

Technical data



Pellematic® PE(K) 10 - 32 B

ENGLISH



Author

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Subject to modifications

1 Technical data

Information according to EU regulation 2015/1187 and 2015/1189

Model designation	Pellematic					
	PE B 10	PE B 12	PE B 15	PE B 20	PE B 25	PE B 32
Manufacturer and contact details	ÖkoFEN Forschungs- und Entwicklungs GmbH, Gewerbepark 1, 4133 Niederkappel, Austria					
Boiler class	5					
Heat-up mode	Automatically					
Condensing boiler	no					
Solid fuel boiler with cogeneration system	no					
Combined heater	no					
Energy efficiency class	A+					
Energy efficiency index (EEI)	118	117	117	118	119	122
seasonal space heating energy efficiency in active mode η_{sON}	85	85	84	84	85	87
Seasonal space heating energy efficiency η_s (based on upper heating value)	79	79	79	80	81	83
Delivered useful heat at nominal heat power P_n [kW]	10	12	15	20	25	32
Delivered useful heat at 30 % of the nominal heat power P_p [kW]	3	3,7	5,5	6,5	8,6	10,6
Boiler eff. rated power standard heat. mode [%]*	92,4	92,7	93	94	94,6	95,5

Fuel	Pellets made of 100% natural wood according to EN ISO 17225-2, class A1
Colorific value [kWh/kg]	$\geq 4,6$
Bulk density [kg/m ³]	≥ 600
Water content [Gew.%]	≤ 10
Ash parts [Gew.%]	$\leq 0,7$
Length [mm]	≤ 40
Diameter [mm]	6 ± 1

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Annual space heating emissions						
PM [mg/m ³]	< 40					
OGC [mg/m ³]	< 20					
CO [mg/m ³]	< 500					
NOx [mg/m ³]	< 200					

Auxiliary power consumption						
Auxiliary power consumption at nominal heat power $e_{l_{max}}$ [W]	120					
Auxiliary power consumption at 30 % of nominal heat power $e_{l_{min}}$ [W]	36					
Standby auxiliary power consumption P_{SB} [W]	7					

Water area						
Water capacity [l]	64	64	64	64	104	104
Feed / return connection [inch]	1	1	1	1	5/4	5/4
Feed / return connection \varnothing [DN]	25	25	25	25	32	32
Water resistance at 10K [mbar]	54,7	95,2	150	172	178	186
Water resistance at 20K [mbar]	14,0	24,2	38,0	44,0	46,0	49,0
Boiler temperature [°C]	65 - 90					
Minimum boiler temperature [°C]	55					
Operating pressure maximum [Bar]	3,5					
Test pressure [Bar]	4,6					

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Flue gas area (Flue gas = F.g.)						
Combustion chamber temperature [°C]	800 - 1100					
Need of draught rated power [mBar]	0,08					
Flue gas temperature partial load [mBar]	0,03					
Flue gas temp. rated power [°C]	160					
Flue gas temp. partial load [°C]	100					
F.g. volume rated power at f.g.tem. [kg/h]	20,3	24,2	30,4	39,2	48,0	60,4
F.g. volume partial load at f.g. tem. [kg/h]	6,4	7,9	10,3	14,6	19,0	25,2
F.g. volume rated power at AGT [m ³ /h]	21,9	28,6	37,64	50,2	63,2	81,4
F.g. volume partial load at AGT [m ³ /h]	5,8	6,9	10,9	13	17,4	21,8
Flue gas tube diameter (at the boiler) [mm]	130	130	130	130	150	150
Chimney diameter	as per chimney calculation					
Chimney construction	as per chimney calculation					

