

A breath of fresh air for accumulator systems

AccuWIN

Heat accumulator

windhager
HEAT WITH VISION



Heat accumulator



**A breath of
fresh air**

AccuWIN

Gets optimum performance from your heating system

Windhager considers itself a visionary firm that is steeped in tradition yet offers efficient and forward-looking solutions for all fuels and solar thermal, fit for the future. Consequently, Windhager delivers new technological impulses time and time again in heat accumulators as well. Take the new AccuWIN accumulator series, for example. Thanks to an innovative accumulator principle and Windhager's unique system technology, AccuWIN wrings every last quantum of heat out of your heating system.

In conjunction with the MES^{PLUS} intelligent control system, it ensures perfect heat management and the highest levels of efficiency even when there are several heat generators and consumers involved. For you, it means lower heating costs and greater comfort.



The AccuWIN accumulator series – solutions for every requirement

- **AccuWIN heat accumulator**
A real bonus when it comes to heat – the ideal counterpart to any wood or solid fuel boiler.
- **AccuWIN solar accumulator**
The most effective heat storage and a high solar yield due to two solar-powered indirect coil heaters.
- **AccuWIN combination accumulator**
Practical combination unit for efficient use of solar thermal energy and hot water provision, all in one.

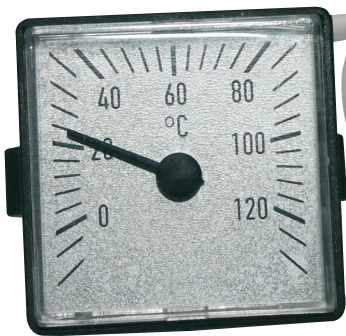
Fig.: AccuWIN Solar
with fresh water module

1

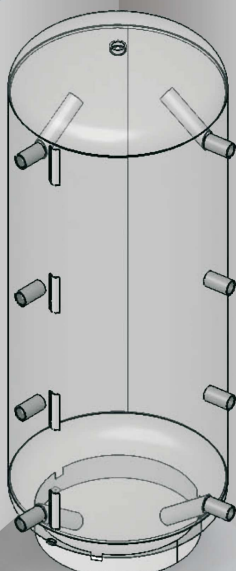


A bonus when it comes to heat

2



3



4



1

Fleece insulation

The AccuWIN heat accumulator possesses high-quality fleece insulation which offers significant advantages compared to commonly used expanded foam insulation.

The advantages for you

- Up to 21% less stored heat loss compared to conventional expanded foam insulation
- Simple installation – under all temperature conditions
- Environmental protection due to 70% recycled material
- Appealing design due to polystyrene jacket
- Material is gentle on the skin: does not trigger allergies
- Already complies with the upcoming EU requirements on buffer tanks

2

Indicating thermometers

Three indicating thermometers make it possible to read off the buffer temperature at the top, middle and base of the tank. This means you can see at a glance whether additional heating is required or not.

The advantages for you

- Simple readout of buffer tank temperatures

3

Eight 6/4" connections

The connections of the AccuWIN are arranged, on the one hand, so that the accumulator can be installed in niches and, on the other hand, to allow the entire tank volume to be used from top to bottom. This explains why the connection pipe at the top is extended upwards. This is the only way to guarantee that water is always drawn from the uppermost area where the temperature level is at its highest. As a corollary, the connection that is extended downwards enables loading of the area at the bottom, which is not normally used.

The advantages for you

- Minimum space requirement and suitability for niches
- Optimised heat storage capacity
- Optimum use of energy

4

Hooked strip

The fleece insulation is secured to the AccuWIN using a handy hooked strip. This also serves as a cable duct for installing the sensors. This means the sensor cables which are usually fully exposed are now concealed out of sight in the hooked strip.

