COSMOGAS®
MADE IN ITALY

Condensing residential boilers

MYdens®

wall-hung gas condensing boilers from 15 to 34 kW

MYdens
the generation of
double condensing boilers

Only 30,5 cm depth contain all the power of **MYdens** in an elegant and refined design suitable to be placed in any domestic environment, even inside niches or furniture. The small size and light weight of **MYdens** simplify installation moreover it has been given great attention to the user usability with simple and intuitive controls.
MYdens is capable of operating and feeding any heating system with radiators, radiant panels, fan coils, etc.

MYdens is available in a wide range of models differing in output (15, 24 and 34 kW) and options (heating and domestic hot water mode).

R.V.C. 3 HEAT EXCHANGERS

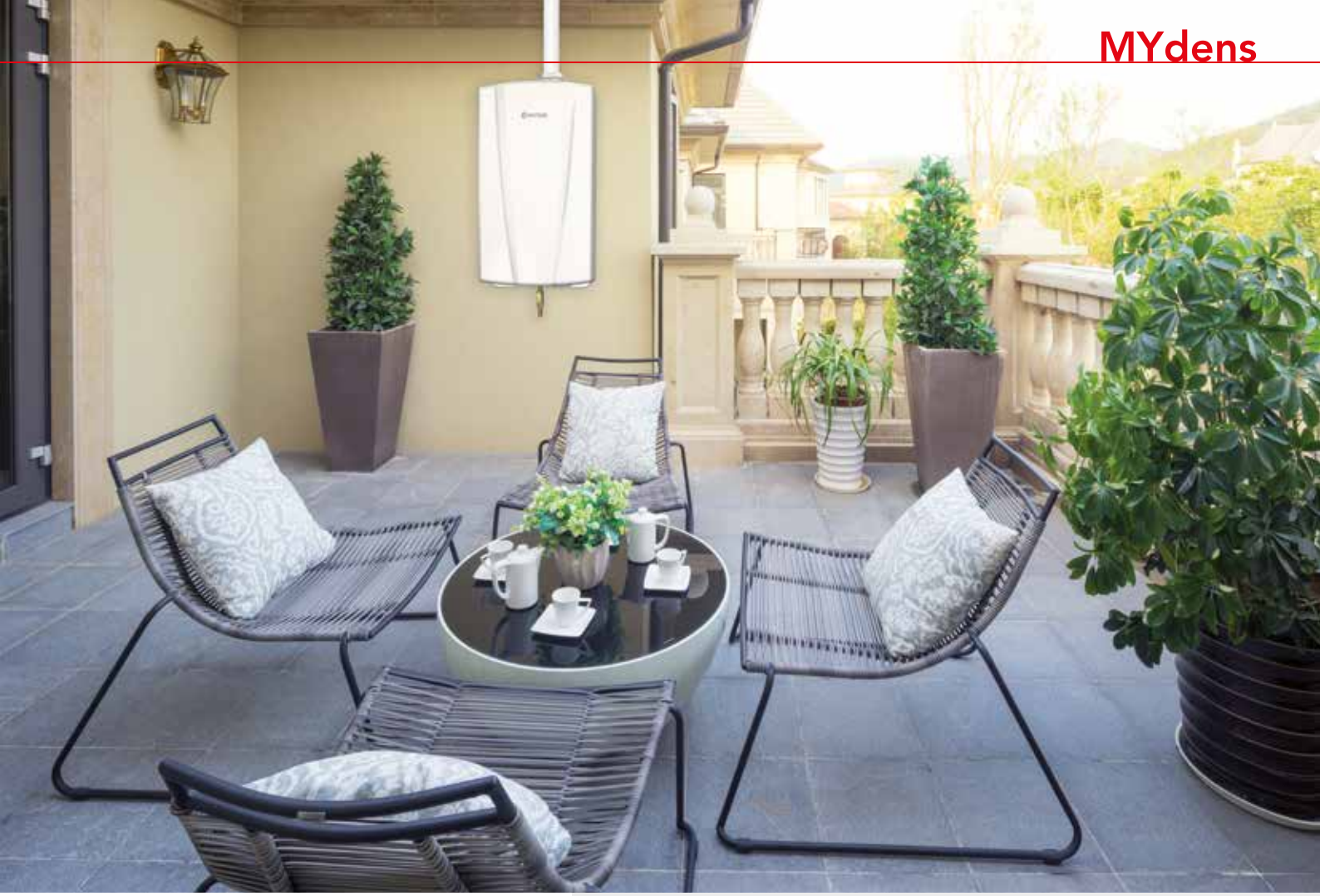
CO_2 LOW EMISSIONS

1:8 TURNDOWN RATIO

Comfort and energy saving
wherever you are

To install **MYdens** outdoors, **COVER-BOX**, the weatherproof, UV-resistant ABS insulated cover, is available as an accessory on demand. The highly insulating, fireproof polyethylene insulation gives the boiler an IP X5D electical protection rating and protects it from cold and bad weather. **MYdens** is protected against frost as it is automatically activated when regularly powered and the temperature drops below 7°C.
The **DIMMI** Wi-Fi remote control is required to control the boiler remotely.

MYdens can be combined with **DIMMI**, the new evolved Wi-Fi thermoregulation system with mirror display that allows you to remotely control and configure maximum comfort with simple commands, and thanks to its elegant and essential design it integrates perfectly into any environment.
Thanks to its intuitive free **EcoHOME Life APP**, available for both Android and Apple iOS, it will be possible to interact with the boiler at any time, even if you are on the other side of the world.



