

General

The series 200 consist of a broad range of valves with various type of actuation.

The connections for this series are from G 1/8" to G 1".

Due to their special construction with a balanced spool, these valves can be used interchangeably as 3 ways or 5 ways as can be seen in the functional schematics in section 0. This is important because, for example, the 3 ways can be used normally closed or normally open and the 5 ways can be fed through the exhausts 3 and 5 with different pressures according to the need. The spool, as it is moving, isolates the connections without being effected by the inlet pressure.

The main components constituting the valves of the Tecno228 series are manufactured with high performance technopolymer. The use of technopolymer has resulted in a light weight product which can be offered to the market at very interesting prices. This valve series is manufactured with 1/8" connections, 3 and 5 ways function, mechanical or pneumatically operated, monostable spring or pneumatic return, bistable and in 5 ways 3 positions version with closed, open and pressured centres.

This series is completely interchangeable with the standard 228 series (with aluminium body).

Construction characteristics

	G 1/8" - G 1/4" - G 1/2" - G 1"	G 1/8" (in Technopolymer T228 Series)
Body	Aluminium	Technopolymer
Actuators	Aluminium Technopolymer	Technopolymer
Spool	Stainless steel Technopolymer	Technopolymer (5/2 version) Nickel plated steel (5/3 version)
Seals	NBR	NBR
Spacers	Technopolymer (Aluminium for G 1")	Technopolymer
Spring	Spring steel	Spring steel
Pistons	Technopolymer	Technopolymer

Maximum fitting torque (for T228 Series)

Thread	Maximum Torque (Nm)
G 1/8"	4

Use and maintenance

These valves have an average life of 15 million cycles depending on the application and air quality, filtered and lubricated air using specified lubricants will dramatically reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature and that exhaust ports 3 & 5 are protected against the possible ingress of dirt or debris.

Repair kits including the spool complete with seals are available for overhauling the valves; however, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).



1

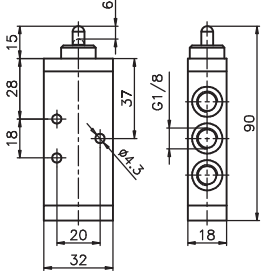
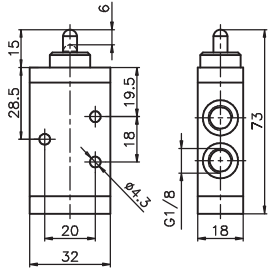
Tappet - Spring

3/2

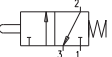
Ordering code
228.1.0.1

5/2

Tappet - Spring



Weight gr. 85
Operating force 33 N



Weight gr. 105
Operating force 33 N



Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"

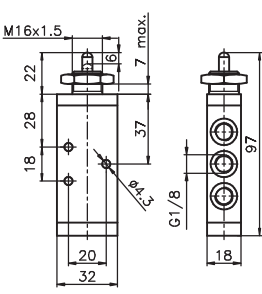
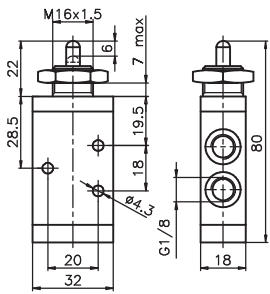
Tappet panel - Spring

3/2

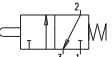
Ordering code
228.1.1.1

5/2

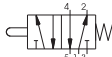
Tappet panel - Spring



Weight gr. 102
Operating force 33 N



Weight gr. 122
Operating force 33 N



Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"

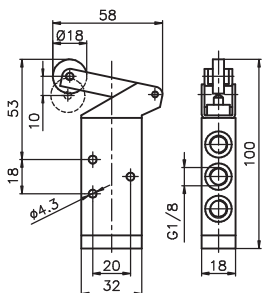
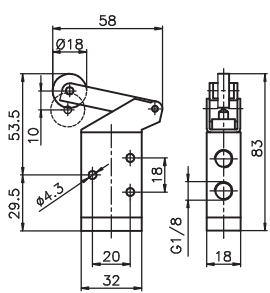
Lever roller - Spring

3/2

Ordering code
228.1.2.V

5/2

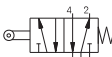
Lever roller - Spring



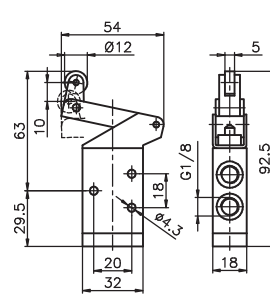
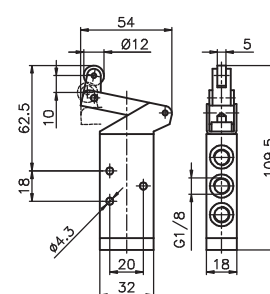
Weight gr. 115
Operating force 15 N

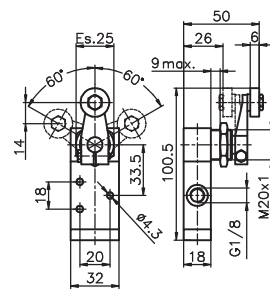
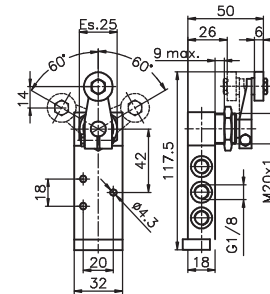


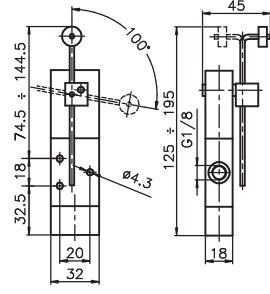
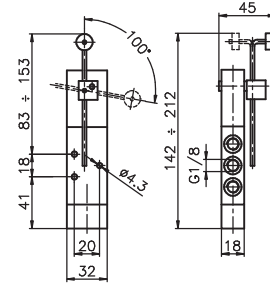
Weight gr. 135
Operating force 15 N



Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"

Lever roller unidirectional - Spring	3/2	Ordering code	5/2	Lever roller unidirectional - Spring	
		228.1.3.V			
		TYPE 1 32 = 3 ways 52 = 5 ways VERSION V 1 = Plastic roller 1/2 = Metal roller			
					
Weight gr. 110				Weight gr. 130	
Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Lever roller lateral bidirectional - Spring	3/2	Ordering code	5/2	Lever roller lateral bidirectional - Spring	
		228.1.4.1			
		TYPE 1 32 = 3 ways 52 = 5 ways			
					
Weight gr. 180				Weight gr. 200	
Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Lever sensitive - differential	3/2	Ordering code	5/2	Lever sensitive - differential	
		228.1.4.13			
		TYPE 1 32 = 3 ways 52 = 5 ways			
					
Weight gr. 200 Minimum rotation angle 11° Minimum working pressure 2,5 bar				Weight gr. 220 Minimum rotation angle 11° Minimum working pressure 2,5 bar	
Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

1

Lever panel Ø30 - 2 positions

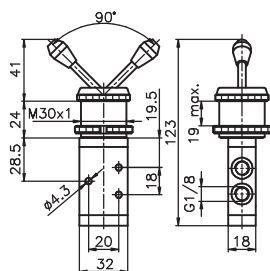
3/2

Ordering code

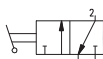
228.1.5/C

5/2

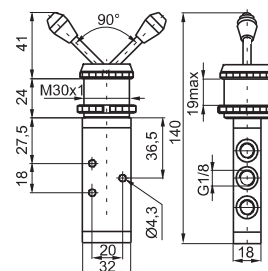
Lever panel Ø30 - 2 positions



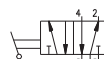
Weight gr. 198



- TYPE
- 32 = 3 ways
 - 52 = 5 ways
- BUTTON COLOR
- 1 = Red
 - 2 = Black
 - 3 = Green



Weight gr. 218



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Lever front - 2 positions

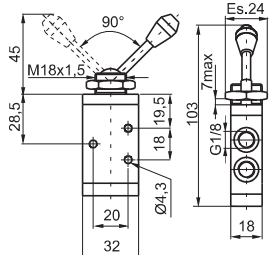
3/2

Ordering code

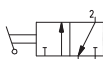
228.1.55/C

5/2

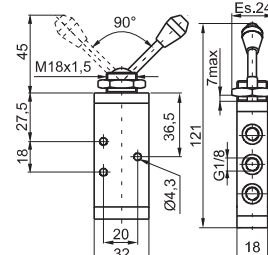
Lever front - 2 positions



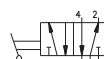
Weight gr. 115



- TYPE
- 32 = 3 ways
 - 52 = 5 ways
- BUTTON COLOR
- 1 = Red
 - 2 = Black
 - 3 = Green



Weight gr. 135



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Push button Ø30 - Spring

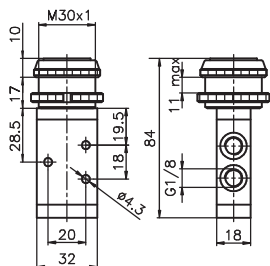
3/2

Ordering code

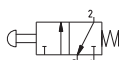
228.1.6.1/C

5/2

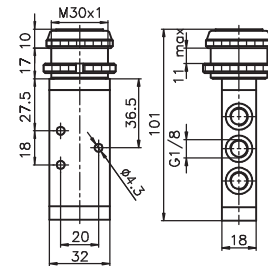
Push button Ø30 - Spring



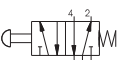
Weight gr. 155
Operating force 33 N



- TYPE
- 32 = 3 ways
 - 52 = 5 ways
- BUTTON COLOR
- 1 = Red
 - 2 = Black
 - 3 = Green



Weight gr. 175
Operating force 33 N



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"



1

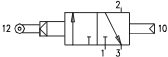
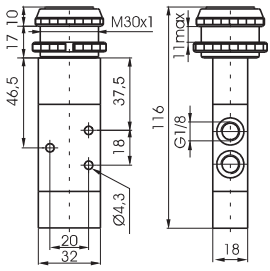
Sensitive pushbutton Ø30 - differential

3/2

Ordering code
228.1.6.13/C

5/2

Sensitive pushbutton Ø30 - differential



TYPE

1 32 = 3 ways

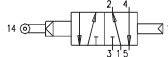
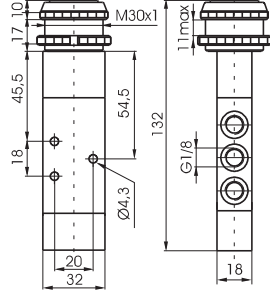
52 = 5 ways

BUTTON COLOR

C 1 = Red

2 = Black

3 = Green



Weight gr. 217

Operating force 18,5N (at 6 bar)

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - + 70	540 Nl/min	mm 6	G 1/8"

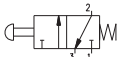
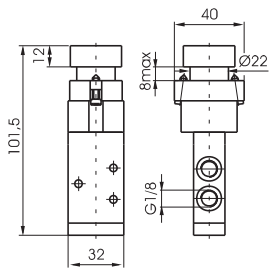
Push button - Spring

