

COILMASTER



Combination Floor-Standing
Condensing Boiler

35 · 45 · 60 · 70 · 80 · 100 · 120

CoilMaster is an advanced and efficient heating solution designed to meet the demands of modern living. Its cutting-edge features, such as the Coil Fire Tube exchanger, ferritic stainless steel construction, and self-cleaning mechanism, ensure optimal performance and durability. With its ability to satisfy high heating and DHW requirements without additional storage, the CoilMaster provides a compact and convenient solution. Additionally, the appliance prioritizes cleanliness and safety, minimising fouling and eliminating the risk of legionella.

CoilMaster

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Condensing Boiler

35 · 45 · 60 · 70 · 80 · 100 · 120

3,270 ltr/h

Maximum DHW
production at 40°ΔC

104 %

Useful efficiency
in DHW mode

10:1

Maximum
modulation ratio

The CoilMaster, a response to the demands of modern living, offers an energy-efficient boiler solution. With focus on enhanced building insulation, gas consumption has shifted from heating to hot water, often surpassing the demand for heating. To optimise gas usage, it is crucial to install an appliance that condenses efficiently in both heating and hot water modes, maximising each kilowatt of gas input. The CoilMaster achieves this with its stainless steel heat exchanger, engineered to deliver exceptional performance, making it one of the most efficient boilers in its class. With the integration of a stainless steel DHW circuit, the CoilMaster offers an immediate response to hot water demand, and it can be fed by the mains water supply for continuous delivery of high-performance domestic hot water.

