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Festo PUN-H-14X2-BL

Festo PUN-H-14X2-BL Plastic Tubing User Manual

Model: PUN-H-14X2-BL

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Festo PUN-H-14X2-BL plastic tubing. Please read these instructions carefully before use to ensure safe and efficient performance. This tubing is designed for pneumatic applications and is suitable for use in energy chains with high cycle rates.

2. PRODUCT OVERVIEW

The Festo PUN-H-14X2-BL is a high-quality plastic tubing designed for various industrial applications, particularly in pneumatic systems. Its robust construction ensures durability and reliability under specified operating conditions.



Figure 1: Festo PUN-H-14X2-BL blue plastic tubing, coiled for storage or transport.

3. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of the tubing. Follow these guidelines for setup:

1. **Inspection:** Before installation, visually inspect the tubing for any signs of damage, kinks, or deformities. Do not use damaged tubing.
2. **Cutting:** Use a sharp, specialized tubing cutter to ensure a clean, perpendicular cut. An uneven cut can lead to leaks or improper connection.
3. **Connection:** This tubing is designed for plug connections with an outside diameter of 14 mm. Ensure that the fitting is compatible and that the tubing is fully inserted into the fitting until it seats firmly.
4. **Routing:** Route the tubing to avoid sharp bends that exceed the minimum bending radius (38 mm) to prevent kinking and ensure unrestricted flow. Avoid routing near heat sources or abrasive surfaces.
5. **Securing:** Secure the tubing appropriately to prevent excessive movement, vibration, or strain on connections, especially in dynamic applications like energy chains.
6. **System Check:** After installation, perform a leak test at the intended operating pressure to confirm all connections are secure.

4. OPERATING CONDITIONS

The Festo PUN-H-14X2-BL tubing is designed to operate within specific parameters. Adhering to these conditions will ensure reliable performance:

- **Operating Medium:** Suitable for compressed air (as per ISO 8573-1:2010 [7:-:-]) and water (as per manufacturer's declaration at www.festo.com).
- **Operating Pressure:** The temperature-dependent operating pressure ranges from -0.95 bar to 10 bar. Consult the specifications table for detailed pressure-temperature relationships if available.
- **Ambient Temperature:** The tubing is rated for an ambient temperature range of -35 °C to 60 °C.
- **Dynamic Applications:** Suitable for energy chains with high cycle rates, tested for >5 million cycles as per FN 942021.

5. MAINTENANCE AND CARE

Minimal maintenance is required for this tubing, but regular checks can extend its lifespan and prevent system failures:

- **Regular Inspection:** Periodically inspect the tubing for signs of wear, abrasion, cuts, kinks, or discoloration. Pay close attention to areas subject to movement or stress.
- **Cleaning:** Clean the exterior of the tubing with a mild detergent and water if necessary. Avoid harsh chemicals or solvents that could degrade the plastic material.
- **Replacement:** Replace tubing immediately if any damage is observed, or if it shows signs of hardening, cracking, or excessive wear.
- **Storage:** Store unused tubing in a cool, dry place away from direct sunlight and harsh chemicals. Keep it coiled to prevent kinks.

6. TROUBLESHOOTING

This section addresses common issues that may arise during the use of the Festo PUN-H-14X2-BL tubing.

Problem	Possible Cause	Solution
Air/Water Leakage at Connection	Improperly cut tubing end, tubing not fully inserted, incompatible fitting, damaged fitting.	Recut tubing end cleanly and perpendicularly. Ensure full insertion into fitting. Verify fitting compatibility. Replace damaged fitting.
Reduced Flow Rate	Kinked tubing, internal blockage, excessive bending radius.	Inspect tubing for kinks and correct routing. Check for internal debris. Ensure bending radius is above 38 mm.
Tubing Damage (Cracks, Hardening)	Exposure to incompatible chemicals, excessive temperature, prolonged UV exposure, exceeding pressure limits.	Replace damaged tubing. Ensure operating conditions (medium, temperature, pressure) are within specifications. Protect from direct sunlight.

7. TECHNICAL SPECIFICATIONS

The following table details the technical specifications for the Festo PUN-H-14X2-BL plastic tubing.

Pneumatic tubing test conditions	Suitability for energy chains: >5 million cycles as per FN 942021 Suitability for energy chains: >5 million cycles as per FN 942021
Tubing characteristics	Suitable for energy chains in applications with high cycle rates Suitable for energy chains in applications with high cycle rates
Outside diameter	14 mm
Bending radius relevant for flow rate	78 mm
Inside diameter	9.8 mm
Min. bending radius	38 mm
Type code	PUN-H PUN-H
Temperature-dependent operating pressure	-0.95 bar ... 10 bar
Operating medium	Water as per manufacturer's declaration at www.festo.com Compressed air as per ISO 8573-1:2010 [7:-:] Compressed air as per ISO 8573-1:2010 [7:-:] Water as per manufacturer's declaration at www.festo.com
Material fire test	UL94 HB
For use in the food industry	See supplementary material information
Ambient temperature	-35 °C ... 60 °C
Certification	German Technical Control Board (TÜV) German Technical Control Board (TÜV)
Product weight by length	0.091 kg/m

Figure 2: Part 1 of the technical specifications for Festo PUN-H-14X2-BL tubing.

Product weight by length	0.091 kg/m
Pneumatic connection	For plug connection outside diameter 14 mm For plug connection outside diameter 14 mm
Color	Blue
Shore hardness	D 52 +/-3 D 52 +/-3
Note on materials	Free of copper and PTFE RoHS-compliant Free of copper and PTFE RoHS-compliant
Material of pneumatic tubing	TPE-U(PI) TPE-U(PI)

Figure 3: Part 2 of the technical specifications for Festo PUN-H-14X2-BL tubing.

Characteristic	Value
Pneumatic Tubing Test Conditions	Suitability for energy chains: >5 million cycles as per FN 942021
Tubing Characteristics	Suitable for energy chains in applications with high cycle rates
Outside Diameter	14 mm
Bending Radius Relevant for Flow Rate	78 mm
Inside Diameter	9.8 mm
Min. Bending Radius	38 mm
Type Code	PUN-H

Characteristic	Value
Temperature-Dependent Operating Pressure	-0.95 bar ... 10 bar
Operating Medium	Water (as per manufacturer's declaration at www.festo.com), Compressed air (as per ISO 8573-1:2010 [7::-])
Material Fire Test	UL94 HB
For Use in the Food Industry	See supplementary material information
Ambient Temperature	-35 °C ... 60 °C
Certification	German Technical Control Board (TUV)
Product Weight by Length	0.091 kg/m
Pneumatic Connection	For plug connection outside diameter 14 mm
Color	Blue
Shore Hardness	D 52 +/-3
Note on Materials	Free of copper and PTFE, RoHS-compliant
Material of Pneumatic Tubing	TPE-U(PU)

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please contact Festo directly through their official website or authorized distributors. Keep your purchase receipt and product model number (PUN-H-14X2-BL) handy when contacting support.

Official Festo Website: www.festo.com