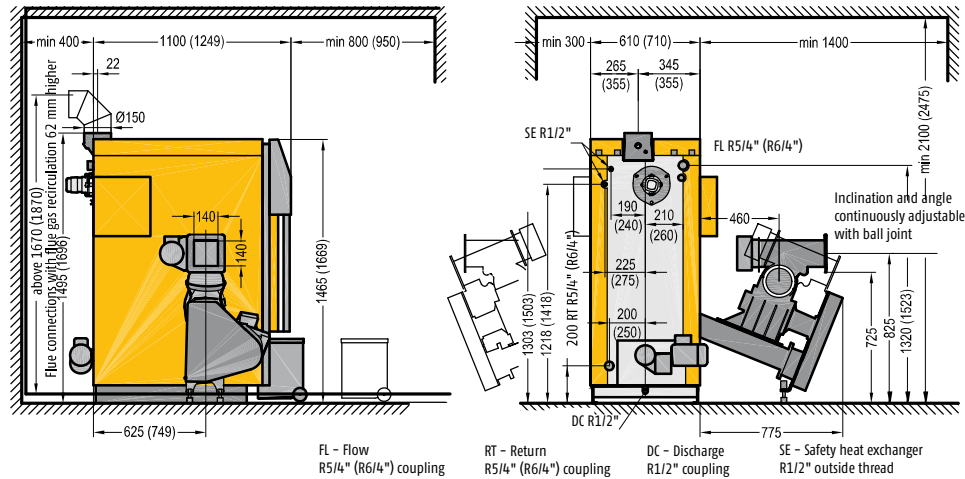


ETA HACK 20 – 90 kW wood chip boilers

Boiler can be supplied with stoker on either the right or the left side.
Numbers in parentheses apply for 70 and 90 kW.



