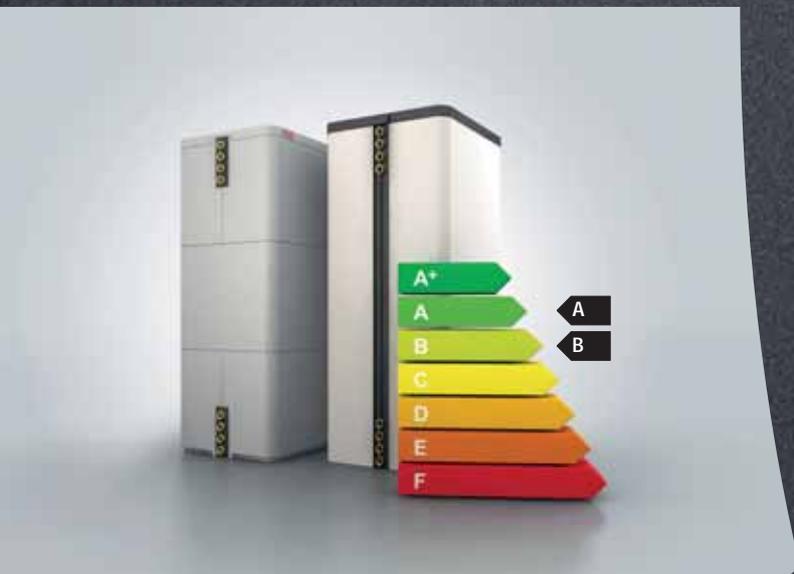
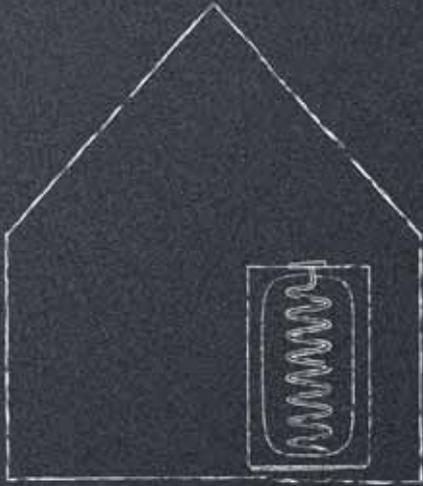


The new generation  
of plastic storage  
equipment



*Living full of energy*

*Water is a vital resource. Water transports heat efficiently, providing us with environmentally friendly comfort. Roth's innovative storage tank system guarantees the efficient use and reliable supply – ensuring that you are always provided with top-quality, hygienic water.*





## Thermotank Quadroline

thrifty, lightweight, space-saving, flexible

### ■ The new generation of plastic storage tanks

When it comes to using renewable energy, it is essential to choose the right storage tank for your hot running water and central heating water to ensure efficient energy consumption.

The innovative Roth Thermotank Quadroline in its 325, 500 and 850 litre models sets new standards in heat storage technology – in terms of energy efficiency, weight, space-saving design, hygiene, flexible operation and resistance to corrosion. The Roth Thermotank is the world's first plastic composite heat storage tank (using fibre/plastic composite technology) to function as a pressure tank using aluminium diffusion protection.

The new pioneering storage concept allows hygienic integration into your drinking water system, as well as providing the option of using solar energy in your system. The tank is extremely lightweight, only around a third of the weight of a comparable conventional steel storage tank, making it easier to transport and install.

### ■ Versatility

Thanks to its construction, the Roth Thermotank Quadroline is versatile and can be used in customised system solutions as a stand-alone storage tank or in combination with other devices. For example, it can be used as a central unit in heating applications, as a solar or combined storage tank or for heating drinking water. The Roth Thermotank Quadroline models can be integrated directly into heating systems with a maximum continuous operating pressure of up to three bar.

# Roth Thermotank Quadroline

## a secure investment for the future

### Thermotank Quadroline – extreme versatility

- > buffer storage tank
- > separation storage tank
- > solar storage tank
- > drinking water storage tank
- > drinking water storage tank with solar energy facility
- > drinking water combination storage tank
- > drinking water separation storage tank
- > combination storage tank

up to  
**65%**  
less heat loss\*



#### ■ Depending on the model, Thermotank Quadroline models have been rated with energy labels A or B

The Roth Thermotank Quadroline heat storage tank for drinking and heating water provides extremely high energy efficiency. Tests conducted by the Fraunhofer Institute for Solar Energy Systems (ISE) in Freiburg have confirmed the energy label A rating for the Roth Thermotank Quadroline design coated with Thermocoat plus\*\*.

For example, the Fraunhofer Institute's test measured heat losses of just 59.3 watts for the 500-litre storage tank with Thermocoat plus, which is **up to 65 per cent less heat loss than standard tanks**. The Thermocoat plus is available for the 325- and 500-litre storage tanks.

The standard version of the Roth Thermotank Quadroline also proved to be highly energy-efficient in the Fraunhofer Institute's test and has been awarded energy label B.

#### ■ The most efficient of its kind

Thanks to its efficient heat storage, the Roth plastic storage tank loses very little heat when it is idle. Depending on the model, the Roth Thermotank Quadroline can reduce heating processes by a quarter.

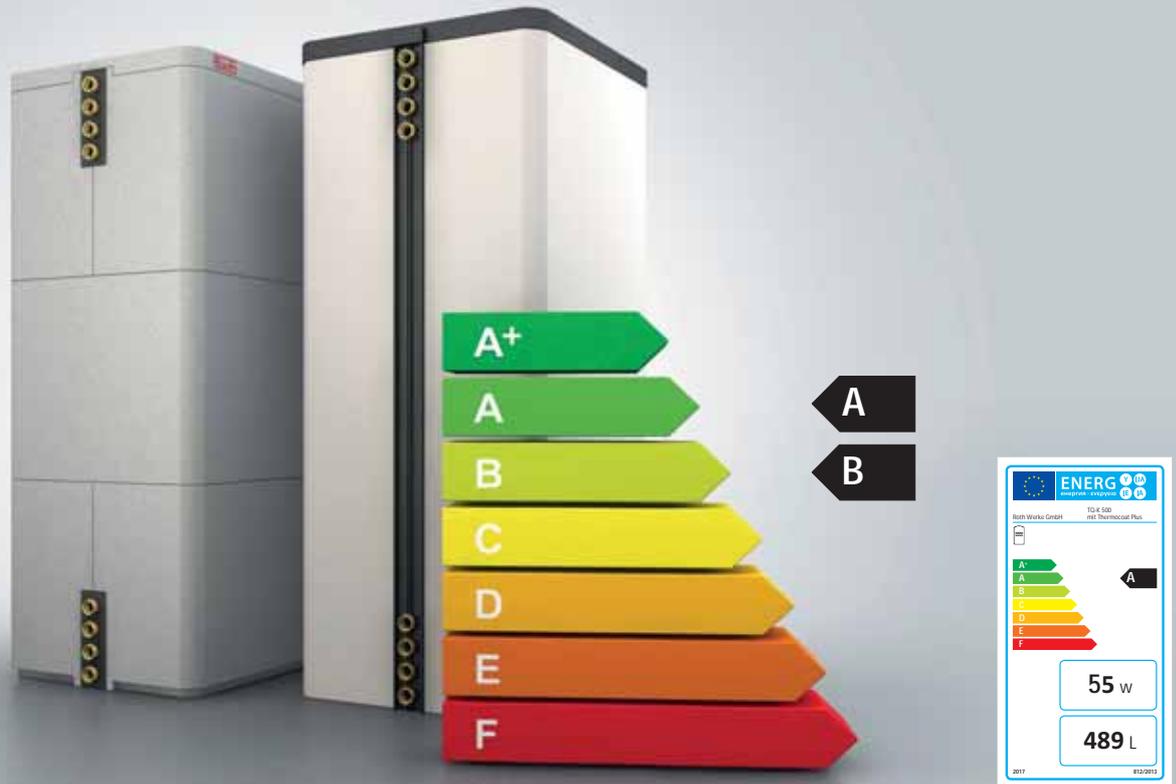
The Roth Thermotank Quadroline is the world's first and only pressure-resistant plastic composite hot water storage tank for heating and drinking water. It consists

of a thermally stable thermoplastic tank and high-performance composite filament material with integrated diffusion protection. The energy balance of the Thermotank is considerably better than metal storage tank materials thanks to the optimal heat insulation properties of the storage tank material. A stable outer cover made from special high-performance EPS insulation also enables efficient minimisation of heat loss.

#### ■ Cost comparison for heat storage tanks

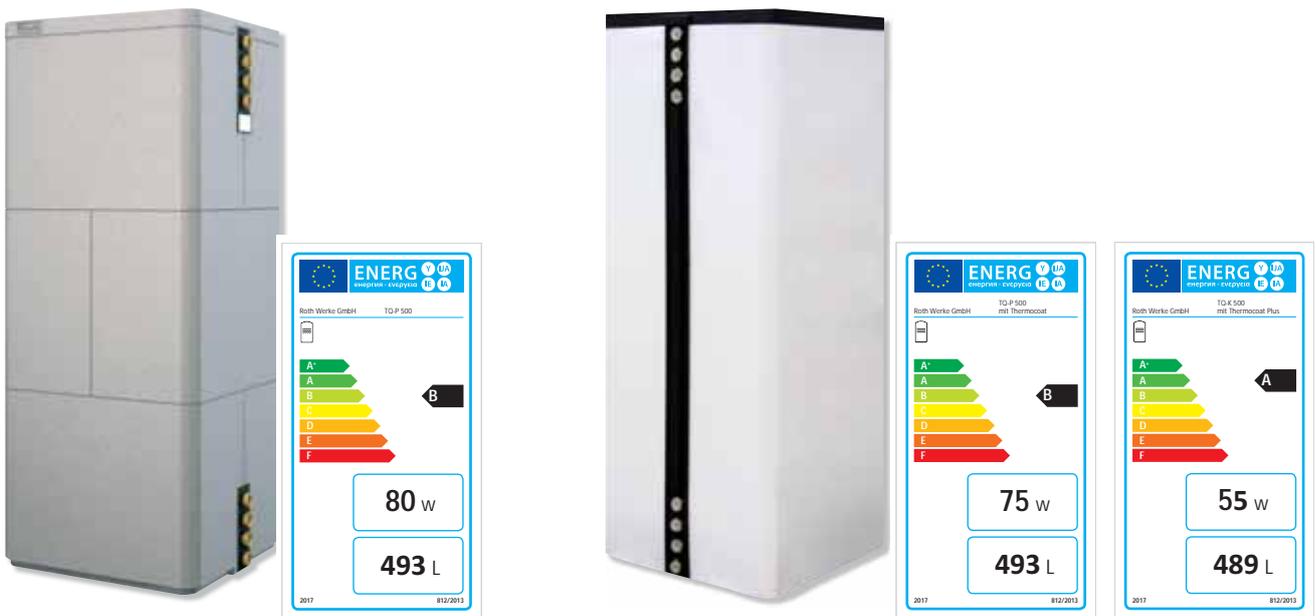
		Roth Quadroline PE-RT and composite, high-performance 100 mm insulation	other manufacturers		
			Storage tank type 1 Stainless steel, 100 mm insulation	Storage tank type 2 Enamel-coated steel, 100 mm insulation	Storage tank type 3 Enamel-coated steel, 80 mm insulation
Energy efficiency					
Energy loss					
Weight					
Purchase costs					
Maintenance costs		-			
Energy costs					
<b>Total costs</b>	1st year				
	Purchase + Maintenance				
	+ Energy costs				

\*as compared against standard steel storage tanks  
\*\*see Page 13



■ Energy label for hot water storage tanks

Roth Thermotank Quadrolines have received energy label A or B, depending on the model.





