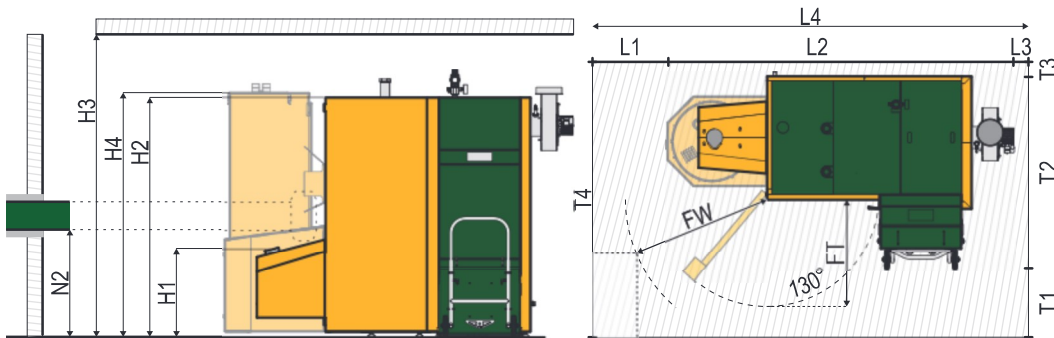


Installation dimensions

KWB Pelletfire^{Plus}

Conveyor and storage systems for pellets P. 48–81



Guiding values:
 Heating room from 3 m² to 5 m²
 Fuel consumption and storage room size on p. 47

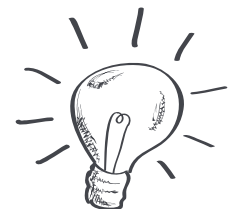
[cm]		45–65 kW		70–95 kW		100–135 kW	
		S	GS	S	GS	S	GS
H1	Connection boiler-conveyor systems: upper dropping edge	62	–	62	–	62	–
H2	Height KWB Pelletfire ^{Plus}	159	159	167	167	167	167
H3	Min. room height	198 (210 recommended)	198 (210 recommended)	200 (215 recommended)	200 (215 recommended)	206 (215 recommended)	206 (215 recommended)
	Min. room height - exhaust pipe is placed above heat exchanger	219 (∅150)	219 (∅150)	231 (∅180)	231 (∅180)	233 (∅200)	233 (∅200)
H4	Connection height suction tank	–	177	–	177	–	177
N2	Lower edge conveyor channel M	78	–	78	–	78	–
	Difference in height heating room to storage room	73	–	73	–	73	–
L1	Free space	42	18	47	23	47	23
L2	Heating system length	200	224	221	245	233	257
L3	Free space	8	8	8	8	8	8
L4	Min. room length	>250	>250	>276	>276	>288	>288
T1	Free space	40	40	40	40	40	40
T2	Heating system depth	124	124	135	135	135	135
T3	Free space	12	12	12	12	12	12
T4	Min. room depth	>171	>171	>182	>182	>182	>182
FW	Clearance for maintenance	65	65	70	70	70	70
FT	Door clearance	63	63	75	75	80	80

S ... KWB Pelletfire^{Plus} type MF2 S

GS ... KWB Pelletfire^{Plus} type MF2 GS

Dimensions for moving the boiler into the respective space

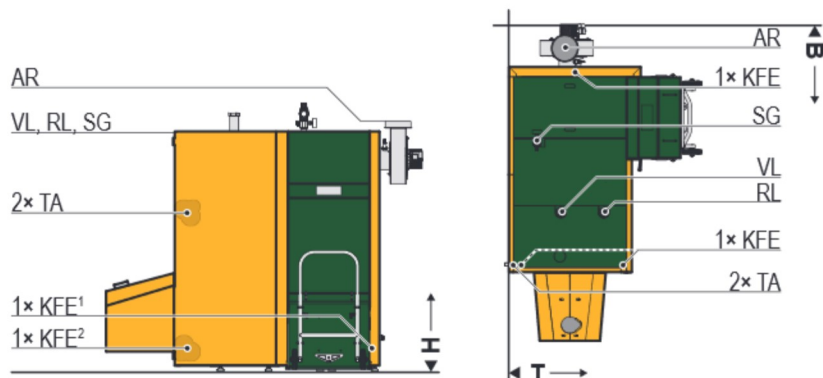
KWB Pelletfire ^{Plus}	Conditioned as delivered	Disassembled state combustion chamber	Disassembled state heat exchanger
Type MF2 S/GS 45–65 kW	154x66x168	96x66x120	72x66x168
Type MF2 S/GS 70–135 kW	185x80x180	115x77x130	86x80x180



All dimensions in cm | Width x Height | Distances stated are minimum!