EcoHOME Life

Download on the App Store

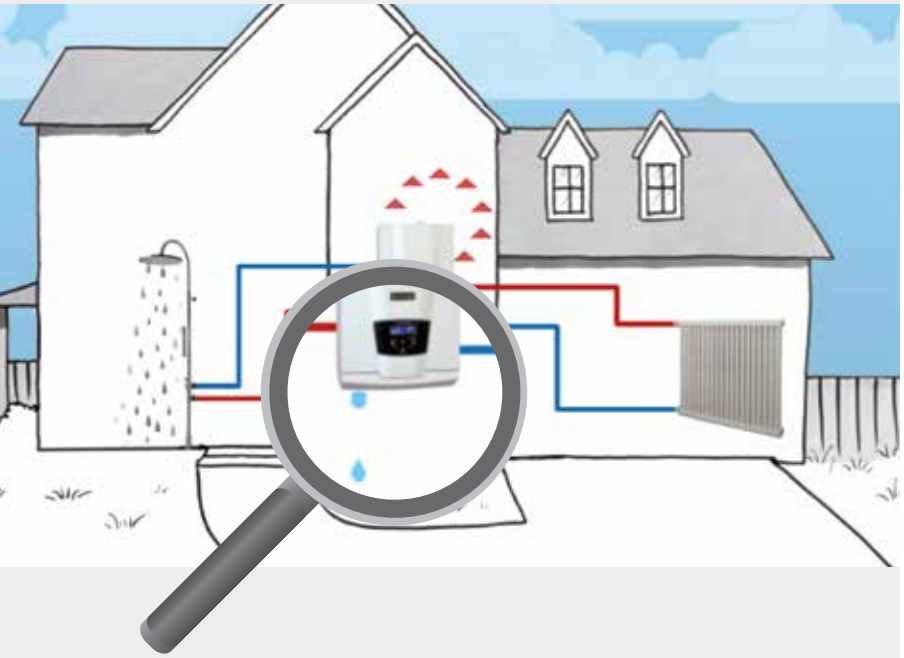
Download on Google play

ERP V CLASS

Everything under control
even outdoors

IP X5D

MYdens 15 - 24 - 34
with COVER-BOX



The importance of condensing during DHW production
double condensing

A new culture of living is being established, where proper use of resources in the perspective of energy sustainability leads to increasingly reduced heating needs.

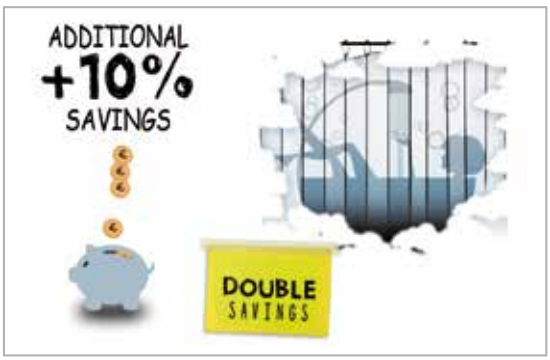
On the other hand, the need for a higher production of domestic hot water is emerging, due to modern habits and lifestyles, also favoured by the diffusion of multi-jet showers, cascade showerheads and Jacuzzis.

If we consider that we use domestic hot water 365 days a year and at all latitudes, the choice of **MYdens** double condensing means a significant increase of saving.

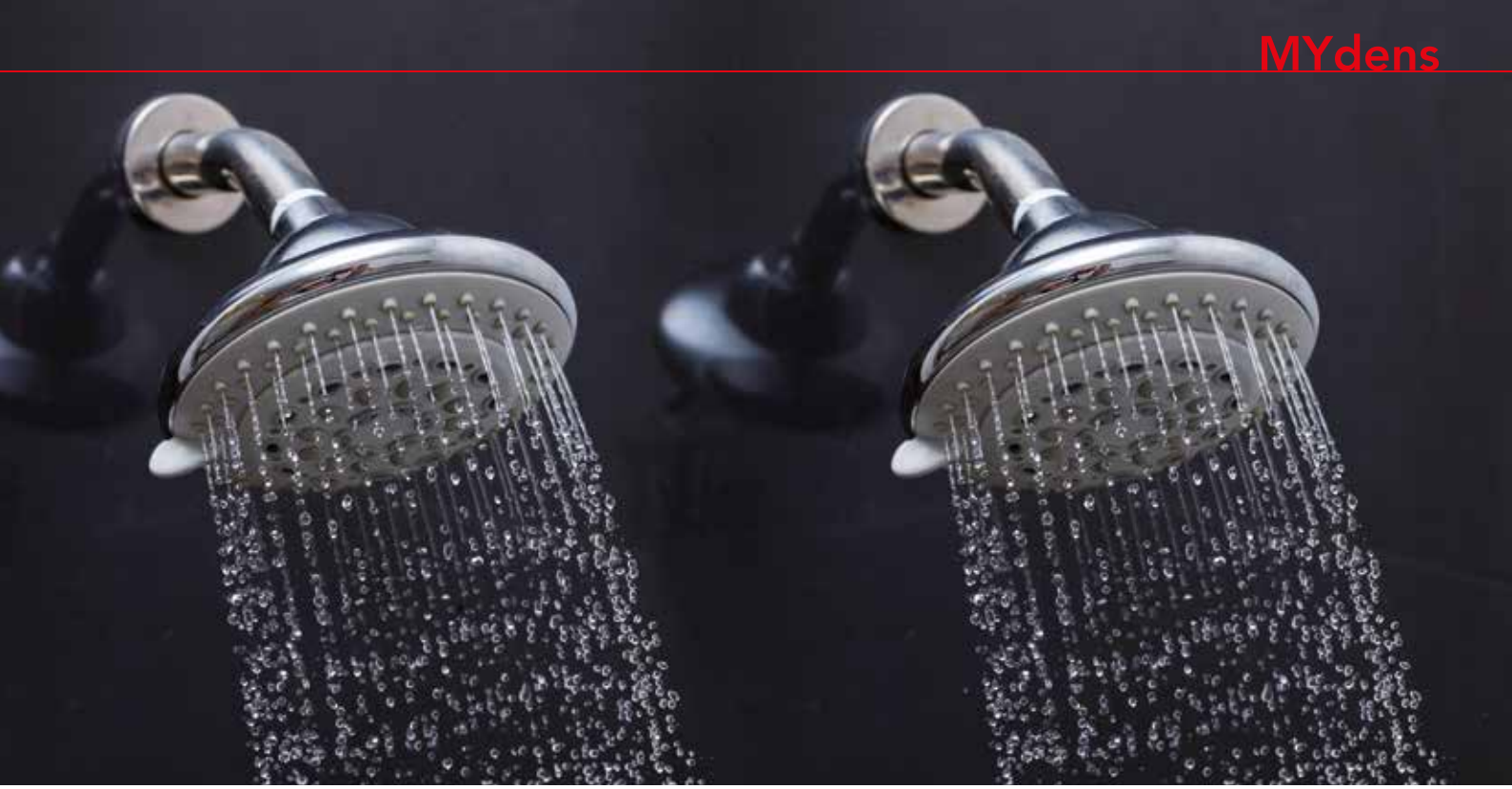
All year long
double condensing

Traditional condensing boilers only work in condensing mode at low temperatures and during heating production.

