

Uponor Aqua PLUS manifold PPM

EN Technical information



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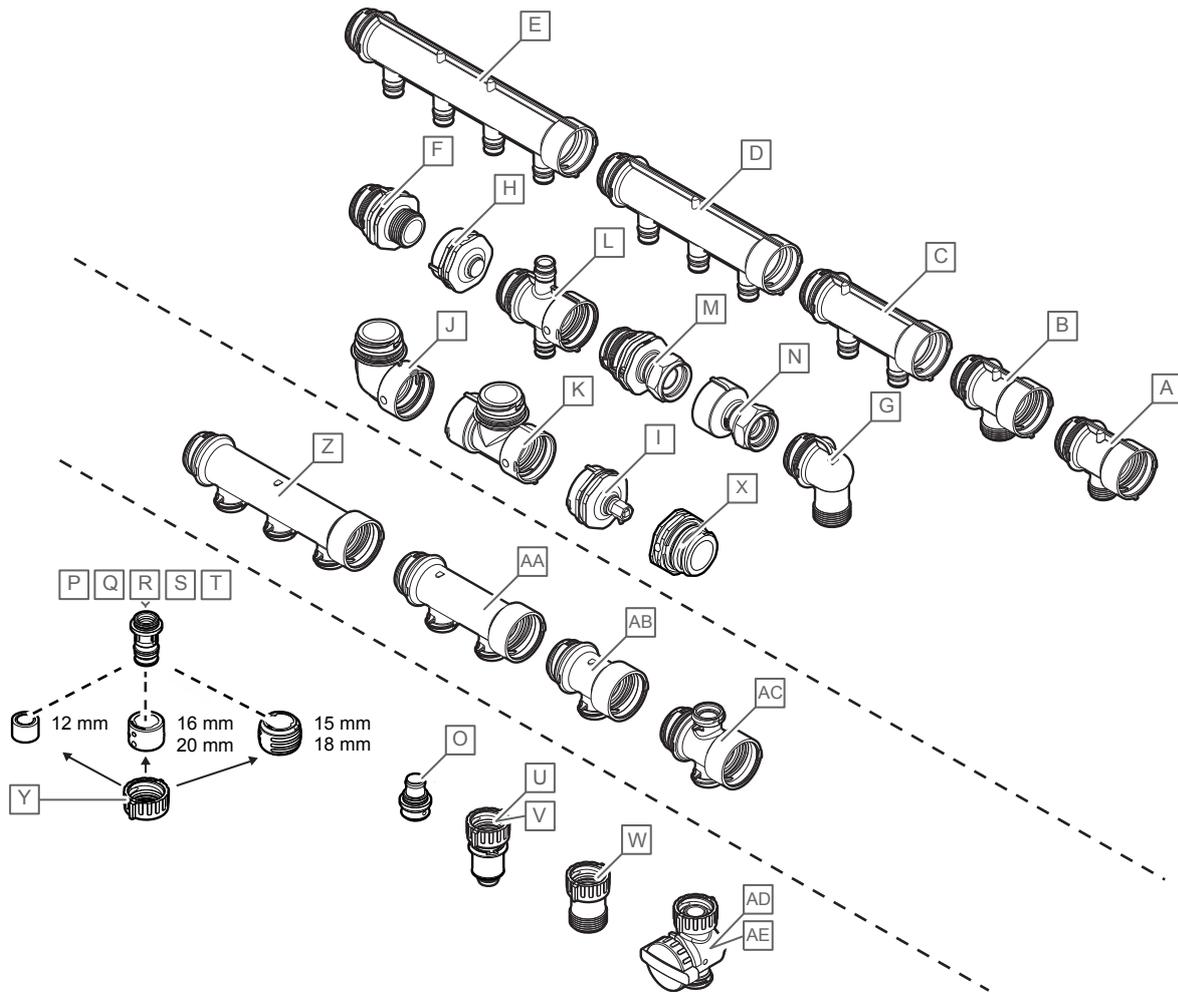
1 System description

The Uponor Aqua PLUS PPM is a plastic manifold system suitable for both tap water and radiator solutions with a wide range of connection possibilities. The installation is easy and with the available adapters it is possible to connect pipes of different types (Uponor PE-Xa or composite pipes) and dimensions. The pipes are connected to the manifold with Uponor Q&E and Uponor FPL-X fittings for Uponor

PE-Xa pipes, Uponor S-Press fittings for composite pipes, or a combination of these options.

