GASMASTER

GASMASTER INDIRECT TANK

INSTALLATION MANUAL

SINGLE COIL STORAGE INDIRECT WATER HEATERS

Instructions for installation, use and maintenance 1

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TECHNICAL AND DIMENSIONAL CHARACTERISTICS

The dimensions of the appliances are given in **fig. 1.**
The performance specifications are given on the appliances.

1) GENERAL INSTRUCTIONS

Installation is the customer's responsibility. The Manufacturer declines any liability for damage due to incorrect installation and non-compliance with the instructions contained in this manualbook; in particular:

- The water safety unit must be correctly installed and not tampered with; Carefully keep the handbook for future consultation;
- Installation and maintenance must be carried out by qualified personnel in compliance with the Manufacturer's instructions and current regulations;
- Before carrying out any cleaning and maintenance operations, disconnect the appliance from the mains supply (also by means of special cutoff devices when provided for).
- After unpacking, check the good condition of the contents; packing materials (clips, plastic bags, polystyrene foam, etc.) are potential sources of hazards and must be kept out of the reach of children.

This appliance complies with the current provisions of EEC Directives.
The internal boiler is made from AISI 316L stainless steel, TIG and microplasma welded to withstand a max. pressure of 1.0 Mpa (10 bar) without deformation.
In the presence of water with a chlorine content of more than 150÷200 mg/l it is advisable to install a "Correx" impressed currents boiler protection device.

2) INSTALLATION

a) Installation

Important: This appliance is designed for heating domestic water to a temperature belowboiling point at atmospheric pressure and must be connected to a heating system and a domestic hot water supply system, compatibly with its performance and power.

The installation room must be protected against freezing.
The storage exchanger must be placed in the immediate vicinity of the heat generator. This will prevent pointless heat loss. If this is not possible, suitably insulate the supply pipes.
Its positioning must enable proper laying of the domestic water and heating water pipes.
Four adjustable feet for screwing into the special threaded housings situated on the bottom of the appliance are supplied.

b) Water connection (see diagram of fig.2)

The position of unions and their function are given in Fig. 1 and on the label placed on the back of the appliance.
Suitable dielectric circuit breakers (not supplied) in insulating material must be installed between the water tank connections and the piping to prevent the propagation of stray currents inside the tank.
It is advisable to install the appliance near the main hot water drawing point in order to avoid heat loss along the piping, and possibly near a drain to facilitate emptying operations.

Given below is the key of Fig. 2:

- A) Water safety unit (not supplied);
- B) Emptying cock (not supplied);
- C) Drain pipe (not supplied);
- D) Expansion tank (not supplied);
- E) Pressure reducer (not supplied);
- F) Non-return valve (not supplied);
- G) Shut-off valve (not supplied);
- H) Pump (not supplied);
- I) Boiler (not supplied).

A safety valve(A) must be installed ahead of the exchanger on the domestic cold water supply pipe.
The connection pipe between the exchanger and safety valve must NOT be cut off, as this could result in damage to the exchanger due to overpressure.
Pay attention during installation of the water safety unit (Fig. 2-pos. A), making sure not to force or tamper with it.
Dripping from the water safety unit is normal during the heating phase; therefore it is advisable to connect it to a drain with trap.
If the mains pressure is close to the valve setting values, a suitable pressure reducer (Fig. 2-pos. E) must be installed and positioned as far away from the appliance as possible.
If the system has a pressure reducer (for the above-mentioned reason), and/or a non-return valve, an expansion tank (Fig. 2-pos. D) having a capacity of not less than 5% the rated capacity of each heating appliance **must be installed.**
Do not install a non-return valve between the safety valve and the expansion tank.
In general, to protect the appliance and the system it is advisable to install an expansion tank with the above characteristics.
Install the expansion tank according to the manufacturer's instructions.
The appliance must be completely filled with water before connecting it to the system, carrying out the following operations:

- Open the domestic cold water supply cock;
- Open a hot water tap (e.g. bath, sink, etc.) to allow the discharge of air, and wait until water flows freely from all the hot water taps.
- Check for any leaks in the various plumbing connections.