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	PE B 10	PE B 12	PE B 15	PE B 20	PE B 25	PE B 32
Chimney calculation						
Rated heating power [kW]	10	12	15	20	25	32
Firing thermal capacity nominal load [kW]	11	13	16	22	27	35
CO2 volume concentration nominal load [%]	12,9	13	13,2	13,6	13,2	13
Flue gas inertia current for chimney calculation nominal load [kg/s]	0,0056	0,0067	0,0084	0,0109	0,0133	0,0185
Flue gas temperature for chimney calculation nominal load [° C]	120	120	160	160	160	160
Required (+) or maximum (-) delivery pressure nominal load [Pa]	8	8	8	8	8	8
Rated heating power partial load [kW]	3	3,4	5	6	8	10
Rated thermal power partial load [kW]	3,2	3,69	5,2	6,59	8,78	11,0
CO2 volume concentration partial load [%]	10,1	9,6	8,6	10,5	10,6	10,7
Flue gas inertia current for chimney calculation partial load [kg/s]	0,0014	0,0017	0,0022	0,0031	0,0041	0,006 0
Flue gas temperature for chimney calculation partial load [° C]	80	80	100	100	100	100
Required (+) or maximum (-) delivery pressure partial load [Pa]	3	3	3	3	3	3

Weight		
Weight of boiler packaged on pallet with wooden frame [kg]	405	490
Overall Weight [kg]	370	450
Boiler Body Weight [kg]	230	300
Internal ash pan volume [kg]	25	30
Ash capacity ash box [kg]	25	

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Electrical Components						
Connection value	230 VAC, 50Hz, 16A					
Main Drive [W]	40					
Drive Motor [W]	250 / 370					
Vacuum turbine [W]	1400					
Combustion Air Blower [W]	62					
Flue gas fan [W]	25					
Electrical Ignition - [W]	250					
Cleaning Motor [W]	40					
Motor External Ash Box [W]	40					
Motor Burner plate cleaning system [W]	40					
Flame Return Gate [W]	5					
Protection class	IP20					

* Test bench value related to the lower calorific value of the fuel. Determined at continuous full-load ideal operation according to the measurement procedures in EN303-5. Practical values and seasonal efficiencies may deviate due to local conditions, fuel properties and individual modes of operation. The values do not refer to an individual boiler, but serve solely for comparison purposes between the different boiler types.



Further technical data and results of the type test available on request from your ÖkoFEN contact.

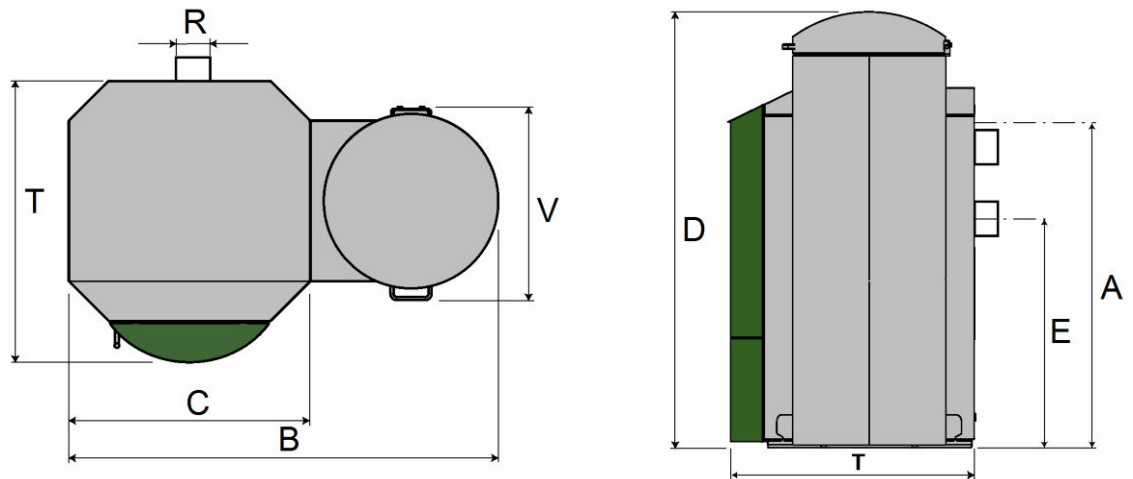
2 Notes on bringing the unit into the building

Before bringing the unit into the building, check the dimensions of all doors to ensure that the boiler has sufficient clearance and can be set up properly.