3/2

Ordering code
228.1.6.22/C

5/2

Push button - Spring



TYPE

1 32 = 3 ways

52 = 5 ways

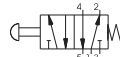
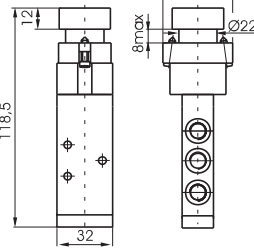
BUTTON COLOR

C 1 = Red

2 = Black

3 = Green

4 = Yellow



Weight gr. 225

Operating force 33N

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - + 70	540 Nl/min	mm 6	G 1/8"

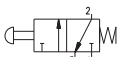
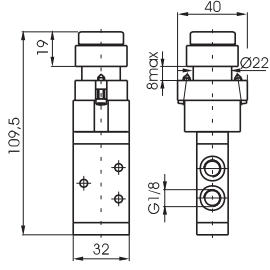
Raised pushbutton Ø22 - Spring

3/2

Ordering code
228.1.6.23/C

5/2

Raised pushbutton Ø22 - Spring



TYPE

1 32 = 3 ways

52 = 5 ways

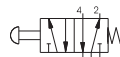
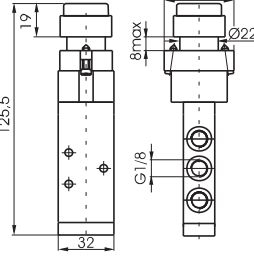
BUTTON COLOR

C 1 = Red

2 = Black

3 = Green

4 = Yellow



Weight gr. 230

Operating force 33N

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - + 70	540 Nl/min	mm 6	G 1/8"

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice.

1.25

1

Push button Ø22 - 2 positions

3/2

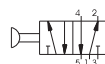
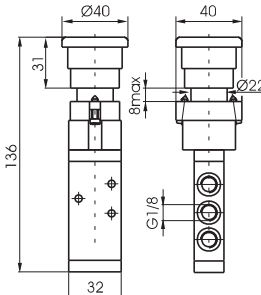
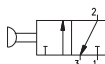
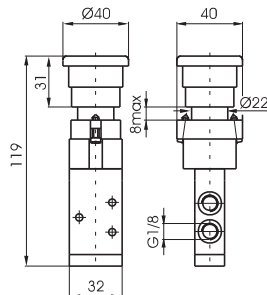
Ordering code

228.0.6.25

TYPE
32 = 3 ways
52 = 5 ways

5/2

Push button Ø22 - 2 positions



Weight gr. 235
Operating force 33N
Emergency - Rotate to unlock

Weight gr. 235
Operating force 33N
Emergency - Rotate to unlock

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Switch 2 positions

3/2

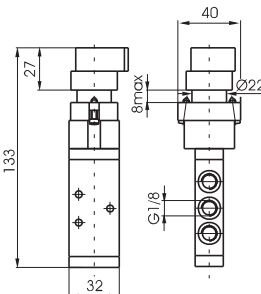
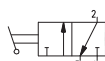
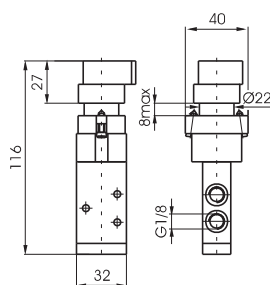
Ordering code

228.0.6.27

TYPE
32 = 3 ways
52 = 5 ways

5/2

Switch 2 positions



Weight gr. 230

Weight gr. 250

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Key switch 2 positions

3/2

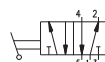
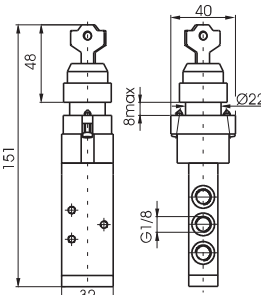
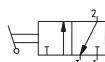
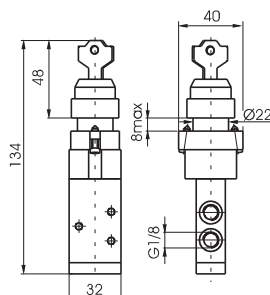
Ordering code

228.0.6.28

TYPE
32 = 3 ways
52 = 5 ways

5/2

Key switch 2 positions

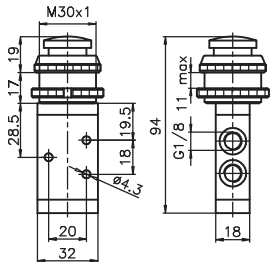
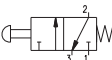
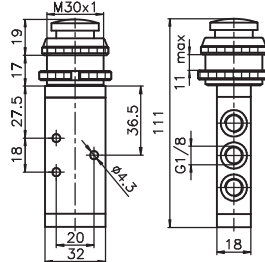
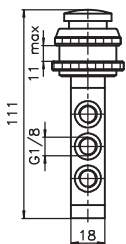
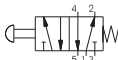


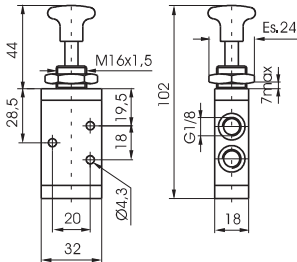
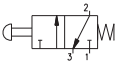
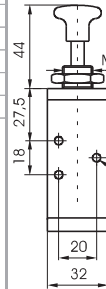
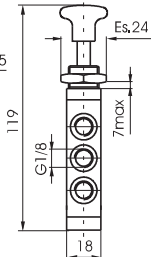
Weight gr. 230

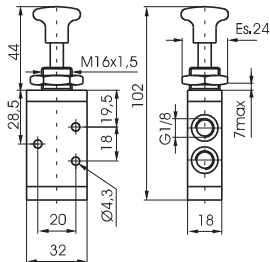
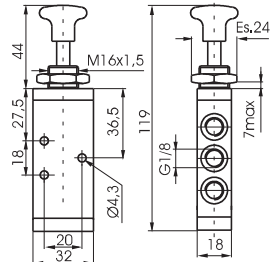
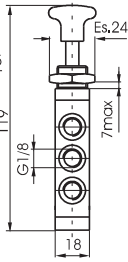
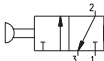
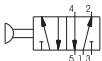
Weight gr. 250

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Palm pushbutton Ø30 2 positions		3/2	Ordering code	5/2	Palm pushbutton Ø30 2 positions		
  		228.1.7.1/C TYPE 32 = 3 ways 52 = 5 ways BUTTON COLOR 1 = Red 2 = Black 3 = Green		  		 Weight gr. 168 Operating force 33N	
Operational characteristic							
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size		
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"		

Push button - Spring		3/2	Ordering code	5/2	Push button - Spring		
  		228.1.8.1/C TYPE 32 = 3 ways 52 = 5 ways BUTTON COLOR 1 = Red 2 = Black 3 = Green		  		 Weight gr. 140 Operating force 33N	
Operational characteristic							
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size		
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"		

Push button 2 positions		3/2	Ordering code	5/2	Push button 2 positions	
 		228.1.8/C	TYPE	 		
			T			
			32 = 3 ways			
			52 = 5 ways			
			BUTTON COLOR			
			1 = Red			
			2 = Black			
			3 = Green			
Weight gr. 120 Operating force 10N					Weight gr. 140 Operating force 10N	
Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size	
Filtered and lubricated air	10 bar	-5 - +70	540 Nl/min	mm 6	G 1/8"	

1

Lever lateral - Spring

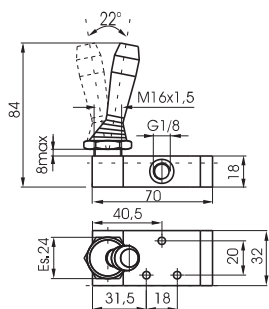
3/2

Ordering code

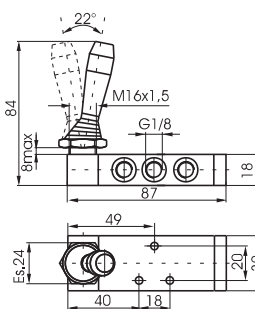
228.1.9.1/C

5/2

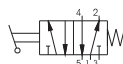
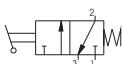
Lever lateral - Spring



TYPE
32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



Weight gr. 140



Weight gr. 160

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Lever lateral 2 positions

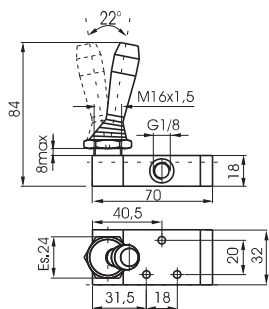
3/2

Ordering code

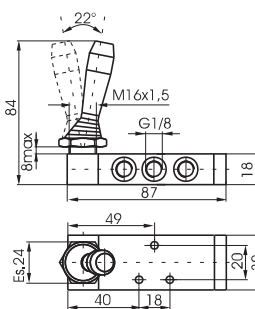
228.1.9/C

5/2

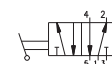
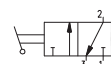
Lever lateral 2 positions



TYPE
32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



Weight gr. 140



Weight gr. 160

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Pedal aluminium 2 positions

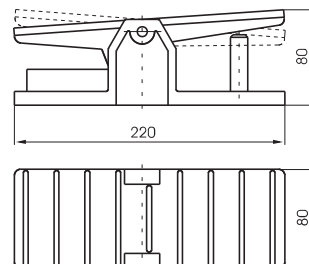
3/2

5/2

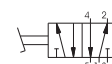
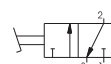
Ordering code

228.1.10

TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 790 (3/2)
Weight gr. 810 (5/2)



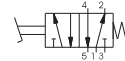
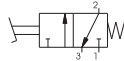
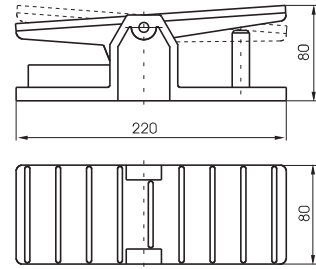
Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Pedal aluminium - Spring

Ordering code
228.T.10.1
TYPE
T 32 = 3 ways
52 = 5 ways

Weight gr. 790 (3/2)
Weight gr. 810 (5/2)



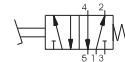
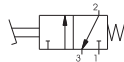
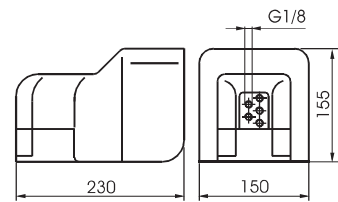
Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Pedal protected - Spring

Ordering code
228.T.10.V
TYPE
T 32 = 3 ways
52 = 5 ways
VERSION
V 1/1 = Standard version
2/1 = without safety device

