

COSMOGAS®

MADE IN ITALY



MYDENS

- ▶ wall hung and floor standing condensing boilers up to 280 kW



AGUADENS

- ▶ wall hung and floor standing condensing water heaters up to 280 kW

AISI 316 Ti (Titanium) stainless steel heat exchangers

PATENTED R.V.C. AISI 316 Ti (TITANIUM)

Exceptional performance: the new patented R.V.C. (Radial Variable Circulation) heat exchanger.

The core of all appliances is the new generation of heat exchangers type R.V.C..

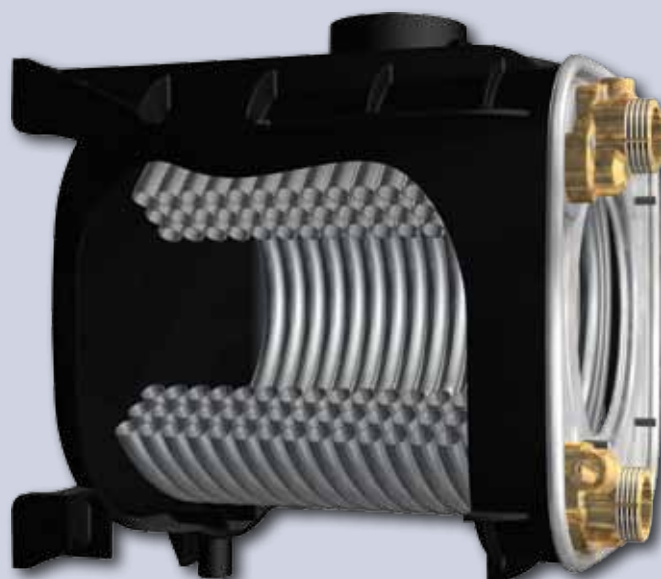
It is composed by 3 series of stainless steel round tubes. In particular, the tube closest to the burner is built in AISI 316 Ti (TITANIUM) stainless steel.

These tubes are assembled and hydraulically connected without welding, maintaining unaltered the chemical and physical characteristics of the stainless steel, with maximum warranty against corrosion.

Exceptional efficiency up to 109%.

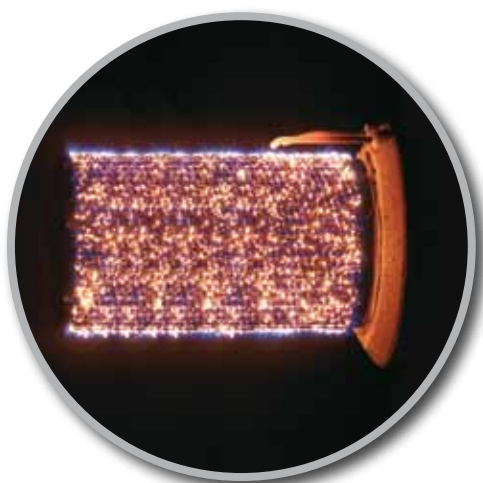
Heat exchanger with low pressure drops and a high resistance to the working pressure, up to 11 bar.

The external case is pre-formed with an innovative composite material PPX 830, which gives it exceptional robustness, lightness and durability in time.



**WORKING
PRESSURE
UP TO**

11 bar



Premix burner advantages:

- ▶ Fecralloy fibre
- ▶ High efficiency combustion
- ▶ Low polluting emissions (CO<15 ppm and NOx<15 ppm)



Cosmomix advantages:

- ▶ Turndown ratio up to 1:5 per heat exchanger
- ▶ Negative Pressure gas valve
- ▶ It also operates with gas inlet low pressures up to 7,5 mbar

M) STAINLESS STEEL HEAT EXCHANGER

A unique range of products (boilers and water heaters) with a uniformity of functions and, consequently, easy to instruct throughout the whole supply and service chain. Spare parts (fan, gas valve, control board, display board, spark generator, pressure sensor, flow sensor, temperature sensors, ignition electrode, detection electrode, Modbus board) are the same for the whole power range of boilers and water heaters. The after sales service can do maintenance on all appliances with a very limited number of spare parts.



Display, control board and general features:

- ▶ Very intuitive control system
- ▶ Connection with external sensor for outdoor reset so as to increase rooms comfort and to maintain boiler temperature as low as possible to achieve the maximum seasonal efficiency
- ▶ Display back-lightening turns off after 5 minutes of inactivity
- ▶ Auto diagnostic of all components and functions, visualization of errors and lockouts, temperature sensors, ionisation current, fan rotation speed, room thermostat status
- ▶ Possibility of maximum and minimum domestic and heating power setting
- ▶ Forcing high or low fire to facilitate combustion analysis
- ▶ Anti-blocking pump system
- ▶ Indirect water heater management
- ▶ 0-10Vdc input for external thermo regulator
- ▶ Integrated MODBUS communication board to communicate with home building automation devices (for models 100 T, 115 T, 140 T, 210 T, 280 T only)
- ▶ PC connection for diagnostic
- ▶ Can be connected in cascade up to 4 appliances
- ▶ Exit for alarm connection
- ▶ Low gas pressure operation up to 7,5 mbar
- ▶ Zero clearances to combustible material
- ▶ Connectable to indirect water heater driven via NTC sensor (boiler only)
- ▶ Connectable to storage water heater driven via NTC sensor (water heater only)
- ▶ Ideal to be connected to a pressure controlled variable speed pump
- ▶ Freeze protection system
- ▶ System pump control, boiler pump control and D.H.W. pump control
- ▶ D.H.W. prioritization
- ▶ Integrated air filter (for models 100 T, 115 T, 140 T, 210 T, 280 T only)
- ▶ Integrated condensate neutralizer kit (for models 100 T, 115 T, 140 T, 210 T, 280 T only): volume of 26,4 dm³, content 25 kg of limestone
- ▶ On/off switch
- ▶ Readable on the control system: water flow sensor (you can see the real GPM are running inside each heat exchanger), supply temperature sensor, flue temperature sensor and tank temperature sensor
- ▶ Low water flow protection
- ▶ Water pressure sensor (display shows continuously the pressure inside the water system)
- ▶ Low water pressure protection
- ▶ Flue blocked pressure switch
- ▶ Adjustable leveling feet
- ▶ Condensate trap
- ▶ Back flue preventer (flapper)
- ▶ Vent damper (flapper)

AGUAdens 16, 22, 27, 37 litres

► condensing wall hung water heater



With **AGUAdens** Cosmogas reaches a new achievement in the condensing water heaters sector for the independent residential sector.

A new concept of water heaters able to satisfy the new household needs, that feature tinier spaces, energy saving requests, comfort, ease of use, reliability and a light impact on the environment.

Only 305 mm depth (484 mm AGUAdens 37) contain the power of **AGUAdens**, in a sophisticated and elegant design suitable for installation in any residential space. Cosmogas with **AGUAdens**, started a conceptual revolution that defines a new pattern where energy saving and the respect for the environment were brought to a new level.



WORKING
PRESSURE
UP TO **11** bar

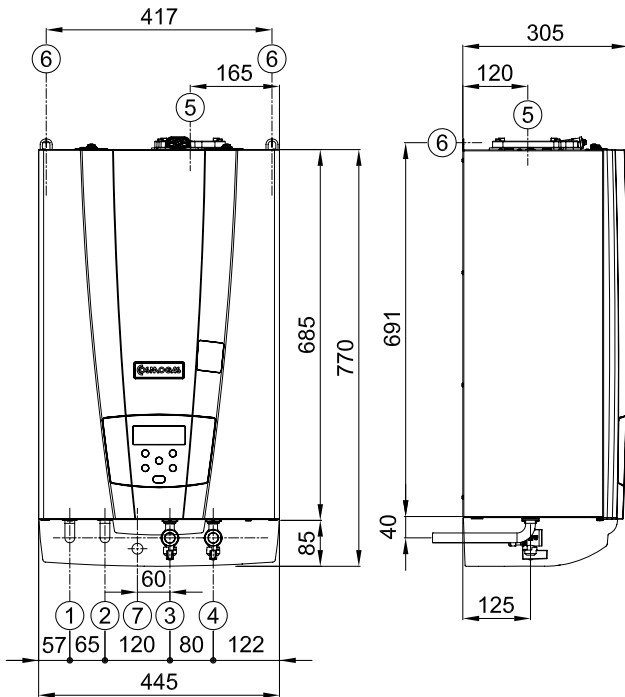


Why choose AGUAdens:

- **Extra saving and efficiency**
 - Condensation technology
 - Fully modulating
 - Efficiency up to 109%
- **Comfort**
 - Silent
 - D.H.W. instantaneous production
 - Easy installation and maintenance
 - Reduced size and weight
- **Construction quality**
 - Modern, innovative and attractive design
 - 316Ti (Titanium) stainless steel R.V.C heat exchanger
 - Turndown ratio up to 1:5
- **Ecology**
 - Reduced gas emissions in the atmosphere
CO<15 ppm and NOx<15 ppm

AGUAdens 16, 22, 27, 37 litres

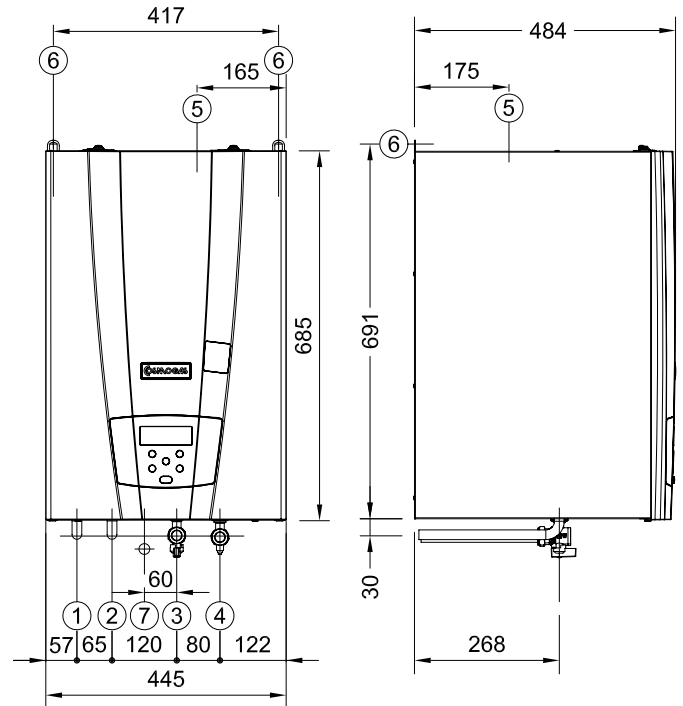
DIMENSIONS AND CONNECTIONS AGUADENS 16 - 22 - 27



