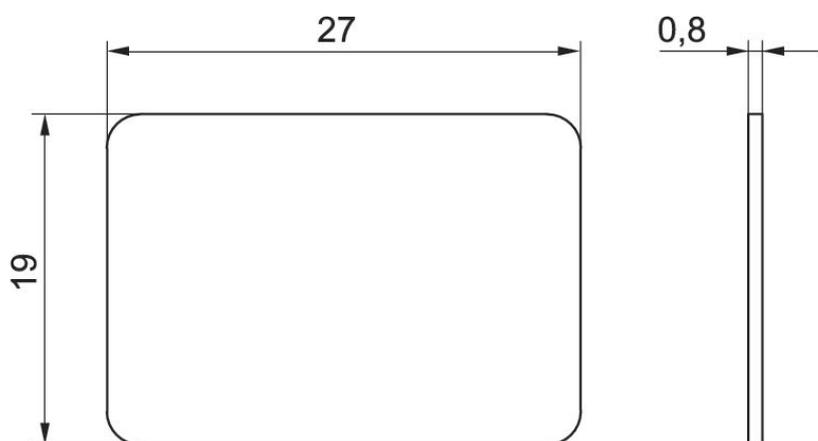
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Name plates, angular	silver	R412012750

Dimensions in mm



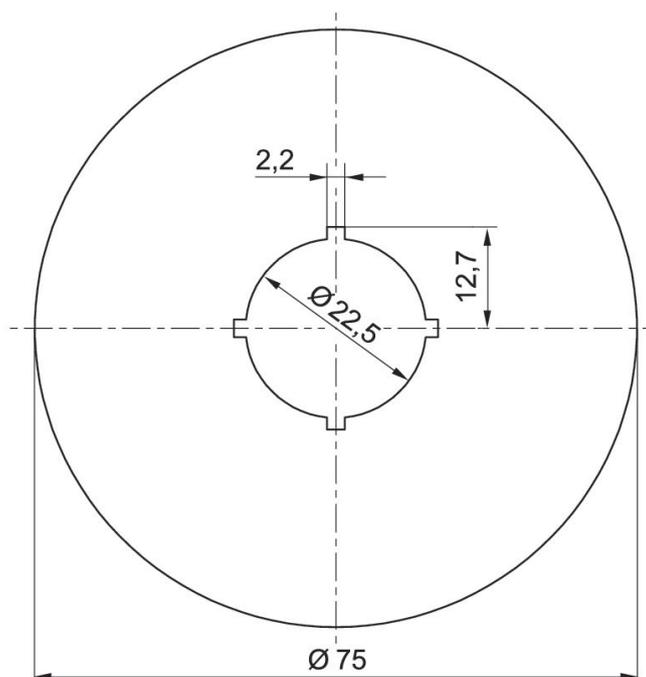
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Note	Color	Part No.
Emergency OFF sign, round	Only for ST series spring-return valves (R422002211, R422002213)	Yellow	R412012751

Dimensions in mm



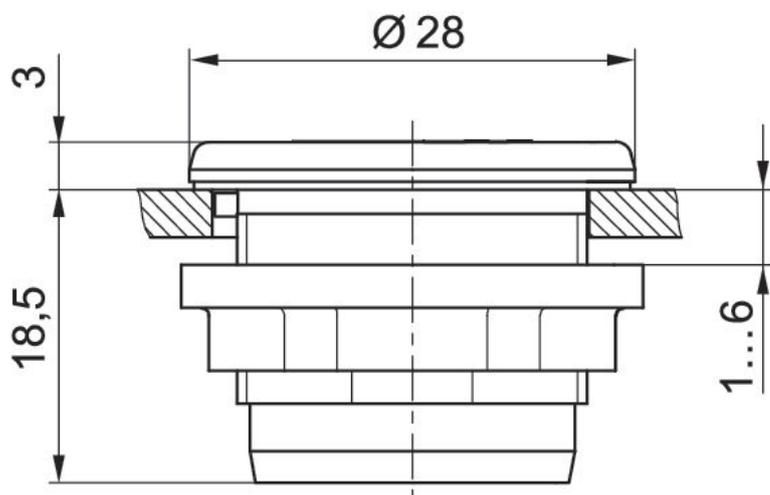
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Blanking plug	Anthracite	R412012752