Key Features & Benefits

Coil Fire Tube heat exchanger in stainless steel

Self-cleaning flue ways, anti-legionella

Passage through a 75 cm wide doorway

Class 6 low NOx burner

Easy installation and maintenance

Energy class A

Indirect DHW production

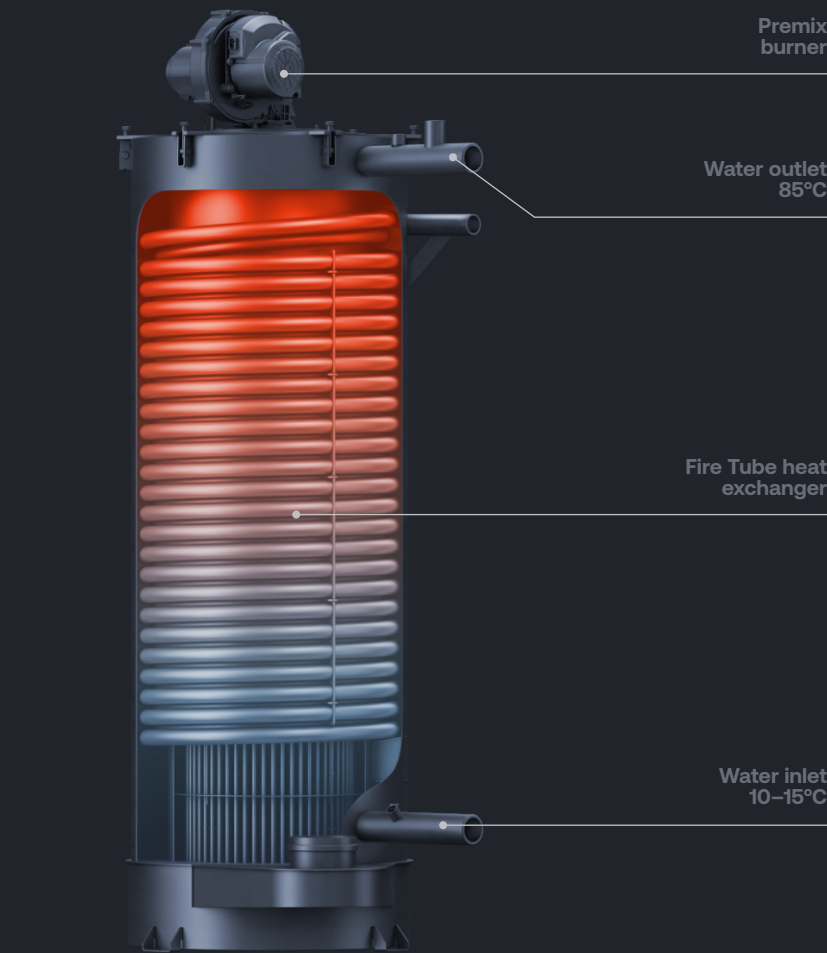


Coil Fire Tube

The CoilMaster boasts impressive efficiency with its Coil Fire Tube exchanger, which condenses in both DHW production and heating mode, achieving remarkable performance levels of up to 104% and 108%, respectively.

At its core, the CoilMaster features a ferritic stainless steel construction enriched with 18% chromium, ensuring the longevity of the appliance. This choice of material offers substantial resistance against corrosion and thermal expansion issues commonly encountered in heat transfer. Stainless steel has become the preferred option for gas-fired heat exchangers among engineers and designers due to its exceptional properties.

Domestic hot water always in condensing mode:
The stainless steel domestic hot water coil within the CoilMaster is completely immersed in the primary circuit. Its immersion enables efficient condensation by utilising the low temperatures of the inlet water, typically ranging from 10–15°C. This setup ensures continuous and reliable production of high volumes of DHW. The large heat exchange surface and indirect heat transfer safeguard the coil from harmful limescale deposits that would diminish performance over time.



The CoilMaster's operating temperatures in both the primary and domestic circuits eliminate the risk of legionella, enabling rapid and high-volume hot water production.

Max. operating pressure

6 bar

Energy class

A

Quiet operation

Parameters

Resistance to corrosion and oxidation
Self-cleaning flue ways
Internal circuit piping in welded stainless steel
Low pressure drop
Reduced maintenance

Primary water content

CoilMaster 35	43,6 ltr
CoilMaster 45	43,6 ltr
CoilMaster 60	63 ltr
CoilMaster 70	63 ltr
CoilMaster 80	63 ltr
CoilMaster 100	83 ltr
CoilMaster 120	83 ltr

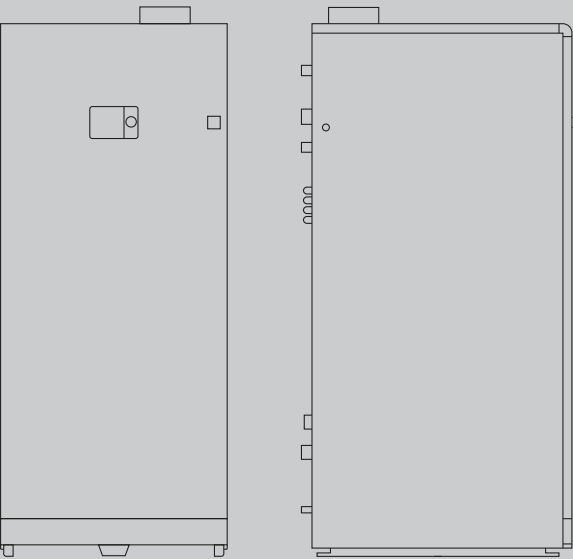
Domestic hot water content

CoilMaster 35	10,6 ltr
CoilMaster 45	10,6 ltr
CoilMaster 60	18 ltr
CoilMaster 70	18 ltr
CoilMaster 80	18 ltr
CoilMaster 100	25 ltr
CoilMaster 120	25 ltr

Design

The CoilMaster incorporates top-quality materials and a sleek, minimalistic design that fits seamlessly into any interior. Installation and maintenance of the CoilMaster are reduced, thanks to its smart design and attention to detail. All water connections are conveniently located on the same side, making the installation process simple.

