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Innovation + Quality

Valves, controls & systems

Valves and controls for potable water systems
“Aquastrom T plus”
“Aquastrom C”
“Aquastrom P”

Product Range

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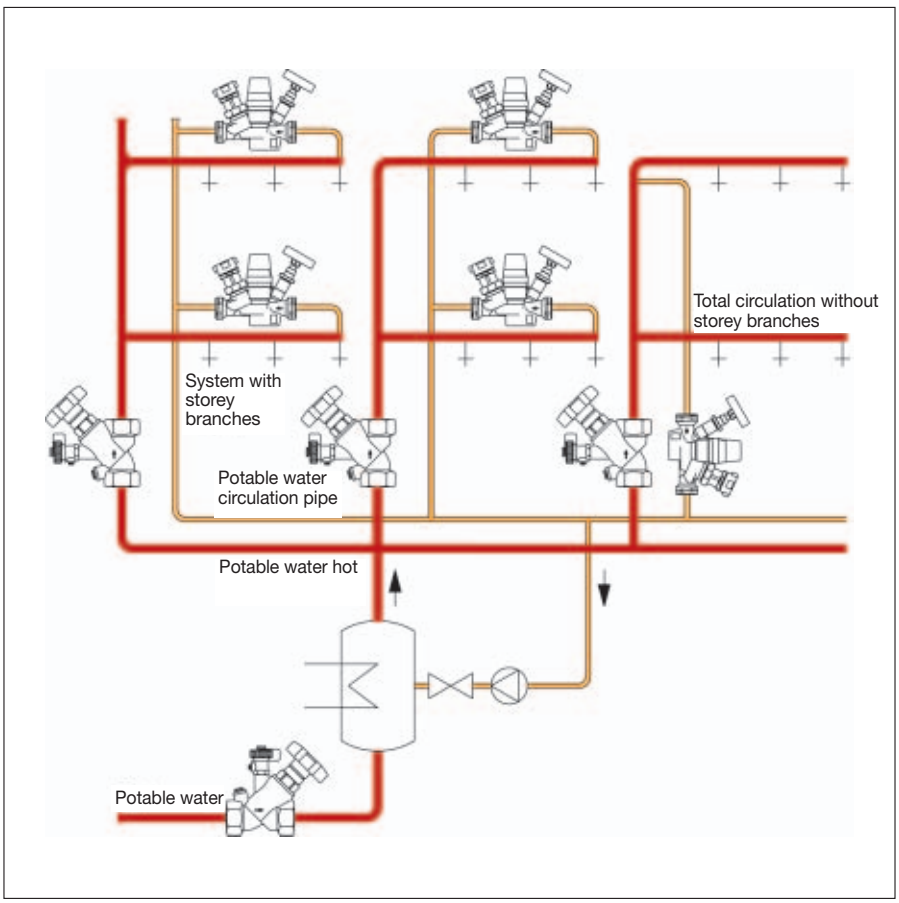

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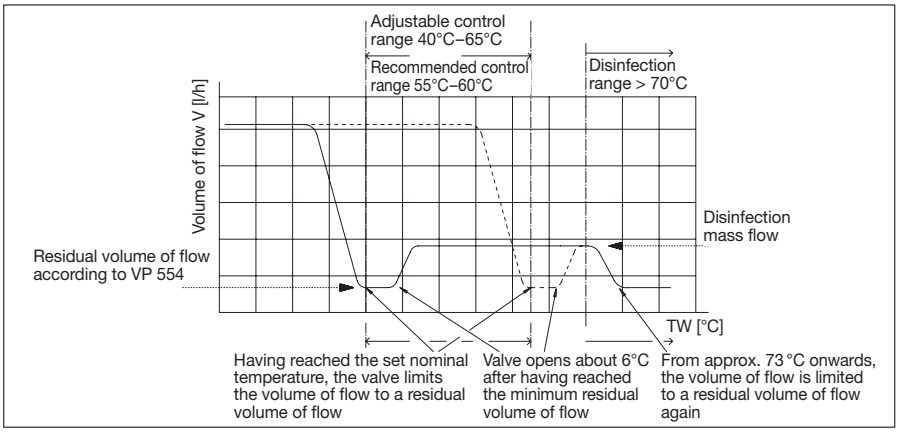
It must be ensured that the conditions in heated potable water systems and the connected pipework prevent a concentration of legionella which is dangerous to health.
Hot water distribution systems in which hot potable water shall constantly be available at draw off points, have a hot water circuit which has to be maintained continuously. For the operation of so-called circulation systems, the basic rules prescribed in the DVGW work sheets W 551 and W 553 must be observed in order to avoid the a.m. health risks. For this purpose, the complete hot water distribution system should on the one hand be operated in such a way that the hot water leaves the potable water heater at a minimum temperature of 60 °C and flows back to it with a maximum temperature loss of 5 °C. On the other hand, sufficient volumes of flow in all circulation risers must be guaranteed.
The DVGW work sheets recommend the operation of the circulation system at a minimum water temperature of 57 °C at the end of each return line. The required volumes of flow are calculated according to the DVGW work sheet W 553 and are to be set at the double regulating and commissioning valve “Aquastrom C” installed in each riser.
A direct and time-saving guarantee of the required hot water temperature of 57 °C is given by the presettable thermostatic valve “Aquastrom T plus” for circulation pipes. This valve automatically adjusts the volume of flow in each return line of the circulation system in such a way that the temperature of 57°C is reached even in the riser located at the furthest point from the potable water heater. If the temperature within the circulation system drops below 57 °C, the hot water temperature has, according the DVGW 551, to be increased to more than 70°C for thermal disinfection. During this disinfection phase, the presettable thermostatic valves for circulation pipes “Aquastrom T plus” distribute the volumes of flow to the last riser in such a way that the temperature required to kill the legionella is reached.
This procedure has to be maintained for at least 3 minutes.