# Roth ServiceXtra

## complete solutions with a service package



### ■ An extra portion of service

With "Roth ServiceXtra", Roth is offering its specialist trade partners a comprehensive service package. It includes advisory, planning and after-sales services.

The needs of sanitary, heating and air-conditioning specialists take centre stage. With comprehensive **advice** and customised **planning** services, Roth has positioned itself as an expert system provider. Comprehensive **after-sales services**, warranties and guarantees complete the service package.

The **Roth system solutions** combine product systems from renewable energy generation to efficient energy storage and distribution.

All components of the overall system are finely tuned to each other, working together perfectly and ensuring maximum energy efficiency with the maximum comfort for users.

Are you curious yet? You can find relevant documents at [www.roth-werke.de/en/roth-downloads.htm](http://www.roth-werke.de/en/roth-downloads.htm).

### ■ Certified manufacturer

Our service is backed up by the "Certified manufacturer – Quality, Safety, Service" quality seal of the German Central Association of Plumbing, Heating, and Air Conditioning (Zentralverband Sanitär-Heizung-Klima (ZVSHK)).



## Roth ServiceXtra

added value for specialist tradespeople



### Advice/Planning

#### ■ On-site advice across Germany

With its extensive field service operations all across Germany, Roth is your expert partner for technical support for all your projects. You will get a comprehensive, on-site overview of all Roth storage systems for drinking and heating water and your advantages for the respective areas of application.

#### ■ Individual configuration with the Roth Thermotank Quadroline

Those who would like to enjoy all the advantages of the Roth Thermotank Quadroline know they can put their trust in the comprehensive Roth system range. Depending on the application and storage requirements, Roth offers many different system concepts. Our field service operations can provide you with advice and assistance.

#### ■ Planning

When it comes to planning and project development for Roth Thermotank Quadroline models and the connected Roth components, we are happy to give you our support.



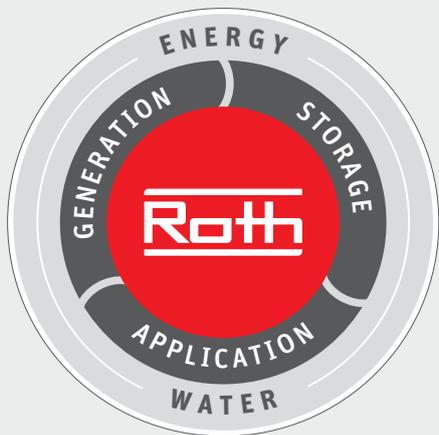
### After-sales service

#### ■ Quality for the safety of our customers

High-quality products and services form the basis of our 5-year product warranty for the Roth Thermotank Quadroline. Our worldwide insurance protection also covers long-term damage and removal and installation costs for a new product in the event of possible defects.

The assumption of liability agreement 2.0 with the ZVSHK (German Central Association of Plumbing, Heating and Air Conditioning) rounds out our after-sales service.

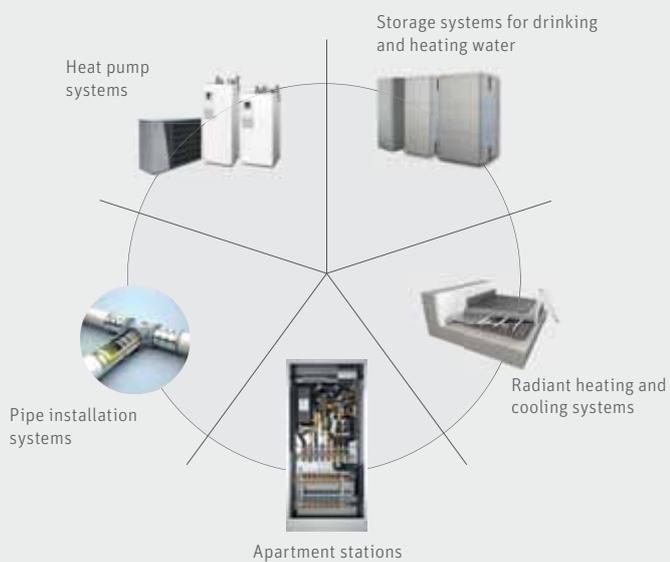
A guaranteed extra portion of quality, safety and service.



## System solutions

### ■ Coordinated components from a single source

Roth always provides the optimally networked complete system for the various requirements. Your expert partner from planning to execution.



A person is lying on a white sofa in a living room. The person's legs are raised and bent at the knees, and their arms are also raised. The background is slightly blurred, showing a dark-colored wall and a small plant on a table. A red text box is overlaid on the left side of the image.

**Comfort  
begins at home**



# Roth Thermotank Quadroline

## the pressure-resistant plastic heat storage tank



### ■ Conveniently lightweight with maximum heat retention

The Roth Thermotank Quadroline is made of a high-quality plastic composite material with diffusion protection and high-performance EPS outer insulation. This material makes the tank extremely light – it weighs only around a third of the weight of a comparable conventional steel storage tank. A further advantage of this specially certified plastic material is that it is resistant to corrosion. Compared with conventional metallic storage tank materials, it is significantly more effective at reducing heat loss. This considerably improves heat storage and has a positive effect on the energy balance of the entire heating system.

The unique plastic strengthening matrix (composite) offers a high level of pressure stability. A stable outer cover made from special high-performance EPS insulation enables efficient minimisation of heat loss. The new, lightweight design of this storage tank makes installation and assembly easy – an advantage which installers are sure to appreciate.

- **pressure-resistant**  
the world's first, unique composite Thermotank (using fibre/plastic composite technology) for use as a pressurised tank for direct integration into heating systems
- **efficient heat storage**  
by minimising heat loss
- **diffusion-resistant**  
the world's first and only composite Thermotank with diffusion protection
- **corrosion-free**  
inside and outside thanks to its plastic materials
- **compact**  
its well-thought-out shape is ideal for modernisation and new construction projects
- **optimal temperature stratification**  
An innovative stratification unit, which allows filling and extraction at the top (or head) and bottom (or foot) of the storage tank, ensures that the storage tank provides optimal thermal stratification.

This in turn results in an optimised heat distribution, reducing storage losses and increasing efficiency, thus saving energy.

- **customised systematic solution that can be extended at any time**
- **complete unit suitable for a wide range of applications**  
for use as buffer, separation, solar, drinking water, drinking water combination storage, drinking water separation and combination storage tanks
- **operates hygienically when heating drinking water**
- **light**  
for easy installation and assembly
- **modern design**  
suited to the shape of the heat source
- **Made in Germany**  
top quality based on decades of experience in plastics



pressure-resistance confirmed by TÜV Hessen

## Roth Thermocoat and Thermocoat plus outer sheath for even more efficiency

- > Thermocoat made of PVC (5 mm)
- > Thermocoat plus made of PVC (5 mm) with 30-mm integrated PS insulation
- > improved energy efficiency
- > completely closed white casing
- > easy-to-clean surface

### ■ Options for other finishes: Roth Thermocoat in white

To further improve energy efficiency, Roth offers two versions of the Roth Thermocoat in white. The sheath fully encloses the Roth Thermotank and includes a lid. It is available for the 325, 500 and 850-litre storage tank variants.

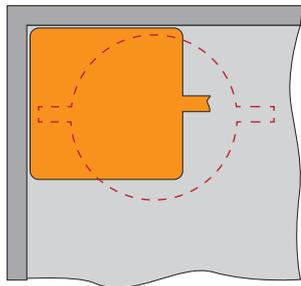
The Roth Thermocoat is available in a thickness of 5 mm for all three sizes, and the Roth Thermocoat plus has an integrated 30-mm polystyrene insulation layer for even better energy efficiency in the 325- and 500-litre versions. In these versions the thickness of the Thermocoat is 35 mm, increasing the tank's diameter by 70 mm.

The surface of the Roth Thermocoat can be wiped clean like a raincoat, making it very easy to clean.



# Roth Thermotank Quadroline

design-oriented and compact shape



- Thermotank Quadroline
- conventional round steel storage tanks

**Thermotank Quadroline:**  
saves space thanks to optimised connections

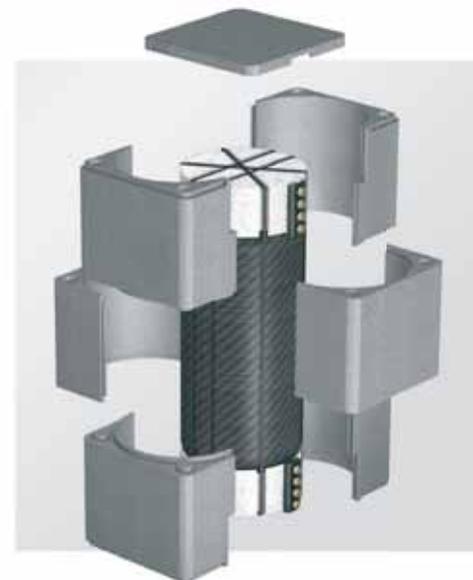
## ■ Optimal use of space

The compact form of the Thermotank Quadroline uses every last cubic centimetre optimally. Compared to conventional round storage tanks, the Roth Thermotank Quadroline with its rectangular design stands out thanks to its practical, space-saving external dimensions.