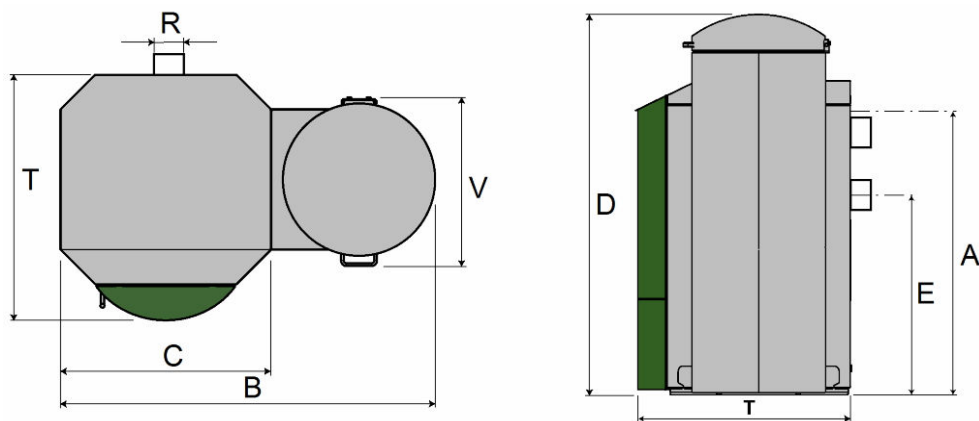
Minimum door width – max. unit dimension

PE (K) 12-20 B	690 mm
PE (K) 25-32 B	750 mm

Kessel Abmessungen PE B



Boiler size		PE10B	PE12B	PE15B	PE20B	PE25B	PE32B
B - overall width of pellet boiler	mm	1297	1297	1297	1297	1354	1354
C - width of boiler casing	mm	700	700	700	700	756	756
D - height hopper	mm	1571	1571	1571	1571	1571	1571
T - depth of boiler casing	mm	814	814	814	814	870	870
V - width hopper	mm	640	640	640	640	640	640
E - flue gas tube connection height	mm	645	645	645	645	844	844
R - diameter of flue gas tube	mm	130	130	130	130	150	150
A - height of inlet/return	mm	905	905	905	905	1110	1110

Boiler dimensions PEK B

Boiler size		PE10B	PE12B	PE15B	PE20B	PE25B	PE32B
B - overall width of pellet boiler	mm	1297	1297	1297	1297	1354	1354
C - width of boiler casing	mm	700	700	700	700	756	756
D - height hopper	mm	1571	1571	1571	1571	1571	1571
T - depth of boiler casing	mm	814	814	814	814	870	870
V - width hopper	mm	640	640	640	640	640	640
E - flue gas tube connection height	mm	645	645	645	645	844	844
R - diameter of flue gas tube	mm	130	130	130	130	150	150
A - height of return	mm	905	905	905	905	1110	1110
A2 - height of feed pipe	mm	905	905	905	905	1100	1100

