

ITALTHERM



CITY CLASS F

Pure design, technology and
automotive innovation
for your comfort

25 kW

30 kW

35 kW

40 kW

Green Heating Technology
 **ITALTHERM**

25 F • 30 F • 35 F • 40 F

Features

- Ultra compact sizes (W=400 H=700 D=300)
- Easy installation, indoor or even outdoor in a partially protected compartment
- Designed to allow an easy maintenance
- It can manage multi-zone CH system (having the internal pump exclusion feature)
- It can be managed by remote control (optional)
- Brass hydraulic group
- DHW output up to 20.3 l/min (mod. 40 F)
- High efficiency and low consumptions
- Microprocessor electronic system
- LCD display with self-diagnosis
- User friendly controls
- Chimney sweep mode
- Stainless steel, plate-to-plate DHW exchanger
- Low energy multi-speed pump
- Automatic hydraulic by-pass, outside the exchanger
- Timed post-circulation
- Adjustable CH heat power output
- Anti-freeze function on both DHW and CH sides
- Function to prevent the block of the pump and of the three-way valve
- Signalization of the system low pressure
- Filter on boiler water inlet



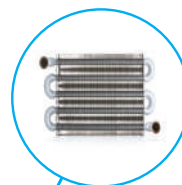
EXPANSION VESSEL
CAP. 8 LT

ELECTRIC
THREE-WAY VALVE



BRASS
HYDRAULIC GROUP

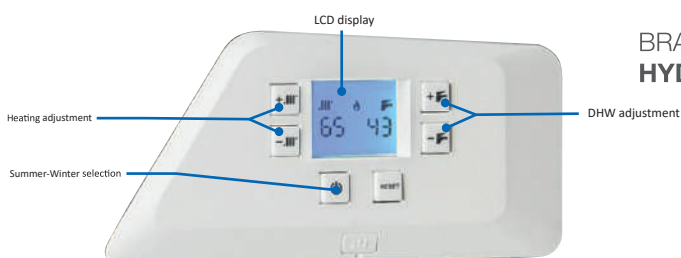
COPPER
MAIN EXCHANGER



STAINLESS STEEL
PLATE TO PLATE
DHW EXCHANGER

PID
TYPE MODULATION
LOGIC

HIGH QUALITY
CIRCULATING PUMP



TECHNICAL DATA

traditional combustion models

	Model	City Class	City Class	City Class	City Class
		25 F	30 F	35 F	40 F
Gas type		G31	G31	G31	G31
Class		II _{2H3+}			
Type		B 22 - C12 - C32 - C42 - C52 - C62 - C82 - C92			
Working temperature range (min÷max)	°C	0 ÷ +60	0 ÷ +60	0 ÷ +60	0 ÷ +60
Max heat input	kW	25.5	30.2	34.5	38.0
Min heat input	kW	10.2	12.1	13.6	15.5
Max heat output	kW	23.8	27.3	32.4	35.3
Min heat output	kW	8.6	11.1	11.7	13.3
NO_x Class		3	3	3	2
CO at 0% O₂ (Qn)	ppm	79.4	61.3	76.9	69.1
CO₂ at nominal input	%	7.9	8	7.7	7.9
Flue temperature (Qn)	°C	113	120	122	129
Flue mass flow rate (Qn)	kg/h	53.8	59.1	74.1	79.9
EFFICIENCY					
Nominal efficiency	%	93.3	94.0	94.0	90.9
Efficiency at 30% load	%	91.0	91.5	92.0	87
HEATING					
Temperature selection range (min÷max)	°C	35÷80	35÷80	35÷80	35÷80
Expansion vessel	l	8	8	10	10
Expansion vessel pre-loading pressure	bar	1	1	1	1
Loss of water pressure switch off / on pressure	bar	0.4 / 0.9 (±0.2) <small>To allow the connect system filling, the pressure of the domestic water should be higher than the ON value of the pressure switch</small>			
Max working pressure	bar	3	3	3	3
Max system temperature	°C	85	85	85	85
HOT WATER					
Flow rate at 25°C temp. rise	l/min	13.6	15.6	18.6	20.3
Flow rate at 30°C temp. rise	l/min	11.4	13.0	15.5	17
Min water flow (for the DHW function activation)	l/min	2.8	2.8	2.8	2.8
Min supply pressure (for the DHW function activation)	bar	0.2	0.2	0.2	0.2
Max supply pressure	bar	6	6	6	6
Temperature selection range (min÷max)	°C	35÷55	35÷55	35÷55	35÷55
ELECTRICAL DATA					
Voltage / frequency (nominal voltage)	V / Hz	220÷240 / 50 (230V)			
Power consumption	W	103	132	145	144
Level of protection		IP X5D	IP X5D	IP X5D	IP X5D
DIMENSIONS					
Width - Height - Depth	mm	400x700x300			
Weight	kg	30.0	30.3	34.8	38.9
CONNECTIONS					
Hydraulic and gas connections		see technical sheet			
Flue: types and diameters		see technical sheet			
Split Ø 80 mm max length (inlet / outlet)	m	16	14	16	16
Coaxial Ø 60/100 mm max length (inlet / outlet)	m	4	3	3	3
GAS SUPPLY PRESSURE					
Nominal pressure	mbar	37	37	37	37
Inlet pressure (min÷max)	mbar	35 ÷ 40	35 ÷ 40	35 ÷ 40	35 ÷ 40
Injectors number		11	13	15	15
Injectors diameter	mm/100	78	77	78	82
GAS CONSUMPTION					
Qmax	kg/h	1.98	2.25	2.67	2.90
Qmin	kg/h	0.79	1.01	1.05	1.20