Connecting dimensions

KWB Pelletfire^{Plus}



Legend	Connecting dimensions MF2	45–65 kW	70–95 kW	100–135 kW		
AR	Exhaust gas pipe	∅ 15 W: 72	∅ 18 W: 85	∅ 20 W: 85		
	Exhaust pipe upwards	H: 166 D: 37	H: 175 D: 39	H: 175 D: 39		
	Exhaust pipe upwards with bend	H: 184	H: 192	H: 192		
	Exhaust pipe upwards with bend via heat exchanger	H: 196	H: 206	H: 215		
	Exhaust pipe 90° rear (for fuel supply from the left)	H: 140 D: 11	H: 144 D: 16	H: 144 D: 16		
	Exhaust pipe 90° front (for fuel supply from the left)	H: 140 D: 64	H: 152 D: 69	H: 152 D: 69		
	Exhaust pipe 90° rear (for fuel supply from the right)	H: 140 D: 11	H: 152 D: 16	H: 152 D: 16		
	Exhaust pipe 90° front (for fuel supply from the right)	H: 140 D: 64	H: 144 D: 69	H: 144 D: 69		
	FF	Forward flow	∅ 32, G 5/4" H: 157 W: 44 D: 32	∅ 50, G 2" H: 180 W: 44 D: 36	∅ 50, G 2" H: 180 W: 44 D: 36	
			RL	Return flow	∅ 32, G 5/4" H: 157 W: 44 D: 56	∅ 50, G 2" H: 180 W: 44 D: 65
SG					Safety group	∅ R 1" H: 157 W: 72 D: 17
	TA	Thermal safety valve – inflow	∅ R 1/2" H: 107 W: 29 D: 42	∅ R 1/2" H: 127 W: 31 D: 47		∅ R 1/2" H: 127 W: 31 D: 47
			TA	Thermal safety valve – outflow		∅ R 1/2" H: 107 W: 29 D: 32
KFE ¹	Connecting height boiler filling and emptying	∅ Rp 3/4" H: 23 W: 23 D: 37			∅ Rp 3/4" H: 23 W: 28 D: 42	∅ Rp 3/4" H: 23 W: 28 D: 42
		KFE ²	Connecting height boiler filling and emptying	∅ Rp 3/4" H: 22 W: 117 D: 66	∅ Rp 3/4" H: 22 W: 137 D: 77	∅ Rp 3/4" H: 22 W: 150 D: 77

