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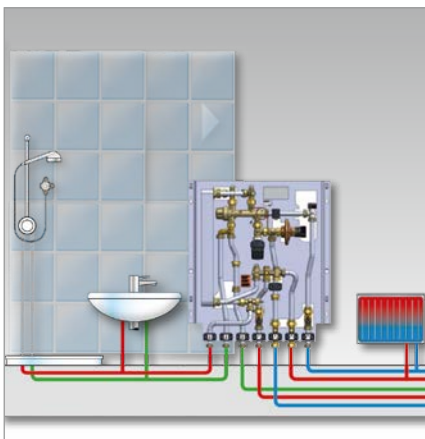
Valves, controls + systems
“Regudis W” Dwelling stations

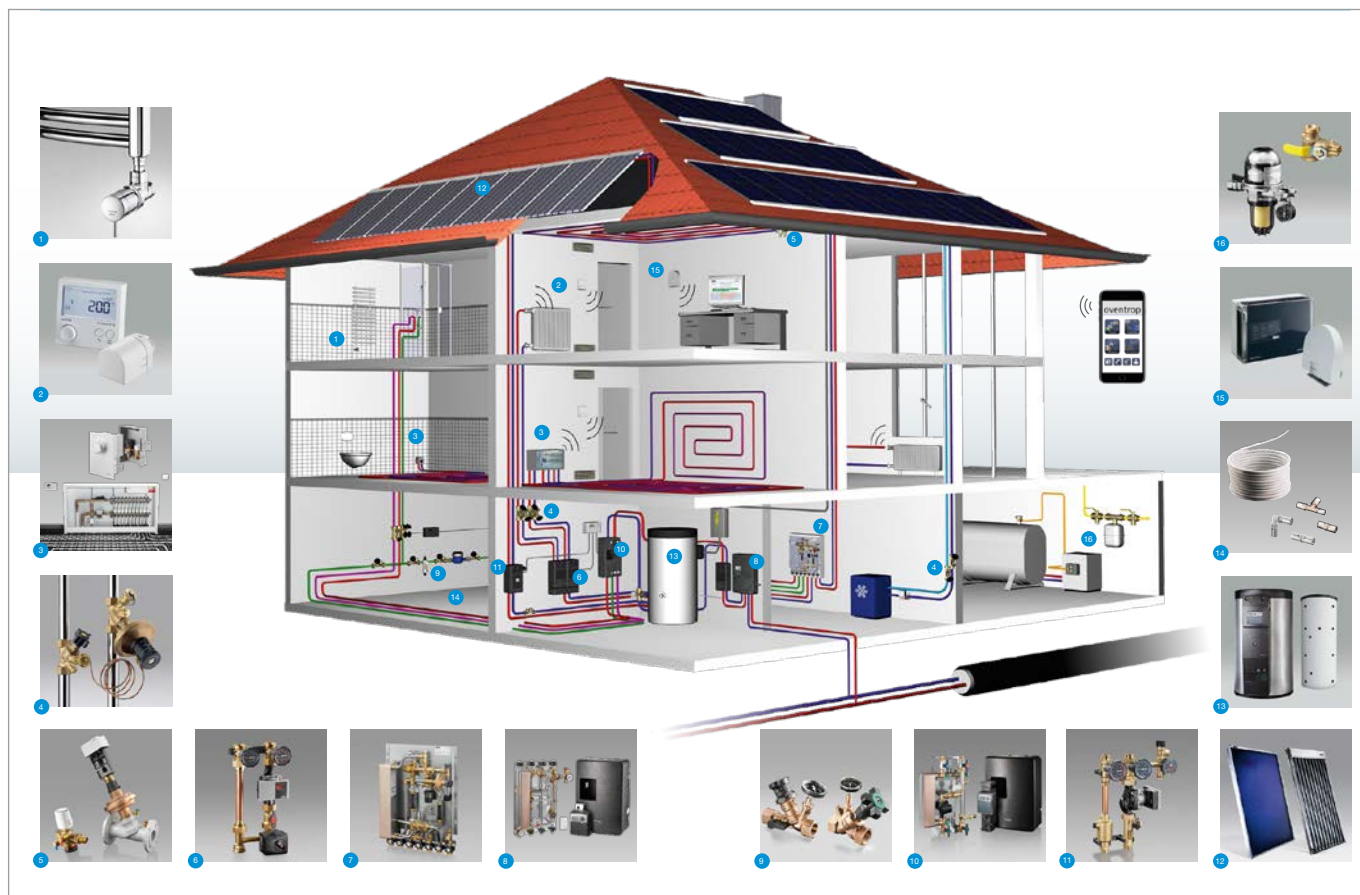
Product range

Awards:



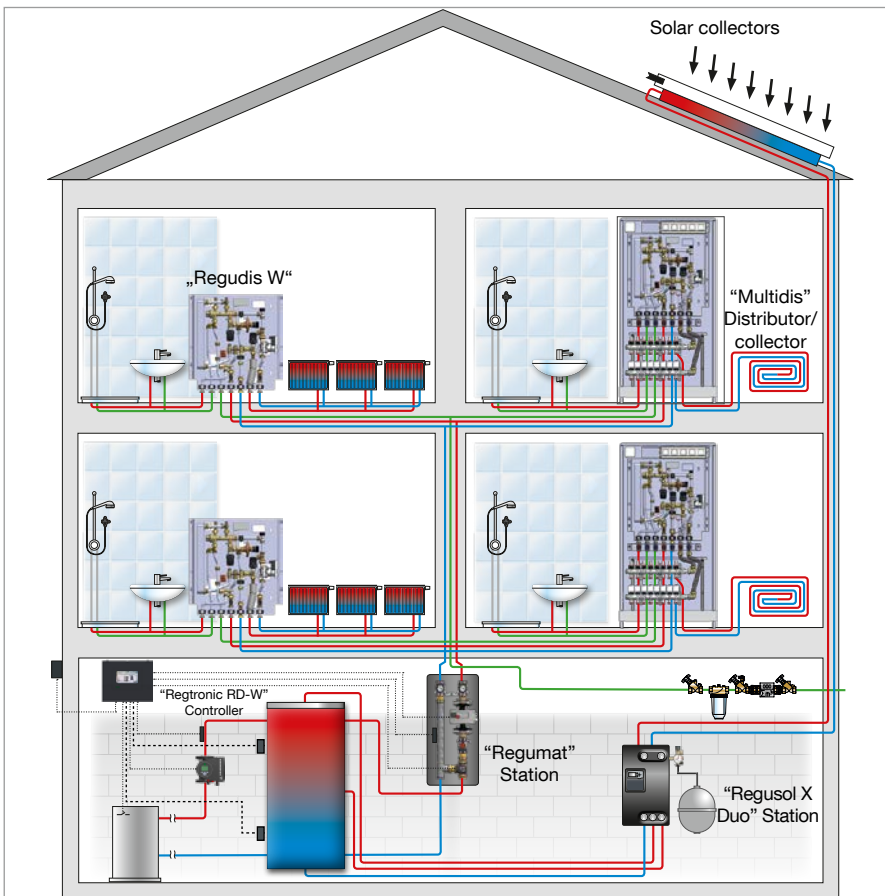
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System illustration

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Oventrop products and systems allow for an improved energy efficiency of installations in new buildings and during refurbishment of existing ones. Developers have to decide on a long term heat concept when constructing a new building or refurbishing an old one.

The Oventrop dwelling station “Regudis W” supplies heat as well as hot and cold potable water to individual dwellings or commercial units without using auxiliary energy.

The option to combine the dwelling stations with solar plants, complies with the legal specifications which increasingly regard the use of regenerative energies. The hot water for heating purposes is provided by a central heat supply, for instance by a district heating network, an oil, gas or wood burning boiler and a buffer storage cylinder. The potable water is heated locally via a heat exchanger according to the continuous flow principle.

Advantages for the owner

- Lower costs than the installation of new wall hanging heating devices and gas flow heaters in each dwelling
- Time- and cost-saving installation as only three supply pipes are required in one riser for all dwellings
- Smart optical integration due to surface-mounted cover or cabinet
- Central heat supply allowing for the combination with regenerative energies
- No circulation pipe required if the water volume in the potable hot water pipe is less than 3 litres
- No examination for legionella required according to the Decree for Potable Water
- No potable water reserve required
- Low return temperatures
- Piping of the station and heat exchanger made of high quality stainless steel
- Station completely pre-assembled on a base plate, leakage and function tested at works
- Heat exchanger resistant to scaling due to the thermal compensation which is achieved through the installation position, sufficient thermal length and type of hydronic connection
- Low maintenance costs

Advantages for the user

- Setting of the potable water temperature (PWH)
- Hygienic, energy efficient operation
- A heat meter and a cold water meter can be integrated into the station and allow for an exact calculation of the water and energy consumption of each dwelling
- Only one contract with an energy supplier required which may result in better conditions
- Individual night/zone setback



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Oventrop provides different models of the “Regudis W” station for the supply of a dwelling.

Distinction is made between two types: “Regudis W-HTU” and “Regudis W-HTF”.

Abbreviation explanation:

W: Living

H: Heating

T: Hot potable water preparation

U: Connections from below

F: Flat format (depth 110 mm)

The dwelling station “Regudis W” features all necessary connections:

- Supply and return connection for the central heat supply
- Supply and return connection for the heating circuit of the dwelling
- Connection for cold and hot potable water

Integrated spacers allow for the connection of heat and water meters.