The storage tank takes up a floor area of 650 x 650 mm for storage volumes of up to 325 litres, 780 x 780 mm for storage volumes of up to 500 litres and 1090 x 970 mm for storage volumes of up to 850 litres. All Roth Thermotank models have removable heat insulation to permit simple handling and installation, even in difficult building locations. The hydraulic connections are flow-optimised in the upper

and lower regions of the tank as an interface to the domestic installation systems.

The angular shape of the Thermotank Quadroline fits snugly corners, and can be installed space-efficiently together with other Thermotank units. Unused corners in building services rooms, which have a negative impact on the overall appearance of the building infrastructure and often become “dirt traps” over time and use, are a thing of the past thanks to the Roth Thermotank Quadroline. With its attractive design, it can be optimally integrated into domestic spaces, such as utility rooms, and looks like any other household appliance.



■ **Easy to install in the cellar**

Even with large volumes, the Roth Thermotank Quadroline is quite easy for two people to transport up or down steep, tight staircases or through narrow doors to get into a building. This makes it particularly ideal for use in renovation projects as well as new buildings. Thanks to the low pivot measurement, the tank can also easily be installed in cellars with a low ceiling height.

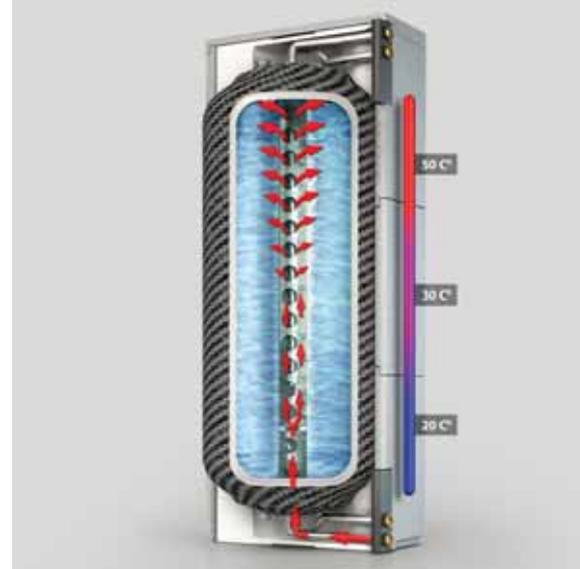
■ **Ideal for roof-installed systems due to reduced structural load**

The lightweight design of the Thermotank Quadroline and the ease with which it can be moved provide optimal preconditions for installing the storage tank at roof level. In contrast to conventional steel tanks, the reduced structural load exerted by the plastic storage tank makes it unnecessary to specially reinforce floors when installing a roof-level system.



The plastic heat storage tank is just a third of the weight of a conventional steel storage tank, making it easier to transport up and down stairs.

# Hygienic storage tank for heating drinking water for versatile use



## ■ The best possible conditions for hygienic and efficient operation in drinking-water heating

The Roth Thermotank Quadroline plastic heat storage tank is permanently rust-resistant. The water is heated only as and when required by the user, which helps ensure that the entire system operates efficiently. With the Thermotank Quadroline, Roth offers two separate storage tank and system solutions for hygienic drinking water heating. On the one hand, you have the option of using a storage tank with an integrated heat exchanger made of corrugated stainless steel piping to heat drinking water hygienically, using a constant flow heating method. The special shape of the stainless steel corrugated pipe helps keep the heat exchanger surface continuously free from any deposits, such as limescale.

This means that the effectiveness of the heat exchanger is retained throughout the lifetime of the hot water storage tank. Alternatively, the Roth Thermotank Quadroline can be combined with the Roth fresh water station.

The hot water is heated simultaneously as required – quickly, safely and cleanly. This means that there is always fresh, warm and hygienically clean drinking water available. The energy used for heating drinking water can be supplied by various systems: for example, solar systems, solid fuel boilers, conventional oil/gas boilers, heat pumps or other systems.

## ■ Optimal thermal stratification due to well-designed filling and discharge method

Roth has developed a temperature stratification device geared towards optimising flow behaviour. Depending on the type of tank you are using, the flow is supplied from the upper or lower part of the storage tank.

It contains a segmented outer filling pipe with inlets and outlets for the inflow and outflow of the storage medium. Inside the filling pipe there is a further pipe with a significantly smaller diameter, which is hydraulically operated in the opposite direction to the filling pipe depending on usage and function.

The individually adapted, segmented loading and unloading devices enable direct connection to the heat source and distribution systems as well as optimising temperature stratification within the plastic storage tank.

■ **The Roth Thermotank Quadroline offers a wide range of system designs**

Depending on the application and storage requirements in question, a system solution is developed using the Roth Thermotank Quadroline. The system can thus be hydraulically adjusted to suit various different areas of application.

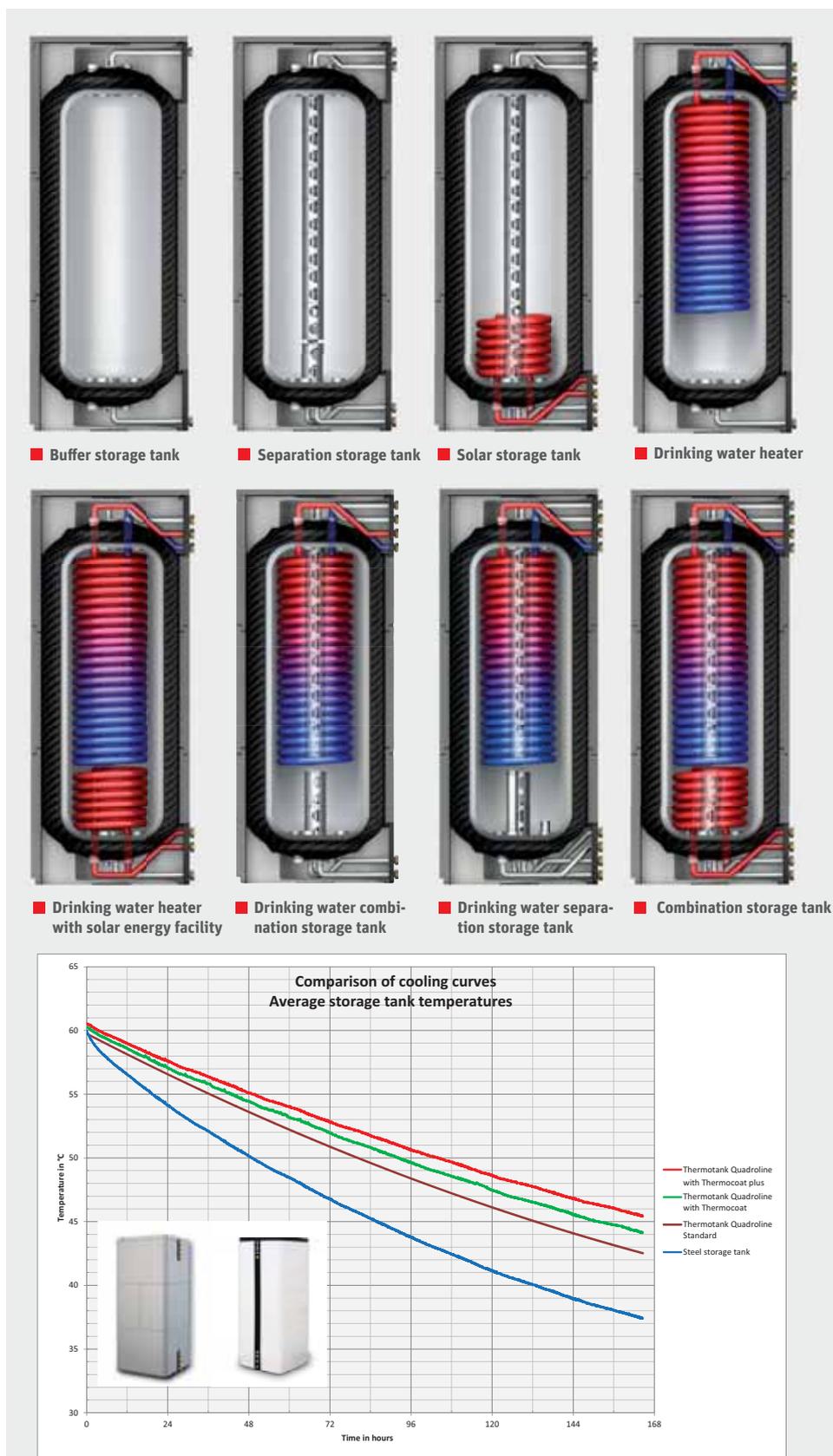
The Roth Thermotank Quadroline can be integrated into domestic heating and drinking water systems in various configurations, either individually or in batteries. The various ways in which the Roth Thermotank Quadroline can be fitted out allow it to be used as a buffer, separation or solar storage tank, as a hygienic drinking water heater using the constant flow heating method (where it can also be used in combination with solar energy), as a drinking water combination storage tank, drinking water separation storage tank or as a combination storage tank for more complex system designs.

The storage system can be expanded at any time allowing you to connect additional components as required by conversion work or retrofitting of building services technologies – when adding a solar or heat pump to the system, for example.

■ **Taking advantage of government incentives**

As part of the market incentive programme, the German Federal Ministry for the Environment boosted its funding support for heat storage tanks combined with heat pumps in January 2020.

Having buffer, separation, solar, drinking water and combined storage tanks installed (even when combined with solar systems) is a precondition for receiving government incentives to promote the use of renewable energies (including solar, heat pump and biomass systems). Storage tanks receive a subsidy at a rate of 35% in connection with a heat pump. It can even be 45% when an old oil heater is replaced (status as of January 2020). Up-to-date information on funding is available at [www.bafa.de](http://www.bafa.de).