H ... Height D ... Depth W ... Width

All dimensions in cm

 Classicfire
Comblfire

 Easyfire 1
Easyfire 1 Plus

Easyfire

 Pelletfire^{Plus}

Multifire

Powerfire

 Control
C3 & C4

 Conveyor and
storage
systems

 Storage and
hydraulic
systems

Technical specifications

KWB Pelletfire^{Plus}

MF2 S / MF2 GS	Unit	45 ¹	50 ¹	55 ¹	65 ¹	70 ¹	75 ¹	95 ¹	100 ²	108 ¹	115 ¹	135
Rated power	kW	45	49,5	55	65	69,5	75	95	99 / 101	108	115	135
Partial load	kW	13,5	14,9	16,5	19,5	20,9	22,5	28,5	30,0	32,4	34,5	40,5
Boiler efficiency at rated power	%	95,0	94,8	94,7	94,4	94,3	94,1	94,0	94,0	94,1	94,1	94,1
Boiler efficiency at partial load	%	93,7	93,7	93,9	94,2	94,3	94,5	94,4	94,4	94,3	94,2	94,0
Fuel thermal output at rated power	kW	47,4	52,2	58,1	68,9	73,7	79,7	101,1	106,3	114,8	122,2	143,5
Fuel thermal output at partial load	kW	14,4	15,8	17,6	20,7	22,1	23,8	30,2	31,8	34,4	36,6	43,1
Boiler class according to EN 303-5:2012	-	5	5	5	5	5	5	5	5	5	5	5
Water side												
Water content	l	155	135	135	135	165	165	165	195	195	195	195
Water connection, forward/return flow (internal thread) without return-flow boost device	Inch	5/4	5/4	5/4	5/4	2	2	2	2	2	2	2
	mm	31,8	31,8	31,8	31,8	50,1	50,1	50,1	50,1	50,1	50,1	50,1
	DN	32	32	32	32	50	50	50	50	50	50	50
Water connection, forward/return flow (internal thread) with return-flow boost device	Inch	5/4	5/4	5/4	5/4	6/4	6/4	6/4	2	2	2	2
	mm	31,8	31,8	31,8	31,8	38,1	38,1	38,1	50,1	50,1	50,1	50,1
	DN	32	32	32	32	40	40	40	50	50	50	50
Water connection for filling and/or emptying (internal thread)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	mm	19,05	19,06	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05
Water connection for thermal safety valve (external thread)	Inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
	mm	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7
Thermal safety valve: pressure	bar	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6
Thermal safety valve: required cold water temperature	°C	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Water-side resistance at 10 K	mbar	195,4	242,1	293,7	412	76,7	88,3	142,5	158,0	174,4	209,6	289,6
	Pa	19540	24210	29370	41200	7670	8830	14250	15800	17440	20960	28960
Water-side resistance at 20 K	mbar	47,2	58,7	71,4	100,6	18,6	21,5	34,8	38,7	42,7	51,4	71,3
	Pa	4720	5870	7140	10060	1860	2150	3480	3870	4270	5140	7130
Boiler-entry temperature	°C	55-70	55-70	55-70	55-70	55-70	55-70	55-70	55-70	55-70	55-70	55-70
Working temperature/operating temperature	°C	90	90	90	90	90	90	90	90	90	90	90
Maximum permitted temperature	°C	110	110	110	110	110	110	110	110	110	110	110
Max. operating pressure	bar	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5
Exhaust-gas side (for chimney calculation)												
Combustion chamber temperature	°C	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100	900-1100
Combustion chamber pressure	mbar	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5	-0,5...-5
	Pa	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50	-5...-50
Required draft at rated power	mbar	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Pa	5	5	5	5	5	5	5	5	5	5	5
Required draft at partial load	mbar	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
	Pa	3	3	3	3	3	3	3	3	3	3	3
Suction required: yes	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Exhaust-gas temperature at rated power	°C	140	140	140	140	140	140	140	140	140	140	140
Exhaust-gas temp. Partial load	°C	100	100	100	100	100	100	100	100	100	100	100
Exhaust-gas mass flow at rated power	kg/s	0,030	0,033	0,037	0,044	0,047	0,051	0,064	0,068	0,071	0,078	0,091
Exhaust-gas mass flow at partial load	kg/s	0,011	0,012	0,013	0,016	0,017	0,018	0,023	0,024	0,026	0,028	0,033
Exhaust-gas mass flow at rated power	kg/h	109,5	120,4	133,8	158,1	169,1	182,4	231,1	243,2	255,4	279,7	328,4
Exhaust-gas mass flow at partial load	kg/h	39,6	43,6	48,4	57,2	61,2	66,0	83,6	88,0	92,4	101,2	118,8
Exhaust-gas volume at rated power	Nm ³ /h	84,4	92,9	103,2	121,9	130,4	140,7	178,2	187,6	197,0	215,7	253,3
Exhaust-gas volume at partial load	Nm ³ /h	30,6	33,7	37,4	44,2	47,3	51,0	64,6	68,0	71,4	78,2	91,8
Incline of the exhaust-gas pipe	°	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3	≥ 3
Connection height exhaust-gas pipe	mm	>1395	>1395	>1395	>1395	>1445	>1445	>1445	>1445	>1445	>1445	>1445
Exhaust-gas pipe diameter	mm	150	150	150	150	180	180	180	200	200	200	200
Chimney diameter (approx. values)	mm	180	180	180	180	200	200	200	220	220	220	220
Chimney design: Moisture-resistant	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fuel: Pellets of pure wood in accordance with ISO 17225-2												
Calorific value	MJ/kg	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19	16,5-19
Density	kg/m ³	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600	≥ 600
Ash												
Ash container volume	l	70	70	70	70	70	70	70	70	70	70	70
Ash container filled	kg	80	80	80	80	80	80	80	80	80	80	80
Ash removal system	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electrical system												
Connection: CEE 5-pole 400 V _{AC} 3-pole 230 V _{AC}	-	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A	50 Hz 13 A
Connected power MF2 S	W	829	829	829	829	887	887	887	887	887	887	887
Connected power MF2 ZI	W	2529	2529	2529	2529	2587	2587	2587	2587	2587	2587	2587
Suction conveyor type MF2 GS												
Max. suction length	m	25	25	25	25	25	25	25	25	25	25	25
Max. suction head	m	5	5	5	5	5	5	5	5	5	5	5
Contents storage container for type MF2 GS	l	135	135	135	135	135	135	135	135	135	135	135

