

Plastic tubing, inch PEN

**FESTO**



## Characteristics

### At a glance

Very flexible with high abrasion resistance as well as an attractive price for a wide range of applications.

- Polyethylene
- High resistance to chemicals and very high resistance to hydrolysis
- Resistant to most cleaning agents and lubricants
- Suitable for energy chains
- Operating medium: compressed air, vacuum, water

### Additional documents

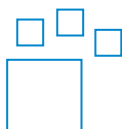
[Link](#) [pen-inch](#)



The additional document TUBING-NPT-ADD contains further information on tubing/fitting combinations, assembly instructions and measuring procedures.

### Ordering data - modular system

[Link](#) [pen-inch](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

### Engineering tools

[Link](#) [engineering tools](#)



Save time with engineering tools: Smart engineering for the optimal solution. Our goal is to increase your productivity. Our engineering tools play an integral part in achieving this goal. They help you size your system correctly, tap into unimagined productivity reserves and generate additional productivity along the entire value chain. In every phase of your project, from the initial contact to the modernisation of your machine, you will come across a number of different tools that will be of use to you.

- Flow calculation: Determine the nominal flow rate by entering parameters such as input pressure, output pressure, tube length and internal diameter ([www.festo.com/x/flowrate-calculation](http://www.festo.com/x/flowrate-calculation)).
- Media resistance: Evaluate the resistance of various types of materials and tubing from Festo to different chemicals and media ([www.festo.com/x/media-resistance](http://www.festo.com/x/media-resistance)).

### Tubing outside diameter

For standard O.D. tubing, the outside diameter of the tube and the wall thickness are given as the tube size.

## Type code

|      |                         |  |
|------|-------------------------|--|
| 001  | Series                  |  |
| PEN  | Plastic tubing          |  |
| 002  | Tubing outside diameter |  |
| 3/16 | 3/16"                   |  |
| 1/4  | 1/4"                    |  |
| 5/16 | 5/16"                   |  |
| 3/8  | 3/8"                    |  |
| 1/2  | 1/2"                    |  |
| 5/8  | 5/8"                    |  |

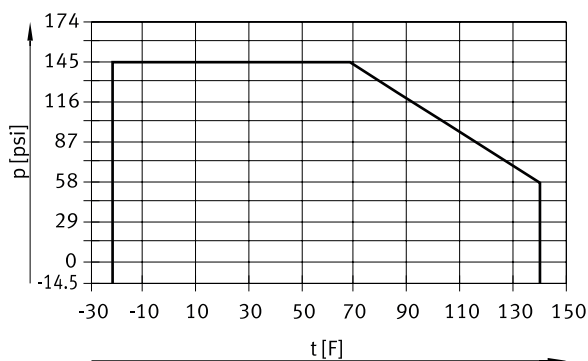
|     |                     |  |
|-----|---------------------|--|
| 003 | Colour              |  |
| BL  | Blue                |  |
| SW  | Black               |  |
| 004 | Packaging unit [ft] |  |
| 150 | 150 ft              |  |
| 005 | Packaging           |  |
| CB  | Cardboard box       |  |