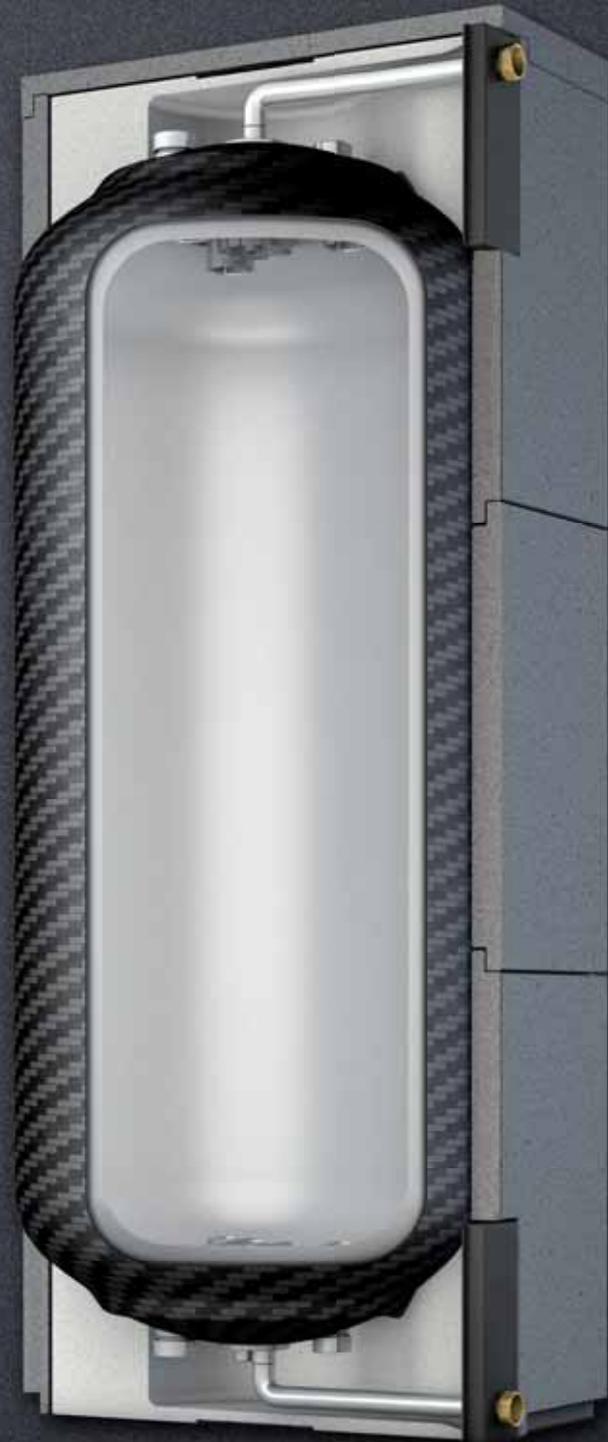


# Roth Thermotank Quadroline

## Buffer storage tank

### How a buffer storage tank works

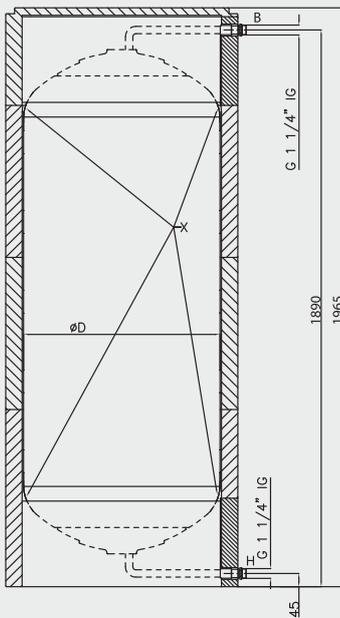
A buffer storage tank evens out the time-related and hydraulic differences between the quantity of heat generated at the quantity required. This results in improved efficiency and optimal operation of the entire system, especially when using renewable energy generators.



#### Roth buffer storage tank

- > can be used in systems using the constant flow heating method
- > comes with two sensor sleeves with connections for up to four sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

■ TQ-P 325/500

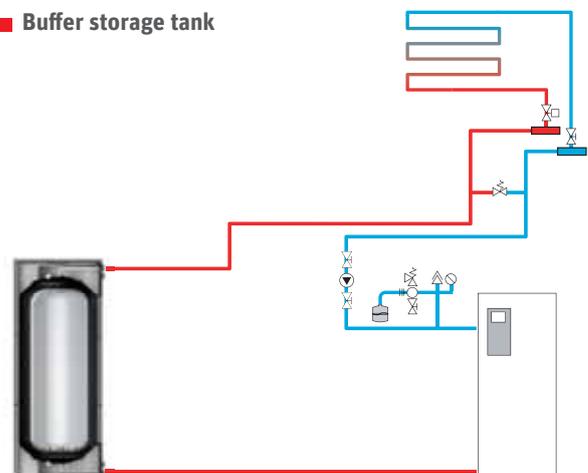


- B Heating supply (outlet)
- H Heat source supply (inlet)
- X Sensor sleeve

Technical data		TQ-P 325	TQ-P 500
Type			
Model variants		Buffer storage tank	
Description	Unit		
Energy efficiency class		B	B
Energy efficiency class with optional accessory Thermocoat plus		A	A
<b>External dimensions of insulation</b>			
Length/width	mm	650 x 650	780 x 780
Height	mm	1965	1965
<b>External dimensions for mounting purposes</b>			
Diameter D	mm	547	677
Height	mm	1935	1935
Pivot measurement	mm	2030	2070
Net tank capacity	l	323	493
approx. weight	kg	40	50
max. permissible tank temperature	°C	90	90
max. permissible operating pressure	bar	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5
Standby heat loss	kWh/day	1.73	1.92
Building material class		B2	B2
max. number of sensors		4	4

\* Testing permitted with water only

■ Buffer storage tank



Heat source with Thermo tank Quadroline buffer storage tank, no heating of drinking water, underfloor heating with buffer storage tank for increasing volume

# Roth Thermotank Quadroline

## Separation storage tank

### How a separation storage tank works

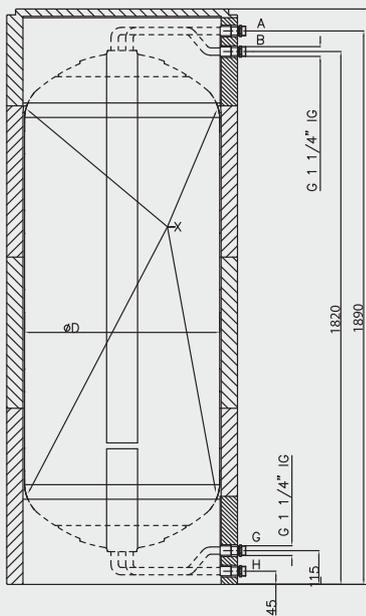
Separation storage tanks are ideal for hydraulically separation heat source circuits and heating circuits. It functions based on the principle of what is known as a hydraulic separator.



### Roth separation storage tank

- > integrated stratified charge system for optimum temperature stratification
- > hydraulic switch between heat source and heating circuits
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

■ TQ-T 325/500/850

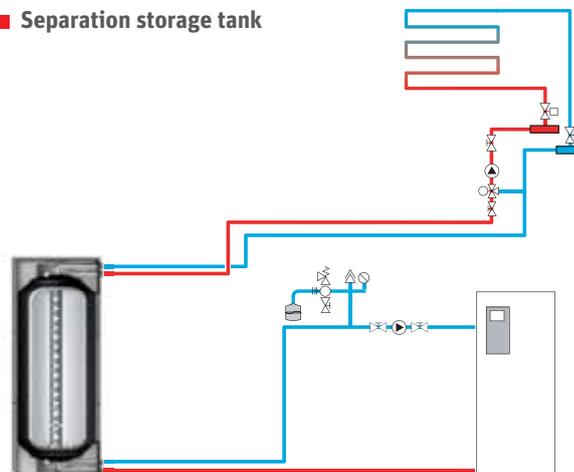


- A Heating return
- B Heating supply
- G Heat source return
- H Heat source supply
- X Sensor sleeve

Technical data		TQ-T 325	TQ-T 500	TQ-T 850
Type				
Model variants		Separation storage tank		
Description	Unit			
Energy efficiency class		B	B	—
Energy efficiency class with optional accessory Thermocoat plus		A	A	—
<b>External dimensions of insulation</b>				
Length/width	mm	650 x 650	780 x 780	1090 x 970
Height	mm	1965	1965	1965
<b>External dimensions for mounting purposes</b>				
Diameter D	mm	547	677	950 x 790
Height	mm	1935	1935	1935
Pivot measurement	mm	2030	2070	2016
Net tank capacity	l	323	492	822
approx. weight	kg	40	50	75
max. permissible tank temperature	°C	90	90	90
max. permissible operating pressure	bar	3	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5	4.5
Standby heat loss	kWh/day	1.73	1.92	2.45
Building material class		B2	B2	B2
max. number of sensors		4	4	8

\* Testing permitted with water only

■ Separation storage tank



Heat source with Thermotank Quadroline separation storage tank, no heating of drinking water, underfloor heating system via separation storage tank (with hydraulic switch)

# Roth Thermotank Quadroline

## Solar storage tank

### How a solar storage tank works

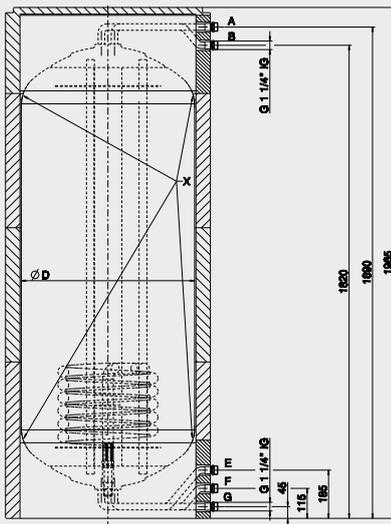
Solar energy is stored temporarily in the solar storage tank to be used for heating water and supporting the heating system – this ensures that the energy is ready and available for use even when the sun is not shining outside.



