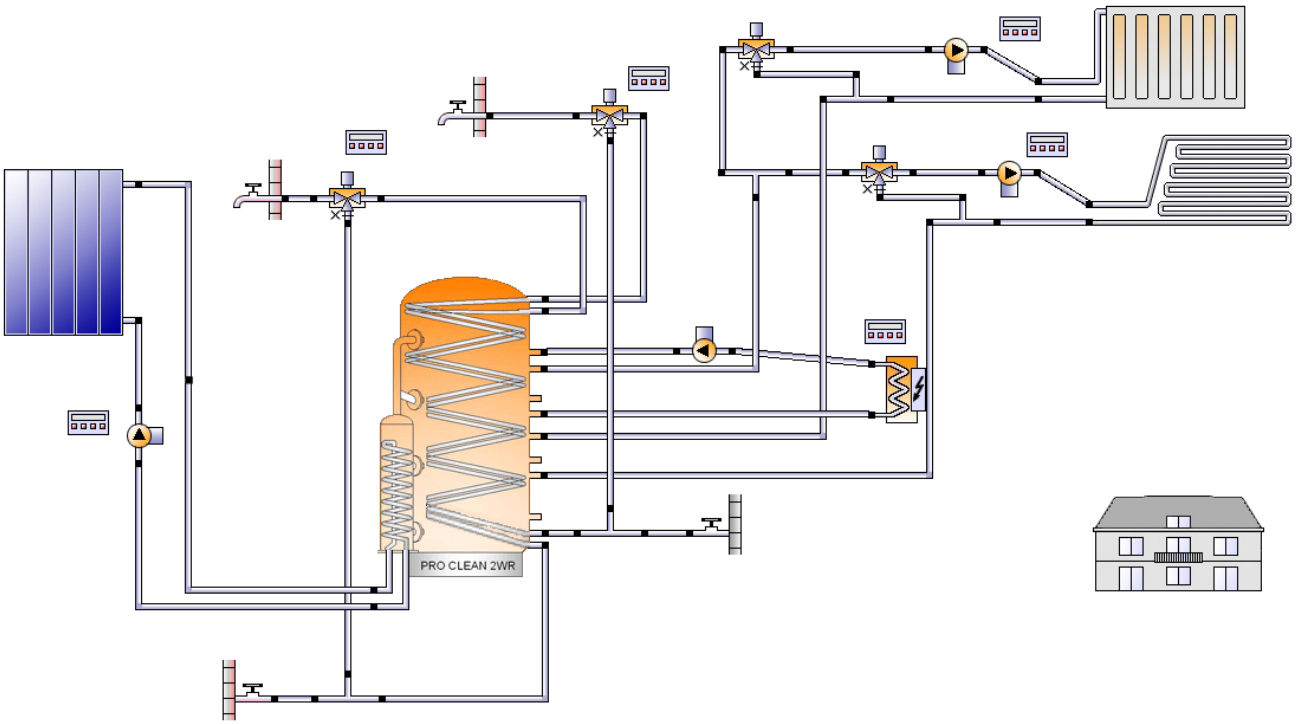
Short Report

Kyzyl-Orda_RR **Warmwasser + Heizung (PC 2WR)_South**



This report has been created by:	Location of the system
	Kazakhstan
Roman Rusch	Kzyl-Orda
Stockach 100	Longitude: 65.47°
6306 Söll	Latitude: 44.8°
	Elevation: 122 m

System overview (annual values)

Total fuel and/or electrical energy consumption of the system [Etot]	9,864.7 kWh
Comfort demand	Energy demand covered

Overview solar thermal energy (annual values)

Collector area	20.4 m²
Solar fraction total	61.5%
Solar fraction hot water [SFnHw]	74.4 %
Solar fraction building [SFnBd]	21.2 %
Total annual field yield	14,818.3 kWh
Collector field yield relating to gross area	726.4 kWh/m²/Year
Collector field yield relating to aperture area	781.2 kWh/m²/Year
Max. energy savings	15,598.2 kWh
Max. reduction in CO2 emissions	8,366.9 kg

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Meteorological data-Overview

Average outdoor temperature	11.4 °C
Global irradiation, annual sum	1,603.9 kWh/m²
Diffuse irradiation, annual sum	595.7 kWh/m²

Component overview (annual values)

