

# Ferrolli Cast Iron Boiler Range

Architects of your environment

HEATING • VENTILATION • AIR CONDITIONING



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**powrmatic**

*3 pass-flue floor standing boiler, only heating, for oil or gas jet burner.*



## Features and Benefits

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New compact design

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High efficiency cast iron boiler body

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Silent operation thanks to low flues turbulence

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Widely copes with requirements for 2 stars efficiency according to directive 92/42 EEC

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New analogue control panel with smart fume cover

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Control board includes thermometer and pressure gauge, ignition switch, safety thermostat with manual reset and temperature setting knob

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Optional range of one and two stage\* burners to be easily fitted, both for gas or liquid fuel

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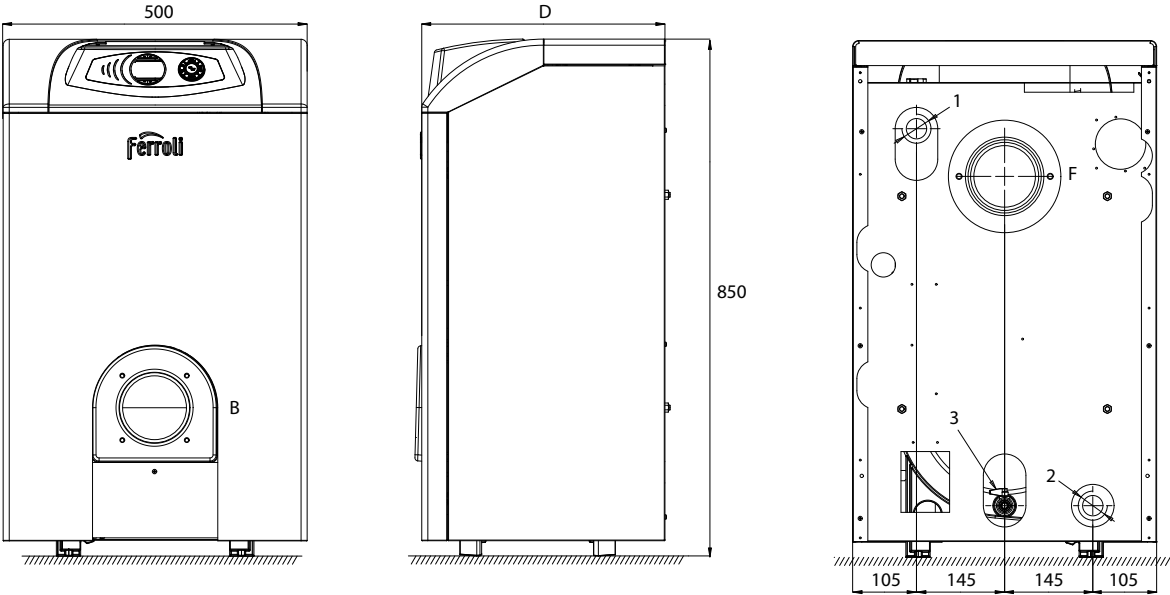
\* Two stage only available on Atlas A 95

Equipped with a user-friendly, control panel.



# Technical specifications

Atlas A			32	47	62	78	95
Max thermal output	kW		32	47	62	78	95
Max thermal capacity	kW		34.9	51.6	67.7	85.6	103
Water content	litres		18	23	28	33	38
Efficiency Pmax (80°– 60°C)	%		91.7	91.1	91.5	91.1	92
Max. heating operating pressure	bar		6	6	6	6	6
Dimensions	D	mm	400	500	600	732	832
	B	Ø mm	115	115	115	115	115
	F	Ø mm	120-130	120-130	120-130	120-130	120-130
Empty weight	kg		127	166	205	244	283
Number of sections			3	4	5	6	7
IP protection rate	IP		X0D	X0D	X0D	X0D	X0D



**KEY**

- 1 system delivery Ø 1 1/2"
- 2 system return Ø 1 1/2"
- 3 heating system drain cock 1/2"

