

**ARCA**  
**caldaie**

*Pixel*

**MX PN**



**MX PN**

Wall-mounted digital miniature  
premixed condensing boiler.  
MX PN, pneumatic system,  
from 20 to 35 Kw.

# PIXEL MX PN



## RELIABILITY:

### OUR GOAL

Pixel MX PN is the new miniature pneumatic premixed condensing boiler with Arca digital electronic technology. An articulated project based on an innovative product architecture and an extremely reliable technology that uses single-tube stainless steel exchanger to give the user maximum comfort and energy saving. Models: from 20 kw to 35 kw.

Optimal flame modulation limited to 1:7 to ensure maximum silence offered by a fan used at reduced speed and in the most performing range.

The solution of the sealed chamber preserves the boiler from the dangers of drawing in impurities, water or insects potentially dangerous for the fan and gas valve.

## VERSIONS

Model	Code
<b>INSTANTANEOUS COMBINED</b>	
PIXEL MX 20/25 PN	ECOPMX101PN2
PIXEL MX 25/30 PN	ECOPMX105PN2
PIXEL MX 30/35 PN	ECOPMX110PN2
PIXEL MX 35/35 PN	ECOPMX115PN2
<b>HEATING ONLY</b>	
PIXEL MX 20 PN R	ECOPMX101PNR2
PIXEL MX 25 PN R	ECOPMX105PNR2
PIXEL MX 30 PN R	ECOPMX110PNR2
PIXEL MX 35 PN R	ECOPMX115PNR2
<b>HEATING ONLY WITH BUILT-IN ELECTRIC DIVERTER VALVE</b>	
PIXEL MX 20 PN VD	ECOPMX101PNVD2
PIXEL MX 25 PN VD	ECOPMX105PNVD2
PIXEL MX 30 PN VD	ECOPMX110PNVD2
PIXEL MX 35 PN VD	ECOPMX115PNVD2

CE



# CLEAN ARCHITECTURE

DESIGNED FOR ACCESS FOR MAINTENANCE

The single-tube exchanger with the widest possible access section

The sealed chamber protects the boiler from possibly drawing in impurities or humidity and ensures maximum silence of the system

The space reserved to the expansion vessel accommodates 3 models: 7-8-10 litres

Dry condensation siphon

High efficiency electronic pump



The top part of the boiler features the valve for loading the expansion vessel, which allows its pressure to be checked and recharged without having to open the boiler.

The flame inspection opening for visual inspection of combustion



# THE PNEUMATIC CONDENSATION TECHNOLOGY

This technology, extensively tested on the market, of extremely simple concept is applied to a complex project, whose purpose is to innovate while maintaining reliability and performance in

terms of minimising consumption and maximising comfort for the end user.

## STAINLESS STEEL PREMIXED MICRO-FLAME BURNER



The micro-flame stainless steel burner on the boiler is used in a limited power range of 1:7.

In this way, the thermal stresses and the limited operating temperature ensure long life to the component.