- 1 - RECYCLING 3/4" *
- 2 - D.H.W. SUPPLY 3/4"
- 3 - GAS INLET 3/4"
- 4 - COLD WATER INLET 3/4"
- 5 - FLUE GASES DISCHARGE

- 6 - AIR INLET
 - 7 - CONDENSING DRAIN Ø20
- * - ONLY FOR AGUADENS WITH RECYCLING

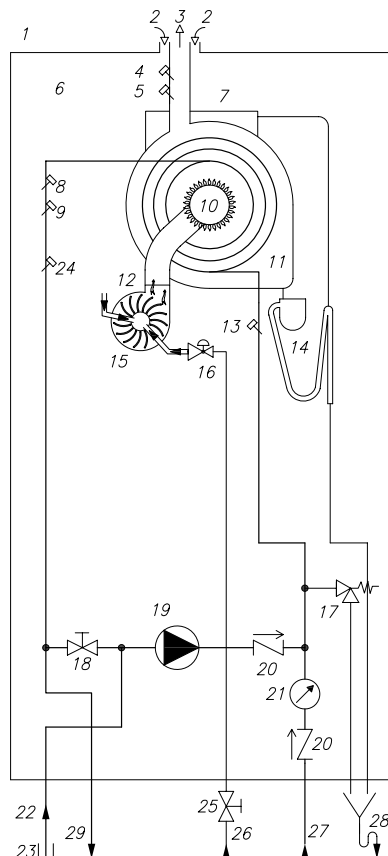
DIMENSIONS AND CONNECTIONS AGUADENS 37



- 1 - RECYCLING 3/4" *
- 2 - D.H.W. SUPPLY 3/4"
- 3 - GAS INLET 3/4"
- 4 - COLD WATER INLET 3/4"
- 5 - FLUE GASES DISCHARGE

- 6 - AIR INLET
 - 7 - CONDENSING DRAIN Ø20
- * - ONLY FOR AGUADENS WITH RECYCLING

OPERATING SCHEME



- 1 - WATER HEATER
- 2 - AIR INLET
- 3 - FLUE EXHAUST
- 4 - HIGH LIMIT FLUE GAS TEMP. SWITCH
- 5 - FLUE GAS TEMPERATURE SENSOR
- 6 - SEALING CHAMBER
- 7 - WATER BAG CONVEIOR
- 8 - HOT WATER TEMPERATURE SENSOR
- 9 - HIGH LIMIT HOT WATER SWITCH
- 10 - PREMIX BURNER
- 11 - R.V.C. STAINLESS STEEL HEAT EXCHANGER
- 12 - MODULATING FAN
- 13 - COLD WATER TEMPERATURE SENSOR
- 14 - CONDENSATE SIPHON
- 15 - AIR/GAS MIXING DEVICE
- 16 - GAS VALVE
- 17 - SAFETY RELIEF VALVE
- 18 - BALL VALVE
- 19 - RECIRCULATION PUMP
- 20 - CHECK VALVE
- 21 - FLOW METER
- 22 - RECYCLING LOOP CONNECTION
- 23 - CAP
- 24 - HOT WATER TEMPERATURE SENSOR
- 25 - SHUT OFF GAS VALVE
- 26 - GAS SUPPLY
- 27 - COLD WATER INLET
- 28 - CONDENSING DRAIN

AGUAdens 100 T, 115 T, 140 T

► condensing floor standing water heater



AGUAdens 100 T, 115 T and 140 T are condensing water heaters that can be installed directly on the floor thanks to their power, reduced size and lightness, freeing space inside mechanical rooms. AGUAdens 100 T, 115 T and 140 T are equipped with 2 R.V.C. heat exchangers made of AISI 316 Ti (titanium) stainless steel that work in cascade mode with unit power at 99 kW, 115 kW and 140 kW. The turndown ratio is up to 10:1. Every heat exchanger is equipped with all control and safety devices. The water heater, being a multi-heat exchanger, has more reliability in case of malfunction occurring to one module, since the others work without any problem. Furthermore, multiple exchangers have power control boards that communicate

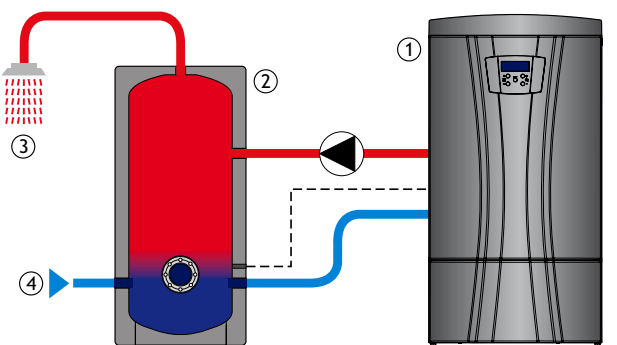
among them and handle the power output of every module in a uniform and coordinated way in order to guarantee the maximum efficiency, turnover and a uniform wearing out.