## Datasheet

## Operating and environmental conditions

| Pneumatic connection                             | For push-in connector<br>outside diameter of<br>3/16"                 | For push-in connector<br>O.D. 1/4" | For push-in connector<br>O.D. 8 mm<br>For push-in connector<br>outside diameter of<br>5/16" | For push-in connector<br>O.D. 3/8" | For push-in connector<br>O.D. 1/2" | For push-in connector<br>outside diameter of<br>5/8" |
|--------------------------------------------------|-----------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------|------------------------------------|------------------------------------------------------|
| Outside diameter inch                            | 3/16                                                                  | 1/4                                | 5/16                                                                                        | 3/8                                | 1/2                                | 5/8                                                  |
| Flow-relevant bending radius                     | 0.075 Feet                                                            | 0.085 Feet                         | 0.114 Feet                                                                                  | 0.131 Feet                         | 0.196 Feet                         | 0.41 Feet                                            |
| Min. bending radius                              | 0.039 Feet                                                            | 0.041 Feet                         | 0.073 Feet                                                                                  | 0.088 Feet                         | 0.108 Feet                         | 0.196 Feet                                           |
| Operating pressure complete<br>temperature range | -0.095 ... 0.4 MPa                                                    |                                    |                                                                                             |                                    |                                    |                                                      |
| Operating pressure complete<br>temperature range | -0.95 ... 4 bar                                                       |                                    |                                                                                             |                                    |                                    |                                                      |
| Operating pressure complete<br>temperature range | -13.775 ... 58 psi                                                    |                                    |                                                                                             |                                    |                                    |                                                      |
| Temperature-dependent oper-<br>ating pressure    | -0.095 ... 1 MPa                                                      |                                    |                                                                                             |                                    |                                    |                                                      |
| Temperature-dependent oper-<br>ating pressure    | -0.95 ... 10 bar                                                      |                                    |                                                                                             |                                    |                                    |                                                      |
| Temperature-dependent oper-<br>ating pressure    | -13.775 ... 145 psi                                                   |                                    |                                                                                             |                                    |                                    |                                                      |
| Note on operating pressure                       | Water: max. 0.6 MPa at 0 - 50°C                                       |                                    |                                                                                             |                                    |                                    |                                                      |
| Operating medium                                 | Compressed air to ISO 8573-1:2010 [7:-:-]<br>Water (liquid, ice-free) |                                    |                                                                                             |                                    |                                    |                                                      |
| Ambient temperature                              | -22 ... 140°F                                                         |                                    |                                                                                             |                                    |                                    |                                                      |
| Tubing characteristics                           | Suitable for energy chains                                            |                                    |                                                                                             |                                    |                                    |                                                      |

## Operating pressure p as a function of temperature t

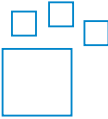


## Materials

|                                                                    |                                                                                          |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Shore hardness                                                     | D 52 +/-3                                                                                |
| Material tubing                                                    | Packaging unit                                                                           |
| Note on materials                                                  | RoHS compliant                                                                           |
| LABS (PWIS) conformity                                             | VDMA24364-B2-L                                                                           |
| Cleanroom suitability, meas-<br>ured according to ISO 14644-<br>14 | Element installed statically, no meaningful evaluation possible according to ISO 14644-1 |

## Ordering data

| Ordering data                                                                     |                                                                                  |                     |                                    |        |               |                           |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------|------------------------------------|--------|---------------|---------------------------|
|                                                                                   | Pneumatic connection                                                             | Packaging unit [ft] | Product weight according to length | Colour | Part no.      | Type                      |
|  | For push-in connector O.D. 8 mm, For push-in connector outside diameter of 5/16" | 150 ft              | 0.25 oz/ft                         | Blue   | <b>569892</b> | <b>PEN-5/16-BL-150-CB</b> |
|                                                                                   |                                                                                  |                     |                                    | Black  | <b>569884</b> | <b>PEN-5/16-SW-150-CB</b> |
|                                                                                   | For push-in connector outside diameter of 3/16"                                  |                     | 0.1 oz/ft                          |        | <b>569882</b> | <b>PEN-3/16-SW-150-CB</b> |
|                                                                                   |                                                                                  |                     |                                    |        |               |                           |
|                                                                                   | For push-in connector O.D. 1/4"                                                  |                     | 0.186 oz/ft                        | Blue   | <b>569891</b> | <b>PEN-1/4-BL-150-CB</b>  |
|                                                                                   |                                                                                  |                     |                                    | Black  | <b>569883</b> | <b>PEN-1/4-SW-150-CB</b>  |
|                                                                                   | For push-in connector O.D. 3/8"                                                  |                     | 0.376 oz/ft                        | Blue   | <b>569893</b> | <b>PEN-3/8-BL-150-CB</b>  |
|                                                                                   |                                                                                  |                     |                                    | Black  | <b>569885</b> | <b>PEN-3/8-SW-150-CB</b>  |
|                                                                                   | For push-in connector O.D. 1/2"                                                  |                     | 0.848 oz/ft                        | Blue   | <b>569894</b> | <b>PEN-1/2-BL-150-CB</b>  |
|                                                                                   |                                                                                  |                     |                                    | Black  | <b>569886</b> | <b>PEN-1/2-SW-150-CB</b>  |
|                                                                                   | For push-in connector outside diameter of 5/8"                                   |                     | 1.158 oz/ft                        | Blue   | <b>569895</b> | <b>PEN-5/8-BL-150-CB</b>  |

| Ordering data – Modular product system                                              |                 |               |                |
|-------------------------------------------------------------------------------------|-----------------|---------------|----------------|
|                                                                                     | Short type code | Part no.      | Type           |
|  | PEN             | <b>567448</b> | <b>PEN-.-U</b> |