

Series 104

The micro valves 104 series are a cost effective solution with reduced overall dimensions, easy to install and manage. Their main characteristic is the possibility to choose between the version with lateral or rear pneumatic connections realized with quick fitting for Ø4mm tube included. The valves are available with 2 or 3 ways versions, normally closed or open, 5 ways and 5 ways 3 positions open centres and pressured centres. The 5 ways version is made with two 3 ways valves placed side by side with common inlet. The operators available for this valve are push button (different versions), selector (key, short and long lever), lever (lever roller or level undirectional) and pneumatic. It is also possible to combine the 2 and 3 ways valves with electrical switches, normally closed or open.

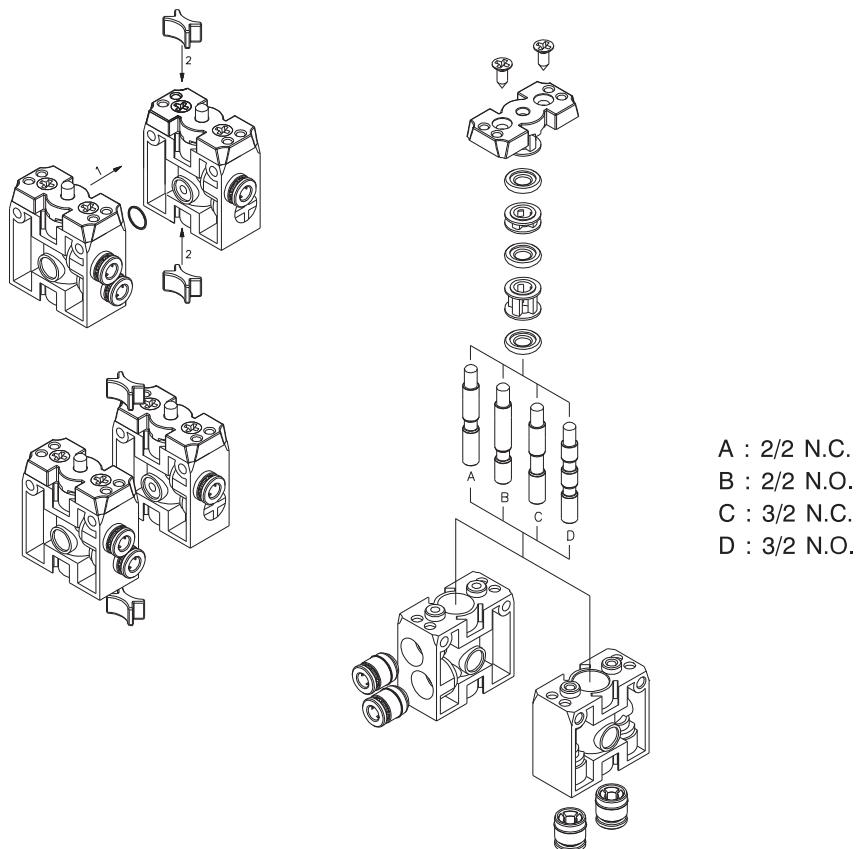
Construction characteristics

Body and cover	Technopolymer
Spacers	Technopolymer
Seals	NBR
Springs	Spring steel
Operators	Plastic material for buttons and switches
Pistons	Aluminium (for pneumatic command version)
Spools	Steel

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality. Filtered and lubricated air using specified lubricants will 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.

ATTENTION: use hydraulic oil class H for lubrication such as CASTROL MAGNA SW32.





