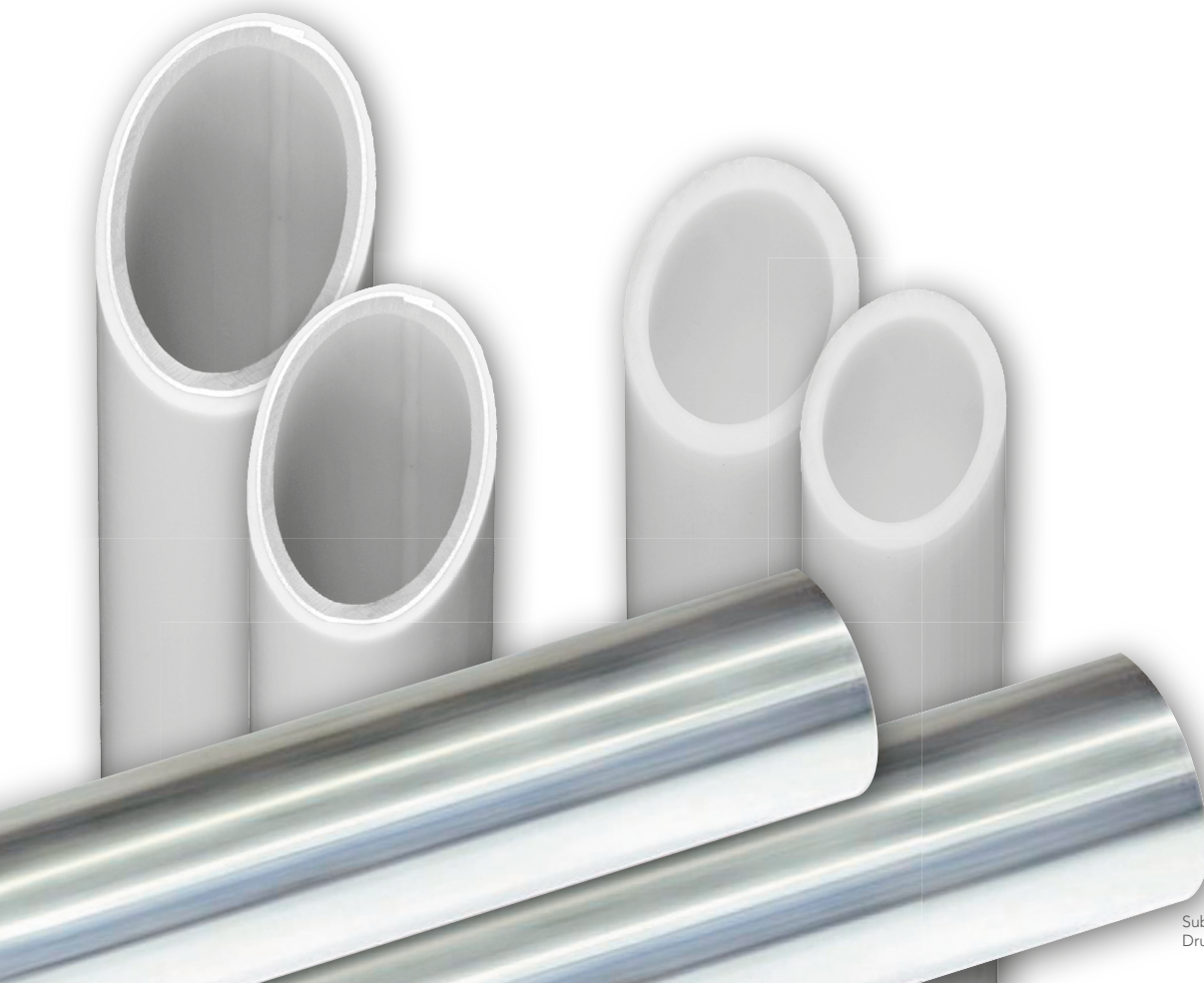




Pressure and leakage testing as well as rinsing of MAINCOR drinking water installations

in accordance with DIN EN 806-4 and ZVSHK data sheet

„Leakage testing of drinking water installations with compressed air,
inert gas or water“





The pressure and leakage testing in accordance with DIN EN 806-4 or in accordance with the ZVSHK data sheet „Leakage testing of drinking water installations with compressed air, inert gas or water“ for the Maincor drinking water pipe systems, MAINPRESS, MAINPEX and MAINOX, must be implemented after the completion of the installation.