WORKING
PRESSURE
UP TO **11 bar**

AGUAdens 100 T - 115 T - 140 T

AGUADENS T CONNECTED TO AGUATANK WATER STORAGE



1 - AGUADENS T
2 - AGUATANK WATER STORAGE

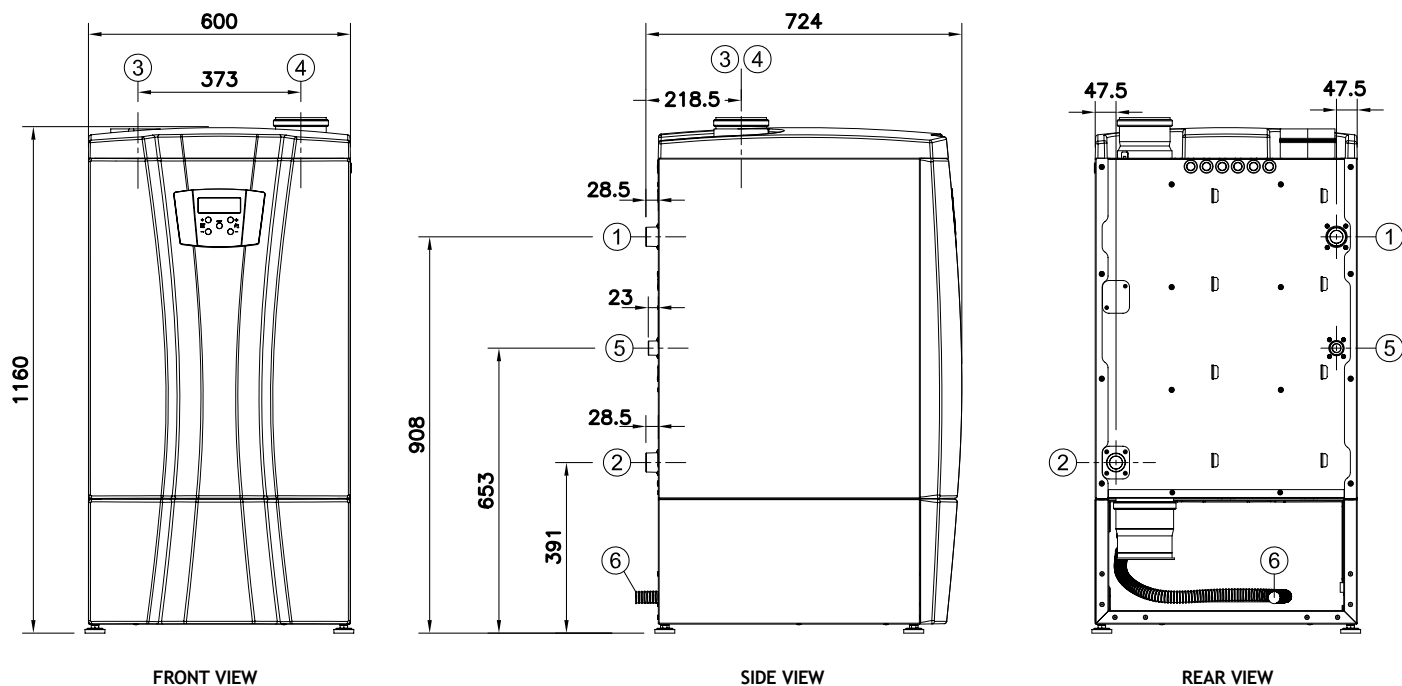
3 - DOMESTIC HOT WATER SUPPLY
4 - COLD WATER INLET

Why choose AGUAdens T:

- **Extra saving and efficiency**
 - Condensation technology
 - Fully modulating
 - Efficiency up to 109%
- **Comfort**
 - Silent
 - D.H.W. instantaneous production
 - Easy installation and maintenance
 - Reduced size and weight
- **Construction quality**
 - Modern, innovative and attractive design
 - 316Ti (Titanium) stainless steel R.V.C heat exchanger
 - Turndown ratio up to 1:10
- **Ecology**
 - Reduced gas emissions in the atmosphere
CO<15 ppm and NOx<15 ppm