Boiler weight

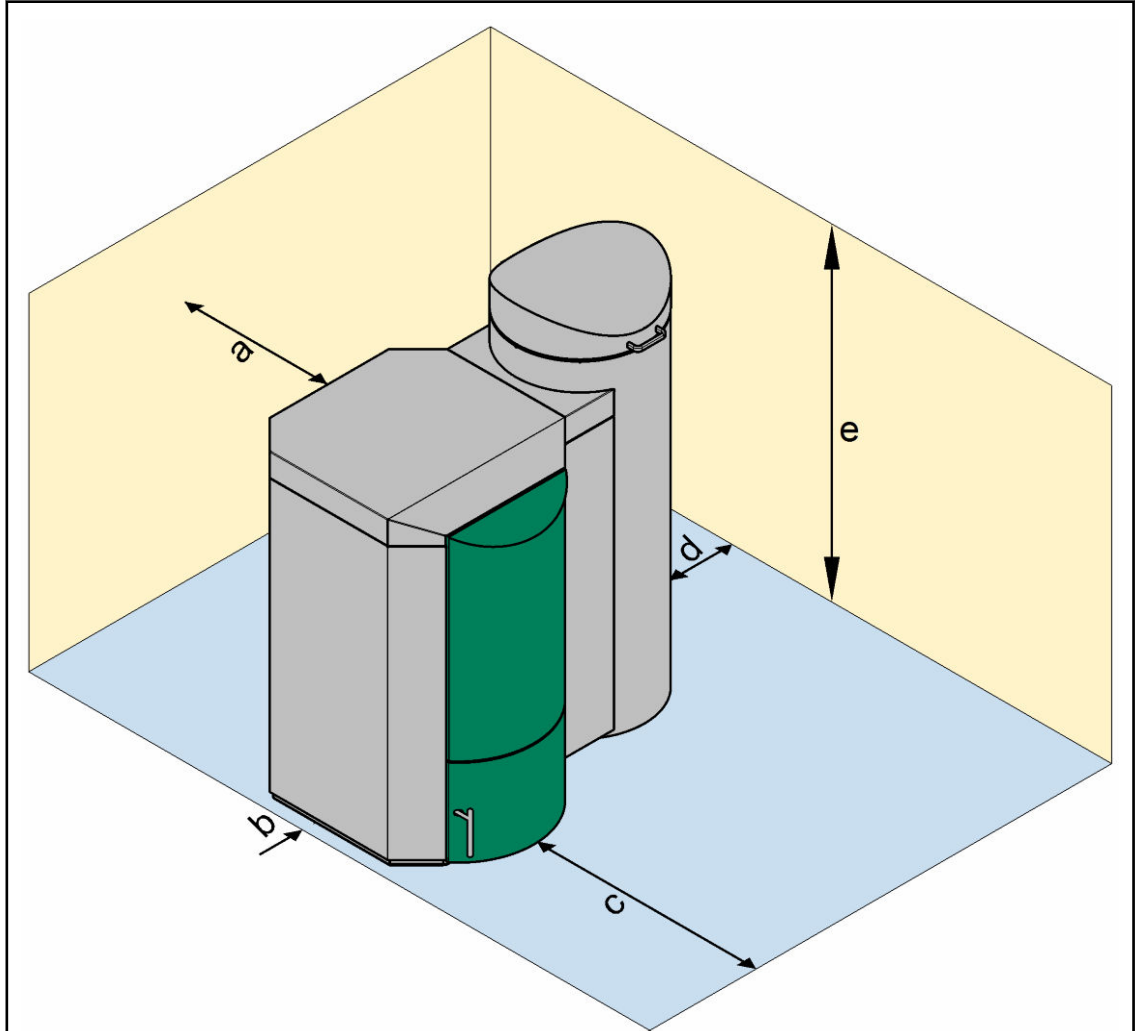
Boiler size		PE 10B	PE 12B	PE 15B	PE 20B	PE 25B	PE 32B	PEK 10B	PEK 12B	PEK 15B	PEK 20B	PEK 25B	PEK 32B
Weight of boiler packaged on pallet with wooden frame	kg	405	405	405	405	490	490	455	455	455	455	540	540
Weight of boiler with casing, hopper, burner and condensing heat exchanger	kg	370	370	370	370	450	450	420	420	420	420	500	500
Weight of boiler without casing, hopper, burner and condensing heat exchanger	kg	230	230	230	230	300	300	230	230	230	230	300	300

Minimum clearance dimensions required



To install the heating system properly and ensure economical operation, you need to make sure that minimum clearance dimensions indicated below are observed when setting up the boiler.

In addition, make sure that legislation in your country is complied with relating to the minimum clearance of the flue gas tube.



a	Min. clearance of flue gas connection from wall or part of building	450 mm
b	Min. clearance of side of boiler from wall or part of building	50 mm
c	Min. clearance of front of boiler from wall or part of building	700 mm
d	Min. clearance of side of burner from wall or part of building	300 mm
e	Min. ceiling height	2 m



The indicated values must not fall below by piping or other.

NOTICE

Due to a low boiler surface temperature, the specified minimum distances can be observed.

- ▶ Legislation in your country must be observed!
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