Technical data:

| | |
|--------------------------------------------------------------------------|-------------------------------------------------|
| Nominal size: | DN 20 |
| Nominal pressure: | PN 10 |
| Connections: | G ¾ |
| Collar nut: | flat sealing |
| Max. operating temperature t_{supply} (heating water - supply): | 90°C |
| Draw off temperature $t_{\text{draw off}}$: | 40-70°C |
| Min. flow temperature : | $t_{\text{draw off}} + 15K$ |
| Performance range 1 max. draw off capacity (PWH): | 12 l/min |
| Performance range 2 max. draw off capacity (PWH): | 15 l/min |
| Performance range 3 max. draw off capacity (PWH): | 17 l/min |
| Plate heat exchanger: | Stainless steel 1.4401, copper or nickel brazed |

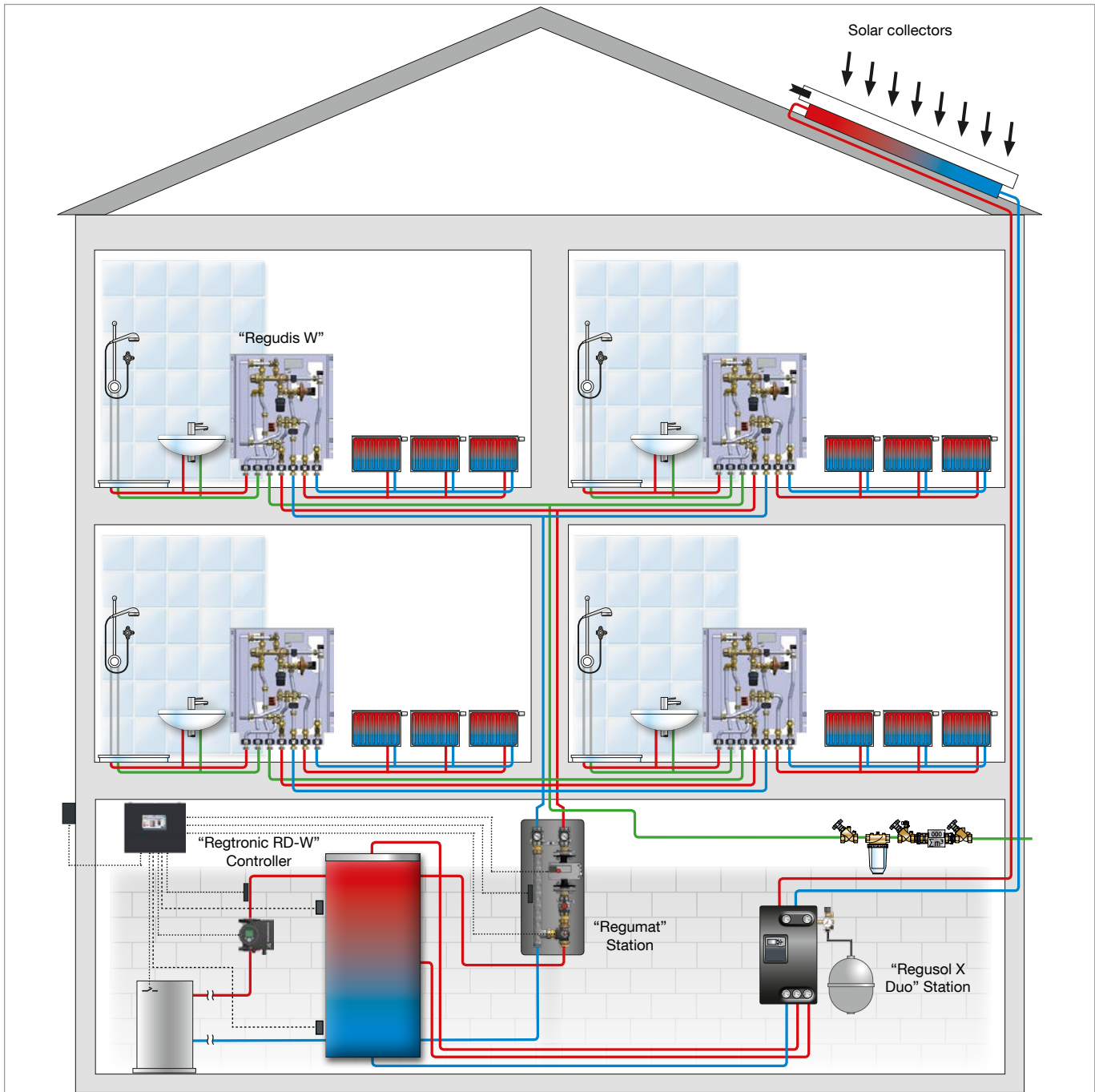
Note:

All models of the “Regudis W” dwelling station are also available with nickel brazed heat exchanger for use in mixed installations or in regions with aggressive water where copper brazed heat exchangers cannot be used.

1 “Regudis W-HTU” Dwelling station,” item no. 1341032, with plate heat exchanger for heat transmission for a central heat supply to the sanitary and heating installation of a dwelling.

2 “PM controller”, DVGW certified. All parts of the body coming into contact with potable water are coated so that scaling and the formation of bio films are avoided. The stem coating also prevents scaling and damage to the O-rings is thus avoided. Long-term functional reliability is guaranteed. Due to the construction, the piston will not get stuck and a failure of the hot potable water preparation is avoided.

| Designation | Application | | | Heat exchanger | | Performance range (item no.) | | | Pipework connection / special features | Page |
|--------------------------------------------------------------------------------------------|-------------|----------|-----------------|----------------|----|------------------------------|----------|----------|--------------------------------------------------------|------------------|
| | Hot water | Heating | | Cu | Ni | 12 l/min | 15 l/min | 17 l/min | | |
| | | Radiator | Surface heating | | | | | | | |
| “Regudis W-HTU” | X | X | | X | | 1341030 | 1341031 | 1341032 | Connections at the bottom Installation depth 150 mm | 8, illustr.1 |
| | X | X | | | X | 1341050 | 1341051 | 1341052 | | |
| | X | X | | X | | | | 1341231 | Connections at the bottom Installation depth 150 mm | 14, illustr.1 |
| “Regudis W-TU” | X | | | X | | | | 1341262 | Connections at the bottom Installation depth 150 mm | 14, illustr.2 |
| | X | | | | X | | | 1341252 | | |
| | X | | | X | | 1341257 | 1341257 | 1341257 | Connections at the bottom Installation depth 150 mm | not illustr. |
| | X | | | | X | 1341267 | 1341267 | 1341267 | | |
| “Regudis W-HT” | X | X | | | X | | | 1341271 | Supply pipe from the top Installation depth 150 mm | 15, illustr. 2 |
| | X | X | | X | | | | 1341274 | | |
| “Regudis W-HTF”, variable | X | | X | X | | 1341140 | 1341141 | 1341142 | Connections at the bottom Installation depth 110 mm | 12, illustr. 1 |
| | X | | X | | X | 1341160 | 1341161 | 1341162 | | |
| “Regudis W-HTF”, constant | X | X | | X | | 1341130 | 1341131 | 1341132 | Connections at the bottom Installation depth 110 mm | 8, illustr. 2 |
| | X | X | | | X | 1341150 | 1341151 | 1341152 | | |
| „Regudis W-HTF“ GSWB | X | | | X | | | | 1341121 | GSWB approval Installation depth 110 mm | not illustr. |
| “Regudis W-HTF” variable with high temperature circuit | X | X and X | | X | | 1341340 | 1341341 | 1341342 | Connections at the bottom Installation depth 110 mm | not illustr. |
| | X | X and X | | | X | 1341360 | 1341361 | 1341362 | | |
| “Regudis W-HTF” variable with circulation pipe | X | | X | X | | | | 1341442 | Connections at the bottom Installation depth 110 mm | not illustr. |
| | X | | X | | X | | | 1341462 | | |
| “Regudis W-HTF” variable with circulation pipe and high temperature circuit | X | X and X | | X | | | | 1341542 | Connections at the bottom Installation depth 110 mm | 12, illustr. 2 |
| | X | X and X | | | X | | | 1341562 | | |
| “Regudis W-HTU Duo” with heating circuit separation system | X | X and X | | X | | | | 1341332 | Connections at the bottom Installation depth 150 mm | 15, illustr. 1 |
| “Regudis W-HT Duo” with heating circuit separation system | X | X | X | X | | | | 1341372 | Supply pipe from the top Installation depth 150 mm | not illustr. |



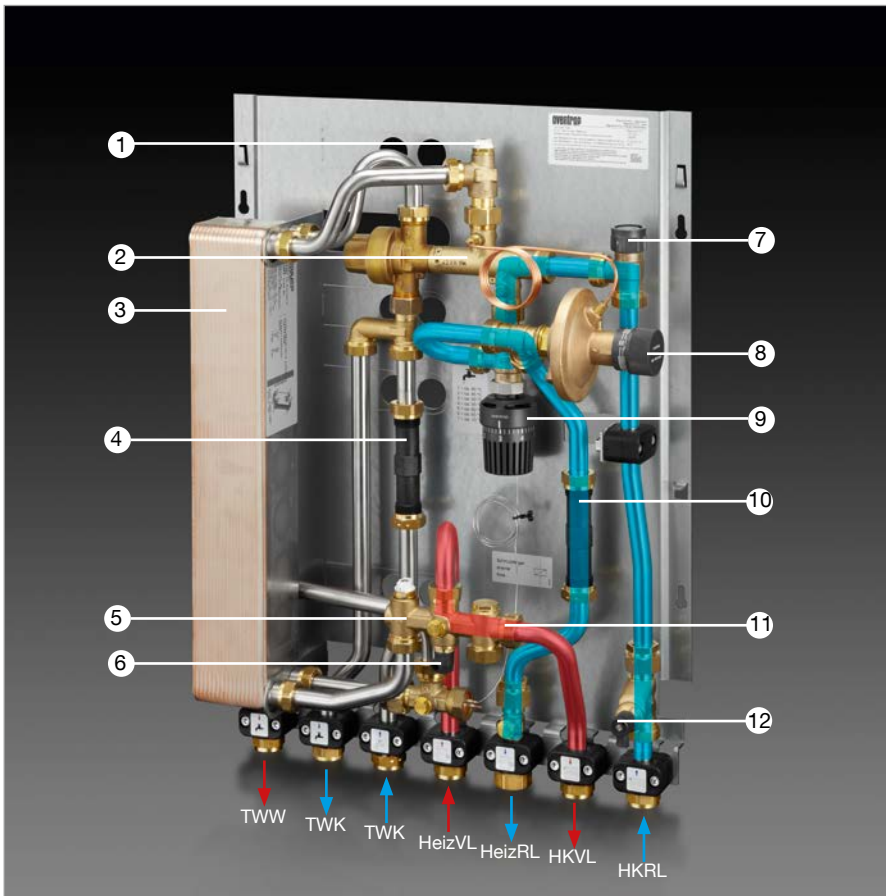
The illustration shows the Oventrop dwelling stations “Regudis W” in a radiator heating system with a combination conventional heat generator and solar thermal plant.

The integration of different heat sources (such as oil, gas, or wood burning boiler or local or district heating) is detailed on page 18.

Buffer storage cylinders which are required for the supply of the dwelling stations, allow for an energy efficient integration of a solar thermal plant into the complete system.

High solar shares can be feasible.

The illustrated system for radiator connection can also be combined with a surface heating system so that an existing building with radiators can be complemented by surface heating.



