


### Herz Firematic 80-201 Boiler Specification

Category	Field	Units							
Boiler Details	Manufacturer	-	Herz	Herz	Herz	Herz	Herz	Herz	Herz
	Model/Type	-	Firematic 80	Firematic 100	Firematic 130	Firematic 151	Firematic 180	Firematic 199	Firematic 201
	Turn down ratio (chip / pellet)	(%)	29% / 29%	23% / 23%	28% / 28%	24% / 24%	20% / 20%	18% / 18%	18% / 18%
	Output range (chip / pellet)	kW	23.2 – 80 / 23.2 - 80		36.7 – 130 / 35.9 - 130				
	RHI Certificate	Yes / No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Clean Air Act	Yes / No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Combustion unit/Boiler	Details	Sheet steel boiler welded and pressure tested. Fully insulated boiler casing, vertical heat exchanger with automatic cleaning							
Dimensions	Length x Width x Height (inc. Ash Bin)	mm	1709 x 1636 x 1690			2071 x 1888 x 1818			
	Length x Width x Height (exc. Ash Bin)	mm	1453 x 1636 x 1690			1494 x 1888 x 1818			
	Dry Weight	kg	1032	1032	1370	1370	1370	1370	1370
Efficiency	Min $\eta$ @100% Load (chip / pellet)	%	92.6 / 92.7	92.5 / 92.7	92.3 / 92.0	93.5 / 93.7	92.3 / 92.3	92.1 / 91.8	92.1 / 91.8
	Min $\eta$ @30% Load (chip / pellet)	%	92.4 / 93.3	92.4 / 93.3	94.2 / 94.1	94.2 / 94.1	94.2 / 94.1	94.2 / 94.1	94.2 / 94.1
Hydraulic Details	Max flow temp	°C	85 as standard (102 upon request)						
	Max Working Pressure	bar	3	3	5	5	5	5	5
	Max Test Pressure	bar	4.5	4.5	7.5	7.5	7.5	7.5	7.5
	Water Content	l	179	179	254	254	254	254	254
Connections	Flow / Return	-	2"	2"	2"	2"	2"	2"	2"
	Drain	"	3 / 4	3 / 4	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2
	Thermal safety circuits flow/return	"	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2
Flue	Size (ID)	mm	180	180	200	200	200	200	200
Image									
Emissions	Max NOx at min output (chip / pellet)	mg/Nm <sup>3</sup> *	112 / 76	112 / 76	86 / 85	86 / 85	86 / 85	86 / 85	86 / 85
	Max NOx at min output (chip / pellet)	mg/MJ	75 / 48	75 / 48	57 / 56	57 / 56	57 / 56	57 / 56	57 / 56
	Max NOx at max output (chip / pellet)	mg/Nm <sup>3</sup> *	143 / 95	148 / 113	86 / 102	84 / 156	124 / 180	125 / 157	125 / 157
	Max NOx at max output (chip / pellet)	mg/MJ	97 / 60	101 / 72	57 / 68	56 / 103	103 / 119	83 / 104	83 / 104
	Max PM at min output (chip / pellet)	mg/Nm <sup>3</sup> *	24 / 40	24 / 40	14 / 7	14 / 7	14 / 7	14 / 7	14 / 7
	Max PM at min output (chip / pellet)	mg/MJ	16 / 26	16 / 26	9 / 5	9 / 5	9 / 5	9 / 5	9 / 5
	Max PM at max output (chip / pellet)	mg/Nm <sup>3</sup> *	35 / 13	43 / 19	15 / 10	9 / 10	11 / 10	6 / 14	6 / 14
	Max PM at max output (chip / pellet)	mg/MJ	24 / 8	29 / 12	10 / 7	6 / 6	7 / 7	4 / 10	4 / 10
	Max COx at min output (chip / pellet)	mg/Nm <sup>3</sup> *	160 / 88	160 / 88	26 / 45	26 / 45	26 / 45	26 / 45	26 / 45
	Max COx at min output (chip / pellet)	mg/MJ	107 / 56	107 / 56	17 / 30	17 / 30	17 / 30	17 / 30	17 / 30
	Max COx at max output (chip / pellet)	mg/Nm <sup>3</sup> *	30 / 13	17 / 4	26 / 22	20 / 20	20 / 22	20 / 21	20 / 21
	Max COx at max output (chip / pellet)	mg/MJ	20 / 8	11 / 3	17 / 15	13 / 13	13 / 15	13 / 14	13 / 14
Biomass Fuel	Max Pellet Consumption Rate	kg/hr	18	23	30	35	41	46	46
	Pellet grade		EN 14961-2- 6mm,8mm, 10mm (class A1 or A2)						
	Max chip Consumption Rate	kg/hr	23 @W25	29 @W25	38 @W25	43 @W25	52 @W25	58 @W25	58 @W25
	Chip grade		EN 14961-4 - P16B P31.5 P45A (class A1, A2 or B1)						
Buffer Vessel	Volume (Recommended minimum)	l	1,000	1,000	1,500	2,000	2,000	3,000	3,000
	Max Pressure	bar	3	3	5	5	5	5	5
Electrical Supply	Volts/ph/Hz/A	-	230 / 1 / 50 / 16	230 / 1 / 50 / 16	230 / 1 / 50 / 16	230 / 1 / 50 / 16	230 / 1 / 50 / 16	230 / 1 / 50 / 16	230 / 1 / 50 / 16
Key Features	Heat exchanger bypass flap	Details	Prevents moisture condensing in the heat exchanger during start-up. Automatic operation						
	Burn back protection	Details	Back Fire Protection (BFP) flap which closes when the auger is not in use						
	Burner design	Details	Fully Modulating, 2-zone moving grate manufactured from cast chromium steel						
	Automatic heat exchanger cleaning	Details	Vertical heat exchanger tubes with automatic cleaning and ash removal using turbulators (mechanical).						

\* 0°C / 1013 mbar / 13% O<sub>2</sub>

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