Weight gr. 1.120



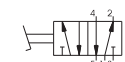
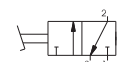
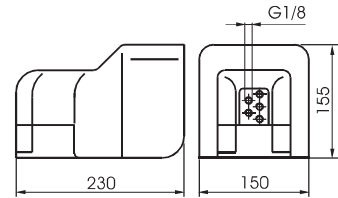
Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Pedal protected 2 positions

Ordering code
228.T.10/1
TYPE
T 32 = 3 ways
52 = 5 ways

Weight gr. 1.120



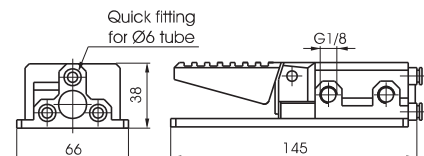
Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Pedal plastic miniaturized - Spring

Ordering code
228.52.10.F
FUNCTION
F 1P = Standard version
1PX = Stainless steel spool

Weight gr. 230



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"

Lever lateral spring centre 3 positions

Ordering code

228.53.F.9.1/C

FUNCTION

31 = Closed centres

32 = Open centres

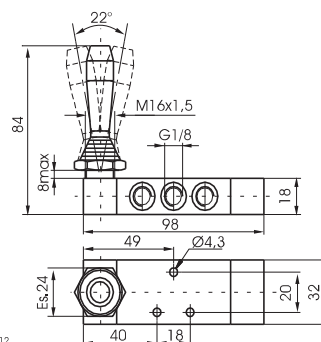
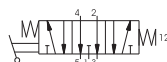
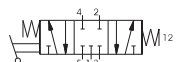
BUTTON COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 190



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	410 NI/min	mm 6	G 1/8"

Lever lateral 3 positions detent

Ordering code

228.53.F.9/C

FUNCTION

31 = Closed centres

32 = Open centres

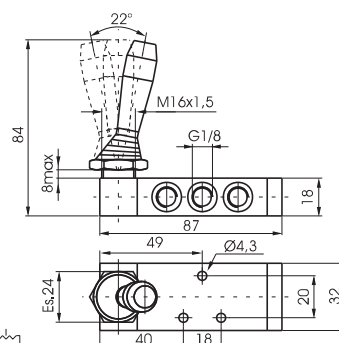
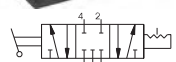
BUTTON COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 160



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	410 NI/min	mm 6	G 1/8"

Lever central (spring 3 pos.) Operator, Levar, Spole in Technopolymer

Ordering code

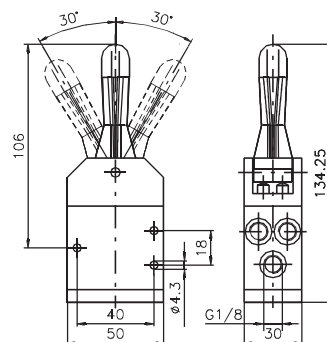
228.53.32.99P/C

LEVER COLOR

1 = Red

2 = Black

Weight gr. 140



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10	-5 - +70	410	6	G 1/8"

Lever central (spring 3 pos.) Levar in Technopolymer

Ordering code

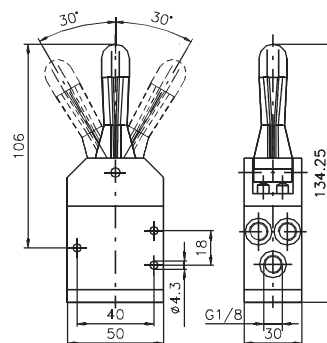
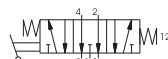
228.53.32.99/C

LEVER COLOR

1 = Red

2 = Black

Weight gr. 140



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10	-5 - +70	410	6	G 1/8"



Lever central Metal (spring 3 pos.) One position stable

5/3

Ordering code

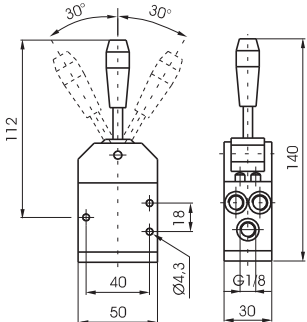
228.53.32.99/CS

LEVER COLOR

1 = Red

2 = Black







Weight gr. 140

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10	-5 - +70	410	6	G 1/8"

Lever central Metal

5/3

Ordering code

228.53.32.99.F/C

FUNCTION

2 = 2 Stable positions

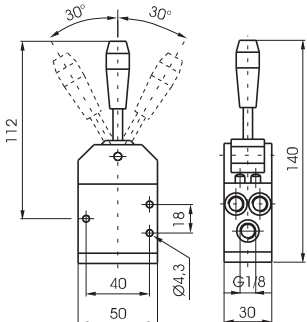
3 = 3 Stable positions

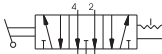
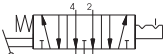
LEVER COLOR

1 = Red

2 = Black







Weight gr. 140

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10	-5 - +70	410	6	G 1/8"

Pedal - Spring 3 positions

5/3

Ordering code

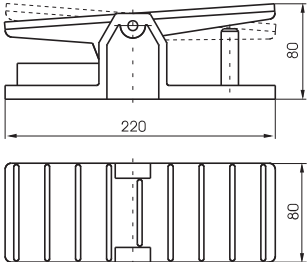
228.53.F.10.1

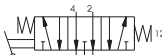
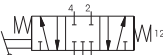
FUNCTION

31 = Closed centres

32 = Open centres







Weight gr. 810

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	410 NI/min	mm 6	G 1/8"

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice. 1.31

1

Plunger - Spring

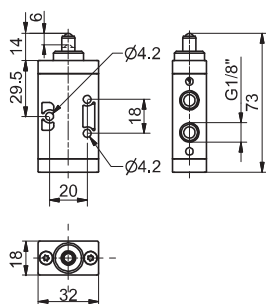
3/2

Ordering code

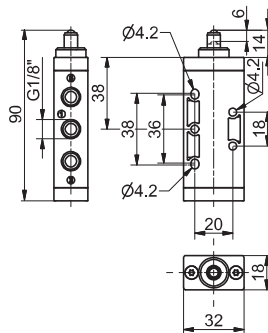
T228.1.0.1

5/2

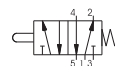
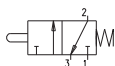
Plunger - Spring



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 60
Operating force 33 N



Weight gr. 72
Operating force 33 N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Plunger - Spring

3/2

Ordering code

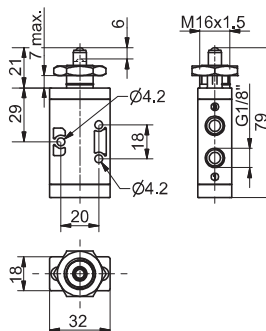
T228.1.1.1

5/2

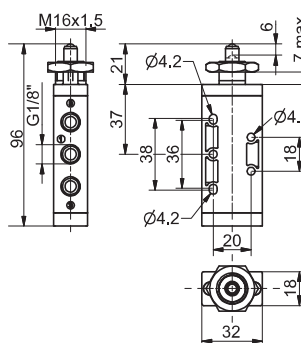
Plunger - Spring

for panel mounting

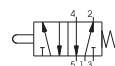
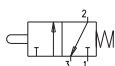
for panel mounting



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 77
Operating force 33 N



Weight gr. 90
Operating force 33 N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Roller lever - Spring

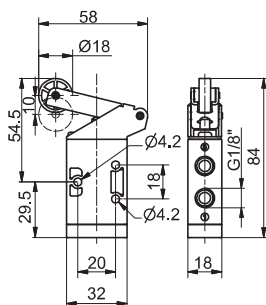
3/2

Ordering code

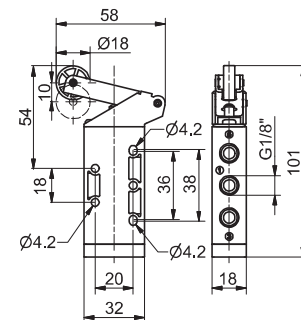
T228.1.2.V

5/2

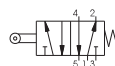
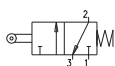
Roller lever - Spring



TYPE
32 = 3 ways
52 = 5 ways
VERSION
1 = Plastic roller
1/2 = Ball bearing



Weight gr. 90
Operating force 15 N



Weight gr. 102
Operating force 15 N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Roller lever (ball bearings) - Spring		3/2	Ordering code	5/2	Roller lever (ball bearings) - Spring																				
Weight gr. 105 Operating force 15 N		T228.1.2.1/1	T228.1.2.1/1		Weight gr. 117 Operating force 15 N																				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>TYPE</td></tr> <tr><td>1 32 = 3 ways</td></tr> <tr><td>52 = 5 ways</td></tr> </table>		TYPE		1 32 = 3 ways	52 = 5 ways																		
TYPE																									
1 32 = 3 ways																									
52 = 5 ways																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="6">Operational characteristic</th> </tr> <tr> <th>Fluid</th> <th>Max working pressure (bar)</th> <th colspan="2">Temperature °C</th> <th>Flow rate at 6 bar ith $\Delta p=1$ (Nl/min)</th> <th>Orifice size (mm)</th> <th>Working ports size</th> </tr> <tr> <td>Filtered and lubricated air</td> <td>10 bar</td> <td>Min.</td> <td>Max.</td> <td>620 Nl/min</td> <td>mm 6</td> <td>G 1/8"</td> </tr> </table>						Operational characteristic						Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar ith $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size	Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6	G 1/8"
Operational characteristic																									
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar ith $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size																			
Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6	G 1/8"																			

Button lever - Spring		3/2	Ordering code	5/2	Button lever - Spring																				
Weight gr. 95 Operating force 15 N		T228.1.2.6/C	T228.1.2.6/C		Weight gr. 87 Operating force 15 N																				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>TYPE</td></tr> <tr><td>1 32 = 3 ways</td></tr> <tr><td>52 = 5 ways</td></tr> <tr><td>BUTTON COLOR</td></tr> <tr><td>C 1 = Red</td></tr> <tr><td>2 = Black</td></tr> <tr><td>3 = Green</td></tr> </table>		TYPE		1 32 = 3 ways	52 = 5 ways	BUTTON COLOR	C 1 = Red	2 = Black	3 = Green														
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Operational characteristic																									
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Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6	G 1/8"																			

One way Roller lever - Spring		3/2	Ordering code	5/2	One way Roller lever - Spring																				
Weight gr. 85		T228.1.3.V	T228.1.3.V		Weight gr. 97																				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>TYPE</td></tr> <tr><td>1 32 = 3 ways</td></tr> <tr><td>52 = 5 ways</td></tr> <tr><td>VERSION</td></tr> <tr><td>V 1 = Plastic roller</td></tr> <tr><td>1/2 = Ball bearing</td></tr> </table>		TYPE		1 32 = 3 ways	52 = 5 ways	VERSION	V 1 = Plastic roller	1/2 = Ball bearing															
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Operational characteristic																									
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size																			
Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6	G 1/8"																			

