

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 unidirectional) 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

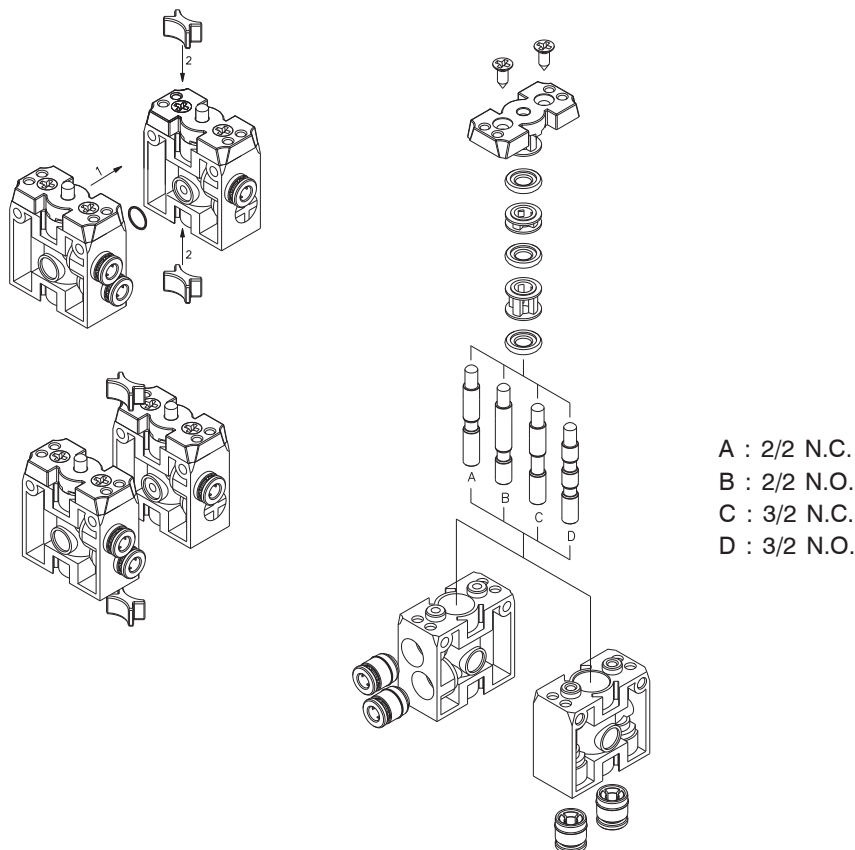
Use and maintenance

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.





Tappet - Spring

Coding: 104. **T**.0.1. **W**. **F**

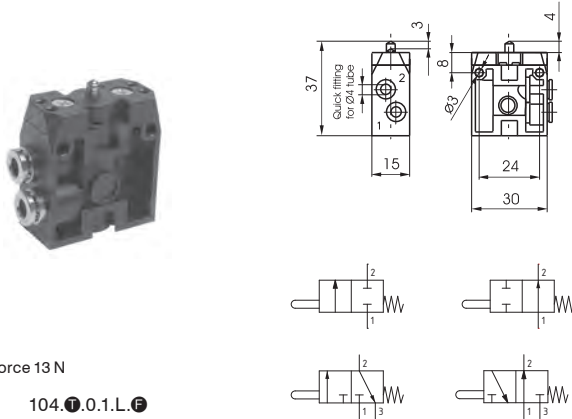
Operational characteristics

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 Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

