PLL Pneumatic Extended Male Elbow Fitting

Product Overview

PLL pneumatic extended male elbow fittings provide a 90-degree tube-to-thread connection with additional body height for improved clearance. The extended design helps route tubing above nearby components and simplifies installation in compact pneumatic assemblies. A one-touch collet and internal O-ring provide fast tube insertion, secure retention, and reliable sealing for industrial compressed-air systems.

Key Features

- 90-degree extended elbow design provides additional clearance in crowded layouts.
- Push-to-connect tube installation requires no special tools.
- Male threaded connection supports direct tube-to-port installation.
- Internal gripping claws and O-ring sealing help maintain a secure, leak-resistant connection.
- Suitable for automation equipment, robotics, machinery, and compact pneumatic assemblies.

Product Structure & Types

- Tube sizes available from 4 mm to 16 mm.
- Thread options include M5, R1/8, R1/4, R3/8, and R1/2 in the listed models.
- Extended vertical body improves access around valves, manifolds, cylinders, and panels.
- Compatible with PU and nylon pneumatic tubing within the stated operating range.

Applications

- Pneumatic automation and assembly systems.
- Robotics and end-of-arm tooling.
- Industrial machinery and air compressor systems.
- Compact equipment requiring flexible tube routing and extra connection height.

OEM & ODM Support

Customization is available for tube sizes, thread standards, materials, packaging, and private branding. Contact HOMIPNEU with the required model range and application conditions for project support.

Technical Specifications

Parameter	Specification
Operating Fluid	Air
Proof Pressure	1.32 MPa (13.5 kgf/cm2)
Maximum Operating Pressure	0-0.9 MPa (0-9.2 kgf/cm2)
Ambient and Fluid Temperature	0-60 deg C
Applicable Tubing	PU tube and nylon tube
Connection Type	90-degree push-to-connect tube to male thread

Working Principle

Insert a clean, square-cut tube fully into the release sleeve. The internal stainless gripping mechanism holds the tube while the O-ring forms the pressure seal. To disconnect, isolate and exhaust the air supply, press the release sleeve evenly toward the fitting body, and withdraw the tube without twisting or damaging its surface.

Installation Notes

- Confirm the tube outside diameter and thread size before ordering or installation.
- Cut tubing squarely and remove burrs, scratches, oil, and loose particles from the insertion area.
- Insert the tube to the internal stop and gently pull back to verify engagement.
- Apply thread sealant only to the male thread and keep sealant away from the first thread and air passage.
- Tighten using the metal hexagonal section; do not apply torque through the resin elbow body or release sleeve.
- After installation, pressurize gradually and inspect the connection for leakage and tube movement.

Tube Preparation and Handling

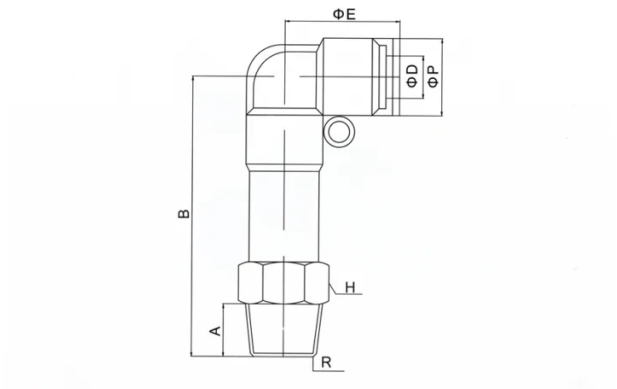
- Use tubing with a smooth outer surface and the correct dimensional tolerance.
- Avoid sharply bending the tube immediately beside the fitting; provide adequate bend radius and support.
- Do not repeatedly connect a tube end that is deeply scored or permanently deformed.
- Keep the fitting and tubing away from excessive heat, chemical attack, impact, and abrasive contamination.

Maintenance & Safety

- Always isolate and fully exhaust compressed air before installation, removal, or maintenance.
- Periodically inspect for leakage, tube damage, loose threads, and abnormal movement.
- Replace the fitting if the body, collet, thread, or sealing surfaces are damaged.
- Operate only within the specified pressure and temperature range.
- Use clean compressed air and appropriate upstream filtration for stable service life.

Important
Compressed-air systems can store hazardous energy. Depressurize the circuit before releasing tubing or loosening threaded connections.

Dimension Drawing



Model Selection and Dimensions

Model	D	E	B	P	A	R	H
PLL4-M5	4	18	36.5	11	3.5	M5	10
PLL4-01	4	18	40	11	7	R1/8	10
PLL4-02	4	18	41	11	8	R1/4	14
PLL6-M5	6	20	38.5	13	3.5	M5	12
PLL6-01	6	20	42	13	7	R1/8	12
PLL6-02	6	20	43	13	8	R1/4	14
PLL6-03	6	20	44	13	9	R3/8	17
PLL6-04	6	20	45.5	13	10	R1/2	21
PLL8-01	8	22	44	15	7	R1/8	14
PLL8-02	8	22	45	15	8	R1/4	14
PLL8-03	8	22	46	15	9	R3/8	17
PLL8-04	8	22	47.5	15	10	R1/2	21
PLL10-01	10	26	47	18.5	7	R1/8	17
PLL10-02	10	26	48	18.5	8	R1/4	17
PLL10-03	10	26	49	18.5	9	R3/8	17
PLL10-04	10	26	50.5	18.5	10	R1/2	21
PLL12-01	12	28	49	21	7	R1/8	19
PLL12-02	12	28	50	21	8	R1/4	19
PLL12-03	12	28	51	21	9	R3/8	19
PLL12-04	12	28	52.5	21	10	R1/2	21
PLL14-02	14	30.5	52.5	23	8	R1/4	22
PLL14-03	14	30.5	53.5	23	9	R3/8	22
PLL14-04	14	30.5	54.5	23	10	R1/2	22
PLL16-02	16	33	54.5	25.5	8	R1/4	24
PLL16-03	16	33	55.5	25.5	9	R3/8	24
PLL16-04	16	33	56.5	25.5	10	R1/2	24

All dimensional values are in millimeters unless otherwise stated.

Ordering Information

Select the model by matching the tube outside diameter (D) and male thread designation (R). Confirm available installation height and surrounding clearance using dimensions E, B, P, A, and H before final equipment layout.

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