AGUADENS T potable water heater submittal

- Condensing, gas fired modular water heater brand COSMOGAS model AGUADENS T WXN _____.
- AISI 316 Ti stainless steel water tube heat exchanger. Tubes are connected to the headers without the use of any welding process.
- Maximum allowing working water pressure, 160 psi.
- ASME section IV, HLW compliant; ANSI Z21.10.3 (gas water heaters); NSF/ANSI 372 (lead content) compliant.
- Adjustment, rotation and cascade control of the several heat exchangers (modules).

AGUAdens T Model		199T	250T	399T	500T	750T	1000T
Category of flue venting		IV	IV	IV	IV	IV	IV
Min/Max heat input	MBtu/hr	50/199,5	50/250	50/399	50/500	50/750	50/999
Turndown ratio		4:1	5:1	8:1	10:1	15:1	20:1
Number of Modules		1	1	2	2	3	4
Gas flow rate (Nat. gas)/(LP gas)	ft3/hr	199.5/80	250/100	399/160	500/200	750/300	999/400
Min/Max gas pressure (Nat. and LP)	In.W.C.	3/13	3/13	3/13	3/13	3/13	3/13
Min/Max water temperature	°F	68/180	68/180	68/180	68/180	68/180	68/180
Min/Max water pressure	PSI	8/160	8/160	8/160	8/160	8/160	8/160
Content of water	gal	1.7	2	3.4	4	7	9
Supply voltage/Frequency		120Vac/60Hz	120Vac/60Hz	120Vac/60Hz	120Vac/60Hz	120Vac/60Hz	120Vac/60Hz
Absorbed electric power (FLI) / Current (FLA)	W / A	110 / 1	150 / 1,3	220 / 1,8	300 / 2,5	430 / 3,6	591 / 5
Max. length venting system	ft	120	120	120	120	120	120
Appliance weight (empty of water)	lb	211	216	312	323	464	548
Recovery Rating (70°F rise)	Gal/hr	335	420	670	840	1260	1678
Recovery Rating (100°F rise)	Gal/hr	235	294	469	588	882	1175
Recovery Rating (140°F rise)	Gal/hr	168	210	335	420	630	839
Dimensions: H x W x D	Inch	45.7” x 23.6” x 34.8”	45.7” x 23.6” x 34.8”	45.7” x 23.6” x 34.8”	45.7” x 23.6” x 34.8”	71.4” x 23.6” x 35.3”	71.4” x 23.6” x 35.3”
Thermal Efficiency up to		97%	97%	97%	97%	97%	97%

- Direct vent.
- Patented Air / gas mixer.
- Fully modulating premix burner made in metal fiber.
- Natural gas or LP gas working.
- Natural gas to LP gas conversion kit.
- Fully modulating fan and PID control of the supply temperature.
- Fully modulating negative pressure gas valve.
- UL 353 listed water temperature control and high limit switch.
- 68 to 180°F water supply temperature adjustment.
- Antifrost protection system.
- Condensate drain anti flue gas leakage integrated system.
- Integrated water pressure sensor to show the value on the display.
- High limit flue gas pressure switch.
- Integrated vortex type full pass water flow meter per each heat exchanger.
- Integrated draining valves.
- Main two poles ON/OFF electrical switch.
- Electric protection degree = IP 21.
- Domestic hot water sensor to be placed on the storage tank.
- Display per each module of: water flow, outlet water temperature, inlet water temperature, flue gas temperature, self-diagnosis of all electrical components.
- Display of the storage water temperature.
- Integrated condensate neutralization kit filled with neutralizing media.
- Each heater module shall have an ASME approved P-T relief valve setting of 125 PSI, 210°F and a Temperature-Pressure gauge.
- Each heater module is connected to a common integrated gas train terminating on the rear side of the heater; a common air intake, flue gas venting terminating on the top of the unit and a common water inlet and outlet header terminating on the rear of the heater.
- Modbus connection for third party BMS (Building Management System) to control and monitor the heater.
- Heater can be controlled via 0-10Vcc input or ON-OFF input.
- Air intake and Venting system can be connected to UL listed PVC, or CPVC Positive Pressure venting materials.

Note:

- This appliance is intended to heat drinking water. The following table shows the maximum contaminant levels allowed, based on the EPA National Secondary Drinking Water Regulations (40 CFR Part 143.3).

