

PHÖNIX Duo

The solar water heater for space heating



- Supreme Quality
"Made in Germany"
- Maximum system performance with optimized components, tap water mixer included
- Highest solar yields using high-performance flat plate collectors with one-piece absorber
- Can be combined with all current heating systems
- Simple and cost-saving installation
- High energy savings by using an extra-thick insulation (100 mm) for the storage tank
- Highest solar yield using large heat exchangers
- Replaceable insulation of the storage tank makes handling easy
- Lower installation cost using a plug-in solar station
- Over 30.000 satisfied PHÖNIX-customers



The PHÖNIX Duo solar water heater delivers solar energy for a house up to six people, making solar tap water heating as well as solar space heating available.

The PHÖNIX Duo provides you with comforting warmth on cooler days and supports your heating system in the wintertime.

Technical data

Collectors

Duo 5: 5 Flat plate collectors, PHÖNIX Infinity 3
10,90 m² gross, (10,0 m² net)

Duo 6: 6 Flat plate collectors, PHÖNIX K323
15,1 m² gross, (13,9 m² net)

Hot water storage tank

800 litre combined storage tank for both tap water and heating water with stainless steel cylinder and replaceable insulation

Controller DeltaSol BS

Pump-station FlowCon

Included in delivery

Collectors	5 x PHÖNIX Infinity 3 (Duo 5)	6 x PHÖNIX K323 (Duo 6)
Collector dimensions	1,87 x 1,15 x 0,095 m (length x width x height)	2,16 x 1,16 x 0,095 m
Collector weight	34 kg	46 kg
Gross area	2,18 m ²	2,51 m ²
Effective absorber area	2,0 m ²	2,32 m ²
Heat transfer medium capacity	1,13 litre	1,3 litre
Absorber type	eta plus_Al	Sunselect
Absorbency	95%	95%
Optical efficiency	80,1% based on aperture area	78,6%
Emissivity	5%	5%
Efficiency factors	a ₁ : 3,65 W/ m ² K; a ₂ : 0,0169 W/ m ² K ²	a ₁ : 3,24 W/ m ² K; a ₂ : 0,0161 W/ m ² K ²
Max. stagnation temperature	203 °C	201 °C
Collector material	Frame made from extruded aluminium profile with backside (50 mm rock wool) and sidewise insulation (20 mm rock wool)	
Glass cover	low-iron solar safety glass	low-iron solar safety glass
Test reports	Collector test report by ISFH Germany acc. to European Norm (EN) No. 12975-1/2; Solar Keymark	Collector test report by ISFH Germany acc. to German Industry Norm (DIN) No. 4757 Part 4, test report No.: 16-00/D, type approval No. 03-228-733 by Senate of Berlin, Germany



Collector installation possibilities

Dimensions:
Width x Length,
including space for
connectors

Alternatives:

Vacuum-tube collectors, CPC
type with mirrors

flat roof mounting rig
for alternatives 1 and 2
available

wall mounting rig
for alternatives 1 and 4
available

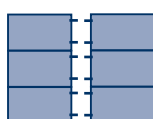
All alternatives possible with 4
collectors.



Alternative 1 (standard), Duo 5 (Infinity 3)
on edge horizontal array, single row
dimensions of collector field: 5,80 x 2,02 m



Alternative 2, Duo 5 (Infinity 3)
transverse horizontal array, single row
(collector connectors alongside)
dimensions of collector field: 9,40 x 1,30m



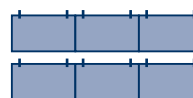
Alternative 3, Duo 6 (K323)
collector area 15 m²
transverse vertical array,
double column
dimensions of collector field:
4,52 x 3,48 m



Alternative 4, Duo 6 (K323)
on edge horizontal array, double rows
(package contains 4 roof ducts)
dimensions of collector field: 3,48 x 4,62 m



Alternative 5, Duo 6 (K323)
on edge vertical array, double
column
dimensions of collector field:
2,52 x 6,48 m



Alternative 6, Duo 6 (K323)
transverse horizontal array, double column
(collector connectors alongside,
package contains 4 roof ducts)
dimensions of collector field: 6,48 x 2,62 m

Storage tank

Type UPK-800/200

Storage capacity	800 litres, (600 litres heating water buffer and 200 litres tap water)
Material	buffer: steel, outside primed inner tap water buffer: stainless steel (1.4571)
Max. pressure	buffer 3 bar, tap water 6 bar
Surface area	2,0 m ²
tap water buffer	
Heat exchanger	tube heat exchanger 2 x 2,4 m ²
Connections inlet/outlet	heating system: 1" external thread with flat sealing screw joint, hot and cold water: 3/4" external thread with flat sealing screw joint, solar supply and return: 3/4" external thread with flat sealing screw joint
Insulation	polyurethane foam 100 mm replaceable, inspection tap on top, replaceable lid 180 mm, bottom 50 mm, $\lambda = 0,037$ W/mK
Performance number N _L	up to 2,3, depending on temperature sensor position note: if tap water is to be provided for more than five people, a separate calculation of N needs to be done
Dimensions with insulation	2,03 m x 0,99 m
Diameter without insulation	0,79 m
Dimension tilted	2,00 m
Total weight	280 kg incl. insulation

