



PRODUCT INFORMATION

KWB MULTIFIRE

Wood chip and pellet heating system



KWB

MULTIFIRE

**WOOD CHIP AND PELLET
HEATING SYSTEM 20 - 120 kW**



**INDUSTRIAL
QUALITY**

**ROBUST AND
ECONOMICAL
HEATING**



PREMIUM QUALITY "MADE IN AUSTRIA"

KWB is the Austrian quality producer of pellet, wood chip and log wood heating systems in the output range from 2.4 to 300 kW. As a pioneer in this sector, we have revolutionized heating with wood. More than 90,000 customers worldwide trust our expertise, including single- and multi-family home owners, agricultural businesses, tour operators, commercial business and utility companies.

KWB is the ideal single-source solution. Our premium products are operationally reliable, and guaranteed Made in Austria. Our assistance commences during your decision-making process and we continue to assist you, together with our trusted partner installation companies, all the way to the installation of your customized comprehensive solution. Our KWB Factory Customer Service and our distribution partners in your vicinity will also be glad to help you at any time!

We provide energy for life!



**PREMIUM QUALITY
"MADE IN AUSTRIA"**



**MORE THAN 90.000
SATISFIED CUSTOMERS**



**NUMEROUS AWARDS FOR THE
FACTORY CUSTOMERS SERVICE**



MADE IN AUSTRIA! AT HOME ALL OVER THE WORLD!

KWB stands for regional and eco-friendly heating with wood. The headquarters of the company is located in the Styrian town of St. Margarethen/Raab (Austria) with subsidiaries in Germany, Italy and France. In 16 additional countries, from Canada to Chile and all the way to Japan, we rely on our strong distribution partners. Together we spread KWB's philosophy all over the world.





THE SINGLE SOURCE SOLUTION

STEP BY STEP TO A NEW HEATING

KWB offers its customers full support during the implementation of a biomass system. If an on-site meeting has been agreed, a plan drawing will be prepared for the system during follow-up. Screw lengths and required wall openings are an important criterion particularly in wood chip operation. Before we implement the system, we will assess the current conveyance situation and our Regional Partner will subsequently provide support at the building site during installation and commissioning. Extensive customer service provides security.

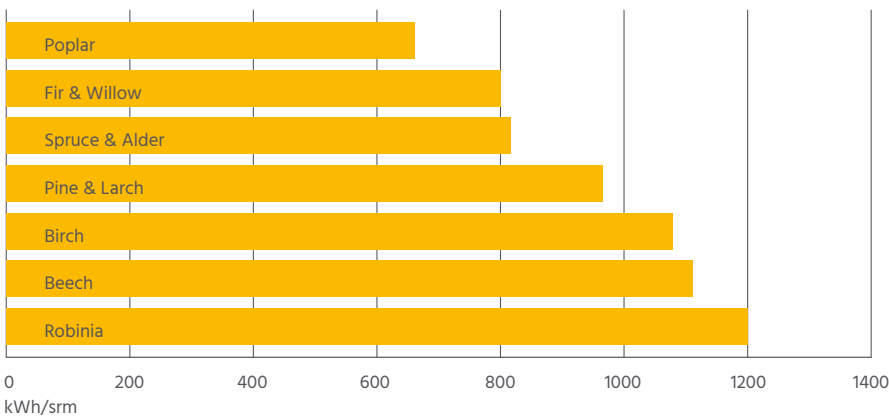
If the existing rooms do not provide sufficient space or if a completely new heating system is planned, we will be glad to plan one of possible container solutions.

For the filling of wood chip storages, we optionally offer a bunker filling screw. In addition to various stirrer fuel extraction options, we can also implement a sliding floor. The possibilities are endless.

