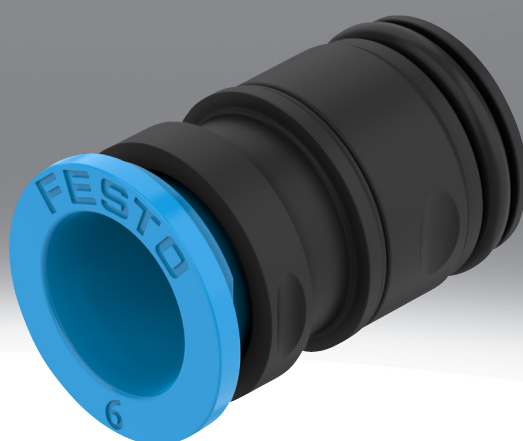


## Cartridge NPQX

**FESTO**



### Characteristics

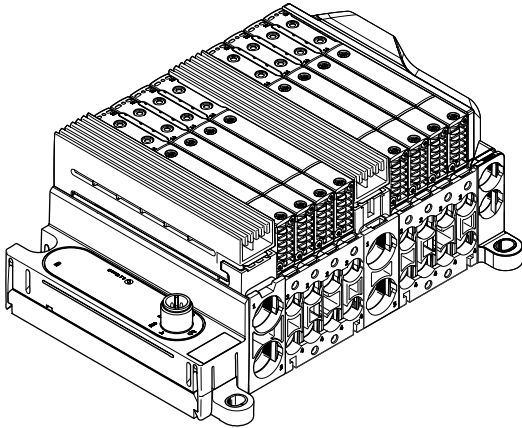
#### At a glance

Push-in fittings and plug connectors for pneumatic applications with a temperature range up to 60 °C and a pressure range up to 10 bar.

Note: Since the valve terminal VTUX has a compact design, a releasing tool for tubing sizes 4, 6, 8 and 10 is available as an accessory (NPAT-QX-T-V1).

#### Series

Link [vtux](#)



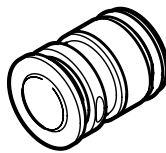
Push-in fitting, specially developed for the valve terminal VTUX.

#### Design

[D] Straight



[P] Blanking plug



#### Pneumatic connection 1

The fitting is based on the principle of the „PIN-type cartridge“, so that by loosening the PIN/retaining clip it can be easily replaced for different tubing diameters.

#### Pneumatic connection 2

The tubing holding function works according to the „push-pull principle“.

## Type code

|      |                        |  |
|------|------------------------|--|
| 001  | Series                 |  |
| NPQX | Push-in fitting        |  |
| 002  | Design                 |  |
| D    | Straight               |  |
| P    | Blanking plug          |  |
| 003  | Pneumatic connection 1 |  |
| PC10 | Cartridge 10 mm        |  |
| PC12 | Cartridge 12 mm        |  |
| PC15 | Cartridge 15 mm        |  |
| PC19 | Cartridge 15 mm        |  |

|      |                             |  |
|------|-----------------------------|--|
| 004  | Pneumatic connection 2      |  |
|      | None                        |  |
| Q4   | Push-in connector 4 mm      |  |
| Q6   | Push-in connector 6 mm      |  |
| Q8   | Push-in connector 8 mm      |  |
| Q10  | Push-in connector 10 mm     |  |
| Q12  | Push-in connector 12 mm     |  |
| Q14  | Push-in connector 14 mm     |  |
| T12  | Push-in connector for 1/2"  |  |
| T14  | Push-in connector for 1/4"  |  |
| T18  | Push-in connector for 1/8"  |  |
| T38  | Push-in connector for 3/8"  |  |
| T516 | Push-in connector for 5/16" |  |
| T532 | Push-in connector for 5/32" |  |

|     |                             |  |
|-----|-----------------------------|--|
| 005 | Packaging quantity [pieces] |  |
|     | Standard                    |  |
| P2  | 2                           |  |
| P10 | 10                          |  |