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The dwelling station “Regudis W-HTU” for radiator connection consists of the following components:

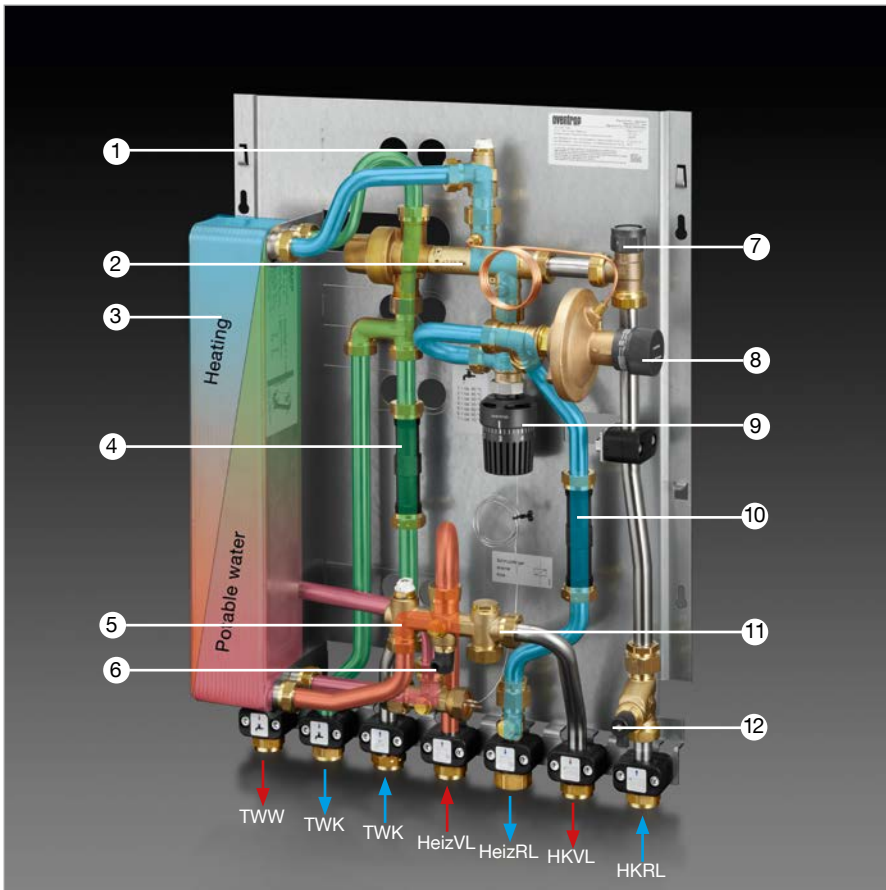
- 1 Deaeration heating circuit
 - 2 Proportional flow controller
 - 3 Plate heat exchanger
 - 4 Spacer for cold water meter
 - 5 Connection facility for temperature sensor for heat meter G ½
 - 6 Draining valve heating circuit
 - 7 Zone valve for heating circuit control.
- The installation of a timed zone control is required to comply with section 14, paragraph 2 of the German Energy Saving Directive.
- 8 Differential pressure regulator
 - 9 Thermostatic temperature controller
 - 10 Spacer for heat meter
 - 11 Strainer heating water supply
 - 12 Strainer heating circuit return

1 Heating operation -

Flow paths and relevant components

Heating water enters the heating circuit supply (HKVL) of the dwelling via the heating water supply (HeizVL). The proportional flow controller (2) opens the path between the heating circuit return (HKRL) and the heating water return (HeizRL).

- Heating circuit return / Heating water return
- Heating circuit supply / Heating water supply



2

2 Potable water operation -

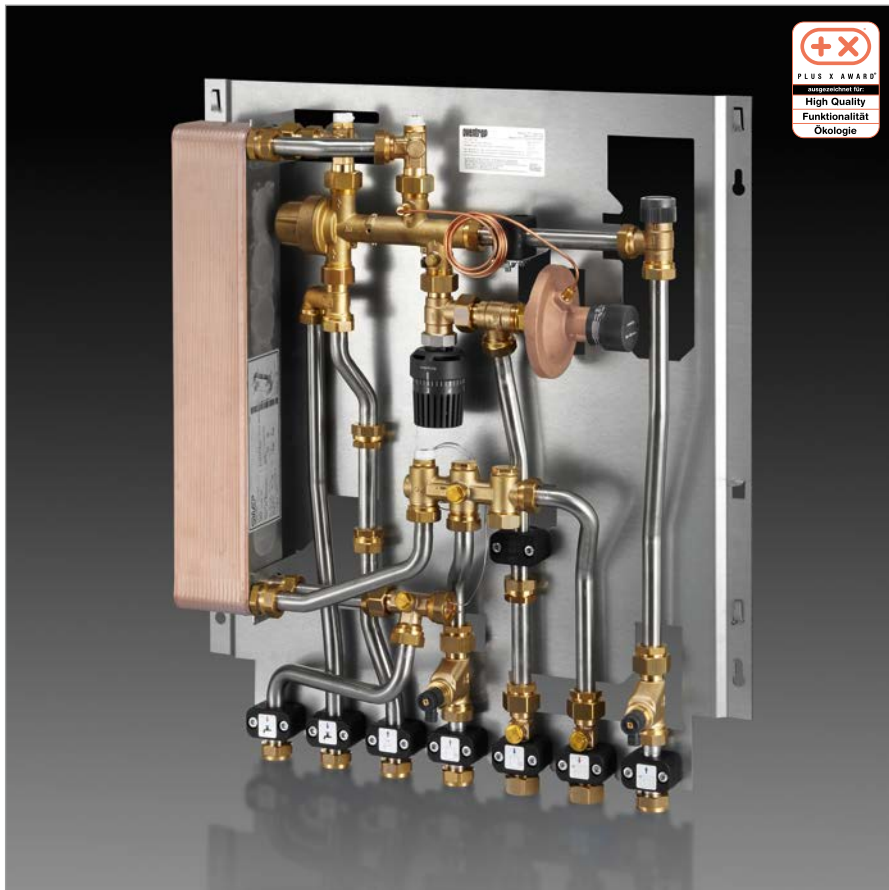
Flow paths and relevant components

The proportional flow controller (2) switches to potable water priority function, if hot water is demanded in the dwelling and a draw off point is opened. The heating water of the supply (HeizVL) passes across the plate heat exchanger (3) and the PM controller (2) and enters the heating water return (HeizRL). The cold potable water (TWK = PWC) is warmed up according to the continuous flow principle and is available at (TWW = PWH).

- Heating water return
- Potable cold water
- Heating water supply
- Potable hot water



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The dwelling stations “Regudis W-HTU” (installation depth 150 mm) and “Regudis W-HTF” (installation depth 110 mm) with constant temperature heating circuit consist of:

- a copper brazed stainless steel heat exchanger, vertically installed, which reduces the risk of calcification, also available with nickel brazed heat exchanger
- a proportional flow controller with potable water priority function (the components of the potable water circuit are coated)
- a thermostatic temperature controller with quick-reacting sensor for the control of the hot water outlet temperature
- a spacer for installation of a heat meter 110 mm, G 3/4, with reducer for sensor connection G 1/2 for use of direct immersion sensors
- a cold water dwelling connection with spacer for a cold water meter 110 mm, G 3/4, to meter the total water consumption of a dwelling
- a valve for zone control which can be equipped with an actuator
- a facility for the deaeration and draining of the heating circuit
- a differential pressure regulator in the heating water return for differential pressure control during quickly alternating operational conditions when drawing off hot water and for differential pressure control in the heating circuit of the dwelling
- a strainer in the primary heating water supply and the secondary heating circuit return
- flat sealing G 3/4 collar nuts for the connection of the station to the supply pipes and the heating and potable water circuit of the dwelling
- complete piping of the station made of stainless steel, 18x1

1 “Regudis W-HTU”

Heat exchanger copper brazed

Item no. 1341030, 12 l/min.
1341031, 15 l/min.
1341032, 17 l/min.

Heat exchanger nickel brazed

Item no. 1341050, 12 l/min.
1341051, 15 l/min.
1341052, 17 l/min.

2 “Regudis W-HTF” with constant temperature heating circuit

Heat exchanger copper brazed

Item no. 1341130, 12 l/min.
1341131, 15 l/min.
1341132, 17 l/min.

Heat exchanger nickel brazed

Item no. 1341150, 12 l/min.
1341151, 15 l/min.
1341152, 17 l/min.



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1 Ball valve connector block, item no. 1341080 (“Regudis W-HTU”)/ item no. 1341180 (“Regudis W-HTF”), 7 ball valves mounted onto a bracket for the isolation of all connections of the “Regudis W” station.

Connections:

- to the station G ¾ flat sealing male thread
- to the pipework Rp ¾ female thread

2 Ball valve connector block, item no. 1341082 (“Regudis W-HTU”), with flushing function of the heating flow and return, consisting of ball valves and connection fitting “Flypass”.

5 ball valves and connection fitting “Flypass” mounted onto a bracket for the isolation of all connections of the “Regudis W-HTU” station. The Oventrop connection fitting “Flypass” is used for the isolation and flushing of the flow and return pipework serving the “Regudis” unit.

Connections:

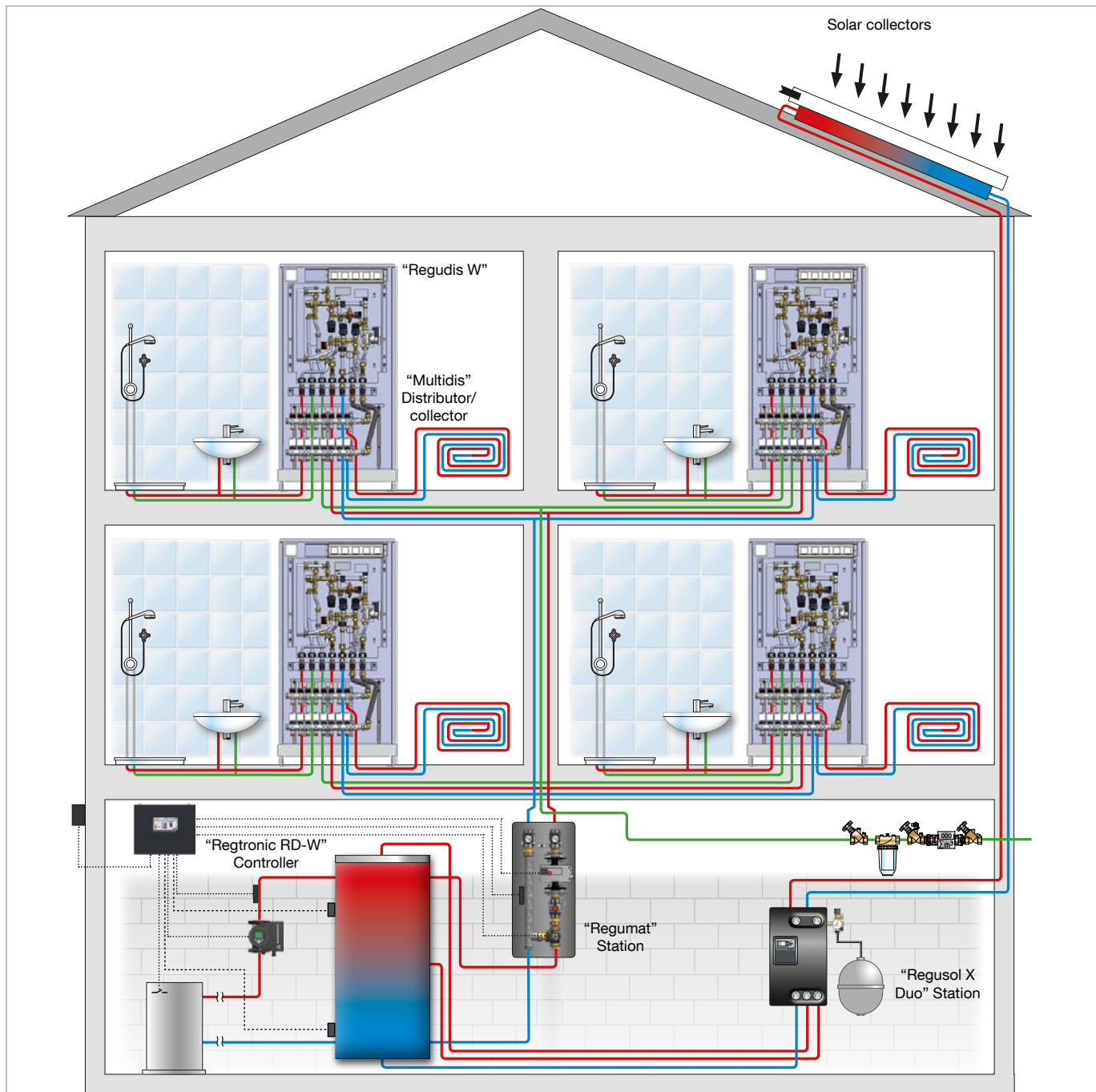
- to the station G ¾ flat sealing male thread
- to the pipework Rp ¾ female thread