In the presence of water with a hardness value of >20°TH (where 1°TH = French degree = 10mg CaCo3/l) it is advisable to install specific products for preventing excess scaling.
Some devices are similar to non-return valves, therefore their use requires the installation of a suitable expansion tank (see fig. 2).
The appliance is arranged for connection to recirculation piping (Z): if fitted, this piping must be insulated.
For recirculation (Z), a pump equipped with an operation timer or minimum contact thermostat must be installed to obtain its activation on cooling of the recirculation water.
Provide for a sealing plug if the connection is not used.
The inlet and outlet pipes must be connected at the pre-arranged points on the exchanger.

3) OPERATION

a) Starting

After installation, fill the exchanger with water for domestic use and for heating, proceeding as follows:

- Fill with water for heating and vent the system;
- Fill with water for domestic use by means of the cold water inlet and vent by opening a hot water drawing point.
- Install the thermostatic device in the special housing provided on the water tank (see fig. 1)
- Start the boiler.

b) Filling the coil

The appliance exchange coil is connected to the boiler circuit, therefore to guarantee the circulation of liquid inside it, make sure the water pressure inside the boiler is sufficient for its correct operation.
NB: See the relevant instructions for correct boiler operation.

c) Filling the appliance

To carry out this operation, the system must be fitted with a domestic circuit mains filler cock.
Then, open the exchanger filler cock (see above) and vent the circuit by opening a drawing point.

d) Emptying the appliance

To carry out emptying, close the mains filler cock, connect a hose to the drain union and place the other end in an area provided with an external drain.
Open a drawing point and let the water run, then open the drain union and complete emptying.

4) MAINTENANCE AND CLEANING

Empty the unit before carrying out any maintenance operation.

a) General instructions

• To clean the external parts of the exchanger, use a cloth moistened with water, possibly with the addition of liquid soap;
• Do not use detergent powders or solvents (abrasives of any type, petrol and similar products);
• In case of installation in places subject to freezing, the appliance must be kept operating or completely drained;

b) Tank inspection and cleaning inside

To clean inside the tank, empty the appliance, remove the cover by undoing the screws of the plastic cap.
Remove the plate from the inspection opening.
Cleaning can be carried out with a jet of water and, if necessary, using a suitable plastic or wooden tool to remove any stubborn deposits.Re-install the inspection plate.Align the gasket carefully to the inspection plate (not the tank).Tighten bolts by repeating cross scheme sequence in small increments until 6 ft-lbs is reached using torque wrench.DO NOT OVERTIGHTEN.This could damage or extrude the gasket, or distort the plate.Fill domestic water and check inspection plate for leaks.

5) TECHNICAL DATA

MODEL	GM-IT1-42	GM-IT1-52	GM-IT1-80	GM-IT1-106	GM-IT1-132
Coil exchange surface (sq ft)	8.6	10.8	15.1	21.5	25.8
Max pressure of boiler (psi)	145	145	145	145	145
Max pressure of boiler (psi)	232	232	232	232	232
Max pressure of boiler (psi)	203	203	203	203	203
Coil max power -ΔT 95°F* (btu)	124575	138227	201367	276453	276453
Continuous flow -ΔT 95°F* (gph)	237	263	386	525	589
Continuous coil flow (gph)	528	528	793	793	793
Loss of pressure (psi)	1.7	2.58	2.03	2.65	3.41
Loss of pressure (psi)	94.8	112.5	192	205	242.5