HIGH FLEXIBILITY

FOR DIFFERENT FUEL QUALITIES

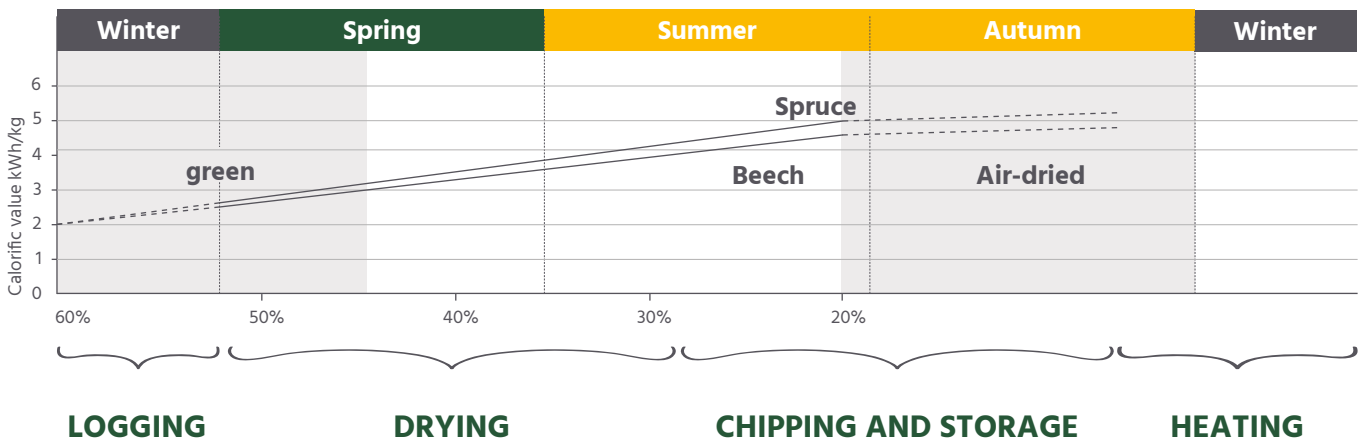
With the KWB Multifire even wood chips with varying quality can be used as fuel.



CALORIFIC VALUE OF DIFFERENT WOOD TYPES BY VOLUME (W=20)

The higher the proportion of kWh to loose cubic meters (srm), the lower the storage room requirement for the fuel. 1 srm corresponds to 0.4 solid measures of timber (fm). The moisture contained in the wood (w) is specified as a % of the green wood.

TWICE THE ENERGY CONTENT WITH OPTIMAL DRYING

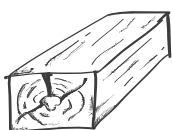


LOGGING

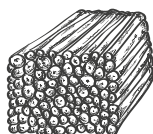
DRYING

CHIPPING AND STORAGE

HEATING



1 solid measure of timber (fm=1m³) solid wood material



1.4 stacked cubic meters (rm) log wood



2.5 loose cubic meters (srm) wood chips

1 fm Beech wood (w=20%) ≈ 292 litres of heating oil | 1 fm Spruce wood (w=20%) ≈ 210 litres of heating oil

KWB MULTIFIRE

ROBUST AND ECONOMICAL HEATING

- ✓ Flexible fuel selection thanks to the unique crawler burner
- ✓ Particularly efficient in operation
- ✓ Easier handling due to a divided ash box

The KWB Multifire wood chip and pellet boiler is particularly robust and efficient with regard to fuel consumption. It fully automatically adjusts to the quality or features of the fuel. In the output range between 20 – 120 kW, it represents the ideal central heating for multi-family houses as well as agricultural and commercial businesses. The optional divided ash box with integrated fill level monitoring ensures high convenience.



ROBUST CRAWLER BURNER

with high-alloy and self-cleaning cast grate components it enables the use of varying fuel qualities. This makes you even more flexible when heating with wood chips or pellets.

