

Series 9000 Air Brake Fittings

SERIES 9000



Series 9000 fittings have been designed to connect tubing according to DIN 74324 or ISO 7628 in the pneumatic brake systems of commercial vehicles. They offer excellent reliability and ease of assembly. The range includes a very compact release tool for disconnecting tubes from the fittings.

The tube interface is shielded by a rubber cap for protecting the internal parts against dirt and water ingress. The integrity level of the interface concept, even during disassembling, is outstanding.

The Series 9000 offers a smart portfolio of different types of connectors. Depending on the demands of our customers, we are also ready to provide customized solutions.

Series 9000 fittings are TÜV certified and produced according to IATF 16949:2016 standards.

Main technical features

Thread type	Metric acc. ISO965 / Conical NPTF acc. ANSI B1.20.3
Media	Compressed air (other fluids, please contact our technicians)
Operating pressure	Up to 16 bar (review also tube specifications)
Operating temperature	-50°C up to 100°C (peak) (review also tube specifications)
Tubes	Designed for use with Polyamide or Hytrel® tubing, compliant with standards DIN 73378, DIN 74324 or ISO 7628

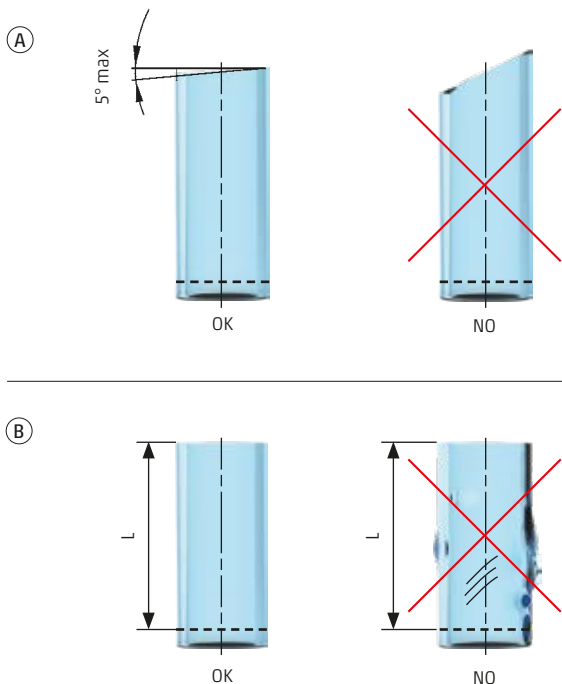
Our Certifications

Working from a "Total Quality" perspective also means proving Camozzi Automation's commitment through the achievement of international certifications. Camozzi's primary goals include quality, safety and protecting the environment.



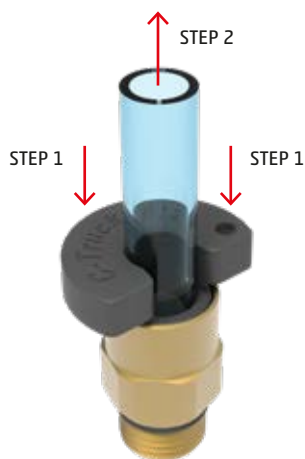
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Assembly and removal of the tube



To guarantee a correct, safe and tight connection, it is necessary to cut the tube correctly. The cutting angle should not exceed 5° (Picture A), and we recommend using a suitable tube cutting tool. (Refer to PNZ in this catalogue). The outer surface of the tube should be smooth and free from any kind of damage or dirt (Picture B). When inserting the tube, make sure to push it into the fitting, down to the tube stop (Picture C). The correct insertion length is specified for every tube size/fitting and can be found in the table to the right (Assembly length L). We recommend marking the insertion length on the tube with a pen or tape before assembling, to visually ensure proper insertion.

Tube	Outer diameter (mm)	Inner diameter (mm)	Assembly length L (mm)
4x1	4	2	18,5
6x1	6	4	17,5
8x1	8	6	19,5
10x1	10	8	21
10x1,25	10	7,5	21
10x1,5	10	7	21
12x1,5	12	9	21,5
15x1,5	15	12	25
16x2	16	12	27,5
18x2	18	14	27,5



To remove the tube from the fitting, use the Series 9000 DRK release tool. Hook it onto the tube and press the protection cap down to release the tube so that you can pull it out of the fitting.

Attention: Do not try to remove from the fitting when the system is still pressurised. Make sure you have released all the air pressure before you remove the tube.

Tube assembly and disassembly must be carried out by a technician who is trained and has detailed knowledge of the air brake system and the Series 9000 fittings.