MYdens works in condensing mode 365 days a year, both in heating and DHW production, because it works in condensing mode even at high temperatures.

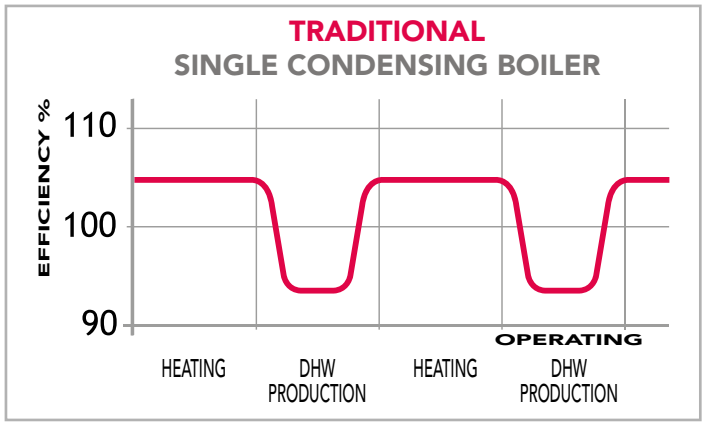


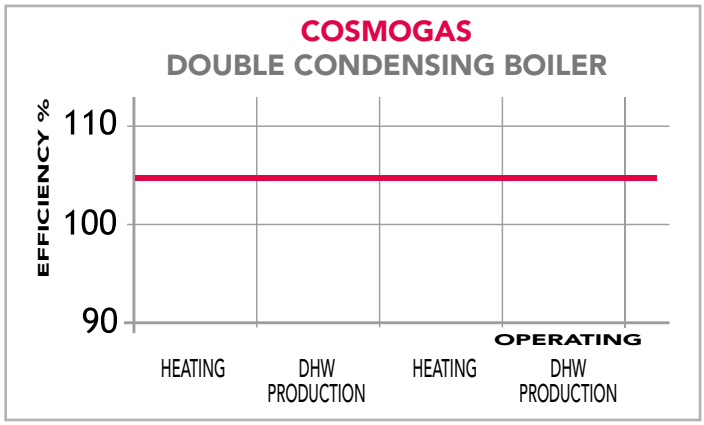
Traditional gas condensing boilers guarantee savings up to 30% compared to older atmospheric boilers. With **MYdens** double condensing boiler you can save an additional 10% upon domestic hot water production.



High efficiency
all year long

To obtain double condensing it is necessary to have efficient thermal exchanges, considerably higher than traditional gas condensing boilers.
The secret is enclosed in the use of patented large-surface heat exchangers that still allow the condensation at the temperature of the primary circuit of 55°C, like the R.V.C. one of its kind, that combined with the oversized secondary heat exchanger, guarantees high performance with very low costs.