No cleaning expenditures

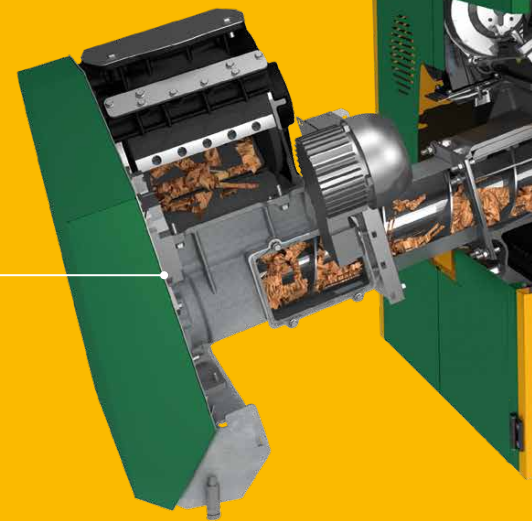
thanks to a fully self-cleaning system during ongoing operation between service intervals.

Low emissions

thanks to optimal exhaust gas routing and high combustion temperatures in a flow-optimized silicon carbide* combustion chamber.

Sturdy combustion system

Crawler burner in industrial quality.



Secure operation

thanks to a sturdy one chamber cellular wheel sluice with hardened, replaceable cutting edges, a deep filling chamber and large sealing surfaces.

To find out more about the combustion technology – scan the QR code or visit the KWB YouTube channel.



Easy installation

thanks to the integrated return flow temperature boost – optimized hydraulics fully adjusted to the system.

Flexible and easy operation

with the KWB Comfort 4 Control with proven control dial and touchscreen display – which can also be controlled remotely.



EXHAUST GAS CIRCULATION

optionally for an optimal degree of efficiency, low emissions, guaranteed durable system protection with dry fuels.



CLEAN FILTER TECHNOLOGY

Optional dust filter for cleanest exhaust gas with full fuel flexibility – with optional exhaust gas shutter for non-stop operation.



LARGE ASH CONTAINER

A 240 litre ash container is optionally available in particular for high output systems.



Fuel Recognition Plus

With the optional Fuel Recognition Plus, a perfect ember bed is ensured for each type of fuel on the crawler burner.

Convenient emptying of ash

into an ash container with integrated fill level monitoring – in a convenient 2-part design.

* material similar to ceramics, suitable for high temperatures.

OUR UNIQUENESS SETS US APART

OUR ROBUST ALL-ROUNDER

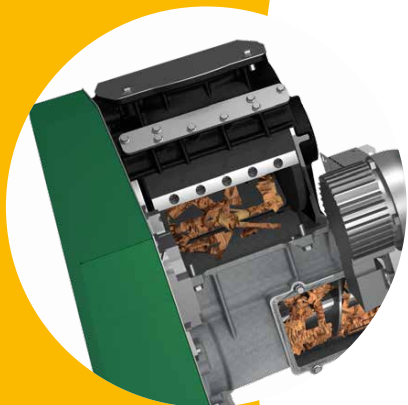
This investment pays off quickly: A heating system with a long service life that saves on energy and fuel costs. In short, a product that makes a difference thanks to well thought out details. For the fuel supply, you can choose between a cellular wheel sluice or a hopper with a fire shutter.

CELLULAR WHEEL SLUICE ROOMY DROP HEIGHT

KWB Multifire type D can be individually adjusted to your needs: The interior of the cellular wheel sluice, which is formed like a funnel, ensures continuously high conveyance amounts even with fuels with a low energy content. Blockages are impossible. While the cellular wheel sluice for standard wood chips P16S (main fraction up to P31S) has a drop height of **16 cm**, the optional cellular wheel sluice for coarse wood chips P31S (main fraction up to P45S) has a drop height of **25 cm** (available for 60 – 120 kW).

HOPPER LOWEST FUEL CONSUMPTION

The **KWB Multifire type ZI** has a large hopper (175 l) that is automatically filled with wood chips from the storage room. This means that the conveyor system starts up less often and only conveys wood chips when the hopper is empty. This minimizes noise emissions and power consumption and, if needed (e.g. at night), you can even supply the boiler with fuel from the hopper. With hopper: **10 years full warranty*** on the conveyor system!



Combination with cellular wheel sluice possible.

