

Technical submittal



Products: Purewell Variheat mk2 PV70c

Project: Customer:

Date:

- O Cast iron heat exchanger
- 3:1 turndown ratio
- 6 bar rated heat cell
- 10-year heat exchanger warranty
- 95.3% gross seasonal efficiency
- 63.5kW output @80/60°C
- Fits in a footprint of 534 x 865mm
- Passes through a standard doorway
- 21.3mg/kWh NOx emissions (natural gas)
- Noise at maximum modulation of 53dba
- Qualifies for BREEAM New Construction 2018 credits
- Built-in controls platform with sequence control and capable of controlling up to 16 boiler modules and hot water circuits.
- Suitable for open vented and pressurised heating systems
- Volt-free contacts for remote signalling included



ErP efficiency rating (modules < 70 kW only) Boiler output (non-condensing) mean 70°C - maximum kW 63. Boiler output (non-condensing) mean 70°C - minimum kW 21. Boiler output (condensing) mean 40°C - minimum kW 23. Gross boiler input - maximum kW 24. Net boiler input - maximum kW 25. Net boiler input - minimum kW 21. Water content System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure bar g 6 Gas flow rate natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO, Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 50/30°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Vater flow/return connections Electrical supply Power consumption @maximum W 466 Start current and run current Amp 0.58		Purewell Variheat mk2 boiler models	Units	PV70c
ErP efficiency rating (modules ≤ 70 kW only) Boiler output (non-condensing) mean 70°C - maximum kW 63. Boiler output (non-condensing) mean 70°C - minimum kW 21. Boiler output (condensing) mean 40°C - maximum kW 70. Boiler output (condensing) mean 40°C - minimum kW 23. Gross boiler input - maximum kW 72. Gross boiler input - maximum kW 24. Net boiler input - minimum kW 25. Water content System design flow rate @ 20°C ΔT rise Water side pressure loss @ 20°C ΔT rise Water side pressure loss @ 20°C ΔT rise Water side pressure loss @ 11°C ΔT rise Maximum water pressure Boar Gas flow rate natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections Electrical supply Electrical supply Electrical supply Electrical supply Four consumption @maximum W 466 Start current and run current Amp 0.58		Building regulations - seasonal efficiency	(%) gross	95.3
Boiler output (non-condensing) mean 70°C - minimum kW 21. Boiler output (condensing) mean 40°C - maximum kW 70. Gross boiler input - maximum kW 24. Net boiler input - minimum kW 21. Water content System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure Gas flow rate natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. South of the flue spigot of the size inches R1' Water flow/return connections Gas inlet connection pipe thread size Nominal flue diameter (I/D) Electrical supply Flue Gower consumption @ maximum W 466 Start current and run current Amp 0.55	Energy	ErP efficiency rating (modules ≤ 70 kW only)		А
Boiler output (condensing) mean 40°C - maximum RW 23. Gross boiler input - maximum RW 24. Net boiler input - maximum Net boiler input - minimum RW 24. Water content System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure Gas flow rate antural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 my/khr 21. Water flow/return connections Gas inlet connection pipe thread size Nominal flue diameter (VD) Electrical supply Power consumption @maximum W 466 Start current and run current Amp 0.55		Boiler output (non-condensing) mean 70°C - maximum	kW	63.5
Boiler output (condensing) mean 40°C - minimum KW 23. Gross boiler input - maximum kW 24. Net boiler input - minimum kW 24. Net boiler input - minimum kW 25. Net boiler input - minimum kW 26. Net boiler input - minimum kW 21. Water content litres 8 l/s 0.8 Water side pressure loss @ 20°C ΔT rise l/s 1.5 Water side pressure loss @ 11°C ΔT rise l/s 1.5 Water side pressure loss @ 11°C ΔT rise mbar 96. Maximum water pressure bar g 6 Gas flow rate natural gas (G20) - maximum m³/hr 6.9 Maximum gas inlet pressure natural gas (G20) - maximum mbar 20 Maximum gas inlet pressure natural gas (G20) mbar 25 Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ m³/hr 86 Approx. flue gas temperature @ 50/30°C °C 40 Approx. flue gas temperature @ 80/60°C °C 60 Pressure at boiler flue spigot @full load Pa 100 Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections inches R2′ Sas inlet connection pipe thread size inches R1′ Power consumption @maximum W 94 IEC power outlet power consumption @maximum W 466 Start current and run current Amp 0.55		Boiler output (non-condensing) mean 70°C - minimum	kW	21.2
Gross boiler input - maximum Gross boiler input - minimum Ref boiler input - maximum Ref boiler input - inimum Ref boiler		Boiler output (condensing) mean 40°C - maximum	kW	70
