

The expert for pellets.



BioWIN^{PLUS} – the modern convenience of pellets.

BioWIN^{PLUS} – Pellet central heating boiler

Performance range: 2.9 to 25.9 kW

Cascade solutions up to 78 kW

This is the future of heating systems!

Pellets – safe, efficient and environmentally friendly.

Enjoy heat and comfort at the same time as cutting heating costs and being kind to the environment – a modern pellet heating system can tick all of these boxes. Wood pellets also offer another significant advantage: security of supply. This is because pellets are manufactured using a raw material that is not only in abundant supply but is also renewable: wood. With a pellet heating system, this means you have made excellent provision for a warm and cosy home for many years to come.

What are wood pellets?

Pellets are manufactured from untreated wood (dried wood shavings or sawdust) that are compressed into small cylinders. The quality of the pellets is very important for smooth functioning of the pellet heating system, and it is regulated by ÖNORM or DINplus standards.

Energy value:

2 kg pellets \triangleq 1 Ltr. heating oil \triangleq
approx. 1 m³ gas

How do pellets contribute to protecting the environment?

Burning pellets is CO₂-neutral, which means they only emit the same amount of CO₂ that the wood absorbed during its growth. This means pellets do not contribute to the greenhouse effect and make a valuable contribution to protecting the environment.



Heat with convenience.

Within a very short time, heating with pellets has become established as a popular and widely used way of supplying heat. Pellet heating systems are not only environmentally friendly, they also offer the highest levels of heating comfort with the latest technology.

Windhager is once again showing how convenient, efficient and environmentally friendly heating with pellets can be: with the new generation BioWIN^{PLUS} – a pellet boiler that has been developed further and improved of which many thousands have already been sold:



The NEW BioWIN^{PLUS} generation is...

... unbeatable in terms of comfort.

- ✓ Fully automated cleaning of the heating surfaces and the burner bowl.
- ✓ Fully automated ash removal from the combustion chamber and heating surfaces.
- ✓ Small ash quantities and long intervals between maintenance.
- ✓ Clearly laid out and easy-to-operate InfoWIN boiler operating unit.
- ✓ Fully automated message indicating the next cleaning interval.

... unparalleled in terms of safety and economy.

- ✓ Low pellet consumption and consistently high level of efficiency.
- ✓ Exemplary environmental friendliness.
- ✓ Flexible adaptation to fluctuating fuel properties.

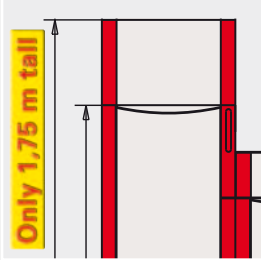


... extremely practical and flexible.

- ✓ Particularly compact design.
- ✓ Practical ash box integrated within the appliance.
- ✓ Can be combined perfectly with other heat generators such as a solar thermal system.

Innovation by design.

NEW compact design.



The compact design of the BioWIN^{PLUS} means it can be installed in the smallest boiler rooms. If access has to be by narrow and steep steps, the boiler can even be dismantled into several easily transportable sections in order to deliver.

The advantages for you:

- ✓ Can be installed in boiler rooms with a low ceiling.
- ✓ Little space is required in the installation room.
- ✓ Easy and safe to deliver.

A fully automated feed mechanism delivers new supplies of pellets as required.

Fully automated cleaning mechanisms.

