

Uponor

Build on Uponor with Aqua Port Central

Central fresh domestic hot water stations
for private homes, hotels and healthcare



Uponor Aqua Port Central

Central fresh domestic hot water stations

The hygienic and efficient way to heat drinking water

In the residential sector, as well as in hotels, care homes and hospitals, the quality of drinking water must be absolutely safe at all times in order to avoid any risk to the health of residents, patients and visitors. Compliance with statutory standards and hygiene regulations is the responsibility of the owners or operators. Uponor offers a system solution from a single source for comprehensive protection against contamination in all pipes from the basement to the tapping points. Central fresh domestic hot water stations provide the required hot water as and when it is needed.

Hygienic domestic hot water supply without using a drinking water tank

The hot water required in the building is produced directly in the central heating room by means of one or more fresh domestic hot water stations. The systems have high performance stainless steel heat exchangers

and use the counter-current principle to ensure that only as much drinking water is heated as is required. This means that there is no need for conventional storage in a hot water storage tank. This avoids the risk of stagnation, and means that the temperature no longer has to be maintained at all times.

Instead, the heating buffer tank provides the heat for the domestic hot water stations, so that the risk of contamination can be minimised, while at the same time offering a high level of convenience in terms of hot water availability through flexible dimensioning.

Depending on the requirements, several domestic hot water stations can be operated in parallel, with a permanent flow through all modules for reliable hygiene. At the same time, the hot water supply can be maintained in larger properties even while maintenance work is in progress.



Health, comfort and economic efficiency

Drinking water hygiene

Legionellae are bacteria that live in water and that can cause respiratory disease. Examples are Pontiac fever or the more severe Legionnaires' disease, which can be fatal. Legionellae can proliferate to dangerous levels in standing water, such as in drinking water tanks, under certain conditions. An infection is triggered by the inhalation of bacteria-containing water vapour (aerosol). This problem is especially associated with showers, bathrooms and jacuzzis. Because of the way they work, Uponor central fresh domestic hot water stations do not require drinking water to be stored in tanks or boilers, thus significantly minimising the risk of water contamination.

The perfect equipment:

It doesn't matter what heating system the future may bring

Whether solar panels, wood-burning boilers, heat pumps or fireplace stoves – central fresh domestic hot water stations from Uponor can be incorporated into regenerative energy concepts with utmost efficiency. That's because a heating system with a storage tank is a vital prerequisite for both these and fresh domestic hot water stations.

A convenient system:

Also suitable in situations with a high demand for hot water

The digital temperature control precisely coordinates the required amount of hot water to be supplied. With central fresh domestic hot water stations from Uponor, you are always guaranteed the right hot water temperature, regardless of how many people in your household are using the hot tap at the same time.

Functional safety

Using Uponor central fresh domestic hot water stations means you can dispense with components susceptible to malfunction, such as flow switches or control valves. A single digital component controls the hot water pump and precisely regulates the required amount of hot water to be supplied. The demand-based supply of energy prevents the plate heat exchanger from overheating. In practical terms, this means that there is only a slight risk of calcification and constant tap temperatures are ensured at all times.

Benefits for owners and operators

- Improved drinking water hygiene due to the absence of the hot water storage tanks
- Reliable hot water supply even when demand is high
- Lowering energy costs thanks to the efficient operation of the heat generator
- Logging of temperature profiles on the SD card (documentation of drinking water temperature according to DVGW guidelines)
- Several fresh domestic hot water stations can be operated in parallel, ensuring safe hot water supply even when a module is under maintenance



Benefits for planners and installers

- Optimum incorporation of alternative energy concepts
- Manufacturer support for project-specific design
- Plug-and-play installation thanks to factory pre-configuration of the fresh domestic hot water station
- Integrated Modbus interface for connection to higher-level control systems
- Flow sensor for detection of dispensing below 3 l
- Flexible adaptation of the heat exchanger depending on the water condition
- Avoidance of energy loss through thermal decoupling

Operating mode

Central fresh domestic hot water stations from Uponor allow you to heat your drinking water efficiently using your heating system. No drinking water storage tank is required. The plate heat exchanger installed in the unit rapidly heats the cold drinking water to the desired temperature at precisely the moment when the water tap is opened.

This type of domestic hot water generation is hygienic and, above all, more economically efficient than conventional hot water storage tanks (boilers).

Inside the stainless steel plate heat exchanger, the cold drinking water is heated with the hot heating water from the buffer storage tank. The different streams of water are kept apart by stainless steel plates. The drinking water is heated in a separate system using the efficient counter-current principle.

