

ALKON 140 EXT



FLEXIHEAT UK LTD

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**MODULATING CONDENSING BOILER with double premix low NOx burner
and double heat exchanger for indoor and outdoor installations (IPX5D)**

OUTPUT RANGE

Up to 136.1kW @ 50/30°C
131.6kW @ 80/60°C

WORKING TEMPERATURE

no limit on the return temperature

SUPPLY

Natural Gas or LPG

MODELS

140 EXT

SEASONAL EFFICIENCY



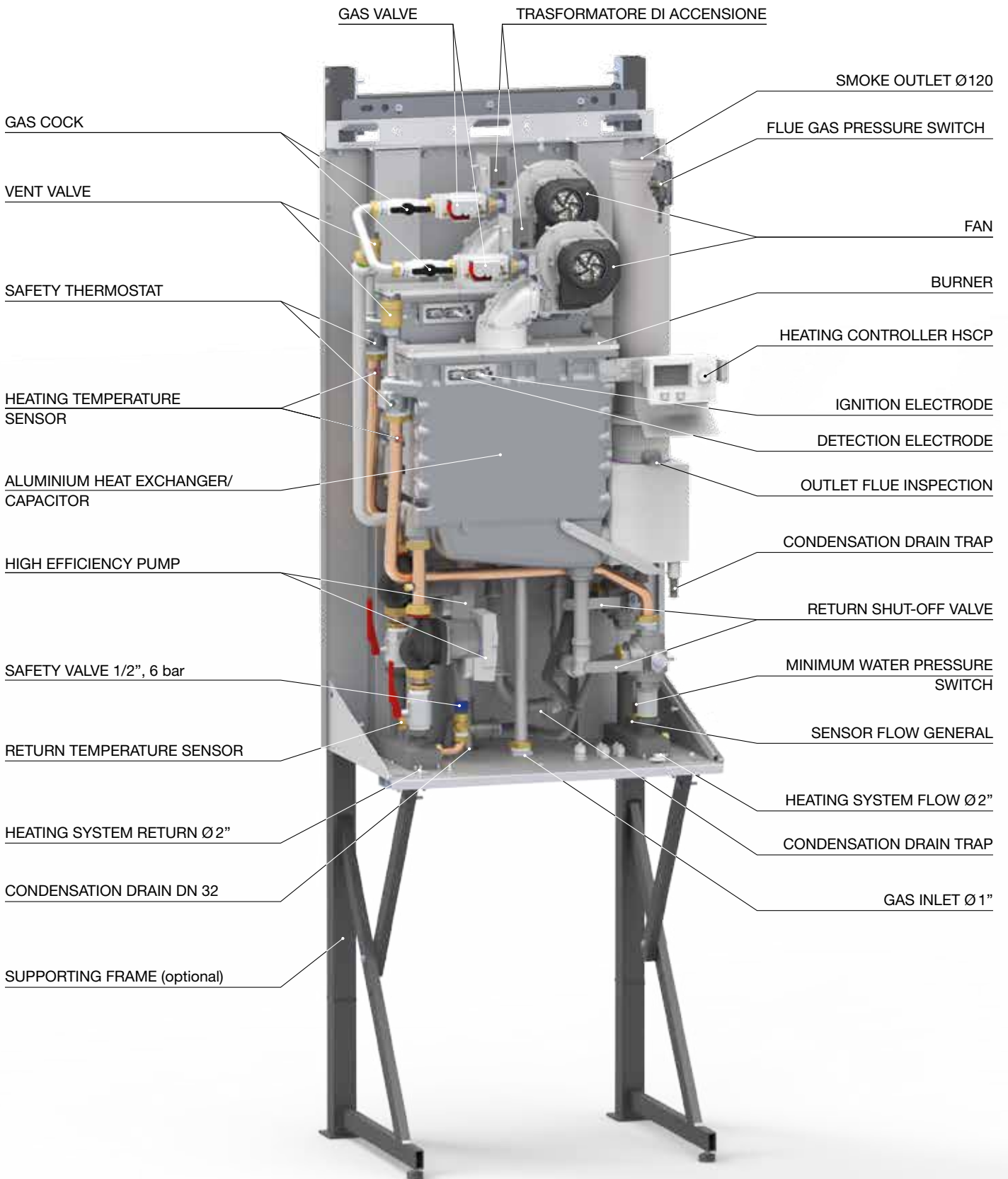
A

ENERGETIC CLASS
Ex Directive 92/42

★★★★★ CE

Wall hung with dedicated supporting kit

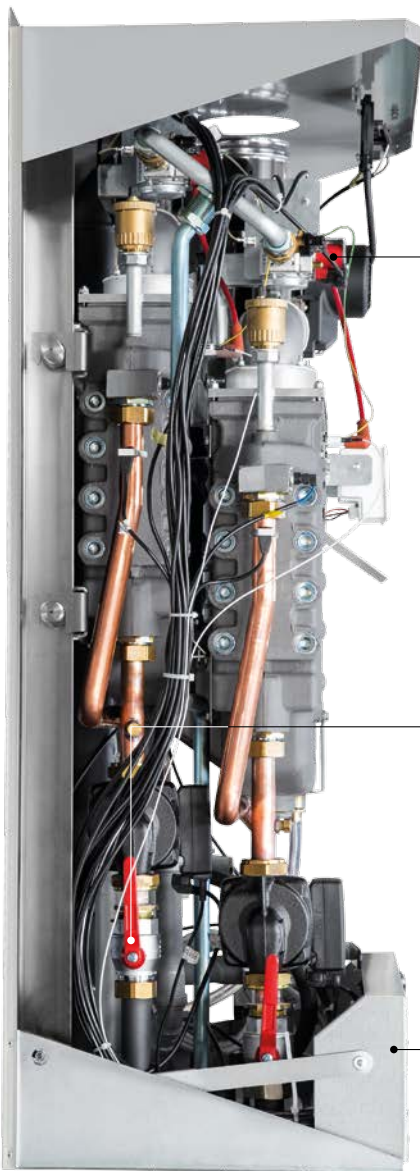
MAIN COMPONENTS



PRODUCT PLUS VALUES

- **2 complete interceptables THERMAL ELEMENTS**, operating also separately in case of necessity, controlled by the BMM (Burner Module Manager) electronic cards
- **2 LOW WATER CONTENT HEAT EXCHANGERS IN Al/Si/Mg alloy**, the best for:
 - 100% wet surfaces of the boiler body
 - for long time guaranteed efficiency, thanks to the absence of scaling
 - reliability, thanks to the optimized circulation that avoids thermal overloads (NTC control's sensors)
 - long lasting, fruit of the multi-year metallurgical Unical experience

- **2 LOW NOX PREMIX MODULATING BURNERS** in class 5, composed by:
 - 2 fans (40 Pa of manometric head) with electronically controlled speed
 - 2 safety gas valves with constant air-gas ratio
 - radiating flame surface in "metallic sponge" (guaranteed operation up to 13 mbar of natural gas pressure)
- **2 MODULATING PUMPS** (one for each thermal element) with antifreeze protection , antijamming and overrun circulation
- **MINIMUM WATER PRESSURE SWITCH**
- ready for the **ELECTRICAL CONNECTION** of the additional safety devices
- **OPTIONAL HYDRAULIC GROUPS** including:
 - Pipe for installation of safety devices and accessories
 - Differential pressure switch for the control of water circulation
 - Hydraulic connection system
 - Mixing header
- **COMPLETE OUTER CASING FOR OUTDOOR INSTALLATION** in electro-galvanized steel sheet with epoxy-polyester painting
- **EXPANDIBLE IN CASCADE** up to 1120 kW (8 boilers, 2 group of 4 boiler in cascade)
- **OPTIONAL ACCESSORIES** for cascade installation



View that underlines the particular skew between the 2 thermal elements in order to facilitate the maintenance interventions