1

Toggle Lever (for panel mounting) Ø 30

3/2

Ordering code

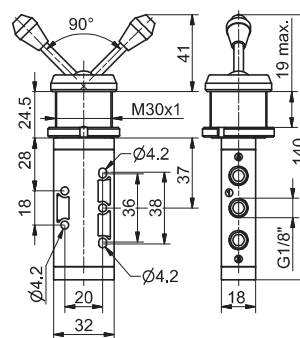
T228.1.5/C

TYPE
T 32 = 3 ways 52 = 5 ways
BUTTON COLOR
C 1 = Red 2 = Black 3 = Green

5/2

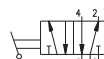
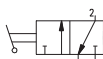
Toggle Lever (for panel mounting) Ø 30

2 positions



Weight gr. 180

Weight gr. 168



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Toggle Lever - 2 positions

3/2

Ordering code

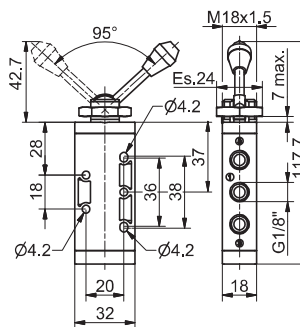
T228.1.55/C

TYPE
T 32 = 3 ways 52 = 5 ways
BUTTON COLOR
C 1 = Red 2 = Black 3 = Green

5/2

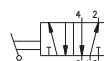
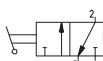
Toggle Lever - 2 positions

2 positions



Weight gr. 96

Weight gr. 84



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Push button Ø 30 - spring

3/2

Ordering code

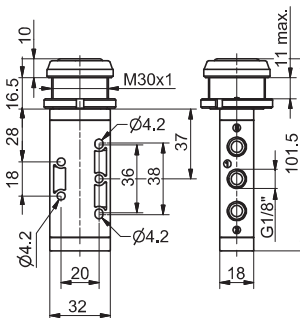
T228.1.6.1/C

TYPE
T 32 = 3 ways 52 = 5 ways
BUTTON COLOR
C 1 = Red 2 = Black 3 = Green

5/2

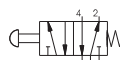
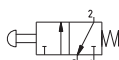
Push button Ø 30 - spring

2 positions



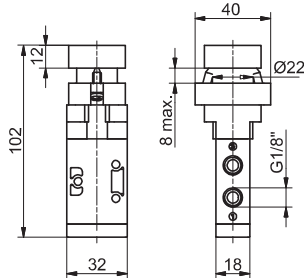
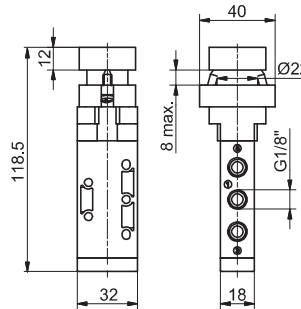
Weight gr. 137
Operating force 33 N

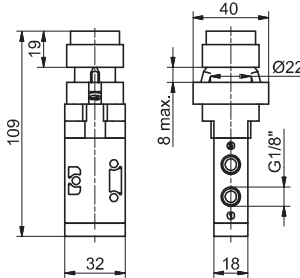
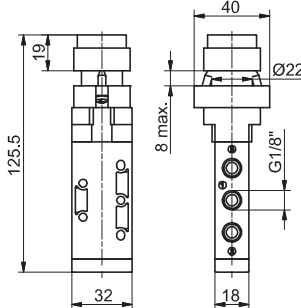
Weight gr. 125
Operating force 33 N

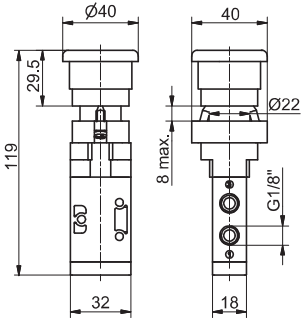
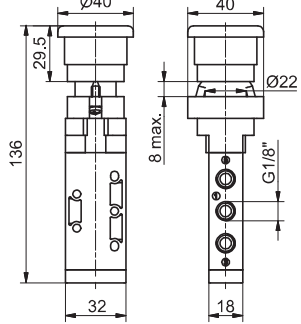


Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

Push button - spring		3/2	Ordering code	5/2	Push button - spring	
  Weight gr. 200 Operating force 33N		T228.1.6.22/C TYPE 1 32 = 3 ways 52 = 5 ways BUTTON COLOR C 1 = Red 2 = Black 3 = Green 4 = Yellow	  Weight gr. 212 Operating force 33N			
Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"

Raised Push button - spring		3/2	Ordering code	5/2	Raised Push button - spring	
  Weight gr. 205 Operating force 33N			T228.1.6.23/C	  Weight gr. 217 Operating force 33N		
			TYPE 32 = 3 ways 52 = 5 ways BUTTON COLOR 1 = Red 2 = Black 3 = Green 4 = Yellow			
Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"

Palm button - 2 positions		3/2	Ordering code	5/2	Palm button - 2 positions																				
emergency - Rotate to unlock		  Weight gr. 210 Operating force 33N	T228.1.6.25	  Weight gr. 202 Operating force 33N	emergency - Rotate to unlock																				
			TYPE																						
			32 = 3 ways																						
			52 = 5 ways																						
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Operational characteristic																									
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Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"																			

1

Switch - 2 positions

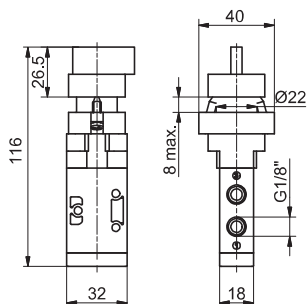
3/2

Ordering code

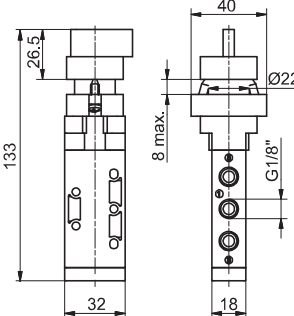
T228.1.6.27

5/2

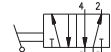
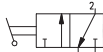
Switch - 2 positions



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 205
Operating force 33N



Weight gr. 217
Operating force 33N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 Nl/min	mm 6	G 1/8"

Key switch - 2 positions

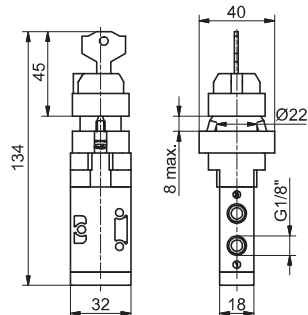
3/2

Ordering code

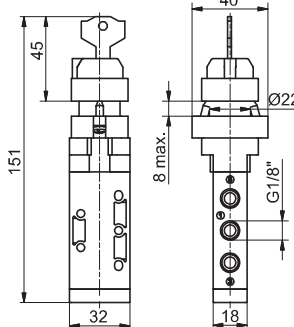
T228.1.6.28

5/2

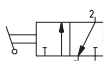
Key switch - 2 positions



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 205
Operating force 33N



Weight gr. 217
Operating force 33N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 Nl/min	mm 6	G 1/8"

Palm Push button Ø 30

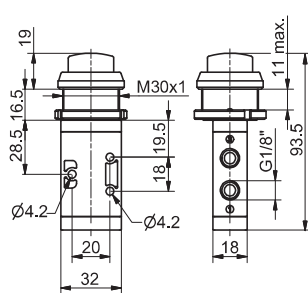
3/2

Ordering code

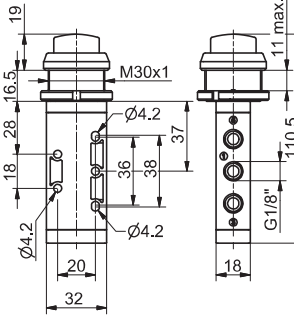
T228.1.7.1/C

5/2

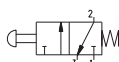
Palm Push button Ø 30



TYPE
32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



Weight gr. 118
Operating force 33N



Weight gr. 130
Operating force 33N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 Nl/min	mm 6	G 1/8"



1

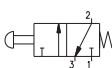
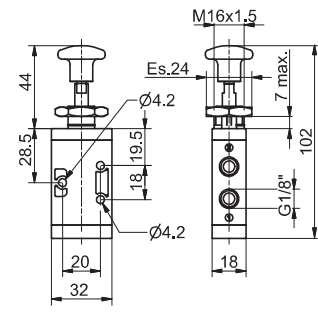
Push button - Spring

3/2

Ordering code

5/2

Push button - Spring



T228.1.8.1/C

TYPE

1 32 = 3 ways

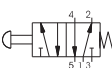
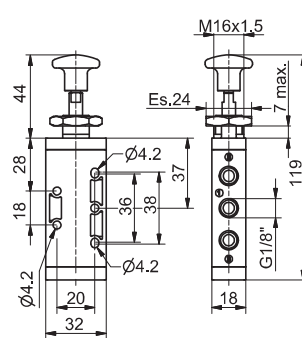
52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green



T228.1.8.1/C

TYPE

1 32 = 3 ways

52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 95

Operating force 33N

Weight gr. 107

Operating force 33N

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6
					Working ports size
					G 1/8"

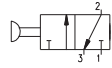
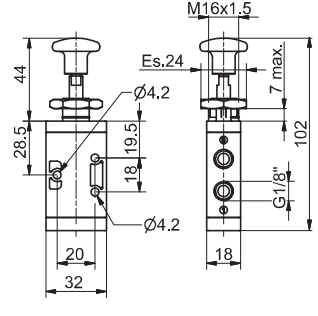
Push button - 2 positions

3/2

Ordering code

5/2

Push button - 2 positions



T228.1.8/C

TYPE

1 32 = 3 ways

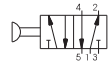
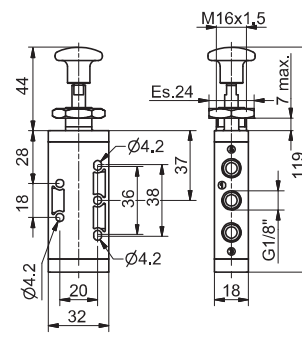
52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green



T228.1.8/C

TYPE

1 32 = 3 ways

52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 95

Operating force 10N

Weight gr. 107

Operating force 10N

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6
					Working ports size
					G 1/8"

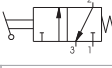
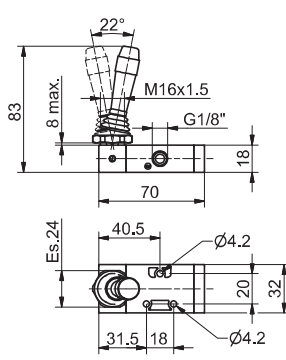
Lever lateral - Spring

3/2

Ordering code

5/2

Lever lateral - Spring



T228.1.9.1/C

TYPE

1 32 = 3 ways

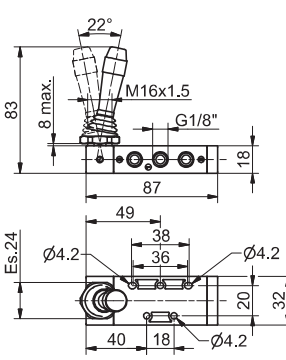
52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green



T228.1.9.1/C

TYPE

1 32 = 3 ways

52 = 5 ways

BUTTON COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 100

Weight gr. 110

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	620 Nl/min	mm 6
					Working ports size
					G 1/8"

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice.