The optimum transfer of heat in the stainless steel plate heat exchanger results in a cold return and therefore creates very good layering in the buffer storage tank. In addition, the cold return ensures ideal operating conditions. The burner (boiler) only needs to be activated a few times a day. These lower cycle times ensure longer and more efficient burner operating times, resulting in a high degree of efficiency in the system as a whole. This results in lower energy costs.

The central fresh domestic hot water station can switch valves in the heating network when water is dispensed at the tap, so that the colder return is interlayered in the cold zone of the buffer tank during tapping and in the warm zone during circulation.

Uponor Aqua Port Central 200 connection situation

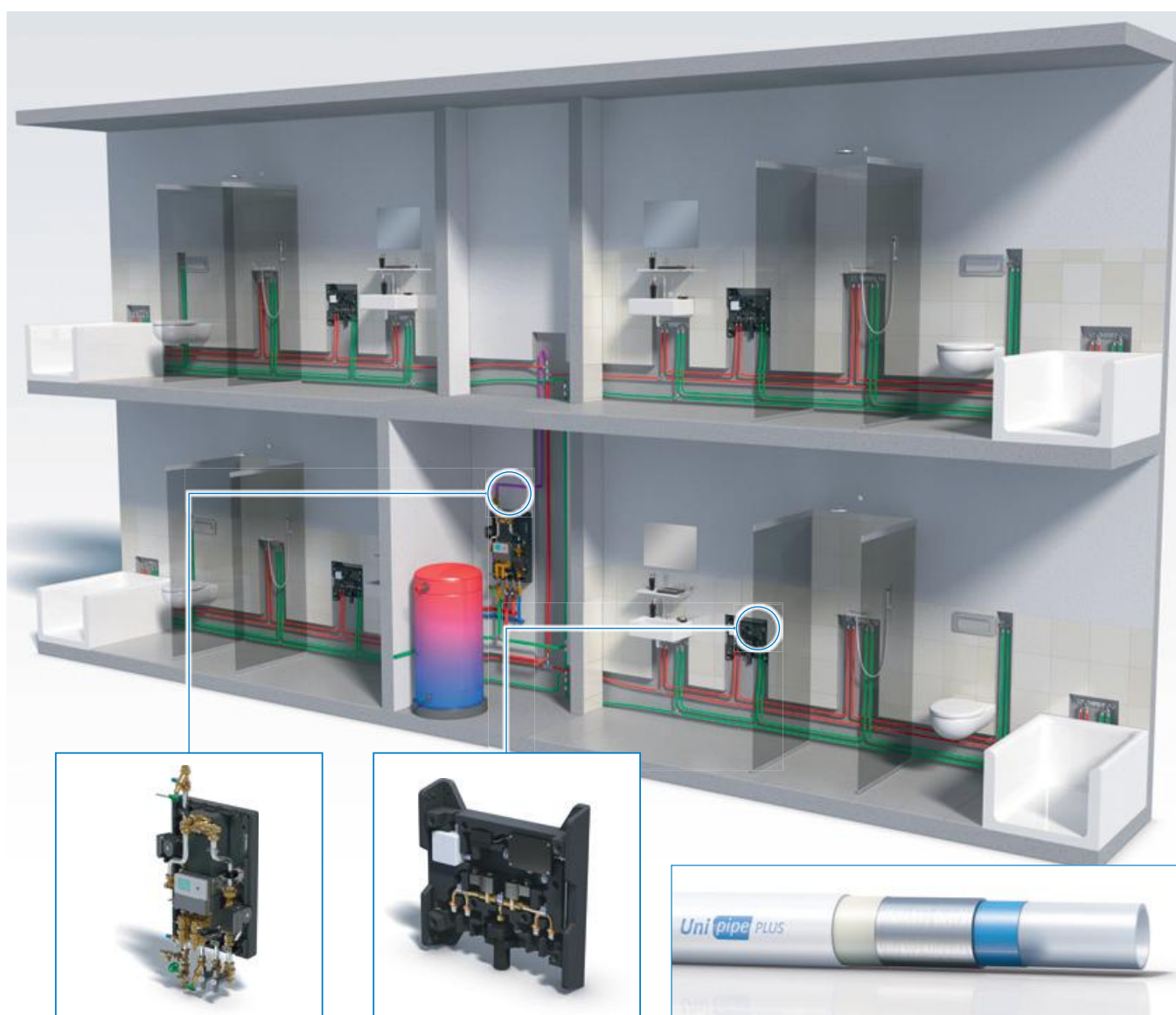
- 1** Drinking water feed (cold)
- 2** Supply heating water (flows from the storage tank to the plate heat exchanger)
- 3** Return heating water (flows back into the buffer storage tank)
- 4** Hygienic domestic hot water (showers, baths, washing facilities)
- 5** Circulating line (as required)
- 6** Stainless steel plate heat exchanger
- 7** Sampling point



