



# CITY PLUS

Wall-hung condensing boilers

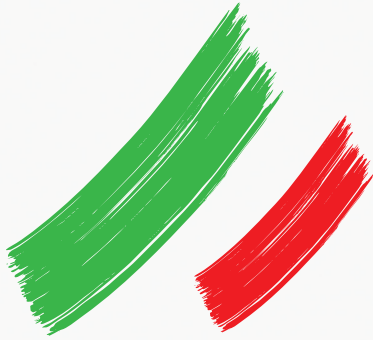
24 HE

30 HE

ErP Ready

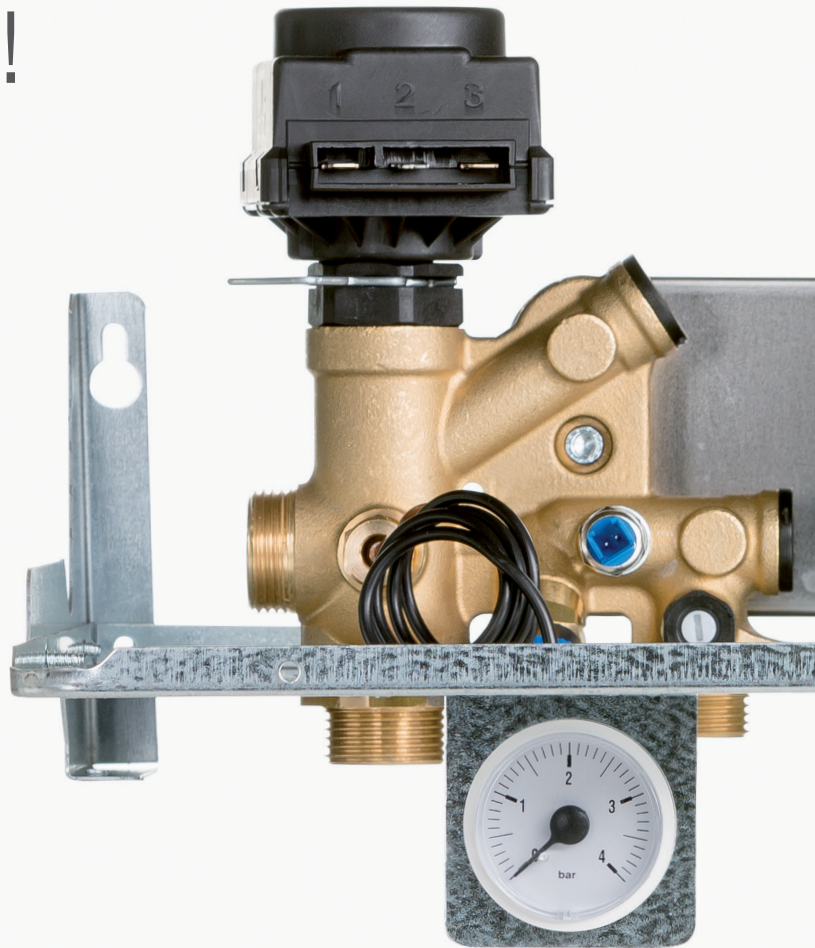
Green Heating Technology  
**ITALTHERM**

# Quality first of all!



Green Heating Technology

## ITALTHERM



▶ **Quality components**

Only the best components are used in the Italtherm boilers

▶ **Noble materials**

Brass hydraulic groups, Stainless Steel combustion units

▶ **100% of the products are tested**

All boilers are switched on and subjected to a series of operating tests

▶ **100% Made in Italy**

All the production is carried out at Pontenure plants

▶ **Great Know-how**

Almost 50 years of experience in the HVAC sector



CITY PLUS SERIES

# Efficiency and simplicity



## Italtherm solution for high temperature installations

ITALTHERM CITY PLUS RANGE IS THE IDEAL CHOICE FOR ALL THOSE WHO NEED AN EFFICIENT HEATING SYSTEM ABLE TO ADAPT TO ANY TYPE OF INSTALLATION.