Spool type valves and solenoid valves

Series 104 - Mechanical and manual command - Ø4 mm

Tappet - Spring

Coding: 104.T.0.1.W.F

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

TYPE

T
22 = 2 ways, 2 positions
32 = 3 ways, 2 positions

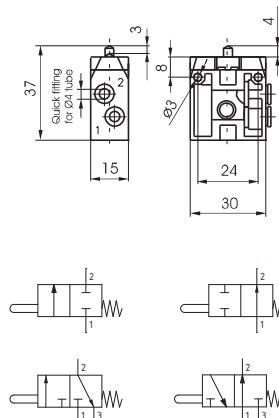
FUNCTION

F
A = Normally Open
C = Normally Closed

W CONNECTION TYPE

W
L = Lateral
P = Rear

2/2 - 3/2 - Lateral connections



Weight 20 g
Operating force 13 N

104.T.0.1.L.F

Push button - Spring

Coding: 104.T.6.22/C.W.F

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

TYPE

T
22 = 2 ways, 2 positions
32 = 3 ways, 2 positions
52 = 5 ways, 2 positions

FUNCTION

(only for 2/2 or 3/2 ways)
F
A = Normally Open
C = Normally Closed

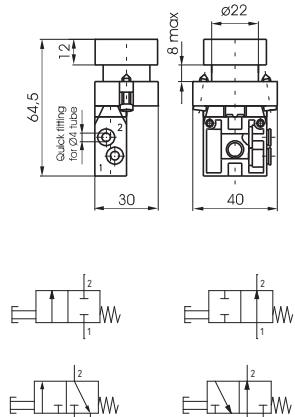
W CONNECTION TYPE

W
L = Lateral
P = Rear

FUNCTION

C
1 = Red
2 = Black
3 = Green
4 = Yellow

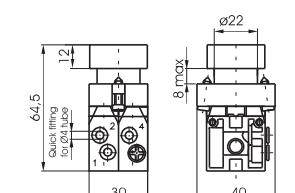
2/2 - 3/2 - Lateral connections



Weight 50 g
Operating force 18 N

104.T.6.22/C.L.F

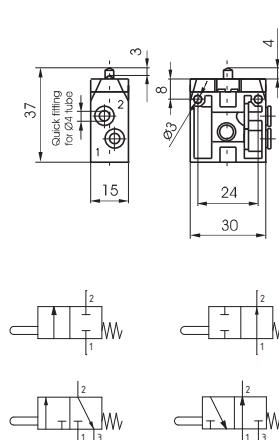
5/2 - Lateral connections



Weight 105 g
Operating force 30 N

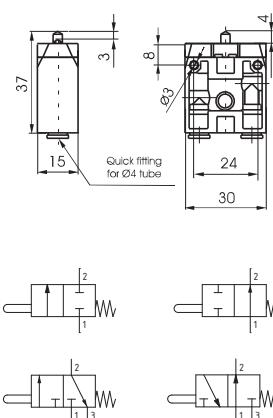
104.52.6.22/C.L

2/2 - 3/2 - Rear connections

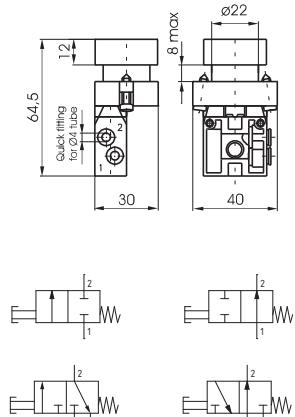


Weight 20 g
Operating force 13 N

104.T.0.1.P.F



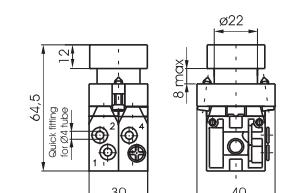
2/2 - 3/2 - Rear connections



Weight 50 g
Operating force 18 N

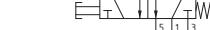
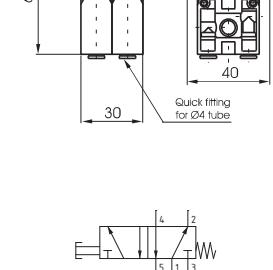
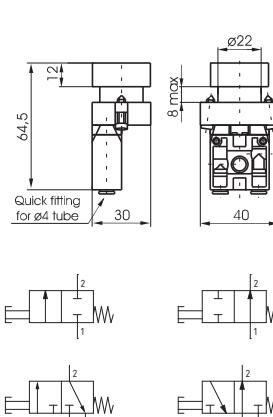
104.T.6.22/C.P.F