The advantages for you

- Tidier appearance without exposed cables
- Easy to install

AccuWIN heat accumulator

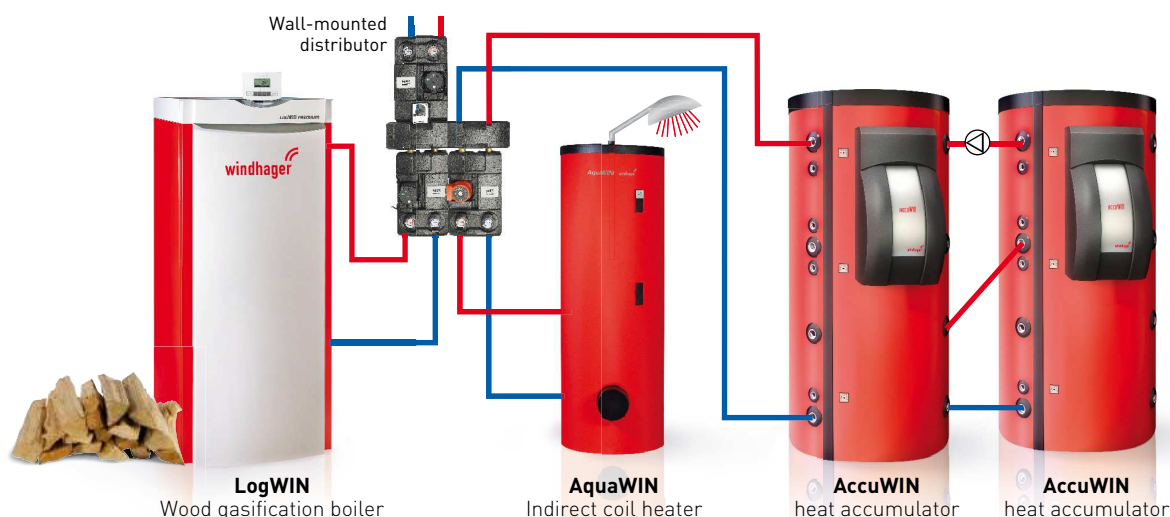


Fig.: AccuWIN

The AccuWIN heat accumulator is the ideal counterpart to any wood or solid fuel boiler. Surplus energy is quickly absorbed, can be stored for a long period and released again quickly when required. For example, when you get up in the morning, the AccuWIN will already have heated up with the residual energy from the day before. This allows the replenishment intervals to be spaced out widely throughout the day, whilst you enjoy optimum heating comfort.

AccuWIN – the most important advantages at a glance

- Best thermal insulation due to 100 mm fleece insulation.
- Simple installation due to fleece insulation with hooked strip
- Unique cascading (combination) of two heat accumulators (parallel and diagonal) – see page 12
- Different accumulator sizes can be connected
- Can be used in niches because of the connections mounted on the front
- Three indicating thermometers for reading off the buffer temperatures
- Four covering caps included as standard
- Can be combined with the AquaWIN hot water tank or FRIWA 30 fresh water module
- Full guarantee for up to five years

Making even better use of solar energy

1 Fleece insulation

The AccuWIN Solar heat accumulator possesses high-quality fleece insulation which offers significant advantages compared to commonly used expanded foam insulation.

The advantages for you

- Up to 21% less stored heat loss compared to conventional expanded foam insulation
- Simple installation – under all temperature conditions.
- Environmental protection due to 70% recycled material
- Appealing design due to polystyrene jacket
- Material is gentle on the skin: does not trigger allergies
- Already complies with the upcoming EU requirements on buffer tanks

2 Three analogue indicating thermometers are provided in order to read off the buffer temperatures at the top, middle and base.

3 Solar-powered indirect coil heaters

Two separate solar-powered indirect coil heaters arranged at the top and bottom in the accumulator provide for utilisation of solar energy that is as efficient as it is cost-effective.

The advantages for you

- Simple integration of solar heating, even as a retrofit
- Highest solar yield by switching over between the upper and lower solar-powered indirect coil heaters

4 The forward-pointing connections mean that the AccuWIN Solar can be fitted in niches for particularly compact installation.

