

## General

New 104 micro valves series have been realized as an economic version to complete the range of 105 valves version. With their small overall dimensions it makes easy installation and operation.

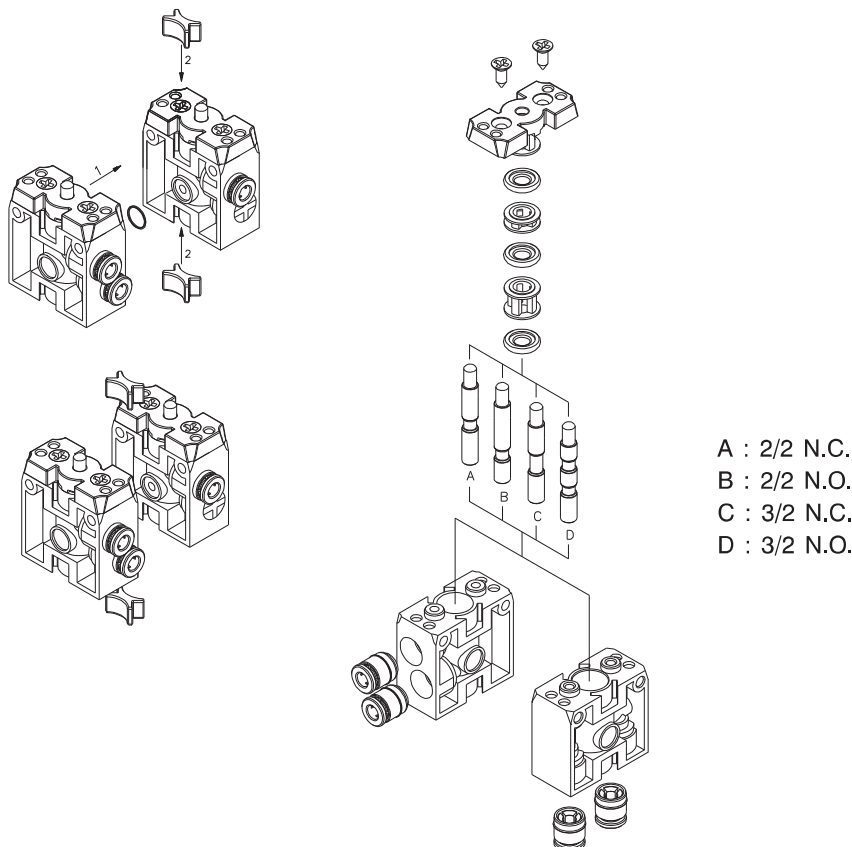
Their main characteristic is the possibility to choose between the version with lateral or rear pneumatic connections realized with quick fitting for Ø 4 mm. tube included.

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 lever 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                             |
| Actuators      | Plastic material for buttons and switches |
| Seals          | NBR                                       |
| Spacer         | Acetal resin                              |
| Spool          | Steel                                     |
| Spring         | Spring steel                              |



## Use and maintenance

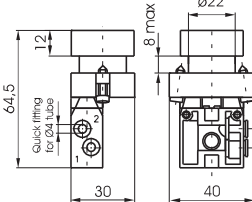

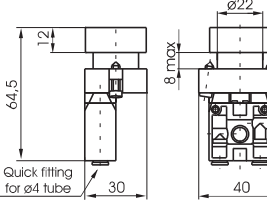

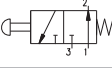
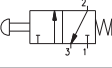
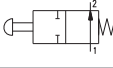
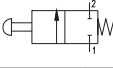
These valves have an average life of 15 million cycles depending on the application and air quality, filtered and lubricated air using specified lubricants will dramatically reduce the wear of the seals and ensures long and trouble free operation.


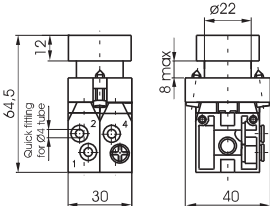
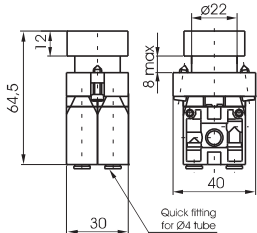


Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature and that exhaust ports 3 & 5 are protected against the possible ingress of dirt or debris.