Dimensions in mm



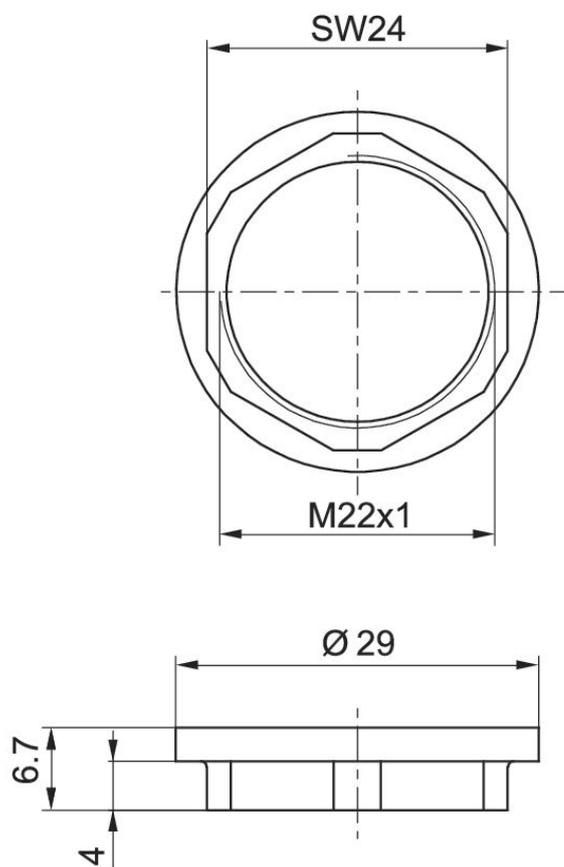
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Color	Part No.
Mounting nut M22x1	Black	R412012753

Dimensions in mm



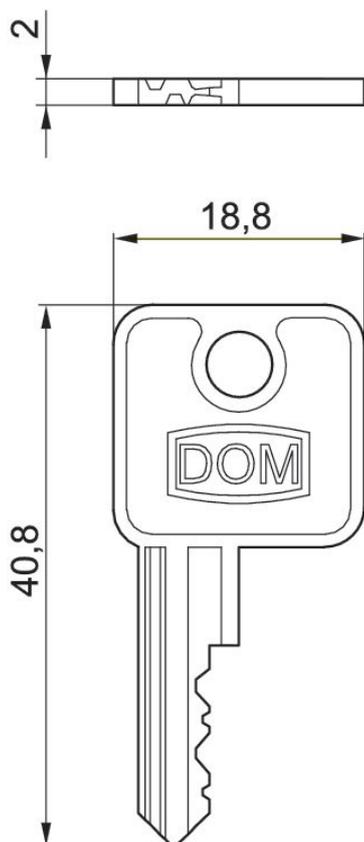
**Accessories for actuating controls for AP/ST series control panel valves**

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Part No.
Spare key	R412012989

Dimensions in mm



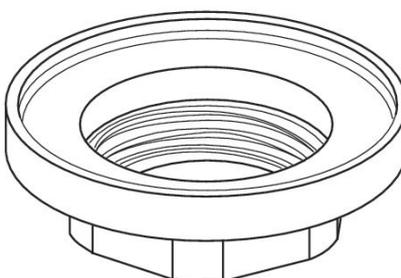
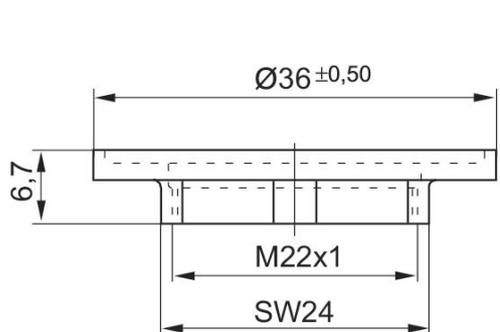
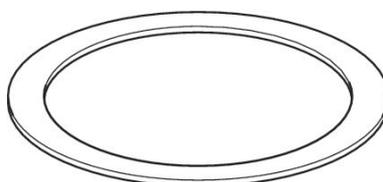
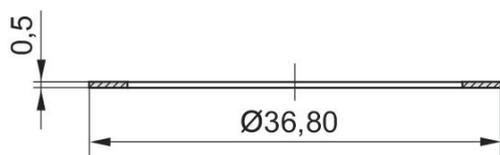
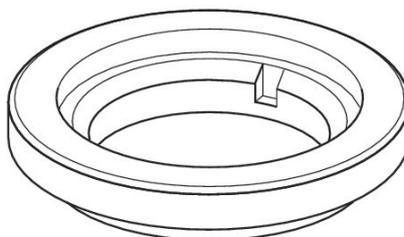
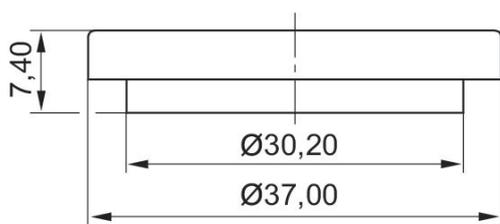
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Part No.
Reduction , Ø30.5 to Ø22.5	R412015512