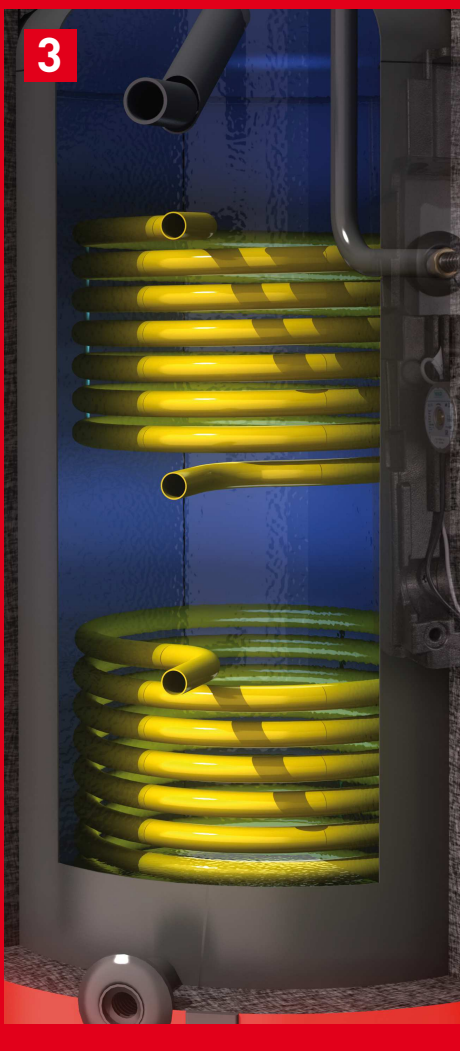
5 Fresh water module

The FRIWA 30 fresh water module in combination with the AccuWIN Solar provides hot water in next to no time (for more information, see page 8).

The advantages for you

- Space-saving because of compact design and direct installation on AccuWIN Solar

6 Hooked strip – as well as providing simple installation, the hooked strip also serves as a cable duct for installing the sensors.



AccuWIN Solar heat accumulator

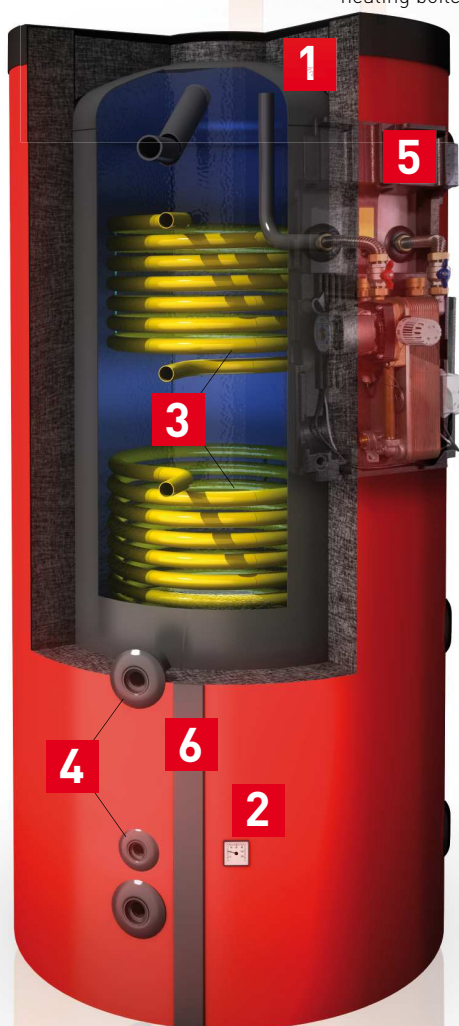
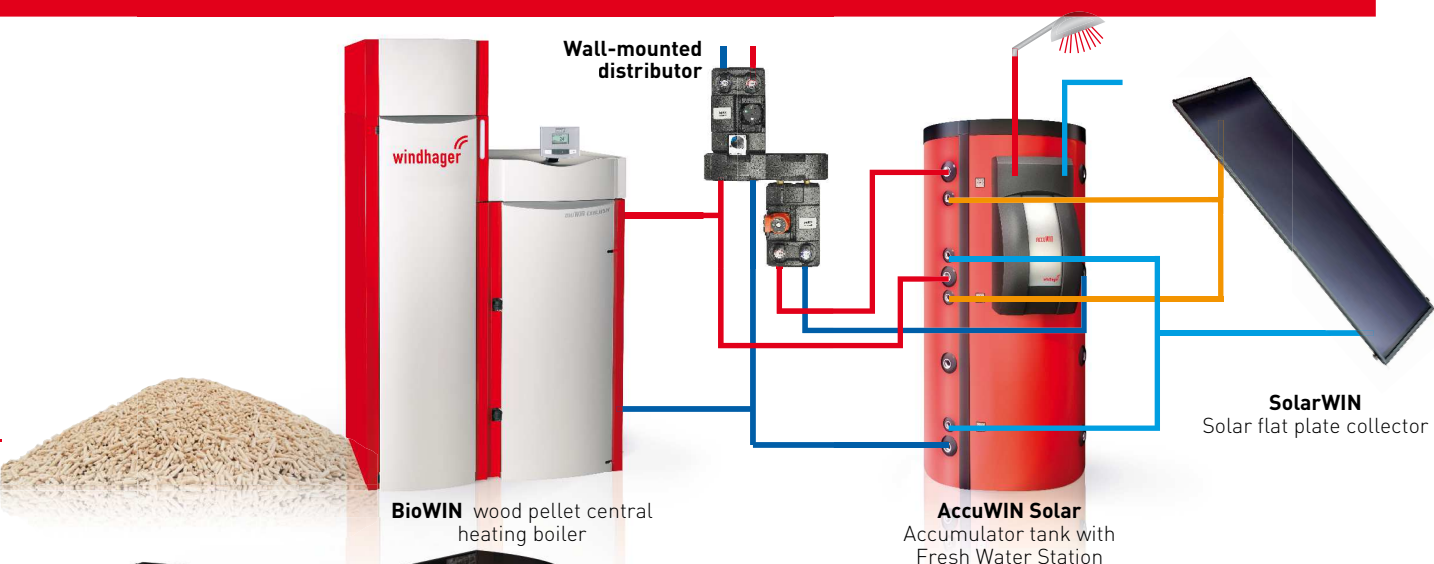