Gross boiler input - minimum Net boiler input - maximum Net boiler input - maximum Net boiler input - minimum Water content System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure Gas flow rate natural gas (G20) - maximum Mominal inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections inches R2' Water flow/return connections inches R2' Nominal flue diameter (I/D) mm 150 Electrical supply Power consumption @maximum W 460 Start current and run current Amp 0.55		Boiler output (condensing) mean 40°C - minimum	kW	23.3
Net boiler input - maximum Net boiler input - minimum Net boiler input -		Gross boiler input - maximum	kW	72.2
Water content Water content Water content Water side pressure loss @ 20°C \(\text{ AT rise} \) Water side pressure loss \(\text{ 20°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Water side pressure loss \(\text{ 21°C \(\text{ AT rise} \)} \) Maximum water pressure bar g 6 Gas flow rate natural gas (G20) - maximum mbar 20 Maximum gas inlet pressure natural gas (G20) - maximum mbar 25 Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections inches R2' Nominal flue diameter (I/D) mm 150 Electrical supply Electrical supply Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.5		Gross boiler input - minimum	kW	24.1
Water content System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Water side pressure loss @ 11°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure bar g Gas flow rate natural gas (G20) - maximum Mominal inlet pressure natural gas (G20) - maximum mbar 20 Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections Gas inlet connection pipe thread size inches R2' Nominal flue diameter (I/D) mm 150 Electrical supply Electrical supply Four consumption @maximum W 460 Start current and run current Amp 0.5		Net boiler input - maximum	kW	65
System design flow rate @ 20°C AT rise Water side pressure loss @ 20°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure bar g Gas flow rate natural gas (G20) - maximum Mominal inlet pressure natural gas (G20) - maximum mbar 20 Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections Gas inlet connection pipe thread size inches R1' Nominal flue diameter (I/D) mm 150 Electrical supply Four consumption @maximum W 946 Start current and run current Amp 0.5		Net boiler input - minimum	kW	21.7
Water side pressure loss @ 20°C AT rise System design flow rate @ 11°C AT rise Water side pressure loss @ 11°C AT rise Maximum water pressure Bar g Gas flow rate natural gas (G20) - maximum Mominal inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO2 Approx. flue gas temperature @ 50/30°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 Mythr Maximum gas inlet onnections Gas inlet connection pipe thread size Nominal flue diameter (I/D) Electrical supply Four consumption @maximum W 94 Start current and run current Maximum water pressure instrained Bar g 6 Ils 1.5 1.5 Ils Ils Ils Ils Ils Ils Ils Il	Water	Water content	litres	8
System design flow rate @ 11°C \(\Delta\T\) rise		System design flow rate @ 20° C Δ T rise	l/s	0.8
Water side pressure loss @ 11°C \(\text{AT} \) rise \\ Maximum water pressure \\ Gas flow rate natural gas (G20) - maximum \\ Nominal inlet pressure natural gas (G20) - maximum \\ Maximum gas inlet pressure natural gas (G20) \\ Maximum gas inlet gas temperature @ 50/30°C \\ C		Water side pressure loss @ 20°C ΔT rise	mbar	32
Maximum water pressure Gas flow rate natural gas (G20) - maximum Nominal inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO2 Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 Maximum water pressure mbar 20 m³/hr 86 Approx. flue gas temperature @ 15°C, 9.5% CO2 Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Belectrical supply Electrical supply Electrical supply Electrical supply Four consumption @maximum W 94 Start current and run current Amp 0.56		System design flow rate @ 11° C Δ T rise	l/s	1.5
Gas flow rate natural gas (G20) - maximum Nominal inlet pressure natural gas (G20) - maximum Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO2 Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 Water flow/return connections Gas inlet connection pipe thread size Nominal flue diameter (VD) Electrical supply Electrical supply Power consumption @maximum IEC power outlet power consumption @ maximum W 460 Start current and run current Maximum m³/hr 6.9 mbar 20 mbar 20 c 40 Approx. flue gas temperature @ 80/60°C ° C 60 Pc 60 Pa 100 To C 60 Pressure at boiler flue spigot @full load Pa 100 To C 60 Pa 100 Pa 100 Pa 100 To C 60 Pa 100 Approx. flue gas temperature @ 80/60°C Pc 60 Pressure at boiler flue spigot @full load Pa 100 Pa 100 Pa 100 Approx. flue gas temperature @ 80/60°C Pc 60 Pressure at boiler flue spigot @full load Pa 100 Pa 100 Pa 100 Pa 100 Pa 100 Approx. flue gas temperature @ 80/60°C Pc 60 Approx. flue gas temperature		Water side pressure loss @ 11°C ∆T rise	mbar	96