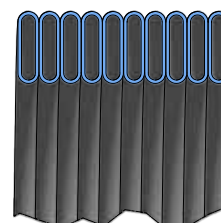
# HIGH FLOW RATE STAINLESS STEEL SINGLE-TUBE EXCHANGER



New heat exchanger



Standard market exchanger



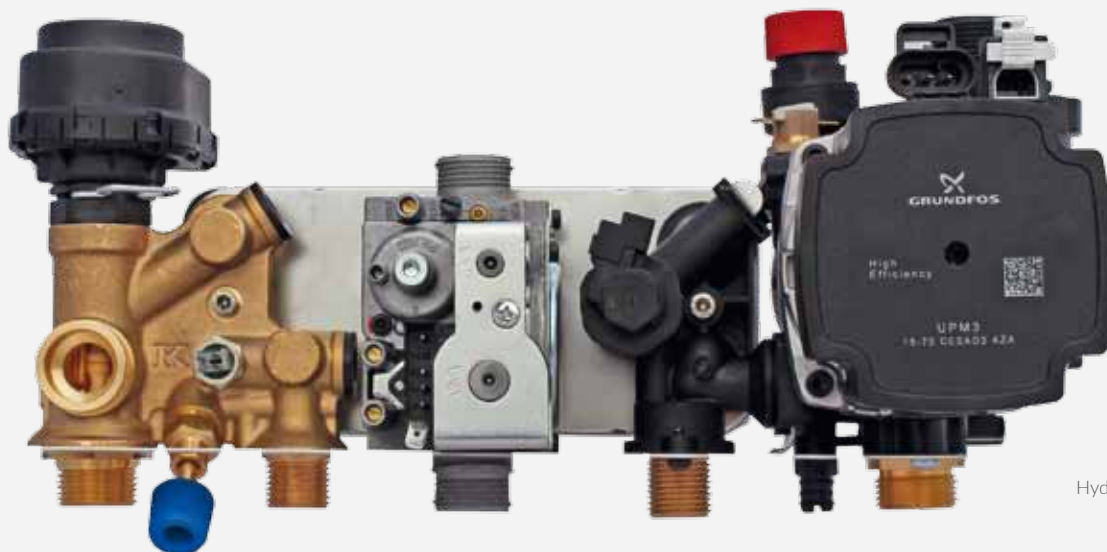
The high-flow single-tube exchanger with reduced pressure drops, is an important evolution for the condensing gas boiler sector, compared to the old parallel flux exchangers, still available on the market. With this technological solution, the boiler is much more resistant in the presence of plants that are not perfectly cleaned of possible organic and inorganic residues.

A technology which, in terms of reliability, is similar to that of boilers with double exchanger, in strict compliance with the scientific basis that uses noble materials such as stainless steel, suitable for performing appropriate but different functions and, in particular, the direct condensation function.

# BRASS HYDRAULICS WITH MOTORISED THREE-WAY VALVE

The hydraulic unit is made of single integrated brass casts with reduced flow valve and standard bypass. The 12-plate (14 in the 30 kW) water-water stainless steel exchanger allows for a large DHW production at controlled temperature and offers a remarkable resistance to hard water build-up.

Arca has chosen to show its components in the catalogues in order to highlight their quality, such as the brass unit, a guarantee of long durability. The solution with motorised three-way valve for limited electrical consumption, allows for a faster control of the antifreeze function and the use of the hot water supply function even with limited withdrawals.



Hydraulic Unit

## PLANT WASHING AND SLUDGE SEPARATOR FILTER

For the boiler to work properly, it is mandatory, as required by the regulations in force, to thoroughly wash the plant with plenty of running water and suitable additive, in order to dispose of sludge, sand, encrustations or any solid residues, especially on old plants, but without neglecting any impurities and processing residues present in towel warmer radiators and/or new radiators.

It is also necessary to install a sludge separator filter, to be positioned on the boiler return and to be checked during scheduled maintenance.

If specific products are used to clean and de-scale the existing plant, in order to avoid irreversible damage to the condensing exchanger, the aggressive liquid must always be removed and the plant thoroughly rinsed with running water. If antifreeze is used, it must have an acid value below Ph 6.



Recommended for old plants with a high level of impurities.  
Cod. FILDFG002P

# DIGITAL WITH SELF-DIAGNOSIS

## AND PERSISTENT MEMORY FOR THE PNEUMATIC VERSION

Boiler management, controls, adjustments, self-diagnosis and safety devices are assured by latest generation digital electronics that display all of the generator functions on a backlit display.

The maximisation of performance and thus reduced consumption requires, in addition to intelligent electronics, an external probe that allows, under any system condition, the minimum operating temperature to enhance the condensing qualities of the boiler which in mid-season reaches outputs close to the table value.

DHW Adjustment

Output power display



Display  
- temperature  
- pressure  
- fault code  
- boiler parameters

Summer/Winter/Off operating mode selector

Heating Adjustment

## OUTPUT

The boiler operation reaches minimum gas consumption at delivery temperatures below 55°C.

The output can reach 108.66% on PCI in the best operating conditions, starting from a minimum of 98% in the worst conditions (with a 70°C temperature of the water where it is impossible to condense).

## SILENT

A direct current fan made of die-cast aluminium and a low-consumption high quality electric pump, allow silent operation of the product, placing it at the top of its category.