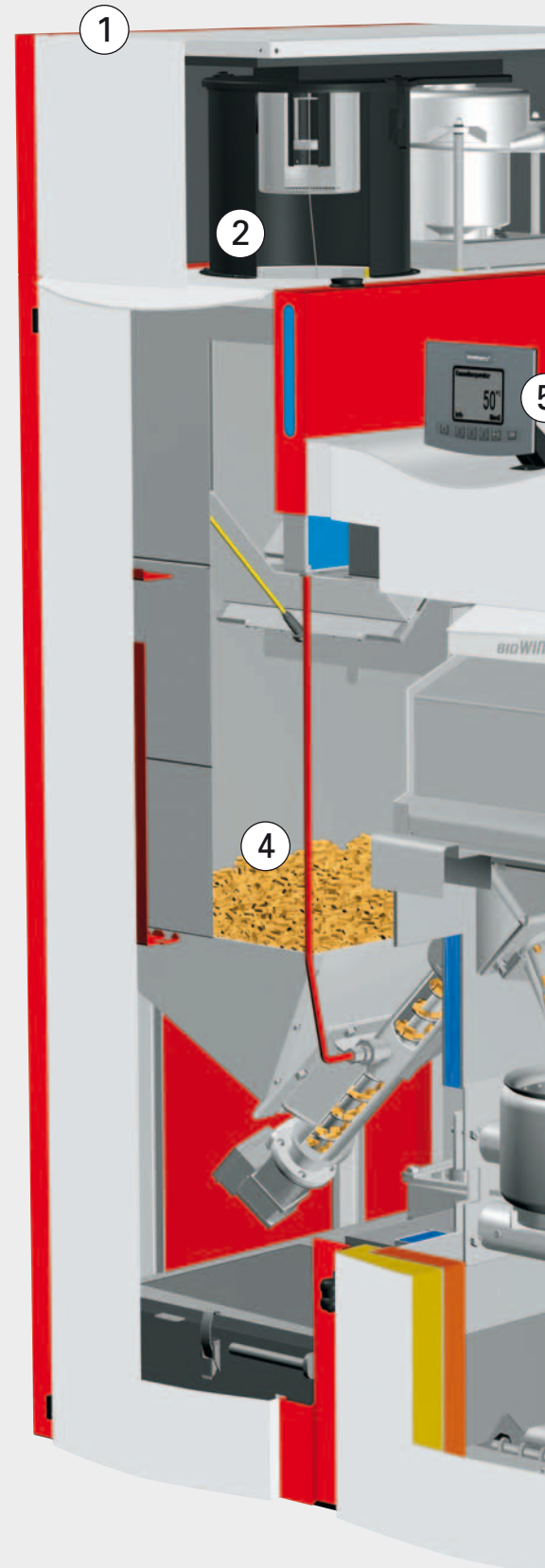


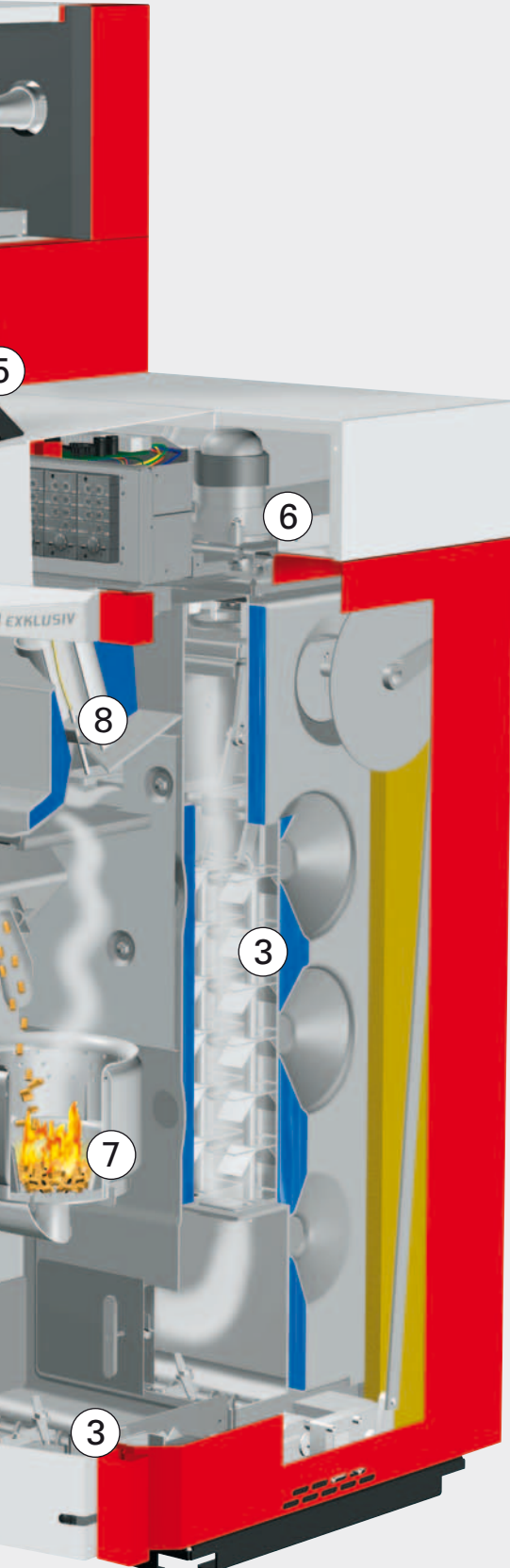
"Switch on and forget". Once the BioWIN^{PLUS} has been commissioned, the innovative fully automated systems ensure that you don't need to worry about anything else.

The advantages for you:

- ✓ Fully automated burner bowl ash removal.
- ✓ Fully automated heating surface cleaning ensures a continuously high degree of efficiency.
- ✓ Fully automated ash removal for long intervals between maintenance.
- ✓ Fully automated cleaning message indicating the next cleaning interval.

Large reserve supply container of 150 kg pellets enables long, uninterrupted burning phases.





5 NEW clearly laid out InfoWIN operating unit.



The modern InfoWIN operating unit mounted directly on the boiler displays clear full-text information about how to operate the boiler. All data can be accessed at the touch of a button.

The advantage for you:

- ✓ Simple, clear operation.

6 Precise control of the boiler capacity with the infinitely variable **combustion fan**.

7 NEW optimised pellet burner.



To ensure a consistent, optimum level of combustion, the new pellet burner adapts to fluctuating fuel properties.

The advantages for you:

- ✓ Low pellet consumption and consistently high level of efficiency.
- ✓ Exemplary environmental friendliness.
- ✓ Small ash quantities and long intervals between maintenance.

8 Long-lasting, heavy-duty **thermal probe** for the Thermo-control combustion control system.

Flexible in every respect.

Comfort when you need it.

You can choose between three comfort classes – Exklusiv, Premium or Klassik – depending on the level of comfort and convenience you require. Each of these comfort classes is offered in four performance levels (10, 15, 21 and 26 kW) and two control versions (REG and MES). With 24 boiler solutions, the BioWIN^{PLUS} is tailored to meet your individual requirements in all ways.

| | Exklusiv | Premium | Klassik |
|---------------------------|--|---|---|
| |  |  |  |
| Maintenance interval | 1 to 3 times in a year* | up to 2 months* | up to 7 days* |
| Heating surfaces cleaning | fully automated | manual | manual |
| Ash removal | fully automated | none | none |
| Pellet feed | fully automated | fully automated | manual |

*Given optimum conditions.

Everything under control.

MES Modular Energy System – the measure of all things: MES takes on the entire heat management of the heating system. It controls and optimises heat production and distribution matched precisely to requirements. Its modular design ensures that the heating system can be expanded at any time.



Digital MES
user module



Analogue MES
user module



Analogue REG
user module

REG standard control unit.

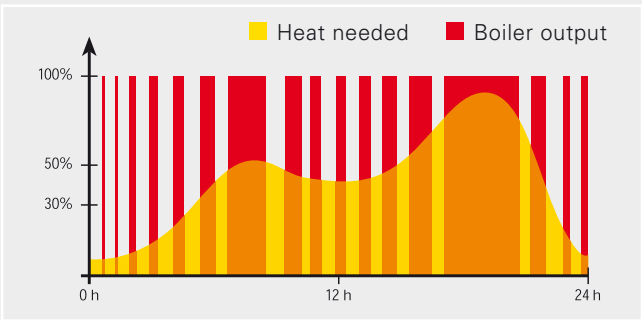
The REG standard control units offer a high level of control and operating convenience for one heating and one hot water tank circuit. The heating circuit cannot later be extended, and no further combinations are possible.