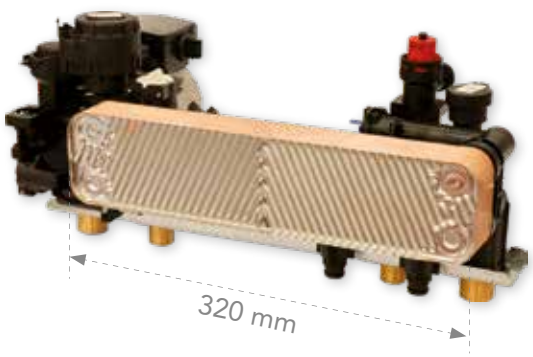


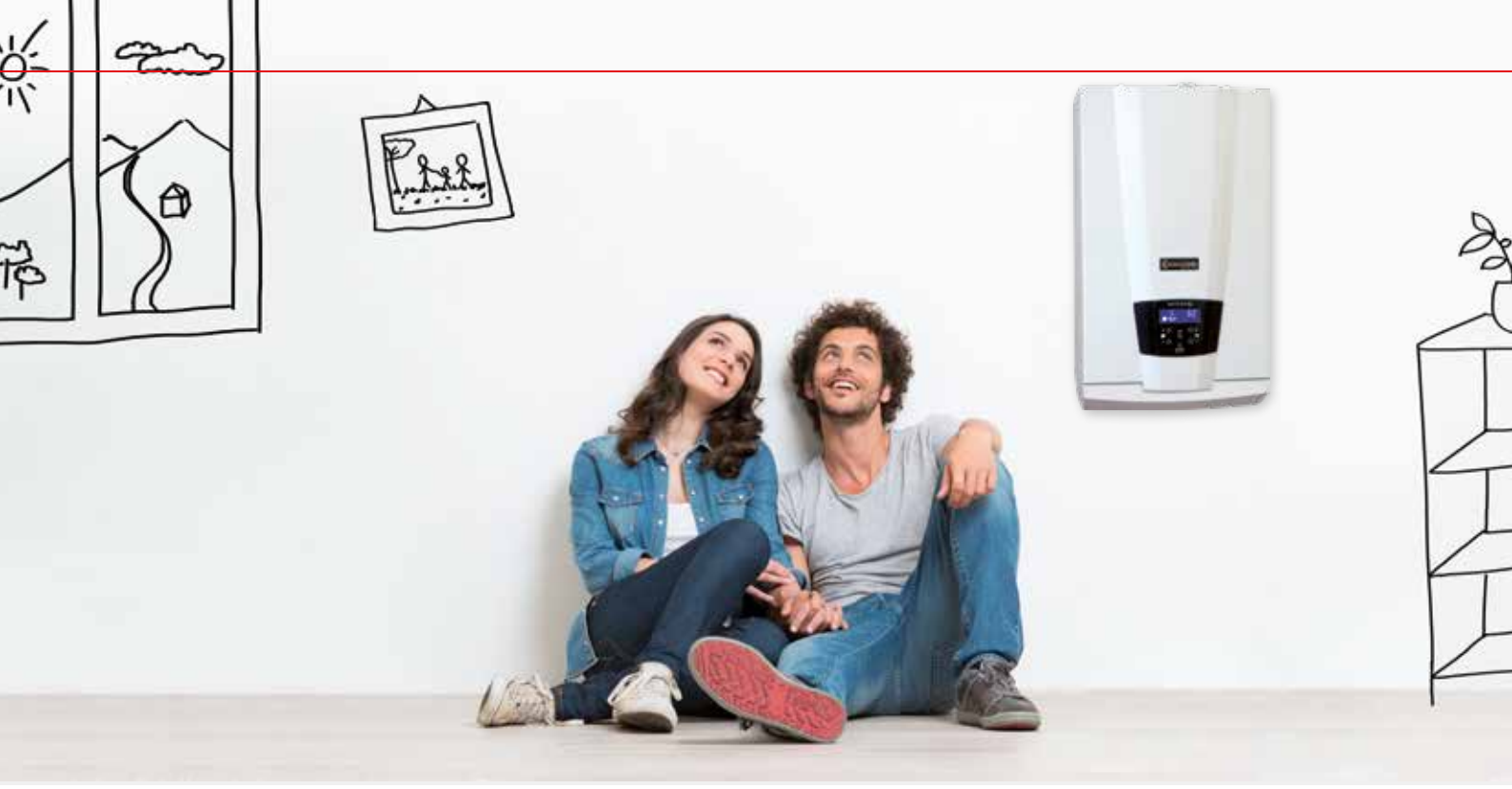


Oversized plate
heat exchanger

Domestic hot water is produced by an oversized stainless steel plate heat exchanger (L=320 mm), that allows great and quick availability of DHW. Moreover **MYdens** always works in condensing mode, even during domestic hot water supply, thereby reducing the consumption and costs involved in the production of hot water of an additional 10%*.

* compared to boilers that do not condense during DHW production





Quality
parts

PATENTED R.V.C HEAT EXCHANGER
made of AISI 316 Ti STAINLESS STEEL
large water flow
efficiency 108,5%

ECOLOGIC PREMIX BURNER
made of FECRALLOY metal fibre (FE, CR, AL, Y)
low NOx, CO and CO_2 emissions

COSMOMIX
patented premix system
turndown ratio 1:8

HYDROPLUS ELECTRONIC CONTROL
user friendly controls
backlit digital display

LOW CONSUMPTION INVERTER PUMP
guarantees high flow rates

LIGHT WEIGHT AND SIZE
easy to install

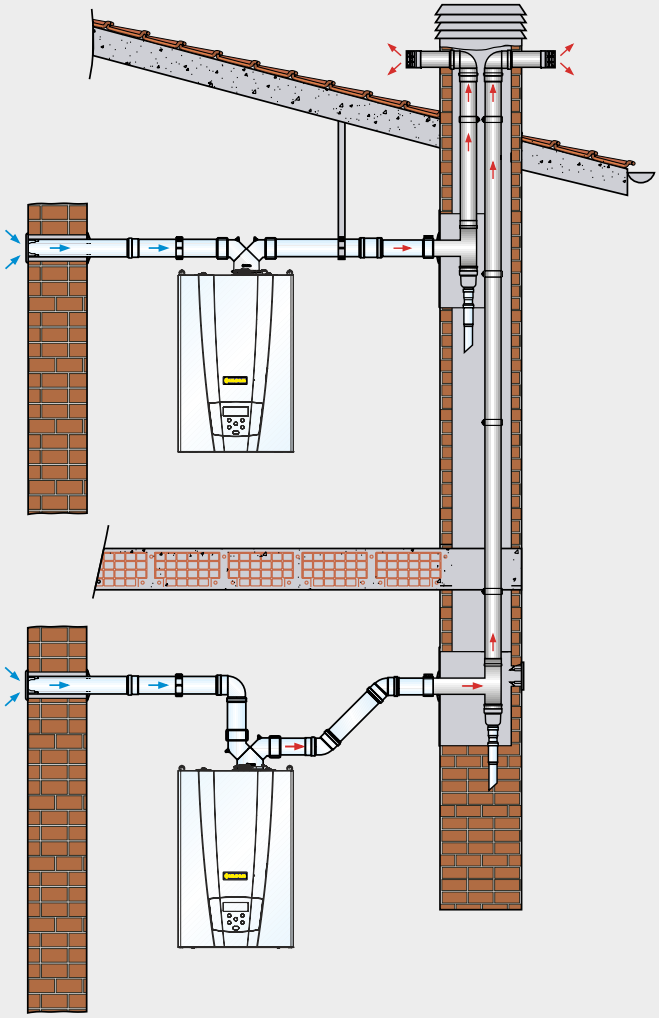
STAINLESS STEEL PLATE HEAT EXCHANGER
wide surface, large DHW production
always condensing even during
Domestic Hot Water production

Simple and intuitive control panel

Control panel with digital back-lighting display for an easy and intuitive visualization of parameters, boiler phases, error messages, with electronic temperature control. Display back-lighting turns off after 5 minutes of inactivity (SAVE ENERGY).

Built-in back flue preventer (Clapet)

In cascade sequence installations, **MYdens** eco-friendly premix burner features, as standard equipment, a back flue preventer (clapet) on the combustion circuit to prevent possible flue gas recirculation between different exchangers.