Centralised domestic hot water generation with optimum storey distribution and loop installation

In apartment blocks, hotels, care homes or hospitals, two adjacent bathrooms are usually supplied via a single conduit shaft. In this case the best possible conditions for the hygienic distribution of cold and hot drinking water are provided by the loop installation. Two ring-shaped pipelines that pass through both bathrooms, connect all consumers. This means that the tapping points are always fed from two directions, completely

replacing the water in the pipes during each tapping operation. Stagnation virtually impossible under normal use. At the same time, smaller pipe diameters can be used, minimising water volume as well as making installation easier. The Uni Pipe PLUS multi-layer composite pipe system is used, offering a high degree of safety and hygiene thanks to its DVGW system certification.



Uponor Aqua Port Central 200

*Uponor Smatrix Aqua PLUS
flushing station*

Uponor Uni Pipe PLUS

The perfect solution for all building types

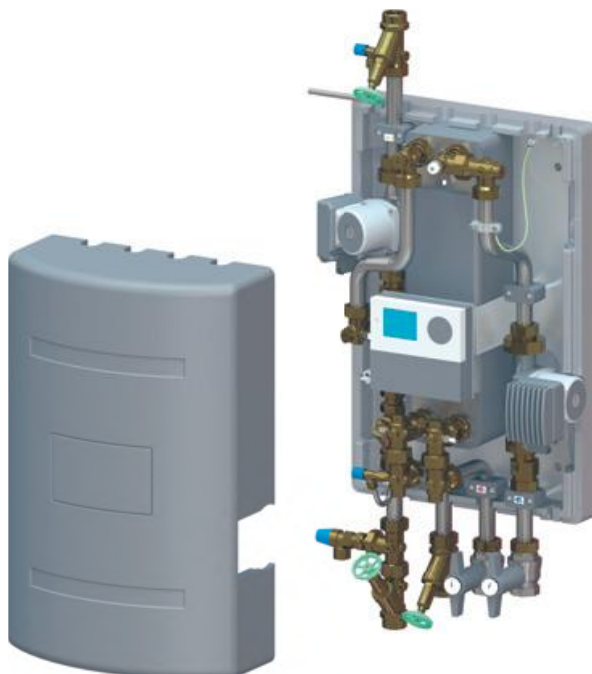
Uponor Aqua Port Central 100 for single-family homes

- Low operating costs and high level of convenience in terms of hot water availability
- Supplied in an insulation EPP cover
- For tapping volumes up to 22 l/min
- Proportional volume control
- Available with optional circulation and safety connection assemblies



Uponor Aqua Port Central 200 for apartment blocks with up to 35 residential units

- Also ideal for sports centres, barracks, schools and communal showers
- Microprocessor-based control with LCD display
- Objective documentation of the drinking water temperatures required according to DVGW guidelines
- Integrated circulation pump that guarantees the required 5 K spread
- Supplied in an insulation EPP cover
- Cascadable
- For tapping volumes up to 60 l/min





Uponor Aqua Port Central 300 for single-family homes

- High energy efficiency thanks to microprocessor-based pump control
- Low ongoing operating costs and high level of convenience in terms of hot water availability thanks to higher tapping performance
- Supplied in an insulation EPP cover
- For tapping volumes up to 22 l/min
- Electronic volume control
- Available with optional circulation and safety connection assembly
- Can be connected directly to the heating buffer tank

Uponor Aqua Port Central 500 for hotel complexes, hospitals or communal showers in sports centres, etc.

- Microprocessor-based control with LCD display
- Demand-based supply of up to 20 showers in simultaneous operation
- Certification of drinking water temperature according to DVGW guidelines possible
- Cascadable
- For tapping volumes up to 125 l/min
- Controller with Modbus interface and SD memory card for recording all relevant values



uponor

Uponor Corporation

Äyritie 20
01510 Vantaa
Finland

T +35 (0)820 129 211
F +35 (0)820 129 2841