Intended use: Together with Uponor pipes the Uponor Aqua PLUS PPM system distributes tap water within the allowed pressure and temperature range.

1.1 System overview



CD0000387

Item	Description
A	Uponor Aqua PLUS manifold PPM 1" 1xG $\frac{1}{2}$ " MT c/c 50 mm
B	Uponor Aqua PLUS manifold PPM 1" 1xG $\frac{3}{4}$ " MT c/c 50 mm
C	Uponor Aqua PLUS manifold Q&E PPM 1" 2x16 c/c 50 mm
D	Uponor Aqua PLUS manifold Q&E PPM 1" 3x16 c/c 50 mm
E	Uponor Aqua PLUS manifold Q&E PPM 1" 4x16 c/c 50 mm
F	Uponor Aqua PLUS adapter PPM 1" G $\frac{3}{4}$ " MT
G	Uponor Aqua PLUS elbow adapter male PPM 1" G $\frac{3}{4}$ " MT
H	Uponor Aqua PLUS manifold end cap PPM 1"
I	Uponor Aqua PLUS end cap, air nipple PPM 1"
J	Uponor Aqua PLUS elbow PPM 1"MT 1"FT
K	Uponor Aqua PLUS tee PPM 1"FT 1"MT 1"FT
L	Uponor Aqua PLUS manifold double Q&E PPM 1" 1x16+1x16 c/c 50 mm

Item	Description
M	Uponor Aqua PLUS adapter brass nut PPM 1"MT G $\frac{3}{4}$ "SN
N	Uponor Aqua PLUS adapter brass nut PPM 1"FT G $\frac{3}{4}$ "SN
O	Uponor Aqua PLUS outlet plug PPSU PPM
P	Uponor Aqua PLUS Q&E adapter PPSU PPM 12 mm
Q	Uponor Aqua PLUS Q&E adapter PPSU PPM 16 mm
R	Uponor Aqua PLUS Q&E adapter PPSU PPM 20 mm
S	Uponor Aqua PLUS Q&E adapter PPSU PPM 15 mm
T	Uponor Aqua PLUS Q&E adapter PPSU PPM 18 mm
U	Uponor S-Press adapter Aqua PLUS PPM 16 mm
V	Uponor S-Press adapter Aqua PLUS PPM 20 mm
W	Uponor Aqua PLUS adapter PL/DR PPM FPL G $\frac{1}{2}$ "MT
X	Uponor Aqua PLUS manifold plug PPM 1"MT

Item	Description
Y	Uponor Aqua PLUS outlet nut PPSU PPM
Z	Uponor Aqua PLUS manifold PPM 3x c/c 50 mm
AA	Uponor Aqua PLUS manifold PPM 2x c/c 50 mm
AB	Uponor Aqua PLUS manifold PPM 1x c/c 50 mm
AC	Uponor Aqua PLUS manifold PPM 1+1x c/c 50 mm
AD	Uponor Aqua PLUS outlet shut-off valve blue
AE	Uponor Aqua PLUS outlet shut-off valve red

1.2 Components

Manifolds

Note
All parts within the Uponor Aqua PLUS manifold PPM system are fully compatible with each other.

Uponor Aqua PLUS manifold Q&E PPM



Manifolds are available with 2, 3, 4 and 1+1 fixed Q&E outlets to connect Uponor PE-Xa pipes in dimension 16mm.

Uponor Aqua PLUS manifold PPM



Manifolds with threaded outlets and adapters allow for the installation of Uponor PE-Xa and composite pipes of different dimensions.