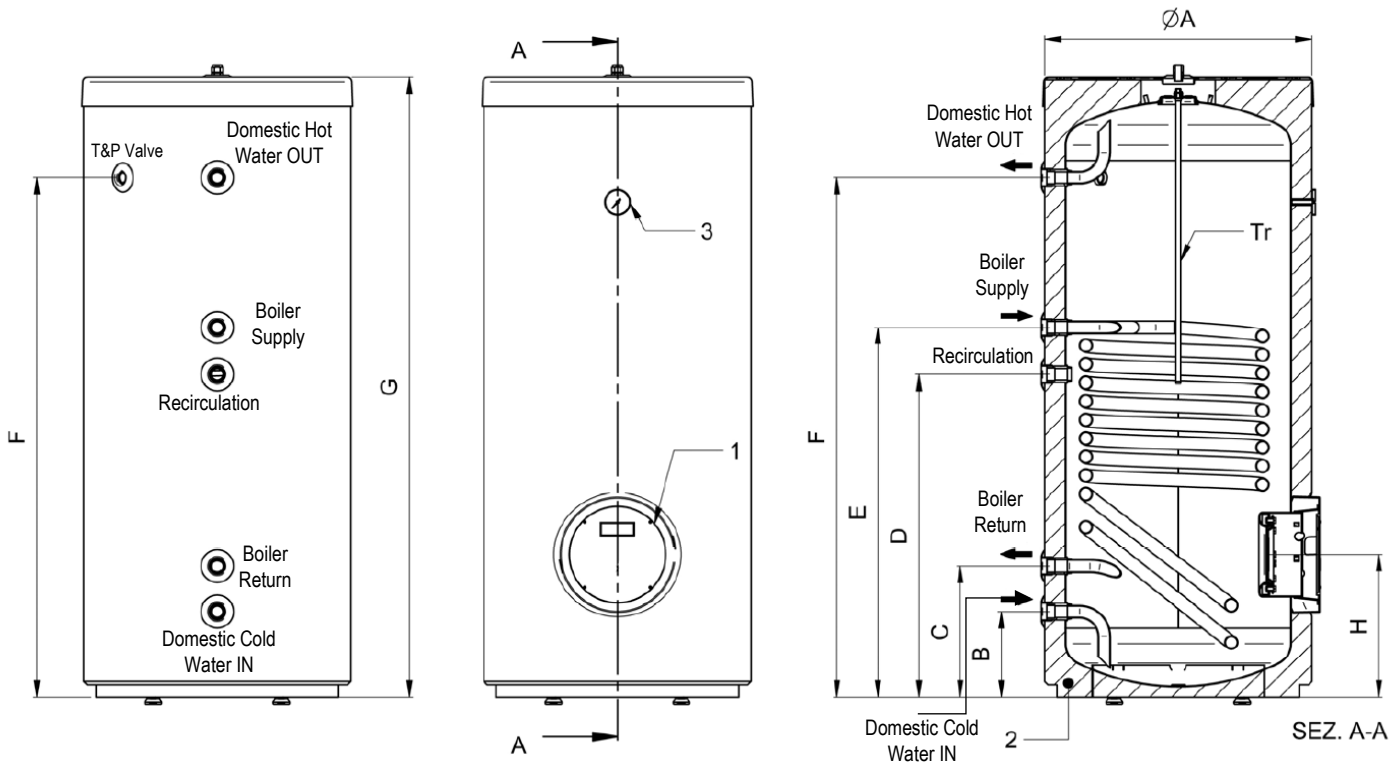
(*) ΔT 95°F, Primary temperature 176°F

Ordering Guide

GM - IT1 - 132

- 132 → Capacity in US Gal
- IT1 → 1- Single Coil ; 2- Double Coil
- IT1 → Indirect Tank
- GM → Gasmaster