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

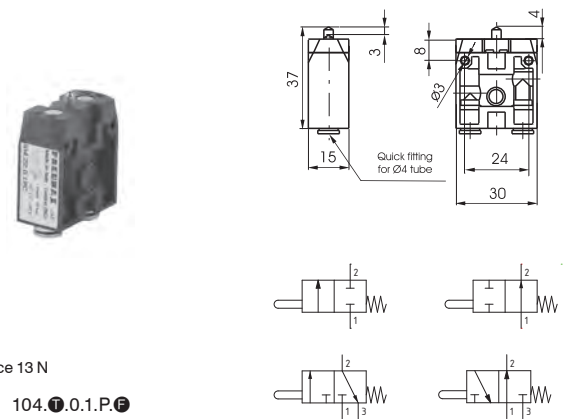
2/2 - 3/2 - Lateral connections

2/2 - 3/2 - Rear connections



Weight 20 g
Operating force 13 N

104. **T**.0.1. **L**. **F**



Weight 20 g
Operating force 13 N

104. **T**.0.1. **P**. **F**

Push button - Spring

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

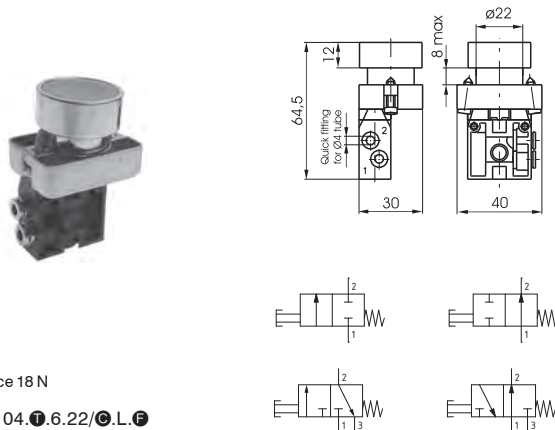
Operational characteristics

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 Δp=1 (NI/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
52 = 5 ways, 2 positions	FUNCTION (only for 2/2 or 3/2 ways)
C BUTTON COLOR	A = Normally Open
1 = Red	C = Normally Closed
2 = Black	
3 = Green	
4 = Yellow	

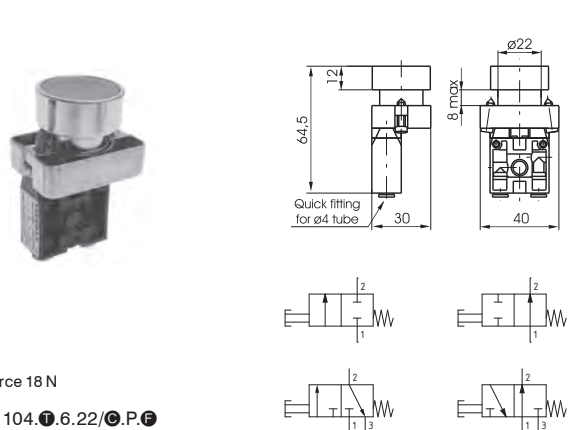
2/2 - 3/2 - Lateral connections

2/2 - 3/2 - Rear connections



Weight 50 g
Operating force 18 N

104. **T**.6.22/ **C**. **L**. **F**

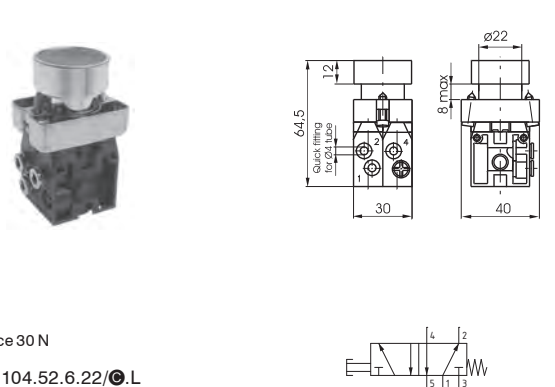


Weight 50 g
Operating force 18 N

104. **T**.6.22/ **C**. **P**. **F**

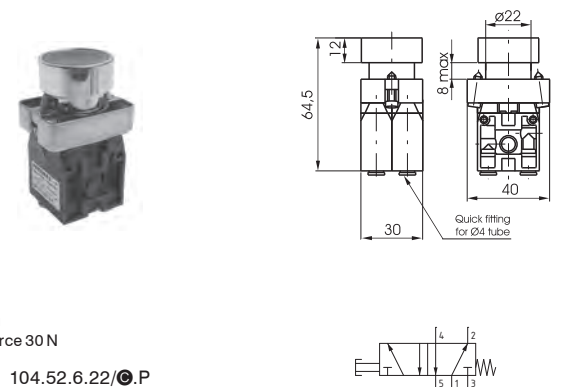
5/2 - Lateral connections

5/2 - Rear connections



Weight 105 g
Operating force 30 N

104.52.6.22/ **C**. **L**



Weight 105 g
Operating force 30 N

104.52.6.22/ **C**. **P**

AIR DISTRIBUTION

Push button 2 positions (step - step)