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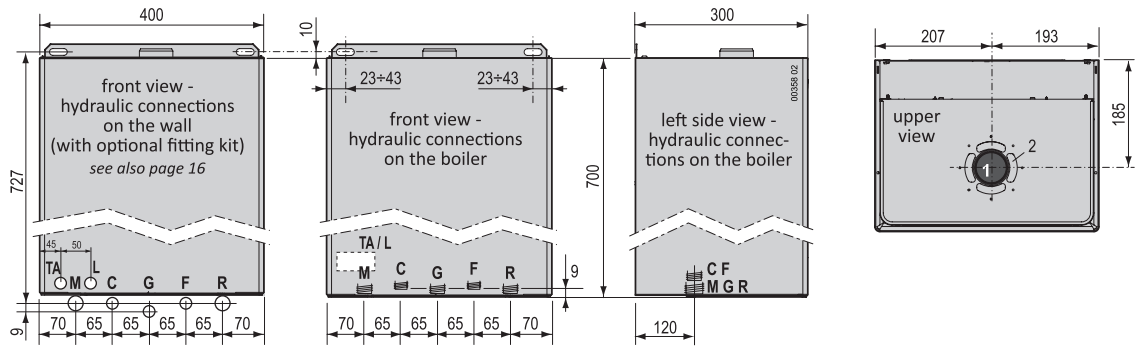



Dimensions & Connections

CH and instant DHW combination models

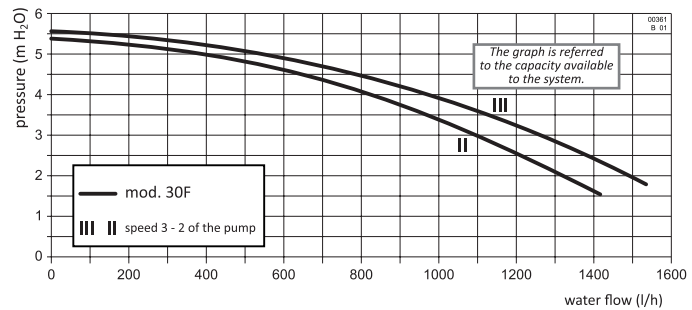
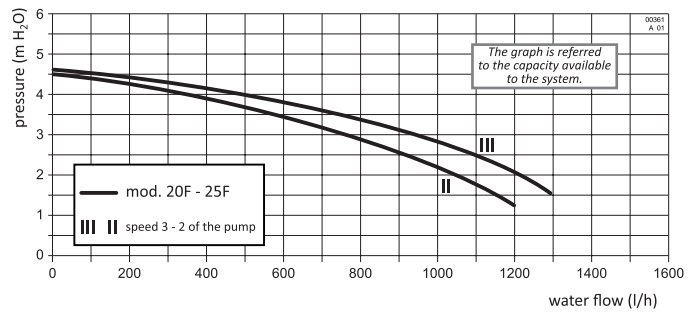
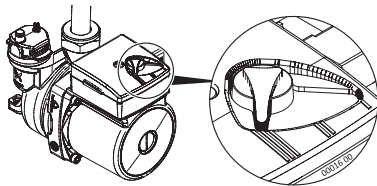
Legend:

- 1 Flue outlet
- 2 Air intake
- M System flow (3/4")
- C DHW outlet (1/2")
- G Gas: connection on the boiler 3/4"; on the wall, using the optional original fitting kit 1/2"
- F Fresh water inlet (1/2")
- R System return (3/4")
- TA/L Indicative position for electrical power supply and room thermostat wirings
- TA Room thermostat wiring
- L Electrical power supply wiring



Pump Features

- Multi-speed, low-energy
- Automatic by-pass, outside the exchanger
- Pump with built-in air vent to have high efficiency and improve CH system work



Solar Kit with fittings

Thanks to this kit, it is possible to combine the boiler **City Class F** to a **solar system** by an **easy installation** and **without making any electrical connection**. This kit is equipped with a thermostatic diverting valve, a thermostatic mixing valve (DHW adjustment knob included in), and the necessary hydraulic fittings to directly install the kit at the lower side of the boiler. It includes also the gas cock and the fittings for the heating system, so the standard Hydraulic fitting kit is not necessary.



(fittings not shown)



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TIME POWER

High-power wall-hung condensing boilers

50 kW

70 kW

90 kW

115 kW

160 kW



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50 K • 70 K

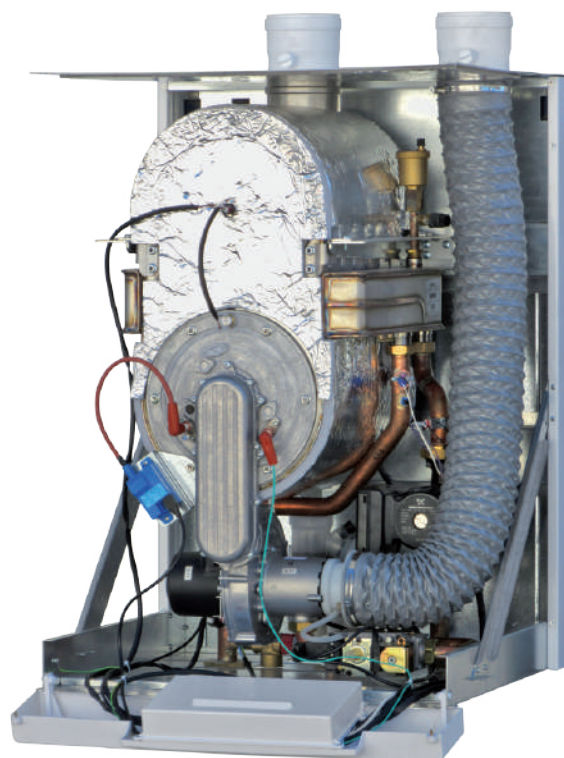
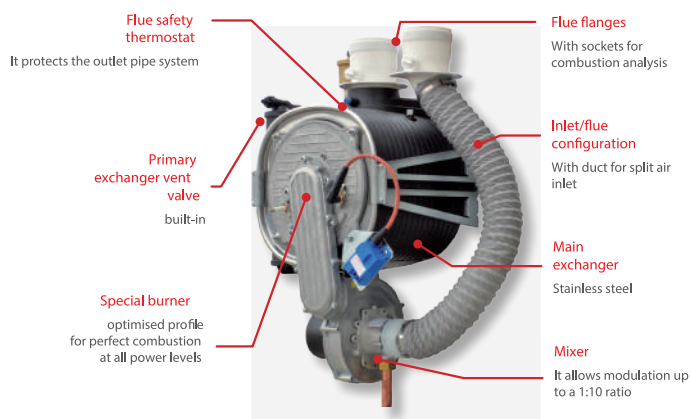
Features