Fig.: AccuWIN Solar

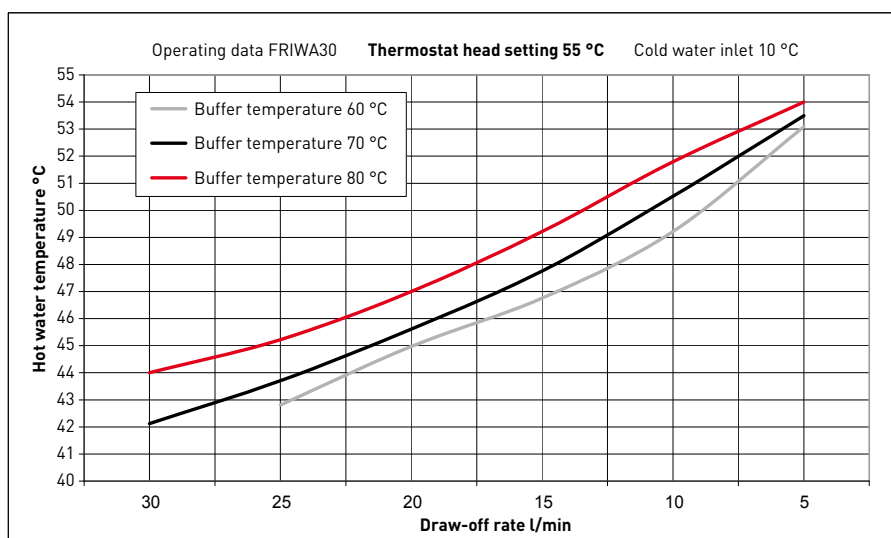
With AccuWIN Solar, you can use the power of the sun even round the clock. In this way, the solar energy stored during the day can be used for providing hot water or assisting with heating in the evening. With its two integrated smooth-tube indirect coil heaters, AccuWIN Solar offers a cost-effective solution compared to external solar stations, which ensures the highest possible solar energy yield at the same time.

AccuWIN Solar – the most important advantages at a glance

- Perfect heat storage due to 100 mm fleece insulation
- Unique cascading (combination) of two buffer tanks (parallel and diagonal) – see page 12
- Efficient integration of solar heating via two smooth-tube indirect coil heaters
- FRIWA 30 fresh water module can be mounted directly on the accumulator
- Different accumulator sizes can be connected
- Can be used in niches because of the forward-pointing connections
- Three remote temperature gauges for reading off the buffer temperatures
- Four covering caps included as standard
- Can be combined with the AquaWIN hot water tank or FRIWA 30 fresh water module
- Full guarantee for up to 5 years

FRIWA 30 fresh water module

Relaxing in a hot bath after a cold winter's day or enjoying a shower after sport – hot water is an essential feature of our lifestyle. In combination with the AccuWIN or AccuWIN Solar, the FRIWA 30 fresh water module supplies you with hot water at the right temperature in a matter of moments. Depending on requirements, this module can be mounted either directly on the heat accumulator or on the wall.



Characteristic: Hot water temperature and draw-off amount depending on the buffer temperature



Fig.: AccuWIN Solar with FRIWA 30



Fresh water module – the most important advantages at a glance

- Space-saving because of compact design and possibility of installation on AccuWIN Solar
- Large draw-off amount due to large heat exchanger
- Hot water is available rapidly
- Hot water temperature can be selected
- Draw-off rate up to 30 l/min
- Circulation pump set optionally available
- Can be combined with AccuWIN and AccuWIN Solar
- Avoidance of bacteria growth due to hot water preparation using the flash heating principle

AccuWIN Aqua combined heat accumulator

AccuWIN Aqua offers efficient use of solar thermal energy and hot water provision in one unit. The practical combination accumulator only takes up a little space and can easily be integrated into any Windhager heating system, even as a retrofit.