The importance of Ø50 mm flue gas pipe

While it used to be possible to use aluminium flue gas pipes for traditional boilers, with the advent of condensing boilers this is no longer possible due to the production of acidic condensate that would affect aluminium, a material that is not resistant to condensation.

In the case of replacing a conventional boiler with a new condensing boiler, there may be problems with flues, exhaust ducts and condensate drain. For this purpose, Ø50 mm polypropylene flue gas pipes are available as accessories, which allow easy ducting into existing aluminium flues.

The low flue gas temperatures of condensing boilers allow the use of specific plastic materials instead of aluminium.

The efficiency of three heat exchangers
in the size of one

Patented **R.V.C.** heat exchanger, with Radial Variable Circulation, is made of AISI 316L stainless steel, **without weld joints**.
Designed to easily condense and recover the greatest amount of latent heat in the flue gases **R.V.C.** is actually equipped with "3 heat exchangers" hydraulically connected to each other.
The heat exchanger No.1, with large diameter, envelops the burner to absorb a large amount of heat, the No.2 envelops the first one and further lowers the flue gas temperature and the No.3 wraps around the previous ones and acts as a capacitor. The wide exchange surface of the "3 heat exchangers" allows **efficiency up to 108,5%** with gas savings up to 30%.

'H2 ready' eco-friendly
premix burner

- **High-efficiency combustion**
- **NOx low polluting emissions**
- **CO_2 low greenhouse effect**
- **Natural gas, LP gas and Natural gas/20% Hydrogen blend operating**

Eco-friendly premix boilers have a constant air/gas ratio in each point of the turndown range of the burner, decreasing polluting emissions and optimising efficiency.
The premix burner is made of "Fecralloy" a special metal fibre and has a round shape. **Cosmogas eco-friendly premix burner** spreads short and perfectly nourished flames.
The patented premix system, **Cosmomix,** adopted in **MYdens** condensing boilers, allows an exceptional **turndown ratio of 1:8**.

3° Capacitor - heat exchanger

2° Medium temperature heat exchanger

1° High temperature heat exchanger

Three heat exchangers in one

- **High efficiency**
- **Large passages**
- **Great exchange surface**
- **Large water flow**

AISI 316 Ti Titanium stainless steel triple heat exchanger

The patented primary heat exchanger **R.V.C.**, the heart of the **MYdens** system, **is the result of intensive studies and tests combined with the experience of Cosmogas** which, for over 50 years, has been designing and patenting heating systems.
During operation, the return water is distributed over the three coils that make up the Cosmogas **R.V.C.** heat exchanger with diameters of 18 and 16 mm.
The 3 **AISI 316 Ti (Titanium)** stainless steel exchangers, which make up the **R.V.C.** heat exchanger have **no weld joints**, which provides exceptional resistance to corrosion and the correct resistance to chemical phenomena in heating systems.

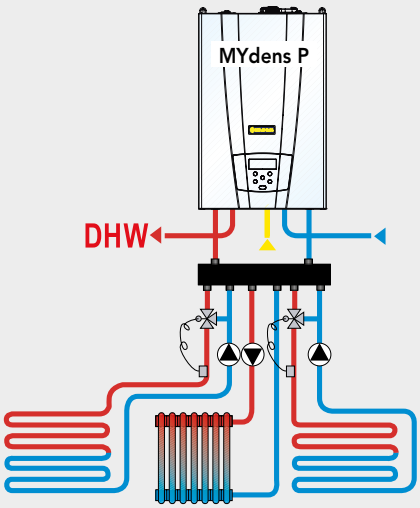
AISI 316 Ti R.V.C.

CO_2 LOW EMISSIONS

NO_x LOW EMISSIONS

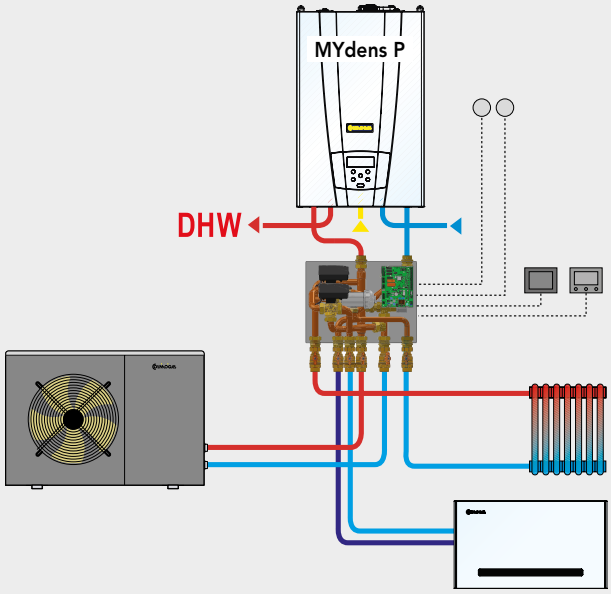
Possible arrangements

CONNECTION TO S.I.M. D



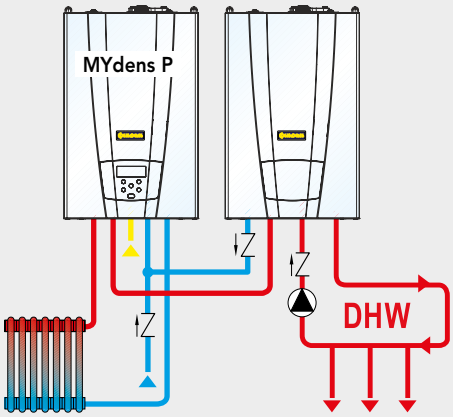
MYdens, in combination with the S.I.M. D hydraulic unit, complete with low loss header, can manage up to 3 heating circuits at the same time. Dialogue with boiler and outdoor temperature sensor allows sliding temperature operation.