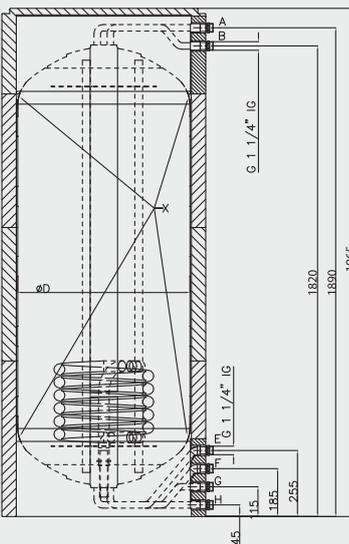
### Roth solar storage tank

- > high-performance stainless steel heat exchanger
- > integrated stratified charge system for optimum temperature stratification
- > hydraulic switch between heat source and heating circuits
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > no drinking water storage tank
- > optionally available with Thermocoat and Thermocoat plus

### ■ TQ-S 325



### ■ TQ-S 500/850

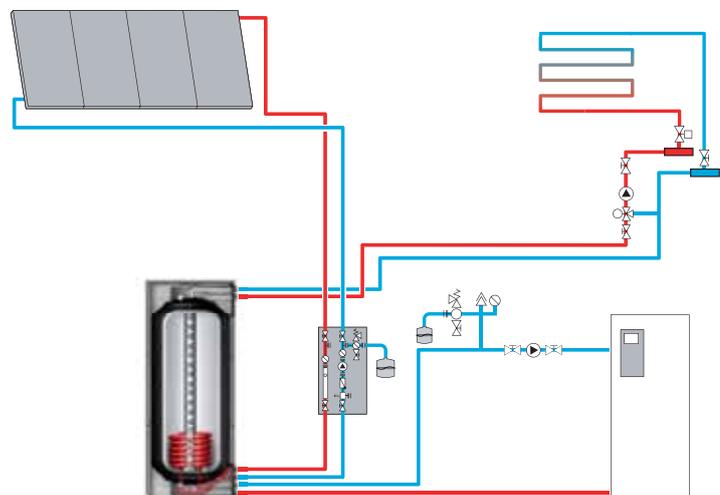


- A Heating return
- B Heating supply
- E Solar heat exchanger supply (inlet)
- F Solar heat exchanger return (outlet)
- G Heat source return
- H Heat source supply
- X Sensor sleeve

Technical data		TQ-S 325	TQ-S 500	TQ-S 850
<b>Type</b>				
<b>Model variants</b>		<b>Solar storage tank</b>		
Description	Unit			
Energy efficiency class		B	B	—
Energy efficiency class with optional accessory Thermocoat plus		A	A	—
<b>External dimensions of insulation</b>				
Length/width	mm	650 x 650	780 x 780	1090 x 970
Height	mm	1965	1965	1965
<b>External dimensions for mounting purposes</b>				
Diameter D	mm	547	677	950 x 790
Height	mm	1935	1935	1935
Pivot measurement	mm	2030	2070	2016
Net tank capacity	l	321	491	820
approx. weight	kg	52	62	96
max. permissible tank temperature	°C	90	90	90
max. permissible operating pressure	bar	3	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5	4.5
Standby heat loss	kWh/day	1.73	1.94	2.45
max. number of sensors		4	4	8
<b>Solar heat exchanger DN 32</b>				
Output area	m <sup>2</sup>	1.5	1.5	2.5
max. operating pressure	bar	10	10	10
Capacity	l	8	8	13
max. collector area	m <sup>2</sup>	12.5	12.5	20
Building material class		B2	B2	B2

\* Testing permitted with water only

### ■ The TQ-S 500/850 solar storage tank



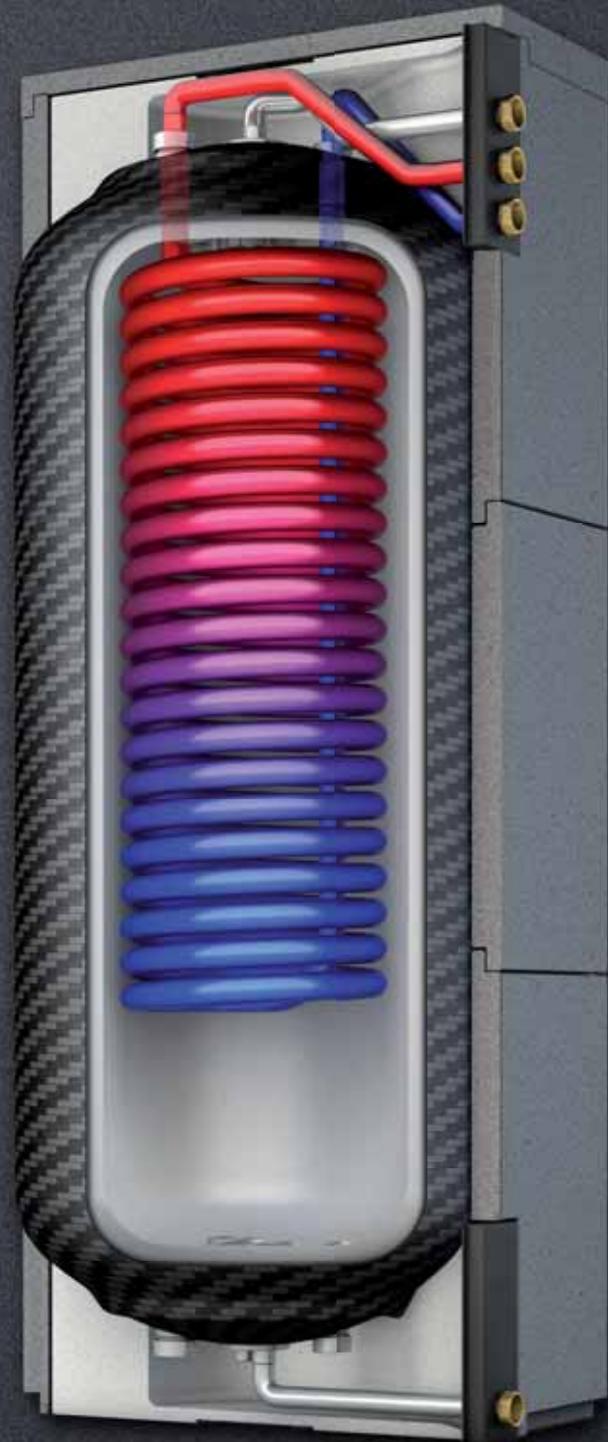
Heat source with Thermotank Quadroline solar storage tank, no drinking water heating, solar support for heating system, underfloor heating system via separation storage tank (with hydraulic switch)

# Roth Thermotank Quadroline

## Drinking water heater

### How a drinking water storage tank works

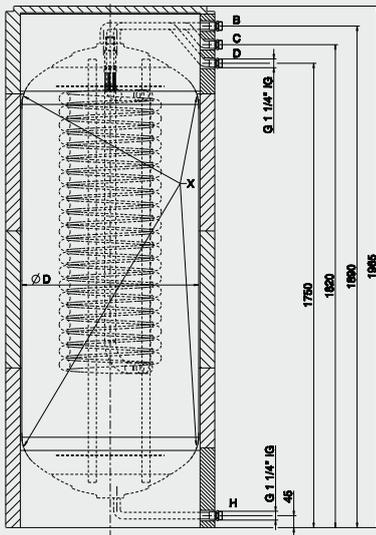
Hygienic storage tanks are used to heat drinking water based on a constant flow principle. A high-performance stainless steel heat exchanger is integrated into the system for heating drinking water.



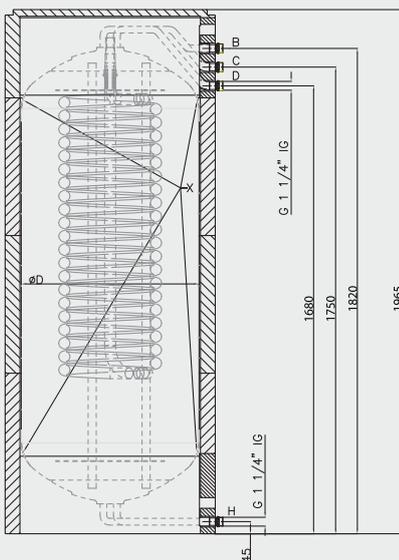
### Roth drinking water heater

- > hygienic storage tank/drinking water heater using the constant flow method
- > high-performance stainless steel heat exchanger
- > hydraulic switch between heat source and heating circuits
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

### ■ TQ-TW 325



### ■ TQ-TW 500/850



- B Heat source supply, domestic water
- C Hot water outlet
- D Cold water inlet
- H Heat source return, domestic water
- X Sensor sleeve

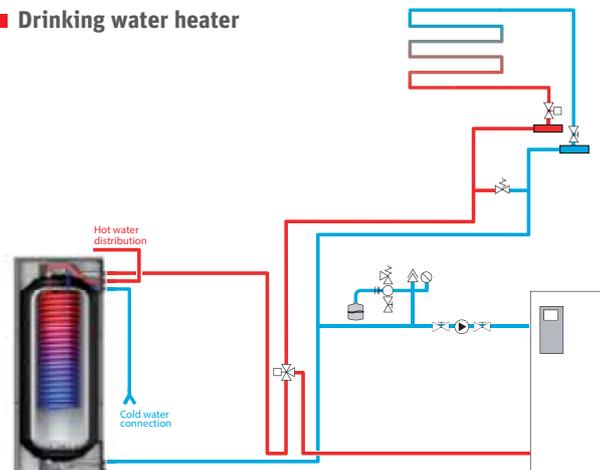
Technical data		TQ-TW 325	TQ-TW 500	TQ-TW 850
Type				
Model variants		Drinking water heater		
Description	Unit			
Energy efficiency class		B	B	—
Energy efficiency class with optional accessory Thermocoat plus		A	A	—
<b>External dimensions of insulation</b>				
Length/width	mm	650 x 650	780 x 780	1090 x 970
Height	mm	1965	1965	1965
<b>External dimensions for mounting purposes</b>				
Diameter D	mm	547	677	950 x 790
Height	mm	1935	1935	1935
Pivot measurement	mm	2030	2070	2016
Net tank capacity	l	321	491	818
approx. weight	kg	65	74	106
max. permissible tank temperature	°C	90	90	90
max. permissible operating pressure	bar	3	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5	4.5
Standby heat loss	kWh/day	1.73	1.92	2.45
max. number of sensors		4	4	8
<b>Hot water heat exchanger DN 32</b>				
Output area	m <sup>2</sup>	5	5	7.5
max. operating pressure	bar	10	10	10
approx. capacity	l	26	26	37
Tapping rate ***, approx.	l	375	510	930
Output coefficient N <sub>1</sub> , approx.**		2.5	3.6	7.9
Connection height	mm	1750	1750	1750
Building material class		B2	B2	B2

\* Testing permitted with water only

\*\* N<sub>1</sub> figures in accordance with DIN 4708-3 for 20 l/min and a tapping temperature of 45 °C

\*\*\* Storage tank temperature 65 °C, dispensing temperature 38 °C at 20 litre/min.