All components of the installation must be freely accessible and visible. If a regular water exchange is not ensured at the latest seven days after the pressure testing, then the implementation of a pressure test with compressed air or inert gas is recommended.

Special note for pressurising with compressed air or inert gases

All pipelines must be closed with metallic stoppers, caps, blanks or blind flanges. Closed shutoff fittings do not count as having been sealed closed. Devices, fittings, pressurised containers or drinking water heaters must be separated from the pipelines before the pressure test. A visual check of all pipe connections for professional execution was carried out. Leak detection spray can be used for leak detection.

Reports and certificates are to be supplied concerning the implementation of the pressure or leakage testing.



Pressure testing with compressed air or inert gas

Pressure testing with compressed air or inert gases (ZVSHK data sheet „Leakage testing of drinking water installations with compressed air, inert gas or water“)

Exclusively devices must be used, the measurement accuracy of which is +/- 1 mbar.
During the test(s), the pressure at the pressure gauge must be monitored continuously.

After a visual test of all connection points, the leakage testing is to be implemented as follows:

Testing pressure: 150 mbar
Testing time: 120 minutes for systems with a volume of up to 100 litres
(+20 minutes per 100 litres of additional volume)

The connectors must be checked for leakages.

In connection to this, the load testing occurs as follows:

Increase of the testing pressure to 3 bar (1 bar for dimensions > 63 mm),
testing time at least 10 minutes

The connectors must be checked for leakages.

A report concerning the leakage testing must be produced in which the impermeability of the system is documented and confirmed.



Testing report for MAINCOR drinking water installations

Pressure testing medium: oil-free compressed air nitrogen carbon dioxide _____

Construction project: _____

Construction phase: _____

Tester / Company: _____

MAINCOR installation system used:

MAINPRESS

MAINPEX

MAINPEX with PE-Xc

MAINOX

Pipeline volume: _____ litres Temperature of testing medium: _____ °C

A visual check of all pipe connections for professional execution was carried out.

LEAKAGE TESTING:

Testing pressure: 150 mbar

Testing time up to 100 litres pipeline volume at least 120 minutes

The testing time must be increased by 20 minutes per additional 100 litres.

Once the temperature level and equilibrium is reached, the testing time begins.

Start: _____ (date, time) Testing pressure: _____ mbar

End: _____ (date, time) Testing pressure: _____ mbar

During the testing time, no pressure drop was determined.

LOAD TESTING:

Testing pressure: Installation pipe $d_a \leq 63\text{mm}$ max. 3 bar, Installation pipe $d_a > 63\text{ mm}$ max. 1 bar.

Testing time up to 100 litres pipeline volume at least 10 minutes.

Once the temperature level and equilibrium is reached, the testing time begins.

Start: _____ (date, time) Testing pressure: _____ bar

End: _____ (date, time) Testing pressure: _____ bar

During the testing time, no pressure drop was determined.

CONFIRMATION OF THE SYSTEM IMPERMEABILITY: No leakages could be determined in the aforementioned system, neither during the leakage testing, nor during the load testing.

(place, date)

(stamp, contractor signature)

(place, date)

(stamp, customer signature)

Pressure testing with water

Pressure testing with water (DIN EN 806-4 or ZVSHK data sheet „Leakage testing of drinking water installations with compressed air, inert gas or water“)

Exclusively devices must be used, the measurement accuracy of which is +/- 0.1 mbar. During the test(s), the pressure at the pressure gauge must be monitored continuously. Exclusively filtered drinking water (particle size <150µm) must be used. The correct ventilation of the system must be ensured during filling. Shut-off elements in front of and behind heat generators and tanks must be closed.

The system is filled with filtered water and ventilated completely. During the testing, a visual check of the pipe connectors must be carried out. The temperature equalisation between ambient temperature and the temperature of the water must be considered after production of the testing pressure by a corresponding waiting time. The testing pressure must be produced again after the waiting time, if necessary.