## LONG DISCHARGES

The power of the smoke extractor allows discharging up to 60 m with the Ø 80 mm split and up to 10 m with the Ø 60/100 mm coaxial. Condensing boilers require discharges manufactured with special materials, suitable against the corrosive build-up of combustion products. Discharges of Ø 60 and Ø 50 mm are also possible, see the installation instruction manual for further details.

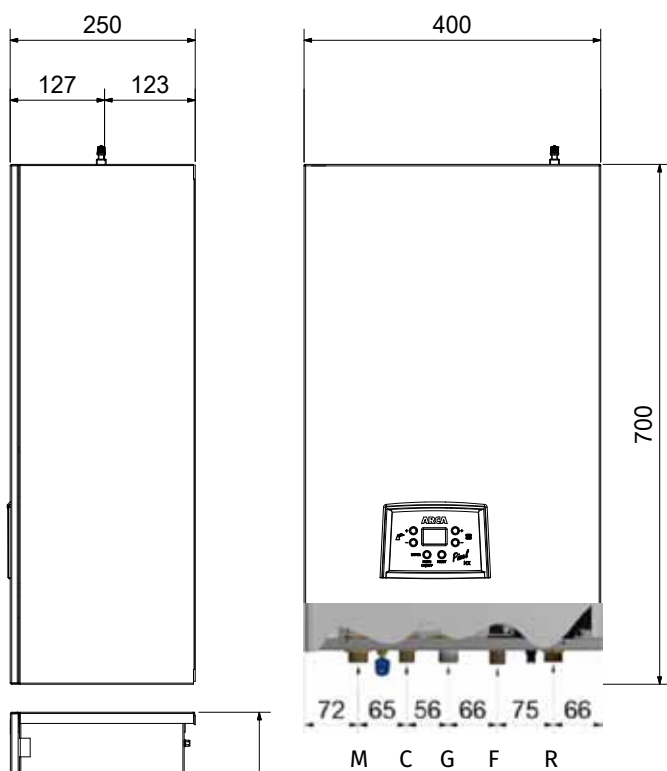
# BUILT-IN SOLUTIONS

## REDUCED DIMENSIONS

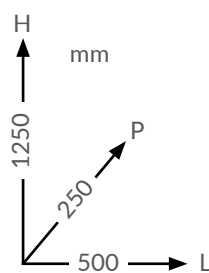
The boiler architecture is the result of an in-depth study of functions and spaces to allow a rational arrangement of the components to also meet the requirement of easy access for routine maintenance.

The result is the smallest "condensing" boiler on the market, measuring 700x400x250.

However, the choice to use the sealed chamber instead of a connection pipe between fan and extraction ensures greater silence and prevents the risk of unwanted inflow of water or insects into the gas valve.



- M 3/4" heating outlet
- C 1/2" hot water output
- G 3/4" gas connection
- F 1/2" cold water inlet
- R 3/4" heating return



Built-in frame sizes.  
Code CAS1800P



# REMOTE CONTROL FUNCTION FROM MOBILE, WITH IMODULE



**It is the most complete solution for managing and controlling boilers fitted in holiday homes, to remotely regulate and manage homes with people who are not self-sufficient or for managing your own boiler when away from home.**

This allows you to manage the heating and DHW directly from telephone or tablet, Apple or Android, via a web connection, without having to install a room timer ther-

mostat or removing it if present. It consists of:

- a FREE APP installed on your smartphone/tablet
- a receiver installed in the home (near the boiler)
- a room temperature probe

Cod. CTRWKAT103WIFI

## UNIVERSAL WI-FI REMOTE CONTROL

Universal WI Fi remote with remote control of only the on/off command and room temperature control.

Requires WI FI connection in the room. Quick and easy installation For the use and installation instructions, see YouTube video: Arca crono WiFi.