Manifolds with threaded outlets have G $\frac{1}{2}$ " or G $\frac{3}{4}$ " male thread.

Manifold accessories

Uponor Aqua PLUS adapters PPM



Adapters used for connecting threaded items to the ends of the manifold.

Uponor Aqua PLUS elbows PPM



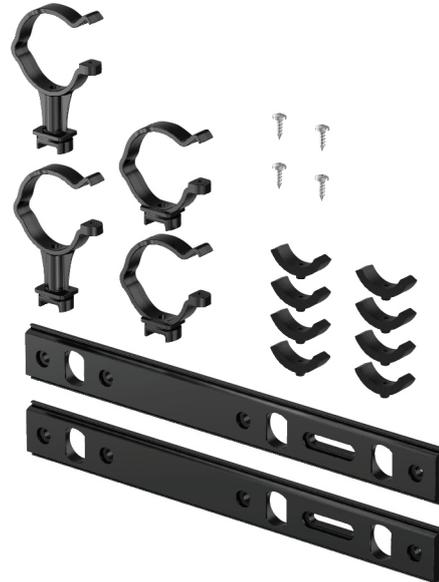
Elbows that connect to the ends of the manifold.

Uponor Aqua PLUS manifold end cap and plug PPM



Plugs and end caps are used to close off the manifold ends. The end cap is available with and without air nipple.

Uponor Aqua PLUS manifold bracket PPM



Intended for wall mounting of the manifolds.

Set contains: 2 brackets, 2 long clips, 2 short clips, 8 spacers and 4 screws.

Uponor Aqua PLUS manifold clips PPM



RP0000064

Intended for use in Uponor tap water cabinets. Included with the delivery of the cabinet.

Set contains: 2 long clips, 2 short clips, 8 spacers and 4 screws.

Uponor Aqua PLUS nut wrench PPM



RP0000071

Wrench for loosening the nut on the adapter/manifold connection. Can also be used for disassembly of the outlet plug.

Outlet adapters

Uponor Aqua PLUS Q&E adapter PPSU PPM



RP0000063

The Uponor Q&E adapters connect to the manifold with threaded outlets using a plastic nut. That allows the connection of Uponor PE-Xa pipe in dimensions 12, 15, 16, 18 and 20 mm.

Uponor Aqua PLUS S-Press adapter PPM



RP0000064

The Uponor S-Press adapters connect to the manifold with threaded outlets using a plastic nut. That allows the connection of composite pipes in dimensions 16 and 20 mm.

Uponor Aqua PLUS FPL-X adapter PPM



RP0000065

The Uponor FPL-X adapters connect to the manifold with threaded outlets using a plastic nut. Any Uponor FPL-X connection set can be combined with the adapter.

Uponor Aqua PLUS outlet plug PPSU PPM



RP0000056

For closing off an unused outlet of the manifold with threaded outlets.

Uponor Aqua PLUS outlet valve PPM



RP0000057

Valve mounted on the outlet of a manifold with threaded outlets. Used to shut-off a single outlet.

Available in red and blue.

1.3 Combination examples

Due to the variety of outlets and adapters it is possible to connect different pipe dimensions to the same manifold and to combine Uponor PE-Xa and composite pipes.

Some examples of how the Uponor Aqua PLUS PPM system can be build with different manifold solutions are shown below.

Connection example 1



RP0000066

Elbow adapter from below or above with male G $\frac{3}{4}$ " thread - Manifold available with 2, 3 and 4 fixed Q&E outlets - Manifold end cap

Connection example 2



RP0000066

Adapter PPM 1" male with G $\frac{3}{4}$ " swivel nut - Manifold available with 1, 2, and 3 fixed outlets for various adapters - Manifold end cap with air nipple - Uponor S-Press adapter for connecting composite pipes in dimensions 16 or 20 mm