* up to 50 kW boiler output and max. 15,000 operating hours

EASY OPERATION

EASY AND FLEXIBLE CONTROL

The KWB Comfort 4 control system offers dual operation options with an intuitive dial and colour touchscreen. It provides information on

- ✓ the ash fill level
- ✓ the storage room fill level
- ✓ the maintenance interval

In addition, a solar system can be integrated and is also prepared for a link to the **KWB Comfort Online** platform.



ONLINE CONTROL

SECURE REMOTE-CONTROLLED HEATING

Even more convenience and operating safety is guaranteed by the online platform KWB Comfort Online. With this platform, the boiler can be easily remotely ignited, controlled and maintained from a smartphone, tablet or PC. Check on the operating status of your heating, control heating times and temperatures and receive messages and status changes via SMS or email. After a holiday, ignite the boiler while on your way home. If desired, you can also provide third parties with individual (temporary) access to your systems, such as your heating installer or KWB Customer Service.

HEATING NETWORKS

PERFECT BUFFER AND CASCADE MANAGEMENT

The heating system is optimally equipped for the supply of heating networks. With control modules, the desired values of the transfer sites can be transferred to the central main control using the bus system without the need for an external switch cabinet. The entire system can be monitored and controlled remotely with the KWB **Comfort Online** platform.

Due to the desired fail-safety, heating networks are often supplied by a multi-boiler system. This cascade may consist of several KWB biomass heating systems, but can also contain external boilers. A runtime-optimized control of up to 8 KWB biomass heating systems plus additional external peak load boiler is possible with the **new output-modulating** KWB Boiler sequence control. Activation occurs infinitely modulating. This results in an efficiency increase of the entire system with reduced emission values.

In addition, a seasonal operating mode and the integration of the boilers in the building control system via a ModBus interface is possible.



* Boilers of any heating system manufacturers

RELIABLE, LONG SERVICE LIFE

KWB STIRRER

The KWB stirrer with conveyor screw on a massive, hollow shaft supported by two bearings is customized in length and diameter to the specific needs of the customer. Stirrer diameters of 2.5 to 5.5 meters are possible. Storage rooms may be square, rectangular or round and can be situated above the heating room, at the same level or below it.

Broad fuel flexibility

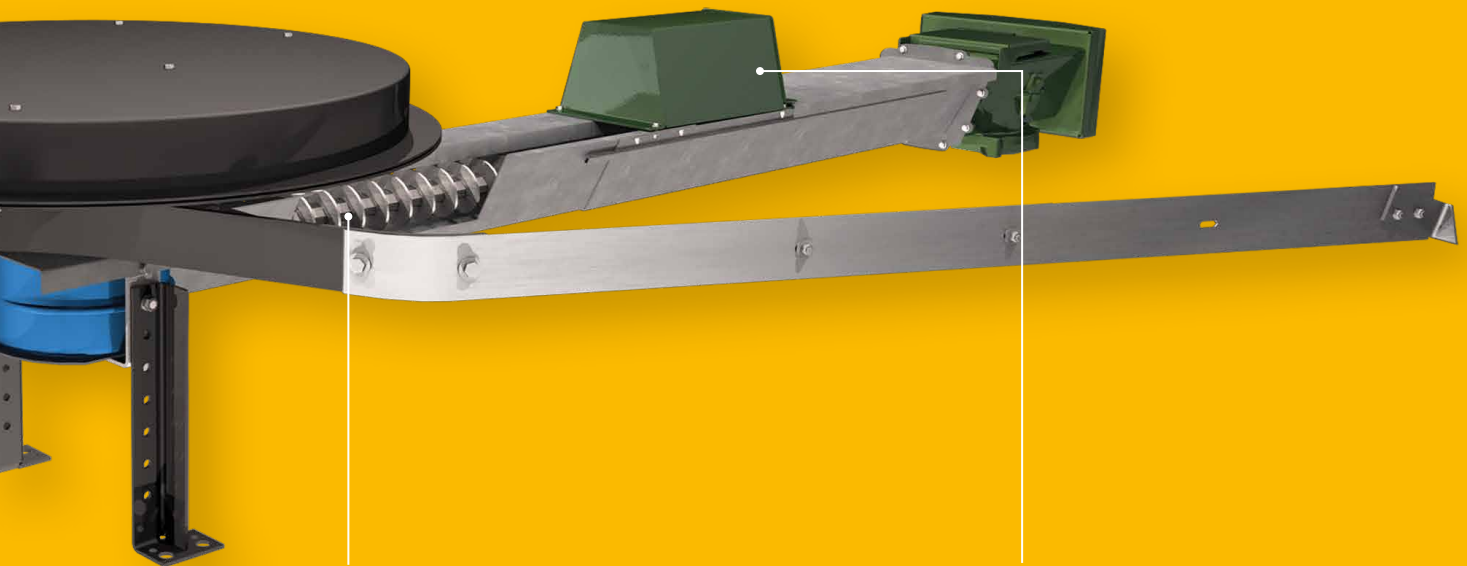
The conveyor system is suitable for wood chips of the categories A1, A2 and B1 up to a particle size of P16S (main fraction to P31S), P31S (main fraction to P45S) in accordance with ISO 17225-4 and for the transport of wood pellets Ø 6 mm or Ø 8 mm in accordance with ISO 17225-2, class A1.