The self-cleaning flue ways ensure minimal maintenance and maximum efficiency over the boiler's lifespan. Despite its powerful capabilities, the CoilMaster boasts a small footprint, making it suitable for installation in areas with limited space. It combines weather compensation functions with intuitive controls for both users and engineers, providing flexibility and ease of use. The CoilMaster embodies the advantages of condensing technology, delivering outstanding performance and efficiency while maintaining a stylish and unobtrusive presence in any home or building.



Characteristics

- Small footprint
- Adaptable to various applications
- Sleek design
- Stainless steel heat exchanger
- Compact dimensions



100% Stainless steel

Years Warranty Heat Exchanger

10

Years Warranty Boiler

5

*Subject to conditions



Applications

Our comprehensive range of high-performance heating solutions caters for diverse applications, from hotels and sports stadiums to restaurants and residential care homes.

Designed to deliver reliable and efficient heating, our systems are equally suitable for industrial changing rooms, hairdressing salons, schools, clinics, medium to large residential buildings, carwashes, and various other commercial settings.

35–120 kW

Hotels
Schools
Sports complexes
Nurseries
Student accomodation
Hairdressing salons
Restaurants
Clinics
Industrial changing rooms
Medium / large residential
Carwashes
Commercial applications

DHW always in condensing mode

The stainless steel domestic hot water coil is completely immersed in the primary circuit and ensures effective condensation thanks to the low temperatures of inlet water (10–15°C).

The high production of continuous DHW is thus delivered consistently by the large heat exchange surface and indirect heat transfer, protecting the coil itself from the harmful limescale deposits which would significantly reduce performance over time. The threat of legionella is negated due to the high operating temperature of both the primary and domestic circuits, allowing for high volume, rapid hot water production.



10°C

Domestic cold water inlet at the bottom of the exchanger promotes a wide condensing mode.