Connection example 3



RP0000067

Adapter PPM 1" male with G $\frac{3}{4}$ " thread - Manifold available with 1, 2, and 3 fixed outlets for various adapters - Manifold end cap with air nipple - Outlet nut to close off unused outlets - Uponor S-Press adapter for connecting composite pipes in dimensions 16 or 20 mm - Uponor FPL-X adapter available in G $\frac{1}{2}$ " for PE-Xa pipes - Adapters available for Q&E connections to Uponor PE-Xa pipes in both NKB and ISO dimensions 12, 15, 16, 18 and 20 mm

Connection example 4



RP0000068

Tee to connect two manifolds - Select manifolds with fixed Q&E outlets or threaded outlets for adapters - Adapter PPM 1" female with G $\frac{3}{4}$ " swivel nut - Uponor S-Press adapter for connecting composite pipes in dimensions 16 or 20 mm - Manifold plug at both ends of the manifold

Connection example 5



RP0000069

Adapter PPM 1" male with G $\frac{3}{4}$ " swivel nut - Elbow from below or above - Manifold 1+1 with threaded outlet for adapters both up and down - Double manifold with an outlet for Q&E both up and down - Adapter PPM 1" female with G $\frac{3}{4}$ " swivel nut - Outlet nut to close off unused outlets - Uponor FPL-X adapter available in G $\frac{1}{2}$ " for PE-Xa pipes - Adapters available for Q&E connections to Uponor PE-Xa pipes in both NKB and ISO dimensions 12, 15, 16, 18 and 20 mm - Uponor S-Press adapter for connecting composite pipes in dimensions 16 or 20 mm

Connection example 6



RP0000070

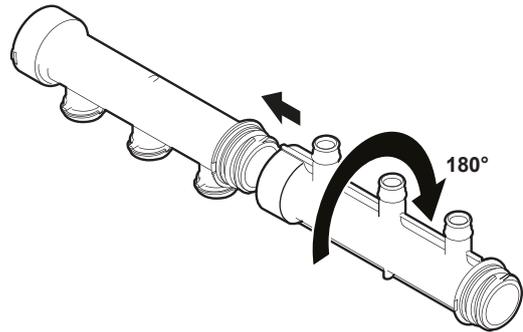
Manifold plug - Use any Uponor Aqua PLUS manifold - Supply connection from below or above directly into the manifold through Q&E or using the adapters available for Q&E connections to Uponor PE-Xa pipes in both NKB and ISO dimensions 12, 15, 16, 18 and 20 mm - Uponor S-Press adapter for connecting composite pipes in dimensions 16 or 20 mm - Manifold end cap

2 Installation and operation

2.1 General information

The following symbols are used to indicate special precautions when installing and operating any Uponor equipment:

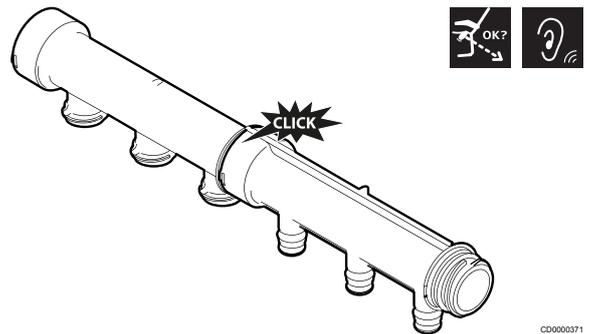
	Caution! Ignoring cautions can cause malfunctions.
	Note Important information to the section in the manual.