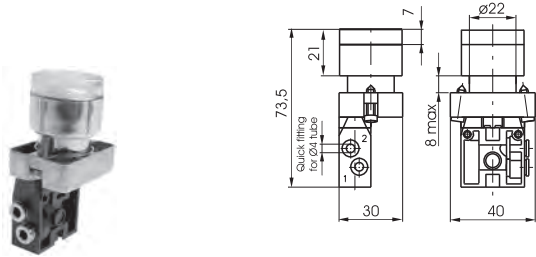
Coding: 104. **T**.6.31. **W**. **F**

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 Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE
	22 = 2 ways, 2 positions
	32 = 3 ways, 2 positions
W	52 = 5 ways, 2 positions
	CONNECTION TYPE
	L = Lateral
	P = Rear

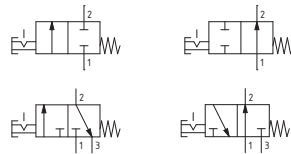
F	FUNCTION (only for 2/2 and 3/2 ways)
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

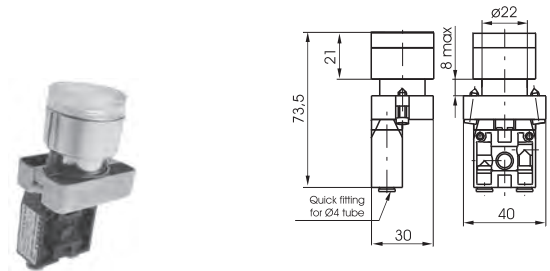


Weight 60 g
Operating force 18 N

104. **T**.6.31. **L**. **F**

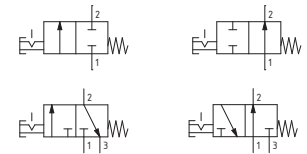


2/2 - 3/2 - Rear connections

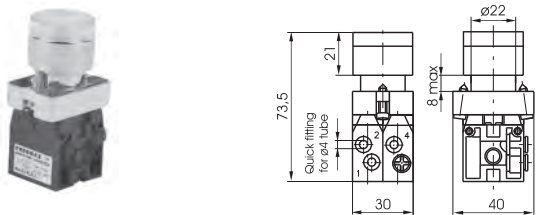


Weight 60 g
Operating force 18 N

104. **T**.6.31. **P**. **F**

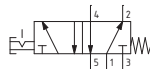


5/2 - Lateral connections

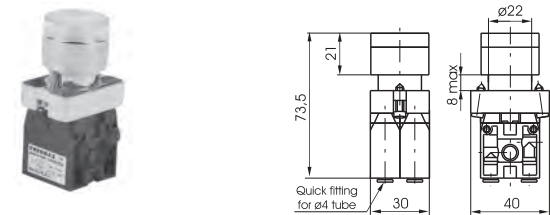


Weight 110 g
Operating force 30 N

104.52.6.31. **L**



5/2 - Rear connections



Weight 110 g
Operating force 30 N

104.52.6.31. **P**



Raised Push button - Spring

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

Operational characteristics

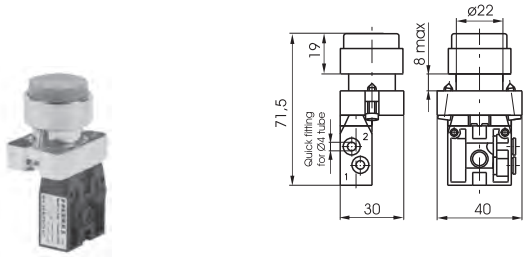
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE 22 = 2 ways, 2 positions 32 = 3 ways, 2 positions 52 = 5 ways, 2 positions
C	BUTTON COLOR 1 = Red 2 = Black 3 = Green 4 = Yellow

W	CONNECTION TYPE L = Lateral P = Rear
F	FUNCTION (only for 2/2 or 3/2 ways) A = Normally Open C = Normally Closed