3 Derivative temperature control set, item no. 1341191, for maintaining the flow temperature to the “Regudis W” station to guarantee a quick supply of hot potable water outside the heating period.

4 Room thermostat, item no. 1152561, with electrothermal actuator 230 V, item no. 1012415, one of each per “Regudis W” station to comply with section 14, paragraph 2 of the German Energy Saving Directive (timed zone control).

5 Return temperature limiter set, item no. 1341091, for limitation of the heating water return temperature (control range 0-40 °C) for “Regudis W-HTU”.

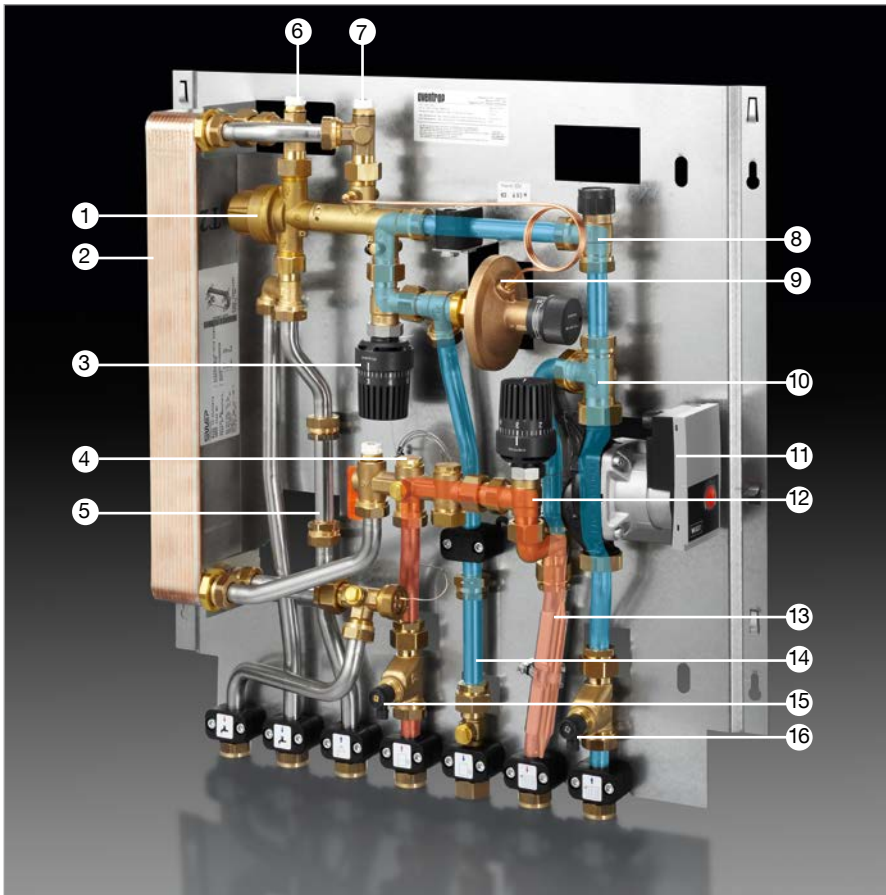
6 Connection set for “Regudis W”, item no. 1341081, consisting of 7 flexible corrugated hoses which may be cut to required length for a flexible connection.



The illustration shows the Oventrop dwelling stations “Regudis W” in a surface heating system with a combination conventional heat generator and solar thermal plant.

A flow temperature which is suitable for surface heating systems is guaranteed by the mixing circuit in the “Regudis W” station.

The integration of different heat sources (e.g. oil, gas or wood burning boiler or local or district heating) is detailed on page 18.



1

The dwelling station “Regudis W-HTF” (installation depth 110 mm) with variable temperature heating circuit for surface heating system consists of the following components:

- 1 Proportional flow controller
- 2 Plate heat exchanger
- 3 Thermostatic temperature controller
- 4 Connection facility for temperature sensor for heat meter G ½
- 5 Spacer for cold water meter
- 6 Deaeration potable water circuit
- 7 Deaeration heating circuit
- 8 Zone valve for heating circuit control
- 9 Differential pressure regulator
- 10 Check valve
- 11 High-efficiency pump
- 12 Angle pattern valve with thermostat control
- 13 Contact sensor
- 14 Spacer for heat meter
- 15 Strainer (with draining facility) heating water supply
- 16 Strainer (with draining facility) heating circuit return

1 Heating operation –

Flow paths and relevant components

Heating water enters the heating circuit supply (HKVL) of the dwelling via the heating water supply (HeizVL). The proportional flow controller (1) opens the path between the heating circuit return (HKRL) and the heating water return (HeizRL). The flow temperature of the heating circuit supply is continuously controlled by the contact sensor (13) and the volume flow of the hot fluid is adjusted by the angle pattern valve (12). Depending on the setting of the angle pattern valve (12), cold water from the heating circuit return (HKRL) is added to the heating circuit supply (HKVL) via the check valve (10) (mixing function).

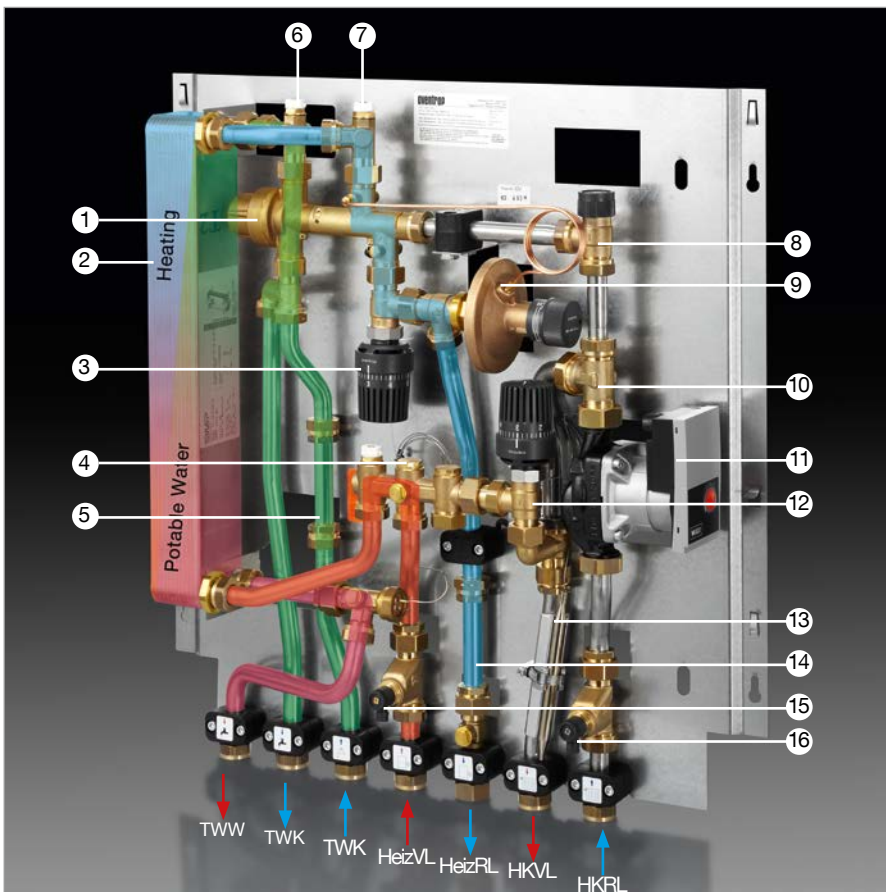
- Heating circuit return / Heating water return
- Variable temperature heating circuit
- Heating water supply

2 Potable water operation –

Flow paths and relevant components

The proportional flow controller (1) switches to potable water priority function, if hot water is demanded in the dwelling. The heating water of the supply (HeizVL) passes across the plate heat exchanger (2) and the PM controller (1) and enters the heating water return (HeizRL). The cold potable (TWK = PWC) is warmed up according to the continuous flow principle and is available at (TWW = PWH).

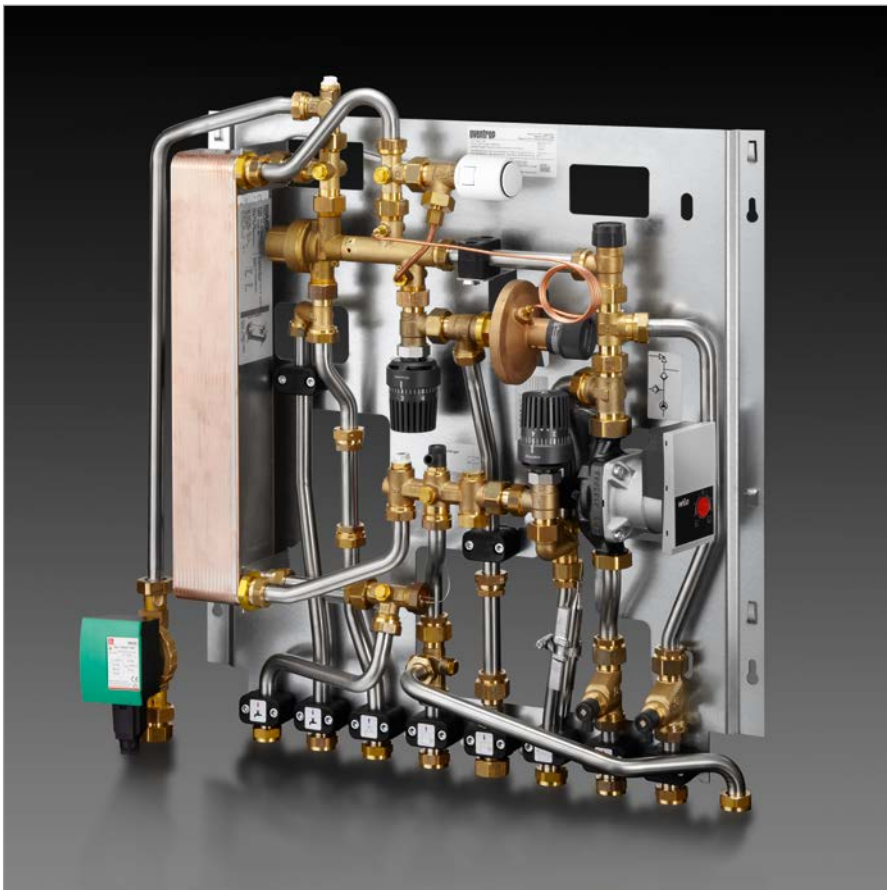
- Heating water return
- Potable cold water
- Heating water supply
- Potable hot water



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2

The dwelling station “Regudis W-HTF” which is mounted on a fixing sheet is a completely pre-assembled and leak tested unit with variable temperature heating circuit.