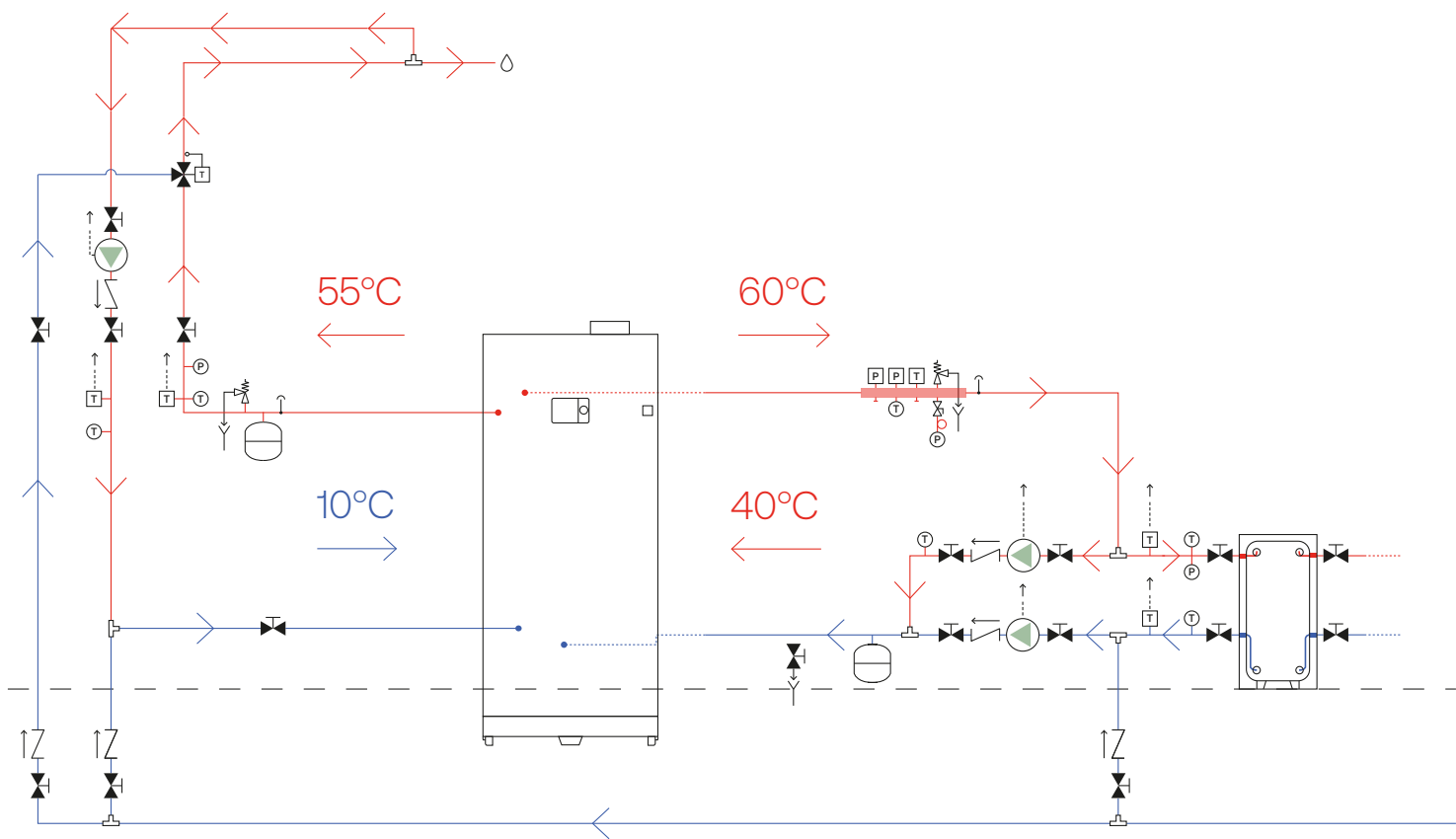
Bivalent condensation

Anti-Legionella

Indirect DHW production

Twin condensing boiler

How does it work?



01 Condensing heating

When the heating fluid returns from the circuit, it enters the lower section of the primary tank, triggering the condensing mode of the CoilMaster. By employing an internal pump, the circulation of the primary fluid intensifies, enhancing the counter current exchange and, as a result, improving the thermal efficiency.

02 Condensing hot water

In domestic hot water mode, the cold feed enters the lower section of the stainless steel coil for DHW. The low temperature of the lower primary circuit facilitates continuous condensation of the flue gases in the boiler, enabling a consistent withdrawal of hot water at high temperature from the top of the coil.

03 Condensing heating and hot water

Once the CoilMaster reaches and stabilizes at the desired temperature, it adeptly generates both heating and domestic hot water at the same time, operating efficiently in its condensing mode. This innovative system ensures optimal utilization of energy resources while providing consistent and reliable performance.



Despite its compact size, the CoilMaster delivers exceptional output, meeting high heating and DHW requirements without the necessity of additional storage.

It harnesses the benefits of condensing technology in both heating and DHW modes, providing ample volumes of efficient instantaneous DHW. The appliance minimises the risk of fouling through the use of an indirect heat exchanger.

Domestic hot water performance ⁽¹⁾		CM 35	CM 45	CM 60	CM 70	CM 80	CM 100	CM 120
Load profile	-	XXL	XXL	XXL	XXL	XXL	XXL	XXL
Peak flow at 40 °C first 10 minutes (storage temp. 80 °C)	l/10'	229	263	344	384	423	546	602
Peak flow at 40 °C first hour (storage temp. 80 °C)	l/60'	1112	1362	1703	1994	2283	2921	3327
Continuous flow rate 40 °C (ΔT = 30 K)	l/h	1068	1320	1632	1932	2232	2850	3270
Continuous flow rate 50 °C (ΔT = 40 K)	l/h	796	989	1224	1449	1674	2138	2453
Continuous flow rate 60 °C (ΔT = 50 K)	l/h	600	750	978	1170	1338	1560	1830
DHW efficiency at ΔT = 30 K	%	104	104	104	104	104	104	104

(1) Operating conditions: DHW set point T = 80 °C, Cold water inlet T = 10 °C.