5/2 - Rear connections



Weight 105 g
Operating force 30 N

104.52.6.22/C.P



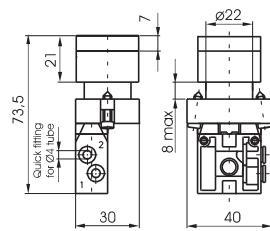
► Push button 2 positions (step - step)

Coding: 104.T.6.31.W.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	Ø4 tube

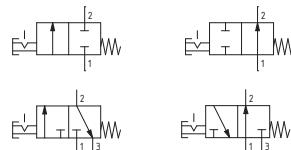
T	TYPE	FUNCTION (only for 2/2 and 3/2 ways)
	22 = 2 ways, 2 positions	A = Normally Open
	32 = 3 ways, 2 positions	C = Normally Closed
W	52 = 5 ways, 2 positions	
	CONNECTION TYPE	
F	L = Lateral	
	P = Rear	

2/2 - 3/2 - Lateral connections

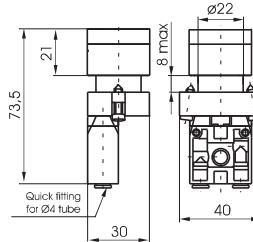


Weight 60 g
Operating force 18 N

104.T.6.31.L.F

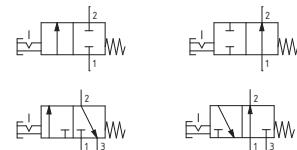


2/2 - 3/2 - Rear connections

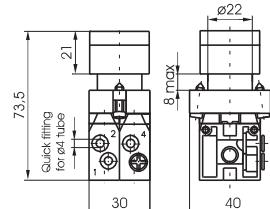


Weight 60 g
Operating force 18 N

104.T.6.31.P.F

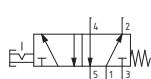


5/2 - Lateral connections

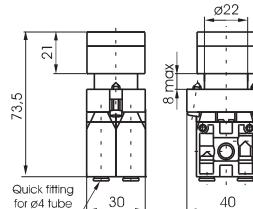


Weight 110 g
Operating force 30 N

104.52.6.31.L

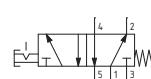


5/2 - Rear connections



Weight 110 g
Operating force 30 N

104.52.6.31.P





Spool type valves and solenoid valves

Series 104 - Mechanical and manual command - Ø4 mm

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AIR DISTRIBUTION

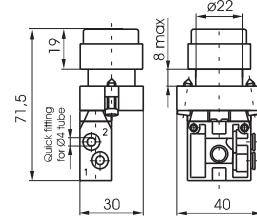
Raised Push button - Spring

Coding: 104.T.6.23/C.W.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

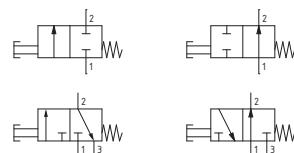
T	TYPE	W	CONNECTION TYPE
	22 = 2 ways, 2 positions	L	Lateral
	32 = 3 ways, 2 positions	P	Rear
F	FUNCTION (only for 2/2 or 3/2 ways)		
	A = Normally Open		
C	C = Normally Closed		
1	Red		
2	Black		
3	Green		
4	Yellow		

