# Technical Specifications for High-Elasticity Polyurethane (PU) Pneumatic Flexible Hoses

Polyurethane (PU) Pneumatic Tubing Technical Data Sheet

Document Number: TDS-PU-2026-V3
Manufacturer: Hefei Yuan Nai Pneumatic Equipment Co., Ltd.
**Quality Commitment:** 20 years of dedication · 100% pure raw materials · zero recycled materials

## 1. Product Overview and Material Properties

The product is manufactured using high-quality, 100% pure virgin thermoplastic polyurethane (Virgin TPU) raw materials. We firmly pledge that no recycled materials or waste materials are added to the product.

It offers excellent resistance to bending fatigue, high rebound elasticity, and tight dimensional roundness tolerances, ensuring perfect compatibility with various quick-connect fittings and eliminating the risks of air leakage and pipe bursting.

- **Applicable media:** compressed air, inert gases, and vacuum circuits; the continuous, long-term delivery of large quantities of liquid lubricating oil is not recommended.
- **Compliance standards:** Compliant with the RoHS and REACH environmental regulations; contains no silicon and no harmful leachables.

## 2. Physical and Mechanical Properties

| Test item | Numeric value | Test item | Numeric value |
|---|---|---|---|
| Hardness | 98 ± 2 Shore A | Tensile strength (Tensile) | ≥ 42 MPa |
| Elongation at break | ≥ 480% | Tear strength | ≥ 115 kN/m |
| Wear resistance and wear rate | ≤ 30 $mm^3$ | Operating temperature range | -20°C ~ +55°C |

## 3. Common metric specifications and pressure-bearing parameters (at 23°C)

### (1) Metric Sizes

| Model | External diameterOD | Bore sizeID | Common difference | Working pressureWP | Bursting pressure of tank shellBP | Bending radius | Standard sample length |
|---|---|---|---|---|---|---|---|
| YN-PU 0425 | 4.0 mm | 2.5 mm | ±0.10 mm | 8 bar (128 psi) | 26 bar (384 psi) | 10 mm | 200 m |
| YN-PU 0640 | 6.0 mm | 4.0 mm | ±0.10 mm | 8 bar (128 psi) | 25 bar (369 psi) | 15 mm | 200 m |
| YN-PU 0850 | 8.0 mm | 5.0 mm | ±0.10 mm | 7 bar (116 psi) | 24 bar (348 psi) | 20 mm | 100 m |
| YN-PU 0855 | 8.0 mm | 5.5 mm | ±0.10 mm | 6 bar (99 psi) | 20 bar (298 psi) | 22 mm | 100 m |
| YN-PU 0860 | 8.0 mm | 6.0 mm | ±0.10 mm | 5 bar (75 psi) | 15 bar (227 psi) | 25 mm | 100 m |
| YN-PU 1065 | 10.0 mm | 6.5 mm | ±0.10 mm | 7 bar (106 psi) | 22 bar (320 psi) | 25 mm | 100 m |
| YN-PU 1080 | 10.0 mm | 8.0 mm | ±0.10 mm | 6 bar (94 psi) | 19 bar (284 psi) | 30 mm | 100 m |
| YN-PU 1280 | 12.0 mm | 8.0 mm | ±0.10 mm | 7 bar (104 psi) | 21 bar (313 psi) | 50 mm | 100 m |
| YN-PU 1410 | 14.0 mm | 10.0 mm | ±0.10 mm | 7 bar (106 psi) | 22 bar (320 psi) | 70 mm | 100 m |
| YN-PU 1612 | 16.0 mm | 12.0 mm | ±0.10 mm | 7 bar (109 psi) | 22 bar (327 psi) | 95 mm | 100 m |

### (2) Imperial Fractional/inch Sizes

| Nominal specifications | External diameterOD | Bore sizeID | Common difference | Working pressureWP | Bursting pressure of tank shellBP | Bending radius | Standard sample length |
|---|---|---|---|---|---|---|---|
| 1/8 | 3.17 mm | 1.58 mm | ±0.10 mm | 12 bar (174 psi) | 36 bar (504 psi) | 8 mm | 200 m |
| 1/4 | 6.35 mm | 4.35 mm | ±0.10 mm | 10 bar (145 psi) | 30 bar (420 psi) | 16 mm | 200 m |
| 3/8 | 9.52 mm | 6.35 mm | ±0.10 mm | 10 bar (145 psi) | 30 bar (420 psi) | 25 mm | 100 m |
| 1/2 | 12.7 mm | 9.6 mm | ±0.10 mm | 8 bar (116 psi) | 24 bar (336 psi) | 35 mm | 100 m |
| 3/4 | 19.05 mm | 15.88 mm | ±0.10 mm | 6 bar (87 psi) | 18 bar (252 psi) | 65 mm | 100 m |

## 4. Packaging, Appearance, and Customization Support (OEM/ODM)

1. Standard colors:
· High-transparency series: Fully transparent (Clear), transparent blue, transparent red
· Solid-color range: orange, dark blue, sky blue, black, green, yellow
2. Example of metering and coding on the tube body: AIR PASSAGE PU 8X5 001M (supports customized customer-brand logos, model identifiers, and continuous meter-number marking)
3. Packaging specifications: engineered plastic trays; colored carton packaging.



The indicators in this data table represent reference values based on laboratory tests conducted at room temperature; for specific operating conditions, please refer to the actual test results.