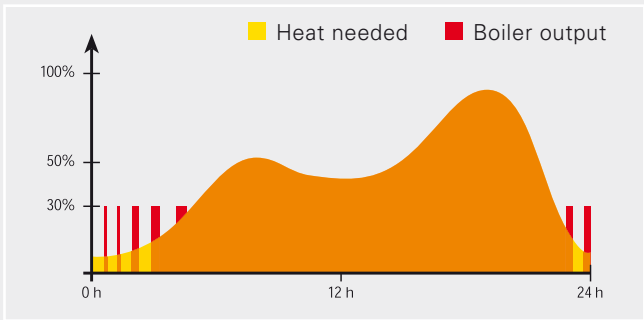
Warmth when you require it.

The modulating operation of the BioWIN^{PLUS} ensures energy-saving operation. Using just 30% of its capacity or above, it supplies just the right amount of energy required to keep your home feeling warm and cosy. It does not produce excess warmth, thus helping you to keep your heating costs down and to protect the environment. Use of an accumulator tank is therefore not usually necessary.

The following comparison illustrates the advantages:



Boilers with conventional switch-on, switch-off operation operate on either "full" or "no" capacity in order to meet heating requirements. Frequent start-up and standstill phases lead to high energy loss.



At just 30% of its capacity and above, the modulating BioWIN provides just exactly the right amount of thermal energy required with infinitely variable adjustment.

For exactly what you want.

The specification of the heat requirement depends on various factors. In addition to the living area to be heated, the way in which the building has been constructed and the level of insulation also play an important role. With a performance range of 2.9 to 78 kW, the BioWIN^{PLUS} offers the perfect solution for all requirements, and is therefore suitable for installation in low-energy homes, as well as in buildings with high heating requirements, such as hotels.



Picture: ©ELK



Picture: © Landhotel „3 Eichen“, Eugendorf

BioWIN^{PLUS} Cascade.

Ideal for fluctuating heating requirements.

Installers are always faced with great challenges when it comes to supplying heat to large buildings, such as blocks of flats, hotels or public buildings. On the one hand, the heating system must provide reliable, fail-safe operation, but on the other hand, fluctuating heating requirements must be dealt with as efficiently as possible. On top of that, the heating must be easy and convenient to control. Windhager's BioWIN^{PLUS} cascade solution meets these requirements in all respects.

The combination of two or three pellet boilers provides numerous advantages over conventional large-scale installations:

✓ Efficiency in a class of its own.

During the summer months when only hot water is required but no actual heating, only a fraction of the total power is needed, which can easily be supplied by just one BioWIN^{PLUS} unit. The other boilers remain in stand-by – all you have to do is sit back and save on operating costs.

✓ Maximum reliability.

When two or three pellet boilers are used, long-term, reliable operation is guaranteed. If one boiler fails, the second one maintains heat production at the correct level. This means that maintenance work can also be carried out easily, without having to shut down the heating. The system also boasts an impressively long service life, as the materials of the individual cascade boilers are subjected to significantly less stress than those of one large boiler.

✓ Unrivalled convenience.

With a BioWIN^{PLUS} cascade solution you benefit from all the convenience of BioWIN^{PLUS} pellet central heating. The system is child's play to use, thanks to fully automated ash removal, automatic heating surface cleaning and a fully automated pellet feed.



Real power.

By combining two or three BioWIN^{PLUS} pellet boilers, you can cover an incredible **performance range of anywhere between 7.5 and 78 kW**. And you can do it with a clear conscience, because no matter whether just one BioWIN^{PLUS} is used or three, the BioWIN^{PLUS} cascade solution always guarantees a efficient, reliable supply of heat.

Flexible solution.

Are heating requirements low (is there only a need for hot water, for example) or do you have to heat your entire business, including a spa area? Whichever scenario applies, it's no problem for a BioWIN^{PLUS} cascade solution, which provides just the right amount of heat for every occasion.



Low heating requirements



During the summer months, when energy is only required for heating water.



Medium heating requirements



For supplying heat to relatively large buildings, e.g. hotels, pubs or restaurants.