2/2 - 3/2 - Lateral connections

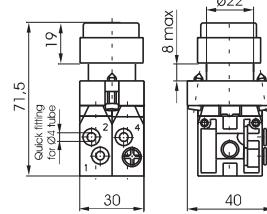


Weight 50 g
Operating force 18 N

104.T.6.23/C.L.F

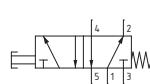


5/2 - Lateral connections

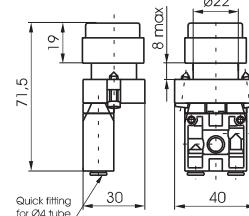


Weight 105 g
Operating force 30 N

104.52.6.23/C.L

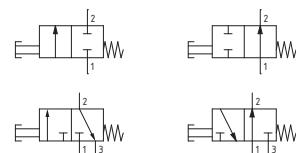


2/2 - 3/2 - Rear connections

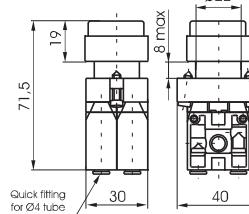


Weight 50 g
Operating force 18 N

104.T.6.23/C.P.F

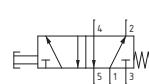


5/2 - Rear connections



Weight 105 g
Operating force 30 N

104.52.6.23/C.P



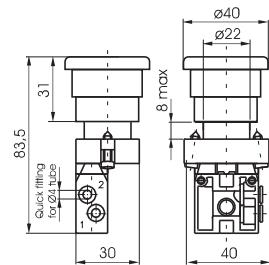
► **Palm button 2 position**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

Coding: 104.T.6.25.W.F

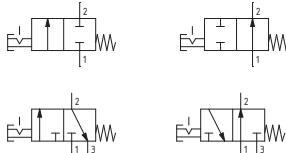
T	TYPE	FUNCTION (only for 2/2 and 3/2 ways)
	22 = 2 ways, 2 positions	
	32 = 3 ways, 2 positions	
W	52 = 5 ways, 2 positions	F A = Normally Open C = Normally Closed
	CONNECTION TYPE	
L	L = Lateral	L
	P = Rear	

2/2 - 3/2 - Lateral connections

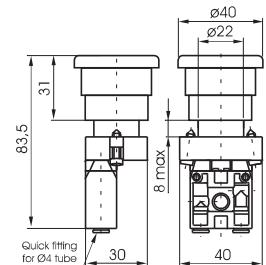


Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104.T.6.25.L.F

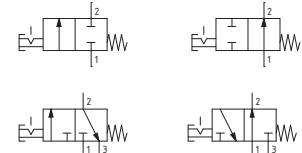


2/2 - 3/2 - Rear connections

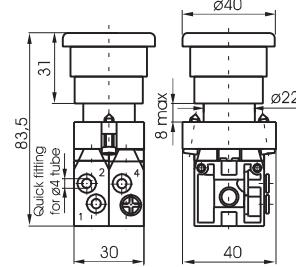


Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104.T.6.25.P.F

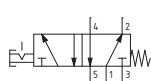


5/2 - Lateral connections

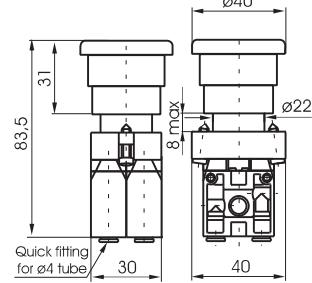


Weight 120 g
Operating force 32 N
Emergency - Rotate to unlock

104.52.6.25.L

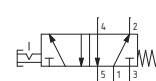


5/2 - Rear connections



Weight 120 g
Operating force 32 N
Emergency - Rotate to unlock

104.52.6.25.P





Spool type valves and solenoid valves

Series 104 - Mechanical and manual command - Ø4 mm

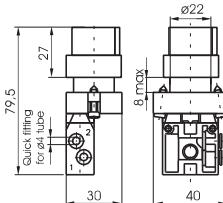
Switch - short lever

Coding: 104.T.F¹.6.30.S.W.F²

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

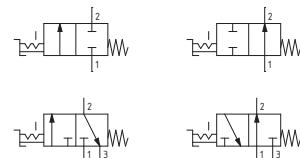
T	TYPE	SWITCH POSITION (only for 5/3 ways)
	22 = 2 ways, 2 positions	
	32 = 3 ways, 2 positions	
F ¹	52 = 5 ways, 2 positions	FUNCTION 1 (only for 5/3 ways)
	53 = 5 ways, 3 positions	
	FUNCTION 1 (only for 5/3 ways)	
F ²	32 = Open centres	FUNCTION 2 (only for 2/2 or 3/2 ways)
	33 = Pressured centres	A = Normally Open C = Normally Closed