Gas, oil or dual fuel, cast iron, free-standing boilers

*High efficiency heat generators for the production of hot water for central heating installations serving medium to large residential or industrial premises. The GN range of boilers is available for pressure jet oil, forced air gas or dual fuel with a range of burners for ON/OFF or high/low operation.*



## Features and Benefits

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Ferrolli boilers are manufactured from high quality cast iron and are designed for a reliable long life – with a 10-year manufacturer's material guarantee on the cast iron work

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All GN models are suitable for natural gas, LPG or oil-fired pressure jet burners, with a dual fuel option

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The GN range is a highly efficient boiler with on/off, high/low or modulating burner operation

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We can also supply pre-mix burners which are fully modulating, low NO<sub>x</sub> and quiet

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High efficiency, reduce fuel consumption

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Boiler body is insulated with high density mineral fibre to minimise heat loss from the heat exchanger

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GN2 models have a double-pass heat exchanger

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Designed for use with fully pumped indirect systems operating at working pressures up to 6 bar at 90°C flow temperature

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The pre-wired control panel is housed in a stylish casing and incorporates: on/off illuminated switches; high/low thermostatic control with limit thermostat (manual re-set); and a temperature and pressure gauge

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Front access for ease of maintenance and minimum side clearance required

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Suitable for modular installations

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# Technical specifications

Number of sections			05	06	07	08	09	10	11	12	13	14
<b>Delivered heat output</b>	max.	kW	90	108	126	144	162	180	198	216	234	252
	min.	kW	73	87	101	115	129	143	157	171	185	199
<b>Heat input</b>	max.	kW	98.8	117.4	136.9	156.5	176.0	195.6	215.2	234.7	254.3	273.9
	min.	kW	80	95	110	125	140	155	170	185	200	215
<b>Water content</b>		litres	49	57	65	73	81	89	97	105	113	121
Design flow rate @ $\Delta t$ 11°C		litres/sec	1.95	2.35	2.74	3.13	3.52	3.91	4.3	4.7	5.01	5.47
Water pressure loss @ $\Delta t$ 11°C		mb	2.8	3.4	4.8	6.5	8.5	11	13	16	19	23
Design flow rate @ $\Delta t$ 20°C		litres/sec	1.07	1.29	1.5	1.72	1.93	2.15	2.36	2.58	2.79	3.00
Water pressure loss @ $\Delta t$ 20°C		mb	–	–	0.5	0.8	1.8	2.2	2.6	3.2	4.0	4.5
Water pressure max		bar	6	6	6	6	6	6	6	6	6	6
Static head min		m	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Flow rate min		litres/sec	0.72	0.86	1.0	1.15	1.29	1.43	1.58	1.72	1.86	2.0
Input gas rate max		m <sup>3</sup> /h	10.46	12.28	14.49	16.56	18.62	20.70	22.77	24.84	26.91	28.98
Working pressure boiler gas		mb	20	20	20	20	20	20	20	20	20	20
Max gas inlet gas pressure		mb	25	25	25	25	25	25	25	25	25	25
Draught required @ boiler flue outlet	mb		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Pascal		2	2	2	2	2	2	2	2	2	2
Burner pressure												
			as Burner manufacturers data									
Flue gas volume @ NTP		m <sup>3</sup>	140	159	196	218	247	273	305	326	370	402
Flue gas temperature		°C	220	220	220	220	220	220	220	220	220	220
Boiler flue gas resistance		mb	0.3	0.31	0.32	0.33	0.34	0.36	0.37	0.38	0.39	0.40
Electric supply 230v 50Hz			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Combustion chamber $\Delta p$ mbar			0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Combustion chamber volume		litres	63	77	91	104	118	132	146	160	174	187
<b>Dimensions</b>	Height	mm	1196	1196	1196	1196	1196	1196	1196	1196	1196	1196
	Width	mm	600	600	600	600	600	600	600	600	600	600
	Depth	mm	647	757	867	977	1087	1197	1307	1417	1527	1637
	Blast tube diameter	mm	130	130	130	154	154	154	154	154	154	154
	Flue diameter	mm	180	180	180	200	200	200	200	200	200	200
<b>Fittings</b>	Water flow/return	DN80	3	3	3	3	3	3	3	3	3	3
	Drain cock	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	Gas inlet connection											
			as Burner manufacturers data									
<b>Weight</b>		kg	310	361	412	463	514	565	616	670	725	780
<b>Clearance</b>	Front (min)	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Rear (min)	mm	800	800	800	800	800	800	800	800	800	800
	Side (min)	mm	200	200	200	200	200	200	200	200	200	200