**1**

### Gas saving up to 40% and electricity saving up to 50%

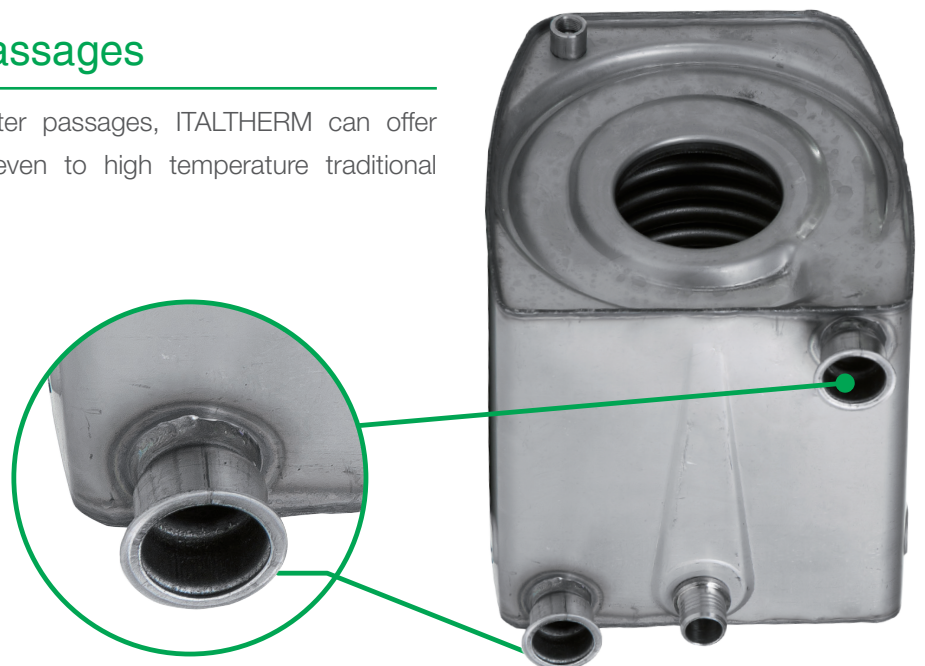
The flue gas side stainless steel condenser allows to recover the latent heat of the flue gas, thereby increasing the energy efficiency. The pump with complete electronic modulation optimizes its absorbed electrical power according to the installation heating request, obtaining also sensible improvements of the thermal module overall efficiency.