2/2 - 3/2 - Lateral connections

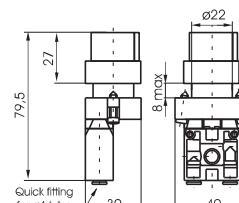


Weight 65 g
Switch 2 positions stable

104.T.6.30.L.F²

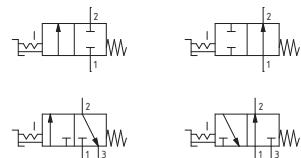


2/2 - 3/2 - Rear connections

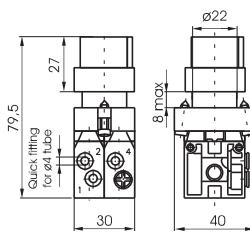


Weight 65 g
Switch 2 positions stable

104.T.6.30.P.F²

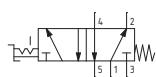


5/2 - Lateral connections

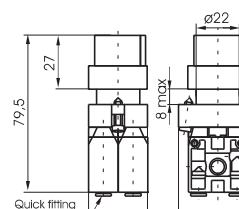


Weight 120 g
Switch 2 positions stable

104.52.6.30.L

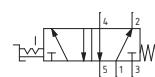


5/2 - Rear connections

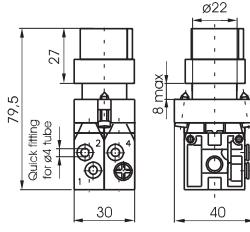


Weight 120 g
Switch 2 positions stable

104.52.6.30.P

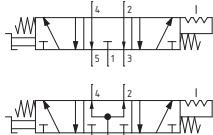


5/3 - Lateral connections

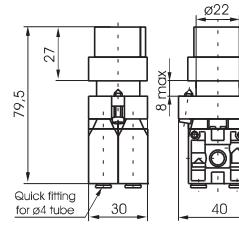


Weight 120 g

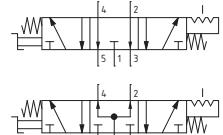
104.53.F¹.6.30.S.L



5/3 - Rear connections



104.53.F¹.6.30.S.P



► **Switch - long lever**

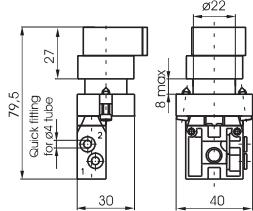
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	Ø4 tube

Coding: 104.T.F1.6.27.S.W.F2

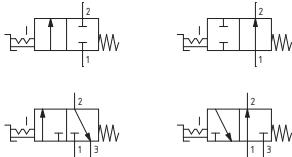
T	TYPE	SWITCH POSITION (only for 5/3 ways)
	22 = 2 ways, 2 positions	0 = 3 instable positions
F1	32 = 3 ways, 2 positions	1 = 3 stable positions
	52 = 5 ways, 2 positions	CONNECTION TYPE
F2	53 = 5 ways, 3 positions	L = Lateral
	FUNCTION 1 (only for 5/3 ways)	P = Rear
F1	32 = Open centres	FUNCTION 2 (only for 2/2 or 3/2 ways)
	33 = Pressured centres	A = Normally Open
F2		C = Normally Closed