The station either supplies a dwelling with potable water and hot water for the surface heating (illustr. 1) or with potable water and hot water for the surface heating and radiators (illustr. 2).

The station consist of:

- a copper brazed stainless steel heat exchanger, vertically installed, which reduces the risk of calcification, also available with nickel brazed heat exchanger
- a proportional flow controller with potable water priority function (the components of the potable water circuit are coated)
- a thermostatic temperature controller with quick-reacting sensor for the control of the hot water outlet temperature
- a spacer for installation of a heat meter 110 mm, G 3/4, with reducer for sensor connection G 1/2 for use of direct immersion sensors
- a cold water dwelling connection with spacer for a cold water meter 110 mm, G 3/4, to meter the total water consumption of a dwelling
- a valve for zone control which can be equipped with an actuator
- a facility for the deaeration and draining of the heating circuit
- a differential pressure regulator in the heating water return for differential pressure control during quickly alternating operational conditions when drawing off hot water and for differential pressure control in the heating circuit of the dwelling
- a strainer in the primary heating water supply and the secondary heating circuit return
- flat sealing G 3/4 collar nuts for the connection of the station to the supply pipes and the heating and potable water circuit of the dwelling
- complete piping of the station made of stainless steel, 18x1

1 “Regudis W-HTF” with variable temperature heating circuit, fixed value control, can be upgraded with a weather guided flow temperature control.

Heat exchanger copper brazed:

Item no. 1341140, 12 l/min.

1341141, 15 l/min.

1341142, 17 l/min.

Heat exchanger nickel brazed

Item no. 1341160, 12 l/min.

1341161, 15 l/min.

1341162, 17 l/min.

2 “Regudis W-HTF” with variable temperature heating circuit, circulation pipe and additional outlet for a radiator circuit and a time controlled potable water circulation pipe.



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3

- 1** “Regudis W-HTF” station as complete model for a dwelling with surface heating system, radiators and potable water circulation, consisting of:
- “Regudis W-HTF” dwelling station
Item no. 1341542
 - “R-Con” wireless receiver, 230 V, without plug, wiring on site. Item no. 115077.
 - Electrothermal actuator (2 point), closed with current off, 230 V, connecting cable 2 m.
Item no. 1012452
 - Cabinet - long model
for the direct installation of the dwelling station and the stainless steel distributor/collector for surface heating systems, steel, galvanized, frame and door white lacquered, removable screen.
Dimensions: Width 700 mm,
Height 1440 + 125 mm
Depth 115 - 180 mm
Item no. 1341175
 - Derivative temperature control set for maintaining the flow temperature in the “Regudis W” station to guarantee a quick supply of hot potable water outside the heating period.
Item no. 1341191
 - Ball valve connector block
7 ball valves mounted onto a bracket for the isolation of all connections of the “Regudis W-HTF” station.
Connections:
-to the station G ¾ flat sealing male thread
-to the pipe Rp ¾ female thread
Item no. 1341180
 - Ball valve connector block
2 ball valves mounted onto a bracket for the isolation of the high temperature connection of the “Regudis W-HTF” station with variable temperature heating circuit and high temperature circuit.
Item no. 1341183
 - Ball valve connector block
1 ball valve mounted onto a bracket for the isolation of the circulation pipe of the “Regudis W-HTF” station with variable temperature heating circuit and circulation pipe.
Item no. 1341184
 - Connection set for stainless steel distributor/collector for the connection of the “Regudis W-HTF” dwelling station and the “Multidis SF” stainless steel distributor/collector.
Item no. 1341187
 - Stainless steel distributor/collector “Multidis SF” for 10 circuits for surface heating systems with integrated flow measuring and regulating devices.
Item no. 1404360 (the cabinet 1341175 is suitable for stainless steel distributors/collectors with up to 10 circuits)
- 2** For upgrading: Weather guided flow temperature control for the dwelling station “Regudis W-HTF” with variable temperature heating circuit:
Heating circuit controller “Regtronic RH”
Item no. 1152093
- 3** Room thermostat, item no. 1152561, with electrothermal actuator 230 V, item no. 1012415, one of each per “Regudis W” station to comply with section 14, paragraph 2 of the German Energy Saving Directive (timed zone control).



1

1 Station “Regudis W-HTU”,
item no. 1341231, draw off capacity
15 l/min., heat exchanger copper brazed,
but without cold water outlet and without
spacer for cold water meter.

2 “Regudis W-TU”,
item no. 1341262, draw off capacity
17 l/min. for hot potable water preparation
in public buildings (e.g. retirement homes),
without spacer for heat meter and without
cold water outlet to the dwelling unit.



2



1

1 “Regudis W-HTU Duo”, item no. 1341332, with heating circuit separation system for the supply of heating water and hot and cold potable water to individual dwellings.

The hot water for heating purposes is provided by a central heat supply. The potable water is heated locally via a heat exchanger according to the continuous flow principle. The additional heat exchanger on the heating side allows for the separation of the supply system (primary circuit) and the heating circuit of the dwelling (secondary circuit).

2 “Regudis W-HT”, item no. 1341274, with supply connections from the top, strainer in the potable water inlet, without cold water outlet to the dwelling and without spacer for cold water meter. The double nipple for the installation of the derivative temperature control set is integrated and six ball valves are included.



2



1

For the control engineered integration of the dwelling station “Regudis W” into the heat supply.

The controller offers the following control options:

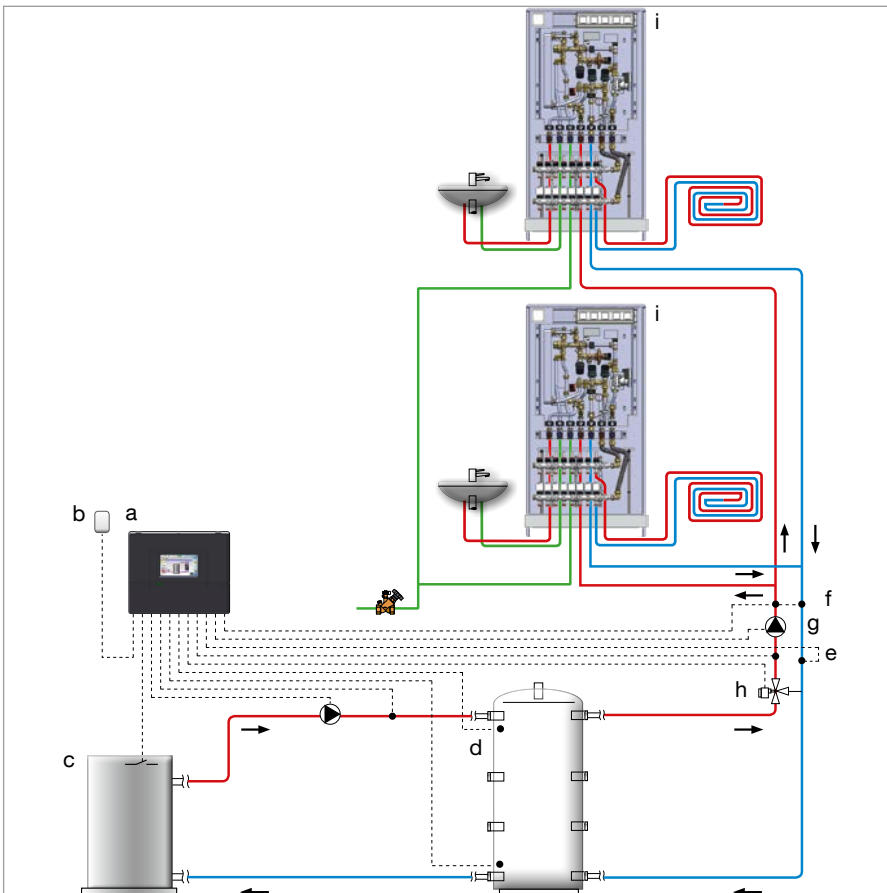
- Buffer storage cylinder loading
- Flow temperature control with heat demand recognition
- Differential pressure control of the heating circuit pump with heat demand recognition

As the buffer storage cylinder is loaded at a constant temperature, the number of burner starts is reduced. Control of the flow temperature from the heat generator to the storage cylinder is carried out by the activation of a speed controlled pump with 0-10 V interface.

As an option, the 0-10 V signal can also be connected to a modulating heat generator. Control of the mixing valve is weather guided, a minimum riser temperature is set at the controller.

The riser and buffer storage temperature as well as the differential pressure can be set back according to adjustable timed programmes, for instance overnight. This way, the systems can be operated more efficiently.

1 “Regtronic RD-W”



2

2 System illustration

- a “Regtronic RD-W” Controller
- b Outdoor sensor
- c Heat generator
- d “Hydrocor” Buffer storage cylinder
- e Flow and return temperature sensor
- f Differential pressure sensor
- g Speed controlled pump with 0-10 V interface
- h Three-way mixing valve
- i “Regudis W” Dwelling station



1

The cabinets and surface-mounted covers house the installation of valves, fittings and other components for the potable and heating water supply in residential areas.

1 “Regubox” Surface-mounted exclusive cabinet for dwelling stations “Regudis W-HTU” and “Regudis W-HTF” with constant temperature heating circuit and for stainless steel distributors/collectors “Multidis SF” with a maximum of 6 heating circuit connections, item no. 1341098.

