



ASSEMBLY AND OPERATION MANUAL

For Use With GreaseShield Units

GS1000-LL | GS1850-LL | GS1850-CRM-4

Pressurized flow through water heater
Genie H2O 3000 (120v)

Advantages of pressurized flow through water heaters “Genie H20”

- Serious electric power saving compared to boiler
- Instant and permanent warm water consumption
- Installed electronic power switch prolongs significantly heater’s life
- Possibility to use the heater with very low water pressure (ca 0.06 MPa)
- Thanks to the installed electronic control system, the most unreliable mechanical parts such as the membrane, traditional electrical contacts are eliminated. Significant prolongation of the appliance life and improved reliability is reached in result.

1. Application

Pressurized flow through water heater Genie H20 is designed for instant delivery of warm water to the GreaseShield. In order for economical use of the heater, it should be installed as close as possible to the GreaseShield.

This appliance is designed to be used in a moist environment. However splashing with water is prohibited. Maximum delivered water temperature should not exceed 30°C/86°F.

One should remember that heater output depends on:

- its electric power;
- water stream flowing through the appliance. The bigger flow, the lower water temperature on exit (table 1);
- voltage drop in electrical system. For instance: voltage drop by 10% results in lowering heating output by 19%
- supplied water temperature.

Table 1. Supplied water temperature 15°C / 59°C

Water flow	[l/min]	1	1.25	1.5	1.75	2.0
Genie H20 3000	[°C]	57	49	43.5	39.5	36.5
	[°F]	134.6	120.2	110.3	103.1	97.7

CAUTION!

It is strictly forbidden to assembly, disconnect and incline the heater on sides while power is switched on.

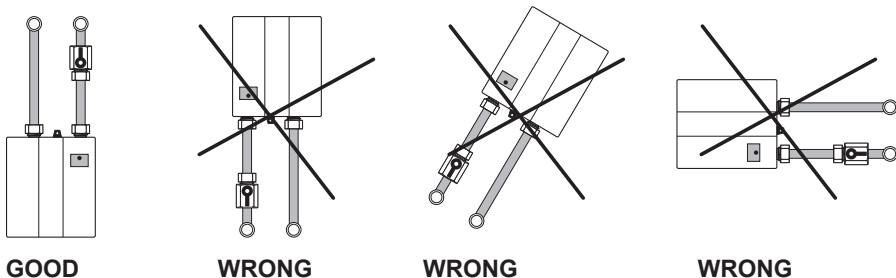


Fig.1

The device can only work in position showed on drawing below. Trying to start the device in position other than proper one will result in damaging a heating element and the guarantee being null and void.

2. Safety regulations

- Heater can be installed by authorized person only.
- Heater must permanently be connected to electrical system equipped with earthing connector and differential switch.
- Heater can work in position showed on drawing 1 only.
- Never exchange earthing wire with live wire.
- Heater can only work using perfectly working safety devices.
- Heater must not be installed in rooms where temperature drops below 0°C/32°F.
- Heater should not be installed in aggressive or subject of explosion environment.
- Heater can only be used when is in perfect technical condition.
- In case of heater's defect immediately cut off water and power supply.
- All service and maintenance works can be completed only with power switched off
- Only original spare parts can be used for repair
- Casing should never be disassembled while power is on
- Avoid electronic system to be splashed with water
- In case of heater's defect or improper work switch off power and shut off water supply using stopping – suppressing valve.
- Water tap drain tube sprinkler (strainer) should be cleaned regularly.
- Power supply system should be periodically checked up (voltage drops), particularly electrical connections.
- Water flow should be suppressed in such way to avoid excessive temperature (take care of children).

3. Wiring system

- The heater can only be used previously connected to earthing system.
- Wiring system should be equipped with differential switch.
- Minimum wire cross section and fuse value should be selected according to table 3.
- Before heater's installation check state of wiring system and particularly terminal.
- After heater's connection to wiring system measure voltage drop under load

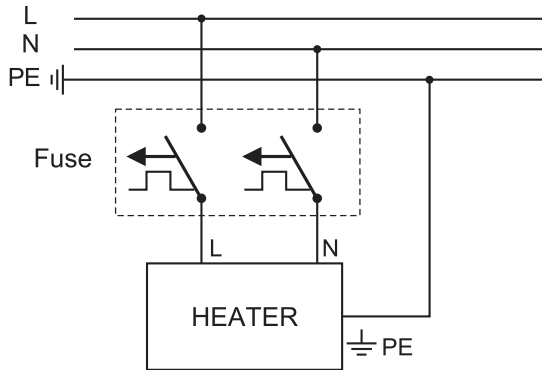


Fig.2

Type	Genie H20 3000
Minimum wire cross section [mm ²]	4.0
Current intensity [A]	25A

Table 3

4. Assembly

CAUTION!