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).

| Tappet - Spring   |  | 2/2<br>3/2  | Ordering code | 2/2<br>3/2  | Tappet - Spring  |
|---|--|---|---------------|---|------------------|
| Lateral connections   |  |   | 104.T.0.1.P.F |   | Rear connections |
|  |  | <div><div>T</div>TYPE<br/>22 = 2 ways<br/>32 = 3 ways<br/><div>P</div>CONNECTION TYPE<br/>L = Lateral<br/>P = Rear<br/><div>F</div>FUNCTION<br/>A = Normally Open<br/>C = Normally Closed</div> |               |  |                  |
|   |  |   |               |   |                  |

| Push button - Spring  |                            | 2/2<br>3/2  | Ordering code                            | 2/2<br>3/2   | Push button - Spring |
|---|----------------------------|---|--|--|----------------------|
| Lateral connections   |                            |   | 104.T.6.22/C.P.F                         |  | Rear connections     |
| <div></div> |                            | <div>TYPE</div> <div>T22 = 2 ways<br/>32 = 3 ways</div> <div>BUTTON COLOR</div> <div>1 = Red<br/>2 = Black<br/>3 = Green<br/>4 = Yellow</div> <div>CONNECTION TYPE</div> <div>P L = Lateral<br/>P = Rear</div> <div>FUNCTION</div> <div>F A = Normally Open<br/>C = Normally Closed</div>   |  | <div></div> |                      |
| Weight gr. 50<br>Operating force 18 N   |                            | <div></div> |  | Weight gr. 50<br>Operating force 18 N  |                      |
| Operational characteristic  |                            |   |  |  |                      |
| Fluid   | Max working pressure (bar) | Temperature °C  | Flow rate at 6 bar<br>with Δp=1 (NI/min) | Orifice size (mm)  | Working ports size   |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70  | 90 NI/min                                | mm 2,5   | ø4 tube              |

| Push button - Spring  |   | 5/2            | Ordering code   | 5/2  | Push button - Spring  |
|---|---|----------------|---|--|---|
| Lateral connections   |   |                | 104.52.6.22/C.P   |  | Rear connections  |
|  |  |                | <div>BUTTON COLOR</div> <div>1 = Red</div> <div>C2 = Black</div> <div>3 = Green</div> <div>4 = Yellow</div> <div>CONNECTION TYPE</div> <div>L = Lateral</div> <div>P = Rear</div> |  |  |
| Weight gr. 105<br>Operating force 30 N  |   |                |    |  | Weight gr. 105<br>Operating force 30 N  |
| 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 air, with or without lubrication   | 10 bar  | -5 - +70       | 90 NI/min   | mm 2,5   | Ø4 tube   |

1

**Push button 2 positions (step - step)**

*Lateral connections*

**Ordering code**

**104.T.6.31.PF**

TYPE

T 22 = 2 ways  
32 = 3 ways

CONNECTION TYPE

P = Lateral  
P = Rear

FUNCTION

A = Normally Open  
C = Normally Closed

**Push button 2 positions (step - step)**

*Rear connections*

Weight gr. 60  
Operating force 18N

Weight gr. 60  
Operating force 18N

| 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 air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |

**Push button 2 positions (step - step)**

*Lateral connections*

**Ordering code**

**104.52.6.31.P**

CONNECTION TYPE

P L = Lateral  
P = Rear

**Push button 2 positions (step - step)**

*Rear connections*

Weight gr. 110  
Operating force 30N

Weight gr. 110  
Operating force 30N

| 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 air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |

**Raised Push button - Spring**

*Lateral connections*

**Ordering code**

**104.T.6.23/C.PF**

TYPE

T 22 = 2 ways  
32 = 3 ways

BUTTON COLOR

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

CONNECTION TYPE

P L = Lateral  
P = Rear

FUNCTION

A = Normally Open  
C = Normally Closed

**Raised Push button - Spring**

*Rear connections*

Weight gr. 50  
Operating force 18N

Weight gr. 50  
Operating force 18N

| 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 air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |

|                                       |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
|---------------------------------------|-----|--|--------------|------------------------------------|---------------------------------------|--|-----------|--|-----------|--|------------|--|-----------------|--|-------------|--|----------|--|--|---------------------------------|
| <b>Raised Push button - Spring</b>    | 5/2 | Ordering code<br><b>104.52.6.23/C.P</b>  | 5/2          | <b>Raised Push button - Spring</b> |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| <i>Lateral connections</i><br><br>    |     | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2">BUTTON COLOR</td></tr> <tr><td>1 = Red</td><td></td></tr> <tr><td>2 = Black</td><td></td></tr> <tr><td>3 = Green</td><td></td></tr> <tr><td>4 = Yellow</td><td></td></tr> <tr><td colspan="2">CONNECTION TYPE</td></tr> <tr><td>L = Lateral</td><td></td></tr> <tr><td>P = Rear</td><td></td></tr> </table> | BUTTON COLOR |                                    | 1 = Red                               |  | 2 = Black |  | 3 = Green |  | 4 = Yellow |  | CONNECTION TYPE |  | L = Lateral |  | P = Rear |  |  | <i>Rear connections</i><br><br> |
| BUTTON COLOR                          |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| 1 = Red                               |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| 2 = Black                             |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| 3 = Green                             |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| 4 = Yellow                            |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| CONNECTION TYPE                       |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| L = Lateral                           |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| P = Rear                              |     |  |              |                                    |                                       |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |
| Weight gr. 105<br>Operating force 30N |     |  |              |                                    | Weight gr. 105<br>Operating force 30N |  |           |  |           |  |            |  |                 |  |             |  |          |  |  |                                 |

| 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 air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |


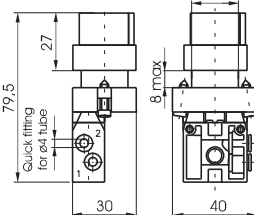

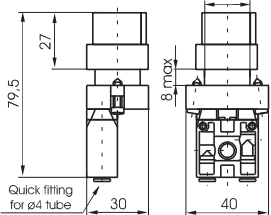

|  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
|--|------------|--|------------|-------------------------------|--|--|-------------|--|-----------------|--|-------------|--|----------|--|----------|--|-------------------|--|---------------------|--|--|---------------------------------|
| <b>Palm button 2 position</b>  | 2/2<br>3/2 | Ordering code<br><b>104.1.6.25.P.F</b>   | 2/2<br>3/2 | <b>Palm button 2 position</b> |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| <i>Lateral connections</i><br><br>                                   |            | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2">TYPE</td></tr> <tr><td>22 = 2 ways</td><td></td></tr> <tr><td>32 = 3 ways</td><td></td></tr> <tr><td colspan="2">CONNECTION TYPE</td></tr> <tr><td>L = Lateral</td><td></td></tr> <tr><td>P = Rear</td><td></td></tr> <tr><td colspan="2">FUNCTION</td></tr> <tr><td>A = Normally Open</td><td></td></tr> <tr><td>C = Normally Closed</td><td></td></tr> </table> | TYPE       |                               | 22 = 2 ways  |  | 32 = 3 ways |  | CONNECTION TYPE |  | L = Lateral |  | P = Rear |  | FUNCTION |  | A = Normally Open |  | C = Normally Closed |  |  | <i>Rear connections</i><br><br> |
| TYPE   |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| 22 = 2 ways  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| 32 = 3 ways  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| CONNECTION TYPE  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| L = Lateral  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| P = Rear   |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| FUNCTION   |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| A = Normally Open  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| C = Normally Closed  |            |  |            |                               |  |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |
| Weight gr. 65<br>Operating force 19N<br>Emergency - Rotate to unlock |            |  |            |                               | Weight gr. 65<br>Operating force 19N<br>Emergency - Rotate to unlock |  |             |  |                 |  |             |  |          |  |          |  |                   |  |                     |  |  |                                 |


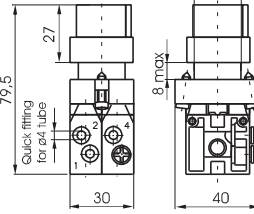

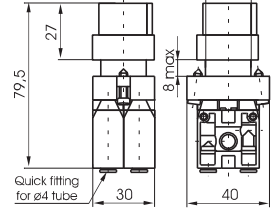
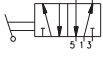
| Operational characteristic                |                            |                |   |                   |                    |
|---|----------------------------|----------------|---|-------------------|--------------------|
| Fluid                                     | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar with $\Delta p=1$ (NI/min) | Orifice size (mm) | Working ports size |
| Filtered air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |


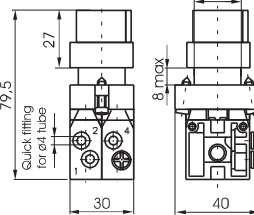

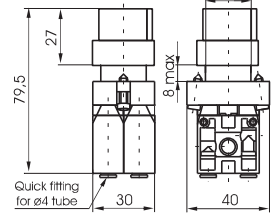

|   |     |  |                 |                               |   |  |          |  |  |                                 |
|---|-----|--|-----------------|-------------------------------|---|--|----------|--|--|---------------------------------|
| <b>Palm button 2 position</b>   | 5/2 | Ordering code<br><b>104.52.6.25.P</b>  | 5/2             | <b>Palm button 2 position</b> |   |  |          |  |  |                                 |
| <i>Lateral connections</i><br><br>                                    |     | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2">CONNECTION TYPE</td></tr> <tr><td>L = Lateral</td><td></td></tr> <tr><td>P = Rear</td><td></td></tr> </table> | CONNECTION TYPE |                               | L = Lateral   |  | P = Rear |  |  | <i>Rear connections</i><br><br> |
| CONNECTION TYPE   |     |  |                 |                               |   |  |          |  |  |                                 |
| L = Lateral   |     |  |                 |                               |   |  |          |  |  |                                 |
| P = Rear  |     |  |                 |                               |   |  |          |  |  |                                 |
| Weight gr. 120<br>Operating force 32N<br>Emergency - Rotate to unlock |     |  |                 |                               | Weight gr. 120<br>Operating force 32N<br>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 air, with or without lubrication | 10 bar                     | -5 - +70       | 90 NI/min                                     | mm 2,5            | ø4 tube            |

1

| Switch - short lever  |                            | 2/2<br>3/2     | Ordering code   | 2/2<br>3/2        | Switch - short lever   |
|---|----------------------------|----------------|---|-------------------|--|
| Lateral connections   |                            |                | <b>104.T.6.30.PF</b>  |                   | Rear connections   |
|   |                            |                | TYPE<br><b>T</b> 22 = 2 ways<br>32 = 3 ways<br>CONNECTION TYPE<br><b>P</b> L = Lateral<br><b>P</b> = Rear<br>FUNCTION<br><b>F</b> A = Normally Open<br><b>C</b> = Normally Closed |                   |   |
| Weight gr. 65<br>Switch 2 positions stable  |                            |                |   |                   | Weight gr. 65<br>Switch 2 positions stable   |
|   |                            |                |   |                   |  |
| Operational characteristic  |                            |                |   |                   |  |
| Fluid   | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar<br>ith $\Delta p = 1$ (NI/min)   | Orifice size (mm) | Working ports size   |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70       | 90 NI/min   | mm 2,5            | ø4 tube  |

| Switch - short lever  |                            | 5/2            | Ordering code  | 5/2               | Switch - short lever   |
|---|----------------------------|----------------|--|-------------------|--|
| Lateral connections   |                            |                | <b>104.52.6.30.P</b>                                       |                   | Rear connections   |
|   |                            |                | CONNECTION TYPE<br><b>P</b> L = Lateral<br><b>P</b> = Rear |                   |   |
| Weight gr. 120<br>Switch 2 positions stable   |                            |                |  |                   | Weight gr. 120<br>Switch 2 positions stable  |
|    |                            |                |  |                   |  |
| Operational characteristic  |                            |                |  |                   |  |
| Fluid   | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar<br>with $\Delta p = 1$ (NI/min)         | Orifice size (mm) | Working ports size   |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70       | 90 NI/min  | mm 2,5            | ø4 tube  |

| Switch - short lever  |                            | 5/3            | Ordering code   | 5/3               | Switch - short lever   |
|---|----------------------------|----------------|---|-------------------|--|
| Lateral connections   |                            |                | <b>104.53.F.6.30.S.P</b>  |                   | Rear connections   |
|   |                            |                | FUNCTION<br><b>F</b> 32 = Open centres<br>33 = Pressured centres<br>SWITCH POSITIONS<br><b>S</b> 0 = 3 pos. instable<br>1 = 3 pos. stable<br>CONNECTION TYPE<br><b>P</b> L = Lateral<br><b>P</b> = Rear |                   |   |
| Weight gr. 120  |                            |                |   |                   | Weight gr. 120   |
|   |                            |                |   |                   |  |
| Operational characteristic  |                            |                |   |                   |  |
| Fluid   | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar<br>with $\Delta p = 1$ (NI/min)  | Orifice size (mm) | Working ports size   |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70       | 90 NI/min   | mm 2,5            | ø4 tube  |