## Datasheet

## General technical data – Cartridges

| Pneumatic connection, port 2 | For tubing outside diameter of 4 mm | For tubing outside diameter of 6 mm                   | For tubing outside diameter of 8 mm | For tubing outside diameter of 10 mm | For tubing outer diameter of 12 mm | For tubing outside diameter of 14 mm |
|------------------------------|-------------------------------------|-------------------------------------------------------|-------------------------------------|--------------------------------------|------------------------------------|--------------------------------------|
| Pneumatic connection, port 1 | Cartridge 10 mm<br>Cartridge 12 mm  | Cartridge 10 mm<br>Cartridge 12 mm<br>Cartridge 15 mm | Cartridge 12 mm<br>Cartridge 15 mm  | Cartridge 15 mm                      |                                    |                                      |
| Nominal size                 | 2.6 mm                              | 4 mm                                                  | 6 mm                                | 8 mm                                 | 10 mm                              |                                      |
| Tubing insertion depth       | 15 mm                               | 14.9 ... 15.2 mm                                      | 15.2 mm                             | 15.5 mm                              | 25 mm                              | 25.4 mm                              |
| Size                         | Standard                            |                                                       |                                     |                                      |                                    |                                      |
| Design                       | Straight design                     |                                                       |                                     |                                      |                                    |                                      |
| Mounting position            | Any                                 |                                                       |                                     |                                      |                                    |                                      |
| Type of seal on screwed plug | O-ring                              |                                                       |                                     |                                      |                                    |                                      |
| Design                       | Push-pull principle                 |                                                       |                                     |                                      |                                    |                                      |
| Type of mounting             | With retaining clamp                |                                                       |                                     |                                      |                                    |                                      |

## General technical data – Cartridges

| General technical data – Cartridges |                                      |                      |                                                       |                                      |                                     |                                     |
|-------------------------------------|--------------------------------------|----------------------|-------------------------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|
| Pneumatic connection, port 2        | For tubing outside diameter of 5/32" | For tubing O.D. 1/8" | For tubing outside diameter of 1/4"                   | For tubing outside diameter of 5/16" | For tubing outside diameter of 3/8" | For tubing outside diameter of 1/2" |
| Pneumatic connection, port 1        | Cartridge 10 mm<br>Cartridge 12 mm   | Cartridge 10 mm      | Cartridge 10 mm<br>Cartridge 12 mm<br>Cartridge 15 mm | Cartridge 12 mm<br>Cartridge 15 mm   | Cartridge 15 mm                     |                                     |
| Nominal size                        | 2.6 mm                               | 2.5 mm               | 4.5 mm                                                | 6 mm                                 | 6.4 mm                              | 10 mm                               |
| Tubing insertion depth              | 15 mm                                | 11.7 mm              | 11.93 mm                                              | 15.2 mm                              | 20.1 mm                             | 25.4 mm                             |
| Size                                | Standard                             |                      |                                                       |                                      |                                     |                                     |
| Design                              | Straight design                      |                      |                                                       |                                      |                                     |                                     |
| Mounting position                   | Any                                  | Horizontal           |                                                       | Any                                  | Horizontal                          | Any                                 |
| Type of seal on screwed plug        | O-ring                               | No seal              |                                                       | O-ring                               | No seal                             | O-ring                              |
| Design                              | Push-pull principle                  |                      |                                                       |                                      |                                     |                                     |
| Type of mounting                    | With retaining clamp                 |                      |                                                       |                                      |                                     |                                     |

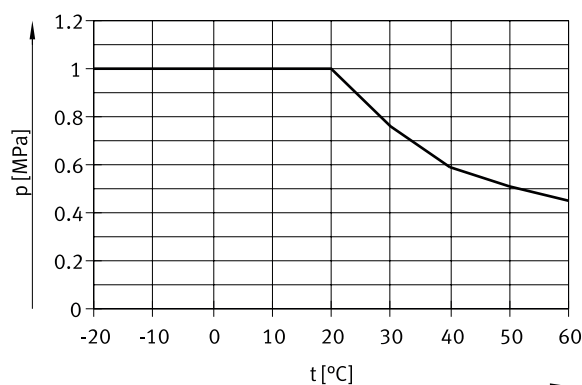
## Operating and environmental conditions – Cartridges