2/2 - 3/2 - Lateral connections

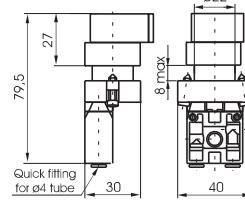


Weight 65 g
Switch 2 positions stable

104.T.6.27.L.F2

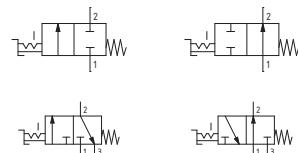


2/2 - 3/2 - Rear connections

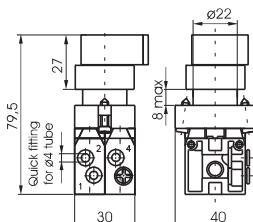


Weight 65 g
Switch 2 positions stable

104.T.6.27.P.F2

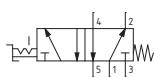


5/2 - Lateral connections

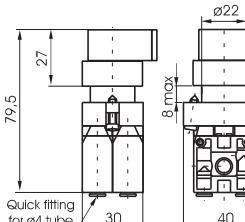


Weight 120 g
Switch 2 positions stable

104.52.6.27.L

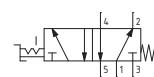


5/2 - Rear connections

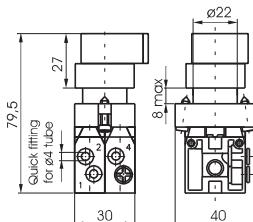


Weight 120 g
Switch 2 positions stable

104.52.6.27.P

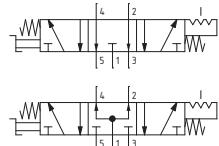


5/3 - Lateral connections

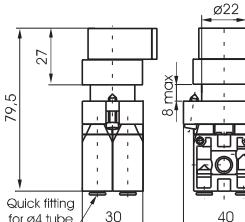


Weight 120 g

104.53.F1.6.27.S.L

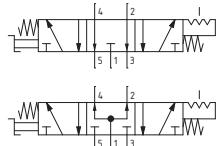


5/3 - Rear connections



Weight 120 g

104.53.F1.6.27.S.P





Spool type valves and solenoid valves

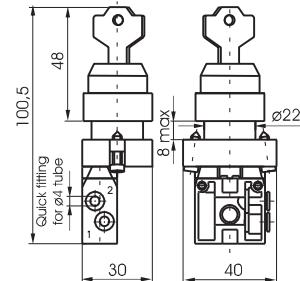
Series 104 - Mechanical and manual command - Ø4 mm

Key switch

Coding: 104.T.F¹.6.28.S.W.F²

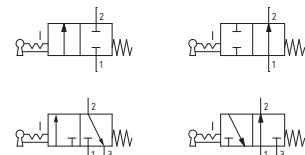
Operational characteristics		TYPE	SWITCH POSITION (only for 5/3 ways)
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	22 = 2 ways, 2 positions	S 0 = 3 instable positions
Max. working pressure (bar)	10	32 = 3 ways, 2 positions	1 = 3 stable positions
Temperature °C	-5 ... +70	52 = 5 ways, 2 positions	W CONNECTION TYPE
Flow rate at 6 bar with $\Delta p = 1$ (NL/min)	90	53 = 5 ways, 3 positions	L = Lateral
Orifice size (mm)	2.5	F ¹ FUNCTION 1 (only for 5/3 ways)	P = Rear
Working ports size	ø4 tube	32 = Open centres	FUNCTION 2 (only for 2/2 or 3/2 ways)
		33 = Pressured centres	A = Normally Open
			C = Normally Closed

2/2 - 3/2 - Lateral connections

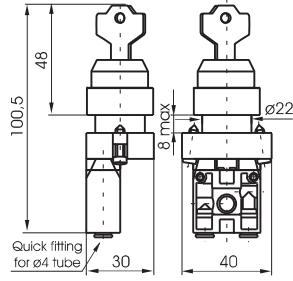


Weight 100 g
Switch 2 positions stable

104.T.6.28.L.F²

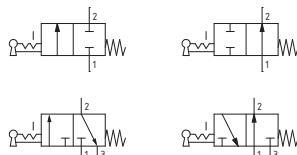


2/2 - 3/2 - Rear connections

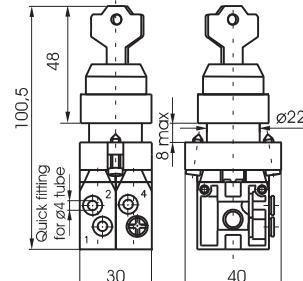


Weight 100 g
Switch 2 positions stable

104.T.6.28.P.F²

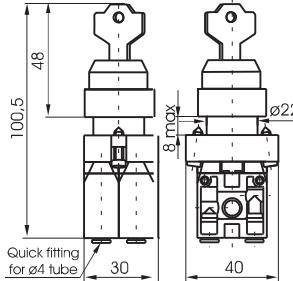
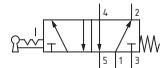