- 1** High-quality soft foam insulation with 100 mm wall thickness for the best possible heat storage
- 2** Display panel with 3 remote temperature gauges (accessory)
- 3** Large area solar-powered indirect coil heater at top: integrated in ACA 1000
- 4** Stainless steel corrugated tube indirect coil heater for fresh hot water preparation using the flash heating principle (avoidance of bacteria growth)
- 5** Tank made from high-quality steel for a long service life
- 6** Large area solar-powered indirect coil heater at bottom: standard feature on ACA 800/1000
- 7** Four 2" connection ports for buffer tank combination



Abb.: AccuWIN Aqua



Fig.: AccuWIN Aqua

AccuWIN Aqua – the most important advantages at a glance

- Space-saving due to built-in fresh hot water provision with stainless steel corrugated tube
- Low radiation losses because of 100 mm soft foam insulation
- Equipped with smooth-tube indirect coil heater for integration into a solar thermal system
- Modern display panel with 3 remote temperature gauges
- Avoidance of bacteria growth due to hot water preparation using the flash heating principle
- Full guarantee for up to 5 years

Accessories – everything from a single supplier

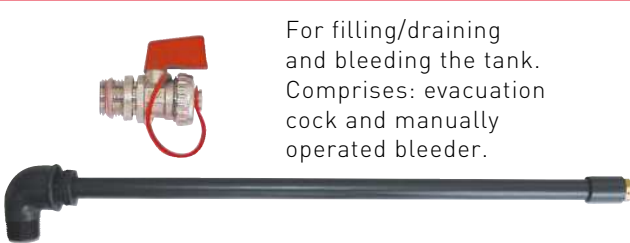
All Windhager heating components fit together perfectly and are an optimum match for one another. With your accessories too, you can depend on quality from Windhager:

Electrical heating element NB-071/072/073/077



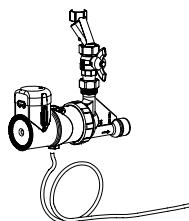
With thermostat. Available with power ratings 2.2 kW (230 V) and 3/4/6 kW (400 V).

Additional set AC-040, AC-045, CW-040



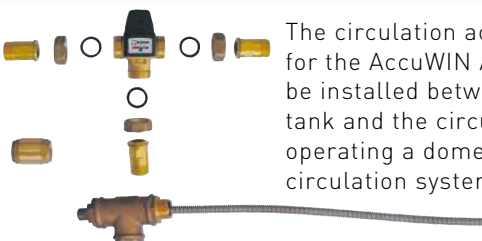
For filling/draining and bleeding the tank. Comprises: evacuation cock and manually operated bleeder.

Circulation unit for FRIWA 30 FW-ZE



A circulation unit is available as an option for the FRIWA 30 for operating a domestic water circulation system.

Circulation connection acc. for ACA CW-050



The circulation accessory for the AccuWIN Aqua must be installed between the tank and the circulation for operating a domestic water circulation system.

Display panel CW-010 for ACA



The display panel with 3 remote temperature gauges allows the accumulator temperatures to be read off:

- Top
- Middle
- Bottom

Seal set CW-031 for ACA



For sealing the four 2" connection ports (including cap seal – not illustrated) and for sealing a 5/4" return.

Indicating thermometers AC-010 for ACW, ACS



Three remote temperature gauges can be mounted directly on the buffer tank to make it easy to read off the temperature directly.

Buffer temperatures:

- Top
- Middle
- Bottom

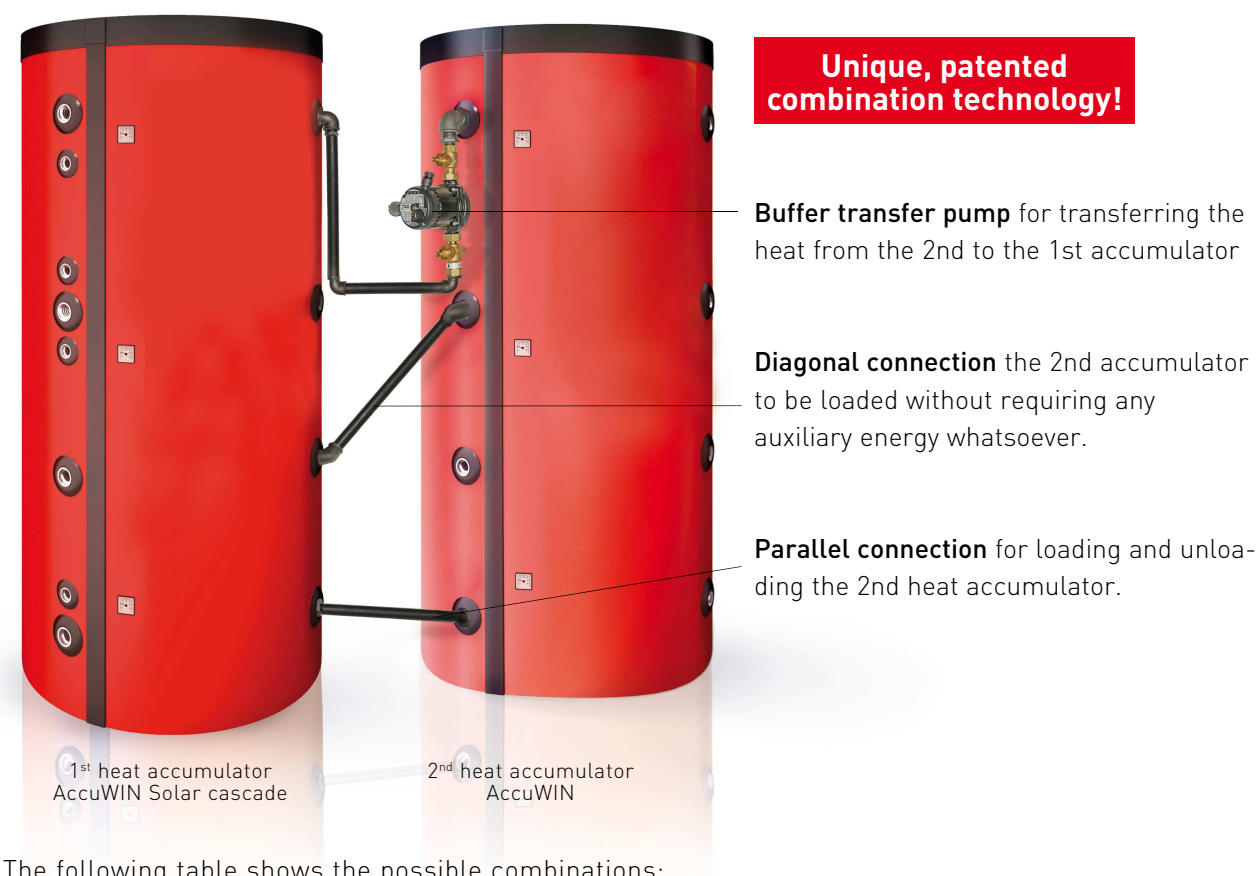
Base insulation AC-060/AC-065 for ACW, ACS



To keep the heat loss as low as possible, it is possible to obtain base insulation as an option for the AccuWIN and the AccuWIN Solar.

Simple combination

All AccuWIN heat accumulators can be combined with one another flexibly. This allows the appropriate accumulator solution to be assembled from different sizes and models, according to individual requirements. The innovative accumulator and combination technology developed by Windhager ensures a uniquely high level of energy exploitation in all cases, therefore delivering an optimum level of system efficiency (see pages 12 and 13 for mode of function).



The following table shows the possible combinations:

2 AccuWIN heat accumulators			
	ACW 825	ACW 1000	ACW 1500
ACW 825 K	x	x	x
ACW 1000 K		x	x
ACW 1500 K		x	x

1 AccuWIN Solar with AccuWIN			
	ACW 825	ACW 1000	ACW 1500
ACS 825 K	x	x	x
ACS 1000 K		x	x

1 AccuWIN Aqua with AccuWIN			
	ACW 825	ACW 1000	ACW 1500
ACA 800 K	x	x	x
ACA 1000 K		x	x

Unique combination technology

With innovative combination and loading technology, Windhager has succeeded in utilising the stored heat even more efficiently in future. To this end, the buffer tanks are connected both in parallel and diagonally. This means the solar yield is significantly greater than in conventional solutions, above all in buffer cascades with only one solar accumulator.