The device can only work in position showed on drawing No 1.

Heater installation in position other than proper one or without water filter can damage heating element and cause the guarantee to be null and void.

Do not screw connecting hoses with high power in order to avoid threads damage.

Do not overtighten hose connections.

Do not seal stub pipe thread with PTFE tape or Teflon™ sealing tape.

Protect electronic system against water splashing.

1. Apply pattern on place the heater will be installed. Mark places for drilling holes for anchoring pegs and cable. Cable can be connected to the heater in two ways as presented on drawings 3 and 4.
2. Screw heater on.
3. Connect heater in a way showed on fig. 6. Remember to fit water filter as showed on fig. 5. Use flexible hoses designed for pressurized system with rubber gaskets. Do not exchange heater outlet (red colour) with intake (blue colour).
4. Open water valve and check all connections tightness. In case electronic system is splashed with water, remove it by blowing with compressed air.
5. Open full water flow through the heater in order to deaerate heating element.
6. Connect heater to the power installation.
7. Change sprinkler (strainer) mounted on drain pipe for the one delivered by heater manufacturer.
8. Adjust heater according to chapter 6.
9. Remember to clean strainer periodically.

5. Operating Principal

GS-LL (Low Level)

In addition to the NORMAL inlet, The GS-LL incorporates a Low level tank to which the outlet from a 20 grid floor level oven is connected. The low level tank includes a bypass outlet to the normal drain as a backup overflow system should the GS-LL malfunction. The tank also includes a final baffle so that should bypass occur grease will not be passed to drain.

The GS-LL also includes a normal level inlet which facilitates a 10 grid oven to be connected as normal to the main tank within the GS.
Thus a 20 grid and a 10 grid oven can be accommodated in the one GS –XX-GS-LL unit.

GS-CRM

The “**Heater On Demand**” HOD can be used to condition the GS-CRM prior to use as an alternative warm water supply, in case where there is NO hot water supply.

Installation Steps:

The unit comes complete with a HOD water heater unit which is plumbed into the COLD water supply and preheats the intake water to condition the Low level tank within the GS -LL prior to the days cooking.

It also provides a top up periodically to the tank to ensure correct operation of the GS. The heater on demand system **MUST** have through flow rate of approximately 2 litres / minute.

This flow rate is achieved by a flow controller which is placed on the OUTLET (RED) side of the HOD module (already attached).

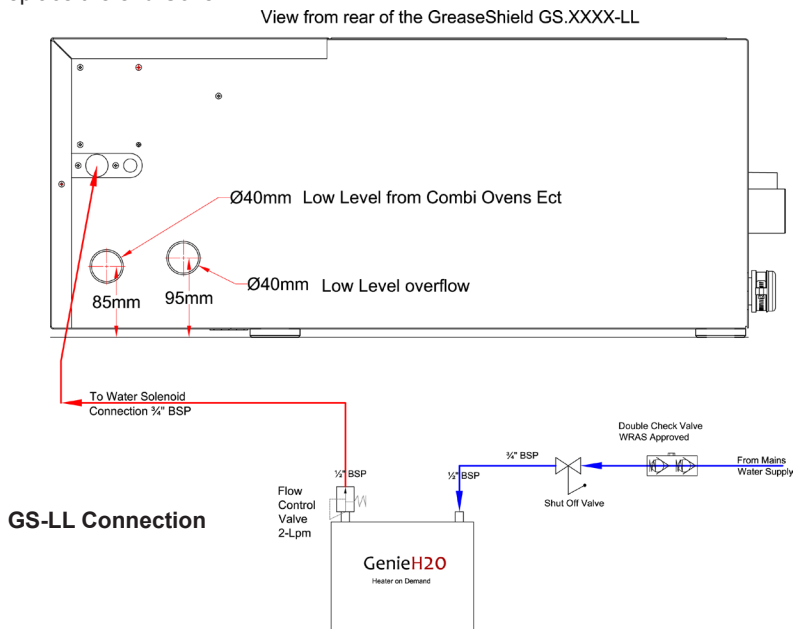
Please follow HOD manufacturer’s instructions and recommendations when electrically connecting the HOD to the Electrical supply.