High heating requirements

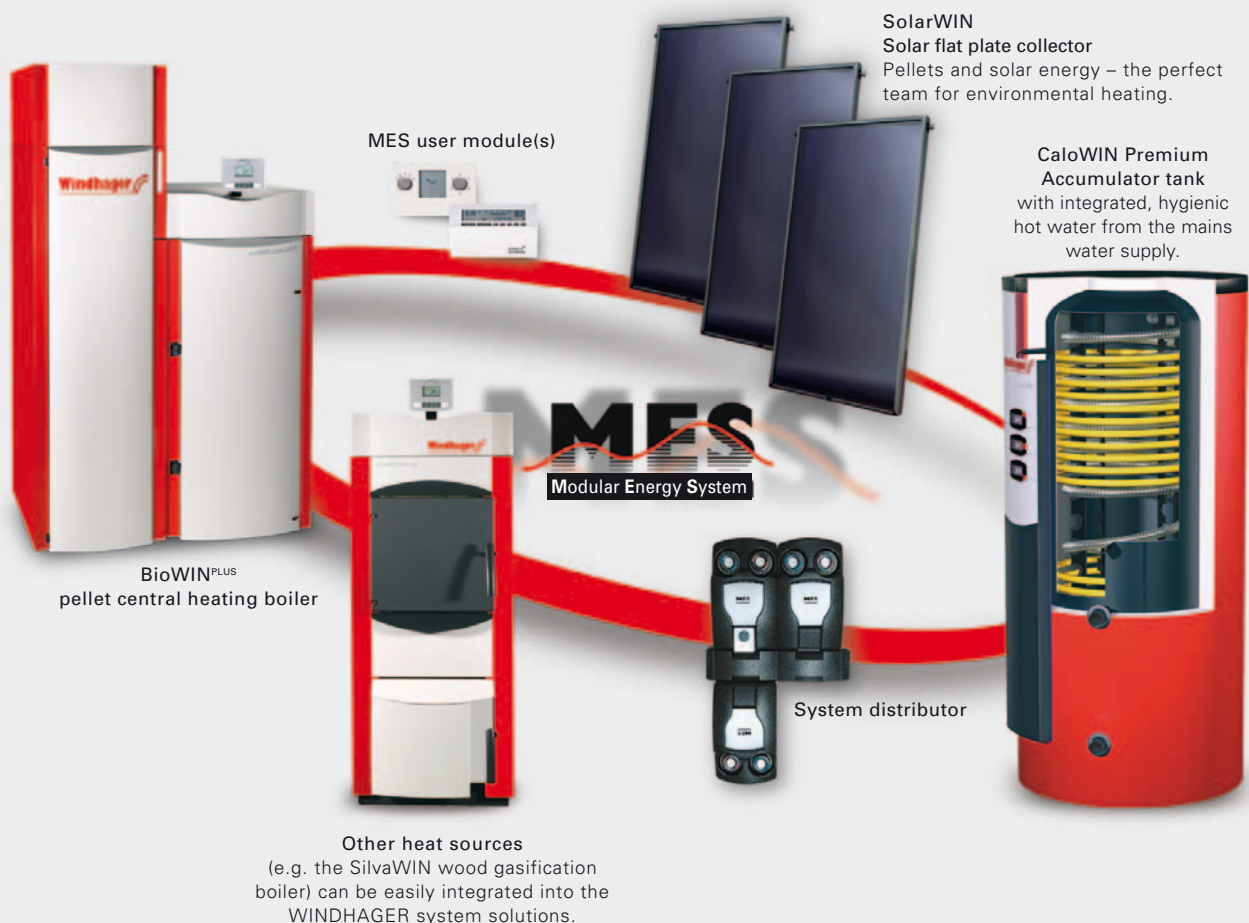


For high heating requirements, e.g. heating an indoor swimming pool.

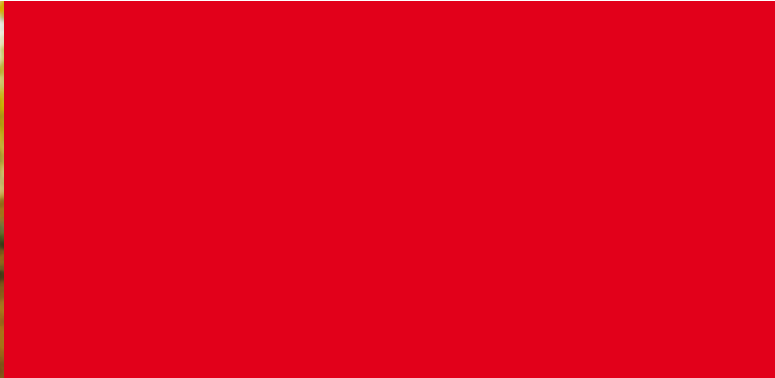
Equipped for everything.

Versatile and flexible.

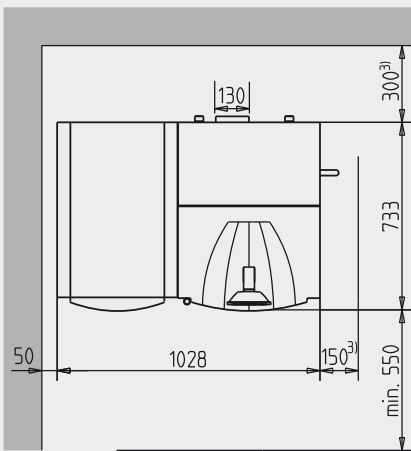
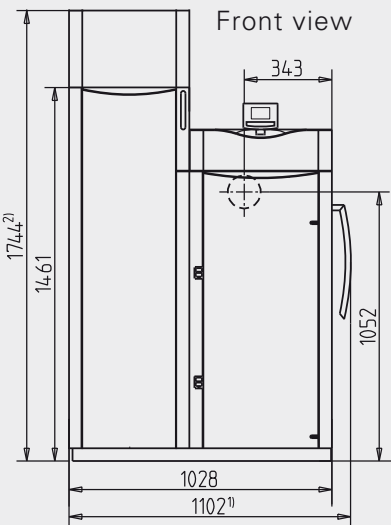
Looking to combine the BioWIN^{PLUS} with a solar-heating system? Planning an expansion to your heating system? No problem. The BioWIN^{PLUS} can handle the operation of single or multiple-circuit systems, underfloor heating and/or radiators. As with all heating solutions from Windhager, the BioWIN^{PLUS} is optimally equipped for use with other systems. So you save both time and money when installing the system.



When it comes to heating, you'll find everything under one roof at Windhager Zentralheizung. Windhager provides solutions and components for all fuels and every need. You not only have a single source for all your needs, you have the security that everything will work together perfectly – and that with the unique function guarantee on Windhager systems.



Dimensional sketches and technical data.

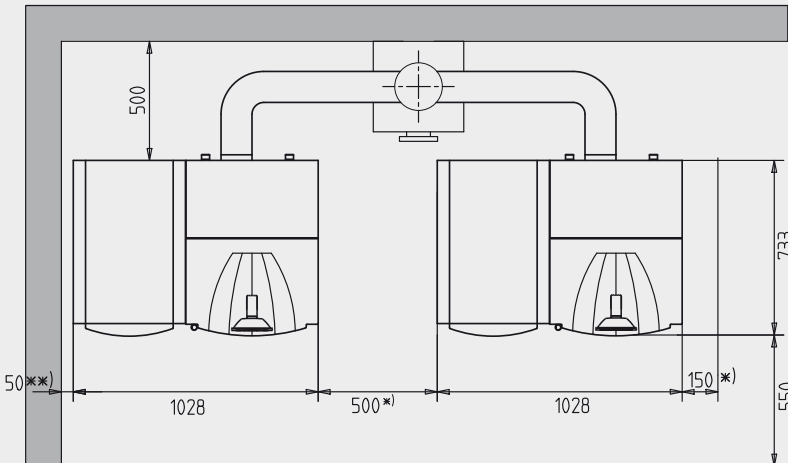


Side view

- 1) Only for Klassik/Premium types.
- 2) Only for Premium/Exklusiv types.
- 3) The minimum distance can be reduced by up to 50 mm on request.