The cabinet with its geometric design has an appealing shape. The lines are clear and smooth without angles and edges. The frame surface is made of brushed stainless steel. The white glass front door is lockable. Function, shape and an economical use of material are taken into consideration. Dimensions (W x H x D) in mm: 630 x 900 x 170

Awards: Design Plus 2015 Award, Iconic Award 2015, German Design Award 2016 – Special Mention, iF Product Design Award 2016, Red Dot Product Design Award 2016

2 Surface-mounted cabinet

– Item no. 1341071, standard model for the direct installation of dwelling stations “Regudis W-HTU Duo” with heating circuit separation system or “Regudis W-HTF” with variable temperature heating circuit and without stainless steel distributor/collector. Dimensions (WxHxD) in mm: 700x 980-1005 x 160
Note: Not suitable for stations with circulation pipe!

– Item no. 1341198, long model for the direct installation of dwelling stations and stainless steel distributors/collectors “Multidis SF” for surface heating systems. Dimensions (WxHxD) in mm: 700 x 1440-1565 x 160

3 Flush-mounted cabinet

– Item no. 1341070, for the installation of dwelling stations “Regudis W-HTU”. Dimensions (WxHxD) in mm: 560 x 870-1075 x 150-215

– Item no. 1341170, standard for the installation of dwelling stations “Regudis W-HTF”. Dimensions (WxHxD) in mm: 700 x 980-1105 x 115-180

– Item no. 1341175, long model for the direct installation of dwelling stations and stainless steel distributors/collectors “Multidis SF” for surface heating systems. Dimensions (WxHxD) in mm: 700 x 1440-1565 x 115-180

4 Surface-mounted cover

– Item no. 1341095, steel, galvanized, white lacquered. Dimensions (WxHxD) in mm: 496 x 800 x 160

– Item no. 1341097, stainless steel, with “anti-fingerprint” coating. Dimensions (WxHxD) in mm: 496 x 800 x 160

– Item no. 1341295, long model for “Regudis W-HT”. Dimensions (WxHxD) in mm: 496 x 1100 x 160

– Item no. 1341296, for “Regudis W-HTU” with double-walled heat exchanger. Dimensions (WxHxD) in mm: 496 x 800 x 185



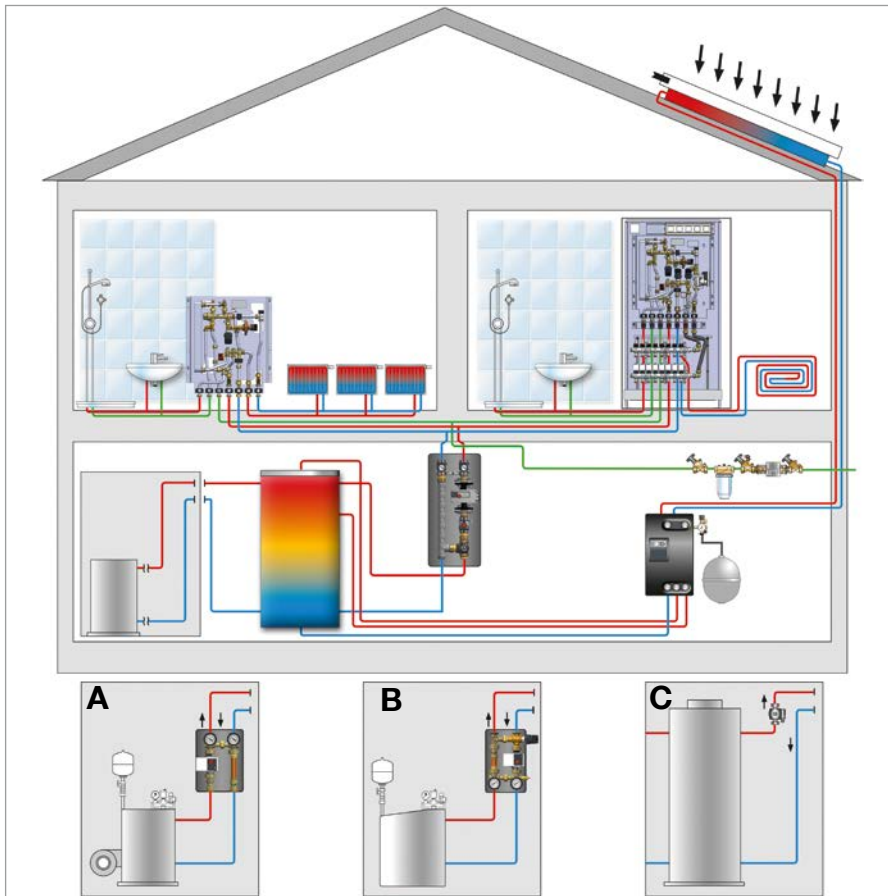
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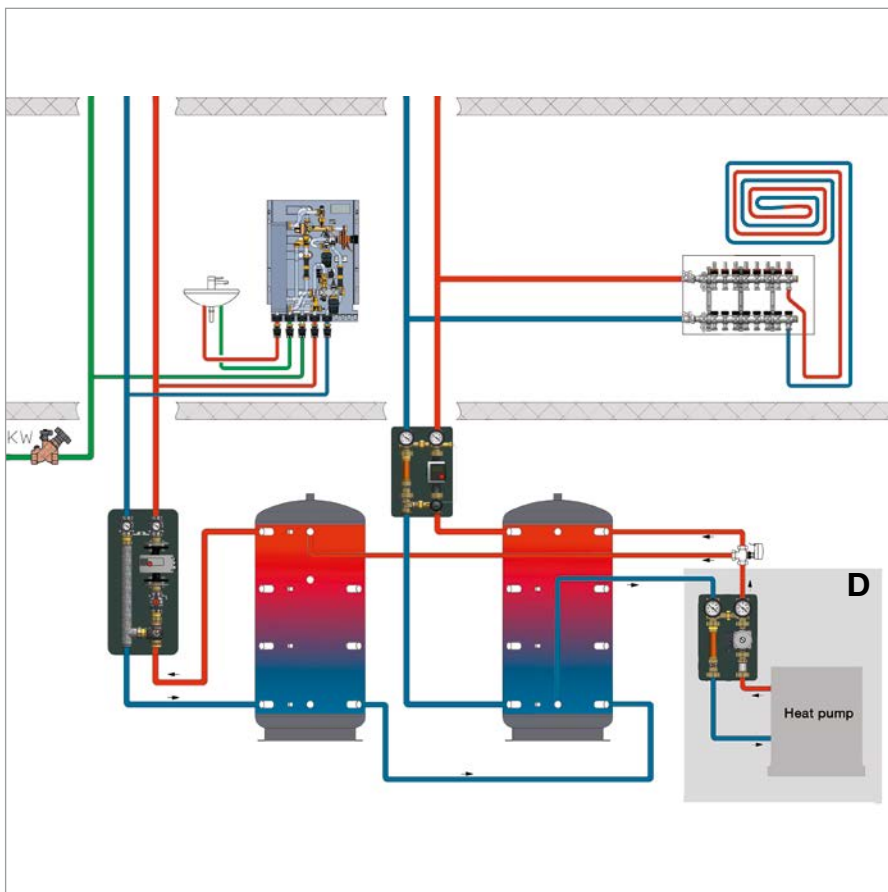
4



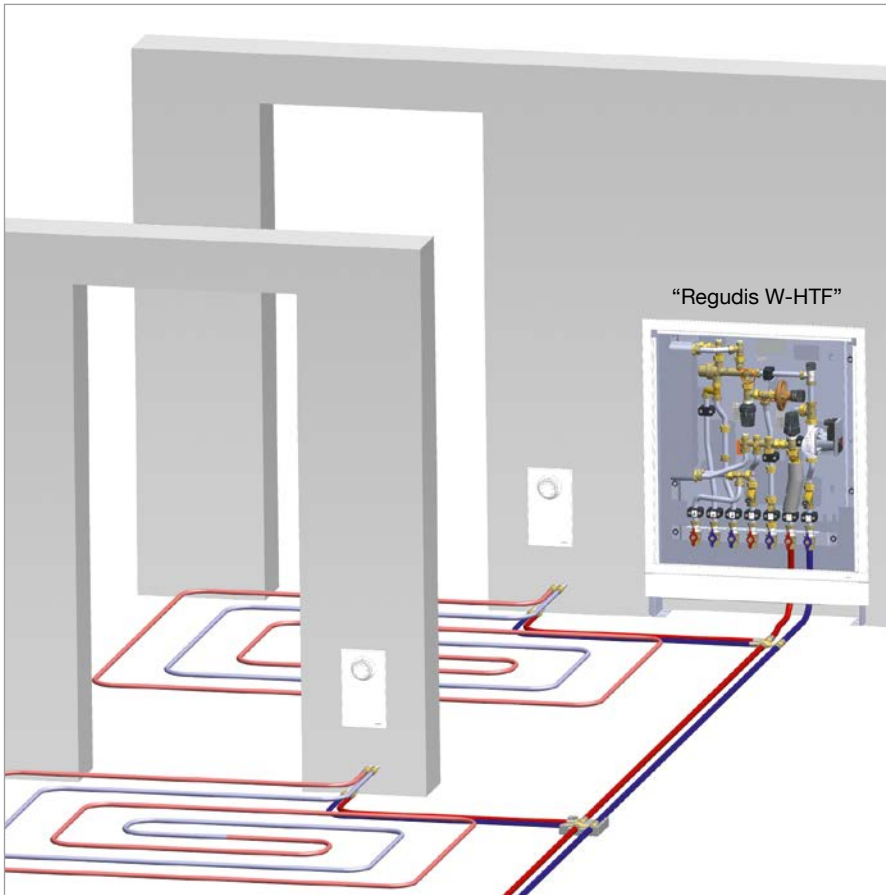
1 The “Regudis W” station connects a central heat generator to a local hot water preparation which allows for the use of different heat generators. The buffer storage cylinder can be loaded by an oil, gas or solid fuel boiler or a solar plant. After system separation, connection to a local or district heating network is also possible. Three pipes, i.e. heating water flow, heating water return and cold potable water are installed in the building.

2 When using heat pumps, a four pipe heating system is often installed for reasons of energy efficiency (COP of the heat pump). A buffer storage cylinder with 55°C is used for hot water preparation. A special dwelling station, item no. 1341257, with a performance range of 12 l/min. requires an excess temperature of 10 K in order to guarantee a hot potable water temperature of 45 °C. The surface heating is operated with a separate buffer storage cylinder and with a separate pipework at a lower temperature level.