Boiler	**Elektro Durchlauferhitzer**	
Power	kW	24
Total efficiency	%	94.6
Fuel and electrical energy consumption [Eaux]	kWh	9,802.2

Collector 2	**FM-S**	
Total gross area	m²	20.4
Total aperture area	m²	18.968
Tilt angle (hor.=0°, vert.=90°)	°	40
Orientation (E=+90°, S=0°, W=-90°)	°	0
Collector field yield [Qsol]	kWh	14,818.3
Irradiation onto collector area [Esol]	kWh	36,897.4

Building	**Office building, normal**	
Heated/air-conditioned living area	m²	850
Heating setpoint temperature	°C	20
Heating energy demand excluding DHW [Qdem]	kWh	6,220.8

Heating element 1	**Floor heating**	
Net energy from/to heating/cooling modules	kWh	5,049.4

Heating element 2	**Radiator**	
Net energy from/to heating/cooling modules	kWh	216.3

Hot water demand 1	**Constant**	
Volume withdrawal/daily consumption	l/d	451.5
Temperature setting	°C	45
Energy demand [Qdem]	kWh	6,429.2

Hot water demand 2	**Constant**	
Volume withdrawal/daily consumption	l/d	451.5
Temperature setting	°C	45
Energy demand [Qdem]	kWh	6,429.2

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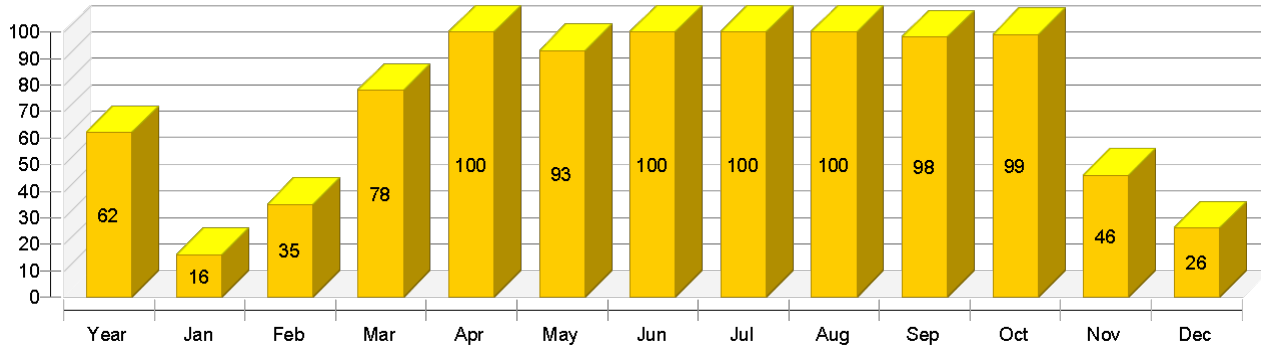
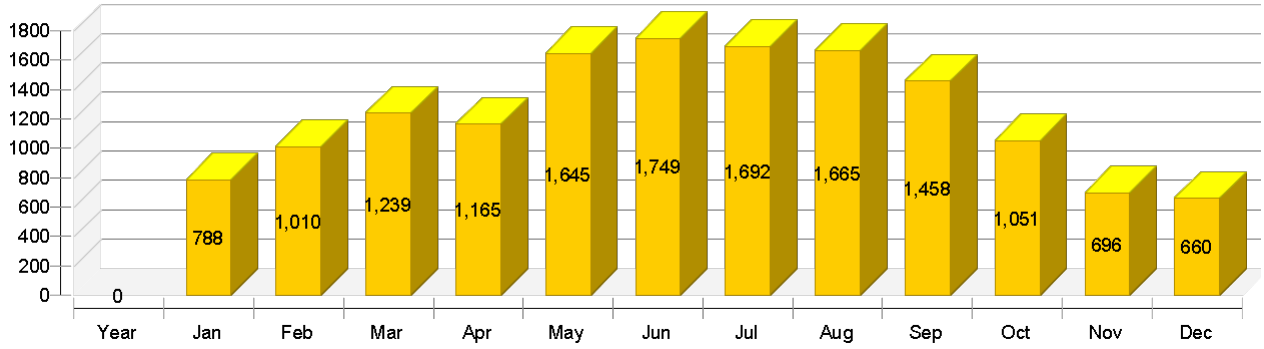


Solar thermal energy to the system [Qsol] **kWh**



Collector 2

Daily maximum temperature [°C]