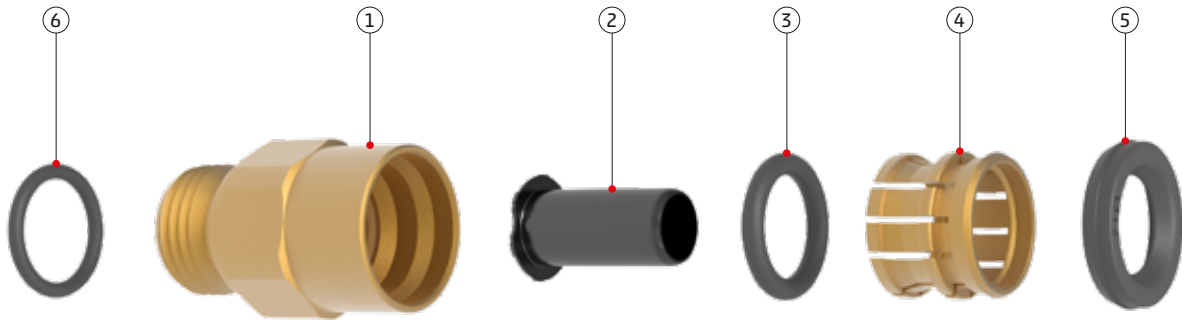
Please ensure mounting torques for straight connectors, straight studs and the fixation nuts of shaped connectors meet the values shown in the table on the right.

Thread	Torque force (Nm)
M10x1	11 - 15
M12x1,5	15 - 22
M14x1,5	19 - 23
M16x1,5	24 - 33
M18x1,5	27 - 33
M22x1,5	36 - 44

Make sure that the torque forces of the bulkhead nuts comply with the values.

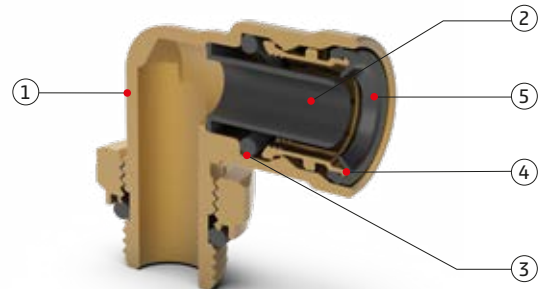
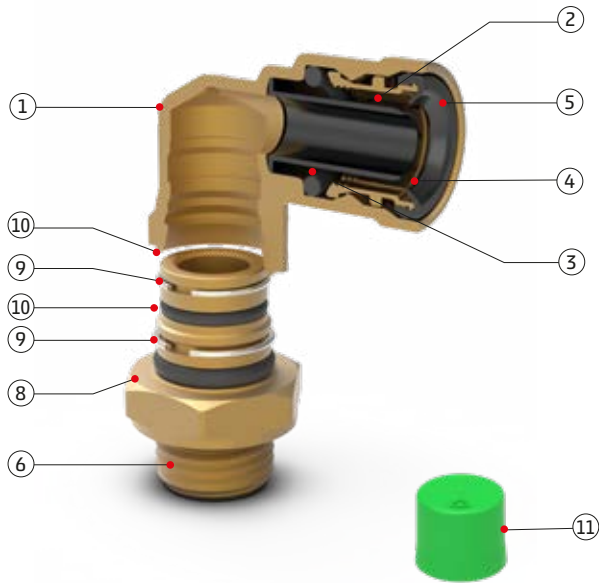
Thread	Torque force ±10% (Nm)
M16x1,5	35
M18x1,5	35
M20x1,5	50
M22x1,5	50
M24x1,5	50
M28x1,5	70

Straight connectors



Shaped swivel connectors

Shaped non-swivel connectors

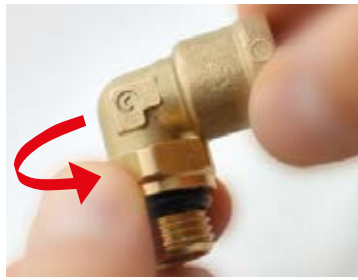


COMPONENT	MATERIAL
1 = Body	Brass
2 = Support Tube	Composite
3 = Tube O-Ring	NBR
4 = Collet	Brass
5 = Dirt Seal	NBR
6 = Thread O-Ring	NBR
7 = Locking Nut	Brass
8 = Swivel Body	Brass
9 = Swivel O-Ring	NBR
10 = Seeger Ring	Stainless Steel
11 = Protection Cap	Biodegradable Composite

Assembly of shaped Non-Swivel Connectors

To ensure a tight and secure connection between the fitting and the threaded port of the component in the pneumatic system, please install following this procedure:

1. Screw the nut upwards until you reach the mechanical stop (do not tighten the nut against the stop with a tool, simply position the nut by hand, as shown in the picture).