5/2 - Lateral connections



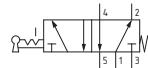
Weight 155 g
Switch 2 positions stable

104.52.6.28.L

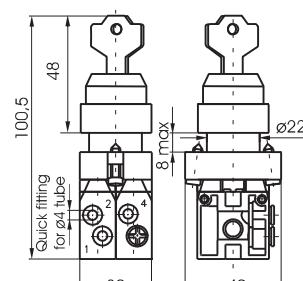


Weight 155 g
Switch 2 positions stable

104.52.6.28.P

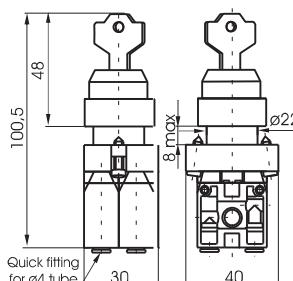
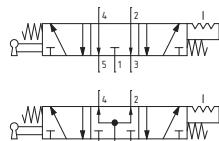


5/3 - Lateral connections



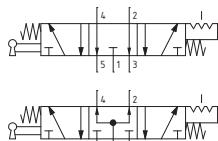
Weight 155 g

104.53.F¹.6.28.S.L



Weight 155 g

104.53.F¹.6.28.S.P



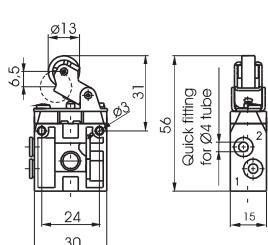
Lever roller - Spring

Coding: 104.T.2.1.W.F

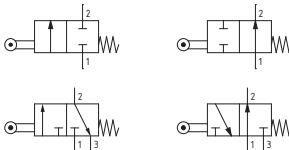
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p=1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

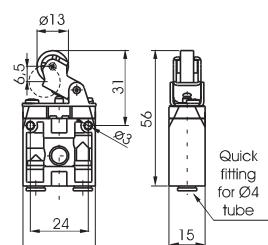
2/2 - 3/2 - Lateral connections



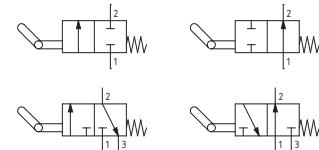
104.T.2.1.L.F



2/2 - 3/2 - Rear connections



104.T.2.1.P.F



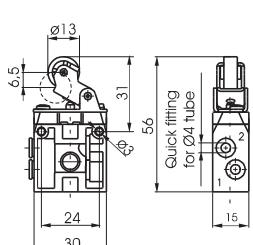
Lever roller ball bearing - Spring

Coding: 104.T.2.1/1.W.F

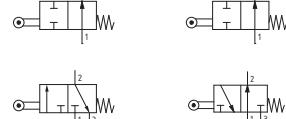
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p=1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

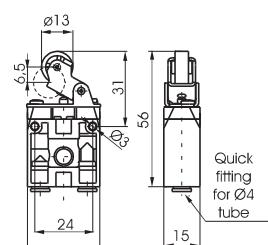
2/2 - 3/2 - Lateral connections



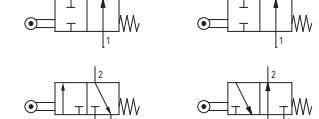
104.T.2.1/1.L.F



2/2 - 3/2 - Rear connections



104.T.2.1/1.P.F



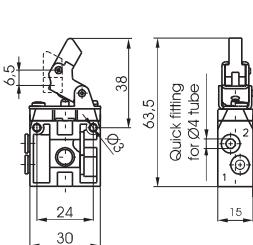
Lever unidirectional - Spring

Coding: 104.T.3.1.W.F

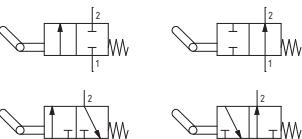
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with $\Delta p=1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