Dimensions in mm



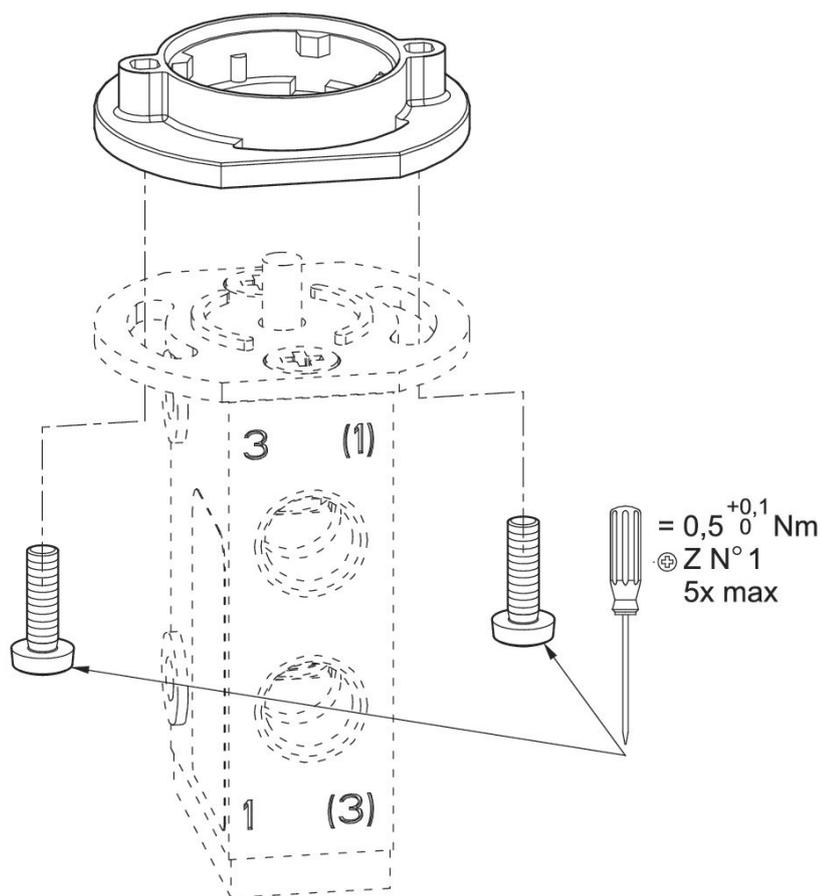
Accessories for actuating controls for AP/ST series control panel valves

Ambient temperature min./max.: -30 °C ... 70 °C



Type	Part No.
Adapter kit to connect actuating controls to AP/ST series valves	R422002219