CONNECTION TO ECOHYBRID



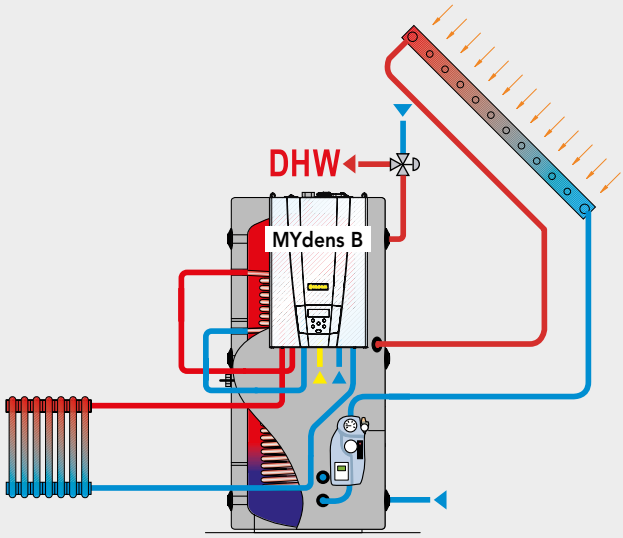
MYdens can be included in the 'Factory-Made' ECOhybrid hybrid system; with the heat pump connected, system efficiency and energy savings are optimised.

CONNECTION TO B50



In case of high domestic hot water demands, **MYdens** can be combined with the **B50** water storage tank. An effective and reliable partnership with coordinated and elegant aesthetics.

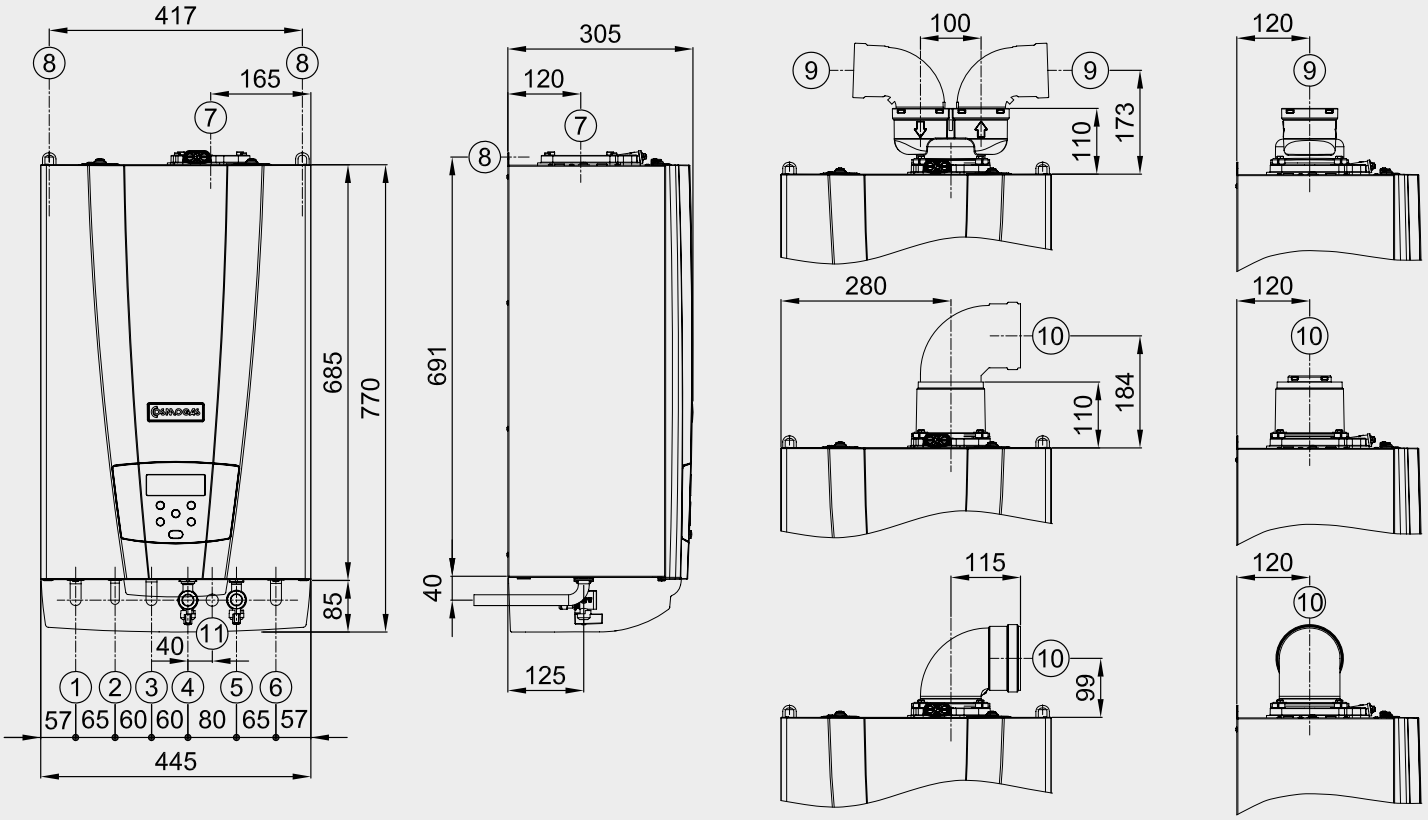
CONNECTION TO STORAGE TANK + SOLAR PANEL



MYdens can be backpacked together with a double coil boiler with electronic anode protection as standard, creating an autonomous DHW producer that can be connected to a solar system. It is the ideal solution where there are high peak demands for hot water and heating.
It does not require a thermal power plant.