AGUAdens 100 T, 115 T, 140 T

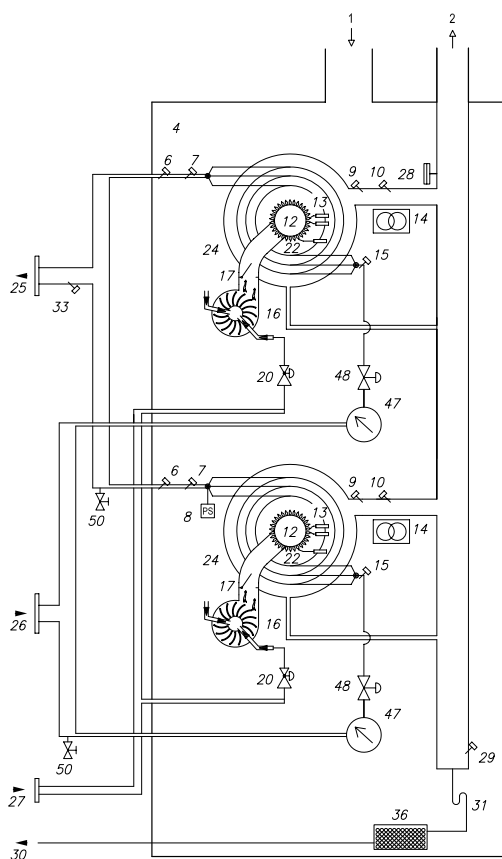
DIMENSIONS AND CONNECTIONS



- 1 - D.H.W. SUPPLY 1" 1/2
- 2 - COLD WATER INLET 1" 1/2
- 3 - AIR INLET Ø110

- 4 - FLUE GASES DISCHARGE Ø110
- 5 - GAS INLET 1"
- 6 - CONDENSING DRAIN

OPERATING SCHEME



- 1 - AIR INLET
- 2 - FLUE EXHAUST
- 4 - SEALING CHAMBER
- 6 - HIGH LIMIT HOT WATER TEMP. SWITCH
- 7 - SUPPLY TEMPERATURE SENSOR
- 8 - WATER PRESSURE SENSOR
- 9 - FLUE GAS TEMPERATURE SENSOR
- 10 - HIGH LIMIT FLUE GAS TEMP. FUSE
- 12 - PREMIX BURNER
- 13 - IGNITION ELECTRODES
- 14 - IGNITOR
- 15 - RETURN TEMP. SENSOR
- 16 - MODULATING PWM FAN
- 17 - BACK FLUE PREVENTER
- 20 - GAS VALVE
- 22 - DETECTION ELECTRODE
- 24 - R.V.C. STAINLESS STEEL HEAT EXCHANGER
- 25 - HOT WATER OUTLET
- 26 - COLD WATER INLET
- 27 - GAS INLET
- 28 - BLOCKED FLUE PRESSURE SWITCH
- 29 - CONDENSING BLOCKED DRAIN SWITCH
- 30 - CONDENSING DRAIN
- 31 - CONDENSATE SIPHON
- 33 - SYSTEM TEMPERATURE SENSOR
- 36 - CONDENSATE NEUTRALIZER **
- 47 - WATER FLOW METER
- 48 - CHECK VALVE **
- 50 - DRAIN VALVE

** - ON DEMAND

AGUAdens 210 T, 280 T

► condensing floor standing water heater



AGUAdens 210 T and AGUAdens 280 T are condensing water heaters that can be installed directly on the floor thanks to their power, reduced size and lightness, freeing space inside mechanical rooms. AGUAdens 210 T and AGUAdens 280 T are equipped with 3 or 4 R.V.C. heat exchangers made of AISI 316 Ti (titanium) stainless steel that work in cascade mode with unit power up to 280 kW. The turndown ratio is up to 1:20. Every heat exchanger is equipped with all control and safety devices. AGUAdens 210 T and AGUAdens 280 T, being multi-heat exchanger water heaters, have more reliability in case of malfunction occurring to one module, since the others work without any problem. Furthermore, multiple exchangers have power

control boards that communicate among them and handle the power output of every module in a uniform and coordinated way in order to guarantee the maximum efficiency, turnover and a uniform wearing out.