Technical data BioWIN^{PLUS}

| Pellet central heating boiler BioWIN ^{PLUS} | | BW 100 | BW 150 | BW 210 | BW 260 |
|--|----|---------------------|----------|----------|------------|
| Rated output range | kW | 2,9 – 9,9 | 4,3 – 15 | 6,3 – 21 | 7,5 – 25,9 |
| Pellet reserve supply container capacity | kg | 150,8 | 150,8 | 150,8 | 150,8 |
| Installation dimensions W x D x H (in the wood partition) mm | | 1.200 x 790 x 1.620 | | | |
| Flue gas connection diameter | mm | 130 | 130 | 130 | 130 |



BioWIN^{PLUS} Cascade
View from above

- * Each individual BioWIN^{PLUS} requires an access space of 500 mm (to either the left or the right). If this access is provided, the additional clearance can be reduced to 150 mm.
- ** If an access space of 500 mm is provided, this clearance can be reduced to 50 mm.

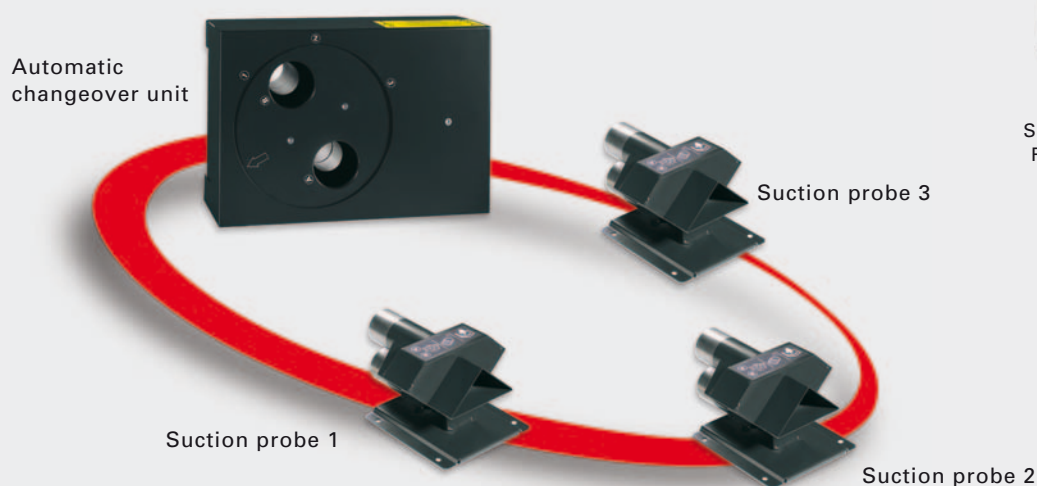
Technical data Cascade BioWIN^{PLUS}

| BioWIN ^{PLUS} Cascade | | BWE 390 | BWE 520 | BWE 780 |
|--------------------------------|----|-----------------------|-----------------------|-----------------------|
| Nominal thermal output range | kW | 6,3 – 42 | 7,5 – 52 | 7,5 – 78 |
| Comprising | | 2 BioWIN Exklusiv 210 | 2 BioWIN Exklusiv 260 | 3 BioWIN Exklusiv 260 |

The optimal pellet storage room.

The fully automated pellet feed.

To provide a continuous supply of pellets, WINDHAGER ZENTRALHEIZUNG offers a fully automated feed system with a patent valid throughout Europe, consisting of a change-over unit and three suction probes, which carefully convey the pellets in an air current.

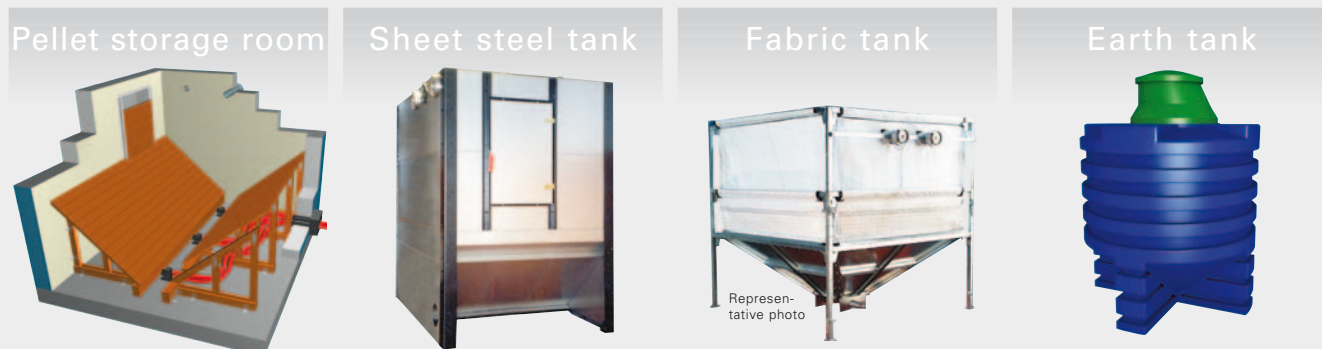


Winner of the Province of Salzburg Innovation Prize for Business, 2004

Advantages offered by this unique system:

- ✓ Optimal reliability due to three separate removal points (suction probes) in the storage room.
- ✓ The position of the storage room is independent of that of the heating room.
- ✓ Maintenance-free system.
- ✓ No moving parts and no electrical cables necessary in the storage room.
- ✓ Fully automated functional checks.

This unique development is excellently suited to a wide range of storage room conditions:





The correct dimensioning.

The storage room should be large enough to store the quantity of fuel required for one year. The size of the storage room depends on the building heating load. In principle the following rule of thumb applies:
Building heating load in kW x factor 0,9 m³/kW
= storage room volume in m³ (incl. empty space)

Example 1:

Single-family house with building heating load of 15 kW:

15 kW x 0,9 m³/kW

= 13,5 m³ storage room volume

that corresponds to a room of approx. 2 x 3 m floor area and 2,25 m height.