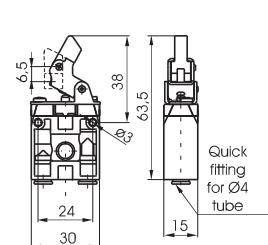
2/2 - 3/2 - Lateral connections



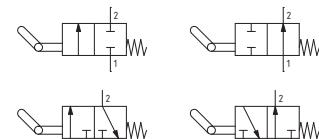
104.T.3.1.L.F



2/2 - 3/2 - Rear connections



104.T.3.1.P.F





► **Complete lever roller operator**

Coding: 104.2.1



► **Complete lever unidirectional**

Coding: 104.3.1



► **Push button**

Coding: 104.6.22/●



BUTTON COLOR	
●	1 = Red
●	2 = Black
●	3 = Green
●	4 = Yellow

► **Push button 2 positions**

Coding: 104.6.31

(step - step)



► **Switch - short lever**

Coding: 104.6.30.●



●	SWITCH POSITION (only for 3 position)
●	0 = 3 instable positions
●	1 = 3 stable positions

Switch 2 positions stable 104.6.30
Switch 3 positions 104.6.30.●

► **Key switch**

Coding: 104.6.28.●



●	SWITCH POSITION (only for 3 position)
●	0 = 3 instable positions
●	1 = 3 stable positions

Switch 2 positions stable 104.6.28
Switch 3 positions 104.6.28.●

► **Contact electric element**

Coding: 104.●



●	FUNCTION
●	NO = Normally Open
●	NC = Normally Closed

► **Push button protection cover**

Coding: 104.02



► **Complete lever roller ball bearing operator**

Coding: 104.2.1/1



► **Fixing plate**

Coding: 104.00

Complete with fixing screws



► **Raised Push button**

Coding: 104.6.23/●



BUTTON COLOR	
●	1 = Red
●	2 = Black
●	3 = Green
●	4 = Yellow

► **Palm button 2 position**

Coding: 104.6.25

Emergency - Rotate to unlock



► **Switch - long lever**

Coding: 104.6.27.●



●	SWITCH POSITION (only for 3 position)
●	0 = 3 instable positions
●	1 = 3 stable positions

Switch 2 positions stable 104.6.27
Switch 3 positions 104.6.27.●

► **Joystick selector switch, 3 instable positions**

Coding: 104.6.39.0



► **Complete Pneumatic Operator**

Coding: 104.11



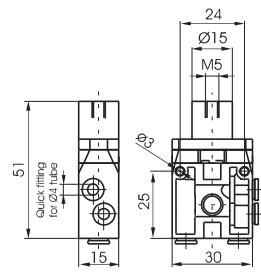
► **Pneumatic - Spring**

Coding: 104.T.11.1.W.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NL/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube
Pilot ports size	M5

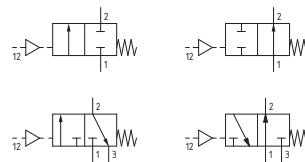
T	TYPE	FUNCTION
	22 = 2 ways, 2 positions	
W	32 = 3 ways, 2 positions	C = Normally Closed
	L = Lateral	
F	P = Rear	

2/2 - 3/2 - Lateral connections

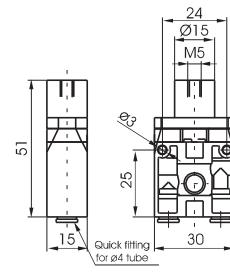


Weight 25 g
Minimum pilot pressure 2,5 bar

104.T.11.1.L.F



2/2 - 3/2 - Rear connections



Weight 25 g
Minimum pilot pressure 2,5 bar

104.T.11.1.P.F