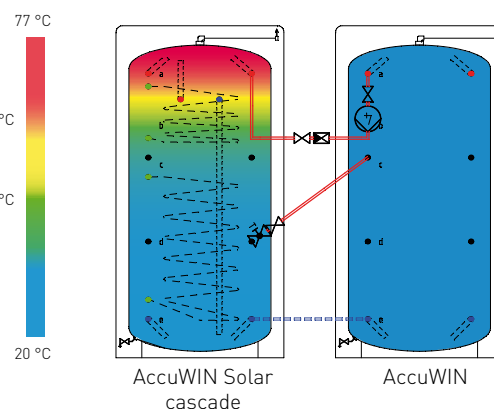
Mode of function: loading

Step 1: First accumulator is loaded

First of all, only the AccuWIN Solar is loaded as a result of the buffer loading control and the hydraulic arrangement.

Advantages for you

- Quickly achieves a usable temperature level, because only a small volume of water (approx. 50 – 70 l) needs to be heating
- Low radiation losses, because only the AccuWIN Solar is heated up

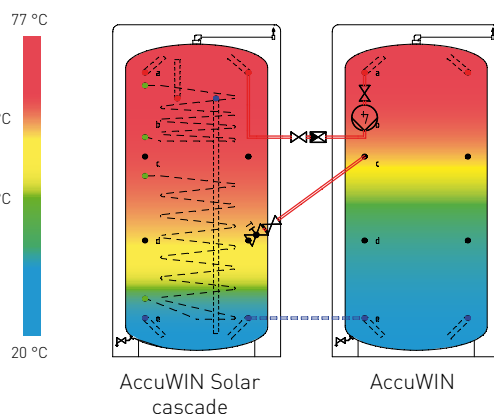


Step 2: Second accumulator is loaded

A valve opens as soon as the temperature in the area of the connecting pipe of the solar accumulator reaches 45 °C. The second buffer tank is loaded without any auxiliary energy whatsoever, because of thermal circulation.

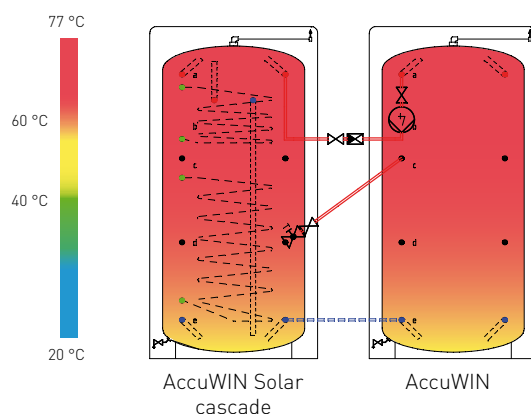
Advantages for you

- Loading of the second buffer tank (AccuWIN) without additional auxiliary energy
- The lower area of the solar accumulator (AccuWIN Solar) remains available for the possibility of additional solar yield right until the point when it has been heated through completely



Step 3: Both accumulators have been heated through

If sufficient energy is supplied (e.g. from a split log boiler) then both accumulators (AccuWIN Solar and AccuWIN) are fully loaded.





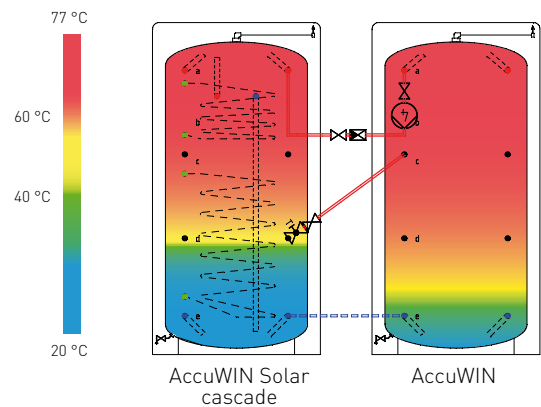
Mode of function: unloading

Step 1: First accumulator is unloaded

During unloading, precedence is given to energy from the solar accumulator.

Advantages for you

- Rapidly available area (bottom) in the AccuWIN Solar for possible solar yield
- Permanently optimum temperature stratification in both accumulators, because the return is directly into the AccuWIN Solar via the bottom connection. In contrast to a serial connection, this avoids the necessary of having a flow through the second buffer tank

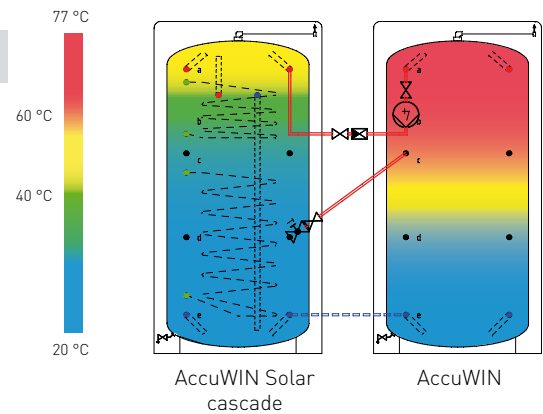


Step 2: Second accumulator is unloaded

If the temperature in the AccuWIN Solar (left) drops below that of the AccuWIN (right), the heat gradient in the first accumulator is changed around using a pump.