1.37

Lateral lever - 2 positions

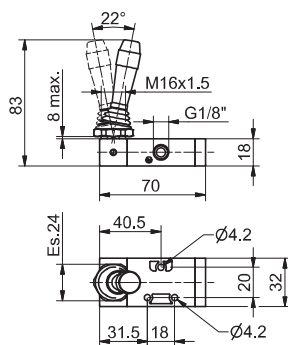
3/2

Ordering code

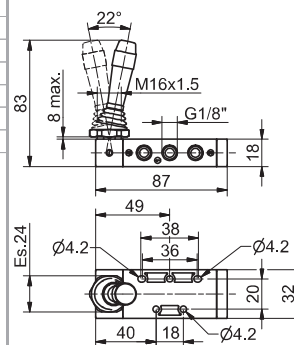
T228.1.9/C

5/2

Lateral lever - 2 positions



TYPE	
32 = 3 ways	
52 = 5 ways	
BUTTON COLOR	
1 = Red	
2 = Black	
3 = Green	



Weight gr. 100

Weight gr. 110

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	620 NI/min	mm 6	G 1/8"

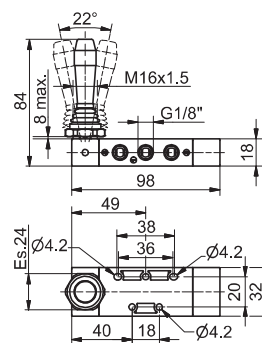
Lateral Lever spring - 3 positions

5/3

Ordering code

T228.53.F.9.1/C

FUNCTION	
31 = Closed Centres	
32 = Open Centres	
BUTTON COLOR	
1 = Red	
2 = Black	
3 = Green	



Weight gr. 140

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	410 NI/min	mm 6	G 1/8"

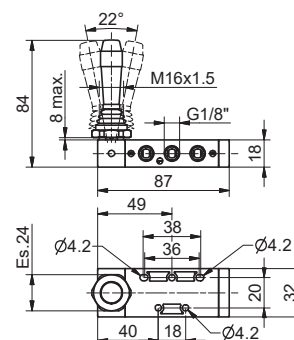
Lateral lever - 3 positions detent

5/3

Ordering code

T228.53.F.9/C

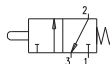
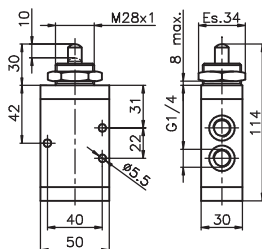
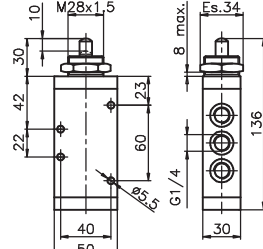
FUNCTION	
31 = Closed Centres	
32 = Open Centres	
BUTTON COLOR	
1 = Red	
2 = Black	
3 = Green	

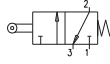
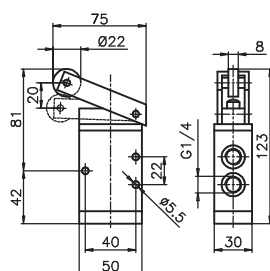
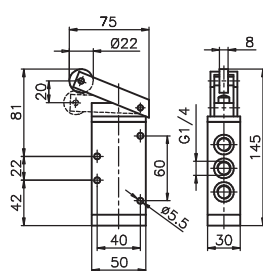


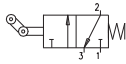
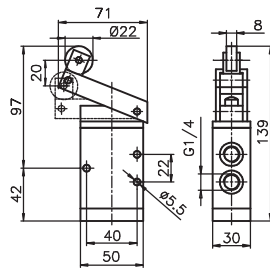
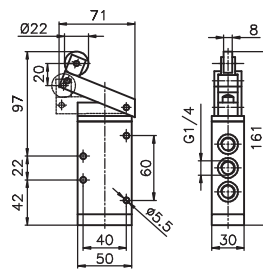
Weight gr. 110

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	410 NI/min	mm 6	G 1/8"

Tappet panel - Spring		3/2	Ordering code	5/2	Tappet panel - Spring
			224.1.1		
			TYPE 32 = 3 ways 52 = 5 ways		
					
Weight gr. 370 Operating force 71,5N				Weight gr. 455 Operating force 71,5N	
Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 Nl/min	mm 8	G 1/4"

Lever roller - Spring		3/2	Ordering code	5/2	Lever roller - Spring
			224.1.2.1		
			TYPE		
			32 = 3 ways		
			52 = 5 ways		
					
Weight gr. 510 Operating force 35N				Weight gr. 595 Operating force 35N	
Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 Nl/min	mm 8	G 1/4"

Lever roller unidirectional - Spring		3/2	Ordering code	5/2	Lever roller unidirectional - Spring	
			224.1.3.1			
			TYPE 32 = 3 ways 52 = 5 ways			
						
Weight gr. 525 Operating force 35N				Weight gr. 610 Operating force 35N		
Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (Nl/min)	Orifice size (mm)	Working ports size	
Filtered and lubricated air	10 bar	-5 - +70	1360 Nl/min	mm 8	G 1/4"	

1

Push button - Spring

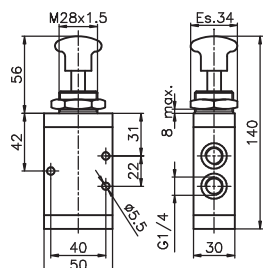
3/2

Ordering code

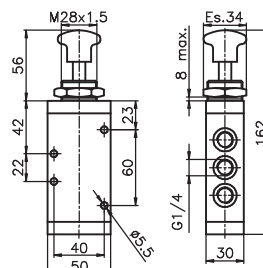
224.1.8.1

5/2

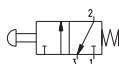
Push button - Spring



TYPE
T
32 = 3 ways
52 = 5 ways



Weight gr. 395
Operating force 71,5N



Weight gr. 480
Operating force 71,5N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 NI/min	mm 8	G 1/4"

Push button 2 positions

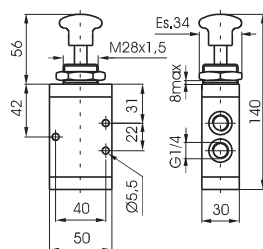
3/2

Ordering code

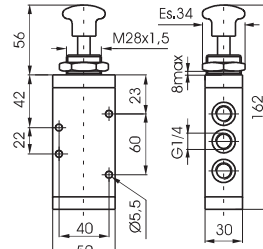
224.1.8

5/2

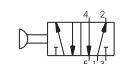
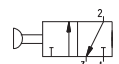
Push button 2 positions



TYPE
T
32 = 3 ways
52 = 5 ways



Weight gr. 385
Operating force 105N



Weight gr. 470
Operating force 10N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 NI/min	mm 8	G 1/4"

Lever lateral - Spring

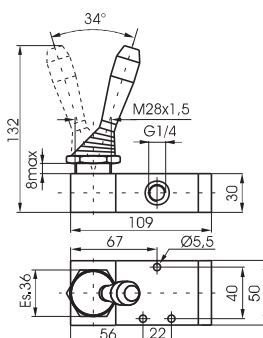
3/2

Ordering code

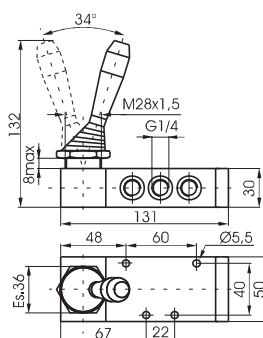
224.1.9.1/C

5/2

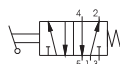
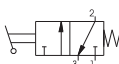
Lever lateral - Spring



TYPE
T
32 = 3 ways
52 = 5 ways
BUTTON COLOR
C
1 = Red
2 = Black
3 = Green



Weight gr. 520



Weight gr. 605

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 NI/min	mm 8	G 1/4"

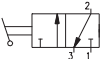
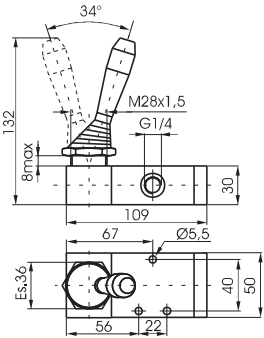
Lever lateral 2 positions

3/2

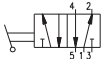
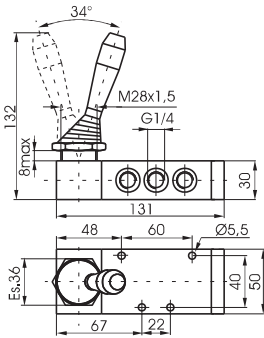
Ordering code
224.1.9/C

5/2

Lever lateral 2 positions



TYPE
1 32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



Weight gr. 510

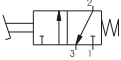
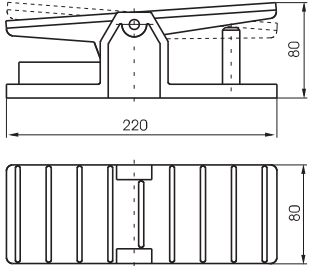
Weight gr. 595

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (l/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 l/min	mm 8	G 1/4"

Pedal aluminium - Spring

Ordering code
224.1.10.1

TYPE
1 32 = 3 ways
52 = 5 ways



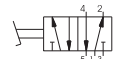
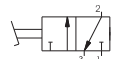
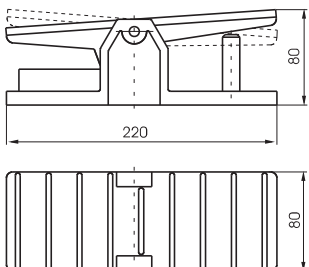
Weight gr. 1.070 (3/2)
Weight gr. 1.155 (5/2)

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (l/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 l/min	mm 8	G 1/4"

Pedal aluminium 2 positions

Ordering code
224.1.10

TYPE
1 32 = 3 ways
52 = 5 ways



Weight gr. 1.060 (3/2)
Weight gr. 1.145 (5/2)

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (l/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 l/min	mm 8	G 1/4"

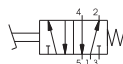
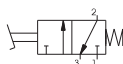
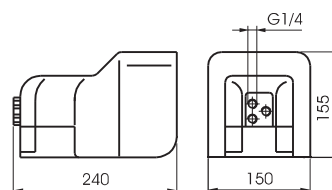
Pedal protected - Spring