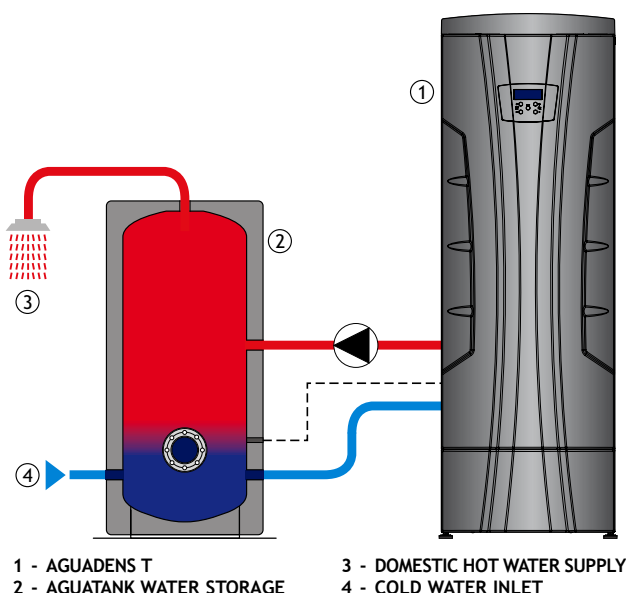
AGUAdens 280 T



700
600

WORKING
PRESSURE
UP TO **11 bar**

AGUADENS T CONNECTED TO AGUATANK WATER STORAGE

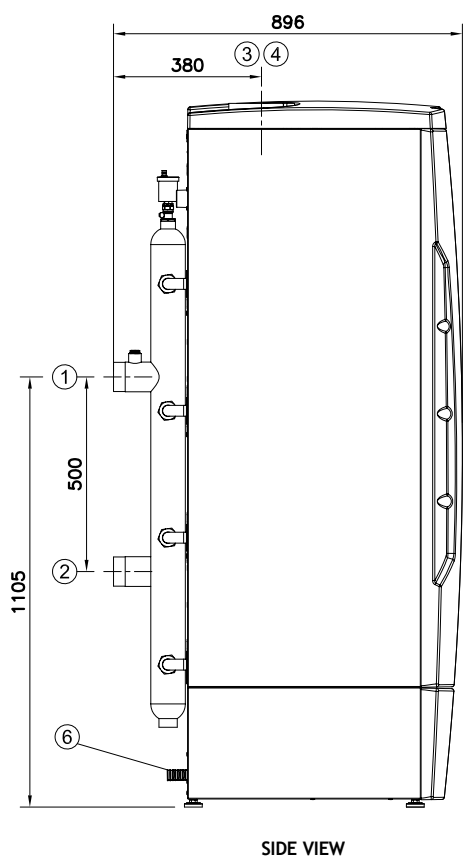
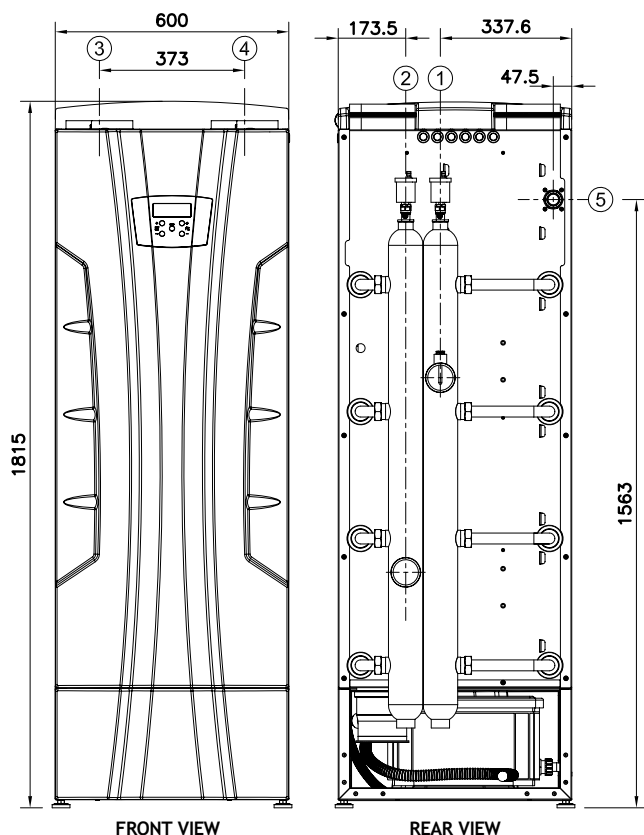


Why choose AGUAdens T:

- **Extra saving and efficiency**
 - Condensation technology
 - Fully modulating
 - Efficiency up to 109%
- **Comfort**
 - Silent
 - D.H.W. instantaneous production
 - Easy installation and maintenance
 - Reduced size and weight
- **Construction quality**
 - Modern, innovative and attractive design
 - 316Ti (Titanium) stainless steel R.V.C heat exchanger
 - Turndown ratio up to 1:20
- **Ecology**
 - Reduced gas emissions in the atmosphere
CO<15 ppm and NOx<15 ppm