During use of the **MAINPRESS** drinking water system, first a check of the „unpressed, leaking“ connector must be carried out:

Testing pressure: 3 bar
Testing time: 15 minutes

The connectors must be checked for leakages.

After a visual test of all connection points, the **leakage testing itself** is to be implemented as follows for all MAINCOR systems:

Testing pressure: 11 bar
Testing time: 30 minutes

In the case of the use of the **MAINPEX** drinking water system with pipelines made from PE-Xc, an additional test is required:

Testing pressure: 5.5 bar (adjust by relieving the initial test pressure)
Testing time: 120 minutes

A report concerning the leakage testing must be produced in which the impermeability of the system is documented and confirmed.



Leakage testing report for MAINCOR drinking water installations

Pressure testing with test medium „water“

Construction project: _____

Construction phase: _____

Tester/Company: _____

MAINCOR installation system used:

MAINPRESS

MAINPEX

MAINPEX with PE-Xc

MAINOX

Pipeline volume: _____ litres Temperature of testing medium: _____ °C

A visual check of all pipe connections for professional execution was carried out.

LEAKAGE TESTING PRESSING CONNECTOR:

Testing time: 15 minutes

Testing pressure: 3 bar

Start: _____ (date, time)

Testing pressure: _____ bar

End: _____ (date, time)

Testing pressure: _____ bar

LEAKAGE TESTING:

Testing time: 30 minutes

Testing pressure: 11 bar

Start: _____ (date, time)

Testing pressure: _____ bar

End: _____ (date, time)

Testing pressure: _____ bar

LEAKAGE TESTING FOR PE-Xc-PIPE:

Testing time: 120 minutes

Testing pressure: 5.5 bar

Start: _____ (date, time)

Testing pressure: _____ bar

End: _____ (date, time)

Testing pressure: _____ bar

No pressure drop was determined at the pressure gauge during the testing time

CONFIRMATION OF THE SYSTEM IMPERMEABILITY: No leakages could be determined during the entire testing on the aforementioned system.

(place, date)

(stamp, contractor signature)

(place, date)

(stamp, customer signature)



Rinsing of MAINCOR drinking water installations

For reasons of hygiene, the rinsing should only occur directly before the start-up. Filtered drinking water must be used as a rinsing fluid.

In principle, two rinsing techniques can be applied:

- Rinsing with a water/air mixture in accordance with DIN EN 806-4 should be applied, if a sufficient rinsing effect cannot be expected when rinsing with water. See for this purpose technical rules for drinking water installation DIN EN 806-4 Section 6.2.3.
- The rinsing method with water corresponds to the specifications in the ZVSHK data sheet „Rinsing, disinfecting and start-up of drinking water installations“.
More detailed information on the rinsing method with water can be gleaned from these booklets which can be obtained from the Central Association Plumbing Heating Air Conditioning (ZASHK).

A report on the rinsing procedure must be produced in which the proper rinsing of the drinking water system is confirmed.



Rinsing report for MAINCOR drinking water installations

Rinsing medium water

Construction project: _____

Construction phase: _____

Tester/Company: _____

MAINCOR installation system used:

MAINPRESS

MAINPEX

MAINPEX with PE-Xc

MAINOX

Within a storey, the withdrawal locations are fully opened, starting with the withdrawal location which is furthest from the riser.

After a rinsing duration of 5 minutes at the rinsing point which was last to be opened, the withdrawal locations are closed one after the other.

The drinking water used for rinsing is filtered, resting pressure $p_w =$ _____ bar.

Maintenance fittings (shut-off facilities for individual storeys, stop valves) are fully opened.

Sensitive fittings and devices are removed and replaced by fitting pieces or bridged by flexible pipelines.

Aerators, flow limiters are removed.

Built-in dirt-collection sieves and dirt traps in front of fittings were cleaned after rinsing with water.

The rinsing took place in sections according to the rinsing order, starting from the main shut-off fitting, towards the furthest withdrawal location.

CONFIRMATION: The rinsing of the drinking water system has occurred properly.

(place, date)

(contractor signature/stamp)

(place, date)

(customer signature/stamp)