Ordering code

214.10.10.V

T	TYPE
32 = 3 ways	
52 = 5 ways	
V	VERSION
1/1 = Standard version	
2/1 = without safety device	

Weight gr. 1.730



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 NI/min	mm 8	G 1/4"

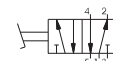
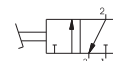
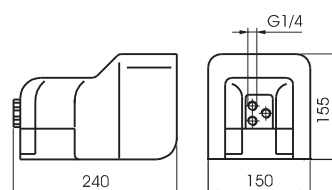
Pedal protected 2 positions

Ordering code

214.10.10/1

T	TYPE
32 = 3 ways	
52 = 5 ways	

Weight gr. 1.730



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1360 NI/min	mm 8	G 1/4"

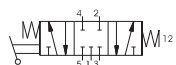
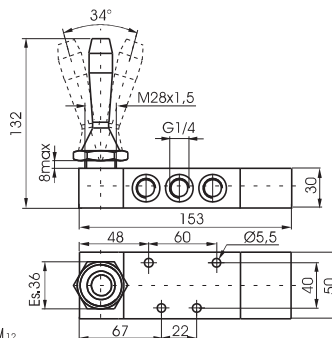
Lever lateral spring 3 positions

Ordering code

224.53.F.9.1/C

F	FUNCTION
31 = Closed centres	
32 = Open centres	
C	BUTTON COLOR
1 = Red	
2 = Black	
3 = Green	

Weight gr. 745



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1280 NI/min	mm 8	G 1/4"

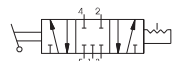
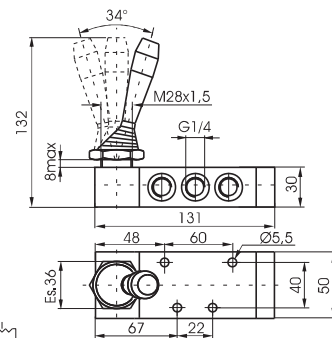
Lever lateral 3 positions

Ordering code

224.53.F.9/C

F	FUNCTION
31 = Closed centres	
32 = Open centres	
C	BUTTON COLOR
1 = Red	
2 = Black	
3 = Green	

Weight gr. 605



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1280 NI/min	mm 8	G 1/4"



1

Lever lateral with locking device - 2 positions

Ordering code

224.52.9.2

FUNCTION

31 = Closed centres

32 = Open centres

Weight gr. 825

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1020 NI/min	mm 8	G 1/4"

Lever lateral with locking device - Spring 3 positions

Ordering code

224.53.F.9.2

FUNCTION

31 = Closed centres

32 = Open centres

Weight gr. 965

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1020 NI/min	mm 8	G 1/4"

Pedal - Spring 3 positions

Ordering code

224.53.F.10.1

FUNCTION

31 = Closed centres

32 = Open centres

Weight gr. 1.285

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1280 NI/min	mm 8	G 1/4"

Pedal 3 positions

Ordering code

224.53.F.10

FUNCTION

31 = Closed centres

32 = Open centres

Weight gr. 1.145

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	1280 NI/min	mm 8	G 1/4"

1

Push button - Spring

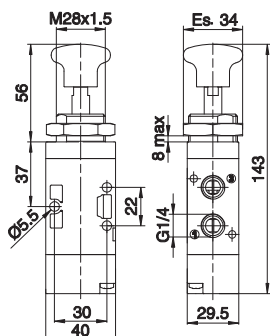
3/2

Ordering code

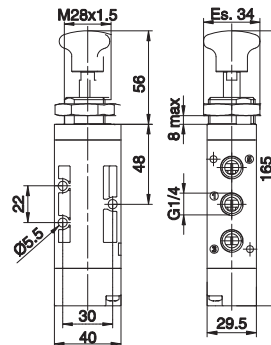
T224.1.8.1

5/2

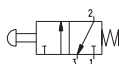
Push button - Spring



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 170
Operating force 50N



Weight gr. 200
Operating force 50N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Ø Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	1050 Nl/min	mm 8,5	G 1/4"

Push button 2 positions

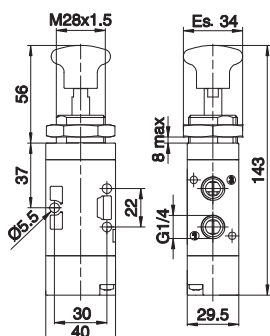
3/2

Ordering code

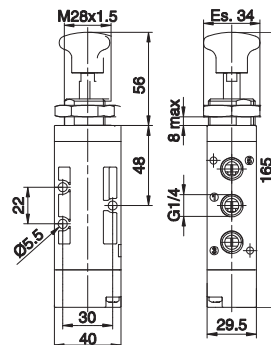
T224.1.8

5/2

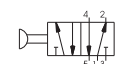
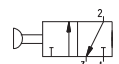
Push button 2 positions



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 170
Operating force 13N



Weight gr. 200
Operating force 13N

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Ø Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	1050 Nl/min	mm 8,5	G 1/4"

Lever lateral - Spring

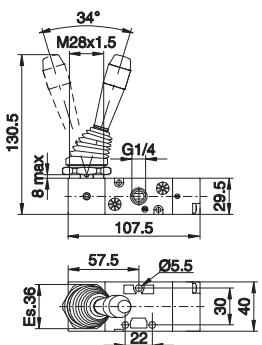
3/2

Ordering code

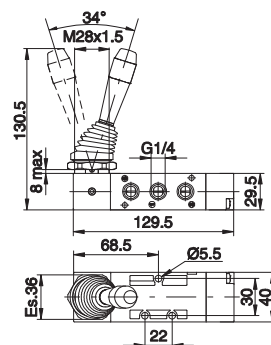
T224.1.9.1/C

5/2

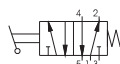
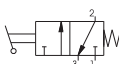
Lever lateral - Spring



TYPE
32 = 3 ways
52 = 5 ways
LEVER COLOR
1 = Red
2 = Black
3 = Green



Weight gr. 220



Weight gr. 250

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Ø Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	Min. Max.	1050 Nl/min	mm 8,5	G 1/4"



Lever lateral 2 positions

3/2

Ordering code
T224.1.9/C

5/2

Lever lateral 2 positions

Weight gr. 220

Weight gr. 250

TYPE

1 32 = 3 ways

52 = 5 ways

LEVER COLOR

1 = Red

2 = Black

3 = Green

Operational characteristic					
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Ø Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	1050 NI/min	mm 8,5
				Working ports size	
				G 1/4"	

Lever lateral spring centre - 3 positions

5/3

Ordering code
T224.53.F.9.1/C

FUNCTION

1 31 = Closed centres

32 = Open centres

33 = Pressured centres

LEVER COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 270

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Ø Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	900 NI/min	mm 8,5
				Working ports size	
				G 1/4"	

Lever lateral - 3 positions detent

5/3

Ordering code
T224.53.F.9/C

FUNCTION

1 31 = Closed centres

32 = Open centres

33 = Pressured centres

LEVER COLOR

1 = Red

2 = Black

3 = Green

Weight gr. 270

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Ø Orifice size (mm)
Filtered and lubricated air	10 bar	Min.	Max.	900 NI/min	mm 8,5
				Working ports size	
				G 1/4"	

1

Lever lateral - Spring

3/2

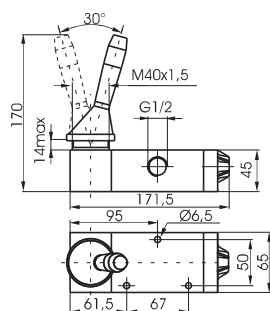
Ordering code

212.●.9.1

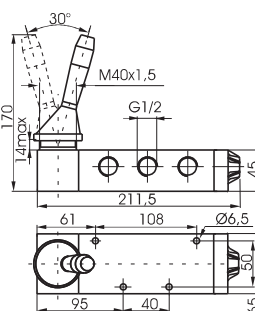
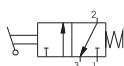
TYPE
32 = 3 ways
52 = 5 ways

5/2

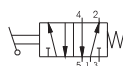
Lever lateral - Spring



Weight gr. 1.480



Weight gr. 1.765



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	3500 NI/min	mm 15	G 1/2"

Lever lateral - 2 positions

3/2

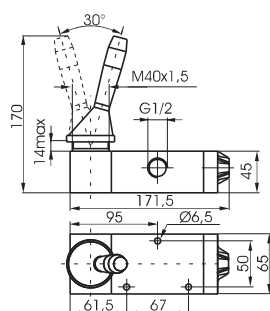
Ordering code

212.●.9

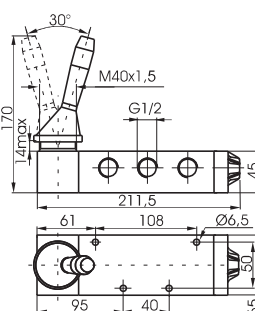
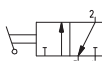
TYPE
32 = 3 ways
52 = 5 ways

5/2

Lever lateral - 2 positions



Weight gr. 1.460



Weight gr. 1.745



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	3500 NI/min	mm 15	G 1/2"

Lever lateral - Spring 3 positions

5/3

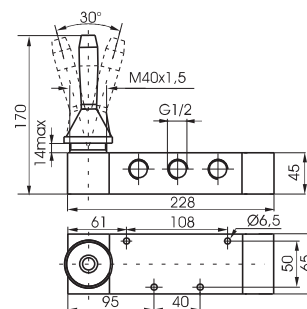
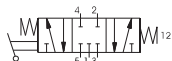
Ordering code

212.53.●.9.1

FUNCTION
31 = Closed centres
32 = Open centres



Weight gr. 2.100



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	3000 NI/min	mm 15	G 1/2"



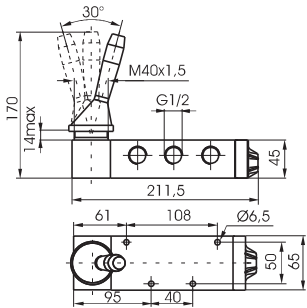
Lever lateral Ø40 - 3 positions

Ordering code

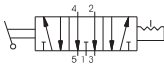
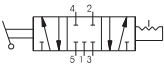
212.53.F.9

FUNCTION

- F 31 = Closed centres
32 = Open centres



Weight gr. 1.765



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (l/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	3000 l/min	mm 15	G 1/2"

1

Lever lateral - Spring

3/2

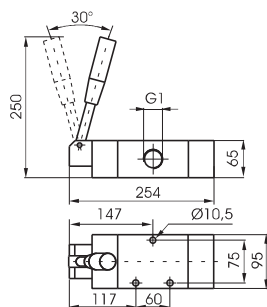
Ordering code

211.●.9.1

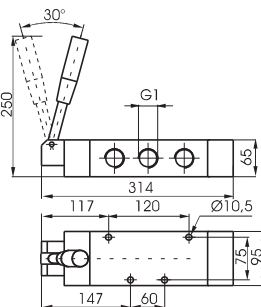
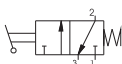
TYPE
32 = 3 ways
52 = 5 ways