AGUAdens 210 T, 280 T

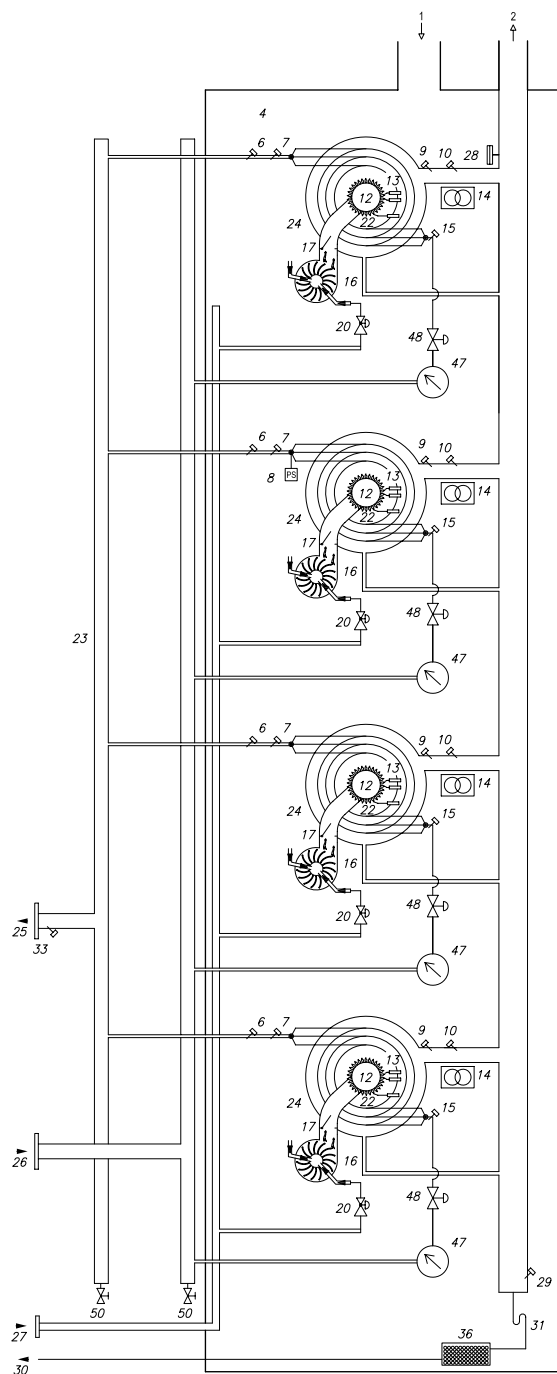
DIMENSIONS AND CONNECTIONS



- 1 - D.H.W. SUPPLY 2" 1/2
- 2 - COLD WATER INLET 2" 1/2
- 3 - AIR INLET Ø160

- 4 - FLUE GASES DISCHARGE Ø160
- 5 - GAS INLET 1" 1/4
- 6 - CONDENSING DRAIN

OPERATING SCHEME



- | | |
|---------------------------------------|--------------------------------------|
| 1 - AIR INLET | EXCHANGER |
| 2 - FLUE EXHAUST | 25 - HOT WATER OUTLET |
| 4 - SEALING CHAMBER | 26 - COLD WATER INLET/RETURN |
| 6 - HIGH LIMIT HOT WATER TEMP. SWITCH | 27 - GAS INLET |
| 7 - SUPPLY TEMP. SENSOR | 28 - BLOCKED FLUE PRESSURE SWITCH |
| 8 - WATER PRESSURE SENSOR | 29 - CONDENSING BLOCKED DRAIN SWITCH |
| 9 - FLUE GAS TEMP. SENSOR | 30 - CONDENSING DRAIN |
| 10 - HIGH LIMIT FLUE GAS TEMP. FUSE | 31 - CONDENSATE SIPHON |
| 12 - PREMIX BURNER | 32 - 4 TH R.V.C. * |
| 13 - IGNITION ELECTRODES | 33 - SYSTEM TEMP. SENSOR |
| 14 - IGNITOR | 36 - CONDENSATE NEUTRALIZER ** |
| 15 - RETURN TEMP. SENSOR | 47 - FLOW METER |
| 16 - MODULATING PWM FAN | 48 - CHECK VALVE ** |
| 17 - BACK FLUE PREVENTER | 50 - DRAIN VALVE |
| 20 - GAS VALVE | |
| 22 - DETECTION ELECTRODE | |
| 23 - COLD/HOT WATER MANIFOLDS | |
| 24 - R.V.C. STAINLESS STEEL HEAT | |

* - MODEL 280 T
** - ON DEMAND

TECHNICAL FEATURES MYDENS

TECHNICAL DATA		15	24	34	60
Type					
Category					
CE type certificate (PIN)					
Heating maximum heat input "Q"	kW	14,0	25,5	34,8	57
Heating minimum heat input	kW	3,2	3,2	4,4	12
Maximum heat output (80/60) "P"	kW	13,8	25,0	34,1	56
Efficiency at 100% partial load (80/60)	%	98	98	98	97
Minimum heat output (80/60)	kW	3,17	3,17	4,35	11
Efficiency at minimum heat output (80/60)	%	99	99	99	9
Maximum heat output (50/30)	kW	15,1	27,5	37,6	60
Efficiency at maximum heat output (50/30)	%	108	108	108	10
Minimum heat output (50/30)	kW	3,49	3,49	4,8	12
Efficiency at minimum heat output (50/30)	%	109	109	109	10
Efficiency at 30% partial load	%	110	110	110	10
Certified efficiency (92/42/CEE)	stars	★★★★	★★★★	★★★★	★★
Natural Gas flow rate	m³/h	1,48	2,70	3,68	6,
LPG Gas flow rate	kg/h	1,09	1,98	2,70	4,
D.H.W. with indirect water heater adjustment range	°C	40-70	40-70	40-70	40-
Maximum heating temperature	°C	80	80	80	80
Maximum heating pressure "PMS"	bar	3	3	3	4
Minimum heating pressure	bar	0,5	0,5	0,5	0,
Electrical power supply	V/Hz	230/50	230/50	230/50	230
Absorbed electric power	W	120	120	120	14
Electric protection	IP	IP X4D	IP X4D	IP X4D	IP X
Flue gas pipes diameter	mm	80 - 60	80 - 60	80 - 60	80
Flue gas pipes maximum length	m	40 - 15	40 - 15	40 - 25	10
Balanced CO contents (0% O ₂ with natural gas)	ppm	15	15	15	15
Balanced NOx contents (0% O ₂ with natural gas) (class 5 EN 483 and 297)	ppm	15	15	15	15
Weight	kg	36	36	38	4