1
AIR DISTRIBUTION

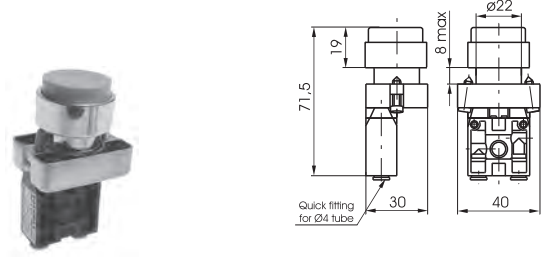
2/2 - 3/2 - Lateral connections



Weight 50 g
 Operating force 18 N

104. **T**.6.23/**C**.**L**.**F**

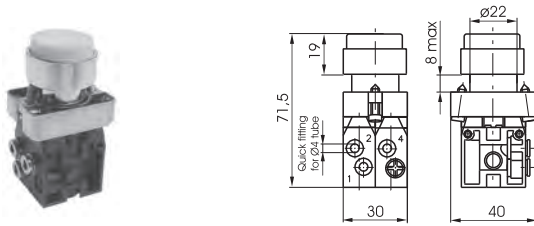
2/2 - 3/2 - Rear connections



Weight 50 g
 Operating force 18 N

104. **T**.6.23/**C**.**P**.**F**

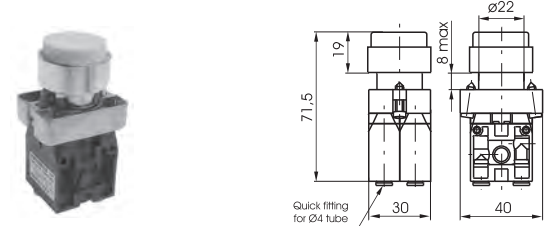
5/2 - Lateral connections



Weight 105 g
 Operating force 30 N

104.52.6.23/**C**.**L**

5/2 - Rear connections



Weight 105 g
 Operating force 30 N

104.52.6.23/**C**.**P**

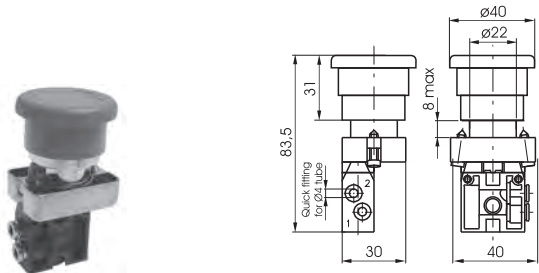
Palm button 2 position

Coding: 104. **T**.6.25. **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 Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

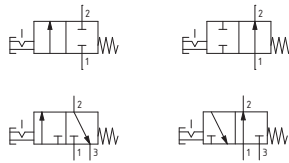
T	TYPE	F	FUNCTION (only for 2/2 and 3/2 ways)
	22 = 2 ways, 2 positions		A = Normally Open
	32 = 3 ways, 2 positions		C = Normally Closed
W	CONNECTION TYPE		
	L = Lateral		
	P = Rear		

2/2 - 3/2 - Lateral connections

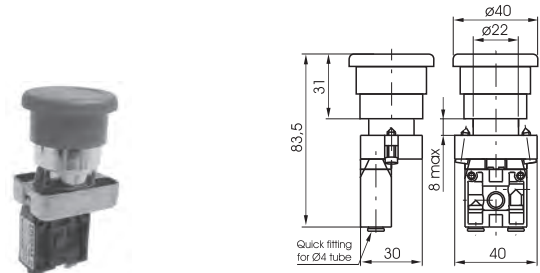


Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104. **T**.6.25. **L**. **F**

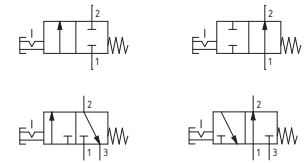


2/2 - 3/2 - Rear connections

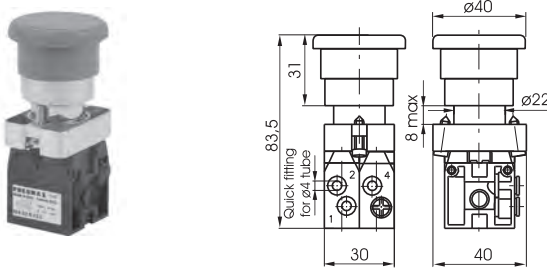


Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104. **T**.6.25. **P**. **F**