Pumps and gate valves

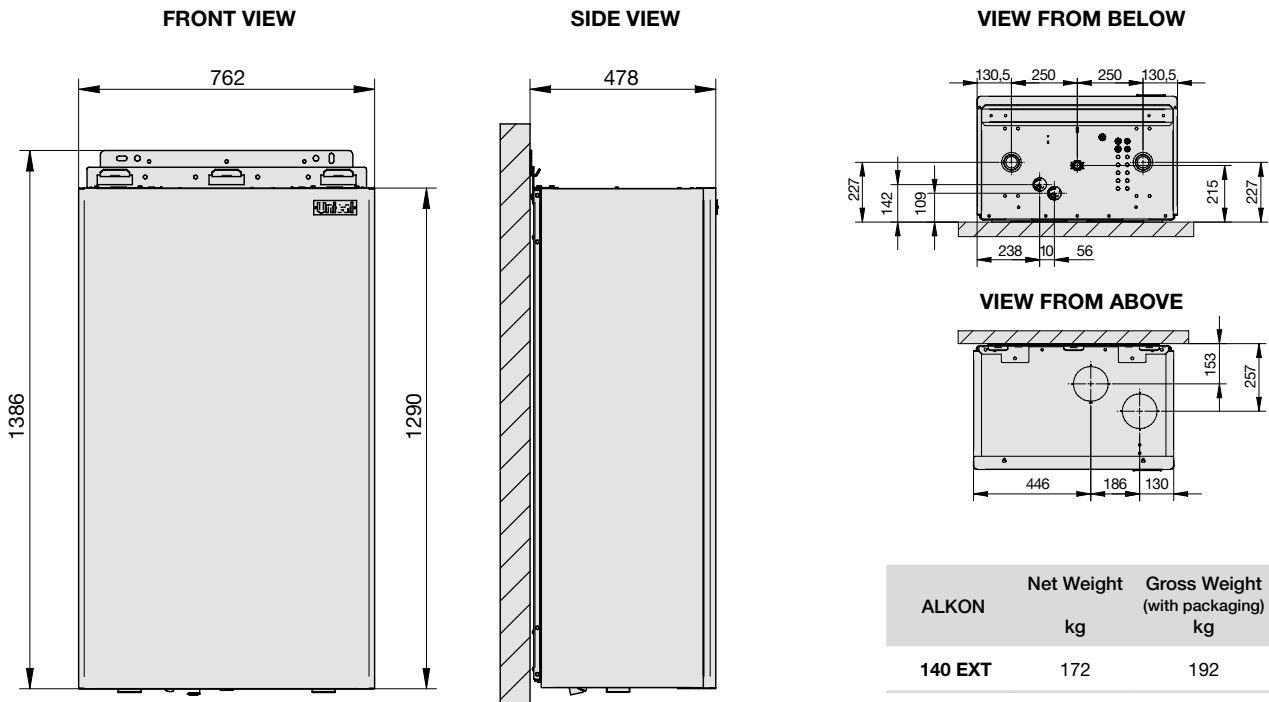


Group of: fan, modulating gas valve, premix burner

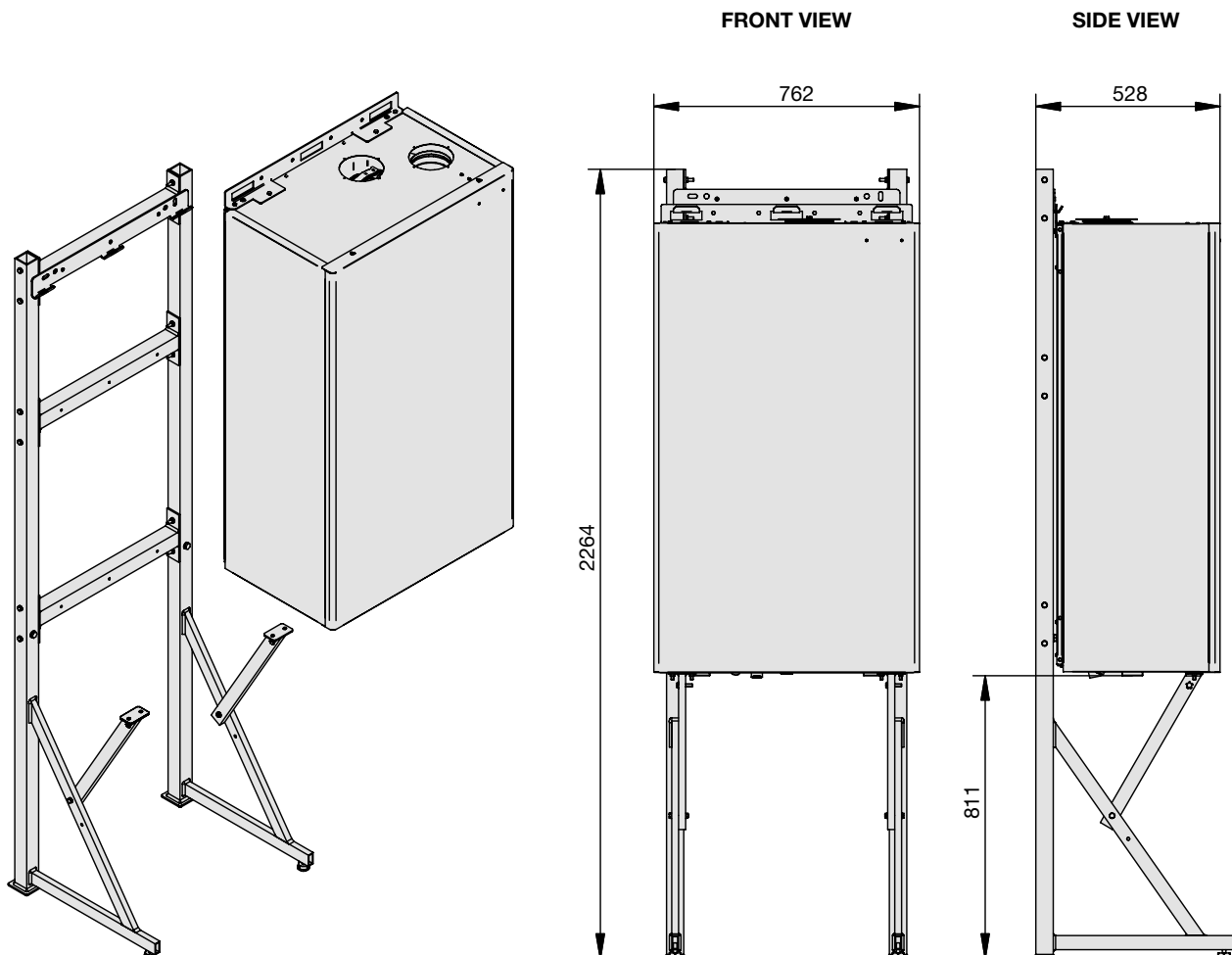


Assembly of the electronic PCBs for the management of the thermal elements and BCM

DIMENSIONS OF A SINGLE BOILER ALKON 140 EXT



DIMENSIONS WITH SUPPORTING FRAME (optional)



TECHNICAL DATA



ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.unical.eu at the page of the product