TECHNICAL FEATURES AGUADENS

TECHNICAL DATA		16	22	27
Type				
Category				
CE type certificate (PIN)				
Maximum heat input	kW	25,5	34,8	43,0
Minimum heat input	kW	3,2	4,4	8,5
Maximum heat output	kW	27,5	37,6	46,4
Efficiency at maximum heat output	%	108	108	107
Minimum heat output	kW	3,5	4,8	9,2
Efficiency at minimum heat output	%	109	109	108
Natural Gas flow rate	m³/h	2,70	3,68	4,50
LPG Gas flow rate	kg/h	1,98	2,70	3,30
Instantaneous D.H.W. production (Δt 30 °C)	l/min	13,1	18,0	22,2
D.H.W. with indirect water heater adjustment range	°C	40-70	40-70	40-70
Maximum temperature	°C	75	75	75
Maximum pressure "PMS"	bar	11	11	11
Minimum pressure	bar	0,5	0,5	0,5
Electrical power supply	V/Hz	230/50	230/50	230/50
Absorbed electric power	W	120	120	140
Electric protection	IP	IP X4D	IP X4D	IP X4D
Flue gas pipes diameter	mm	80 - 60	80 - 60	80
Flue gas pipes maximum length	m	40 - 15	25 - 10	10
Balanced CO contents (0% O ₂ with natural gas)	ppm	15	15	15
Balanced NOx contents (0% O ₂ with natural gas) (class 5 EN 483 and 297)	ppm	15	15	15
Weight	kg	36	36	37
D.H.W. performance (operating conditions: AGUAdens 65 °C temperature - AGUAtank 65 °C temperature)				
D.H.W. production with 1 AGUAtank water storage - capacity	l	150	150	150
First 10 minutes (Δt 25 °C)	l	457	515	566
First 30 minutes (Δt 25 °C)	l	771	945	1098
First 60 minutes (Δt 25 °C)	l	1242	1590	1896
Continuous D.H.W. production (Δt 25 °C)	l/min	15,7	21,5	26,6

MYdens								
A	60 C	60 T	70 T	100 T	115 T	140 T	210 T	280 T
B23; C43; C53; C63; C83								
I12H3P								
0694CN6126								
,8	57,8	57,8	70,0	99,0	115,6	140,0	210,0	280,0
,0	12,0	12,0	14,7	12,0	12,0	14,7	14,7	14,7
,1	56,1	56,6	68,6	97,0	113,3	137,2	205,8	274,4
,1	97,1	98	98	98	98	98	98	98
,6	11,6	11,8	14,4	11,8	11,8	14,4	14,4	14,4
,7	97	98	98	98	98	98	98	98
,7	60,7	60,1	72,8	103,0	120,2	145,6	218,4	291,2
,5	105	104	104	104	104	104	104	104
,8	12,8	12,5	15,3	12,5	12,5	15,3	15,3	15,3
,7	107	106	106	106	106	106	106	106
,7	107	107	107	107	107	107	107	107
★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
,1	6,1	6,11	7,40	10,47	12,22	14,80	22,20	29,61
,5	4,5	4,49	5,43	7,68	8,97	10,87	16,30	21,73
,70	40-70	40-60	40-60	40-60	40-60	40-60	40-60	40-60
,0	80	80	80	80	80	80	80	80
,4	4	11	11	11	11	11	11	11
,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
,50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
,0	305	110	125	220	220	250	375	500
,4D	IP X4D	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
,0	80	80	80	110	110	110	160	160
,0	10	20	20	20	20	20	20	20
,5	15	15	15	15	15	15	15	15
,5	15	15	15	15	15	15	15	15
,4	46	80	82	110	110	117	210	250

AGUAdens						
	37	100 T	115 T	140 T	210 T	280 T
B23; C43; C53; C63; C83						
I12H3P						
0694CN6126						
	57,8	99,0	115,6	140,0	210,0	280,0
	12,0	12,0	12,0	14,7	14,7	14,7
	61,9	103	120,2	145,6	218,4	291,2
	107	104	104	104	104	104
	13,0	13,1	13,1	16,0	16,0	16,0
	108	109	109	109	109	109
	6,10	10,47	12,22	14,80	22,20	29,61
	4,50	7,68	8,97	10,87	16,30	21,73
	29,6	49,2	57,4	69,6	104,35	139,1
	40-70	40-60	40-60	40-60	40-60	40-60
	75	80	80	80	80	80
	11	11	11	11	11	11
	0,5	0,5	0,5	0,5	0,5	0,5
	230/50	230/50	230/50	230/50	230/50	230/50
	140	220	220	250	375	500
	IP X4D	IP 20	IP 20	IP 20	IP 20	IP 20
	80	110	110	110	160	160
	8	20	20	20	20	20
	15	15	15	15	15	15
	15	15	15	15	15	15
	40	110	110	117	210	250
	150	150	150	150	200	300
	654	890	989	1134	1652	1939,5
	1362	2085	2367	2804	4156	5608,5
	2424	3843	4434	5308	7912	10617
	35,4	59,05	68,91	83,48	125,2	166,95



COSMOGAS International Certifications



AUTHORIZED DEALER