Advantages for you

- Optimum temperature stratification is maintained
- Complete use of the stored energy



How you stand to gain from this unique combination technology

- Free solar energy can be used much earlier and for much longer compared to conventional buffer cascades
- In wood gasification boiler systems with a fresh water module, the heating comfort is improved significantly and wood consumption is reduced drastically

Windhager system technology

Almost 90% of domestic energy requirements are for heating and hot water. A customised heating system can greatly affect the ultimate amount of energy needed. Windhager offers an extensive range of modern boilers for all fuels, as well as intelligent control and accumulator systems – everything from a single source.

With a Windhager complete system, you can be certain that all components are perfectly adapted to one another and have been designed to be used together. For you, this adds up to the highest possible operation reliability and the best possible use of energy right from the first minute. We guarantee this with our „function guarantee for system technology“.



Warmth when you need it

Model		AccuWIN 825	AccuWIN 1000	AccuWIN 1500
Nominal content	Litres	825	1000	1500
Diameter with/without insulation	mm	990 / 790	990 / 790	1200 / 1000
Height with/without insulation	mm	1940 / 1860	2135 / 2050	2235 / 2150
Overall height without insulation	mm	1905	2090	2270
Minimum room height	mm	1960	2190	2290
Weight with/without insulation	kg	120 / 110	140 / 130	220 / 205
Supply and return connections	Int. thr./ Ext. thr.		6/4" int. thr.	
Connection ports	Int. thr./ Ext. thr.		6/4" int. thr.	
Max. permitted operating pressure of heating system	bar		3	

Model		AccuWIN Solar 825	AccuWIN Solar 1000
Nominal content	Litres	825	1000
Diameter with/without insulation	mm	990 / 790	990 / 790
Height with/without insulation	mm	1940 / 1860	2135 / 2050
Overall height without insulation	mm	1905	2090
Minimum room height	mm	1960	2190
Weight with/without insulation	kg	160 / 150	170 / 160
Supply and return connections	Int. thr./ Ext. thr.		6/4" IG
Connection ports	Int. thr./ Ext. thr.		6/4" IG
Indirect coil heater connections	Int. thr./ Ext. thr.		1" IG
Surface area of solar-powered indirect coil heater bottom/top	m ²	2,4 / 1,1	3 / 1,3
Nominal content of solar-powered indirect coil heater at bottom/top	Litres	15 / 7	19 / 8
Max. permitted operating pressure of heating system	bar		3
Max. perm. operating pressure of solar-powered indirect coil heater	bar		10

Model		AccuWIN Aqua 800	AccuWIN Aqua 1000
Nominal content	Litres	800	960
Diameter with/without insulation	mm	990 / 790	990 / 790
Height with/without insulation	mm	2025 / 1944	2195 / 2115
Overall height without insulation	mm	1985	2155
Minimum room height	mm	2055	2220
Weight with/without insulation	kg	265 / 255	285 / 275
Weight with/without insulation	Int. thr./ Ext. thr.	5/4" AG	5/4" AG
Connection ports	Int. thr./ Ext. thr.	2" AG	2" AG
Indirect coil heater connections	Int. thr./ Ext. thr.	1" IG	1" IG
Surface area of solar-powered indirect coil heater bottom/top	m ²	2,4 / —	3 / 2,4
Nominal content of solar-powered indirect coil heater at bottom/top	Litres	15 / —	18 / 10
Max. permitted operating pressure of heating system	bar		3
Max. perm. operating pressure of solar-powered indirect coil heater	bar		10

Int. thr...Internal thread Ext. thr...External thread

Model		FRIWA 30 fresh water module
Dimensions (W x H x D)	mm	400 x 820 x 290
Weight	kg	20
Draw-off rate	l/min	30
Cold water connections	Int. thr.	1"
Hot water connections	Int. thr.	1"
Buffer connections (out)	Ext. thr.	1"
Buffer connections (in)	Ext. thr.	1"
Pump power consumption	W	95
Electrical connection	V	230
Circulation connection		possible
Area of use		1 – 3 families



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