

11.4 Pressure test/reports

Pressure test using water or compressed air

alplex-duo XS and alplex L press fittings as well as alplex-plus push-fit fittings made of PPSU/brass must be pressure-tested after installation and before plastering or screed work.

Testing can be carried out using water or compressed air and is generally a two-step process for all alplex connectors. Firstly, the installation is tested for leak-tightness (leak function) and secondly for strength.

1. Leak test and visual inspection



Water
ZVSHK advisory leaflet

2. Strength test for drinking water and heating installations



Water
DIN EN 806-4



Water
DIN 18380

Pressure testing with water:

1. After having filled the system with water, the alplex-duo XS/alplex L connectors are visibly leaky when implementing the leak test in the range from **1 to 6.5 bar** in the unpressed state in accordance with the ZVSHK advisory leaflet. Visual inspection required! With the alplex-plus push-fit fitting, the green indicator shows the correct installation depth. Visual inspection required!
2. A successful leak test is followed by a strength test using water for drinking water installations according to DIN 806-4 at min. 11 bar for 30 min. and for heating systems according to DIN 18380 at 4 to max. 6 bar for 60 min.

VDI directive 6023 specifies that drinking water systems should be put into operation immediately after water pressure testing and subsequent flushing, i.e., without downtime, for reasons of hygiene! We recommend a pressure test using compressed air if installations are started later.

1. Leak test and visual inspection



Air
ZVSHK advisory leaflet

2. Strength test for drinking water and heating installations



Air
ZVSHK advisory leaflet

Pressure test using compressed air

1. **Leak testing is carried out at 150 mbar** according to the ZVSHK advisory leaflet. The test time for 100 litres of pipeline volume is at least **120 minutes**. Increase the test time by **20 minutes** for every additional **100 litres**.
2. A successful leak test without pressure drop is followed by a **strength test** according to the ZVSHK advisory leaflet for drinking water installations and heating systems at **max. 3 bar** smaller than or equal to 63x 4.5 mm and at **max. 1 bar** larger than 63x4.5 mm at a test time of **10 min**.

NB

ZVSHK advisory leaflet "Leak Testing for Drinking Water Installations with Compressed Air, Inert Gas or Water".

Attention Only use leak detection systems certified by the DVGW and released by the respective manufacturers for use with the material PPSU.

PRESSURE TEST REPORT using water as test medium for heating and drinking water

for the alpex-duo XS and alpex L systems with press fittings (alpex-duo XS dim. 16, 20, 26, 32;
alpex L dim. 40, 50, 63, 75) or push-fit fittings alpex-plus (dim. 16, 20, 26)

Construction project _____
Building phase _____
Customer represented by _____
Supplier represented by _____

System pressure: ____ bar Water temperature: ____ °C Difference: ____ °C

The system has been tested as an entire system in sections

Metal plugs, caps, blanking plates or blind flanges must be used to seal all pipes. Apparatuses, pressure tanks or water heaters for drinking water must be disconnected from the pipes. **The system or pipeline section to be tested must be filled with filtered water, rinsed and completely bled.** Visually check that all pipe connections are properly connected. **The ZVSHK advisory leaflet "Leak Testing of Drinking Water Installations with Compressed Air or Inert Gas" and VDI 6023 Sheet 1 "Hygiene for Drinking Water Supply Systems" must be observed.**

1. Leak test according to the ZVSHK advisory leaflet

A large temperature difference (at least 10 K) between the ambient temperature and the water temperature requires a 30-minute waiting period to allow the temperature to equalize.

The pressure corresponds to the available supply pressure of ____ bar, but at least **1 bar and max. 6.5 bar!**

- The visual inspection of the system has been completed.
- A manometer was used for the test.*
- No leaks were found during the test period.
- No pressure drop* was observed during the test period.

2. Strength test

Drinking water according to DIN EN 806-4

- The drinking water system has been pressure tested **at a minimum pressure of 11 bar**; the test was performed over a **30-minute period**.
- No leaks were found during the test period.
- No pressure drop was observed during the test period.*

The pipe system has been proven to be leak-tight.

Heating system according to DIN 18380

- The heating system has been pressure tested using cold water **at a minimum pressure of 4 bar to a maximum pressure of 6 bar**; the test was performed over a **60-minute period**.
- No leaks were found during the test period.
- No pressure drop was observed during the test period.*

Place, date _____

Customer signature/customer representative signature

Supplier signature/supplier representative signature

* Manometers must be capable of accurately measuring the pressure to the nearest 0.1 bar.

PRESSURE TEST REPORT using compressed air as test medium or inert gases as test medium for heating and drinking water

for the alpex-duo XS and alpex L systems with press fittings (alpex-duo XS dim. 16, 20, 26, 32;
alpex L dim. 40, 50, 63, 75) or push-fit fittings alpex-plus (dim. 16, 20, 26)

Construction project _____
 Building phase _____
 Customer represented by _____
 Supplier represented by _____

System pressure: ____ bar Water temperature: ____ °C Difference: ____ °C

The system has been tested as an entire system in sections

Metal plugs, caps, blanking plates or blind flanges must be used to seal all pipes. Apparatuses, pressure tanks or water heaters for drinking water must be disconnected from the pipes. Visually check that all pipe connections are properly connected. Only use leak detection systems certified by the DVGW and released by the respective manufacturers for use with the material PPSU.

The ZVSHK advisory leaflet "Leak Testing of Drinking Water Installations with Compressed Air or Inert Gas" and VDI 6023 Sheet 1 "Hygiene for Drinking Water Supply Systems" must be observed.

1. Leak test according to the ZVSHK advisory leaflet

Test pressure 150 mbar: The test time for up to **100 litres** of pipeline volume is at least **120 minutes**.
Increase the test time by **20 minutes** for every additional **100 litres**.

Pipeline volume: _____ Litres Test time: _____ Minutes

The test period will begin only after thermal equilibrium and steady state condition has been achieved.

- The visual inspection of the system has been completed.
 A manometer/U pipe was used for the test.*
 No pressure drop was observed during the test period.

2. Strength test

The test period will begin only after thermal equilibrium and steady state condition has been achieved.

Test pressure max. 3 bar ** ≤ 63 × 4.5 mm Test period: 10 minutes
Test pressure max. 1 bar ** > 63 × 4.5 mm Test period: 10 minutes

- The pipe system has been proven to be leak-tight.**

Place, date _____

 Customer signature/customer representative signature

 Supplier signature/supplier representative signature

* Manometers must be capable of accurately measuring the pressure to the nearest 1 mbar.

** Manometers must be capable of accurately measuring the pressure to the nearest 0.1 bar.