Nominal inlet pressure natural gas (G20) - maximum mbar 20 Maximum gas inlet pressure natural gas (G20) mbar 25 Flue Gas Flow Rate@ 15°C, 9.5% CO2 m³/hr 86 Approx. flue gas temperature @ 50/30°C °C 40 Approx. flue gas temperature @ 80/60°C °C 60 Pressure at boiler flue spigot @full load Pa 100 Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21 Water flow/return connections inches R2′ Nominal flue diameter (I/D) mm 150 Electrical supply 230 V 501- Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 466 Start current and run current Amp 0.55		Maximum water pressure	bar g	6
Maximum gas inlet pressure natural gas (G20) Flue Gas Flow Rate@ 15°C, 9.5% CO2 Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 Water flow/return connections Gas inlet connection pipe thread size Nominal flue diameter (I/D) Electrical supply Electrical supply Fower consumption @maximum W 94 Start current and run current Man 150 Maximum gas inlet pressure natural gas (G20) mbar 25 m³/hr 86 60 60 60 60 60 60 60 60 60	Gas	Gas flow rate natural gas (G20) - maximum	m³/hr	6.9
Flue Gas Flow Rate@ 15°C, 9.5% CO ₂ Approx. flue gas temperature @ 50/30°C Approx. flue gas temperature @ 80/60°C Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 Water flow/return connections Gas inlet connection pipe thread size Nominal flue diameter (I/D) Electrical supply Electrical supply Four consumption @maximum W 94 Start current and run current Man 150 M³/hr 86 M²/c 40 Approx. flue gas temperature @ 50/30°C ° C 60 Mg/kWh 21. 10. 11. 12. 13. 14. 15. 15. 16. 16. 16. 16. 16. 16		Nominal inlet pressure natural gas (G20) - maximum	mbar	20
Approx. flue gas temperature @ 50/30°C °C 40 Approx. flue gas temperature @ 80/60°C °C 60 Pressure at boiler flue spigot @full load Pa 100 Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21 Water flow/return connections inches R2′ Sas inlet connection pipe thread size inches R1′ Nominal flue diameter (I/D) mm 150 Electrical supply 230 V 501- Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 466 Start current and run current Amp 0.55		Maximum gas inlet pressure natural gas (G20)	mbar	25
Approx. flue gas temperature @ 80/60°C °C 60 Pressure at boiler flue spigot @full load Pa 100 Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections inches R2' Sas inlet connection pipe thread size inches R1' Nominal flue diameter (I/D) mm 150 Electrical supply 230 V 501- Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.55	Flue	Flue Gas Flow Rate@ 15°C, 9.5% CO ₂	m³/hr	86
Pressure at boiler flue spigot @full load Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21. Water flow/return connections Gas inlet connection pipe thread size inches R1' Nominal flue diameter (I/D) mm 150 Electrical supply Power consumption @maximum W 94 Start current and run current Amp 0.55		Approx. flue gas temperature @ 50/30°C	°C	40
Dry NOx emission (0% excess oxygen, dry air free) European Class 6 mg/kWh 21 Water flow/return connections inches R2' Gas inlet connection pipe thread size inches R1' Nominal flue diameter (I/D) mm 150 Electrical supply 230 V 50H Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.56		Approx. flue gas temperature @ 80/60°C	°C	60
Water flow/return connections inches R2' Gas inlet connection pipe thread size inches R1' Nominal flue diameter (I/D) mm 150 Electrical supply 230 V 501- Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.55		Pressure at boiler flue spigot @full load	Pa	100
Electrical supply 230 V 50 H Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.56		Dry NOx emission (0% excess oxygen, dry air free) European Class 6	mg/kWh	21.3
Electrical supply 230 V 50 H Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.56	Connection	Water flow/return connections	inches	R2"
Electrical supply 230 V 50 H Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.56		Gas inlet connection pipe thread size	inches	R1"
Electrical supply 230 V 50 H Power consumption @maximum W 94 IEC power outlet power consumption @ maximum W 460 Start current and run current Amp 0.56		Nominal flue diameter (I/D)	mm	150
Start current and run current Amp 0.5	Electrics	Electrical supply		230 V 1 Ph 50 Hz
Start current and run current Amp 0.5		Power consumption @maximum	W	94
Start current and run current Amp 0.5		IEC power outlet power consumption @ maximum	W	460
Approxishing weight kg 100		Start current and run current	Amp	0.54
Approx supplied weight (A) 135		Approx shipping weight	kg	195
Noise emission @1 m and @maximum boiler modulation Max dB (A) 53		Noise emission @1 m and @maximum boiler modulation	Max dB (A)	53
CO ₂ (±0.25%) - maximum % 9.5		CO ₂ (±0.25%) - maximum	%	9.5
CO ₂ (±0.25%) - minimum		CO ₂ (±0.25%) - minimum	%	9.5



Technical submittal

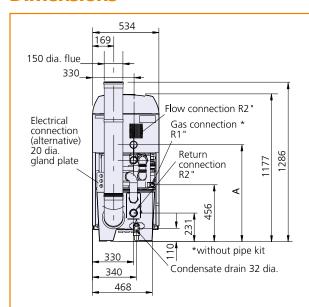


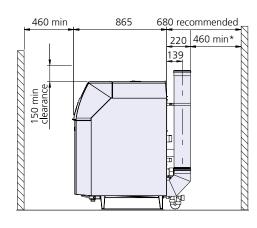
Products: Purewell Variheat mk2 PV70c

Project:

Customer: Date:

Dimensions





*Rear clearance required when using Hamworthy pipe kits.

Note: Do not run trunking or pipework across the top of the boiler. Access is required top and front for servicing.

Dimensions (mm)	Ref.	PV70c
Flow connection	А	647