Connectivity

The CoilMaster offers flexibility and user-friendly operation, equipped with intuitive weather compensation functions. It can efficiently manage up to three direct or mixed circuits, along with an internal circuit for DHW production (additional accessories may be required).

In addition, the CoilMaster has the capability to manage up to six boilers in cascade, providing enhanced scalability and system integration. It offers connectivity options for regulation and remote control, allowing for convenient monitoring and management of the system.

Characteristics

Integration of the WEB Server Module*
Flexible and intuitive management system
Manage up to 3 direct or mixed circuits*
One circuit for DHW production*
Manage up to 6 boilers in cascade
GSM router or ethernet network

*Option or with additional accessories



Construction



Specification CM 35–45

Performance			CM 35	CM 45
Heat input (net)	G20 / G25 / G31	kW	4,5–34,9	4,5–45,0
	G20Y20 ⁽¹⁾	kW	4,3–33,0	4,3–42,6
Heat output at 80/60 °C	G20 / G25	kW	4,4–34,1	4,4–44,0
	G20Y20 ⁽¹⁾	kW	4,2–32,3	4,2–41,6
Heat output at 50/30 °C	G20 / G25	kW	4,9–37,6	4,9–48,4
	G20Y20 ⁽¹⁾	kW	4,6–35,6	4,6–45,8

Efficiency			CM 35	CM 45
Heating efficiency 80/60 °C	G20	%	97,2–97,3	97,2–97,3
Heating efficiency 50/30 °C	G20	%	108,3–107,8	108,5–107,6
Useful efficiency at 30% (return 30 °C)	G20	%	108,3	108,5
Seasonal efficiency	G20	%	92	93

Domestic hot water performance ⁽²⁾			CM 35	CM 45
Load profile	-		XXL	XXL
Peak flow at 40 °C first 10 minutes (storage temp. 80 °C)	I/10'		229	263
Peak flow at 40 °C first hour (storage temp. 80 °C)	I/60'		1112	1362
Continuous flow rate 40 °C (ΔT = 30 K)	I/h		1068	1320
Continuous flow rate 50 °C (ΔT = 40 K)	I/h		796	989
Continuous flow rate 60 °C (ΔT = 50 K)	I/h		600	750
DHW efficiency at ΔT = 30 K	%		104	104

(1) Up to 20 vol. % hydrogen.
(2) Operating conditions: DHW set point T = 80 °C, Cold water inlet T = 10 °C.
(3) 15 °C, 1.013,25 mbar, dry gas.