NO MAINTENANCE EXPENDITURES

in the fuel storage room thanks to a sturdy heavy-duty gear unit.

- ✓ **Integrated wall duct box (comes standard)**
replaces additional inspection opening.
- ✓ **Maximum utilization of the storage room volume** possible thanks to a horizontal channel construction with a separate ascending screw. The conveyor screw length is customized to the local situation.
- ✓ **Fuel changes** between wood chips and pellets are possible without mechanical changes at the boiler and without switching out the conveyor system.
- ✓ **Optimal emptying of the fuel storage room** thanks to the uniform contact force of the articulated-blade rotary stirrer over the entire diameter.
- ✓ **Low energy consumption**
An optimized channel form and progressive spiral distances as well as highly efficient gear components with load monitoring reduce the power consumption.



HIGH OPERATING SAFETY

due to the one-piece, fully welded conveyor screw with stainless steel spiral. The gradually increasing spiral distances prevent potential blockages (3x progressive).



LONG SERVICE LIFE

due to an optimized, trapezoid channel with partial cover to relieve pressure from the conveyor screw.

OPTIMISED FOR ANY TYPE OF REQUIREMENT

KWB STORAGE AND CONVEYOR SYSTEMS

Thanks to KWB's flexible and diverse conveyor systems, a solution can be found for almost every structural situation.



HEATING IN AN ADJACENT BUILDING

KWB Multifire with stirrer system and conveyor screw: direct storage room filling



HEATING SYSTEM IN THE BASEMENT WITH DIRECT FILLING

KWB Multifire with double heating system with stirrer system and 2 conveyor screws: direct storage room filling



HEATING IN A SEPARATE HEATING HOUSE

KWB Multifire with double heating system with stirrer system and 2 conveyor screws: direct storage room filling



HEATING SYSTEM IN THE BASEMENT WITH FILLING SCREW

KWB Multifire with stirrer system and conveyor screw: storage room filling with filling screw

FUEL CONSUMPTION AND STORAGE ROOM SIZE FOR WOOD CHIPS

Heating load of the building	Consumption per year * [m³/a]	Storage room size for annual requirement [m³]*
20	50	74
30	75	111
40	100	148
50	125	185
60	150	222
80	200*	296
100	250	370
120	300	444

* When using wood chips with 25% moisture content and size P16S pursuant to ISO 17225-4. Factor use per year: 2.5 m³ per kW heating load, factor storage room size for annual requirement: 3.7 m³ per kW heating load



KWB
MODULAR
ASSEMBLY
SYSTEM

CLARITY IN BUILD AND PURPOSE

KWB'S MODULAR AND EASILY TRANSPORTABLE SYSTEM

All KWB systems can be dismantled into several modules, which allows our products to be placed in almost every heating room and easily installed even in tight spaces. We call it the **KWB modular and easily transportable system**.