The examples reported are merely indicative

Size
and connections



1 · Supply
3/4" in 15 and 24 models
1" in 34 model
2 · DHW outlet 1/2" (MYdens P only) ✻
3 · Water storage tank return 3/4" ✻✻
4 · Gas inlet 3/4"
5 · Cold water inlet 1/2"

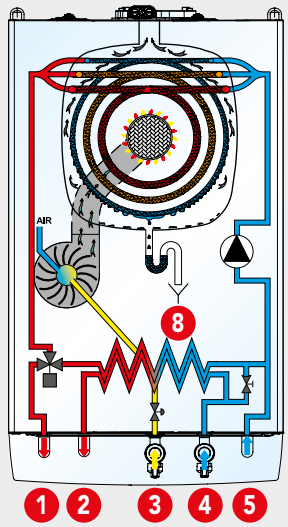
6 · Return
3/4" in 15 and 24 models
1" in 34 model
7 · Flue gas outlet
8 · Support brackets
9 · Split flue gas outlet
10 · Coaxial flue gas outlet

11 · Condensate drain Ø20

✻ · Water storage tank supply 3/4" in MYdens B
Not available in MYdens C
✻✻ · Available for MYdens B only

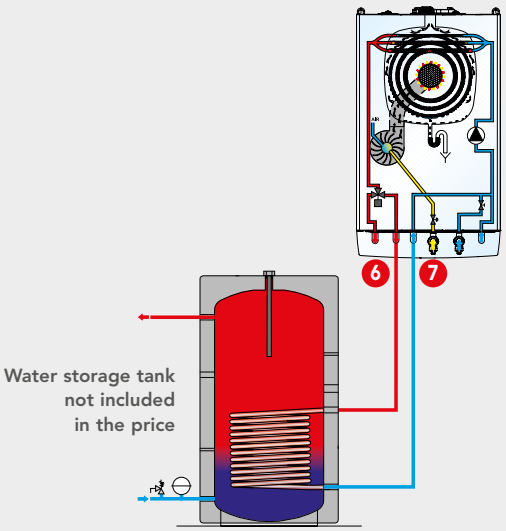
Available
models

MYDENS P
Instantaneous DHW and heating



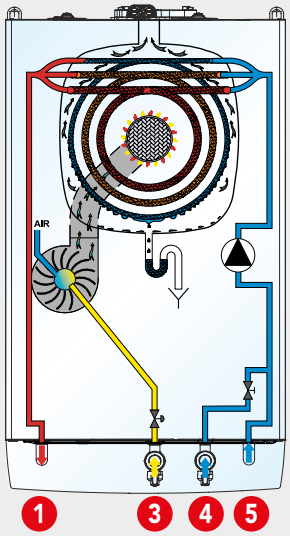
1 · Supply
2 · DHW outlet

MYDENS B
Instantaneous DHW and heating



3 · Gas inlet
4 · Cold water inlet
5 · Return
6 · Water storage tank supply

MYDENS C
Heat only



7 · Water storage tank return
8 · Oversized plate heat exchanger

Technical data

MYDENS		MU	15	24	34
Type (Type of exhaust flue gas/air intake)			B23; B23P; C13; C33; C43; C53; C63; C83; C93		
Category			II2H3P	II2H3P	II2H3P
EU type approval certificate (PIN)			0476CQ1097	0476CQ1097	0476CQ1097
Range Rated Boiler			APPROVED	APPROVED	APPROVED
Heating maximum heat input "Qn" LHV (HHV)		kW	14,0 (15,5)	25,5 (28,3)	32,0 (35,5)
Sanitary circuit maximum heat input "Qnw" LHV (HHV)		kW	/	25,5 (28,3)	32,0 (35,5)
Heating minimum heat input LHV (HHV)		kW	3,2 (3,6)	3,2 (3,6)	6,0 (6,7)
Sanitary circuit minimum heat input LHV (HHV)		kW	/	3,2 (3,6)	6,0 (6,7)
Heating maximum heat output (80/60) "Pn"		kW	13,6	24,8	30,9
Efficiency at 100% load (80/60) LHV (HHV)		%	96,5 (86,9)	97,3 (87,6)	96,8 (87,2)
Minimum heat output (80/60)		kW	3,02	3,02	5,75
Efficiency at minimum heat output (80/60) LHV (HHV)		%	94,5 (85,1)	94,5 (85,1)	95,8 (86,3)
Heating maximum heat output (50/30)		kW	14,9	27,0	33,5
Efficiency at heating maximum heat output (50/30) LHV (HHV)		%	106,5 (96,0)	105,7 (95,2)	104,7 (94,3)
Minimum heat output (50/30)		kW	3,30	3,30	6,14
Efficiency at minimum heat output (50/30) LHV (HHV)		%	103,0 (92,8)	103,0 (92,8)	102,4 (92,3)
Efficiency at 30% of the load LHV (HHV)		%	107,5 (96,8)	108,5 (97,7)	107,0 (96,3)
Losses at the chimney, burner ON (80/60)		%	1,5	1,5	1,5
Losses at the chimney, burner OFF		%	0,1	0,1	0,1
Losses at the casing, burner ON (80/60)		%	0,5	0,5	0,5
Losses at the casing, burner OFF		%	0,1	0,1	0,1
Gas flow rate	G20	m^3/h	1,48	2,70	3,38
	G31	kg/h	1,09	1,98	2,48
Gas supply pressure	G20	mbar	20	20	20
	G31	mbar	37	37	37
Gas supply minimum pressure	G20	mbar	10	10	10
	G31	mbar	10	10	10
Gas supply maximum pressure	G20	mbar	45	45	45
	G31	mbar	45	45	45
Main heat exchanger water content		l	2,9	2,9	2,9
Secondary heat exchanger water content		l	/	0,5	0,5
DHW useful heat output		kW	/	27,0	33,5
DHW minimum heat input		l/min	/	2	2
Instantaneous DHW production (Δt 30°C)		l/min	/	12,9	16,0
Instantaneous DHW temperature adjustment range		°C	/	40-60	40-60
DHW temperature adjustment range with hot water storage tank		°C	40-70	40-70	40-70
Design temperature		°C	95	95	95
Maximum heating temperature		°C	80	80	80
Minimum heating temperature		°C	20	20	20
Maximum heating pressure "PMS"		bar	3	3	3
Minimum heating pressure		bar	0,5	0,5	0,5
Sanitary circuit maximum pressure "PMW"		bar	/	7	7
DHW minimum pressure		bar	/	0,3	0,3
Expansion vessel pre-load pressure		bar	1	1	1
Expansion vessel capacity		l	10	10	10
Rated power supply voltage		V ~	230	230	230
Rated power supply frequency		Hz	50	50	50
Absorbed electrical power		W	120	120	120
Electrical protection rating			IP X4D	IP X4D	IP X4D
Burner electrical power		W	70	70	70
Pump absorbed electrical power		W	50	50	50
Air intake / flue gas exhaust pipe diameter (split)		mm	80	80 or 50	80 or 50
Max. length of air intake pipe (split) (80) or (50)		m	20	(20) or (7*)	(12,5) or (3*)
Max. length of flue gas exhaust pipe (split) (80) or (50)		m	20	(20) or (7*)	(12,5) or (3*)
Minimum available diameter of air intake collective duct (type C93)		mm	100	100	100
Flue gas exhaust pipe diameter (coaxial)		mm	60/100	60/100	60/100
Max. length of flue gas exhaust pipe (coaxial)		m	10	10	10
Equivalent length of a bend		m	45° bend = 0,5 m - 90° bend =1 m		
Weighted CO (0% O2)	G20	ppm	5	20	25