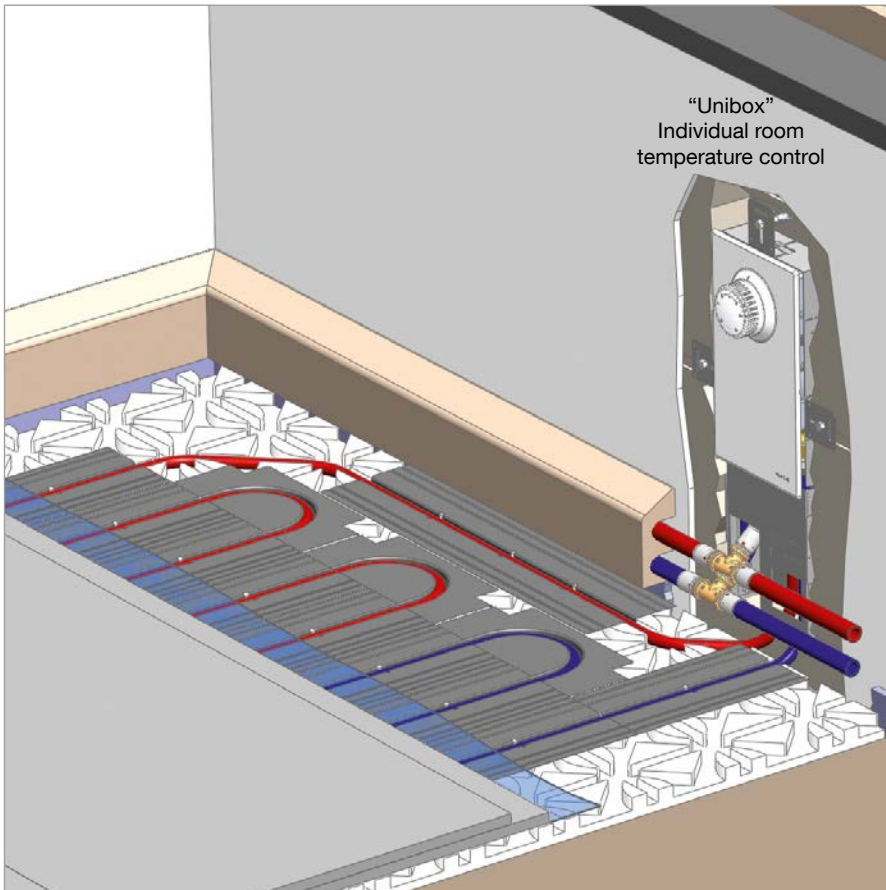
- A:** E.g. conventional oil/gas boiler
- B:** E.g. solid fuel/pellet boiler
- C:** E.g. district/local heating network
- D:** Heat pump/geothermics



2



1



2

The surface heating system “Unidis” is the ideal complement to the “Regudis” systems and is characterized by the fact that it works without flow distributor and return collector. Uncontrolled heat transfers and heat loss caused by a central gathering of supply and return pipes in front of the distributor/collector cabinets are avoided. As the “Unidis” system works without auxiliary energy, the installation of electrical room thermostats and actuators for the surface heating circuits is not necessary.

The “Unidis” system mainly consists of the following components:

- “Unibox E BV” Individual room temperature control with isolation and presetting of the flow volume
- Fixing channel suitable for different wall constructions and with different adjustment options for the adaptation to different screed heights

Advantages

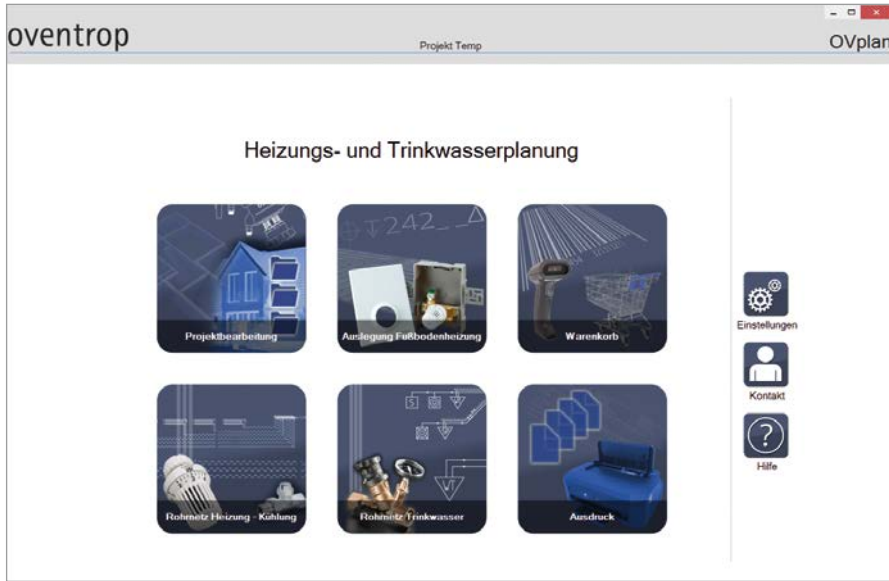
(of the “Unidis” system compared with conventional surface heating systems):

- No central gathering of hot supply pipes in front of the distributor/collector cabinets
- No uncontrolled heat output of distributor/collector cabinets and supply pipes
- Separate heating circuit in hallways
- Room temperature control via room
- Thermostats without auxiliary energy
- No electric smog
- Maintenance-free room thermostats
- Steady controllers instead of “on/off” controllers
- The self-regulating effect is improved by a mechanically controlled bypass
- Temperature fluctuations of the floor surface are reduced (only with bypass)
- Oversizing is avoided by larger minimum pipe distances in the screed (only with bypass)
- Quicker heating up after a setback period (only with bypass) by maintaining a basic heat which avoids a complete cooling down of the floor
- Ideal for use with heat pumps due to the minimum flow rate (only with bypass)
- Especially suitable for skirting board systems

1 “Unidis” surface heating with dwelling station “Regudis W-HTF” with variable temperature heating circuit

2 “Unidis” surface heating with skirting board system and dry-build system “Cofloor”





1

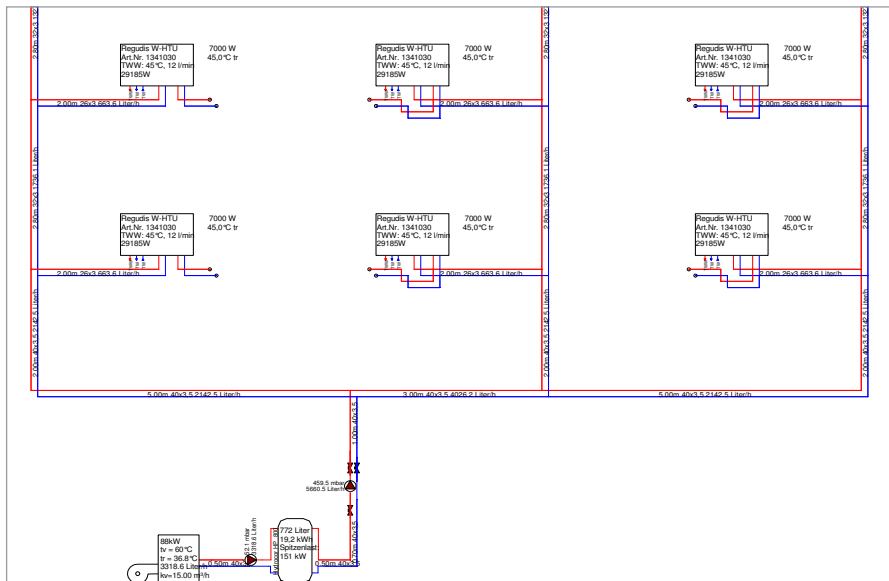
Oventrop offers free design software “OVplan” for the hydronic design of a system with “Regudis” dwelling stations.

The programme is very user friendly and the simple menu navigation facilitates the design of the “Regudis W” dwelling stations.

For pipe dimensioning, “OVplan” considers the volume flow required for the supply of the heating circuits and for the supply of potable water via the heat exchangers of the stations.

Proceeding from the selected hot water capacity of the heat exchanger (12, 15 or 17 l/min.) and the required hot water temperature, the following values are determined amongst others:

- the heat output capacity of the station
- the heating volume flow for hot potable water supply
- the required heating flow temperature



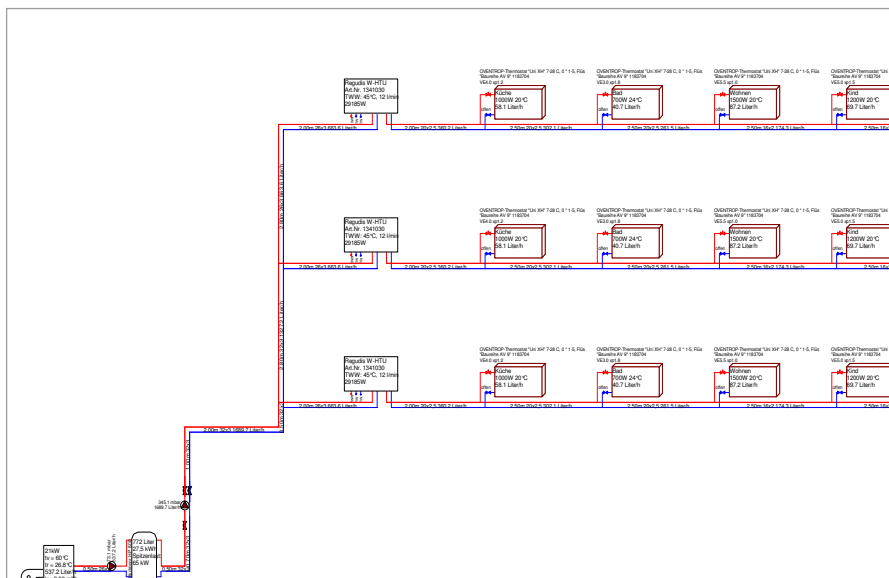
2

In order to determine the maximum volume flow, the dwelling stations are designed in the light of the simultaneity factor for hot potable water supply (see recommendations of the Dresden Technical University).

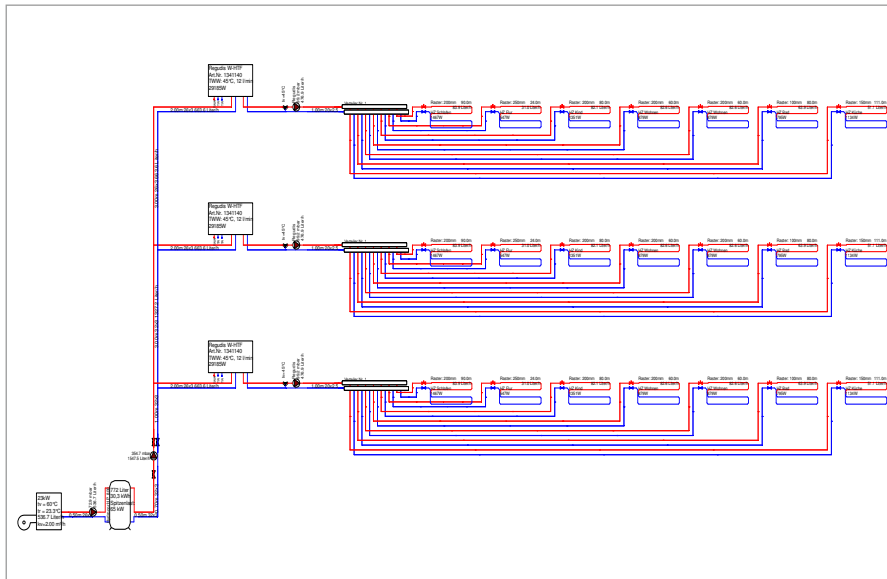
1 Design options of the software “OVplan”

2 The outputs of the individual radiators of one dwelling can be entered manually as lump sum.

3 Alternatively, the radiators can be entered behind the dwelling stations and the respective output can be allocated to each individual radiator. The radiator outputs will be added up by “OVplan”.