**2**

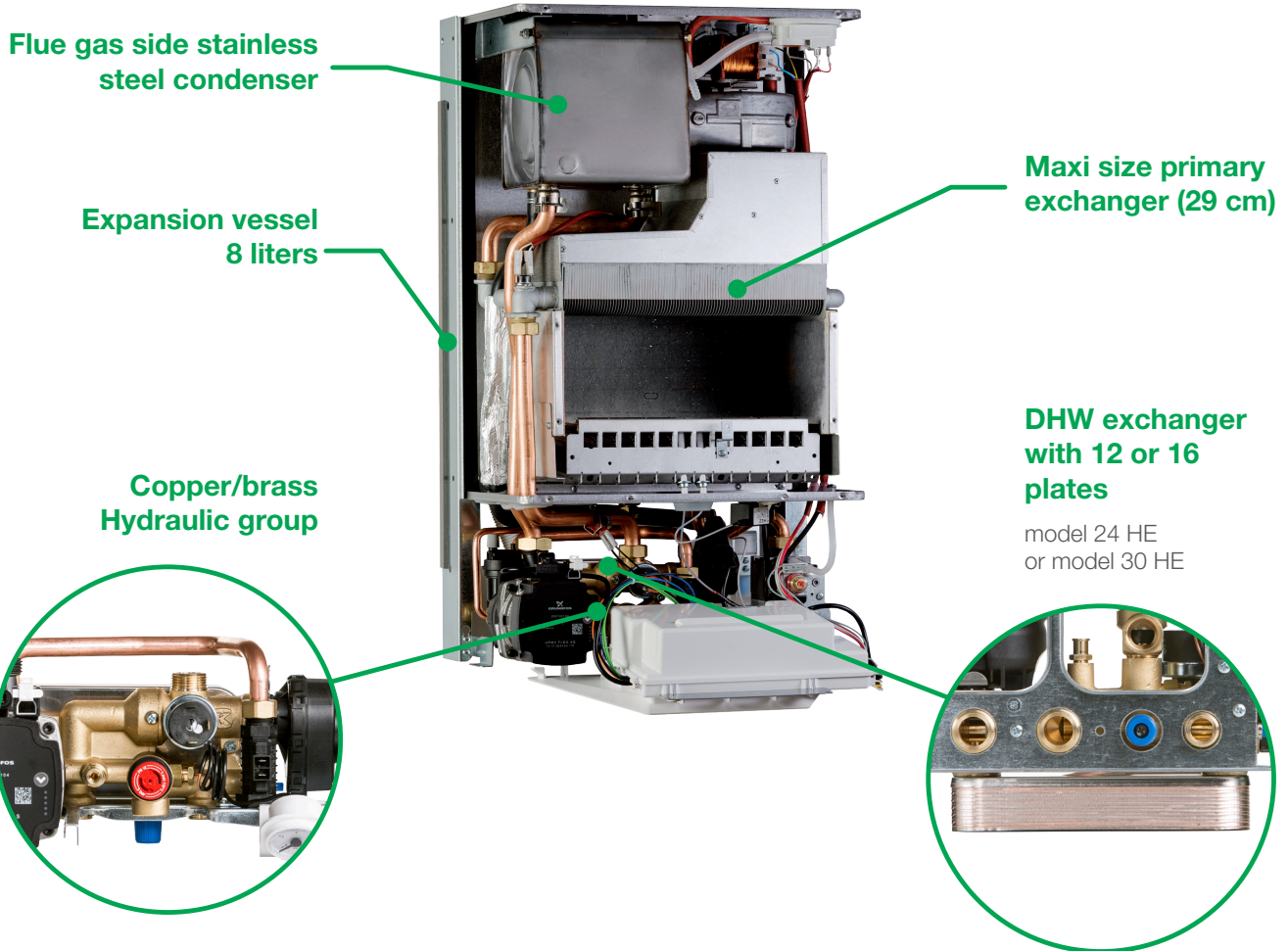
### Increased water passages

Thanks to the increased water passages, ITALTHERM can offer the condensing technology even to high temperature traditional installations.



### 3

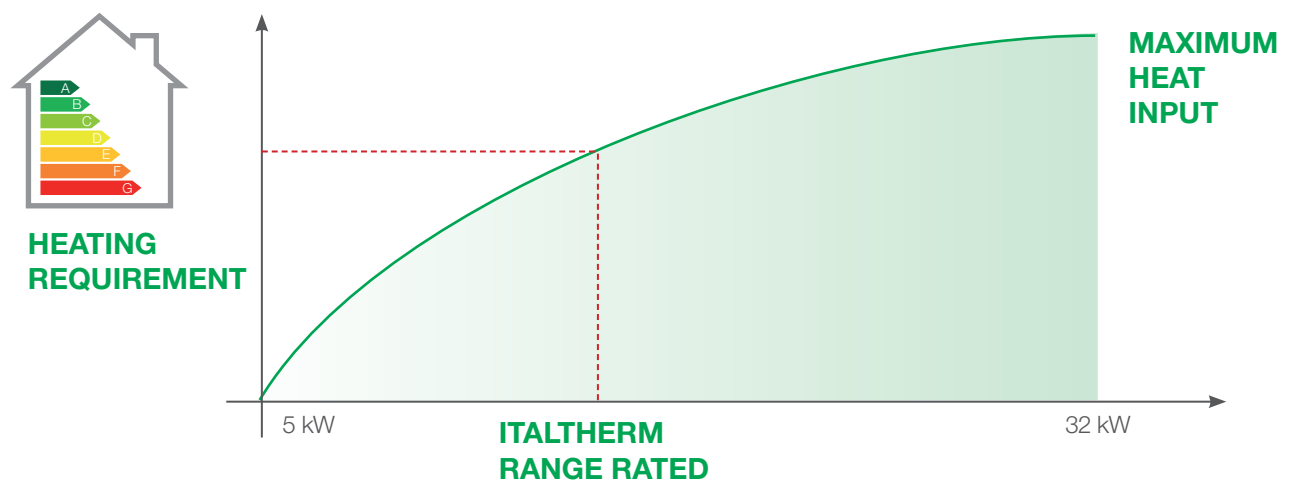
## High-quality components for a greater reliability