- Stainless steel condensing exchanger
- Electrical protection IPX5D
- Less switch-ons/switch-offs thanks to the 1:10 power modulation
- Pump with fully electronic modulation (ERP ready)
- Ready for cascade installations
- External tank hourly programming
- Analogue and digital indication of heating circuit pressure
- Microprocessor electronics
- RANGE RATED certified: the max heat input (heating) of the boiler can be adjusted according to the real thermal requirement of the plant
- Low NOx emissions (class 5)
- Chimney-sweeper, anti-frost and pump anti-lock
- Ready for operation with external tank, with dedicated pump or three-way electric crossover valve and anti-legionella function
- High efficiency, according to 92/42 EEC (former 4 star classification) and low consumptions
- Ready for remotely controlled and/or outdoor temperature sensor operation

New combustion unit with 1:10 modulation

Gas savings of up to 40%

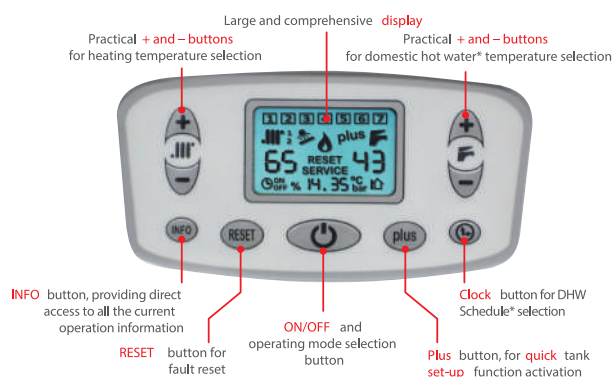
The stainless steel condensing exchanger allows to recover the latent heat existing in the flue, considerably increasing the energy efficiency; the innovative mixer provides a wide modulation range, up to a ratio of 1:10. The max heat input (heating) of the boiler can be adjusted according to the real thermal requirement of the plant (RANGE RATED Certification).



Electronic modulation pump

Energy savings of up to 50%

The fully electronic modulation pump optimises the pump power absorption according to the system heat demand, improving even considerably the overall efficiency of the thermal module.



TECHNICAL DATA

Product data sheet (ErP)