Switch - long lever

2/2  
3/2

Ordering code

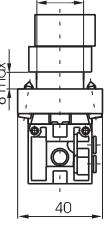
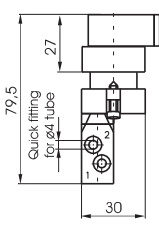

2/2  
3/2

Switch - long lever

Lateral connections

104.1.6.27.P.F

Rear connections



TYPE

22 = 2 ways

32 = 3 ways

CONNECTION TYPE

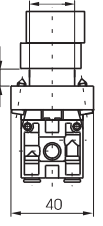
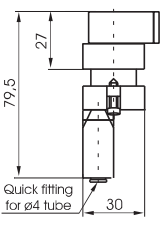

L = Lateral

P = Rear

FUNCTION

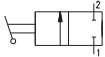
A = Normally Open

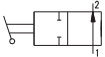
C = Normally Closed

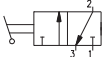


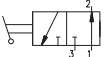
Weight gr. 65

Switch 2 positions stable









Weight gr. 65

Switch 2 positions stable

| 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 air, with or without lubrication | 10 bar                     | -5 - + 70      | 90 NI/min                             | mm 2,5            | ø4 tube            |

Switch - long lever

5/2

Ordering code

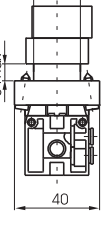
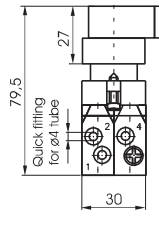

5/2

Switch - long lever

Lateral connections

104.52.6.27.P

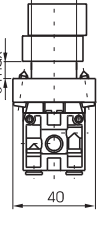
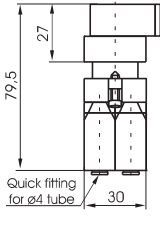

Rear connections



CONNECTION TYPE

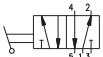
L = Lateral

P = Rear



Weight gr. 120

Switch 2 positions stable



Weight gr. 120

Switch 2 positions stable

| 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 air, with or without lubrication | 10 bar                     | -5 - + 70      | 90 NI/min                             | mm 2,5            | ø4 tube            |

Switch - long lever

5/3

Ordering code

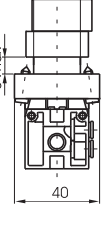
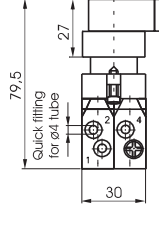

5/3

Switch - long lever

Lateral connections

104.53.6.27.S.P

Rear connections



FUNCTION

32 = Open centres

33 = Pressured centres

SWITCH POSITIONS

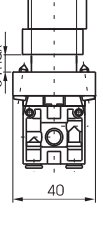
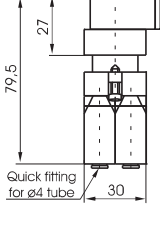

0 = 3 pos. instable

1 = 3 pos. stable

CONNECTION TYPE

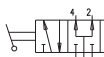
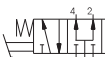
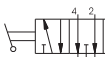

L = Lateral

P = Rear



Weight gr. 120

Switch 2 positions stable



Weight gr. 120

Switch 2 positions stable

| 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 air, with or without lubrication | 10 bar                     | -5 - + 70      | 90 NI/min                             | mm 2,5            | ø4 tube            |