2.2 Safety measures

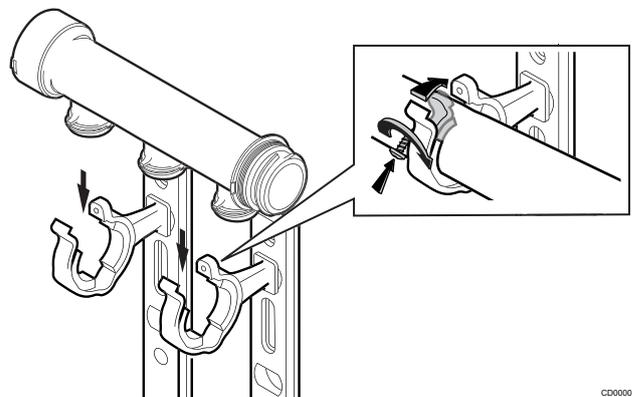
	Caution! Avoid using metal tools such as pliers and wrenches in handling of the plastic products due to risk of material damage.
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- The product may only be used for its intended purpose.
- Uponor fittings must not be thrown or otherwise handled incorrectly.
- Damaged or defective products must never be used.
- The system must be professionally installed and regularly serviced.
- Products must be stored in original unopened packaging.
- Protected the products from dust and dirt as well as thermal and UV radiation.
- Always follow other safety instructions according to the pipe system used with the products.



Securing the manifolds

	Note Use a rubber spacer to add support if the clip grips around the smaller diameter of the manifold.
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2.3 Installation

Modular PPSU manifold and adapters

The Uponor Aqua PLUS manifold units easily connect to each other by turning them **180°**.

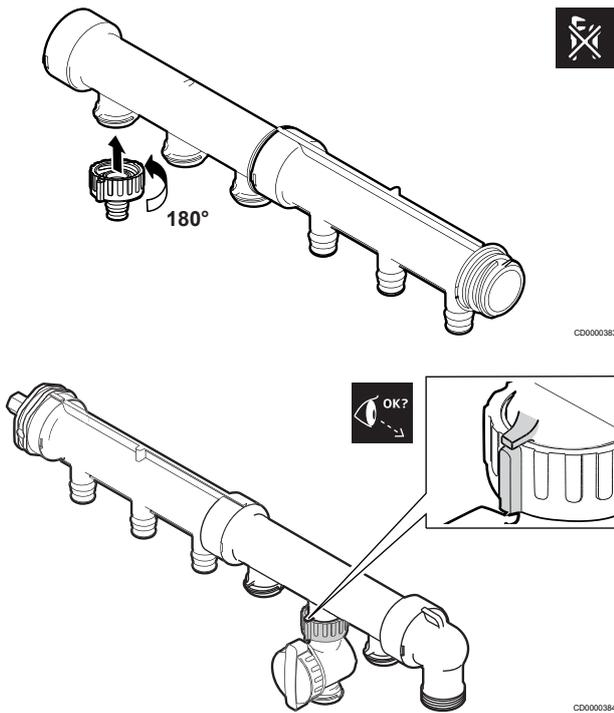
Manifolds with threaded outlets for exchangeable adapters have the fittings connected to the manifold using the nut that comes with each adapter.

Connecting the manifolds

	Caution! Do not overwind the items by rotating them past the stop.
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The manifold is mounted onto the clips and secured with the screws. The clips are fastened either onto the backplate in a cabinet or onto wall brackets.

Installing adapters

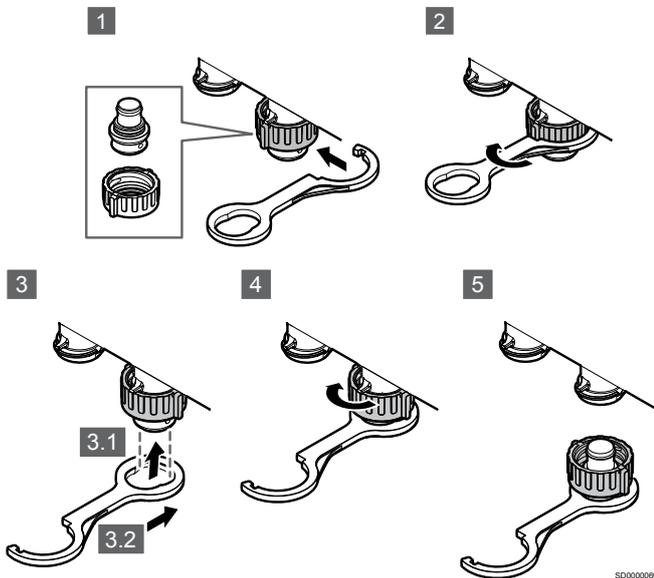


The adapters are connected with the nut to the manifold outlet with **180°** rotation using hands only.