Gas, oil or dual fuel, cast iron free-standing boilers

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## Features and Benefits

Ferroli boilers are manufactured from high quality cast iron and are designed for a reliable long life – with a 10-year manufacturer’s material guarantee on the cast iron work

All GN models are suitable for natural gas, LPG or oil-fired pressure jet burners, with a dual fuel option

The GN range is a highly efficient boiler with on/off, high/low or modulating burner operation

We can also supply pre-mix burners which are fully modulating, low NO<sub>x</sub> and quiet

High efficiency, reduce fuel consumption

Boiler body is insulated with high density mineral fibre to minimise heat loss from the heat exchanger

GN4 has a triple-pass heat exchanger for maximum heat transfer and ultra-high operating efficiency

Designed for use with fully pumped indirect systems operating at working pressures up to 6 bar at 90°C flow temperature

The pre-wired control panel is housed in a stylish casing and incorporates: on/off illuminated switches; high/low thermostatic control with limit thermostat (manual re-set); and a temperature and pressure gauge

Front access for ease of maintenance and minimum side clearance required

Suitable for modular installations

# Technical specifications

Number of sections			07	08	09	10	11	12	13	14	
<b>Delivered heat output</b>	max.	kW	200	250	300	360	420	480	560	650	
	min.	kW	120	150	180	215	250	290	330	390	
<b>Heat input</b>	max.	kW	217	270	324	388	452	516	600	695	
	min.	kW	128	160	192	229	266	309	352	416	
<b>Water content</b>		litres	143	163	183	203	223	243	263	283	
Design flow rate @ $\Delta t$ 11°C		litres/sec	4.32	5.39	6.46	7.75	9.08	10.4	12.1	14.1	
Water pressure loss @ $\Delta t$ 11°C		mb	66	99	139	178	215	254	292	331	
Design flow rate @ $\Delta t$ 20°C		litres/sec	2.58	2.7	3.3	3.87	4.53	5.17	6.03	7.0	
Water pressure loss @ $\Delta t$ 20°C		mb	20	30	42	54	65	77	88	100	
Water pressure max		bar	6	6	6	6	6	6	6	6	
Static head min		m	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
Flow rate min		litres/sec	1.73	2.16	2.6	3.6	3.12	1.16	4.85	5.63	
Input gas rate max		m <sup>3</sup> /h	20.28	25.23	30.28	36.26	42.24	48.22	56.07	64.95	
Working pressure boiler gas		mb	20	20	20	20	20	20	20	20	
Max gas inlet gas pressure		mb	25	25	25	25	25	25	25	25	
Burner pressure			as Burner manufacturers data								
Flue gas volume @ NTP		m <sup>3</sup>	318	393	468	558	646	734	848	977	
Flue gas temperature		°C	200	200	200	200	200	200	200	200	
Draught required @ boiler flue outlet		mb	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
		Pascal	2	2	2	2	2	2	2	2	
Electric supply 230v 50Hz			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Combustion chamber	Length	mm	880	1010	1140	1270	1400	1530	1660	1790	
	Ø	mm	500	500	500	500	500	500	500	500	
Combustion chamber volume		litres	161.3	185.1	208.9	232.8	256.6	280.4	304.3	328.1	
<b>Dimensions</b>	Height	mm	1193	1193	1193	1193	1193	1193	1193	1193	
	Width	mm	850	850	850	850	850	850	850	850	
	Depth	mm	1040	1170	1300	1430	1560	1690	1820	1950	
	Flue diameter	mm	180	180	250	250	250	250	250	250	
<b>Fittings</b>	Water flow/return	DN80	3	3	3	3	3	3	3	3	
	Drain cock	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
	Gas inlet connection		as Burner manufacturers data								
<b>Weight</b>		kg	940	1050	1170	1270	1400	1510	1630	1740	
<b>Clearance</b>	Front (min)	mm	1000	1000	1000	1000	1000	1000	1000	1000	
	Rear (min)	mm	800	800	800	800	800	800	800	800	
	Side (min)	mm	200	200	200	200	200	200	200	200	