5/2

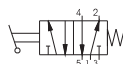
Lever lateral - Spring



Weight gr. 4.300



Weight gr. 4900



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	6500 NI/min	mm 20	G 1"

Lever lateral 2 positions

3/2

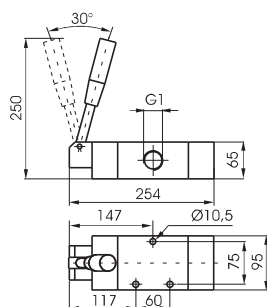
Ordering code

211.●.9

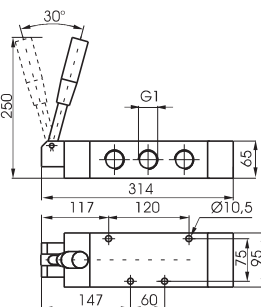
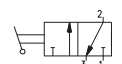
TYPE
32 = 3 ways
52 = 5 ways

5/2

Lever lateral 2 positions



Weight gr. 4.300



Weight gr. 4900



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	6500 NI/min	mm 20	G 1"

Lever lateral - Spring 3 positions

5/3

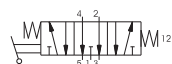
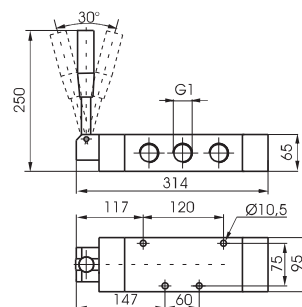
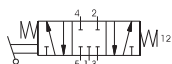
Ordering code

211.53.●.9.1

FUNCTION
31 = Closed centres
32 = Open centres



Weight gr. 5.000



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	6500 NI/min	mm 20	G 1"



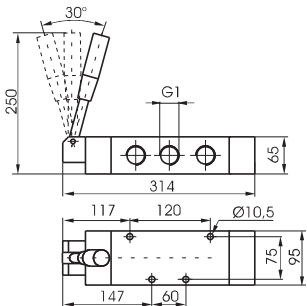
Lever lateral - 3 positions

Ordering code

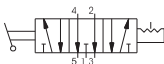
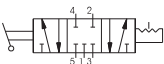
211.53.F.9

FUNCTION

- F 31 = Closed centres
- 32 = Open centres



Weight gr. 5.000



Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (l/min)	Orifice size (mm)	Working ports size
Filtered and lubricated air	10 bar	-5 - +70	6500 l/min	mm 20	G 1"

General

The pneumatic actuated valves are grouped in this part of catalogue because they have similar operating conditions of the solenoid valves. In fact the commutation signal is remote as it is for the manual and mechanical actuated valves.

In the first part of these catalogues are listed the pneumatic actuated valves for single use not suitable to be assembled on bases but eventually on manifold with one inlet port only.

The valves series 800 are suitable for both single and ganged applications. These valves have a diversified use of 3-ways and 5-ways based on balanced spool as shown on functional symbols. The repositions are made by spring, differential pneumatic spring or pneumatic for the bistable and centre spring return.

Construction characteristics

	Body	Actuators	Bottom plates	Pistons	Spacers	Seals	Spools	Springs
Series 104	Technopolymer		/	Aluminium	Technopolymer	NBR	Steel	Stainless steel
Series 105	Aluminium		/					Spring steel
Series 805	Aluminium				/	HNBR	Aluminium	Stainless steel
Series 808								Spring steel
Series 228	Aluminium	Aluminium Technopolymer	Technopolymer			NBR	Steel	Spring steel
Series T228 (Ver. 3/2-5/2)	Technopolymer					NBR	Technopolymer	Spring steel
Series T228 (Ver.5/3)							Steel	
Series 488	Aluminium	Technopolymer				NBR	Steel	Stainless steel
Series T488 (Ver. 3/2- 5/2)	Technopolymer					NBR	Technopolymer	
Series T488 (Ver. 5/3)							Steel	
Series 224	Aluminium		Technopolymer	Aluminium	Technopolymer	NBR	Steel	
Series T224 (Ver. 3/2-5/2)	Technopolymer					NBR	Technopolymer	Spring steel
Series T224 (Ver. 5/3)							Steel	Stainless steel
Series 212	Aluminium				Technopolymer	NBR	Steel	Spring steel
Series 212/2					/	PUR	Aluminium	
Series 211	Aluminium					NBR	Steel	

Use and maintenance

These valves have an average life of 15 million cycles depending on the application and air quality, filtered and lubricated air using specified lubricants will dramatically reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature and that exhaust ports 3 & 5 are protected against the possible ingress of dirt or debris.

Repair kits including the spool complete with seals are available for overhauling the valves; however, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

Pneumatic - Spring

2/2
3/2

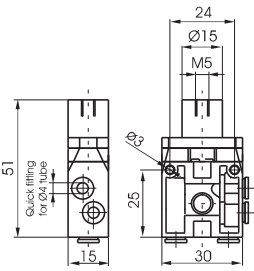
Ordering code

2/2
3/2

Pneumatic - Spring

Lateral connections

Rear connections



TYPE

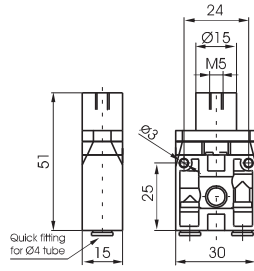
22 = 2 ways
32 = 3 ways

CONNECTION TYPE

L = Lateral
P = Rear

FUNCTION

A = Normally Open
C = Normally Closed

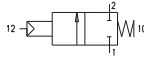


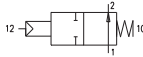
Weight gr. 25

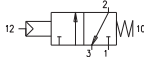
Minimum piloting pressure 2,5 bar

Weight gr. 25

Minimum piloting pressure 2,5 bar







Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Pilot ports size
Filtered air, with or without lubrication	10 bar	Min.	Max.	90 NI/min	mm 2,5	ø4 tube M5

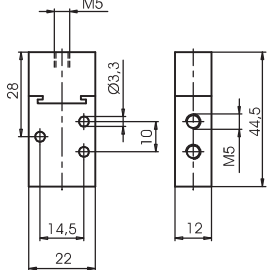
Pneumatic - Spring

3/2

Ordering code

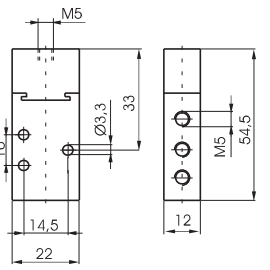
5/2

Pneumatic - Spring



TYPE

32 = 3 ways
52 = 5 ways

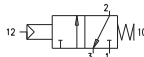


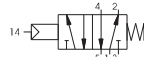
Weight gr. 90

Minimum piloting pressure 2,5 bar

Weight gr. 100

Minimum piloting pressure 2,5 bar





Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70		120 NI/min	mm 2,5	M5 M5

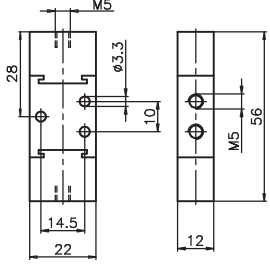
Pneumatic - Differential external

3/2

Ordering code

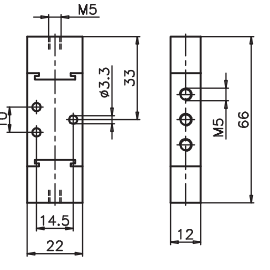
5/2

Pneumatic - Differential external



TYPE

32 = 3 ways
52 = 5 ways

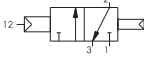


Weight gr. 110

Minimum piloting pressure 2,5 bar

Weight gr. 120

Minimum piloting pressure 2,5 bar





Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70		120 NI/min	mm 2,5	M5 M5

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice.

1.51



1

Pneumatic - Pneumatic

3/2

Ordering code

105.11.11

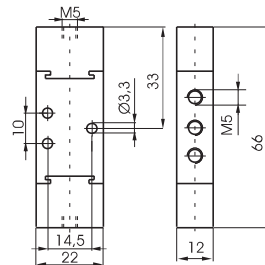
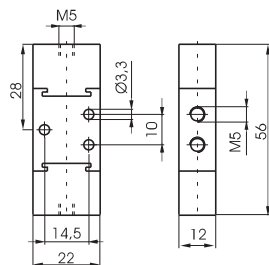
5/2

Pneumatic - Pneumatic

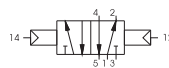
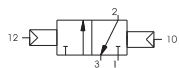
TYPE

32 = 3 ways

52 = 5 ways



Weight gr. 110
Minimum piloting pressure 2,5 bar



Weight gr. 120
Minimum piloting pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	120 NI/min	mm 2,5	M5	M5

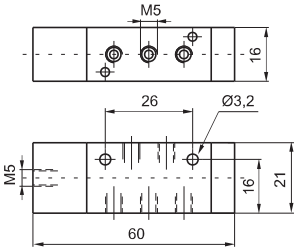
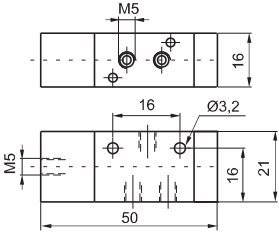
Pneumatic - Spring

3/2

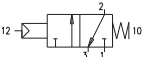
Ordering code
805.11.1

5/2

Pneumatic - Spring



Weight gr. 45
Minimum piloting pressure 2 bar



Weight gr. 50
Minimum piloting pressure 2 bar



TYPE

32 = 3 ways

52 = 5 ways

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	160 NI/min	mm 2,5	M5	M5

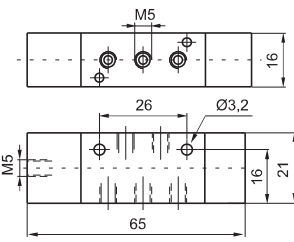
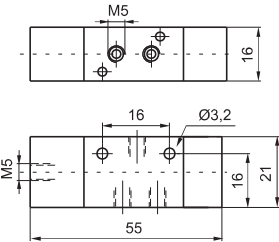
Pneumatic - Differential

3/2

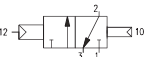
Ordering code
805.11.12

5/2

Pneumatic - Differential



Weight gr. 50
Minimum piloting pressure 2 bar



Weight gr. 55
Minimum piloting pressure 2 bar



TYPE

32 = 3 ways

52 = 5 ways

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	160 NI/min	mm 2,5	M5	M5

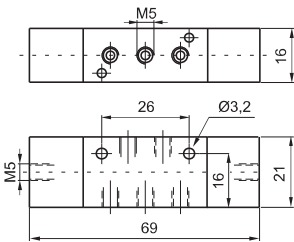
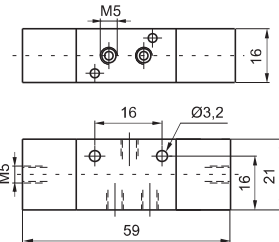
Pneumatic - Pneumatic