Example 2:

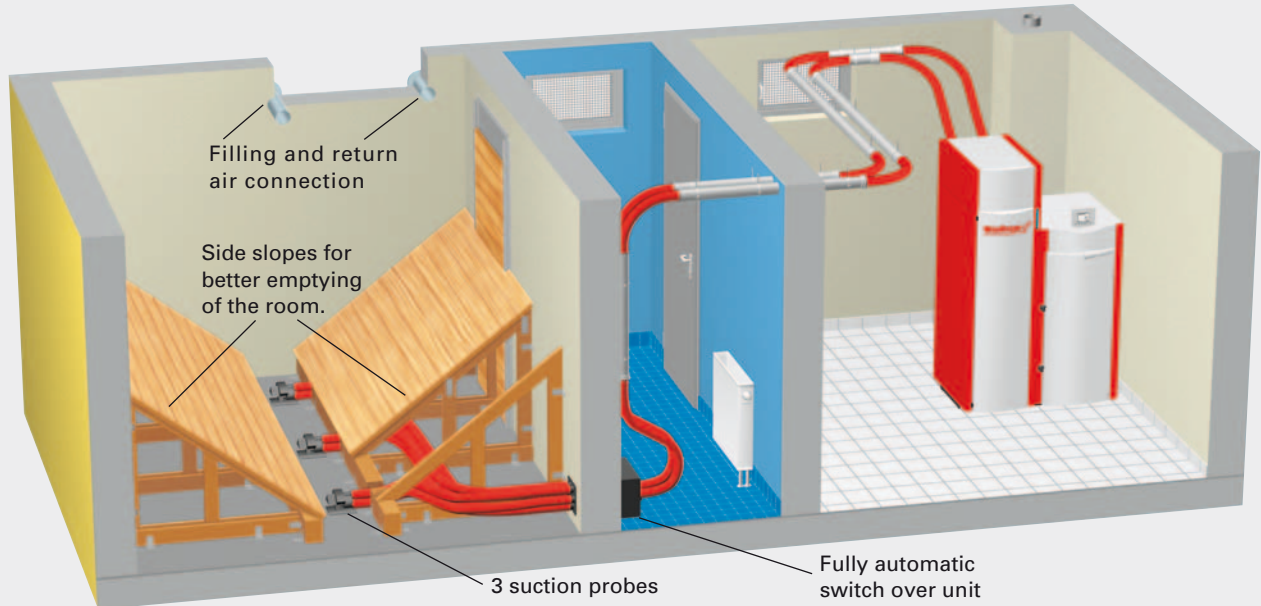
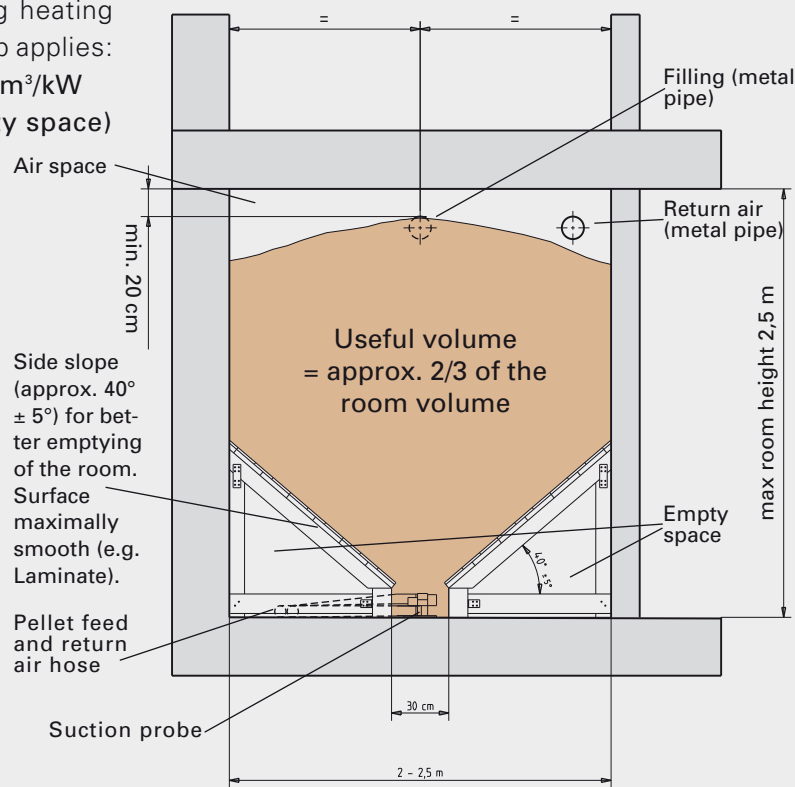
Duplex house with building heating load of 26 kW:

26 kW x 0,9 m³/kW

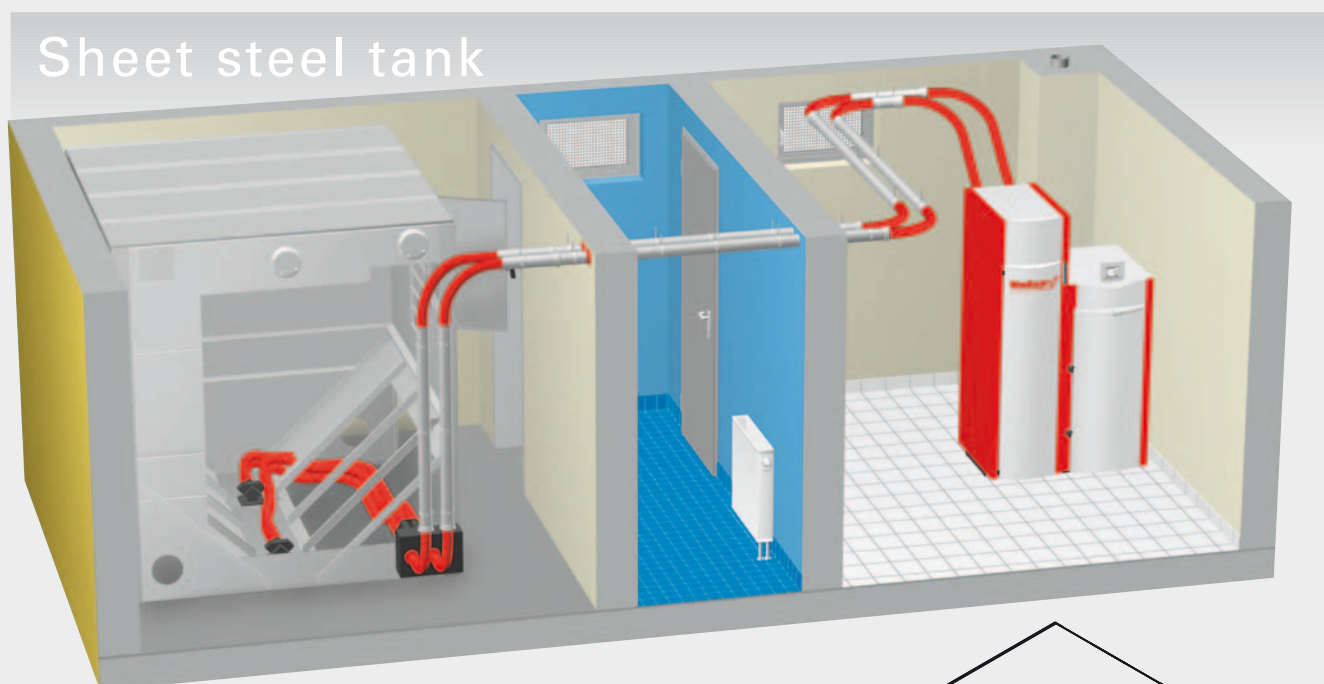
= 23,4 m³ storage room volume

that corresponds to a room of approx. 2,6 x 4 m floor area and 2,25 m height.

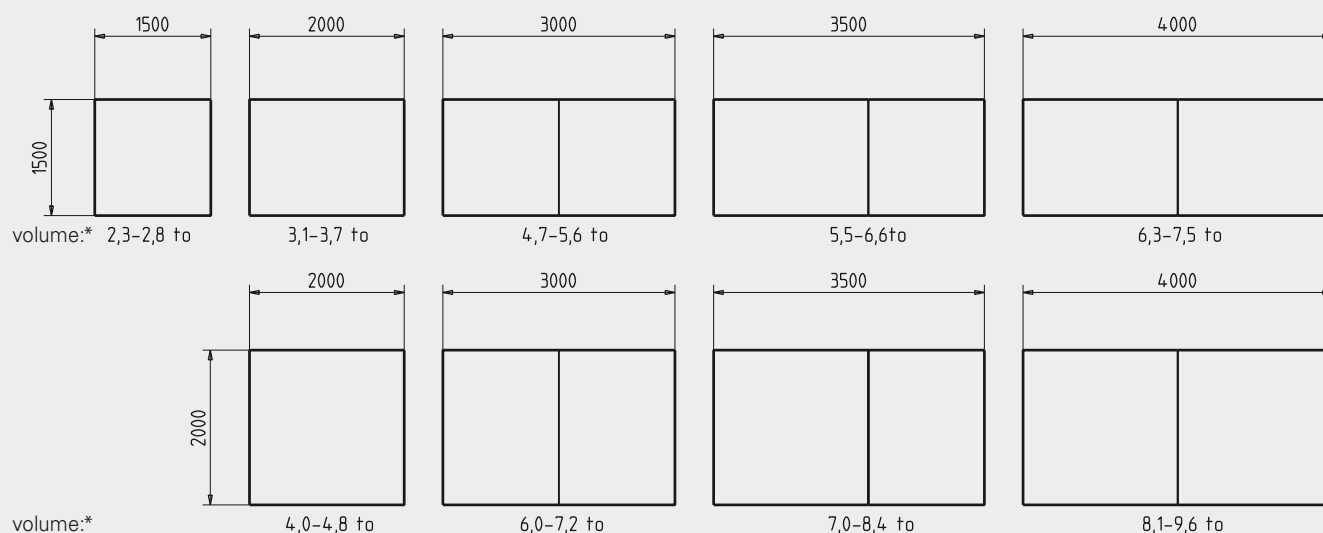
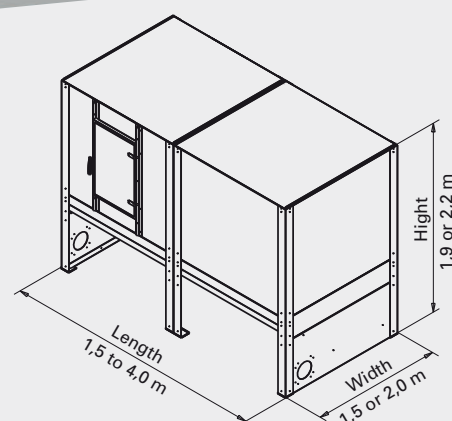
Section through the storage room – Front view



Alternative pellet storage rooms.



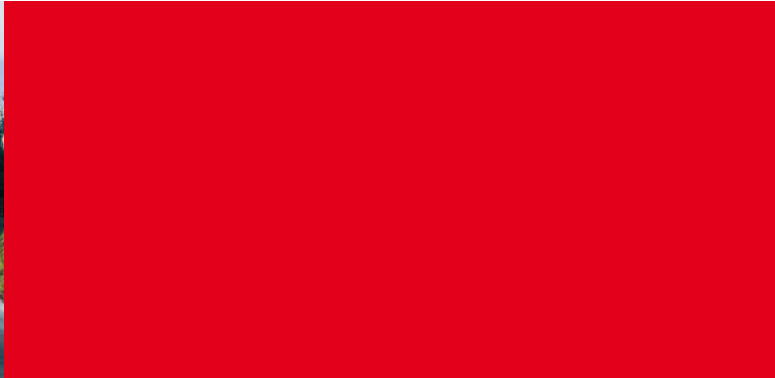
Through the modular design 18 different sizes are available:
9 bases (see rough draft below) x **2 heights** (1,9 m or 2,2 m).
 So the available space can be used optimally (for approx. 2 to 10 t pellets):