Dimensions in mm

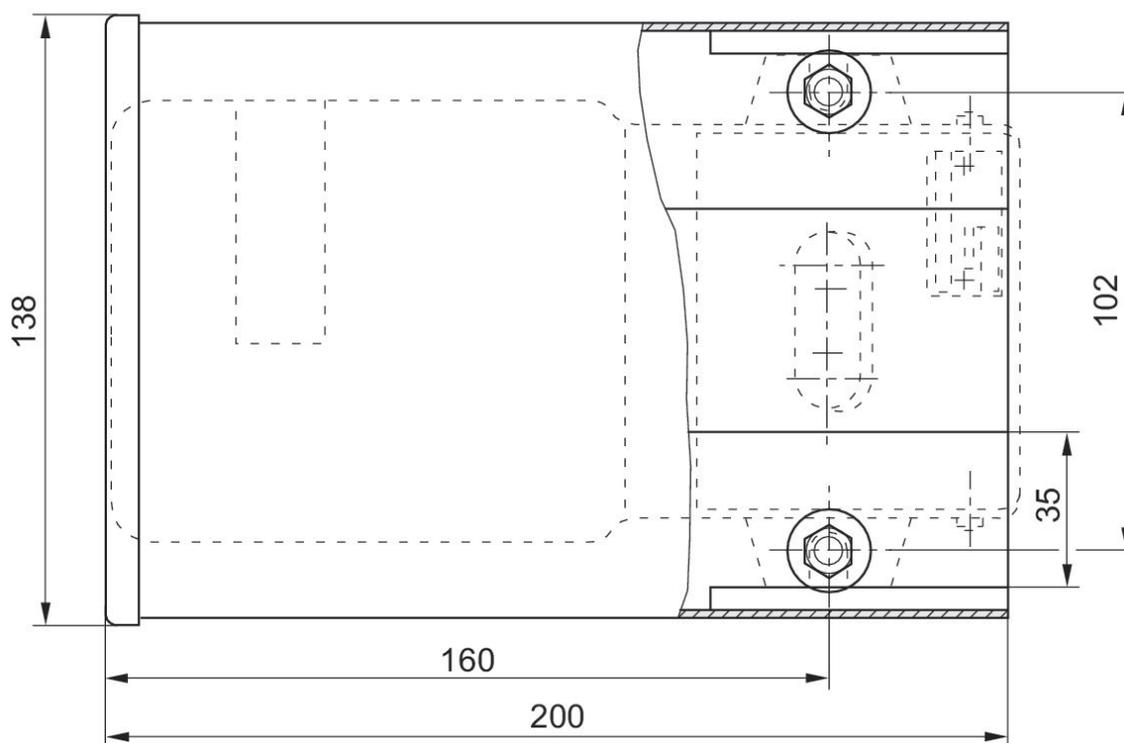
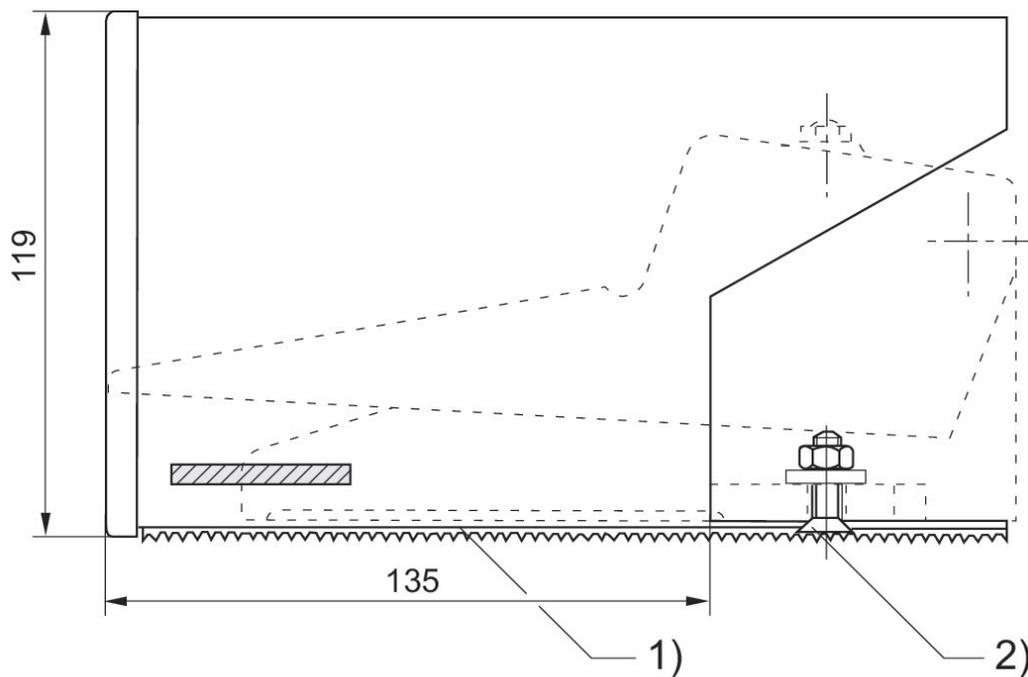


for panel-mounted valves

Protective cover, Series AP



Type	Weight [kg]	Material	Part No.
Protective cover for valve foot pedal	1	Steel, chrome-plated	1828104001