3/2

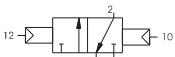
Ordering code
805.11.11

5/2

Pneumatic - Pneumatic



Weight gr. 55
Minimum piloting pressure 1,5 bar



Weight gr. 60
Minimum piloting pressure 1,5 bar



TYPE

32 = 3 ways

52 = 5 ways

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	160 NI/min	mm 2,5	M5	M5

1

Pneumatic - Spring

3/2

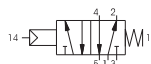
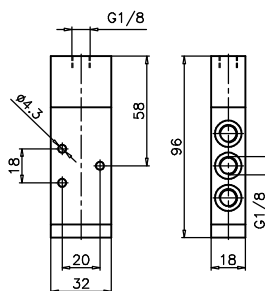
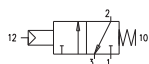
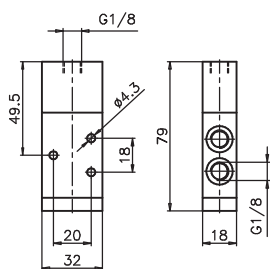
Ordering code

228.11.1

TYPE
32 = 3 ways
52 = 5 ways

5/2

Pneumatic - Spring



Weight gr. 110
Minimum piloting pressure 2,5 bar

Weight gr. 130
Minimum piloting pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Differential external

3/2

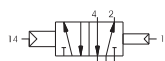
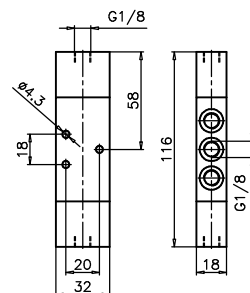
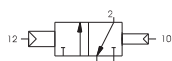
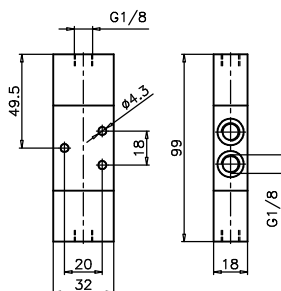
Ordering code

228.11.12

TYPE
32 = 3 ways
52 = 5 ways

5/2

Pneumatic - Differential external



Weight gr. 140
Minimum piloting pressure 2,5 bar

Weight gr. 160
Minimum piloting pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Differential self aligned

3/2

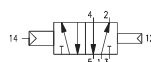
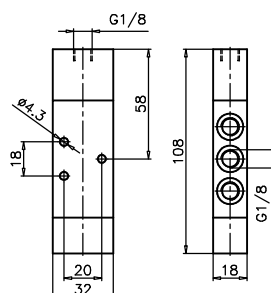
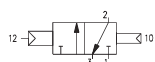
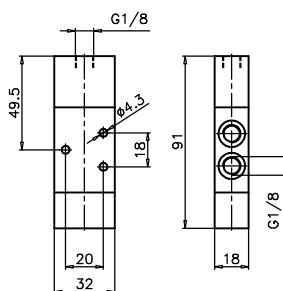
Ordering code

228.11.12/1

TYPE
32 = 3 ways
52 = 5 ways

5/2

Pneumatic - Differential self aligned



Weight gr. 130
Minimum piloting pressure 2,5 bar

Weight gr. 150
Minimum piloting pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Pneumatic
3/2

Ordering code

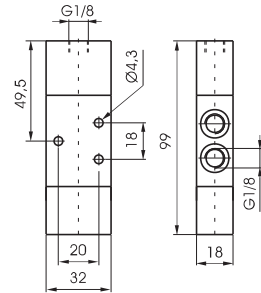
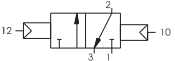
228.11.11

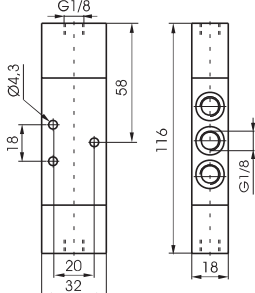
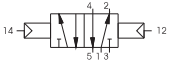
TYPE

32 = 3 ways

52 = 5 ways

5/2
Pneumatic - Pneumatic

Weight gr. 140

Minimum piloting pressure 2 bar

Weight gr. 160

Minimum piloting pressure 2 bar

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"	G 1/8"

Amplified pneumatic - Spring
3/2

Ordering code

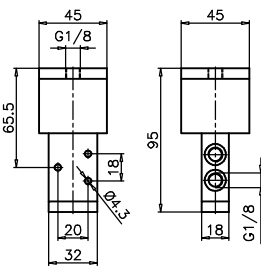
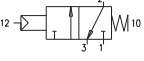
228.13.1

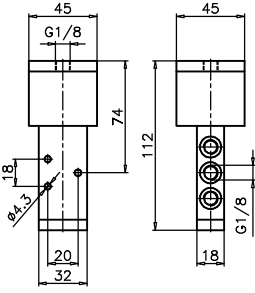
TYPE

32 = 3 ways

52 = 5 ways

5/2
Amplified pneumatic - Spring


Weight gr. 260

Minimum piloting pressure 0,5 bar

Weight gr. 290

Minimum piloting pressure 0,5 bar

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	540 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Pneumatic
5/3

Ordering code

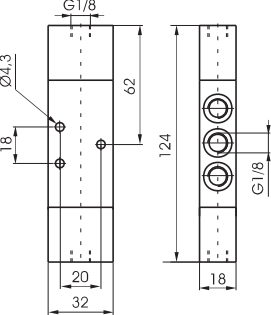
228.53.F.11.11

FUNCTION

31 = Closed centres

32 = Open centres

33 = Pressured centres


Weight gr. 180

Minimum piloting pressure 3 bar

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C	Flow rate at 6 bar with Δp=1 (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	-5 - +70	410 NI/min	mm 6	G 1/8"	G 1/8"

1

Pneumatic - Spring

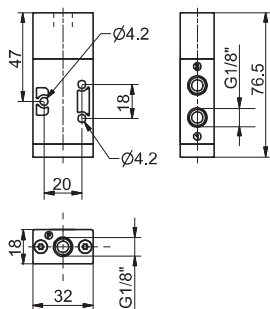
3/2

Ordering code

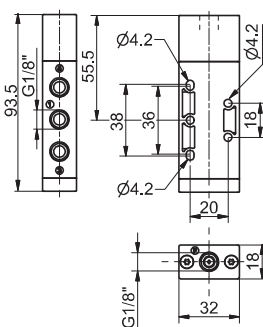
T228.11.1

5/2

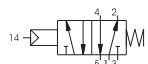
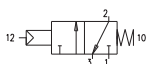
Pneumatic - Spring



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 65
Minimum operating pressure 2,5 bar



Weight gr. 78
Minimum operating pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Differential (external)

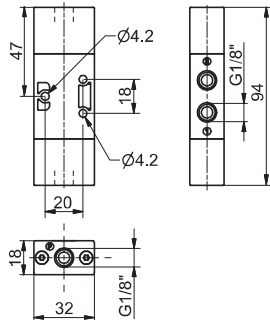
3/2

Ordering code

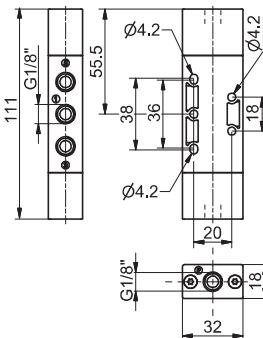
T228.11.12

5/2

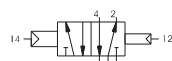
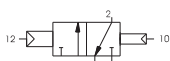
Pneumatic - Differential (external)



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 74
Minimum operating pressure 2,5 bar



Weight gr. 86
Minimum operating pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"	G 1/8"

Pneumatic - Differential self-feeding

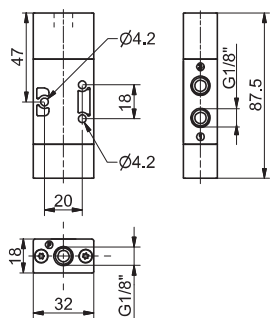
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Ordering code

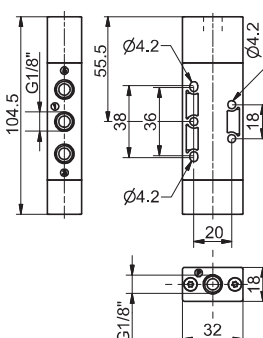
T228.11.12/1

5/2

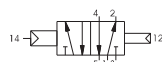
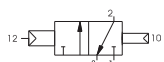
Pneumatic - Differential self-feeding



TYPE
32 = 3 ways
52 = 5 ways



Weight gr. 70
Minimum operating pressure 2,5 bar



Weight gr. 82
Minimum operating pressure 2,5 bar

Operational characteristic

Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Working ports size	Pilot ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"	G 1/8"

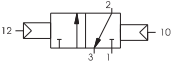
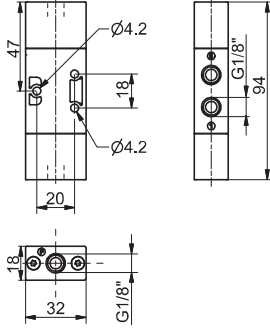
Pneumatic - Pneumatic

3/2

Ordering code
T228.11.11

5/2

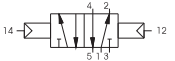
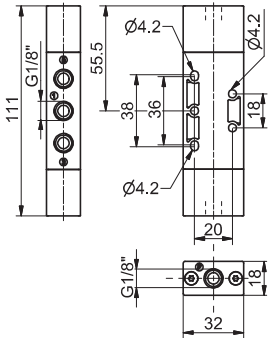
Pneumatic - Pneumatic



TYPE

32 = 3 ways

52 = 5 ways



Weight gr. 77
Minimum operating pressure 2 bar

Weight gr. 90
Minimum operating pressure 2 bar

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Pilot ports size
Filtered and lubricated air	10 bar	Min.	Max.	620 NI/min	mm 6	G 1/8"

Pneumatic - Pneumatic 3 positions

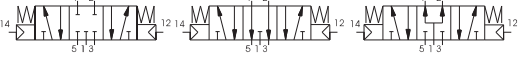
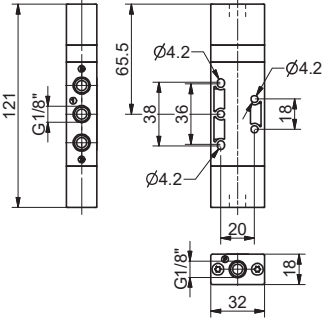
5/3

Ordering code
T228.53.F.11.11

FUNCTION

32 = Open Centres

33 = Pressured Centres



Weight gr. 110
Minimum operating pressure 3 bar

Operational characteristic						
Fluid	Max working pressure (bar)	Temperature °C		Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Orifice size (mm)	Pilot ports size
Filtered and lubricated air	10 bar	Min.	Max.	410 NI/min	mm 6	G 1/8"

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice. 1.57