### 4

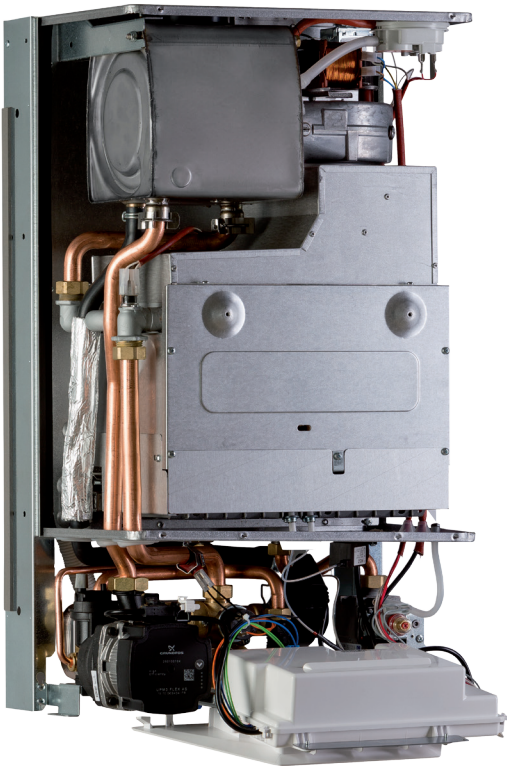
## Range Rated Certification

It is possible to adjust boiler nominal power on the basis of the actual energy need of the building, thereby eliminating waste and increasing the energy efficiency of the installation.



# City Plus HE Series





## Heating and instant domestic hot water production for high efficiency installations

City Plus HE is the innovative condensing boiler specially designed by Italtterm for high temperature traditional installations.

Thanks to the increased water passages, it is possible to exploit the condensing technology even in high temperature traditional installations.

City Plus HE represents the ideal solution both as first installation and replacement.




### Main features

- Flue gas side stainless steel condenser
- Ideal for replacing high temperature heating systems
- RANGE RATED certified: the maximum heat input of the boiler can adapt to the actual energy need of the installation
- High efficiency fully electronically modulating pump (ErP ready)
- Ultra compact sizes (W=400 H=700 D=300 mm)
- Easy to be installed, indoor or even outdoor in a partially protected place (0÷60°C)
- It can be managed by remote control
- Double-thermoregulation, ideal for high/low temperature multi-zone systems
- IP X4D electrical protection
- Microprocessor electronic system
- Chimney sweep mode
- Electrical three-way valve
- Brass hydraulic group
- Automatic hydraulic by-pass, outside the exchanger
- Expansion vessel 8 liters

Model	L x H x P (mm)	Weight (Kg)	Qn (kW)	$\eta$ at Qn (%)	Specific flow rate according to EN625 (l/min)	Efficiency class energy	
						III	F <sub>max</sub>
City Plus 24 HE	400 x 700 x 300	35.5	25.5	102.3	15.0	B	XL-A
City Plus 30 HE		35.5	29.5	102.5	17.3	B	XXL-B

**Legend:** Qn = rated/minimum heat input •  $\eta$  = efficiency. \* With boiler working in condensing mode (flow 50°C; return 30°C).