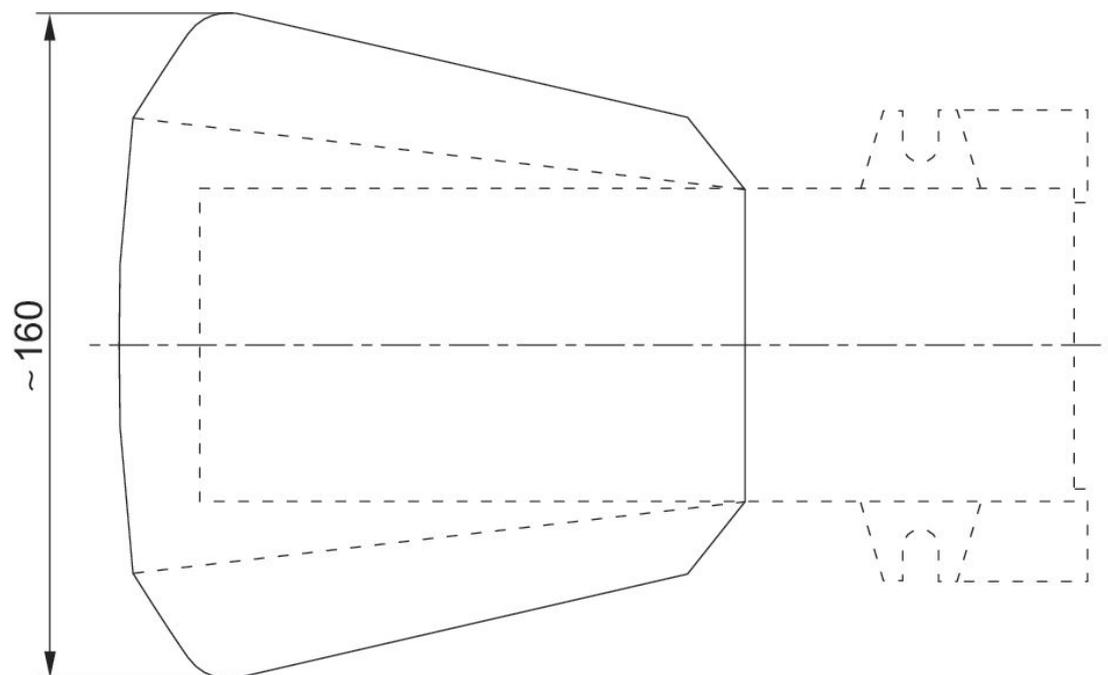
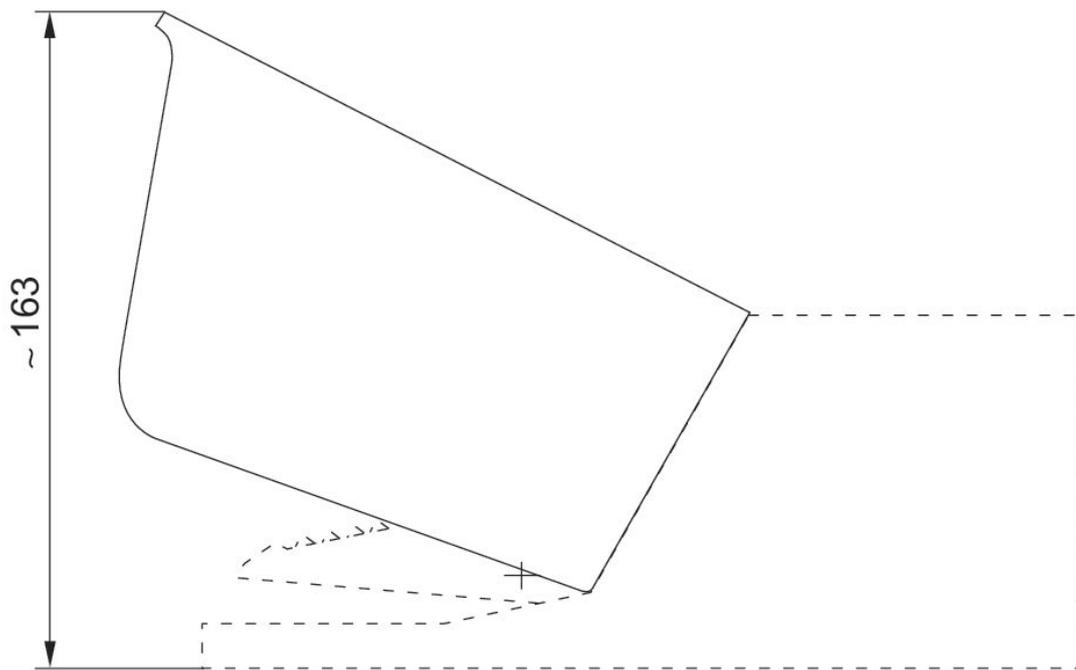