2. Screw the fitting into the threaded port until the O-ring seal touches the surface of the port. This can be done by hand or using a tool. We recommend you do this by hand to maintain feel and identify once the correct position is reached. (Picture A)



3. Bring the fitting into the final, desired position rotating it by a maximum of 180° clockwise or anti-clockwise.



4. Fix the position you have defined for your fitting with one hand and tighten the connection by screwing the nut downwards until you have reached the recommended torque (see table on the previous page).



5. The assembly is now complete.



Assembly of Swivel Connectors

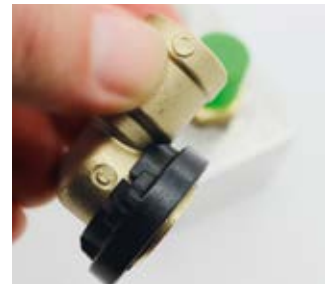
For Swivel Connectors, please install manually according to the following instructions. **Attention:** Swivel connectors must not be used in applications with relative movement (e.g. connections between truck & trailer or between axle and chassis).

SERIES 9000

1. Mount the stud onto the port (please refer to the maximum torque forces on the previous pages). We recommend removing the cap just before you mount the female part to the stud in order to prevent dirt on or damage to the O-rings.



2. Position the female part on the stud. If you want to use an anti-rotation lock, attach this to the female part before you connect to the stud.



3. Now press down the upper part completely. The assembly is now complete.

Note: This connection cannot be disassembled again.

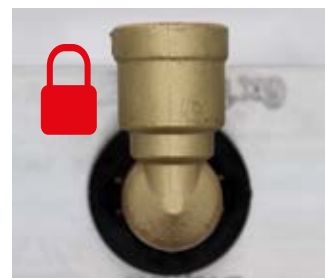


4. The swivel connector is now completed and ready for the tube to be inserted. The connector can be rotated to the necessary position (360° swivelling). If you have added a rotation lock and the connector is still swivelling, this is because you have not yet engaged the lock.



5. To engage the rotation lock, bring the upper part to a position that lets you press it down to interlock with the hexagon of the stud. Then press the locking ring down. The connector is now fixed in position.

Attention: The lock is a positioning support for line routing. It is not meant to withstand excessive bending forces



Assembly of barb connectors

For the assembly of our inline barb connectors, we recommend using a suitable tool set.

1. Choose the appropriate tool insert for the fitting and plug it onto the tool.
2. Choose the right clamping fixture for your tube size. Position and clamp the tube.
3. Slide the fitting, with the S9000 tube interface end on to the insert. The barb end directs towards the clamped tube (Picture 1).



4. Slowly close the tool until the barb end of the fitting touches the tube.
5. Make sure barb and tube bore are well centred before pressing the barb end into the tube (Picture 2).



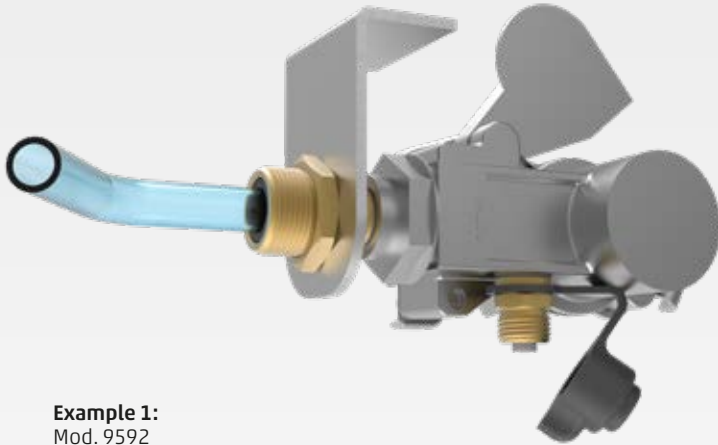
6. Press the fitting into the tube until the tube end reaches the tube stop of the fitting (Picture 3).

Note: For detailed information, please refer to the operating manual for the tool set you are using, which will provide manufacturer-approved instructions and guidance. Make sure you are using a tube compatible with barb fitting technology, and do not use any other processes (e.g. lubricants or temperature treatment) to reduce the pressing force needed during the fitting assembly.



Application examples

SERIES 9000



Example 1:
Mod. 9592
Bulkhead connector for mounting
of a gladhand on a bracket



Example 2:
Mod. 9555
Plug-In elbow connector
on backside of a test point panel



Example 3:
Mod. 9919
Bulkhead swivel connector
with t-adaptor, testpoint
and straight connector



Example 4:
Mod. D2593
Bulkhead reducer with straight connector
for external drain valve position