**Note:** N. 9 BOILERS PER PALLET

Description	Code	
<p><b>Magnetic Dirt Separator</b></p> <p>Specially designed for Italtherm boilers, the Magnetic Dirt Separator act as a filter of the heating installation eliminating sludge, ferrous and sandy residues from the pipes. This allows to extend the boiler life and to increase the overall efficiency of the system.</p>	<p><b>401010041</b></p>	
<p><b>Hydraulic fitting kit</b></p> <p>Thanks to this kit, it is possible to easily connect the boiler to the system. It is equipped with 1 gas cock, four hydraulic fitting pipes (DHW and CH), 1 water cock and all the relevant fittings. The boiler connection is granted by joint nuts and the equipped gaskets. This kit gives to the boiler a good looking installation.</p>	<p><b>401010001</b></p>	
<p><b>Boiler frame (made of steel)</b></p> <p>It gives the advantage to save time during the boiler installation by giving a precise layout of the connections.</p>	<p><b>401020001</b></p>	
<p><b>Kit for systems with direct zones</b></p> <p>It allows Italtherm boilers to feed systems with direct zones (low temperature zones or high temperature zones)</p>	<p><b>401100003</b> <b>401100004</b> <b>401100005</b></p>	
<p><b>Kit for systems with high/low temperature zones</b></p> <p>It allows Italtherm condensing boilers to feed a system with both low and high temperature zones.</p>	<p><b>401100006</b> <b>401100007</b></p>	
<p><b>Remote control</b></p> <p>This remote control is more than a simple room thermostat. Thanks to this, it is possible to manage the boiler in all its settings like DHW and CH temperature adjustment, boiler reset in case of boiler block, and of course it works as a room thermostat both in manual and weekly program mode. It's powered by the boiler (in safety low voltage), so it doesn't need batteries.</p>	<p><b>401080001</b></p>	
<p><b>Digital weekly programmable thermostat</b></p> <p>Weekly programming at 3 temperature levels. Available in 3 models:</p> <ul style="list-style-type: none"> <li>• <b>Model with wired connection code 401080002</b> it is connected to the boiler's room thermostat line</li> <li>• <b>Radio-frequency model code 401080005</b> It doesn't need cables or circuits for its connection to the boiler. The radio receiver for the boiler is included.</li> <li>• <b>GSM model code 401080004</b> You can turn on and off heating with a ring! In addition, you can send an SMS to manage heating remotely and you receive an SMS in case of anomalies.</li> </ul>	<p><b>401080002</b> <b>401080005</b> <b>401080004</b></p>	
<p><b>CH multi zones PCB</b></p> <p>This additional PCB must be installed in case of running a multi zones CH system and the boiler remote control has been installed too. Thanks to this PCB, it is possible to manage every zone valve according to each reference zone room thermostat. It is easy to be installed thanks to a proper housing located in the boiler electrical box, near the main PCB.</p>	<p><b>401110001</b></p>	
<p><b>Outdoor Temperature Sensor</b></p> <p>This kit allows the heating system to work with "shifting temperatures", so that the flow temperature automatically changes according to the outdoor temperature (measured by the sensor) and to the building "dispersion coefficient".</p>	<p><b>401060001</b></p>	

## CITY PLUS HE supports multiple flue configurations: <sup>(1)</sup>

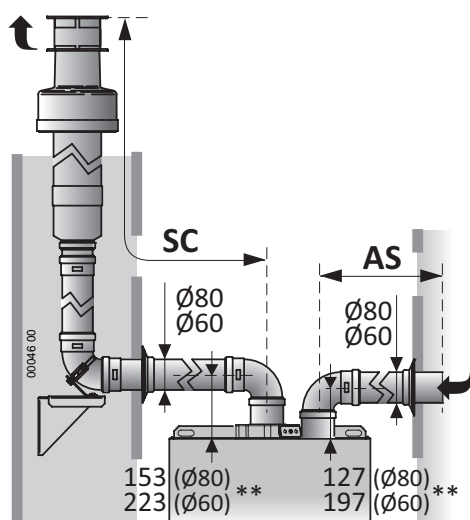
split systems\*



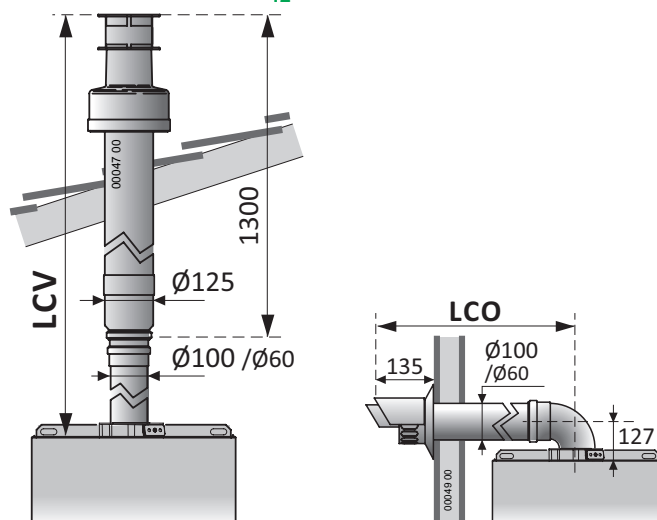
coaxial systems



### Example of split system (C<sub>42</sub> / C<sub>82</sub>)



### Example of vertical coaxial system (C<sub>32</sub>) and horizontal one (C<sub>12</sub>)



Model	Genuine Ø80mm***split systems		
	AS+SC min÷max (m)	SC max (m)	Diaphragm (a)
24 HE	2 ÷ 30	20	ø 42; 8m
30 HE	2 ÷ 30	20	ø 42; 8m

(a) Diaphragm diameter (supplied as standard) and overall length AS+SC UNTIL which the diaphragm must be installed.