Fig. 1

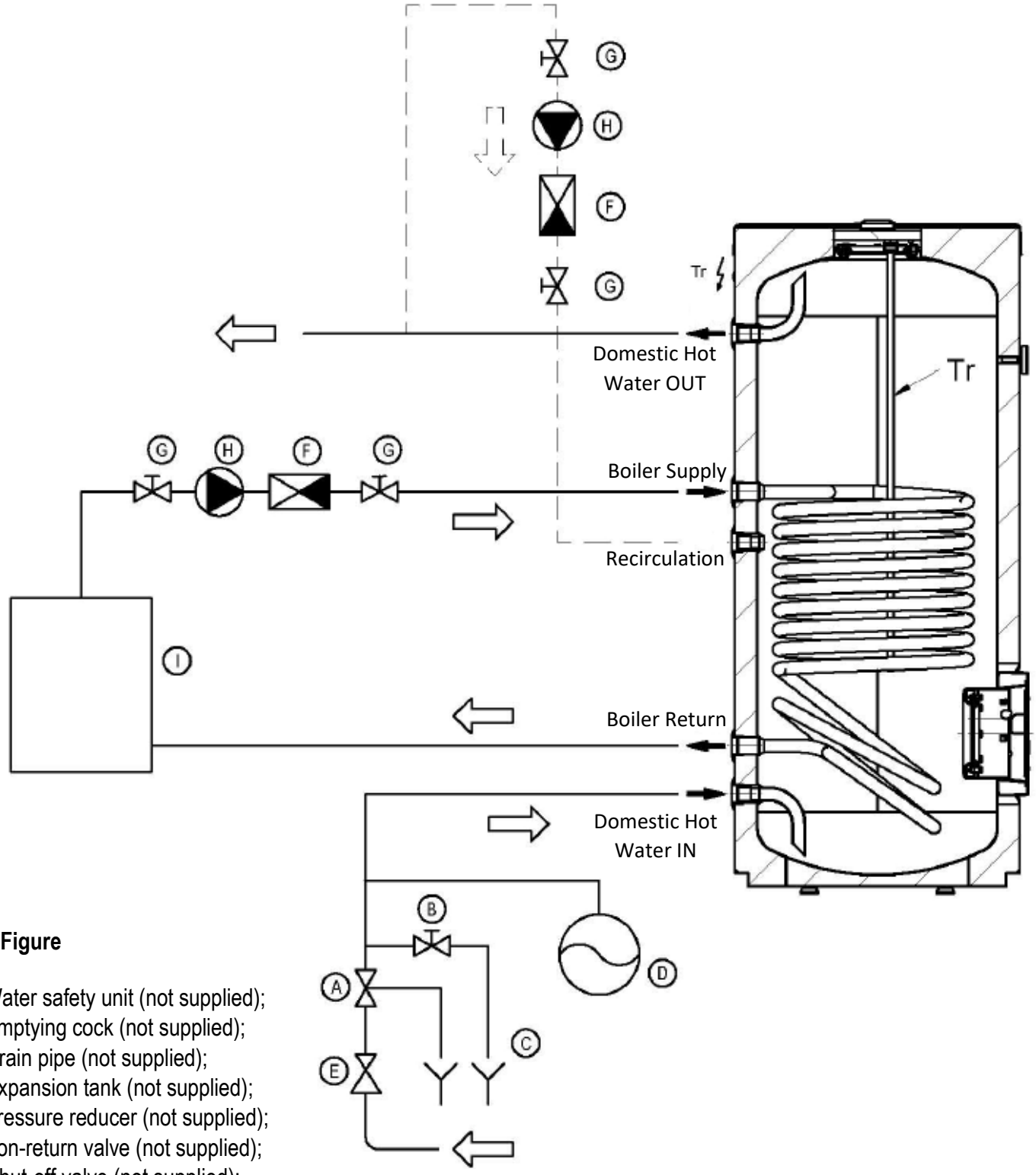


Model	Sup. serp. [sq ft]	A in	B in	C in	D in	E in	F in	G in	H in	Domestic Cold-Water IN	Domestic Cold-Water OUT	BoilerReturn BoilerSupply	Recirculation	T&P Valve
GM-IT1-42	8.6	24.02	7.68	12.01	19.69	26.18	30.51	40.16	12.4	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT
GM-IT1-52	10.8	24.02	7.68	12.01	23.62	30.12	41.22	50.87	12.4	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT	¾ - 14 NPT
GM-IT1-80	15.1	25.59	8.27	12.6	30.91	35.43	49.8	59.65	13.7	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	¾ - 14 NPT
GM-IT1-106	21.5	29.53	9.65	13.98	29.33	41.14	48.43	60.31	14.72	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	¾ - 14 NPT
GM-IT1-132	25.8	29.53	9.65	13.98	35.24	44.69	58.86	70.75	14.72	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	1 - 11.5 NPT	¾ - 14 NPT

Key Figure

1 Flange cover cap
2 Base
3 Thermometer

Fig. 2



Key Figure

A) Water safety unit (not supplied);
B) Emptying cock (not supplied);
C) Drain pipe (not supplied);
D) Expansion tank (not supplied);
E) Pressure reducer (not supplied);
F) Non-return valve (not supplied);
G) Shut-off valve (not supplied);
H) Pump (not supplied);
I) Boiler (not supplied).