1

|   |                            |   |                                       |   |                    |
|---|----------------------------|---|---------------------------------------|---|--------------------|
| <b>Key switch</b><br><i>Lateral connections</i>   | 2/2<br>3/2                 | <b>Ordering code</b><br><b>104.T.6.28.P.F</b>   | 2/2<br>3/2                            | <b>Key switch</b><br><i>Rear connections</i>  |                    |
| <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                            | <div style="border: 1px solid black; padding: 5px;"> <b>TYPE</b><br/>                     T 22 = 2 ways<br/>                     32 = 3 ways<br/> <b>CONNECTION TYPE</b><br/>                     L = Lateral<br/>                     P = Rear<br/> <b>FUNCTION</b><br/>                     A = Normally Open<br/>                     C = Normally Closed                 </div> |                                       | <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                    |
| Weight gr. 100<br>Switch 2 positions stable   |                            | Weight gr. 100<br>Switch 2 positions stable   |                                       |   |                    |
| <b>Operational characteristic</b>   |                            |   |                                       |   |                    |
| Fluid   | Max working pressure (bar) | Temperature °C  | Flow rate at 6 bar with Δp=1 (NI/min) | Orifice size (mm)   | Working ports size |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70  | 90 NI/min                             | mm 2,5  | ø4 tube            |

|   |                            |   |                                       |   |                    |
|---|----------------------------|---|---------------------------------------|---|--------------------|
| <b>Key switch</b><br><i>Lateral connections</i>   | 5/2                        | <b>Ordering code</b><br><b>104.52.6.28.P</b>  | 5/2                                   | <b>Key switch</b><br><i>Rear connections</i>  |                    |
| <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                            | <div style="border: 1px solid black; padding: 5px;"> <b>CONNECTION TYPE</b><br/>                     P L = Lateral<br/>                     P = Rear                 </div> |                                       | <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                    |
| Weight gr. 155<br>Switch 2 positions stable   |                            | Weight gr. 155<br>Switch 2 positions stable   |                                       |   |                    |
| <b>Operational characteristic</b>   |                            |   |                                       |   |                    |
| Fluid   | Max working pressure (bar) | Temperature °C  | Flow rate at 6 bar with Δp=1 (NI/min) | Orifice size (mm)   | Working ports size |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70  | 90 NI/min                             | mm 2,5  | ø4 tube            |

|   |                            |  |                                       |   |                    |
|---|----------------------------|--|---------------------------------------|---|--------------------|
| <b>Key switch</b><br><i>Lateral connections</i>   | 5/3                        | <b>Ordering code</b><br><b>104.53.F.6.28.S.P</b>   | 5/3                                   | <b>Key switch</b><br><i>Rear connections</i>  |                    |
| <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                            | <div style="border: 1px solid black; padding: 5px;"> <b>FUNCTION</b><br/>                     F 32 = Open centres<br/>                     33 = Pressured centres<br/> <b>SWITCH POSITIONS</b><br/>                     S 0 = 3 pos. instable<br/>                     1 = 3 pos. stable<br/> <b>CONNECTION TYPE</b><br/>                     P L = Lateral<br/>                     P = Rear                 </div> |                                       | <div style="display: flex; justify-content: space-around; align-items: center;"> </div> |                    |
| Weight gr. 155<br>Switch 2 positions stable   |                            | Weight gr. 155<br>Switch 2 positions stable  |                                       |   |                    |
| <b>Operational characteristic</b>   |                            |  |                                       |   |                    |
| Fluid   | Max working pressure (bar) | Temperature °C   | Flow rate at 6 bar with Δp=1 (NI/min) | Orifice size (mm)   | Working ports size |
| Filtered air, with or without lubrication   | 10 bar                     | -5 - +70   | 90 NI/min                             | mm 2,5  | ø4 tube            |