### ■ Drinking water heater



Heat source with Thermotank Quadroline drinking water heater, underfloor heating

## Roth Thermotank Quadroline

Drinking water heater with solar energy facility

### How a drinking water heater with solar energy support works

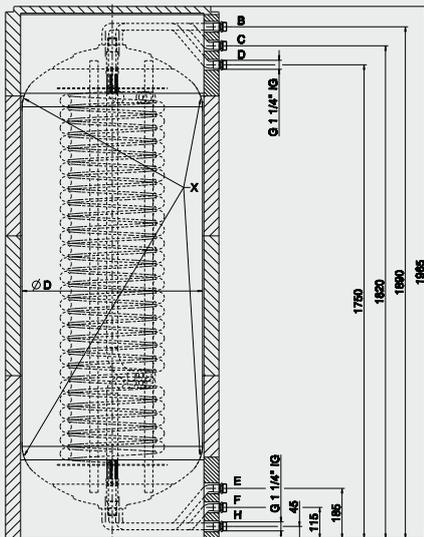
Hygienic storage tanks are used to heat drinking water based on a constant flow principle. A high-performance stainless steel heat exchanger is integrated into the system for heating drinking water. A drinking water heater with a solar energy support allows you to integrate a solar energy system into it.



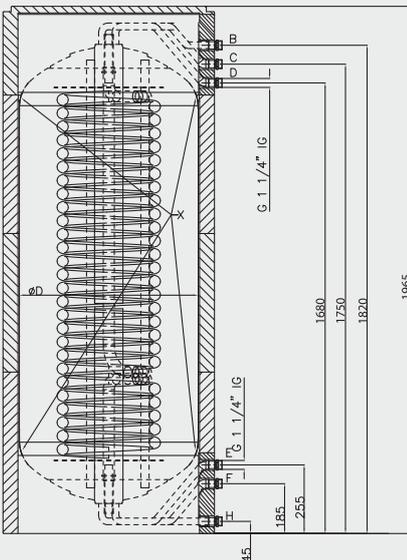
#### Roth drinking water heater with solar energy facility

- > hygienic storage tank/drinking water heater using the constant flow method
- > two high-performance stainless steel heat exchangers for drinking water and solar
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

### TQ-TWS 325



### TQ-TWS 500/850



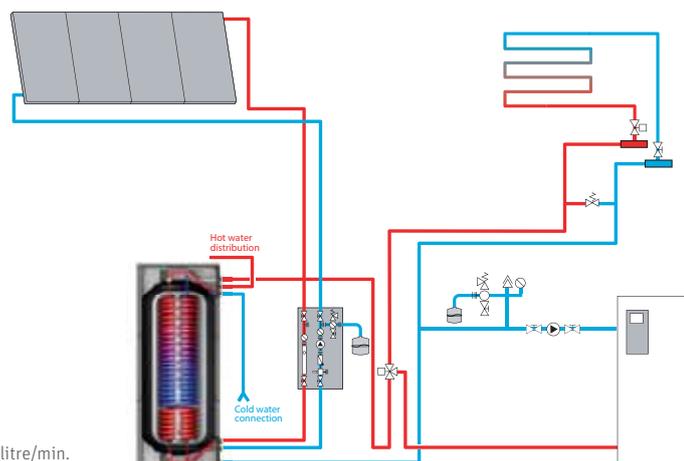
- B Heat source supply
- C Hot water outlet
- D Cold water inlet
- E Solar heat exchanger supply (inlet)
- F Solar heat exchanger return (outlet)
- H Heat source return
- X Sensor sleeve

\* Testing permitted with water only  
 \*\*  $N_d$  figures in accordance with DIN 4708-3 for 20 l/min and a tapping temperature of 45 °C  
 \*\*\* Storage tank temperature 65 °C, dispensing temperature 38 °C at 20 litre/min.

Subject to technical modifications.

Technical data		TQ-TWS 325	TQ-TWS 500	TQ-TWS 850
Type				
Model variants		Drinking water heater with solar energy facility		
Description	Unit			
Energy efficiency class		B	B	—
Energy efficiency class with optional accessory Thermocoat plus		A	A	—
<b>External dimensions of insulation</b>				
Length/width	mm	650 x 650	780 x 780	1090 x 970
Height	mm	1965	1965	1965
<b>External dimensions for mounting purposes</b>				
Diameter D	mm	547	677	950 x 790
Height	mm	1935	1935	1935
Pivot measurement	mm	2030	2070	2016
Net tank capacity	l	321	491	818
approx. weight	kg	72	81	114
max. permissible tank temperature	°C	90	90	90
max. permissible operating pressure	bar	3	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5	4.5
Standby heat loss	kWh/day	1.73	1.94	2.45
max. number of sensors		4	4	8
<b>Solar heat exchanger DN 32</b>				
Output area	m <sup>2</sup>	1.5	1.5	2.5
max. operating pressure	bar	10	10	10
Capacity	l	8	8	13
max. collector area	m <sup>2</sup>	12.5	12.5	20
<b>Hot water heat exchanger DN 32</b>				
Output area	m <sup>2</sup>	5	5	7.5
max. operating pressure	bar	10	10	10
approx. capacity	l	26	26	37
Tapping rate ***, approx.	l	375	510	930
Output coefficient $N_d$ , approx.**		2.5	3.6	7.9
Connection height	mm	1750	1750	1750
Building material class		B2	B2	B2

### Drinking water heater with solar energy facility



Heat source with Thermotank Quadroline drinking water heater with solar energy facility, solar heating of drinking water, underfloor heating

# Roth Thermotank Quadroline

## Drinking water combination storage tank

### How a drinking water combination storage tank works

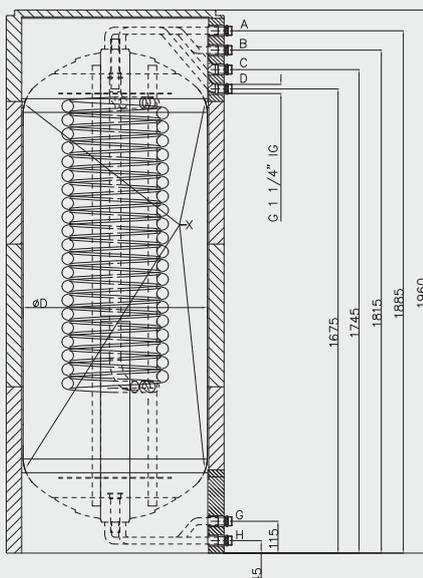
A drinking water combination storage tank combines the functions of a buffer storage tank and a hot water storage tank in a single system. It is designed to work using the constant flow method. The buffer storage tank stockpiles the hot central heating water and the hot water heat exchanger provides hygienic drinking water.

#### Roth drinking water combination storage tank

- > hygienic storage tank/drinking water heater using the constant flow method
- > high-performance stainless steel heat exchanger for drinking water
- > integrated stratified filling system for optimal thermal stratification and separation of drinking water and heating water zones by selective filling
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus



■ TQ-TWK 500/850



- A Heat source return, domestic water
- B Heat source supply, domestic water
- C Hot water outlet
- D Cold water inlet
- G Heating return
- H Heating supply
- X Sensor sleeve

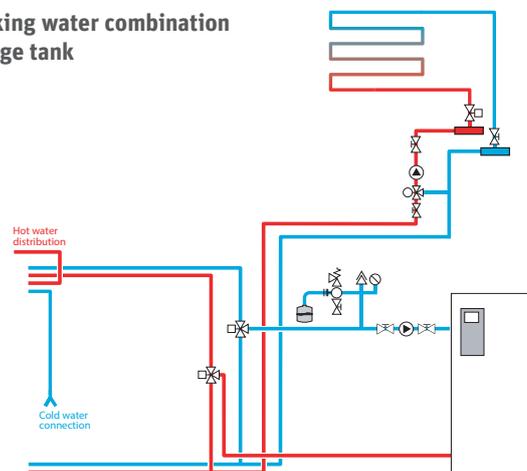
Technical data		TQ-TWK 500	TQ-TWK 850
Type			
Model variants		Drinking water combination storage tank	
Description	Unit		
Energy efficiency class		B	—
Energy efficiency class with optional accessory Thermocoat plus		A	—
External dimensions of insulation			
Length/width	mm	780 x 780	1090 x 970
Height	mm	1965	1965
External dimensions for mounting purposes			
Diameter D	mm	677	950 x 790
Height	mm	1935	1935
Pivot measurement	mm	2070	2016
Net tank capacity	l	490	818
approx. weight	kg	75	108
max. permissible tank temperature	°C	90	90
max. permissible operating pressure	bar	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5
Standby heat loss	kWh/day	1.94	2.45
max. number of sensors		4	8
Hot water heat exchanger DN 32			
Output area	m <sup>2</sup>	5	7.5
max. operating pressure	bar	10	10
approx. capacity	l	26	37
Tapping rate ***, approx.	l	410	780
Output coefficient N <sub>l</sub> , approx.**		2.6	5.9
Connection height	mm	1750	1750
Building material class		B2	B2

\* Testing permitted with water only

\*\* N<sub>l</sub> figures in accordance with DIN 4708-3 for 20 l/min and a tapping temperature of 45 °C

\*\*\* Storage tank temperature 65 °C, dispensing temperature 38 °C at 20 litre/min.

■ Drinking water combination storage tank



Heat source with Thermotank Quadroline drinking water combination storage tank, drinking water zone and buffer zone, underfloor heating