Models

Time Power
50 K

Time Power
70 K

Time Power
90 K

Time Power
115 K

Time Power
160 K

Element	Symbol	Unit	Value	Value	Value	Value	Value
DHW heating: declared load profile			XXL	XXL	—	—	—
CH heating: seasonal energy efficiency class			A	A	—	—	—
DHW heating: energy efficiency class			B	B	—	—	—
Nominal Max heat input	P_{nominal}	kW	46	61	82	105	145
CH heating: yearly energy consumption	Q_{HE}	GJ	80	106	142	179	258
DHW heating: yearly energy consumption	A_{FC}	GJ	—	—	—	—	—
CH Heating: Seasonal energy efficiency (Hs)	η_s	%	91	92	(93*)	(93*)	(94*)
DHW heating: energy efficiency (Hs)	η_{wh}	%	75	75	—	—	—
Noise level	L_{WA}	dB	60	60	60	60	60
Description			Time Power 50 K	Time Power 70 K	Time Power 90 K	Time Power 115 K	Time Power 160 K
Reference gas		u. m.	G31	G31	G31	G31	G31
Category			II2H3P				
Type			B23P - C 13 - C33 - C43 - C53 - C63 - C83 - C93				
Operating temperature (min÷max)		°C	0 ÷ +60				
Max. heat output		kW	47.5	63.0	85.0	108.0	150.0
Min. heat output.		kW	5.0	7.0	9.5	11.0	25.0
Max. heat output 60°/80°C *		kW	46.0	61.1	82.4	104.9	144.6
Min. heat output 60°/80°C *		kW	4.7	6.5	9.0	10.5	23.8
Max. heat output 30°/50°C *		kW	49.2	65.6	89.3	113.5	157.50
Min. heat output 30°/50°C *		kW	5.2	7.3	9.8	11.4	27.0
NOx Class			5				
Corrected CO 0% O ₂ (at Qn)		ppm	157.3	146.0	152.6	176.1	176.1
CO ₂ (at Qn)		%	9.3	9.2	9.2	9.3	9.3
Flue temperature (at Qn)		°C	83.0	82.0	71.9	75.0	79.7
Flue massflow rate (at 60/80°C and at Qn)		kg/h	75.95	101.78	137.32	170.48	240.63
EFFICIENCY							
Nominal efficiency (NCV) at 60°/80°C *		%	96.8	97.0	96.9	97.1	96.40
Nominal efficiency (NCV) at 30°/50°C *		%	103.5	104.1	105.0	105.1	105.00
Efficiency (NCV) at 30% load at 30°/50°C *		%	106.7	107.2	109.1	109.1	109.29
HEATING							
High/low temp. selection range (min÷max)		°C	35 ÷ 78 / 20 ÷ 45				
Sec. zone temp. selection range (min÷max)		°C	20 ÷ 78				
Max operating pressure		bar	3		4.5		
Max system temperature		°C	95	95	95	95	95
ELECTRICAL CHARACTERISTICS							
Voltage/Frequency (nominal voltage)		V/Hz	220÷240 / 50 (230V)				
Power consumption		W	145	190	255	315	480
Degree of protection			IP X5D				
DIMENSIONS							
Width - Height - Depth		mm	450 x 837 x 475		600 x 837 x 620		600 x 837 x 725
Weight		kg	38.8	45.8	86.5	92.0	92.0
CONNECTIONS							
Hydraulic and gas connections			See pag. 4	See pag. 4	See pag. 4	See pag. 4	See pag. 4
Split inlet/flue pipe diameter		mm	80	80	100	100	100
Split system min ÷ max length		m	See pag. 4	See pag. 4	See pag. 4	See pag. 4	See pag. 4
Fan head loss min÷max (for C63 type)		Pa	25 ÷ 180	50 ÷ 280	10 ÷ 150	15 ÷ 165	15 ÷ 165
GAS SUPPLY PRESSURES							
Nominal pressure		mbar	37	37	37	37	37
Inlet pressure (min÷max)		mbar	35 - 40	35 - 40	35 - 40	35 - 40	35 - 40
GAS CONSUMPTION							
Qmax		kg/h	3.68	4.88	6.51	8.37	-
Qmin		kg/h	0.47	0.62	0.78	0.93	-

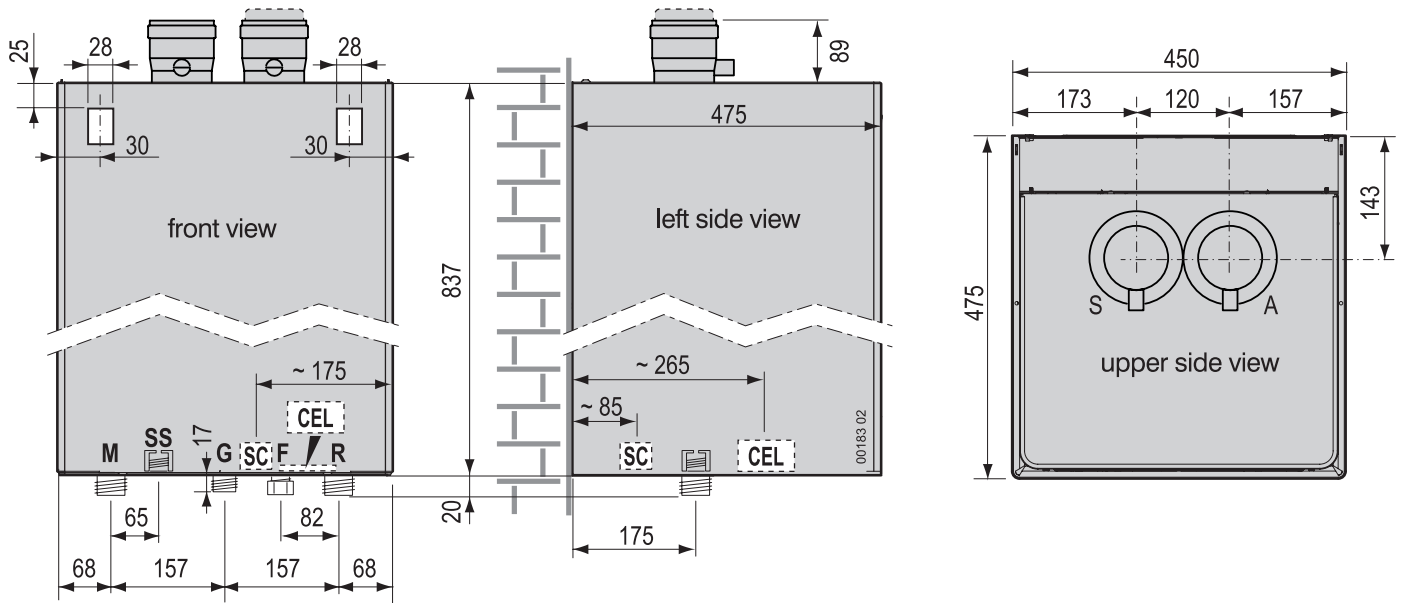
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Dimensions & Connections