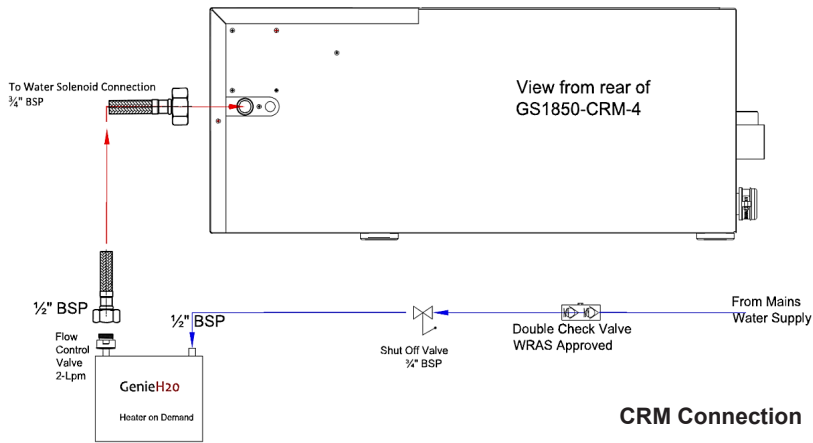
Only Electrically Qualified Personnel in accordance with local rules should electrically connect the HOD.

The Heater on Demand Unit (HOD) must be secured to a suitable surface near the GS unit clear of any other pipes from other kitchen equipment.

6. Heater On Demand Installation

1. Switch OFF the Water Supply .
2. Electrically connect the HOD unit but DO NOT switch ON
3. Connect the supplied HOD INLET (BLUE) to the COLD water supply using a suitable 1/2" x 3/4" flexible pipe approved to local standards.
4. Connect the OUTPUT(RED) of the HOD Unit to the Water Solenoid INPUT of the GS (GreaseShield Low Level Unit) using a suitable 1/2" x 3/4" flexible pipe approved to local standards..
5. Switch ON the water supply to the HOD and then Switch ON the GS-LL.
6. Allow the water to flow through the HOD for 30 seconds to prime the system
7. Switch on the HOD unit at the main socket.
8. Undo the access cover on the GS and press and hold button "B" for 10 seconds. This will open the water solenoid for 5 minutes and allow water to enter the LL tank. This in course will then be pumped up to the main tank .Repeat as necessary to fill the Main Tank of the GS.
9. Check the water temperature entering the main tank. It should be warm to the touch.
10. When water flows over the outlet weir of the main tank outlet the unit is charged and ready for use.
11. Replace the end Cover.





7. Adjustment

Caution!

When used in conjunction with the flow regulator on the HOD output (red) no external flow regulation is necessary.

Water temperature at the HOD outlet should be in the range of 30°C to 50°C 86°F to 122°F (but may vary in some situations).

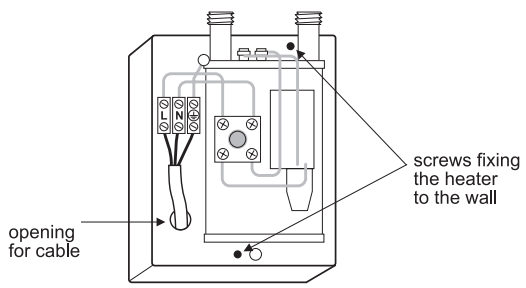


Fig. 3

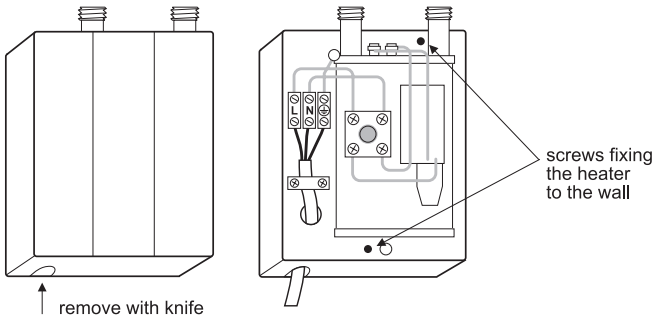


Fig. 4

8. Water filter cleaning

1. Turn off water inflow by shutting off valve and disconnect from power line.
2. Disconnect hose from heater intake.
3. Take out filter (using small screw driver – see fig. 8).

Caution! Do not screw up hoses nuts too tightly in order to avoid heater's pipes thread damage.
Water filter removal voids guarantee.
Filter must be installed as showed on drawing No 5.