You can schedule less time

because your technician can move the heating system into the heating room more quickly.



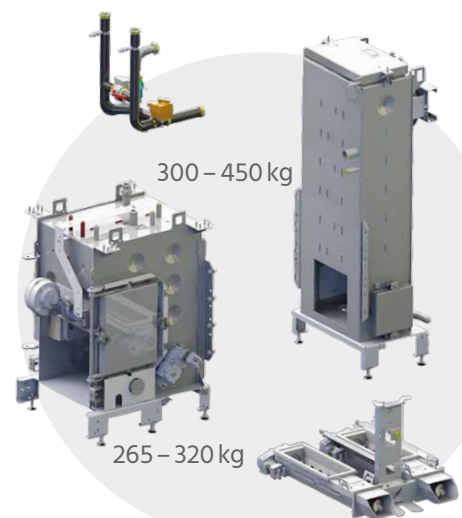
You save money

because your contractor works faster and does not require expensive installation aids.



You preserve and protect your space.

The reduced weight of the individual pieces makes it less likely that you scratch any surfaces of your furnishings.

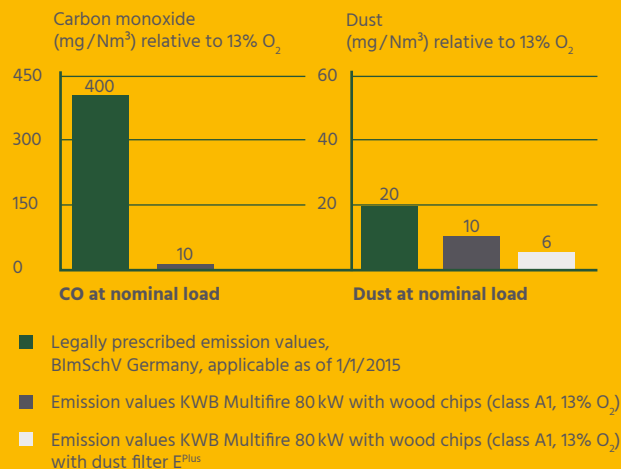


CLEAN COMBUSTION

CLEAN EFFICIENCY- TECHNOLOGY

The cleanEfficiency label indicates lowest emission values, highest efficiency and low energy consumption as well as a perfect alignment of construction and control elements.

EMISSION VALUES AT NOMINAL LOAD



* The statutory dust emission values for Germany pursuant to the 1st BImSchV Level 2, and the national dust emission values of the Swiss LRV are met when using wood chips of quality category A1 pursuant to EN ISO 17225-4 without additional technical measures.

Additional technical measures may be necessary in order to comply with the 1st BImSchV Level 2 in Germany for wood chips of quality categories A2 and B1, and to meet Swiss cantonal requirements; these may be included or retrofitted by KWB, if commissioned, respectively. In these cases, coordination with KWB is requested.

Quick heat and more efficiency

We recommend using a KWB storage system. This will not only allow you to run your heating cleaner and more efficiently, you will also be able to quickly have heat available when needed.

Recommended storage volume:

Optimally: Buffer volume = 1.5 litres x kW x 400 / K
 Minimum: Buffer volume = 1.0 litres x kW x 400 / K

kW: rated power of the boiler in kilowatt, K: temperature difference between buffer tank charging start/end (tMax - tMin) in Kelvin [K]

Please observe country-specific guidelines and subsidy requirements for the needed storage volume.