Performance data:
– The “Aquastrom T plus” complies with the requirements of the DVGW according to work sheet 551 for large and small installations, recommended temperature range 55–60 °C (max. temperature range 40–65 °C).
– Support of thermal disinfection approx. 6 °C above the nominal temperature set at the thermostatic valve. Increase of the hot water mass flow up to approx. 73 °C and then reduction to a residual volume of flow.
– Moreover, a manual limitation of the volume of flow is possible. As a result, the hydronic balance of the circulation pipes is possible when taking the system into operation.

1 Illustrated section “Aquastrom T plus”
2 System illustration – Circulation pipe



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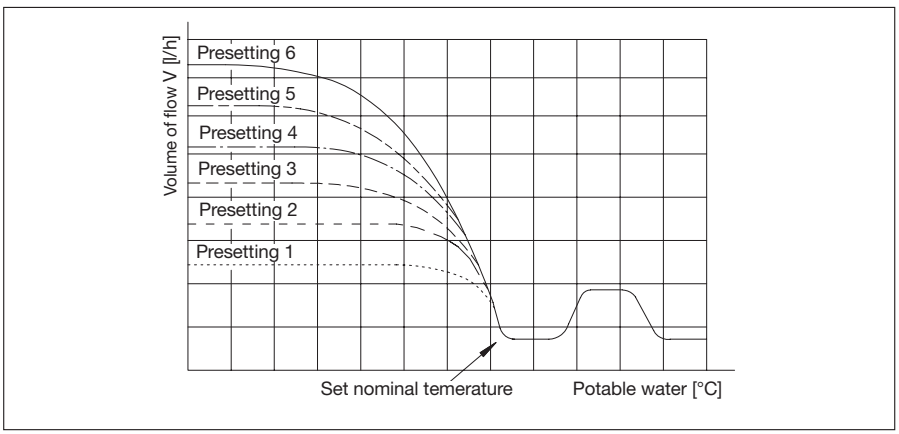

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Temperature control
The thermostatic valve "Aquastrom T plus" is preset at works to 57°C and may thus in most cases be operated without carrying out any additional settings. Different circulation temperatures may, if necessary, be set within a control range of 40 °C to 65 °C. However, a control range of 55 °C to 60 °C is recommended.

With the temperature exceeding this presetting, the volume of flow is limited to the minimum volume of flow according to VP 554.

Thermal disinfection (anti-legionella function)
In general, the thermal disinfection is initiated by the control of the potable water heater.

The water temperature is increased to more than 70°C in the complete system. About 6°C above the set temperature, the minimum volume of flow is increased to the disinfection volume of flow inside the "Aquastrom T plus".

If the temperature continues to increase, the volume of flow is throttled again at 73 °C to the minimum volume of flow. This way, the hydronic balance is maintained during the disinfection phase, too. The preset value may even be read off with the lockshield cap being mounted.

Limitation of the volume of flow/ regulation of risers
The thermostatic valve "Aquastrom T plus" works automatically. The maximum flow can additionally be limited with the help of an adjustable regulating valve installed behind the double regulating and commissioning valves. The limit stop of the presetting is even kept if the double regulating and commissioning valve is closed for maintenance work. After having removed the thermometer, the isolated riser may be easily drained by use of the integrated drain valve for hose connection.

Models
The bronze thermostatic valve "Aquastrom T plus" with presetting for circulation pipes is available in size DN 15/DN 20/DN 25 with female or male threaded connection on both ports.
The valve complies with DVGW VP 554 and is supplied complete with insulation (insulation = packaging).