| <b>Lever roller - Spring</b>   | 2/2<br>3/2                 | <b>Ordering code</b><br><b>104.T.2.1.P.F</b> | 2/2<br>3/2                            | <b>Lever roller - Spring</b> |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
|--|----------------------------|--|---------------------------------------|------------------------------|--------------------|----------------------------|----------------|---------------------------------------|-------------------|--------------------|---|--------|----------|-----------|--------|---------|
| <i>Lateral connections</i>   |                            |  |                                       | <i>Rear connections</i>      |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Weight gr. 31<br/>Operating force 9N</p> </div> <div style="width: 10%; text-align: center;"> <p>TYPE</p> <p><b>T</b> 22 = 2 ways<br/>32 = 3 ways</p> <p>CONNECTION TYPE</p> <p><b>P</b> L = Lateral<br/>P = Rear</p> <p>FUNCTION</p> <p><b>F</b> A = Normally Open<br/>C = Normally Closed</p> </div> <div style="width: 45%;"> <p>Weight gr. 31<br/>Operating force 9N</p> </div> </div>   |                            |  |                                       |                              |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:15%;">Fluid</th> <th style="width:15%;">Max working pressure (bar)</th> <th style="width:15%;">Temperature °C</th> <th style="width:15%;">Flow rate at 6 bar with Δp=1 (Nl/min)</th> <th style="width:15%;">Orifice size (mm)</th> <th style="width:15%;">Working ports size</th> </tr> <tr> <td>Filtered air, with or without lubrication</td> <td>10 bar</td> <td>-5 - +70</td> <td>90 Nl/min</td> <td>mm 2,5</td> <td>ø4 tube</td> </tr> </table> |                            |  |                                       |                              | Fluid              | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm) | Working ports size | Filtered air, with or without lubrication | 10 bar | -5 - +70 | 90 Nl/min | mm 2,5 | ø4 tube |
| Fluid  | Max working pressure (bar) | Temperature °C                               | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm)            | Working ports size |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| Filtered air, with or without lubrication  | 10 bar                     | -5 - +70                                     | 90 Nl/min                             | mm 2,5                       | ø4 tube            |                            |                |                                       |                   |                    |   |        |          |           |        |         |

| <b>Lever roller ball bearing - Spring</b>  | 2/2<br>3/2                 | <b>Ordering code</b><br><b>104.T.2.1/1.P.F</b> | 2/2<br>3/2                            | <b>Lever roller ball bearing - Spring</b> |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
|--|----------------------------|--|---------------------------------------|---|--------------------|----------------------------|----------------|---------------------------------------|-------------------|--------------------|---|--------|----------|-----------|--------|---------|
| <i>Lateral connections</i>   |                            |  |                                       | <i>Lateral connections</i>                |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Weight gr. 46<br/>Operating force 9N</p> </div> <div style="width: 10%; text-align: center;"> <p>TYPE</p> <p><b>T</b> 22 = 2 ways<br/>32 = 3 ways</p> <p>CONNECTION TYPE</p> <p><b>P</b> L = Lateral<br/>P = Rear</p> <p>FUNCTION</p> <p><b>F</b> A = Normally Open<br/>C = Normally Closed</p> </div> <div style="width: 45%;"> <p>Weight gr. 46<br/>Operating force 9N</p> </div> </div>   |                            |  |                                       |   |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:15%;">Fluid</th> <th style="width:15%;">Max working pressure (bar)</th> <th style="width:15%;">Temperature °C</th> <th style="width:15%;">Flow rate at 6 bar with Δp=1 (Nl/min)</th> <th style="width:15%;">Orifice size (mm)</th> <th style="width:15%;">Working ports size</th> </tr> <tr> <td>Filtered air, with or without lubrication</td> <td>10 bar</td> <td>-5 - +70</td> <td>90 Nl/min</td> <td>mm 2,5</td> <td>ø4 tube</td> </tr> </table> |                            |  |                                       |   | Fluid              | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm) | Working ports size | Filtered air, with or without lubrication | 10 bar | -5 - +70 | 90 Nl/min | mm 2,5 | ø4 tube |
| Fluid  | Max working pressure (bar) | Temperature °C                                 | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm)                         | Working ports size |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| Filtered air, with or without lubrication  | 10 bar                     | -5 - +70                                       | 90 Nl/min                             | mm 2,5                                    | ø4 tube            |                            |                |                                       |                   |                    |   |        |          |           |        |         |