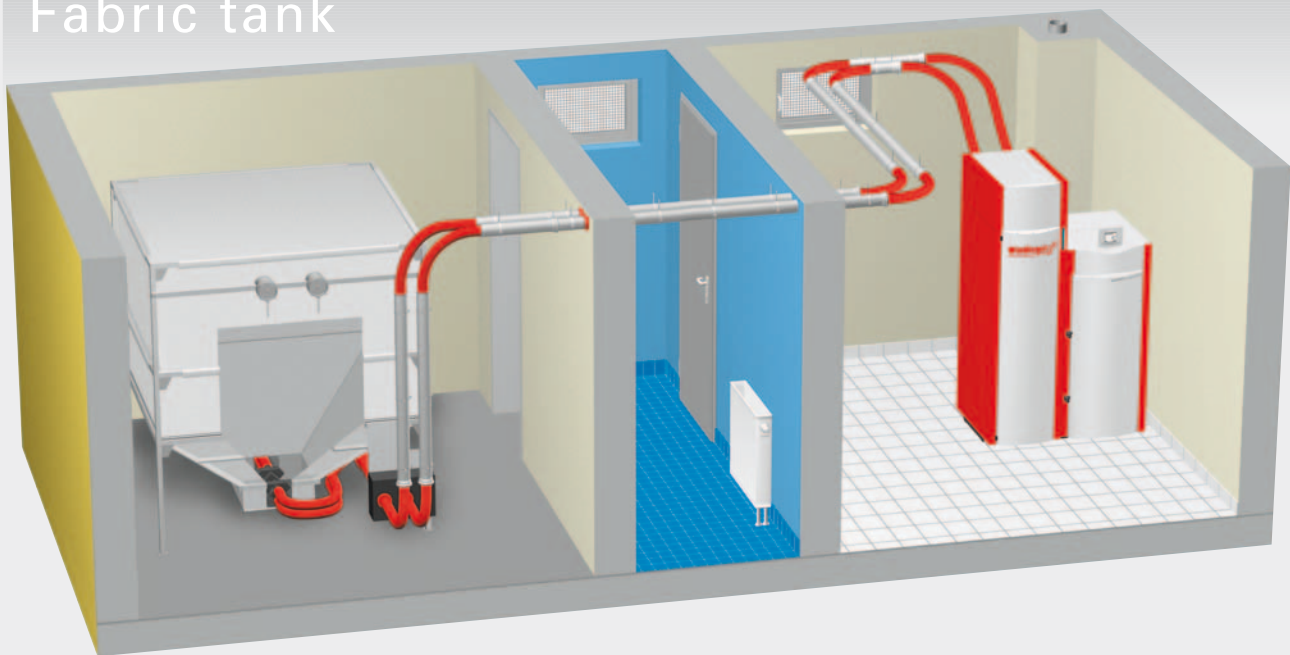
volume:*

*Indicated volume depend on: bulk density and filling degree.

Top view



Fabric tank



Available sizes (for approx. 2 to 7 t pellets):

| Length x Width | Volume |
|----------------|------------------|
| 1,7 x 1,7 m | approx. 2–3,2 to |
| 2,1 x 2,1 m | approx. 3–4,7 to |
| 2,5 x 2,5 m | approx. 5–6,7 to |

Height adjustable from 2,0 to 2,5 metres.

*Indicated volume depend on: bulk density and filling degree.

Alternatively pellets can be stored in an antistatic fabric tank, that is mounted on a robust steel frame construction.

Earth tank



If no place in the house is available, the pellets can be stored also in an plastic tank buried in the garden.

Further information under www.windhager.com or your Windhager-PARTNER.

www.windhager.com

Windhager offers more than first-class products:

Quality consulting from our expert partners.

You can obtain WINDHAGER ZENTRALHEIZUNG products from our expert PARTNERS. Our partners are experienced heating specialists who work in close professional cooperation with WINDHAGER ZENTRALHEIZUNG to achieve the best results for our customers.

Professional customer service network.

Perfect customer service is one of the mainstays of WINDHAGER's success. Our professional customer service network guarantees the best customer care every day. Our customer service technicians are experienced professionals who work quickly and reliably, without any bureaucratic fuss.



Your expert PARTNER:

Austria:

Windhager Zentralheizung GmbH
A-5201 Seekirchen near Salzburg
Anton-Windhager-Straße 20
Tel. +43 (0) 62 12/23 41-0
Fax +43 (0) 62 12/42 28
E-Mail info@at.windhager.com

Windhager Zentralheizung GmbH
A-1230 Vienna
Carlberggasse 39
Tel. +43 (0) 1/869 43 28
Fax +43 (0) 1/865 13 81
E-Mail info@at.windhager.com

Germany:

Windhager Zentralheizung GmbH
D-86405 Meitingen near Augsburg
Deutzring 2
Tel. +49 (0) 82 71/80 56-0
Fax +49 (0) 82 71/80 56-30
E-Mail info@de.windhager.com

Windhager Zentralheizung GmbH
D-04509 Delitzsch near Leipzig
Heinrich-Rudolf-Hertz-Straße 2
Tel. +49 (0) 3 42 02/723-0
Fax +49 (0) 3 42 02/723-30
E-Mail info@de.windhager.com

Windhager Zentralheizung GmbH
Gewerbepark 18
D-49143 Bissendorf
Tel. +49(0) 54 02/70 1 40-0
Fax +49(0) 54 02/70 1 40-9
E-Mail wdw@windhager.com

Switzerland:

Windhager Zentralheizung Schweiz AG
CH-6203 Sempach-Station near Luzern
Industriestrasse 13
Tel. +41 (0) 41/469 469-7
Fax +41 (0) 41/469 469-9
E-Mail info@ch.windhager.com

Italy:

Windhager Italia S.R.L.
Via Ungheresca sud
31010 Mareno di Piave (TV)
Tel. +39/04 38/49 91 43
Fax +39/04 38/49 78 84
E-Mail info@windhager.it

Great Britain:

Windhager UK
4, Glenmore Business Park, Vincients Road
Bumpers Farm Industrial Estate, Chippenham
Wiltshire SN14 6BB
Tel. +44/12 49/44 66 16
Fax +44/12 49/65 35 74
E-Mail info@windhager.co.uk