- Fire protection class B1
- Thermal conductivity = 0.04 W/m.K
- Max. temperature 90 °C

1 Characteristic lines temperature setting

2 Detailed photo thermostat setting

3 Detailed photo setting of flow rate

4 Characteristic lines setting of volume of flow

5 The "Aquastrom T plus" is supplied complete with insulation (insulation = packaging)

6 "Aquastrom T plus" with sensor element PT 1000 for temperature control via centralised building control systems (accessories item no. 420 55 92)

Double regulating and commissioning valve “Aquastrom C”

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Oventrop double regulating and commissioning valves “Aquastrom C” (DVGW certified) are installed in circulation pipes of potable water systems. The hydronic balance of the circuits ensures that a sufficient hot water flow reaches the same required temperature in the last riser as in the risers located at a closer point.
The volumes of flow to be regulated result from the calculation according to DVGW work sheet W 553.

The balance is achieved by a presetting with memory position. The central and precise setting of the calculated volume of flow or the pressure loss can be carried out individually for each riser. The valve is installed in the return of the circulation pipes.

The double regulating and commissioning valve “Aquastrom C” may also be installed in systems in which the required temperature of the hot water mass flow in each riser is set at the presettable thermostatic valve “Aquastrom T plus” for circulation pipes. In this case the double regulating and commissioning valve “Aquastrom C” is installed in the last and thus hydraulically most underprivileged riser instead of the “Aquastrom T plus”.

The valve body is made of bronze, the stem and disc are made of dezincification resistant brass.

Advantages:
- precise presetting of even very low volumes of flow
- the location of the functioning components on one level allows a simple assembly and easy operation
- only one valve for five functions:
  presetting
  isolating
  temperature indication
  draining
  measuring (pressure test points see accessories)
- DVGW certified
- WRAS approval applied for

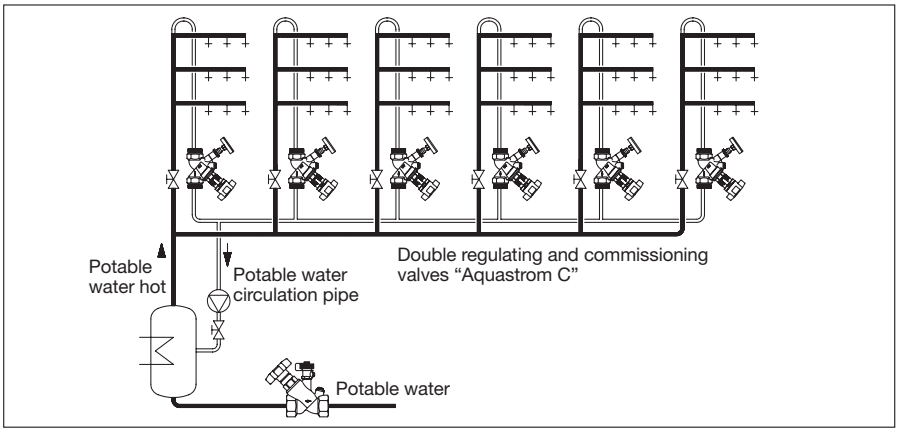
Models
Pressure range PN 10 for potable water up to 95 °C alternatively hot water central heating and cooling systems between -20 °C and +150 °C, PN 16 (male thread)/ PN 25 (female thread).
Male threaded model:
item no. 420 71 04-10
Female threaded model:
item no. 420 81 04-10

1 “Aquastrom C” with female and male thread

2 “Aquastrom C” with male thread and tailpipe connection sets for different pipe installations, e.g.
- solder connection for copper pipes
- press connection for stainless steel pipes
- press fittings “Cofit P” for Oventrop composition pipe “Copipe”

3 “Aquastrom C” with drain valve (hose connection for draining)

4 The double regulating and commissioning
- valve “Aquastrom C” is supplied complete
- with insulation (insulation = packaging)
- Fire protection class B1
- Thermal conductivity = 0.04 W/m.K
- Max. temperature 90°C



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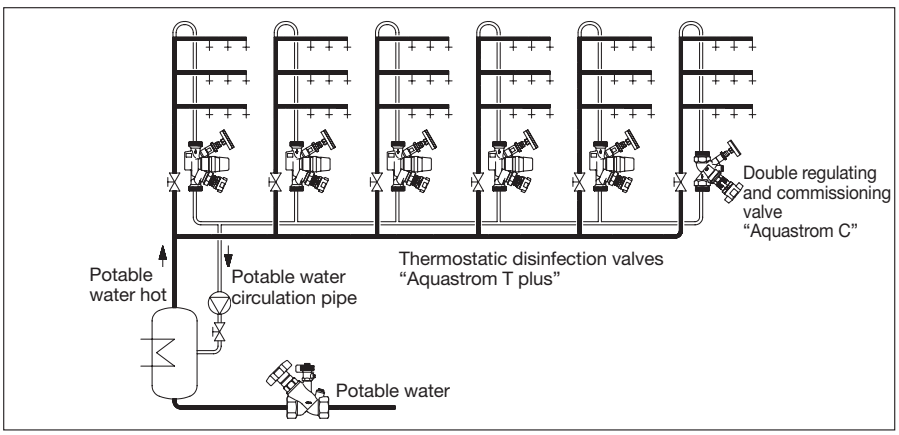