Uponor Aqua PLUS nut wrench PPM

Note

Use the Uponor Aqua PLUS nut wrench PPM to tighten/loosen the nut if it can't be done by hand.



The plastic nut wrench has two functional ends. One is used to tighten or loosen the nut. The other is used to safely remove the outlet plug from the outlet.

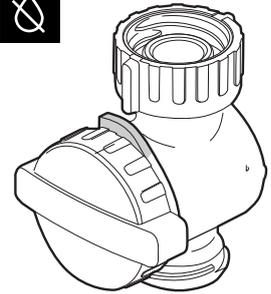
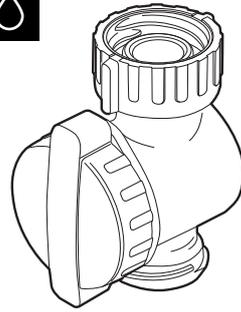
1. Place the open end of the nut wrench on the nut.
2. Loosen the nut slightly, but don't remove it from the outlet.
3. Slide the other end of the wrench over the plug and lock-on.
4. Screw the nut by hand from the outlet.
5. The plug will easily follow with the nut out of the outlet.

Outlet valve



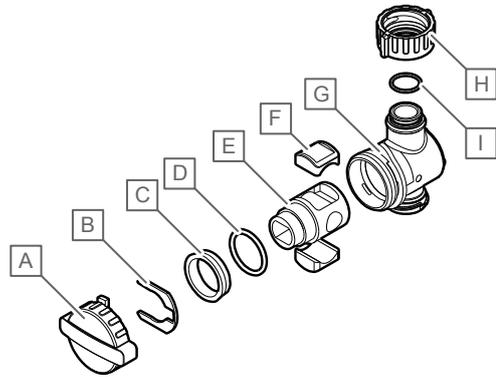
Caution!

Do not use the valve to regulate flow.



The outlet valve is mounted to the manifolds with threaded outlets. The installation to the manifold and the installation of the adapter to the valve is made via the outlet nut. The valve is a shut-off valve with **90°** turn to open and close.

The opened/closed position is clearly indicated by the main rectangle and the stopper on the side of the handle.



Item	Description	Material
A	Handle	ABS
B	Pin	Grivory
C	Top ring	POM
D	O-ring	EPDM
E	Barrel	PPSU (Polyphenylsulfone)
F	Barrel seal	EPDM
G	Body	PPSU (Polyphenylsulfone)
H	Nut	PPSU (Polyphenylsulfone)
I	O-ring	EPDM

Uponor Q&E plastic fittings in PPSU

Note

Use only original Uponor fittings, rings and expansion tools.

Uponor Q&E in PPSU, is a plastic fitting designed for use only with pipes manufactured by Uponor. The Uponor Q&E ring is placed on the end of the pipe and both are gradually expanded using an expansion tool. Then the pipe with the Uponor Q&E ring is pushed onto the fitting. The pipe and ring will shrink back creating a tight connection.

Uponor S-Press plastic fittings in PPSU

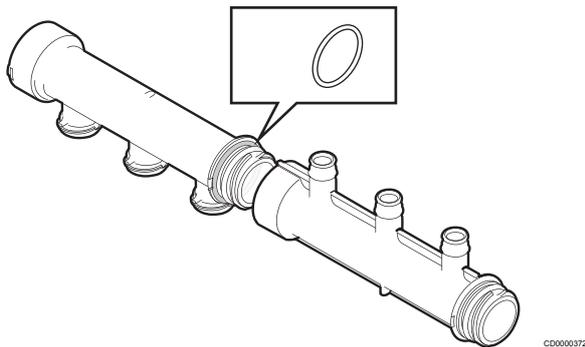
Insert the deburred composite pipe end into the fitting as far as possible. Then place the appropriate press chain (same dimension and same colour code as fitting) around the press sleeve up to the coloured stop. Hook the base press jaw into the press chain and trigger pressing.