DIMENSIONS FOR BOILER TRANSPORT AND PLACEMENT

KWB Multifire	20 – 50 kW	60 – 120 kW
Conditioned as delivered	1,540 x 660 x 1,680	1,850 x 800 x 1,800
Disassembled state combustion chamber	960 x 660 x 1,200	1,150 x 770 x 1,300
Disassembled state heat exchanger	720 x 660 x 1,680	860 x 800 x 1,800

Dimensions in mm | L x W x H

TECHNICAL DATA FOR WOOD CHIP OPERATION

MF2 D/ZI MF2 E D/ZI 27.07.2020	Unit	20	30 ¹	30 ²	40	45 ¹	50 ¹	60 ¹	65 ¹	70 ¹	80	100 ²	108 ¹	120
Rated power	kW	20	30	32,5	40	45	49,5	60	65	69,5	80	99	108	120
Partial load	kW	6,0	9,0	9,8	12,0	13,5	14,9	18,0	19,5	20,9	24,0	30,0	32,4	36,0
Boiler efficiency at rated power	%	93,3	93,7	93,7	94,2	94,0	93,9	93,8	93,8	93,7	93,6	93,8	93,9	94,0
Boiler efficiency at partial load	%	90,0	91,4	91,7	93,0	92,6	92,6	92,4	92,3	92,3	92,1	93,3	93,7	94,4
Boiler class according to EN 303-5:2012	-	5	5	5	5	5	5	5	5	5	5	5	5	5
EU Energy label	-	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Exhaust-gas side (for chimney calculation)														
Connection height exhaust-gas pipe	mm	>1395	>1395	>1395	>1395	>1395	>1395	>1445	>1445	>1445	>1445	>1445	>1445	>1445
Exhaust-gas pipe diameter	mm	150	150	150	150	150	150	180	180	180	180	200	200	200
Ash														
Ash container volume	l	32	32	32	32	32	32	32	32	32	32	32	32	32
Convenient ash container (optional)	l	240	240	240	240	240	240	240	240	240	240	240	240	240
Electrical system														
Connection: CEE 5-pole 400 V _{AC}	-	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Connected power MF2 D: P16S/P31S	W	1769	1769	1769	1769	1769	1769	1827	1827	1827	1827	1827	1827	1827
Connected power MF2 ZI	W	1655	1655	1655	1655	1655	1655	1713	1713	1713	1713	1713	1713	1713
Weights														
Heat exchanger module, assembled	kg	300	300	300	340	340	340	360	360	360	360	450	450	450
Burning chamber module, assembled	kg	265	265	265	265	265	265	320	320	320	320	320	320	320
Boiler weight MF2 D (P16S/P31S)	kg	920	920	920	980	980	980	1100	1100	1100	1100	1200	1200	1200
Boiler weight MF2 ZI	kg	890	890	890	930	930	930	1070	1070	1070	1070	1170	1170	1170
Weight dust filter (stand-alone)	kg	138 (152)	138 (152)	138 (152)	- (152)	138 (152)	138 (152)	168 (203)	168 (203)	168 (203)	168 (203)	191 (203)	191 (203)	191 (203)

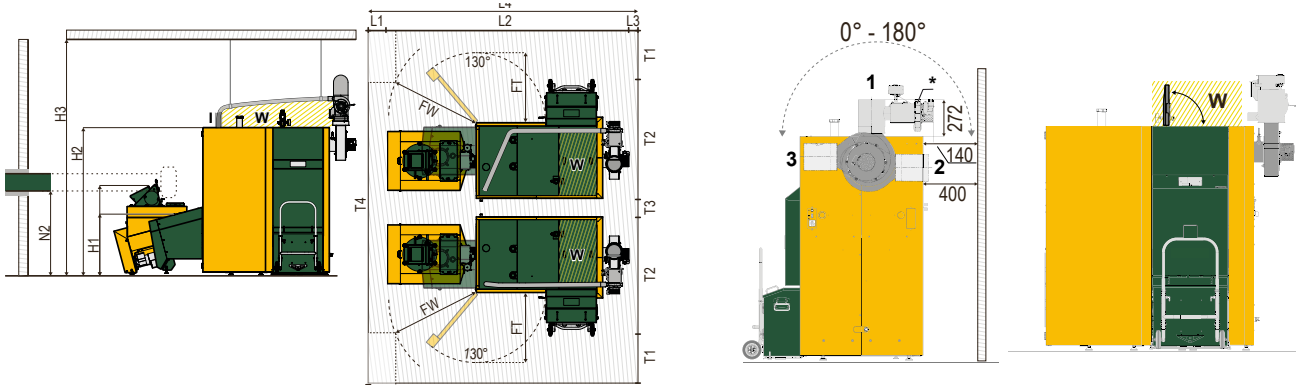
¹ Drawing inspection
² Typification variants



Product data sheet with detailed technical data: Scan QR code or download from our website under product pages.