MF2 S / MF2 GS	Unit	45 ¹	50 ¹	55 ¹	65 ¹	70 ¹	75 ¹	95 ¹	100 ²	108 ¹	115 ¹	135
Weights												
Water jacket	kg	300	340	340	340	360	360	360	450	450	450	450
Boiler body	kg	265	265	265	265	320	320	320	320	320	320	320
Boiler weight MF2 S	kg	822	862	862	862	1002	1002	1002	1102	1102	1102	1102
Boiler weight MF2 GS	kg	877	917	917	917	1057	1057	1057	1157	1157	1157	1157
Emissions according to test report												
Test report no.	-	13-UWWwels-EX-344/5-8										
Noise emissions (EN 15036-1)												
Normal operating noise at rated power	dB(A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Ref. 10 % O₂ dry (EN303-5)												
CO at rated power	mg/Nm ³	9	8	12	14	16	18	16	14	12	10	< 4
CO at partial load	mg/Nm ³	32	30	27	22	20	17	22	24	28	31	40
NO _x at rated power	mg/Nm ³	125	122	120	115	112	110	114	117	121	124	134
NO _x at partial load	mg/Nm ³	97	98	98	98	99	99	100	100	101	101	102
OGC at rated power	mg/Nm ³	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
OGC at partial load	mg/Nm ³	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dust at rated power	mg/Nm ³	19	19	18	18	18	17	17	17	18	18	18
Dust at partial load	mg/Nm ³	14	14	13	12	12	11	12	12	13	13	14
Ref. 11 % O₂ dry												
CO at rated power	mg/Nm ³	8	7	11	13	15	16	15	13	11	9	< 4
CO at partial load	mg/Nm ³	29	27	25	20	18	15	20	22	25	28	36
NO _x at rated power	mg/Nm ³	114	111	109	105	102	100	104	106	110	113	121
NO _x at partial load	mg/Nm ³	88	89	89	89	90	90	91	91	92	92	93
OGC at rated power	mg/Nm ³	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 2
OGC at partial load	mg/Nm ³	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dust at rated power	mg/Nm ³	17	17	16	16	16	15	15	15	16	16	16
Dust at partial load	mg/Nm ³	13	13	12	11	11	10	11	11	12	12	12
Ref. 13 % O₂ dry												
CO at rated power	mg/Nm ³	7	6	9	10	12	13	12	10	9	7	< 3
CO at partial load	mg/Nm ³	23	22	20	16	15	12	16	17	20	23	29
NO _x at rated power	mg/Nm ³	91	89	87	84	81	80	83	85	88	90	97
NO _x at partial load	mg/Nm ³	71	71	71	71	72	72	73	73	73	73	74
OGC at rated power	mg/Nm ³	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
OGC at partial load	mg/Nm ³	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 3
Dust at rated power	mg/Nm ³	14	14	13	13	13	12	12	12	13	13	13
Dust at partial load	mg/Nm ³	10	10	9	9	9	8	9	9	9	9	10
PPBT ³	mg/Nm ³	15	15	14	14	14	14	14	14	14	14	14
In accordance with § 15a-BVG Austria												
CO at rated power	mg/MJ	3	4	5	7	8	9	8	7	6	5	< 2
CO at partial load	mg/MJ	17	16	14	12	11	9	11	12	14	16	20
NO _x at rated power	mg/MJ	70	67	65	60	58	55	57	58	60	61	66
NO _x at partial load	mg/MJ	48	48	48	49	49	49	49	49	50	50	50
OGC at rated power	mg/MJ	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1
OGC at partial load	mg/MJ	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dust at rated power	mg/MJ	9	9	9	8	8	8	8	8	9	9	9
Dust at partial load	mg/MJ	7	7	6	6	6	5	6	6	6	6	7

22.12.2015

1 ... Drawing inspection

2 ... Typification variants

3 ... PPBT = PP (dust) + 42% OGC according to Conto Termico 28.12.2012

4 ... Depends on the conveyor system

mg/Nm³ ... milligram per standard cubic meter (Nm³ - standard cubic meter under 1013 hectopascal at 0 °C)

Classicfire
Combifire

Easyfire 1
Easyfire 1 Plus

Easyfire

Pelletfire^{Plus}

Multifire

Powerfire

Control
C3 & C4

Conveyor and
storage
systems

Storage and
hydraulic
systems

Information regarding the hydraulics requirements can be found at www.kwb.en.