|                                               |                                                                                            |                          |                               |
|-----------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------|-------------------------------|
| Material housing                              | Reinforced PA                                                                              | High-alloy steel         |                               |
| Material release ring                         | POM                                                                                        | PA66                     | Reinforced PA                 |
| Operating pressure                            | -0.095 ... 1 MPa                                                                           |                          |                               |
| Operating pressure                            | -0.95 ... 10 bar                                                                           |                          |                               |
| Operating pressure                            | -13.775 ... 145 psi                                                                        |                          |                               |
| Operating pressure complete temperature range | -0.095 ... 1 MPa                                                                           |                          |                               |
| Operating pressure complete temperature range | -0.95 ... 10 bar                                                                           |                          |                               |
| Operating pressure complete temperature range | -13.775 ... 145 psi                                                                        |                          |                               |
| Operating medium                              | Compressed air to ISO 8573-1:2010 [7:4:4], Inert gas                                       |                          |                               |
| Note on operating and pilot medium            | Lubricated operation possible (in which case lubricated operation will always be required) |                          |                               |
| Ambient temperature                           | -10 ... 60°C                                                                               | -5 ... 60°C              |                               |
| Corrosion resistance class CRC <sup>1)</sup>  | 3 - high corrosion stress                                                                  | 1 - Low corrosion stress | 2 - Moderate corrosion stress |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

# Datasheet

## Operating pressure p as a function of temperature t



## Cartridge pack size

|                  |               |                  |
|------------------|---------------|------------------|
| Material housing | Reinforced PA | High-alloy steel |
| Size of pack     | 10            | 2                |

## Materials – Cartridges

|                                 |                                     |                                     |                                     |                                      |                                    |                                      |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|------------------------------------|--------------------------------------|
| Pneumatic connection, port 2    | For tubing outside diameter of 4 mm | For tubing outside diameter of 6 mm | For tubing outside diameter of 8 mm | For tubing outside diameter of 10 mm | For tubing outer diameter of 12 mm | For tubing outside diameter of 14 mm |
| Material housing                | Reinforced PA                       |                                     |                                     |                                      | High-alloy steel                   |                                      |
| Material release ring           | POM                                 |                                     |                                     |                                      | PA66                               | Reinforced PA                        |
| Material o-ring                 | HNBR                                |                                     |                                     |                                      |                                    |                                      |
| Material tubing seal            | NBR                                 |                                     |                                     |                                      | HNBR                               |                                      |
| Material tubing clamp component | High-alloy stainless steel          |                                     |                                     |                                      |                                    |                                      |
| Colour of release ring          | Blue                                |                                     |                                     |                                      |                                    |                                      |
| Note on materials               | RoHS compliant                      |                                     |                                     |                                      |                                    |                                      |
| LABS (PWIS) conformity          | VDMA24364-B1/B2-L                   |                                     |                                     |                                      |                                    | VDMA24364-C1-L                       |

## Materials – Cartridges

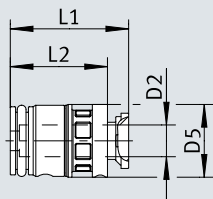
|                                 |                                      |                      |                                     |                                      |                                     |                                     |
|---------------------------------|--------------------------------------|----------------------|-------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|
| Pneumatic connection, port 2    | For tubing outside diameter of 5/32" | For tubing O.D. 1/8" | For tubing outside diameter of 1/4" | For tubing outside diameter of 5/16" | For tubing outside diameter of 3/8" | For tubing outside diameter of 1/2" |
| Material housing                | Reinforced PA                        |                      |                                     |                                      |                                     | High-alloy steel                    |
| Material release ring           | –                                    |                      |                                     |                                      |                                     | Reinforced PA                       |
| Material o-ring                 | HNBR                                 | –                    | –                                   | HNBR                                 | –                                   | HNBR                                |
| Material tubing seal            | NBR                                  | –                    | –                                   | NBR                                  | –                                   | HNBR                                |
| Material tubing clamp component | High-alloy stainless steel           | –                    | –                                   | High-alloy stainless steel           | –                                   | High-alloy stainless steel          |
| Colour of release ring          | Blue                                 |                      |                                     |                                      |                                     |                                     |
| Note on materials               | RoHS compliant                       |                      |                                     |                                      |                                     |                                     |
| LABS (PWIS) conformity          | VDMA24364-B1/B2-L                    |                      |                                     |                                      |                                     | VDMA24364-C1-L                      |

## Materials – Blanking plugs

|                        |                   |
|------------------------|-------------------|
| Material blanking plug | Reinforced PA     |
| Material o-ring        | HNBR              |
| Note on materials      | RoHS compliant    |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |

## Dimensions

## Dimensions – Cartridges (PA housing)

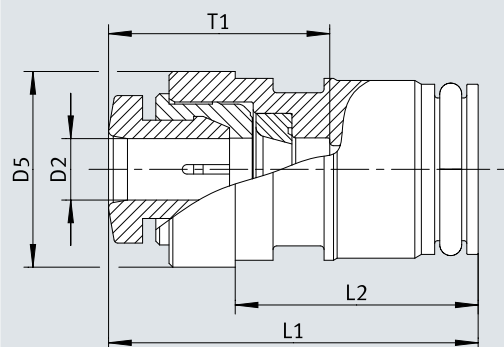
Download CAD data [www.festo.com](http://www.festo.com)

|                      | D2<br>ø | D5<br>ø | L1   | L2   |
|----------------------|---------|---------|------|------|
| NPQX-D-PC10-Q4-P10   | 4       | 9,6     | 15,7 | 12,9 |
| NPQX-D-PC10-Q6-P10   | 6       | 9,6     | 15,7 | 12,9 |
| NPQX-D-PC10-T532-P10 | 5/32"   | 9,6     | 15,7 | 12,9 |
| NPQX-D-PC12-Q4-P10   | 4       | 11,8    | 15,7 | 12,9 |
| NPQX-D-PC12-Q6-P10   | 6       | 11,8    | 15,7 | 12,9 |
| NPQX-D-PC12-Q8-P10   | 8       | 12,2    | 15,7 | 12,9 |
| NPQX-D-PC12-T532-P10 | 5/32"   | 11,8    | 15,7 | 12,9 |
| NPQX-D-PC12-T516-P10 | 5/16"   | 12,2    | 15,7 | 12,9 |
| NPQX-D-PC15-Q6-P10   | 6       | 14,9    | 15,9 | 13,2 |
| NPQX-D-PC15-Q8-P10   | 8       | 14,9    | 16   | 13,2 |
| NPQX-D-PC15-T38-P10  | 3/8"    | 15,5    | 16   | 13,2 |
| NPQX-D-PC15-Q10-P10  | 10      | 15,5    | 16   | 13,2 |
| NPQX-D-PC15-Q14-P2   | 14      | 14,2    | 39,2 | 13   |
| NPQX-D-PC15-T12-P2   | 1/2"    | 12,9    | 37,2 | 13   |
| NPQX-D-PC15-T516-P10 | 5/16"   | 14,9    | 16   | 13,2 |

## Dimensions

Dimensions – Cartridges (PA housing)

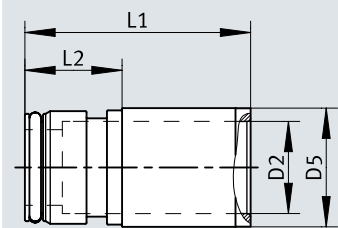
Download CAD data [www.festo.com](http://www.festo.com)



|                     | D2   | D5<br>Ø | L1   | L2   | T2   |
|---------------------|------|---------|------|------|------|
| NPQX-D-PC10-Q3-P10  | 3    | 10,4    | 19,5 | 12,9 | 11,7 |
| NPQX-D-PC10-T18-P10 | 1/8" | 10,4    | 19,5 | 12,9 | 11,7 |
| NPQX-D-PC10-T14-P10 | 1/4" | 10,4    | 23,4 | 12,9 | 11,9 |
| NPQX-D-PC12-T14-P10 | 1/4" | 12,4    | 21,4 | 12,9 | 11,9 |
| NPQX-D-PC19-T38-P10 | 3/8" | 18,4    | 29   | 12,9 | 20,1 |
| NPQX-D-PC15-T14-P10 | 1/4" | 15,1    | 16,5 | 10,9 | 11,9 |

Dimensions

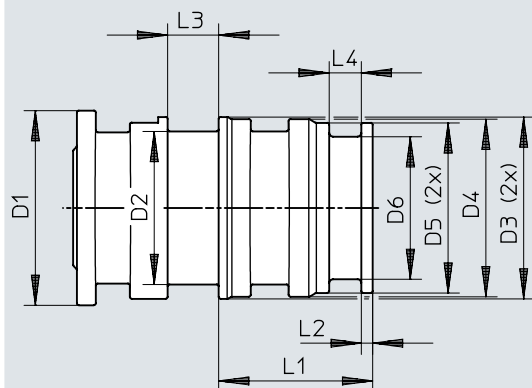
Dimensions – Cartridges (high-alloy steel housing)
Download CAD data [www.festo.com](http://www.festo.com)



|                    | D2<br>Ø | D5<br>Ø | L1   | L2   |
|--------------------|---------|---------|------|------|
| NPQX-D-PC15-Q12-P2 | 12      | 15,7    | 29,9 | 12,9 |
| NPQX-D-PC15-T12-P2 | 1/2"    | 17,5    | 37,2 | 13   |
| NPQX-D-PC15-Q14-P2 | 14      | 18,7    | 39,2 | 13   |