Legend:

A	Air inlet (Ø 80mm)	G	Gas (1"")
S	Flue outlet (Ø 80mm)	SC	Condensate drain (Ø 25mm) (approximate location)
M	System delivery (1 ¼"")	F	System filling connector, with plug (½"")*
SS	3 Bar safety valve drain (¾"")	CEL	Electrical connections (approximate location)
		R	System return (1 ¼"")

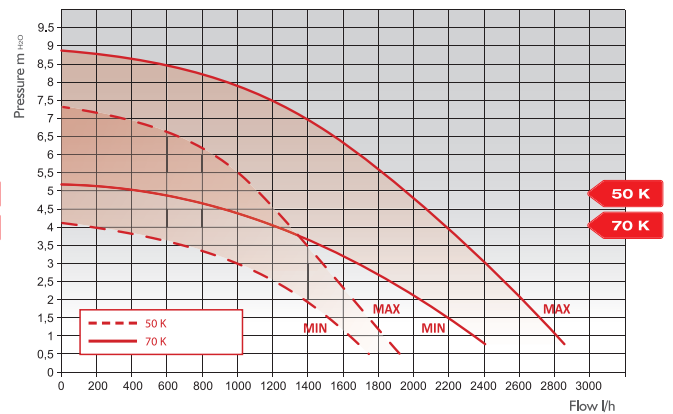
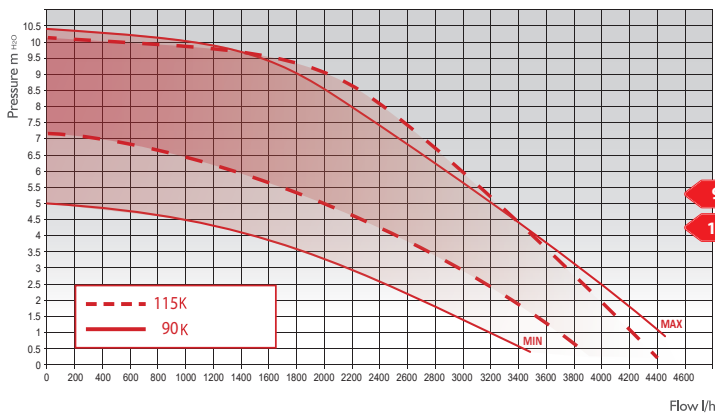
IMPORTANT: When choosing the boiler installation location, make sure that you leave enough free space below it for the height of the connection kit. We recommend that you leave a free space of at least 1250 mm.

* direct connection to the system. Any system filling shut-off devices, to be installed outside the boiler, must be taken care of by the installer.

Pump Features

- Pump with fully electronic modulation (ERP ready)
- Optimised pump power absorption
- Energy savings of up to 50%
- Improved overall efficiency of the the thermal module

ErP ready electronic variable speed pump
(curves refer to the max. and min. speed)



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