# Installation Guide

**General** The following notes are provided as a help, however installers and operators should fully acquaint themselves with the more detailed guidance provided in the relevant installation manual. For copies of such manuals please consult our technical department or visit our website - [www.powrmatic.co.uk](http://www.powrmatic.co.uk)

**Standards** Ferroli cast iron boilers must be installed, commissioned and operated with due regard to appropriate regulations, relevant Codes of Practice which may include but is not limited to BS5410, BS6644, BS6880 and the possible requirements of Local Authorities, Fire Officers and insurers as well as Powrmatic's installation manual.

**Position & Location** Boilers should be installed on a level non-combustible base. It is important that any plinths and supporting structures have due regard to the relevant weight loadings.

Consideration should also be given to flue routes and points of exit, gas, oil, electrical and control connections.

**Plant Room or Enclosure Locations** Specific requirements may need to be applied where boilers are to be installed within plant rooms or enclosures. Such requirements cover the provision of ventilation for combustion air and general plant room or enclosure ventilation. It is recommended that you consult with our technical department or the installation manual prior to installation.

**Installation Clearances** Particular clearances may be necessary for the correct and safe function of the boiler as well as for maintenance purposes. Such clearances are confirmed in the relevant installation manual.

**Flue** Each boiler requires a separate flue system of the appropriate size. The flue should essentially be installed in the vertical plane and the number of bends kept to a minimum.

The flue must be adequately supported and terminated with a suitable cowl, with due regard to the point of exit and its proximity to any windows, doors or ventilation intakes etc.

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**Water Treatment** Water quality used with boilers can have a significant effect on both the efficiency of the boiler and also the life expectancy of the boiler. Water supply quality may adversely affect the efficiency and performance of boilers and boiler systems. The situation can intensify where higher temperatures or demands exist. Central heating systems should be thoroughly cleaned and flushed out before installing a new boiler. Guidance can be found in BSRIA BG 29/2011 Pre-Commission Cleaning of Pipework Systems.

Additional physical treatment should be evaluated for the removal of oxygen and filtration of the system water. During final filling of the system, a chemical water treatment formulation should be added to the primary circuit to control corrosion and the formation of scale and sludge. Reasonable provision would be to follow the guidance on how to prepare and commission systems given in BS 7593.

Chemical water treatment must be introduced in a controlled manner and with a facility for monitoring the water quality to ensure effective treatment is maintained. The chemical concentration of the system water should be regularly checked (especially after the event of any leaks being detected) to ensure it remains effective.

**Boiler Protection** To mitigate acidic condensation measures should be taken to ensure that return water temperatures exceed 60°C within ten minutes of commencement of each firing cycle. In addition it may be considered necessary to consider the inclusion of back-end protection pumps.

Each boiler should be fitted with a pump over-run device so that the circulating pump operates for a minimum of three minutes after the termination of each firing cycle.

**Guarantee** Powrmatic boilers are provided with a comprehensive guarantee covering both the boiler and the individual cast iron sections. For United Kingdom sales the boiler has the benefit of a **two year** parts and labour guarantee whilst the cast sections have the benefit of a **five year** warranty. All guarantees and warranties are subject to terms and conditions.

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