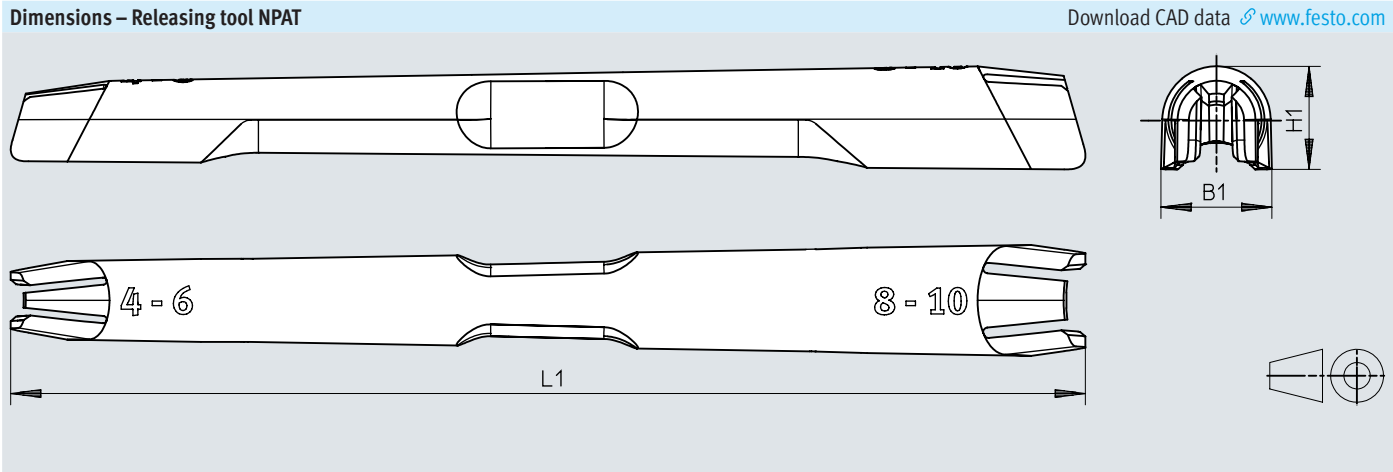
## Dimensions

### Dimensions – Blanking plug

[Download CAD data](#) [www.festo.com](http://www.festo.com)


|             | D1<br>ø<br>±0,09 | D2<br>ø<br>±0,06 | D3<br>ø<br>±0,06 | D4<br>ø<br>±0,06 | D5<br>ø<br>±0,06 | D6<br>ø<br>±0,06 | L1  | L2  | L3  | L4  |
|-------------|------------------|------------------|------------------|------------------|------------------|------------------|-----|-----|-----|-----|
| NPQX-P-PC10 | 10,3             | 8,1              | 9,6              | 9,4              | 9                | 7,6              | 8,2 | 0,6 | 2,7 | 1,7 |
| NPQX-P-PC12 | 12,2             | 10               | 11,8             | 11,6             | 11,2             | 9,6              | 8,2 | 0,6 | 2,7 | 1,7 |
| NPQX-P-PC15 | 15,5             | 13               | 15,1             | 14,9             | 14,2             | 12               | 8,5 | 0,6 | 2,7 | 1,8 |

Dimensions



|              | B1    | H1    | L1    |
|--------------|-------|-------|-------|
| NPAT-QX-T-V1 | ~14,7 | ~13,6 | 142,2 |