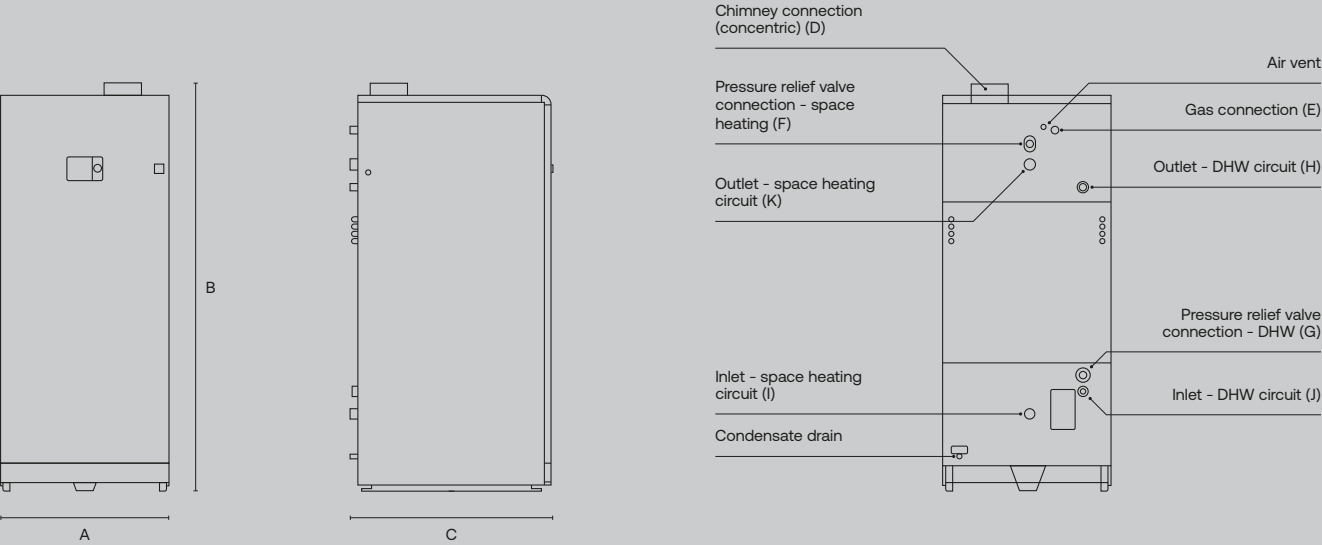
General			CM 35	CM 45
Energy consumption	W		45	86
Supply voltage / frequency	V/Hz		230/50	230/50
Protection class	IP		20	20
Seasonal space heating energy efficiency class			A	A
Range of space heating energy efficiency classess			A+++ → D	A+++ → D
Domestic hot water efficiency class			A	A
Range of domestic hot water energy efficiency classes			A+ → F	A+ → F
Gas appliance category			I2E(S), I2E, I2Er, I2H, I3P, II2E3P, II2EK3P, II2ELL3P, II2Esi3P, II2H3P, II2L3P	
Gas type			G20, G20Y20 ⁽¹⁾ , G25, G25.3, G31	
Chimney type(s)			B23, B23p, C13, C33, C43, C53, C63, C83, C93	
Capacity - space heating	l		43,6	43,6
Capacity - domestic hot water	l		10,6	10,6
CO emission (0% O ₂)	mg/kWh		7,5	7,5
Gas flow rate	G20 ⁽³⁾	m³/h	0,5–3,7	0,5–4,8
	G25 ⁽³⁾	m³/h	0,6–4,2	0,6–5,6
	G31 ⁽³⁾	m³/h	0,2–1,4	0,2–1,8
	G20Y20 ^{(1),(3)}	m³/h	0,5–3,7	0,5–4,8
NOx class			6	6
NOx emission	mg/kWh		24,3	28,9
Max temperature - space heating	°C		95	95
Max temperature - DHW	°C		80	80
Max operating pressure - space heating	bar		3	3
Max operating pressure - DHW	bar		8	8

(1) Up to 20 vol. % hydrogen.
(2) Operating conditions: DHW set point T = 80 °C, Cold water inlet T = 10 °C.
(3) 15 °C, 1.013,25 mbar, dry gas.

Specification CM 60–120

Dimensions		CM 35	CM 45
Width (A)	mm	600	600
Height (B)	mm	1676	1676
Depth (C)	mm	640	640
Empty weight	kg	180	180

Connections		CM 35	CM 45
Chimney connection (concentric) (D)	mm	80/125	80/125
Gas connection (E)	inch	3/4	3/4
Pressure relief valve connection - space heating (F)	inch	1	1
Pressure relief valve connection - DHW (G)	inch	3/4	3/4
Outlet - DHW circuit (H)	inch	3/4	3/4
Inlet - space heating circuit (I)	inch	1	1
Inlet - DHW circuit (J)	inch	3/4	3/4
Outlet - space heating circuit (K)	inch	1	1