LOW SPACE REQUIREMENTS

The KWB Multifire pellet heating system can be placed directly at the wall for optimal space utilization.



13 m² for 240 kW, heating room from 4 m² to 6 m²

[cm]		MF2 20 – 50kW		MF2 60 – 80 kW		MF2 100 – 120 kW	
		D	ZI	D	ZI	D	ZI
H1	Connection boiler-conveyor system: upper dropping edge cellular wheel sluice P16S	92	–	92	–	92	–
	Connection boiler-conveyor system: upper dropping edge cellular wheel sluice P31S	–	–	103	–	103	–
	Connection boiler-conveyor system: upper dropping edge - fire shutter ZI	–	102	–	102	–	102
	Connection boiler-conveyor system: upper dropping edge, cellular wheel sluice ZI	–	134	–	134	–	134
H2	Height KWB Multifire	159	159	167	167	167	167
H3	Min. room height	198 (rec. 210)	198 (rec. 210)	200 (rec. 215)	200 (rec. 215)	206 (rec. 215)	206 (rec. 215)
	Min. room height – exhaust pipe is placed above heat exchanger	219 (∅ 150)	219 (∅ 150)	231 (∅ 180)	231 (∅ 180)	233 (∅ 200)	233 (∅ 200)
	Minimum room height-exhaust recirculation with instal- lation version (I) vertically upwards	225 (∅ 150)	225 (∅ 150)	234 (∅ 180)	234 (∅ 180)	235 (∅ 200)	235 (∅ 200)
N2	Lower edge conveyor channel M P16S / P31S	88/98	97/–	88/98	97/–	88/98	97/–
L1	Free space P16S / P31S	30/–	22/–	34/25	21	34/25	21
L2	Heating system length P16S / P31S	212/–	252/–	234/243	247/–	246/255	286/–
L3	Free space	7	7	7	7	7	7
L4	Min. room length P16S / P31S	> 254	> 284	> 276/> 275	> 306	> 288/> 287	> 318
L5	Heating system length with external ash extraction (90° placement)	297	337	319/328	332	331/340	371
L6	Min. room length for heating with external ash extrac- tion (90° placement)	327	359	353/353	353	365/365	392
L7	Length of the ash bin 240 l	65	65	65	65	65	65
T1	Free space	40	40	40	40	40	40
T2	Heating system depth	124	124	135	135	135	135
T3	Free space	11	11	11	11	11	11
T4	Installation versions 1 Installation versions 2 Installation versions 3 Installation versions 4	without exhaust gas recirculation, minimum distance to the wall 11 cm vertically upwards with minimum distance to wall 14 cm horizontally towards the rear with minimum distance to wall 40 cm horizontally towards the front					
T5	Min. room depth (heating with external ash extraction, straight placement), type MF2 60 – 80 kW	336	336	336	336	336	336
T6	Depth of heating with external ash extraction (90° place- ment), type MF2 60 – 80 kW	190	190	190	190	190	190
T7	Depth of heating with external ash extraction (straight placement)	325	325	325	325	325	325
T8	Depth of ash bin 240 l	58	58	58	58	58	58
FW	Clearance for maintenance	65	65	70	70	70	70
FT	Door clearance	63	63	76	76	76	76
W	Maintenance area	25	25	36	36	25	25
I	Insulation	–	–	–	–	–	–

D ... KWB Multifire type MF2 D ZI ... KWB Multifire type MF2 ZI

All dimensions in cm | Length x Width x Height | Distances stated are minimum!
Information regarding the hydraulics requirements can be found in the Technology and Planning document.



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Produktinfo KWB Multifire MF2 2020 EN
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Subject to changes as well as
type and printing errors.

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