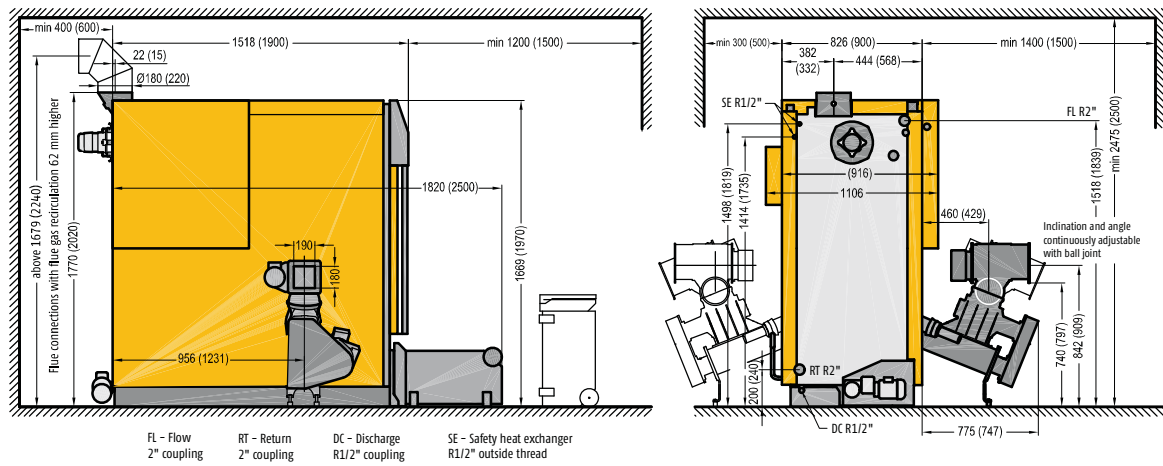
ETA HACK technical data

		20	25	35	50	70	90
Rated capacity	W25-S160 wood chips	5.9-19.9	7.7-26.0	10.5-35.0	14.5-49.5	21.0-70.0	26.0-88.0
	Pellets		7.7-26.0	10.5-35.0	14.5-49.5	21.0-70.0	27.0-95.0
Efficiency partial/full load – spruce chips*	%	92.8 / 92.7	92.9 / 92.2	92.1 / 91.7	90.9 / 91.0	93.0 / 92.4	94.3 / 93.3
Wood pellet efficiency, partial/full load*	%		90.6 / 93.8	90.6 / 93.0	90.6 / 91.7	91.7 / 92.4	92.5 / 93.3
Transport dimensions, W x D x H	mm	710 x 1,100 x 1,495				810 x 1,249 x 1,696	
Transport width with housing removed	mm	590				690	
Weight with / without rotary valve and stoker	kg	735 / 590	735 / 590	736 / 591	737 / 592	911 / 864	911 / 866
Water content	Litres	117				196	
Water-side pressure drop (ΔT=20°)	Pa / mH ₂ O	90 / 0.009	160 / 0.016	280 / 0.028	550 / 0.055	570 / 0.057	900 / 0.090
Ash box volume	Litres	35				44	
Flue gas mass flow rate, partial/full load	g/s	5.7 / 15.2	7.4 / 19.2	9.3 / 26.0	12.0 / 35.7	16.6 / 46.6	21.2 / 56.2
CO ₂ content in dry flue gas, partial/full load	%	8.5 / 11.0	8.5 / 11.5	9.0 / 12.0	9.0 / 12.5	10.0 / 13.5	10.0 / 14.0
Exhaust temperature, partial/full load*	°C	70 / 110	75 / 130	88 / 140	85 / 150	85 / 145	90 / 155
Flue draught		2 Pa for partial load / 5 Pa for full load required No draught limiter required up to 15 Pa					
Carbon monoxide (CO) emissions*	mg/MJ	108 / 17	62 / 13	47 / 14	26 / 15	23 / 8	21 / 4
	Wood chips, partial/full load mg/m ³ %O ₂	156 / 24	91 / 19	69 / 20	39 / 22	33 / 12	30 / 6
Carbon monoxide (CO) emissions*	mg/MJ		44 / 7	28 / 8	7 / 9	9 / 6	10 / 2
	Pellets, partial/full load mg/m ³ %O ₂		68 / 10	43 / 12	11 / 14	13 / 9	15 / 4
Dust emissions*	mg/MJ	8	6	7	8 / 9	8 / 9	8 / 9
	Wood chips at full load mg/m ³ %O ₂	12	9	11	12 / 13	12 / 14	12 / 14
Dust emissions*	mg/MJ		4	5	3 / 6	2 / 6	2 / 7
	Pellets at full load mg/m ³ %O ₂		7	7	4 / 8	4 / 9	4 / 11
Unburned hydrocarbon emissions (CxHy)*	mg/MJ	2 / <1	1 / <1	<1 / <1	<1 / <1	<1 / <1	<1 / <1
	Wood chips, partial/full load mg/m ³ %O ₂	2 / 1	2 / <1	1 / <1	1 / <1	1 / <1	1 / <1
Unburned hydrocarbon emissions (CxHy)*	mg/MJ		1 / <1	<1 / <1	<1 / <1	<1 / <1	<1 / <1
	Pellets, partial/full load mg/m ³ %O ₂		1 / <1	1 / <1	1 / <1	<1 / <1	<1 / 1
Electrical power consumption Spruce chips, partial/full load*	W	73 / 129	91 / 147	109 / 195	129 / 254	167 / 396	167 / 396
Electrical power consumption Wood pellets, partial/full load*	W		67 / 98	70 / 192	73 / 123	97 / 190	97 / 190
Maximum permissible operating pressure	3 bar	Boiler class 3 acc. to EN 303-5					
Temperature adjustment range	70 – 85°C	Suitable fuels Wood chips G30/G50 to W35, ÖNORM M 7133, Pellets ÖNORM M 7135, DIN 51731, DIN Plus					
Maximum permissible operating temperature	95°C	EN 14961-2, ENplus A1					
Minimum return temperature	60°C	Electrical connection 3 x 400V / 50Hz / 13A					