| <b>Lever unidirectional - Spring</b>   | 2/2<br>3/2                 | <b>Ordering code</b><br><b>104.T.3.1.P.F</b> | 2/2<br>3/2                            | <b>Lever unidirectional - Spring</b> |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
|--|----------------------------|--|---------------------------------------|--------------------------------------|--------------------|----------------------------|----------------|---------------------------------------|-------------------|--------------------|---|--------|----------|-----------|--------|---------|
| <i>Lateral connections</i>   |                            |  |                                       | <i>Lateral connections</i>           |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Weight gr. 31<br/>Operating force 9N</p> </div> <div style="width: 10%; text-align: center;"> <p>TYPE</p> <p><b>T</b> 22 = 2 ways<br/>32 = 3 ways</p> <p>CONNECTION TYPE</p> <p><b>P</b> L = Lateral<br/>P = Rear</p> <p>FUNCTION</p> <p><b>F</b> A = Normally Open<br/>C = Normally Closed</p> </div> <div style="width: 45%;"> <p>Weight gr. 31<br/>Operating force 9N</p> </div> </div>   |                            |  |                                       |                                      |                    |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:15%;">Fluid</th> <th style="width:15%;">Max working pressure (bar)</th> <th style="width:15%;">Temperature °C</th> <th style="width:15%;">Flow rate at 6 bar with Δp=1 (Nl/min)</th> <th style="width:15%;">Orifice size (mm)</th> <th style="width:15%;">Working ports size</th> </tr> <tr> <td>Filtered air, with or without lubrication</td> <td>10 bar</td> <td>-5 - +70</td> <td>90 Nl/min</td> <td>mm 2,5</td> <td>ø4 tube</td> </tr> </table> |                            |  |                                       |                                      | Fluid              | Max working pressure (bar) | Temperature °C | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm) | Working ports size | Filtered air, with or without lubrication | 10 bar | -5 - +70 | 90 Nl/min | mm 2,5 | ø4 tube |
| Fluid  | Max working pressure (bar) | Temperature °C                               | Flow rate at 6 bar with Δp=1 (Nl/min) | Orifice size (mm)                    | Working ports size |                            |                |                                       |                   |                    |   |        |          |           |        |         |
| Filtered air, with or without lubrication  | 10 bar                     | -5 - +70                                     | 90 Nl/min                             | mm 2,5                               | ø4 tube            |                            |                |                                       |                   |                    |   |        |          |           |        |         |



1

Complete lever roller operator

Ordering code

**104.2.1**



Complete lever roller ball bearing operator

Ordering code

**104.2.1/1**



Complete lever unidirectional

Ordering code

**104.3.1**



Fixing plate

Ordering code

**104.00**



Completem with fixing screws

Push button

Ordering code

**104.6.22/©**

BUTTON COLOR

1 = Red

2 = Black

3 = Green

4 = Yellow



Raised Push button

Ordering code

**104.6.23/©**

BUTTON COLOR

1 = Red

2 = Black

3 = Green

4 = Yellow



Push button 2 positions

Ordering code

**104.6.31**

(step - step)



Palm button 2 position

Ordering code

**104.6.25**

Emergency - Rotate to unlock



Switch - short lever

Ordering code

**104.6.30.©**

SWITCH POSITIONS

0 = 3 pos. instable

1 = 3 pos. stable

Switch 3 positions











Switch - short lever

Ordering code

**104.6.30**

Switch 2 positions stable



|  |   |                              |   |
|--|---|------------------------------|---|
| Switch - long lever                        |   | Switch - long lever          |   |
| Ordering code                              |    | Ordering code                |    |
| 104.6.27.S                                 |   | 104.6.27                     |   |
| <div>S</div> SWITCH POSITIONS              |   |                              |   |
| 0 = 3 pos. instable<br>1 = 3 pos. stable   |   |                              |   |
| Switch 3 positions                         |   | Switch 2 positions stable    |   |
| Key switch                                 |   | Key switch                   |   |
| Ordering code                              |    | Ordering code                |    |
| 104.6.28.S                                 |   | 104.6.28                     |   |
| <div>S</div> SWITCH POSITIONS              |   |                              |   |
| 0 = 3 pos. instable<br>1 = 3 pos. stable   |   |                              |   |
| Switch 3 positions                         |   | Switch 2 positions stable    |   |
| Joystick selector switch                   |   | Complete Pneumatic Operator  |   |
| Ordering code                              |   | Ordering code                |   |
| 104.6.39.S                                 |   | 104.11                       |   |
| <div>S</div> SWITCH POSITIONS              |   |                              |   |
| 0 = 3 pos. instable                        |   |                              |   |
| Contact electric element                   |   | Push button protection cover |   |
| Ordering code                              |  | Ordering code                |  |
| 104.F                                      |   | 104.02                       |   |
| <div>F</div> FUNCTION                      |   |                              |   |
| NA = Normally Open<br>NC = Normally Closed |   |                              |   |