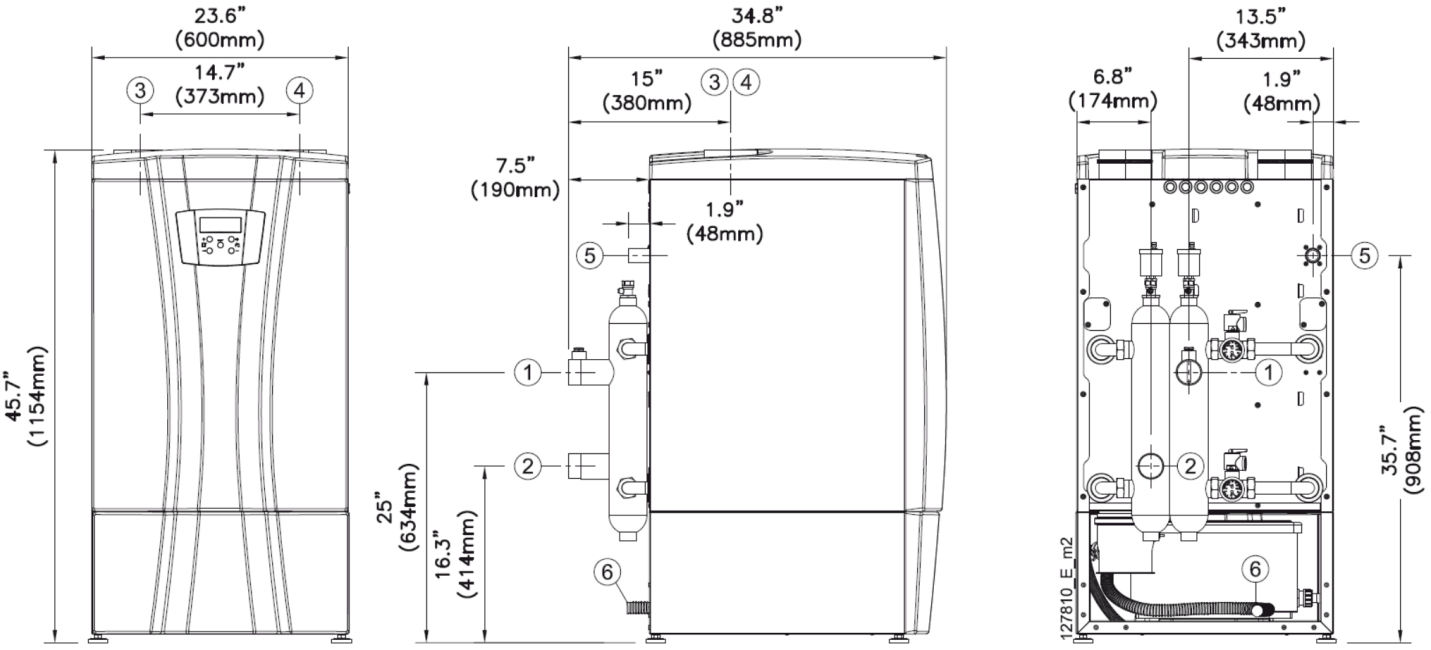
Chemical and physical properties of the water	
Water hardness range	See next table
Chlorides	< 250 mg/l
Ph	6,5 – 8,5
Sulfate	< 250 mg/l
Total Dissolved Solids (TDS)	< 350 mg/l

CAUTION!!! Values out of these ranges can generate limescale build-up or corrosions causing fatal damage to the unit.

- In order to prevent scale form inside the heat exchanger, in function of the water outlet temperature and in function of the water hardness, each water heater must be equipped with a circulating pump capable to maintain a water flow as per the table below:

Water hardness up to (ppm) [gr/gal]	Maximum water temperature (°F)	**AGUAdens 199T**	**AGUAdens 250T**	**AGUAdens 399T**	**AGUAdens 500T**	**AGUAdens 750T**	**AGUAdens 1000T**
(50) [3,0]	140	12 gpm	12 gpm	24 gpm	24 gpm	36 gpm	48 gpm
(75) [4,5]	140	13 gpm	13 gpm	26 gpm	26 gpm	39 gpm	52 gpm
(100) [6,0]	140	15 gpm	15 gpm	30 gpm	30 gpm	45 gpm	60 gpm
(125) [7,5]	140	17 gpm	17 gpm	34 gpm	34 gpm	51 gpm	68 gpm
(150) [9,0]	140	18 gpm	18 gpm	36 gpm	36 gpm	54 gpm	72 gpm
Max (50) [3,0]	180	18 gpm	18 gpm	36 gpm	36 gpm	54 gpm	72 gpm