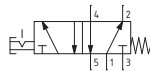


5/2 - Lateral connections

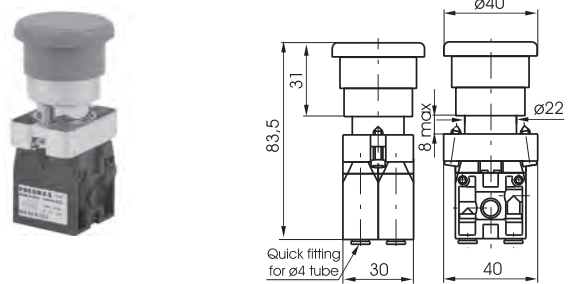


Weight 120 g
Operating force 32 N
Emergency - Rotate to unlock

104.52.6.25. **L**

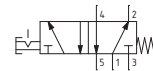


5/2 - Rear connections



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

104.52.6.25. **P**



1
AIR DISTRIBUTION

Switch - short lever

Coding: 104.**T**.**F**¹.6.30.**S**.**W**.**F**²

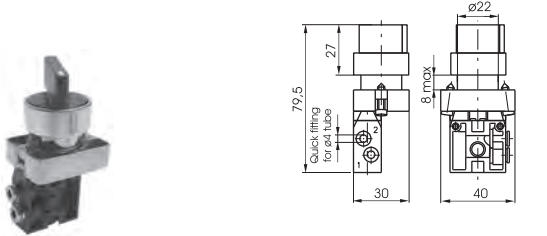
Operational characteristics

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 Δp=1 (NI/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	0 = 3 instable positions
	32 = 3 ways, 2 positions	1 = 3 stable positions
F ¹	52 = 5 ways, 2 positions	CONNECTION TYPE
	53 = 5 ways, 3 positions	L = Lateral
		P = Rear
F ²	FUNCTION 1 (only for 5/3 ways)	FUNCTION 2 (only for 2/2 or 3/2 ways)
	32 = Open centres	A = Normally Open
	33 = Pressured centres	C = Normally Closed