Code CTR0001WIFI



Remote control



Screen on smartphone or tablet device

# THE SMALLEST ON THE MARKET



For technical datasheets, instruction and maintenance manual, specification notes, go to [www.arcacaldaie.com](http://www.arcacaldaie.com)

**TECHNICAL DATA (G20 NATURAL GAS). TYPE OF DEVICE: C13 - C33 - C53 - C63 - C83**

Type	Unità	MX PN 20-25	MX PN 25-30	MX PN 30-35	MX PN 35-35
Nominal Thermal Output ref. PCI (80°C/60°C)	kW	21	25	29	33
Minimum Thermal Output ref. PCI (80°C/60°C)	kW	3,7	4	4	4
Nominal Power ref. PCI (80°C/60°C)	kW	20,4	24,3	28,3	31,5
Nominal condensation power ref. PCI (50°C/30°C)	kW	22,1	26,4	30,5	34,4
Minimum power ref. PCI (80°C/60°C)	kW	3,5	3,7	3,7	3,7
Minimum condensation power ref. PCI (50°C/30°C)	kW	3,9	4,2	4,1	4
DHW useful heat flow rate	kW	25,5	31	34,8	34,8
Nom. Therm. Flow Rate Useful Output ref. PCI (80°C/60°C)	%	96,90	97,01	97,46	95,46
Output at reduced load ref. PCI (30% of Pn-50°C/30°C)	%	97,10	97,10	97,00	97,90
GAS FLOW at G20 Methane nominal P (2E+)	m³/h	2,1	2,6	3,1	3,4
G20 Methane Network GAS PRESSURE (2E+)	mbar	20	20	20	20
CO2 (G20)	%	9	9	9	9
NOx	class	6	6	6	6
<b>ERP PRODUCT SHEET</b>					
Declared water heating load profile	profile	XL	XL	XL	XL
Room heating energy class	class	A	A	A	A
Seasonal heating energy efficiency	%	91,7	92	93,2	92,6
<b>HEATING</b>					
Minimum Heating set point	°C	35	35	35	35
Maximum Heating set point	°C	80	80	80	80
Water volume in boiler	l	0,8	0,8	0,8	0,8
Water volume in expansion vessel	l	7	8	10	10
Expansion vessel pressure	bar	1	1	1	1
Minimum Pressure in primary circuit	bar	0,5	0,5	0,5	0,5
Maximum Pressure in primary circuit	bar	3	3	3	3
Heat.plant available pump head at the flow rate of Q=1000	mbar	230	230	230	230
<b>SANITARY</b>					
DHW minimum set point	°C	35	35	35	35
DHW maximum set point	°C	60	60	60	60
Hot water continuous production AT=30°C	l/min	11,9	14	16,2	16,2
Hot water continuous production AT=35 °C	l/min	10,2	12	13,8	13,8
Minimum DHW Flow rate	l/min	3	3	3	3
Maximum DHW Pressure	bar	10	10	10	20
Minimum DHW Pressure	bar	0,8	0,8	0,8	0,8
<b>ELECTRICAL FEATURES</b>					
Power supply voltage/frequency	V/Hz	230/50	230/50	230/50	230/50
Absorbed electric power	W	45	45	34	34
<b>HYDRAULIC CONNECTIONS</b>					
Heating connections	Inch	3/4"	3/4"	3/4"	3/4"
DHW connections	Inch	1/2"	1/2"	1/2"	1/2"
Gas connections	Inch	3/4"	3/4"	3/4"	3/4"
<b>SIZE</b>					
Height	mm	700	700	700	700
Depth	mm	250	250	250	250
Width	mm	400	400	400	400
<b>DISCHARGE TUBES LENGHT</b>					
Coaxial Ø 60 / 100 mm	m	10	8	9	8
Split Ø 80 mm	m	52	48	50	47
Split Ø 60 mm	m	14	12	13	11
<b>OTHER DATA</b>					
Weight	Kg	31	32	34	35
Protection degree	IP	IPX4D	IPX4D	IPX4D	IPX4D
CE Approval		1312	1312	1312	1312
Destination		BA - BG - CH - CZ - ES - GB - GR - HR - HU - IE - IT - LV - NO - PL - PT - RO - SE - SK			

# ARCA TODAY

**3** Production plants

**80** Agencies

**1** 9,000 sqm logistic unit to ensure availability of material with rapid delivery

**420** Technical services across Italy

**28** Countries in the world where Arca operates

GAS WALL-MOUNTED  
BOILERS  
WOOD-FIRED BOILERS  
AUTOMATIC PELLET-WOOD-  
FIRED BOILERS  
PELLET HOT AIR  
GENERATORS  
SOLAR SYSTEM PELLET  
STOVES  
UNDER FLOOR HEATING



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