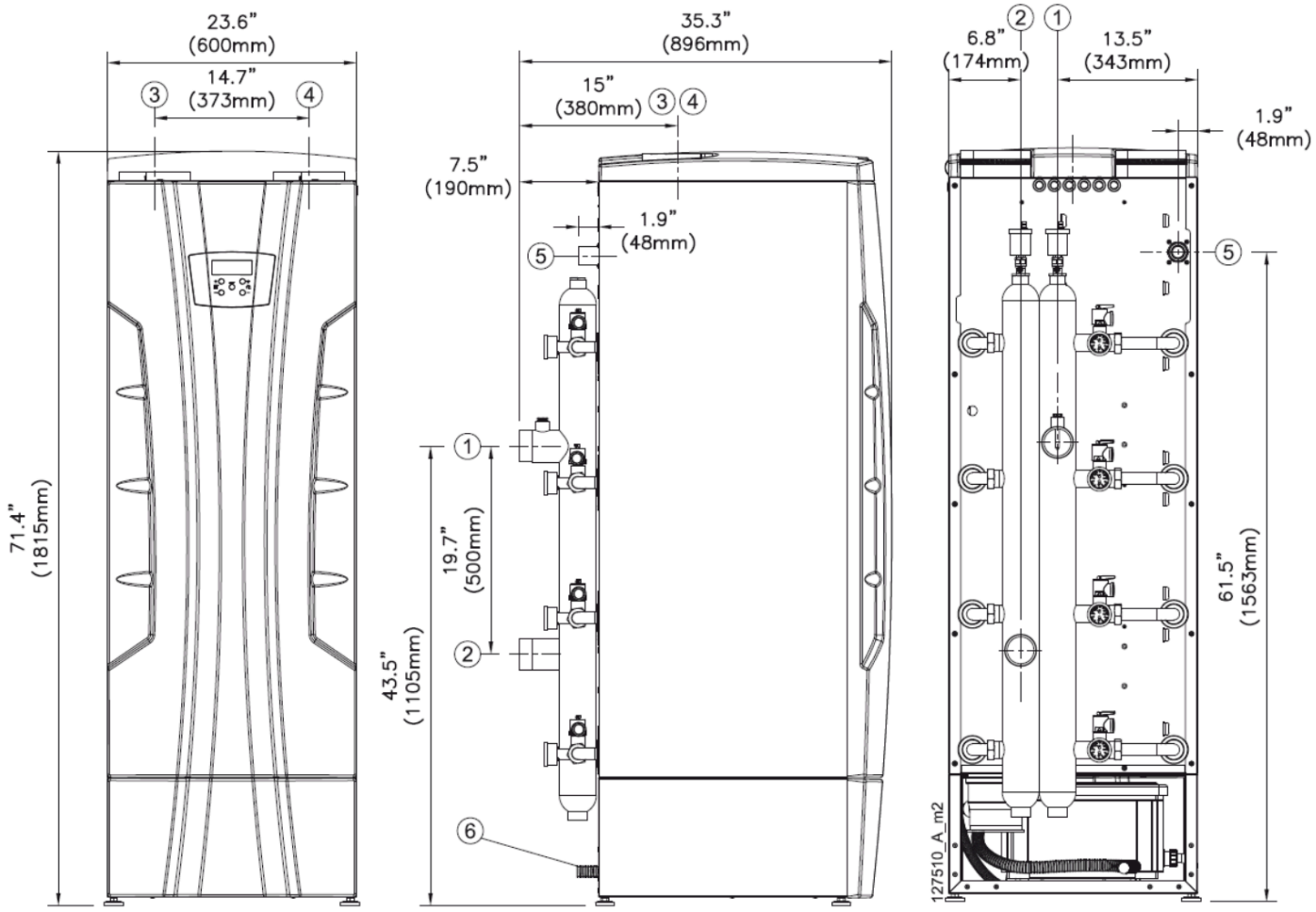
DIMENSIONS AND CONNECTIONS MODELS 199, 250, 399 and 500:



AGUAdens T Model	WATER SUPPLY CONNECTION (1)	WATER RETURN CONNECTION (2)	AIR INTAKE CONNECTION (3)	FLUE EXHAUST CONNECTION (4)	GAS CONNECTION (5)	CONDENSATE DRAIN (6)
199T	2" NPT	2" NPT	3"	3"	1" NPT	1" 1/4
250T	2" NPT	2" NPT	3"	3"	1" NPT	1" 1/4

399T	2” NPT	2” NPT	4”	4”	1” NPT	1” 1/4
500T	2” NPT	2” NPT	4”	4”	1” NPT	1” 1/4

DIMENSIONS AND CONNECTIONS MODELS 750 and 1000:



AGUAdens T Model	WATER SUPPLY CONNECTION (1)	WATER RETURN CONNECTION (2)	AIR INTAKE CONNECTION (3)	FLUE EXHAUST CONNECTION (4)	GAS CONNECTION (5)	CONDENSATE DRAIN (6)
750T	2” 1/2 NPT	2” 1/2 NPT	6”	6”	1” 1/4 NPT	1” 1/4
1000T	2” 1/2 NPT	2” 1/2 NPT	6”	6”	1” 1/4 NPT	1” 1/4

On demand:

- Motorized two way valves to stop the water flow on non working modules (version “WXW”).
- BACNET, KNX or LONWORK protonodes for connection with third party BMS (Building Management System)
- Stainless steel AL-29-4C or Polypropylene air intake or venting adaptors