After pressing, the successful pressing is visible by a clear deformation of the press sleeve (visual inspection). For additional safety, an unpressed connection leaks under pressure load (unpressed-untight function).

Uponor FPL-X fittings

The available Uponor Aqua PLUS adapter PL/DR PPM FPL enables the connection of Uponor compression fittings for Uponor PE-Xa pipes to the manifold with threaded outlets.

Seals



O-rings are lubricated by the factory. If O-rings are found to be dry lubricate them with silicone oil before assembly. Other seals if made from EPDM should also be lubricated if found to be dry.

Before mounting check seals for damages from aging such as fissures and hardening.

Pipes

See the installation manuals for Uponor Uni Pipe PLUS and for Uponor Metallic Pipe PLUS for information.

Additional Information

Note

For additional information, product range and documentation please visit www.uponor.com.



www.uponor.com/services/download-centre

2.4 Operation

Disassembly

Release pressure in the system entirely before disassembly.

Tightness testing

Note

The instructions for tightness testing are given by Uponor to ensure that the installation has been done correctly and all components are fully functioning.

Always consider local regulations.

Uponor Q&E

A Uponor Q&E fitting can be pressure tested after **30 minutes** at ambient temperatures **above 5 °C**. Tightness testing in accordance with the relevant standards must be carried out before the system is commissioned. Tightness testing can also be carried out as follows:

1. Vent all air from the system and apply **1.5 x normal operating pressure**.
2. Maintain this pressure for **30 minutes**. During this period, make a visual inspection of the joints.
3. Quickly drain off water until the pressure falls to **0.5 x operating pressure** and close the drain valve. If the pressure rises **above 0.5 times the operating pressure**, the system is tight.
4. Leave the system pressurized for **90 minutes** and inspect it during this time. If the pressure should drop during this period, this indicates leakage in the system.

Uponor Uni Pipe PLUS

Visually inspect all pipe connections before the leak test. The pressure gauge used for the test must have an accuracy of **0.1 bar** in the display range for the pressure being measured.

The system is pressurized with a test pressure of **110 mbar**. For a system volume of up to **100 liters** the test period must be at least **30 minutes**.

The required testing time is extended by adding **10 minutes** for every additional **100 liters**. During the test no leakage must appear.

Maintenance

General

Perform a periodic inspection of the products to ensure that no leakage has occurred.

Shut-off valve

The serviceability of valves that are permanently kept in the same position should be checked by controlling the function **1-2 times** a year. Replace the valve if necessary by dismantling it from the connected adapter and manifold.

3 Technical data

3.1 Materials

Item	Material
Manifold	PPSU (Polyphenylsulfone)
Q&E adapter	PPSU (Polyphenylsulfone)
S-Press adapter	PPSU (Polyphenylsulfone)
FPL-X adapter	Brass
Clips	PC-ABS
Valve	PPSU (Polyphenylsulfone) EPDM

3.2 PPSU

The maximum torque tension for 1/2", 3/4" and 1" items made in PPSU is **15 Nm**.

3.3 Chemical resistance

PPSU has excellent chemical resistance to mineral acids, alkalis and salt solutions. Resistance to detergents and hydrocarbon oils are good, even at elevated temperatures and/or under moderate stress levels. Organic chemicals, except for ketones, do not seriously affect PPSU.

Products containing the following substances should be avoided:

- Esters (e.g. ethylacetate)
- Aceton Methylene Chloride
- Trichloreethylene
- Cyclohexanone
- Chlorobenzen
- Tetrachloreethylene
- Tetrachlorethane Toulene
- Xylene
- Benzene

If in doubt about the chemical resistance, please consult Uponor for further information.

3.4 Water resistance

PPSU is not affected by hydrolysis, i.e. chemical reaction with water.

Uponor

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Production: Uponor/DCO/SEM

Uponor reserves the right to make changes, without prior notification,
to the specification of incorporated components in line with its policy of
continuous improvement and development.



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