* Data from test reports by BLT Wieselburg, report numbers 047/03, 048/03, 052/09, 053/09, 057/09, 058/09. The test reports from the BLT Wieselburg test lab can be found on the Internet at: blt.josephinum.at (Test reports > Biomass boiler tests > Chipped wood heating boilers)

ETA HACK 130 and 200 kW wood chip boilers

Boiler can be supplied with stoker on either the right or the left side.
Quantities in parentheses for 200 kW



ETA HACK technical data

		130	200
Rated capacity, wood chips W 25-S 160	kW	38.0-133.0	56.0 - 195.0
Rated capacity, pellets	kW	38.0-140.0	66.0 - 220.0
Efficiency partial/full load – spruce chips*	%	94.8/92.7	93.5 / 92.3
Wood pellet efficiency, partial/full load*	%	93.6/92.1	91.1 / 91.1
Transport dimensions, W x D x H	mm	930 x 1,520 x 1,770	1,106 x 2,100 x 2,020
Transport width, disassembled	mm	790	865
Weight with / without rotary valve and stoker	kg	1,334 / 1,189	1,950 / 1,800
Water content	Litres	290	448
Water-side pressure drop ($\Delta T=20^\circ$)	Pa / mH ₂ O	750 / 0,075	1,700 / 0,170
Ash box volume	Litres	110	2 x 80
Flue gas mass flow rate, partial/full load	g/s	28.3 / 85.3	43.5 / 138
CO ₂ content in dry flue gas, partial/full load*	%	11.1 / 13.9	11.0 / 13.0
Exhaust temperature, partial/full load*	°C	82 / 138	80 / 140
Flue draught	2 Pa for partial load / 5 Pa for full load required No draught limiter required up to 15 Pa		
Carbon monoxide (CO) emissions* Wood chips, partial/full load	mg/MJ mg/m ³ 13% O ₂	7 / 17 11 / 26	4 / 8 6 / 13
Carbon monoxide (CO) emissions* Pellets, partial/full load	mg/MJ mg/m ³ 13% O ₂	9 / 9 14 / 14	3 / 2 4 / 3
Dust emissions* Wood chips, partial/full load	mg/MJ mg/m ³ 13% O ₂	6 / 13 10 / 20	4 / 9 7 / 15
Dust emissions* Pellets, partial/full load	mg/MJ mg/m ³ 13% O ₂	11 16	2 / 4 4 / 7
Unburned hydrocarbons (CxHy)* Wood chips, partial/full load	mg/MJ mg/m ³ 13% O ₂	< 1 / 1 < 1 / 1	< 1 / < 1 < 1 / < 1
Unburned hydrocarbons (CxHy)* Pellets, partial/full load	mg/MJ mg/m ³ 13% O ₂	< 1 / 1 < 1 / 1	< 1 / < 1 < 1 / < 1
Electrical power consumption Spruce chips, partial/full load*	W	178 / 458	195 / 535
Electrical power consumption Spruce pellets, partial/full load*	W	107 / 253	118 / 300
Maximum permissible operating pressure	3 bar	Boiler class 3 acc. to EN 303-5	
Temperature adjustment range	70 - 85°C	Suitable fuels Wood chips G30/G50 to W35, ÖNORM M7133, Pellets ÖNORM M 7135, DIN 51731, DIN Plus EN 14961-2, ENplus A1	
Maximum permissible operating temperature	95°C		
Minimum return temperature	60°C	Electrical connection 3 x 400 V / 50 Hz / 13 A	

* Data from test reports by BLT Wieselburg, report numbers 047/03, 048/03, 052/09, 053/09, 057/09, 058/09, 018/11, 027/07, 034/08, 035/08. The test reports from the BLT Wieselburg test lab can be found on the Internet at: blt.josephinum.at (Test reports > Biomass boiler tests > Chipped wood heating boilers)



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