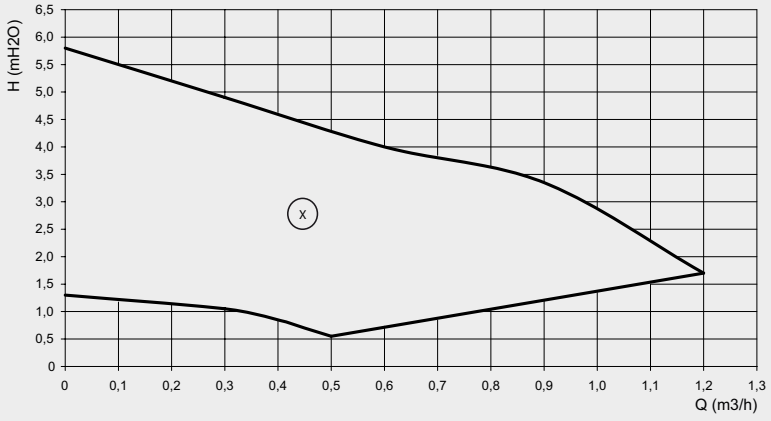
MYDENS		MU	15	24	34
Weighted NOx (0% $O2_)$ (class 6 EN 15502) HHV	G20	mg/kWh	25	31	24
CO2 (%) at minimum / maximum output	G20	%	8,5 / 9,0	8,5 / 9,0	8,5 / 9,0
	G31	%	10,0 / 10,4	9,5 / 10,5	10,0 / 10,5
O2 (%) at minimum / maximum output	G20	%	5,8 / 4,9	5,8 / 4,9	5,8 / 4,9
	G31	%	5,6 / 4,9	6,4 / 4,9	5,6 / 4,9
Maximum recirculation of flue gas permitted in windy conditions		%	10	10	10
Maximum flue gas temperature at boiler outlet		°C	80	80	80
Minimum flue gas temperature at boiler outlet		°C	30	30	30
Δt flue gas temperature/Return (at 100% of the load) (80/60)		°C	7	15	28
Δt flue gas temperature/Return (at 30% of the load) (37/30)		°C	8	5	3
Maximum CO in exhaust flue gas		ppm	250	250	250
Mass flow of exhaust flue gas at maximum power		g/s	6,4	11,6	14,6
Mass flow of exhaust flue gas at minimum power		g/s	1,5	1,5	3,4
Available head at outlet		Pa	90	90	90
Maximum temperature of the combustion agent air		°C	50	50	50
Maximum CO2 content in the combustion agent air		%	0,9	0,9	0,9
Maximum exhaust flue gas temperature for overheating		°C	95	95	95
Max. negative pressure allowed in the exhaust flue gas/air intake system		Pa	90	90	90
Condensate maximum flow rate		l/h	1,9	3,2	4,0
Condensate average acidity		pH	4	4	4
Operating room temperature		°C	0,5 ; 50	0,5 ; 50	0,5 ; 50
Boiler weight (empty)	B	kg	38	38	38
	C	kg	36	36	36
	P	kg	/	38	38

(*) In these conditions, the appliance output is reduced by 10%

PIPES MAX OVERALL LENGTH		
Pipe model	**MYdens 24**	**MYdens 34**
Split smooth pipe	Ø80/80 PP = 40 m	Ø80/80 PP = 25 m
	Ø60/60 PP = 15 m	Ø60/60 PP = 9 m
	Ø50/50 PP = 14 m	Ø50/50 PP = 6 m
Split corrugated pipe	Ø80/80 PP = 20 m	Ø80/80 PP = 13 m
Coaxial	Ø60/100 PP = 10 m	
For each 90° elbow installed please consider a linear loss of: 1 metre (Ø80/80 - Ø60/100), 3 metres (Ø60/60), 4 metres (Ø50/50)		

INSTANTANEOUS DOMESTIC HOT WATER PRODUCTION							
Model		**MYdens 24**			**MYdens 34**		
DHW temperature	Δt	25°C	30°C	35°C	25°C	30°C	35°C
After the first 5 minutes	l	77	64	55	96	80	68
After the first 10 minutes	l	155	129	110	192	160	137
Continuous	l/min	15,5	12,9	11,0	19,2	16,0	13,7

Available head curve



Ⓧ TURNDOWN RATIO RANGE

Inverter variable pump type 15-70
(standard)

Massimiliano Pieraccini

All Cosmogas products are designed, patented and built by us

COSMOGAS srl
Via Leonardo da Vinci, 16
47014 MELDOLA (FC) ITALY
Tel. +39 0543.49.83.70
Fax +39 0543.49.83.92
www.cosmogas.com
info@cosmogas.com

PURCHASE ORDERS - export@cosmogas.com
SPARE PARTS - export@cosmogas.com

AUTHORIZED DEALER

COSMOGAS International Certifications

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