Model	Genuine Ø60/100*** mm coaxial systems		
	LCO min÷max (m)	LCV min÷max (m)	Diaphragm (b)
24 HE	0.8 ÷ 4	0.8 ÷ 5	ø 42; 1m
30 HE	0.8 ÷ 4	0.8 ÷ 5	ø 42; 1m

(b) Diaphragm diameter (supplied as standard) and overall length of the LCO or LCV pipe UNTIL which the diaphragm must be installed.

Genuine Ø60mm***split system			
24 HE	2 ÷ 10	7	ø 42; 3m
30 HE	2 ÷ 10	7	ø 42; 3m

\* **Remark:** Split pipes allow to make also C<sub>12</sub> and C<sub>32</sub> flue systems.

\*\* The dimensions on the duct axis are referred to the upper edge of the boiler's body, close to the mouth of the first 90° bend. The difference of level due to the slopes are not considered.

\*\*\* Important: the table refers to genuine flue accessories. If you use any NON-genuine flue accessories (certified for condensation, whose use is allowed by the boiler's C6-type certification) please refer to the relevant technical documents.

(1) See "Type" in the technical data on page 11 for the types that can be made with each model.

# Pump capacity and dimensions

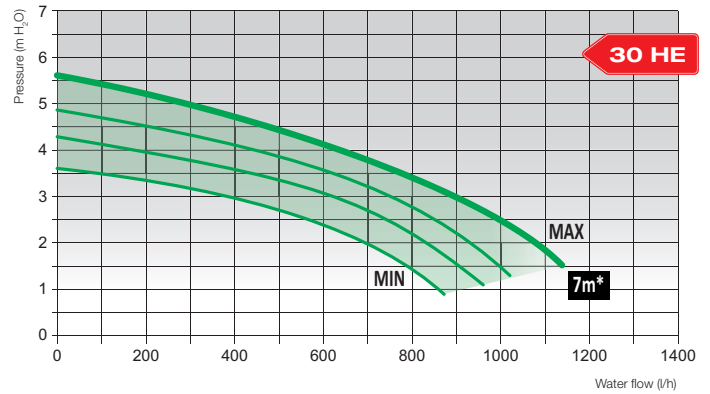
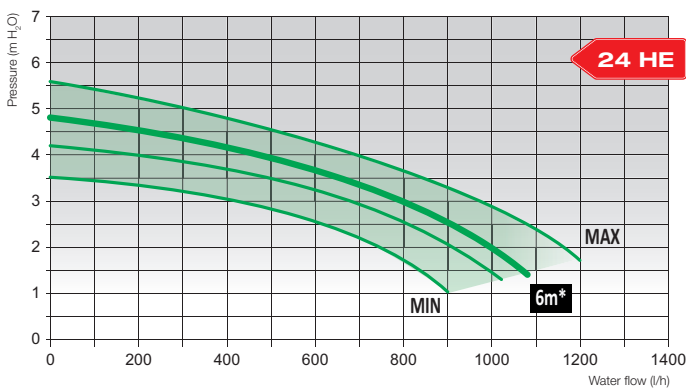
## Variable electronic speed pump - ErP ready

(The curves are referred to the pump capacity available to the system)