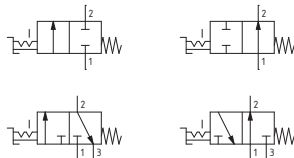
AIR DISTRIBUTION

2/2 - 3/2 - Lateral connections

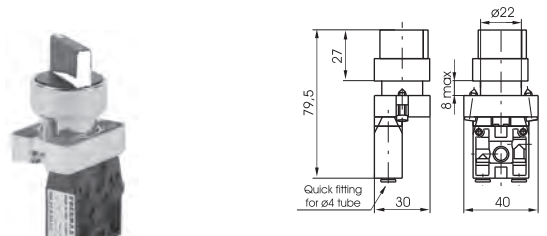


Weight 65 g
Switch 2 positions stable

104.**T**.6.30.**L**.**F**²

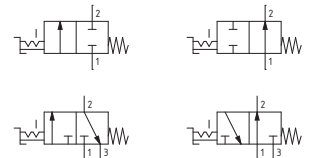


2/2 - 3/2 - Rear connections

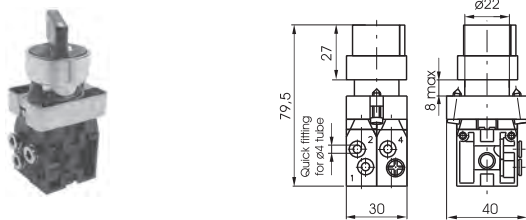


Weight 65 g
Switch 2 positions stable

104.**T**.6.30.**P**.**F**²

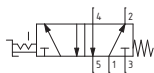


5/2 - Lateral connections

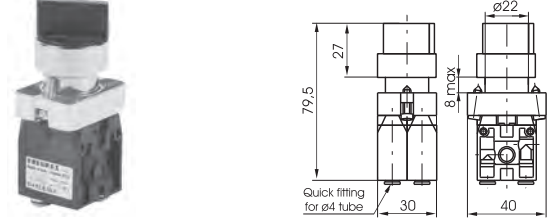


Weight 120 g
Switch 2 positions stable

104.52.6.30.**L**

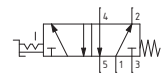


5/2 - Rear connections

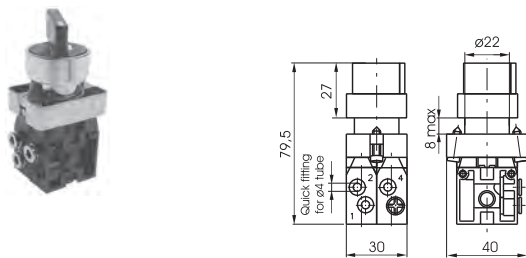


Weight 120 g
Switch 2 positions stable

104.52.6.30.**P**



5/3 - Lateral connections

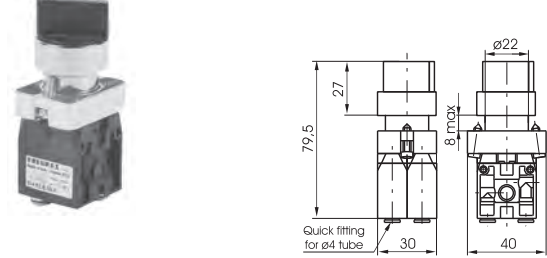


Weight 120 g

104.53.**F**¹.6.30.**S**.**L**



5/3 - Rear connections



Weight 120 g

104.53.**F**¹.6.30.**S**.**P**



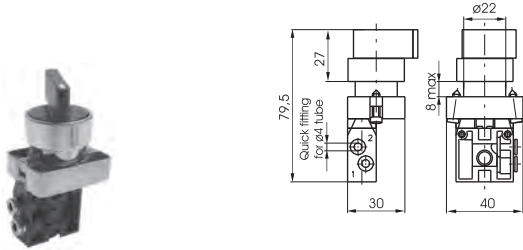
Switch - long lever

Coding: 104. **T**. **F**¹. 6.27. **S**. **W**. **F**²

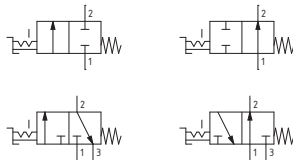
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max. working pressure (bar)	10
Temperature °C	-5 ... +70
Flow rate at 6 bar with Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

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

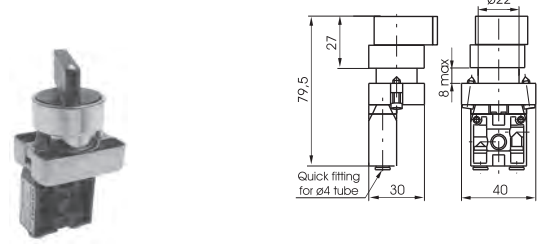
2/2 - 3/2 - Lateral connections



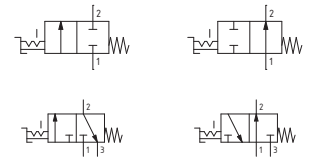
Weight 65 g
Switch 2 positions stable
104. **T**. 6.27. **L**. **F**²



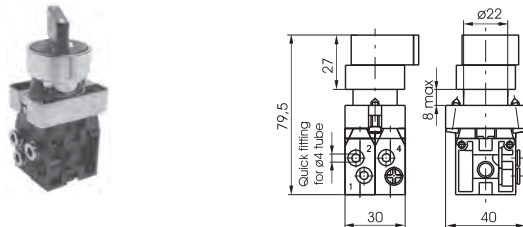
2/2 - 3/2 - Rear connections



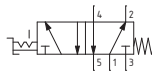
Weight 65 g
Switch 2 positions stable
104. **T**. 6.27. **P**. **F**²



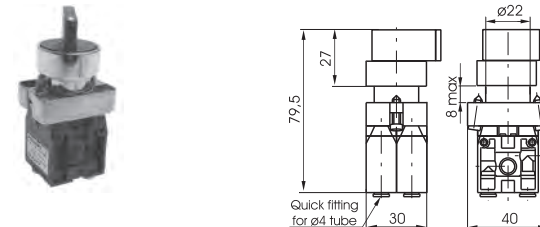
5/2 - Lateral connections



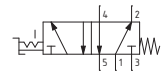
Weight 120 g
Switch 2 positions stable
104.52.6.27. **L**



