

Technical data



Pellematic® Condens 10 - 18 kW

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 Condens				
	10	12	14	16	18
Manufacturer and contact details	ÖkoFEN Forschungs- und Entwicklungs GmbH, Gewerbepark 1, 4133 Niederkappel, Austria				
Boiler class	5				
Heat-up mode	Automatically				
Condensing boiler	yes				
Solid fuel boiler with cogeneration system	no				
Combined heater	no				
Energy efficiency class	A++				
Energy efficiency index (EEI)	135				
seasonal space heating energy efficiency in active mode η_{son}	96				
Seasonal space heating energy efficiency η_s (based on upper heating value)	92				
Delivered useful heat at nominal heat power P_n [kW]	10	12	14	16	18
Delivered useful heat at 30 % of the nominal heat power P_p [kW]	3	4	4	5	5
Fuel efficiency at nominal heat output η_n (based on upper heating value) [%]	99				
Fuel efficiency at 30% of the nominal heat power η_p (based on upper heating value) [%]	96				
Boiler eff. rated power standard heat. mode [%]*	107,6	107,7	107,7	107,8	107,9

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]	23,7	29,7	35,6	41,6	47,5
Auxiliary power consumption at 30 % of nominal heat power $e_{l_{min}}$ [W]	14,9				
Standby auxiliary power consumption P_{SB} [W]	7				

Water area					
Cleaning connection [inch]	3/4 (Magnetventil integriert)				
Water capacity [l]	72				
Feed / return connection [inch]	1				
Feed / return connection \varnothing [DN]	25				
Water resistance at 10K [mbar]	6,7	10,4	14,1	17,8	21,5
Water resistance at 20K [mbar]	1,9	2,9	3,8	4,8	5,7
Boiler temperature [°C]	28-85				
Minimum boiler temperature [°C]	28				
Minimum return (boiler inlet) temperature	5				
Operating pressure maximum [Bar]	3				
Test pressure [Bar]	4,6				

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Flue gas area (Flue gas = F.g.)					
Available delivery pressure of fan [mBar]	0,05 ¹				
Combustion chamber temperature [°C]	400 - 870				
Flue gas tube diameter (at the boiler) [mm]	132 (interior)				
F.g. temp. rated power condensation mode [°C]	40 - 80				
F.g. temp. rated power standard heat. mode [°C]	60 - 90				
F.g. temp. partial load condensation mode [°C]	40 - 80				
F.g. temp. partial load standard heat. mode [°C]	60 - 90				
F.g. volume rated power at f.g.tem. condensation mode [kg/h]	18,9	21,9	24,8	27,8	30,7
F.g. vol. rated power at f.g.tem. standard heating mode [kg/h]	18,8	23,3	27,8	31,8	35,3
F.g. volume partial load at f.g. tem. condensation mode [kg/h]	5,7	6,8	8	9,1	10,3
F.g. vol. partial load at f.g. tem. standard heating mode [kg/h]	6,8	7,6	8,3	9,2	10,3
F.g. vol. rated power at AGT condens. mode [m ³ /h]	14,5	16,8	19,1	21,3	23,6
F.g. vol. rated power at AGT standard heating mode [m ³ /h]	13,8	17,1	20,4	23,3	25,9
F.g. vol. partial load at AGT condens. mode [m ³ /h]	4,4	5,2	6,1	7,0	7,8
F.g. vol. partial load at AGT standard heating mode [m ³ /h]	5	5,6	6,1	6,8	7,6
Flue gas tube diameter (at the boiler) [mm]	132 (interior)				
Chimney diameter	as per chimney calculation, min. 130mm				
Chimney construction	qualified for condensing, solid fuel, damp resistant, N1 or P1 (depending on chimney calculation)				

¹) The resistance in the flue gas system at the CONDENS connection may be 5 Pascal if the connection pipe and the connection to the chimney are implemented in an overpressure-tight way.

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Chimney calculation					
Rated heating power [kW]	10,4	12,5	14,5	16,6	18,6
Firing thermal capacity nominal load [kW]	9,9	11,8	13,6	15,5	17,3
CO2 volume concentration nominal load [%]	15	15,2	15,5	15,7	15,9
Flue gas inertia current for chimney calculation nominal load [kg/s]	0,0053	0,0061	0,0069	0,0077	0,0085
Flue gas temperature for chimney calculation nominal load [° C]	45	45	45	45	45
Required (+) or maximum (-) delivery pressure nominal load [Pa]	-5	-5	-5	-5	-5
Rated heating power partial load [kW]	2,7	3,3	3,9	4,4	5
Rated thermal power partial load [kW]	2,6	3,1	3,7	4,3	4,8
CO2 volume concentration partial load [%]	9,9	9,9	9,9	9,9	9,9
Flue gas inertia current for chimney calculation partial load [kg/s]	0,0016	0,0019	0,0022	0,0025	0,0029
Flue gas temperature for chimney calculation partial load [° C]	40	40	40	40	40
Required (+) or maximum (-) delivery pressure partial load [Pa]	-8	-8	-8	-8	-8