## Ordering data

| Ordering data – Cartridges (housing PA)                                           |                              |                                      |                |          |                      |  |
|-----------------------------------------------------------------------------------|------------------------------|--------------------------------------|----------------|----------|----------------------|--|
|                                                                                   | Pneumatic connection, port 1 | Pneumatic connection, port 2         | Product weight | Part no. | Type                 |  |
|  | Cartridge 10 mm              | For tubing outside diameter of 4 mm  | 0.9 g          | 8174164  | NPQX-D-PC10-Q4-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 6 mm  | 0.72 g         | 8174165  | NPQX-D-PC10-Q6-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 5/32" | 0.9 g          | 8184509  | NPQX-D-PC10-T532-P10 |  |
|                                                                                   |                              | For tubing O.D. 1/8"                 | 2 g            | 8184511  | NPQX-D-PC10-T18-P10  |  |
|                                                                                   |                              | For tubing outside diameter of 1/4"  | 2.15 g         | 8184510  | NPQX-D-PC10-T14-P10  |  |
|                                                                                   | Cartridge 12 mm              | For tubing outside diameter of 4 mm  | 1.24 g         | 8174166  | NPQX-D-PC12-Q4-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 6 mm  | 1.2 g          | 8174167  | NPQX-D-PC12-Q6-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 8 mm  | 0.92 g         | 8174168  | NPQX-D-PC12-Q8-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 5/32" | 1.24 g         | 8184512  | NPQX-D-PC12-T532-P10 |  |
|                                                                                   |                              | For tubing outside diameter of 1/4"  | 2.6 g          | 8184514  | NPQX-D-PC12-T14-P10  |  |
|                                                                                   |                              | For tubing outside diameter of 5/16" | 0.92 g         | 8184513  | NPQX-D-PC12-T516-P10 |  |
|                                                                                   | Cartridge 15 mm              | For tubing outside diameter of 6 mm  | 2.057 g        | 8246825  | NPQX-D-PC15-Q6-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 8 mm  | 1.9 g          | 8174169  | NPQX-D-PC15-Q8-P10   |  |
|                                                                                   |                              | For tubing outside diameter of 10 mm | 1.64 g         | 8174170  | NPQX-D-PC15-Q10-P10  |  |
|                                                                                   |                              | For tubing outside diameter of 1/4"  | 2.15 g         | 8230012  | NPQX-D-PC15-T14-P10  |  |
|                                                                                   |                              | For tubing outside diameter of 5/16" | 1.9 g          | 8184515  | NPQX-D-PC15-T516-P10 |  |
|                                                                                   |                              | For tubing outside diameter of 3/8"  | 10 g           | 8189810  | NPQX-D-PC19-T38-P10  |  |

| Ordering data – Cartridges (high-alloy steel housing)                               |                              |                                      |                       |                |          |                    |
|-------------------------------------------------------------------------------------|------------------------------|--------------------------------------|-----------------------|----------------|----------|--------------------|
|                                                                                     | Pneumatic connection, port 1 | Pneumatic connection, port 2         | Material release ring | Product weight | Part no. | Type               |
|  | Cartridge 15 mm              | For tubing outer diameter of 12 mm   | PA66                  | 11.5 g         | 8225231  | NPQX-D-PC15-Q12-P2 |
|                                                                                     |                              | For tubing outside diameter of 14 mm | Reinforced PA         | 25.8 g         | 8225233  | NPQX-D-PC15-Q14-P2 |
|                                                                                     |                              | For tubing outside diameter of 1/2"  |                       | 20.8 g         | 8225234  | NPQX-D-PC15-T12-P2 |

| Ordering data – Blanking plugs                                                      |                        |                                              |              |                |          |             |
|-------------------------------------------------------------------------------------|------------------------|----------------------------------------------|--------------|----------------|----------|-------------|
|                                                                                     | Pneumatic connection 1 | Corrosion resistance class CRC <sup>1)</sup> | Size of pack | Product weight | Part no. | Type        |
|  | Cartridge 10 mm        | 3 - high corrosion stress                    | 10           | 1 g            | 8191749  | NPQX-P-PC10 |
|                                                                                     | Cartridge 12 mm        |                                              |              | 0.8 g          | 8191750  | NPQX-P-PC12 |
|                                                                                     | Cartridge 15 mm        |                                              |              | 1.6 g          | 8191751  | NPQX-P-PC15 |

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Accessories

| Releasing tool NPAT                                                              |                                                                                               |                         |              |          |              |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------|--------------|----------|--------------|
|                                                                                  | Size                                                                                          | Releasing tool material | Size of pack | Part no. | Type         |
|  | For tubing O.D. 4 mm<br>For tubing O.D. 6 mm<br>For tubing O.D. 8 mm<br>For tubing O.D. 10 mm | POM                     | 1            | 8214270  | NPAT-QX-T-V1 |