Performance			CM 60	CM 70	CM 80	CM 100	CM 120
Heat input (net)	G20 / G25 / G31	kW	9,5-57,5	9,5-69,9	9,5-80,0	12,5-99,0	12,5-115,0
	G20Y20 ⁽¹⁾	kW	9,0-54,4	9,0-66,2	9,0-75,7	11,8-93,7	11,8-108,9
Heat output at 80/60 °C	G20 / G25	kW	9,2-56,1	9,2-68,2	9,2-77,8	12,1-97,2	12,1-112,9
Heat output at 50/30 °C	G20 / G25	kW	10,3-61,6	10,3-74,9	10,3-85,9	13,4-106,9	13,4-124,2

Efficiency			CM 60	CM 70	CM 80	CM 100	CM 120
Heating efficiency 80/60 °C	G20	%	97,1-97,3	97,3-97,3	97,2-97,3	97,5-97,8	97,5-97,9
Heating efficiency 50/30 °C	G20	%	108,2-107,2	108,0-107,2	108,4-107,4	107,7-108,0	107,7-108,0
Useful efficiency at 30% (return 30 °C)	G20	%	108,2	108,0	108,4	108,2	108,2
Seasonal efficiency	G20	%	92	92	93	93	93

Domestic hot water performance ⁽²⁾		CM 60	CM 70	CM 80	CM 100	CM 120
Load profile	-	XXL	XXL	XXL	XXL	XXL
Peak flow at 40 °C first 10 minutes (storage temp. 80 °C)	l/10'	344	384	423	546	602
Peak flow at 40 °C first hour (storage temp. 80 °C)	l/60'	1703	1994	2283	2921	3327
Continuous flow rate 40 °C (ΔT = 30 K)	l/h	1632	1932	2232	2850	3270
Continuous flow rate 50 °C (ΔT = 40 K)	l/h	1224	1449	1674	2138	2453
Continuous flow rate 60 °C (ΔT = 50 K)	l/h	978	1170	1338	1560	1830
DHW efficiency at ΔT = 30 K	%	104	104	104	104	104

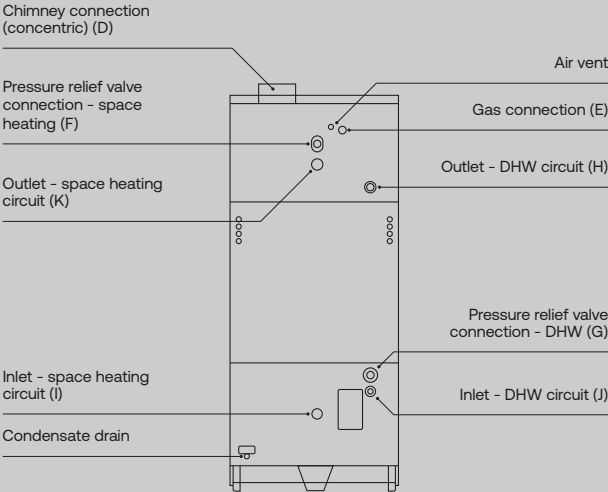
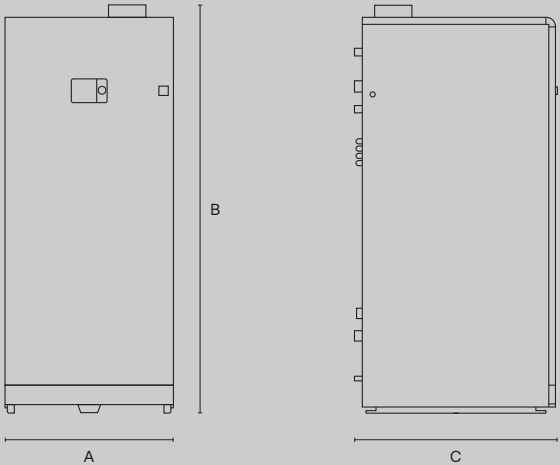
(1) Up to 20 vol. % hydrogen.
(2) Operating conditions: DHW set point T = 80 °C, Cold water inlet T = 10 °C.
(3) 15 °C, 1.013,25 mbar, dry gas.