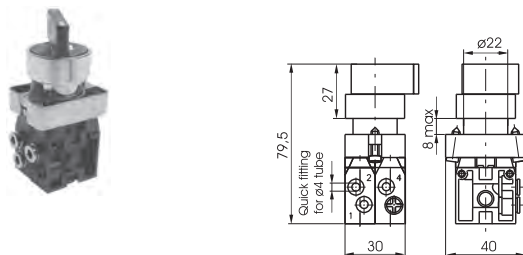
5/2 - Rear connections



Weight 120 g
Switch 2 positions stable
104.52.6.27. **P**



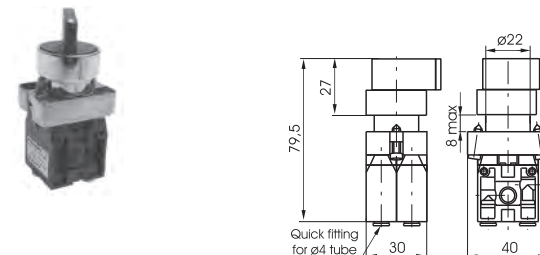
5/3 - Lateral connections



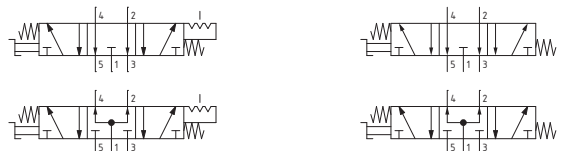
Weight 120 g
104.53. **F**¹. 6.27. **S**. **L**



5/3 - Rear connections



Weight 120 g
104.53. **F**¹. 6.27. **S**. **P**



Key switch

Coding: 104. **T**. **F**¹. 6.28. **S**. **W**. **F**²

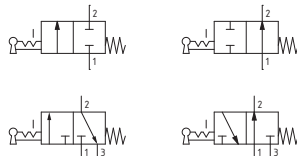
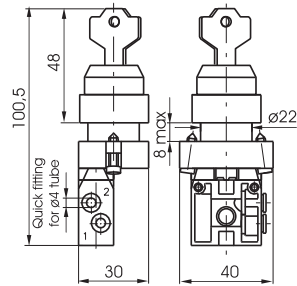
Operational characteristics

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 Δp=1 (NI/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	0 = 3 instable positions
	32 = 3 ways, 2 positions	1 = 3 stable positions
F ¹	52 = 5 ways, 2 positions	CONNECTION TYPE
	53 = 5 ways, 3 positions	L = Lateral
		P = Rear
F ²	FUNCTION 1 (only for 5/3 ways)	FUNCTION 2 (only for 2/2 or 3/2 ways)
	32 = Open centres	A = Normally Open
	33 = Pressured centres	C = Normally Closed

AIR DISTRIBUTION

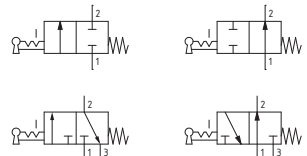
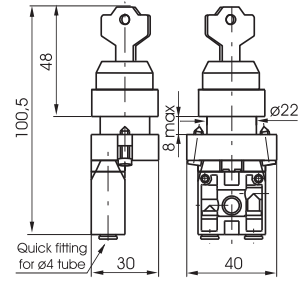
2/2 - 3/2 - Lateral connections



Weight 100 g
Switch 2 positions stable

104. **T**. 6.28. **L**. **F**²

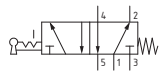
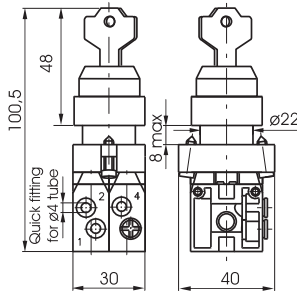
2/2 - 3/2 - Rear connections



Weight 100 g
Switch 2 positions stable

104. **T**. 6.28. **P**. **F**²

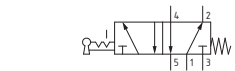
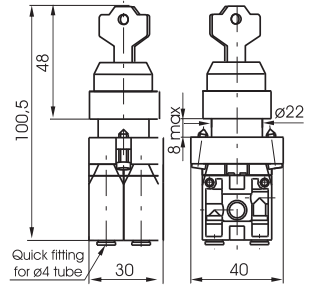
5/2 - Lateral connections