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A correct determination (e.g. calculation by use of the software “OVplan”) of the mass flow distribution in all risers is necessary to guarantee a perfect operation of a hot water circulation system. Heat losses have to be taken into consideration in order to maintain the temperature level of 57 °C even in the last riser (according to DVGW work sheet W 551). The determined required distribution of the hot water mass flow in all risers of the circulation system is guaranteed by the preset double regulating and commissioning valves “Aquastrom C”.
In a hot water circulation system with mounted “Aquastrom T plus” (presettable thermostatic valve for circulation pipes), a double regulating and commissioning valve “Aquastrom C” may be installed in the last riser for temperature control during operation and anti-legionella function.
The volume of flow in the principal supply pipe of the circulation system may be influenced with different regulating alternatives of the “Aquastrom C”. If, e.g., the required temperature level has not yet been reached in the last riser, the volume of flow can be increased by opening the double regulating and commissioning valve “Aquastrom C”.
By doing so, more heat energy is supplied and the required temperature level is reached.
(Temperature control by use of the thermometer at the “Aquastrom C” or the temperature sensor available as accessory.)

1 System illustration – Circulation system Balance with static double regulating and commissioning valve “Aquastrom C” when calculating the circulation pipe according to DVGW work sheet W 553.

2 System illustration – Circulation system Double regulating and commissioning valve “Aquastrom C” to maintain the necessary water flow in the last riser when combined with a presettable thermostatic valve “Aquastrom T plus” for circulation pipes.

3,4 Water sampling valve “Aquastrom P” size 1/4" and 3/8" for the annual control of potable water regarding legionella in public buildings, other potable water suppliers or swimming pools according to DVGW work sheet W 551.
Valve body made of bronze, delivery elbow made of stainless steel. Flame resistant materials. The valves allow a flexible connection (horizontal or vertical position) to any Oventrop valves “Aquastrom” and any other threaded connections sized 1/4" or 3/8" within the pipework.
Operation by use of the stem with enclosed key or a 5 mm square key.
Size 1/4" item no. 420 91 02
Size 3/8" item no. 420 91 03

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Further products for potable water systems

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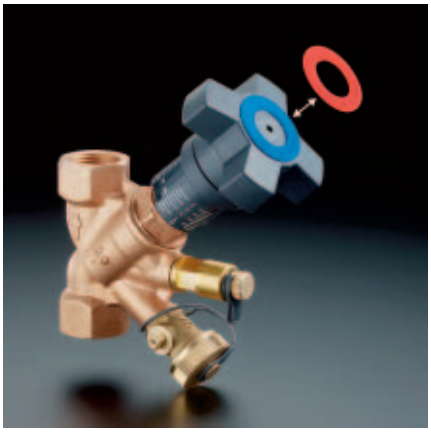

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1 Distributor system for potable water "Aquamodul" for a fast installation of pipework for domestic water distribution without cutting threads, hemping or soldering. The components are connected by use of flat sealing screws. The 1" distributor line has a 1¼" collar nut at the inlet port and is male threaded accordingly at the outlet port. The dimension is 140 mm. A suitable water filter can be directly incorporated into the system. The one pipe connection piece EAS serves to connect Oventrop water and backflush filters "Aquanova". Water purifiers or pipe flushing devices can be connected via the bypass valve. Bronze body (all parts coming into contact with potable water are made of non-brass materials).

2 Oblique pattern free-flow valves and KFR valves "Aquastrom" PN 16 made of bronze DN 15 – DN 50. All models: male threaded connection, female threaded connection, solder connection. DIN-DVGW tested. Sound absorbing according to DIN 52218. Product group 1. All functioning components on the side of the handwheel, maintenance-free stem seal.

3 Bronze double regulating and commissioning valve "Hydrocontrol R" for the hydronic balance of potable water systems. Sizes DN 15 to DN 32 DVGW tested.

4 Bronze water filter "Aquanova Compact"

5 Water filter "Aquanova Magnum"

6 Composition pipe "Copipe" with press and screwed fittings

7 Cabinets (inner width 400 mm or 600 mm) for the installation of the sanitary distributor "Multidis R" for cold and hot water.

Further information on water products can be found in the catalogue "Products", in the technical information sheets or on the internet under product range 12.

Subject to technical modification without notice.

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Product range 12
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