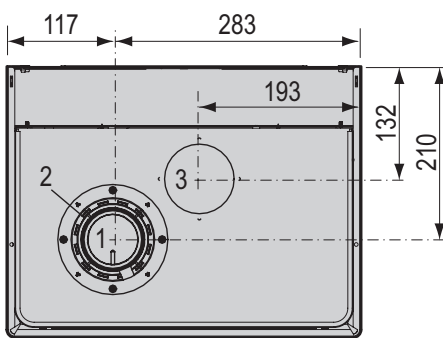
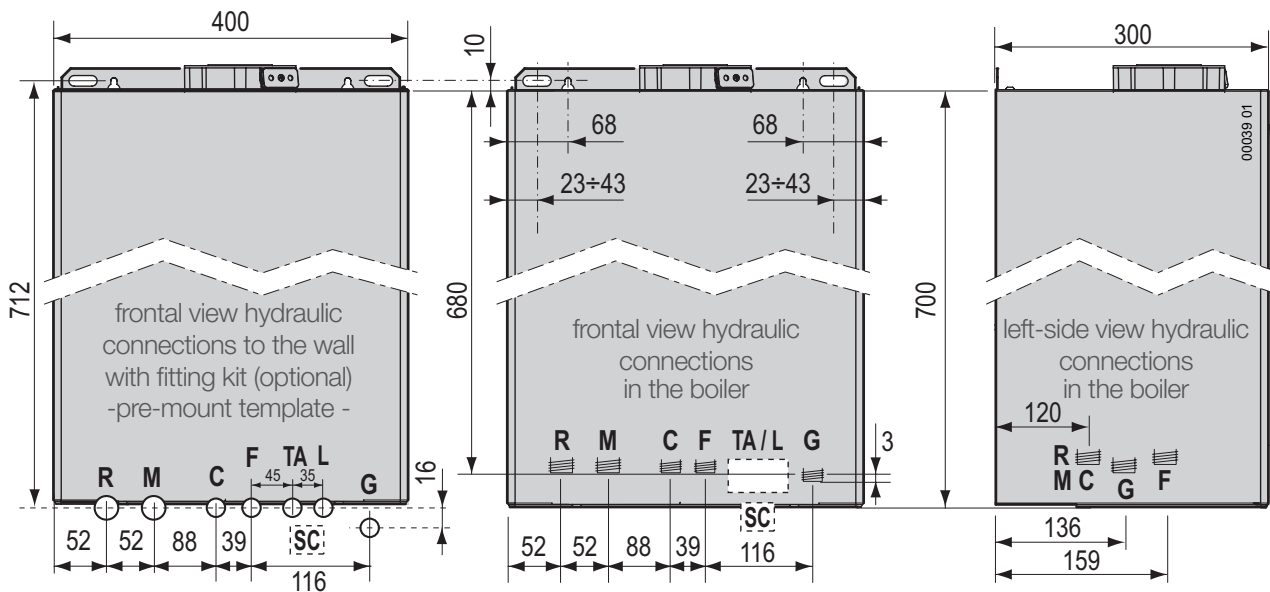
Remark: the graphs below show the factory set value of the pump, for each model. The curves are referred to the pump capacity available to the system, net of the pressure loss of boiler's internal circuits.

\*factory setting

## City Plus 24 HE - 30 HE



## Dimensions City Plus 24 HE - 30 HE



Upper side view (model HE)

### Legend:

- |          |   |             |  |
|----------|---|-------------|--|
| <b>1</b> | Flue outlet   | <b>C</b>    | Hot water outlet (1/2")  |
| <b>2</b> | Air inlet for coaxial flue systems  | <b>F</b>    | Cold water inlet (1/2")  |
| <b>3</b> | Air inlet for split flue systems  | <b>TA/L</b> | Indicative position of electrical supply and room thermostat connections |
| <b>S</b> | Flue gas outlet (natural draught)   | <b>TA</b>   | Room thermostat  |
| <b>G</b> | Gas: connection in the boiler (3/4"); connection on template with original fitting kit (1/2") | <b>L</b>    | Power line   |
| <b>R</b> | System delivery (3/4")  | <b>SC</b>   | Indicative position of condensate drain (HE models only)                 |
| <b>M</b> | System return (3/4")  |             |  |