3

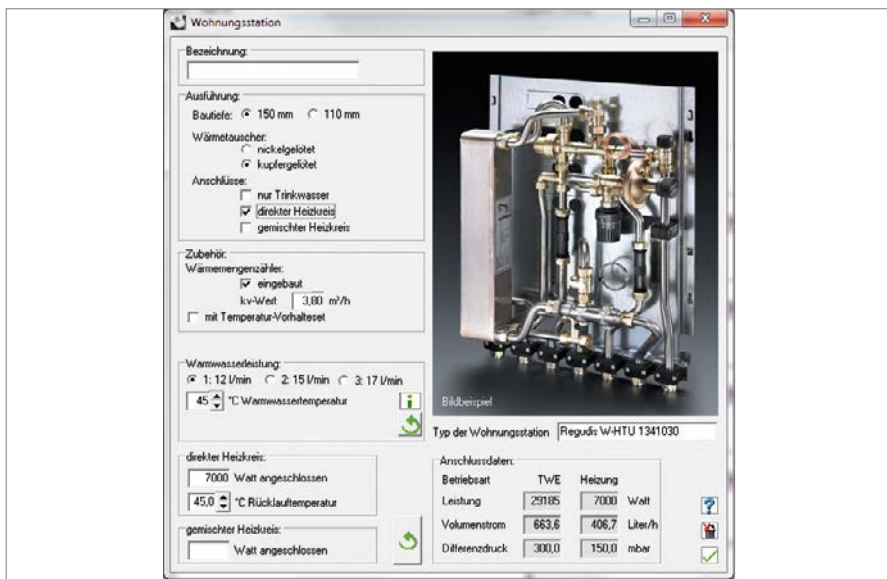


1

If the design of a surface heating system has been carried out with the help of “OVplan”, the distributor/collector with the circuits can be attached to the dwelling station. In this instance, the output of the distributor/collector will be assigned to the dwelling station but it can also be entered manually.

The heating capacity for a dwelling can be determined by “OVplan” by entering the total sum of the room heat load values or by entering radiators and the room heat load.

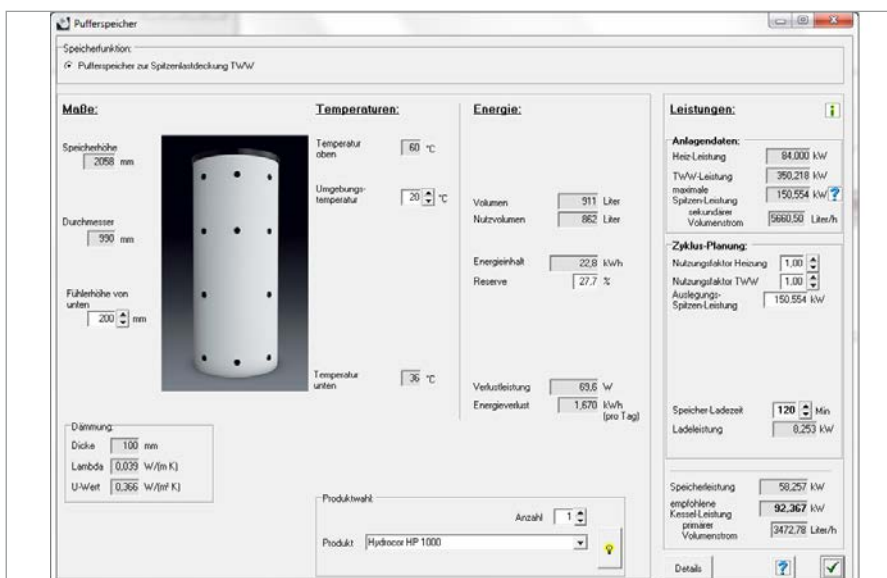
Furthermore, the presetting values for the thermostatic valves can be determined by entering and calculating the radiators.



2

Advantages

- Quick and simple calculation of the peak volume flows for heating water and hot potable water supply
- Pipework dimensioning in the light of the simultaneity factors for potable water starting from the storage cylinder up to the stations
- Thermostatic valve design taking the differential pressure in the secondary heating circuit into consideration
- Design of the central pump with pump head and volume flow
- Design of the storage cylinder volume and type
- Determination of the boiler capacity depending on the storage cylinder volume, the performance range of the dwelling station and the heating capacity
- Quick drawing up of a pipe scheme with simple graphical integration of the dwelling stations supported by copy functions, subsequent pipework calculation and output of a list showing the required components



3

1-3 Design options with the software “OVplan”



| oventrop | | Projektbogen / Service-Vereinbarung über eine „Regudis“ Auslegung | |
|-------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------|---------------------------|
| Bauvorhaben / Objekt | | | |
| Bauherr | | | |
| Straße, Ort, Telefon | | | |
| Installationsfirma/Planer | | | |
| Sachbearbeiter | | | |
| Straße, Ort, | | | |
| Telefon, Mail | | | |
| Primärseite (Versorgung) | | | |
| Trinkwasser | | Trinkwasserzusammensetzung: | |
| Versorgungsdruck: max. _____ bar | | <input type="checkbox"/> Gemäß TrinkwV | |
| min. _____ bar | | <input type="checkbox"/> _____ | |
| Heizung | | Wärmeerzeuger: | |
| Vorlauftemperatur: _____ °C (max. möglich) | | <input type="checkbox"/> Kesselanlage | |
| Rücklauftemperatur: _____ °C | | <input type="checkbox"/> Fernwärme | |
| Rohrmaterial: _____ | | <input type="checkbox"/> _____ | |
| Druckstufe PN _____ bar | | Heizungswasserzusammensetzung/Wasserzusätze: | |
| | | <input type="checkbox"/> VDI 2035 | |
| | | <input type="checkbox"/> _____ | |
| Sekundärseite (Wohnung) | | | |
| Trinkwasser | | Zapfstellen, Anzahl: | |
| gewünschte Warmwassertemperatur: _____ °C | | Spüle _____ Stück | Waschbecken _____ Stück |
| max. Warmwasserzapfmenge: <input type="checkbox"/> 12 l/min | | Dusche _____ Stück | Badewanne _____ Stück |
| <input type="checkbox"/> 15 l/min | | Toilette _____ Stück | Urinal _____ Stück |
| <input type="checkbox"/> 17 l/min | | Waschmaschine _____ Stück | Spülmaschine _____ Stück |
| Zirkulation (nur bei 17 l/min): <input type="checkbox"/> | | | |
| Kaltwasserzapfmenge: _____ l/min | | | |
| Heizung <input type="checkbox"/> ja <input type="checkbox"/> nein, nur Trinkwasser | | | |
| Anzahl der Wohneinheiten (WE) _____ | | Wärmeverbraucher: _____ | Systemtemperaturen: _____ |

1



2

Oventrop offers a free design service for the “Regudis” stations which is based on the Oventrop project sheet. The latter is filled in by the customer and includes all required parameters and data such as heating system temperature, capacity of the heat generator, potable water temperature, heat load of the dwelling etc.

The Oventrop design includes all parameters required for a successful realization of the installation. The following data is supplied by Oventrop for customers use:

- Determination of the number and performance range of the “Regudis” stations
- Design of the required storage cylinder volume
- Determination of the boiler capacities required for the “Regudis” stations
- Calculation of the pipe diameters
- Pump design

Oventrop supports you and your customers sustainably. Besides the software “OVplan”, Oventrop offers the following assistance:

- Personal service
- Training courses
- Design support
- Consultation

Supply of the following aids

- Oventrop App
- Software
- Brochures
- Technical data sheets
- Installation instructions

Assistance with the current topics

- ErP
- Hydronic balancing
- Surface heating systems
- Dwelling stations
- Potable water
- Solar thermal energy

1 Project sheet “Regudis W” dwelling station

2 Practical training



1

1-3 Dwellings in the town of Brilon

Project information:

- 26 dwelling stations "Regudis W-HTF" with variable temperature heating circuit, 17 l/min., combined with a surface heating
- 70 kW pellet boiler
- 60 kW gas flow heater (peak load)
- 1500 litre buffer storage cylinder

The dwelling stations "Regudis W-HTF", item no. 1341175, were installed in a cabinet in the hallway.



2



3



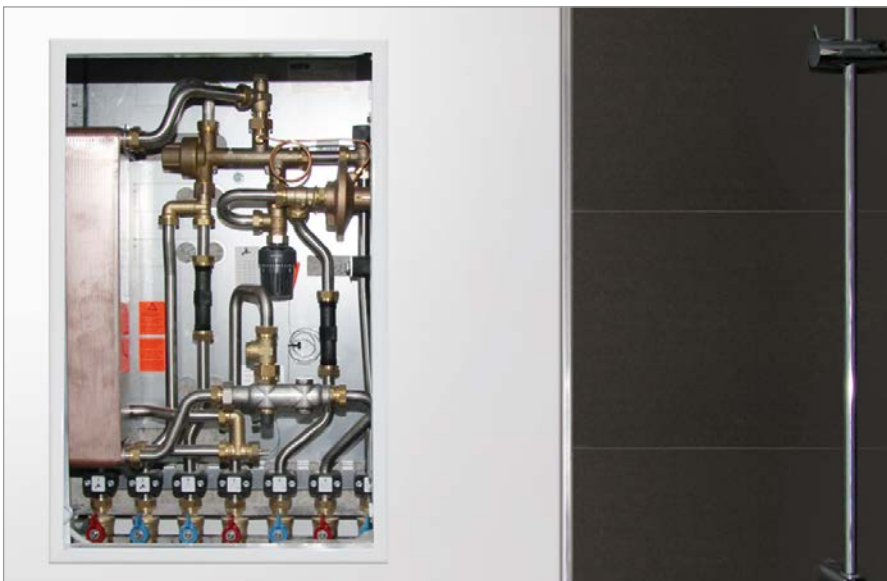
1

1-3 White Maxx in the city of Düsseldorf

Project information:

- approx. 300 dwelling stations "Regudis W-HTU", 17 l/min., for the connection of radiators and for hot potable water preparation
- 2 x 1500 kW gas boiler

The dwelling stations "Regudis W-HTU" were installed in the bathrooms.



2

Subject to technical modifications without notice.

Private persons may purchase our products from their qualified installer.

Presented by:



3



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