		ALKON 140 EXT
Appliance category		II _{2H3P}
Modulation Ratio		1:12.3
Nominal Heat Input on P.C.I. Qn	kW	135
Minimum Heat Input on P.C.I. Qmin	kW	11
Nominal Output (Tr 60 / Tm 80 °C) Pn	kW	131.60
Minimum Output (Tr 60 / Tm 80 °C) Pn min	kW	10.5
Nominal Output (Tr 30 / Tm 50 °C) Pcond	kW	136.1
Minimum Output (Tr 30 / Tm 50 °C) Pcond min	kW	11.5
Efficiency at max. output (Tr 60 / Tm 80°C)	%	97.48
Efficiency at min. output (Tr 60 / Tm 80°C)	%	95.1
Efficiency at max. output (Tr 30 / Tm 50°C)	%	100.8
Efficiency at min. output (Tr 30 / Tm 50°C)	%	104.3
Efficiency at 30% output (Tr 30°C)	%	108.3
Combustion efficiency with nominal load	%	97.5
Combustion efficiency with minimum load	%	98.35
Heat loss at casing with burner in operation (Qmin)	%	3.28
Heat loss at casing with burner in operation (Qn)	%	0.02
Flue gas temperature tf-ta (min)(*)	°C	33
Flue gas temperature tf-ta (max)(*)	°C	55
Maximum allowable temperature	°C	100
Maximum operating temperature	°C	85
Flue gas mass flow rate (min)	kg/h	12.58
Flue gas mass flow rate (max)	kg/h	153.03
Excess λ air	%	25.53
Flue losses with burner in operation (min)	%	1.65
Flue losses with burner in operation (max)	%	2.90
Minimum heating circuit pressure	bar	0.5
Maximum heating circuit pressure	bar	6
Max allowable pressure of the generator	bar	8
Water content	l	10
Gas Consumption Natural (20 mbar) gas G 20 a Qn	m ³ /h	14.27
Gas Consumption Natural gas (20 mbar) G 20 a Qmin	m ³ /h	1.16
Gas Consumption G25 (supply pressure 25 mbar) Qn	m ³ /h	16.60
Gas Consumption G25 (supply pressure 25 mbar) Qmin	m ³ /h	1.35
Gas Consumption G31 (supply pressure 37/50 mbar) Qn	kg/h	10.48
Gas Consumption G31 (supply pressure 37/50 mbar) Qmin	kg/h	0.85
Max. available pressure at the chimney base	Pa	40
Condensate production max	kg/h	21.8
Emissions		
CO at Minimum Heat Input with 0% of O ₂	mg/kWh	139
NO _x at Nominal Heat Input with 0% of O ₂	mg/kWh	68
NO _x Class		5
Electrical Data		
Voltage/Frequency electric power supply	V/Hz	230/50
Fuse on main supply	A (R)	4
Insulation degree	IP	IPX5D

Room Temperature = 20°C. (*) Temperatures detected with the unit in operation (Tr 60 / Tm 80°C).

DATA ACCORDING TO ErP DIRECTIVE

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				ALKON 140 EXT
NOMINAL HEAT OUTPUT	P_n	kW		132
SEASONAL SPACE HEATING ENERGY EFFICIENCY	η_s	%		93
SEASONAL EFFICIENCY CLASS IN HEATING MODE				A
FOR CH ONLY AND COMBINATION BOILERS: USEFUL HEAT OUTPUT				
USEFUL HEAT OUTPUT in high temperature regime (Tr 60 °C / Tm 80 °C)	P_4	kW		71.2
USEFUL EFFICIENCY AT NOM. HEAT OUTPUT in high-temperature regime (Tr 60°C / Tm 80°C)	η_4	%		87.8
USEFUL HEAT OUTPUT AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30°C)	P_1	kW		23.7
USEFUL EFFICIENCY AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30 °C)	η_1	%		97.6
RANGE-RATED BOILER: YES / NO				SI
AUXILIARY ELECTRICITY CONSUMPTION				
AT FULL LOAD	$e_{l_{max}}$	kW		0.474
AT PART LOAD	$e_{l_{min}}$	kW		0.159
IN STAND-BY MODE	P_{SB}	kW		0.007
OTHER ITEMS				
STAND-BY HEAT LOSS	P_{stby}	kW		2.68
EMISSIONS OF NITROGEN OXIDES	NO_x	mg/kWh		68
FOR CH & DHW PRODUCTION BOILERS				
DECLARED LOAD PROFILE				-
ENERGY EFFICIENCY IN DHW PRODUCTION MODE	η_{WH}	%		-
DAILY ELECTRICITY CONSUMPTION	Q_{elec}	kWh		-
DAILY FUEL CONSUMPTION	Q_{fuel}	kWh		-
INSIDE SOUND POWER LEVEL	L_{wa}	dB(A)		-
SEASONAL EFFICIENCY CLASS IN DHW PRODUCTION MODE				-



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