General		CM 60	CM 70	CM 80	CM 100	CM 120
Energy consumption	W	73	120	150	257	300
Supply voltage / frequency	V/Hz	230/50	230/50	230/50	230/50	230/50
Protection class	IP	20	20	20	20	20
Seasonal space heating energy efficiency class		A	A	A	A	A
Range of space heating energy efficiency classess		A+++ → D	A+++ → D	A+++ → D	A+++ → D	A+++ → D
Domestic hot water efficiency class		A	A	A	A	A
Range of domestic hot water energy efficiency classes		A+++ → F	A+++ → F	A+++ → F	A+++ → F	A+++ → F
Gas appliance category		I2E(S), I2E, I2Er, I2H, I3P, II2E3P, II2EK3P, II2ELL3P, II2Esi3P, II2H3P, II2L3P				
Gas type		G20, G20Y20 ⁽¹⁾ , G25, G25.3, G31				
Chimney type(s)		B23, B23p, C13, C33, C43, C53, C63, C83, C93				
Capacity - space heating	l	63	63	63	83	83
Capacity - domestic hot water	l	18	18	18	25	25
CO emission (0% O2)	mg/kWh	43,3	43,3	43,3	28,4	28,4
Gas flow rate	G20 ⁽³⁾	m³/h	1,0-6,0	1,0-7,3	1,0-8,4	1,3-12,2
	G25 ⁽³⁾	m³/h	1,1-7,0	1,1-8,5	1,1-9,8	1,5-12,2
	G31 ⁽³⁾	m³/h	0,4-2,3	0,4-2,8	0,4-3,3	0,6-4,1
	G20Y20 ^{(1),(3)}	m³/h	1,0-6,0	1,0-7,3	1,0-8,4	1,3-12,2
NOx class		6	6	6	6	6
NOx emission	mg/kWh	30,3	30,3	30,3	39,7	39,7
Max temperature - space heating	°C	95	95	95	95	95
Max temperature - DHW	°C	80	80	80	80	80
Max operating pressure - space heating	bar	3	3	3	3	3
Max operating pressure - DHW	bar	8	8	8	8	8

(1) Up to 20 vol. % hydrogen.
(2) Operating conditions: DHW set point T = 80 °C, Cold water inlet T = 10 °C.
(3) 15 °C, 1.013,25 mbar, dry gas.

Dimensions		CM 60	CM 70	CM 80	CM 100	CM 120
Width (A)	mm	632	632	632	700	700
Height (B)	mm	1398	1398	1398	1640	1640
Depth (C)	mm	775	775	775	805	805
Empty weight	kg	200	200	200	285	285

Connections		CM 60	CM 70	CM 80	CM 100	CM 120
Chimney connection (concentric) (D)	mm	100/150	100/150	100/150	100/150	100/150
Gas connection (E)	inch	3/4	3/4	3/4	3/4	3/4
Pressure relief valve connection - space heating (F)	inch	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Pressure relief valve connection - DHW (G)	inch	1	1	1	1	1
Outlet - DHW circuit (H)	inch	1	1	1	1	1
Inlet - space heating circuit (I)	inch	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Inlet - DHW circuit (J)	inch	1	1	1	1	1
Outlet - space heating circuit (K)	inch	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2



Advanced Industrial Components

AIC, founded in 2001, is a renowned specialist in designing and manufacturing stainless steel and titanium heat exchangers. With top-quality products and advanced production processes, we excel in complex heat transfer projects. AIC Europe, established in 2018, delivers innovative heating solutions and exceptional service through its subsidiaries across Europe. Our continuous investment and research focus on reducing emissions, maximizing energy savings, and providing high eco-comfort performance in heating and hot water.

1000 Employees

35% Planning and Management
65% Production and Logistics

33.900 m²

Production facilities
in Poland

14

Commercial branches in Europe,
North America and Asia