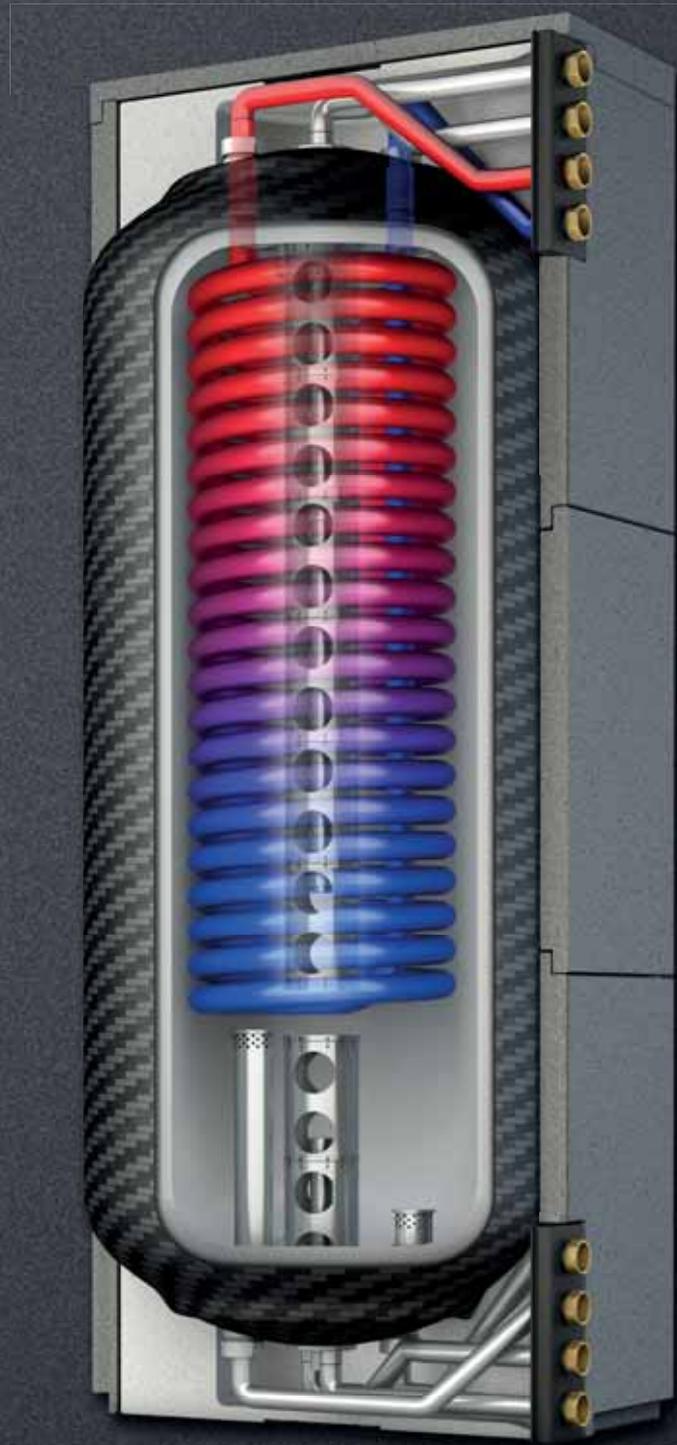
# Roth Thermotank Quadroline

## Drinking water separation storage tank

### How a drinking water separation storage tank works

A drinking water separation storage tank combines the functions of a separation storage tank and a hot water storage tank in a single system. It is designed to work using the constant flow method. The buffer storage tank stockpiles the hot central heating water and the hot water heat exchanger provides hygienic drinking water.

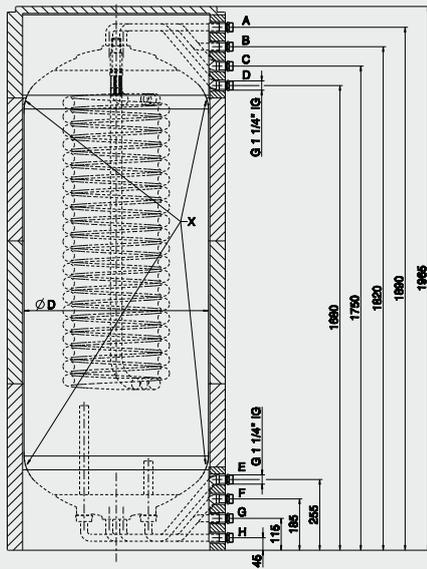
The heating zone is designed to hydraulically keep the heat source circuit separate from the heating circuit.



### Roth drinking water separation storage tank

- > hygienic storage tank/drinking water heater using the constant flow method
- > high-performance stainless steel heat exchanger for drinking water
- > integrated stratified filling system for optimal thermal stratification and separation of drinking water and heating water zones by selective filling
- > hydraulic isolation
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

■ TQ-TWT 500/850



- A Heat source return, domestic water
- B Heat source supply, domestic water
- C Hot water outlet
- D Cold water inlet
- E Heating return
- F Heating supply
- G Heat source return, heating
- H Heat source supply, heating
- X Sensor sleeve

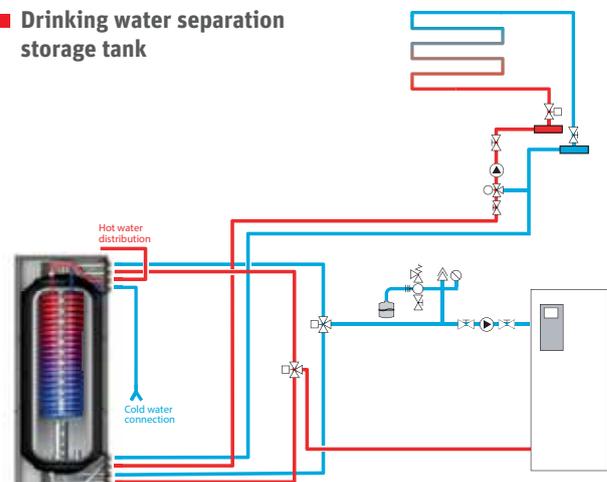
Technical data		TQ-TWT 500	TQ-TWT 850
Type			
Model variants		Drinking water separation storage tank	
Description	Unit		
Energy efficiency class		B	—
Energy efficiency class with optional accessory Thermocoat plus		A	—
<b>External dimensions of insulation</b>			
Length/width	mm	780 x 780	1090 x 970
Height	mm	1965	1965
<b>External dimensions for mounting purposes</b>			
Diameter D	mm	677	950 x 790
Height	mm	1935	1935
Pivot measurement	mm	2070	2016
Net tank capacity	l	490	818
approx. weight	kg	77	110
max. permissible tank temperature	°C	90	90
max. permissible operating pressure	bar	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5
Standby heat loss	kWh/day	1.94	2.45
max. number of sensors		4	8
<b>Hot water heat exchanger DN 32</b>			
Output area	m <sup>2</sup>	5	7.5
max. operating pressure	bar	10	10
approx. capacity	l	26	37
Tapping rate ***, approx.	l	410	780
Output coefficient N <sub>l</sub> , approx.**		2.6	5.9
Connection height	mm	1750	1750
Building material class		B2	B2

\* Testing permitted with water only

\*\* N<sub>l</sub> figures in accordance with DIN 4708-3 for 20 l/min and a tapping temperature of 45 °C

\*\*\* Storage tank temperature 65 °C, dispensing temperature 38 °C at 20 litre/min.

■ Drinking water separation storage tank



Warm water source with Thermtank Quadroline drinking water separation storage tank, drinking water zone and buffer zone, underfloor heating.

# Roth Thermotank Quadroline

## Combination storage tank

### How a combination storage tank works

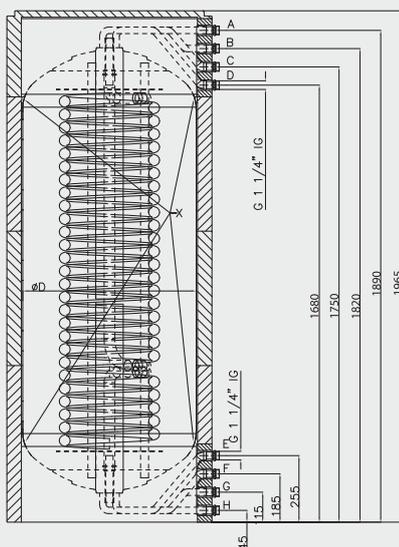
A combination storage tank combines the functions of a buffer storage tank and a hot water storage tank in a single system. It is designed to work using the constant flow method. The buffer storage tank stockpiles the solar energy supplied by the collectors and the hot water storage tank provides hygienic drinking water.



### Roth combination storage tank

- > hygienic storage tank/drinking water heater using the constant flow method
- > two high-performance stainless steel heat exchangers for drinking water and solar
- > integrated stratified filling system for optimal thermal stratification and separation of drinking water and heating water zones by selective filling
- > with two or four sensor sleeves to connect with up to four/eight sensors
- > high-quality removable hard foam insulation
- > optionally available with Thermocoat and Thermocoat plus

### ■ TQ-K 500/850



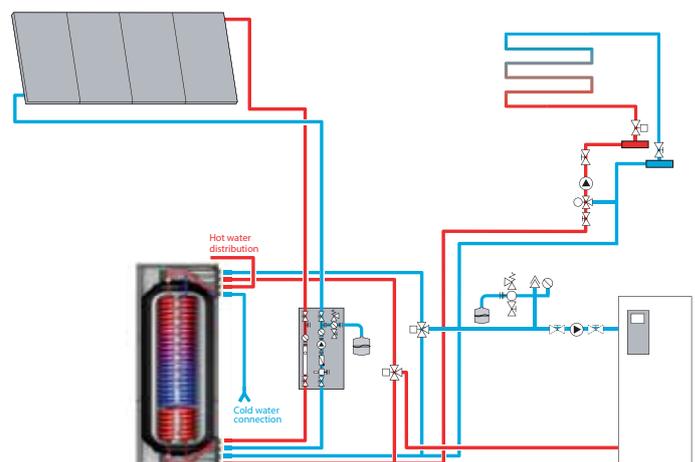
- A Heat source return, domestic water
- B Heat source supply, domestic water
- C Hot water outlet
- D Cold water inlet
- E Solar heat exchanger supply (inlet)
- F Solar heat exchanger return (outlet)
- G Heating return
- H Heating supply
- X Sensor sleeve

Technical data		TQ-K 500	TQ-K 850
Type			
Model variants		Combination storage tank	
Description	Unit		
Energy efficiency class		B	—
Energy efficiency class with optional accessory Thermocoat plus		A	—
<b>External dimensions of insulation</b>			
Length/width	mm	780 x 780	1090 x 970
Height	mm	1965	1965
<b>External dimensions for mounting purposes</b>			
Diameter D	mm	677	950 x 790
Height	mm	1935	1935
Pivot measurement	mm	2070	2016
Net tank capacity	l	489	818
approx. weight	kg	81	116
max. permissible tank temperature	°C	90	90
max. permissible operating pressure	bar	3	3
max. tank test pressure/20 °C*	bar	4.5	4.5
Standby heat loss	kWh/day	1.94	2.45
max. number of sensors		4	8
<b>Solar heat exchanger DN 32</b>			
Output area	m <sup>2</sup>	1.5	2.5
max. operating pressure	bar	10	10
Capacity	l	8	13
max. collector area	m <sup>2</sup>	12.5	20
<b>Hot water heat exchanger DN 32</b>			
Output area	m <sup>2</sup>	5	7.5
max. operating pressure	bar	10	10
approx. capacity	l	26	37
Tapping rate ***, approx.	l	410	780
Output coefficient N <sub>l</sub> , approx.**		2.6	5.9
Connection height	mm	1750	1750
Building material class		B2	B2

\* Testing permitted with water only  
 \*\* N<sub>l</sub> figures in accordance with DIN 4708-3 for 20 l/min and a tapping temperature of 45 °C  
 \*\*\* Storage tank temperature 65 °C, dispensing temperature 38 °C at 20 litre/min.