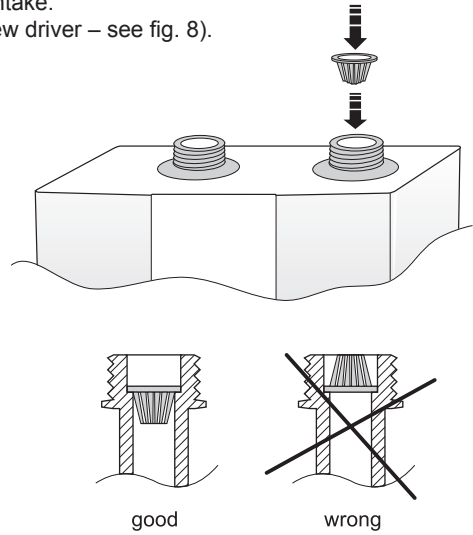


Fig. 5

4. Remove dirt from filter.
5. Install filter into heater intake with basket bottom down (Fig. 9)
6. Connect hose to the heater.
7. Open water valve and check tightness.
8. Before power switching on check electronic system is not splashed with water – if so, blow up with air to remove water from electronic circuit board.

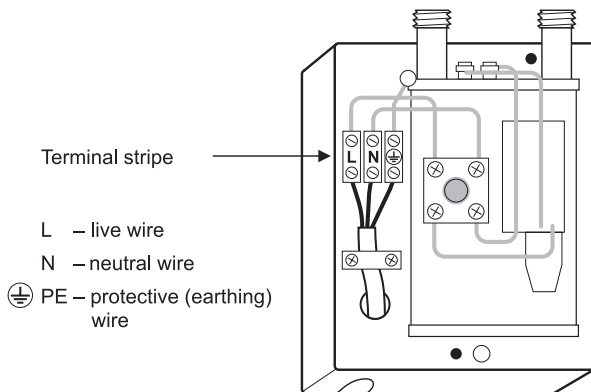


Fig. 7

Caution!-

Every single time after re-installation of the housing it is necessary to check carefully whether blue and red gaskets on pipe ends fit close to the heater's housing.

9. Adjust according to chapter 6.

9. Defects and repair

Water flow too low

- blocked water filter (clean it out according to chapter 7)

Heater does not start

- heater's inlet exchanged with outlet
- water flow suppressed too much
- blocked water filter (clean it out according to chapter 7).
- water pressure in system too low
- lack of power because of blown fuse.

Heater does not warm up water but control lamp lights

- voltage too low (power installation overloaded)
- temperature of entering water too low
- water flow too high (adjust water flow according to chapter 6)

Water temperature on heater exit too low

- water flow too high (adjust water flow according to chapter 6)
- temperature of entering water too low
- high voltage drop (see item 1, table 2)

Water temperature on heater exit too high

- water flow suppressed too much by control valve (adjust water flow according to chapter 6)

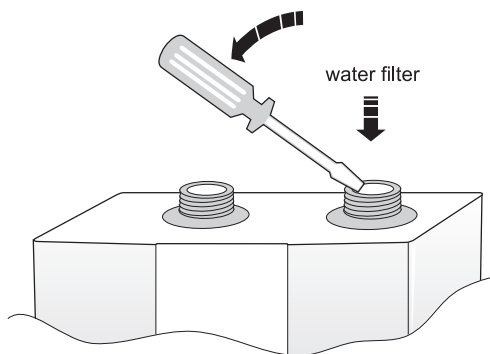


Fig. 8

- blocked water filter (clean it out according to chapter 7)
- water pressure in water system too low

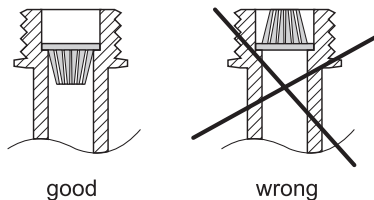


Fig. 9

Heater is switching on and out automatically

- water pressure oscillation in water system
- water flow suppressed too much by shut off – suppressing valve

Stepwise changes of water temperature on exit

- voltage rush in power supply system
- changes of water flow in result of pressure changes in water system

10. Technical data

Type	Genie H2O 3000
Power [kW]	3.0
Current intensity[A]	25.0
Voltage [V]	120
Minimum switching water flow [l/min]	1.0
Maximum water pressure [MPa]	0.65
Splash-proof class	IP24
Minimum water resistivity at 15°C	1300
Dimensions	149 x 133 x 75mm pipe ends thread 1/2" pipes span 60mm

11. Specification

1. Heater	1 pc
2. Flow Controller (Fitted)	1 pc
3. Water filter	1 pc
4. Sprinkler (strainer)	1 pc
5. Flexible Hoses 3/4" F - 1/2" F (with seals)	2 pc

Environmental
Products and Services LLC



Environmental Products and Services LLC.,
616 Corporate Way | Suite 2-4778, Valley Cottage,
NY 10989 USA

Tel: 01-800-459-5796 | Email: info@EPAS-Ltd.com | Web: EPAS-Ltd.com