Weight	
Overall Weight [kg]	294
Ash capacity ash box [kg]	6
Volume hopper [kg]	32

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Electrical Components					
Connection value	230 VAC, 50Hz, 16A				
Main Drive [W]	40				
Standby power [W]	7				
Drive Motor [W]	250 / 370				
Flue gas fan [W]	9 - 120W				
Electrical Ignition - [W]	250				
Cleaning Motor [W]	40				
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.

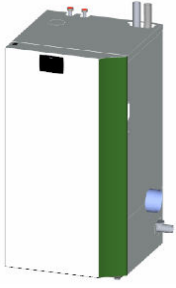
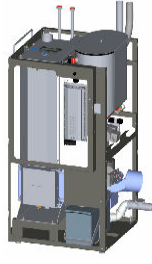



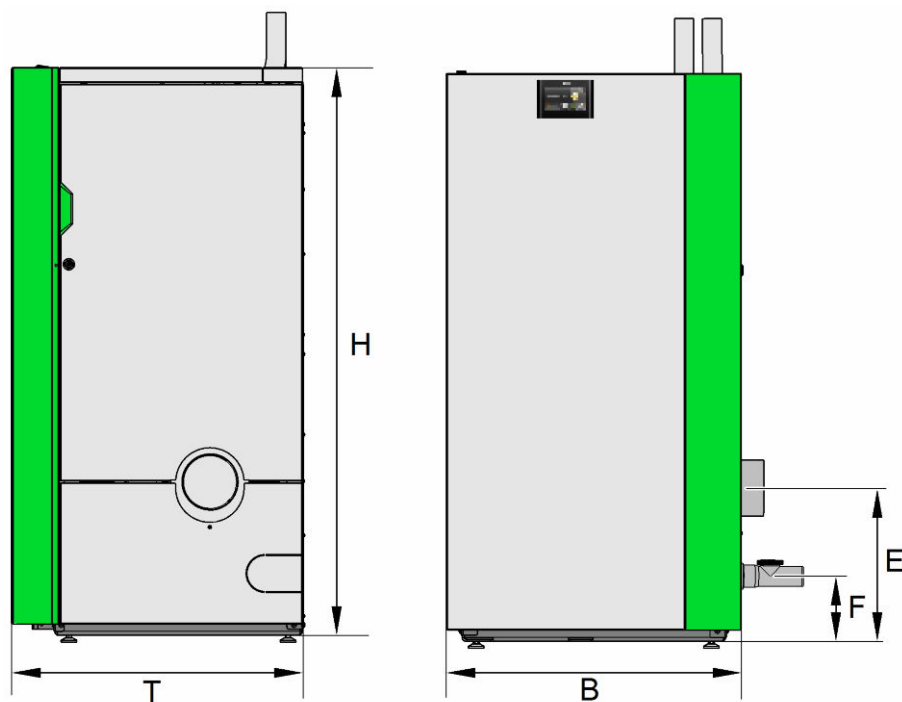
Further technical data and results of the type test available on request from your ÖkoFEN contact.

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

Door width > 73 cm	Door width > 66 cm	Door width > 40 cm
		
<p><i>Dismantling of components not necessary</i></p>	<p><i>Dismantle casing</i></p>	<p><i>"Dismantle all"</i></p>

Boiler size

Boiler size	Pellematic Condens
	10 - 18 kW
T - Depth of boiler casing - mm	724
H - Height of boiler casing - mm	1408
B - Overall width of pellet boiler - mm	732
E - Height of flue gas tube connection - mm	375
F - Condensate drain connecting height - mm	158

Boiler Weight

Boiler size	Pellematic Condens
	10 - 18 kW
Weight of boiler packaged on pallet with wooden frame - kg	340
Weight of boiler with casing, hopper and burner - kg	290
Weight of boiler without casing, hopper and burner - kg	185

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 gastube.**

	optimal		minimum
	Falling below the optimal distances means additional maintenance and cleaning work.		The minimum distances must be strictly observed. The door only opens 45°.
	a	150 mm	0 mm ①/② → 40 mm
	b	50 mm ② → 100 mm	30 mm ② → 100 mm
	c	750 mm	450 mm
	d	750 mm	550 mm
	e	2000 mm	1800 mm



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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