Weight 155 g
Switch 2 positions stable

104.52.6.28.L

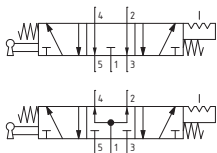
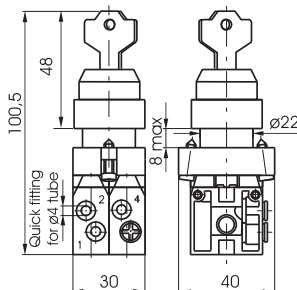
5/2 - Rear connections



Weight 155 g
Switch 2 positions stable

104.52.6.28.P

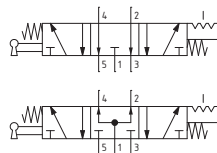
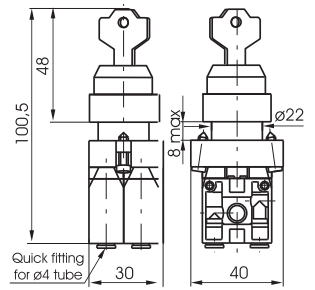
5/3 - Lateral connections



Weight 155 g

104.53. **F**¹. 6.28. **S**. **L**

5/3 - Rear connections



Weight 155 g

104.53. **F**¹. 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 $\Delta p=1$ (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

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

2/2 - 3/2 - Lateral connections

Weight 31 g
Operating force 9 N
104. **T**.2.1.L. **F**

2/2 - 3/2 - Rear connections

Weight 31 g
Operating force 9 N
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 $\Delta p=1$ (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

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

2/2 - 3/2 - Lateral connections

Weight 46 g
Operating force 9 N
104. **T**.2.1/1.L. **F**

2/2 - 3/2 - Rear connections

Weight 46 g
Operating force 9 N
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 $\Delta p=1$ (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

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

2/2 - 3/2 - Lateral connections

Weight 31 g
Operating force 9 N
104. **T**.3.1.L. **F**

2/2 - 3/2 - Rear connections

Weight 31 g
Operating force 9 N
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



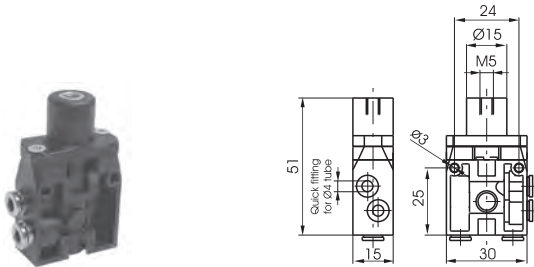
Pneumatic - Spring

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 Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube
Pilot ports size	M5

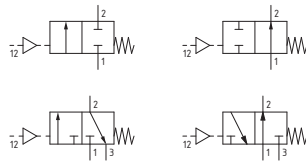
T	TYPE	F	FUNCTION
	22 = 2 ways, 2 positions 32 = 3 ways, 2 positions		A = Normally Open C = Normally Closed
W	CONNECTION TYPE		
	L = Lateral P = Rear		

2/2 - 3/2 - Lateral connections

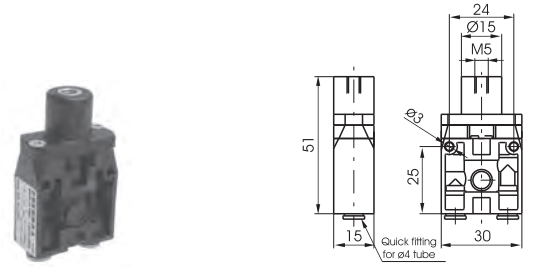


Weight 25 g
Minimum pilot pressure 2,5 bar

104. **T**.11.1. **L**. **C**

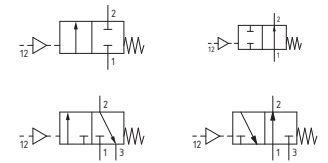


2/2 - 3/2 - Rear connections



Weight 25 g
Minimum pilot pressure 2,5 bar

104. **T**.11.1. **P**. **F**



1

AIR DISTRIBUTION