Subject to technical modifications.

### ■ Combination storage tank



Heat source with Thermotank Quadroline combination storage tank, solar heating of drinking water and solar heating support, underfloor heating

## Technology that impresses



■ The corrosion-resistant Roth Thermotank Quadroline is made from a unique plastic composite material with aluminium diffusion protection and high-performance EPS insulation on the outside. It can withstand continuous pressure of 3 bar and a maximum operating temperature of 90 °C.

Roth Thermotanks are equipped with specially developed loading and extraction units which enable defined temperature stratification and application-specific extraction. Depending on their use, they feature a stainless steel corrugated pipe, which enables:

- > hygienic water heating using the constant flow method,
- > hygienic water heating using the constant flow method combined with support for the central heating system,
- > provides support energy for central heating,
- > integration of solar energy systems.

Roth Thermotanks also come with a transport and handling device. This, combined with the tanks' extremely light weight, makes installation and assembly easy. The Thermotank Quadroline's highly effective insulation consists of high-quality hard foam segments which can be fitted onto the tank. These foam segments have a low thermal conductivity and a high-quality surface. Their square corners of the insulation segments enables the Roth Thermotanks to be installed space-efficiently flush against the wall, as well as allowing you the option of applying the Thermocoat.

The Roth Thermotank Quadroline is fully equipped with piping and ready for connection, with the connecting pipes fixed into special elements at the head and foot ends. The interfaces for the various system connections are located centred in the middle of the upper and lower insulation segments. The connection size is 1 ¼". These have been optimised to prevent heat loss due to unwanted circulation. The connections are fed out through the insulation and positioned in a panel. The Roth Thermotank Quadroline is fitted with attachments for connecting four sensors, which can be positioned according to the application in question.



■ **Decades of manufacturing expertise  
"Made in Germany"**

In developing and manufacturing the Roth Thermotank Quadroline, Roth has been able to draw on decades of manufacturing expertise in processing plastics. The company has been producing tanks for various applications since 1963. Alongside energy and water, plastics is the company's key area of expertise. By the early 1970s, Roth was already moving towards plastics processing. Various plastic technologies enables the manufacturer to make use of a range of synergies in its production process. The Roth Thermotank Quadroline is also based on the company's own manufacturing know-how.

■ **A multiple award-winning product**

The Roth Thermotank Quadroline has received the Homesolute Award in the "Environment" category and the Plus X Award for high quality, design, functionality and ecology. The jury for the Plus X Award also awarded the Quadroline the distinction of "plastic heat tank of the year" with the "Best product of the year" accolade.

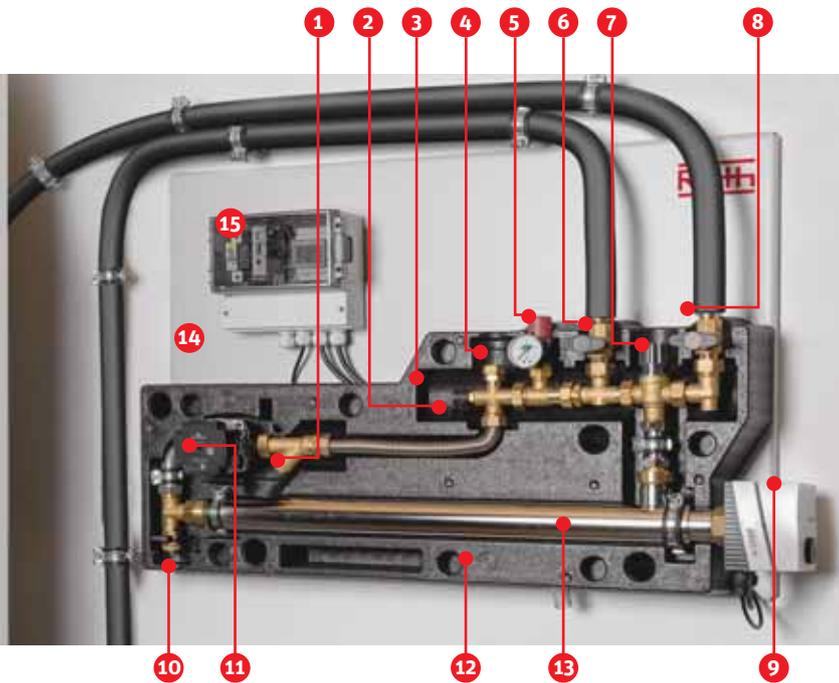
The pro-K industrial association awarded the Thermotank Quadroline as "Product of the year". This honour is awarded to outstanding products where plastic plays an instrumental role in their successful realisation with regard to innovation, design and function.



# Roth PTH wall console

## the ideal storage for excess PV power

- 1 Dirt trap
- 2 Filling valve
- 3 Venting valve
- 4 Discharge for possible expansion tank
- 5 Pressure relief valve
- 6 Return shutoff
- 7 Thermostat valve 50-75 °C
- 8 Supply shutoff
- 9 Heating insert
- 10 Drain valve
- 11 Circulation pump
- 12 Insulation housing
- 13 Continuous flow heater
- 14 Console rear wall
- 15 Electrical connection box prepared for the customer's own energy management system



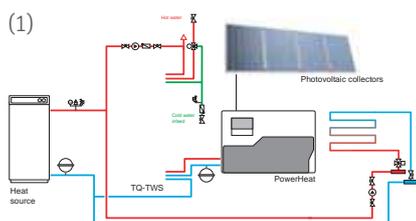
### ■ Excess photovoltaic power – energy-efficient heating with solar energy

Owners of PV systems can use excess power they have generated themselves to heat up buffer and drinking water storage tanks. The Roth PTH wall console is particularly suitable for systems which have expiring feed-in tariffs. It is designed for simple, direct installation on the storage tank to generate an energy-efficient, steady high-temperature stratification.

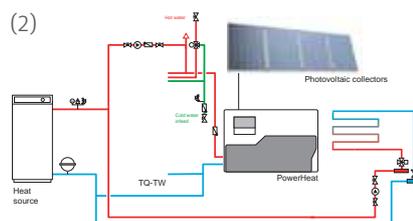
The high temperatures ensure comprehensive protection from legionella. The external heating element can heat up to a maximum storage temperature of 85 °C. The heating insert can output up to 3.5 kW (PV IOT 0-10 V, 400 V, 7-stage). The Roth PTH wall console consists of a console rear wall, a hydraulic unit and insulating housing. An electrical connection box is available separately. This is prepared for a customer's own energy management system and can be selected according to size requirements. The system can be controlled via an app.

#### At a glance

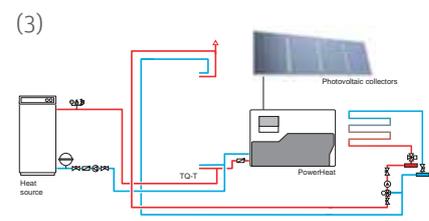
- > easy to install
- > highly efficient
- > especially hygienic
- > ready for connection



Easy installation on a drinking water storage tank with integrated solar heat exchanger



Simple, direct installation on a drinking water storage tank



Simple, direct installation on a buffer storage tank

## References

actual examples that speak for themselves



- 1 **Roth Thermotank Quadroline**  
Single-family house, Erding, Germany
- 2 **Roth Thermotank Quadroline**  
Villa, Ratingen, Germany
- 3 **Roth Thermotank Quadroline**  
Clubhouse, Dautphetal, Germany



# Roth sets the standard as a "certified manufacturer" of the ZVSHK



... for a strong partnership  
with the trades.



## ■ Orientation and safety for the sanitary, heating and air-conditioning industry

The title "Certified Manufacturer – Quality, Safety, Service" is bestowed by the German Central Association of Plumbing, Heating and Air Conditioning (ZVSHK) in a transparent process to honour manufacturers who support the operational processes of sanitary, heating and air-conditioning specialists by means of

- > high-quality products,
- > extensive service offerings and
- > investments in research and development

to the best of their ability.

## ■ Innovation, not standstill

The requirements of our industry are continually developing further. As well, new or improved services are constantly being developed with which manufacturers can support craft workshops.

For that reason, the ZVSHK seal of quality is an agile symbol of quality. This means: The central association regularly checks to make sure the currently valid quality criteria are fulfilled by the "certified manufacturers" to guarantee actual service quality for the workshop. The quality criteria themselves are put under the microscope once a year and adapted to current developments where needed. **Working together for better quality!**

For more information, please visit: [www.zvshk.de/qualitaetszeichen/](http://www.zvshk.de/qualitaetszeichen/)

## ■ Roth supports ZVSHK campaign „Time to start“

In addition to actively participating in the ZVSHK quality seal, Roth supports the ZVSHK campaign „Time to start“. The German Central Association of Plumbing, Heating and Air Conditioning has started the nationwide initiative to recruit new talent for the HVAC trades.

The website as part of the marketing campaign includes a wealth of information and opportunities for young people such as HVAC career finder, guidebooks, practical support, help with applications and finding suitable training companies.

For more information please visit [www.zeitzustrarten.de](http://www.zeitzustrarten.de)



## Our strengths your benefits

### Innovation

- > Early identification of market requirements
- > In-house materials research and development
- > In-house engineering
- > The company is certified in accordance with ISO 9001

### Services

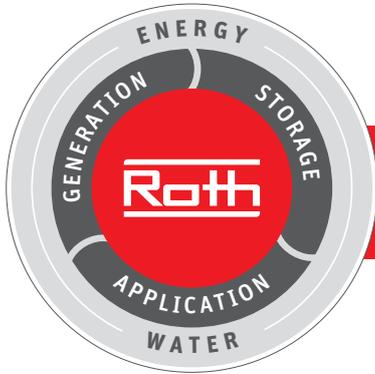
- > Extensive field network of qualified sales professionals
- > Hotline and project planning service
- > Factory training courses, planning and product seminars
- > Fast availability of all Roth brand product ranges throughout Europe
- > Comprehensive guarantee and extended liability agreements

### Product performance

- > Complete range of easy-to-install product systems
- > Manufacturing expertise for the complete product range within the Roth Industries group of companies



**Roth**



## Roth energy and sanitary systems

### Generation

- Solar systems <
- Heat pump systems <

### Storage

- Storage systems for
- Drinking and heating water <
- Combustibles and biofuels <
- Rainwater and waste water <

### Use

- > Radiant heating and cooling systems
- > Apartment stations
- > Pipe installation systems
- > Shower systems

# Roth

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