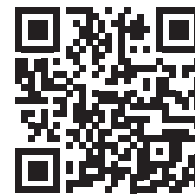


## Product data sheet (ErP)

Manufacturer name: <b>Italtherm</b>		Models		City Plus 24 HE	City Plus 30 HE
Element	Symbol	Unit	Value	Value	Value
DHW heating: declared load profile			XL		XXL
CH heating: seasonal energy efficiency class			B		B
DHW heating: energy efficiency class			A		B
Nominal heat output	$P_{nominal}$	kW	24		29
CH heating: yearly energy consumption	$Q_{HE}$	GJ	73		77
DHW heating: yearly energy consumption	$A_{FC}$	GJ	19		24
CH Heating: Seasonal energy efficiency (Hs)	$\eta_s$	%	86		86
DHW heating: energy efficiency (Hs)	$\eta_{wh}$	%	81		81
Noise level	$L_{WA}$	dB	54		54

## Technical data

Description	u. m.	City Plus 24 HE	City Plus 30 HE
Category		II2H3+	
Type		C12 - C32 - C42 - C52 - C62 - C82 - C92	
Operating temperature (min+max)	°C	0 ÷ +60	
Gas type		G20	
Max. heat input	kW	25.5	29.5
Min. heat input	kW	10.5 (DHW)	12.0 (DHW)
Max. heat output 60°/80°C *	kW	24.4	28.6
Min. heat output 60°/80°C *	kW	9.5	11.5
Max. heat output 30°/50°C *	kW	26.1	30.2
Min. heat output 30°/50°C *	kW	9.9	11.4
NOx Class		3	
Corrected CO 0% O <sub>2</sub> (at Qn)	ppm	51.6	105.5
CO <sub>2</sub> (at Qn)	%	6.80	7.10
Flue temperature (at Qn)	°C	82.7	73.4
Flue mass flow rate (at 60/80°C and at Qn)	kg/h	55.27	61.13
<b>EFFICIENCY</b>			
Nominal efficiency (NCV) at 60°/80°C *	%	95.8	96.8
Efficiency at 30% Pn 60°/80°C *	%	—	—
Nominal efficiency at 30°/50°C *	%	102.3	102.5
Efficiency at 30% Pn 30°/50°C *	%	99.8	100.1
<b>HEATING</b>			
High/low temp. selection range (min+max)	°C	35÷78 / 20÷45	
Sec. zone temp. selection range (min+max)	°C	20÷78	
Expansion vessel	l	8	
Expansion vessel pressure	bar	1	
Max operating pressure	bar	2	
Max system temperature	°C	85	
<b>DOMESTIC HOT WATER</b>			
Flow rate at 25°C temperature rise	l/min	15.0	17.3
Flow rate at 30°C temperature rise	l/min	11.7	13.6
Min water flow (for the DHW function activation)	l/min	2.2	2.2
Min supply pressure (for the DHW function activation)	bar	0.5	0.5
Max supply pressure (data referred to the boiler only)	bar	6	
Temperature selection range (min+max)	°C	30÷55	30÷55
<b>ELECTRICAL CHARACTERISTICS</b>			
Voltage/Frequency (nominal voltage)	V/Hz	220÷240 / 50 (230V)	
Power consumption	W	95	111
Degree of protection		IP X4D	
<b>DIMENSIONS</b>			
Width - Height - Depth	mm	400 x 700 x 300	
Weight	kg	35.5	35.5
<b>CONNECTIONS</b>			
Hydraulic and gas connections		see page 10	
Split inlet/flue pipe diameter	mm	100/60	
Split system min ÷ max length	m	see page 9	
Split flue kit (inlet + outlet) diameter	mm	80 o 60	
Min ÷ max length of the split system	m	see page 9	
Fan residual head	Pa	—	
<b>GAS SUPPLY PRESSURES</b>			
Nominal pressure	mbar	20	
Inlet pressure (min+max)	mbar	17 ÷ 25	
<b>GAS CONSUMPTION</b>			
Q <sub>max</sub>	m <sup>3</sup> /h	2.70	3.12
Q <sub>min</sub>	m <sup>3</sup> /h	1.11	1.27



[www.italtherm.it](http://www.italtherm.it)

**ITALTHERM Srl**

Via S. D'Acquisto, 10 • 29010 Pontenure (PC) - IT  
Tel. (+39) 0523.575611 • Fax (+39) 0523.575600  
[www.italtherm.it](http://www.italtherm.it) • e-mail: [info@italtherm.it](mailto:info@italtherm.it)



SISTEMA DI GESTIONE  
CERTIFICATO  
UNI EN ISO  
9001:2008