1) Ribbed rubber 2) Countersunk screw with hexagon socket M6 x20

Protective cover, Series AP



Type	Weight [kg]	Material	Part No.
Protective cover for valve foot pedal, with detent	0.35	Aluminum	1828104002



**Silencers, series SI1, Sintered bronze**

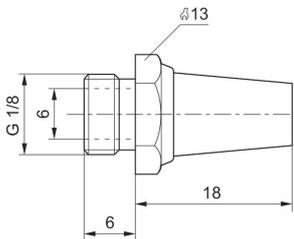
Compressed air connection type: External thread  
 Silencer material: Sintered bronze  
 Ambient temperature min./max.: -25 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
G 1/8	75	1623	10	0.01	1827000000
G 1/4	79	3390	10	0.02	1827000001

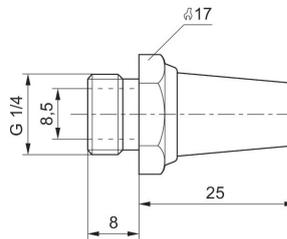
**1827000000**

Dimensions in mm



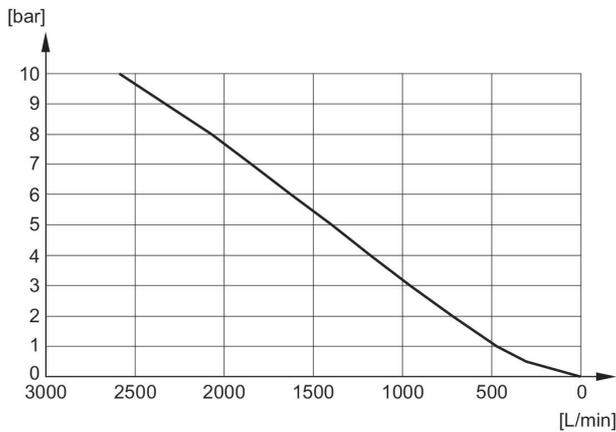
**1827000001**

Dimensions in mm



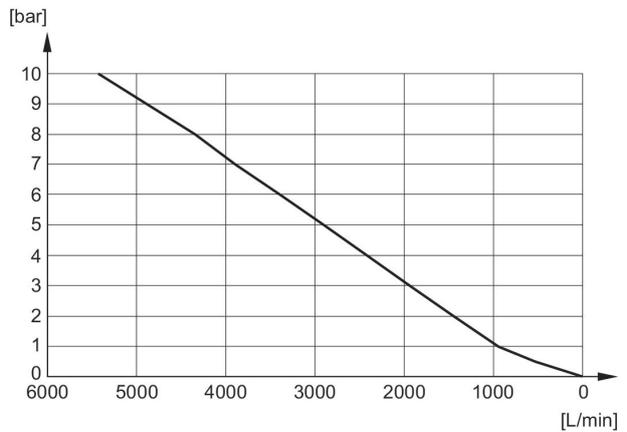
**Flow diagram**

**1827000000**



**Flow diagram**

**1827000001**



Efficient pneumatic solutions, our program:  
cylinders and drives, valves and valve systems,  
air supply management, proportional pressure  
control valves



Visit us: [www.Emerson.com/aventics](http://www.Emerson.com/aventics)  
Your local contact: [Emerson.com/contactus](http://Emerson.com/contactus)

-  [Emerson.com](http://Emerson.com)
-  [Facebook.com/EmersonAutomationSolutions](https://Facebook.com/EmersonAutomationSolutions)
-  [LinkedIn.com/company/Emerson-Automation-Solutions](https://LinkedIn.com/company/Emerson-Automation-Solutions)
-  [Twitter.com/EMR\\_Automation](https://Twitter.com/EMR_Automation)



The Emerson logo is a trademark and service mark of Emerson Electric Co. AVENTICS is a registered trademark of one of the Emerson family of companies. All other trademarks are the property of their respective owners. © 2020 Emerson Electric Co. All rights reserved.



**CONSIDER IT SOLVED™**