

LS Condensate Removal Pump



Installation, Operation and Service Instructions

INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER'S USE.



WARNING: This safety alert symbol will be used in this manual and on the pump Safety Instruction decal to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

Your Condensate Removal Pump should have the warning/caution label and non submersible warning label displayed in Fig. 1 on the pump conduit box. If this warning and caution label is missing or illegible, contact your local B&G Representative for a replacement.

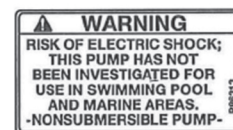


Fig.1

The installation and operating instructions in this manual must be followed when installing and operating the LS condensate pump. Please read them carefully. We recommend that you keep it close to the pump. Particular attention must be paid to notes marked as follows:



WARNING: If this instruction is not followed, personal safety risks could ensue. If this instruction is not followed, the device may not function properly and could be damaged.

Other relevant regulations must also be observed, e.g. accident prevention regulations or internal operating and safety instructions of the system manufacturer. Failure to follow these instructions can result in the loss of all entitlement to claim damages.

General Description

The LS Condensate Pump is an automatic pump for pumping condensation water from condensing boilers, air conditioning systems, coolers, dehumidifiers, or other similar systems. The corresponding regulations on draining to the sewage system must be observed. If necessary, a neutralizing unit must be installed upstream from the condensate pump.



CAUTION: Combustible liquids may not be pumped! The condensate pump may not be run dry, as this can destroy the bearings in a very short period.

Applications

The LS is designed for condensate from:

- Gas or oil condensing boiler (maximum heating capacity 682,000 BTU/h) with pH of 2.7 or higher
- Air conditioning systems, cooling, and refrigeration systems.
- Air dehumidifiers and evaporators

Specifications

Supply voltage	100 - 240 V
Frequency	50 / 60 Hz
P1 power supply capacity	20 Watt
Current consumption	0.2 – 0.1 A
Degree of protection	IP 44 / Class F
Max. delivery head	45 kPa
Max. pump capacity	450 l/h
Noise level (L_w)	46 dB(A)
Acid resistance	pH 2 or higher
Max. media temperature	+ 140°F (60°C)
Min. ambient temperature	Not freezing 50°F (10°C)
Floating contact	Break contact, switching capacity 250 VA
Tank volume	0.7 l (usable volume 0.5 l)
Packaging dimensions	8.5" x 8.5" x 7.1" (215x215x180 mm)
Packaging weight	3.52 lbs (1.6 kg)

Subject to technical changes due to product modifications

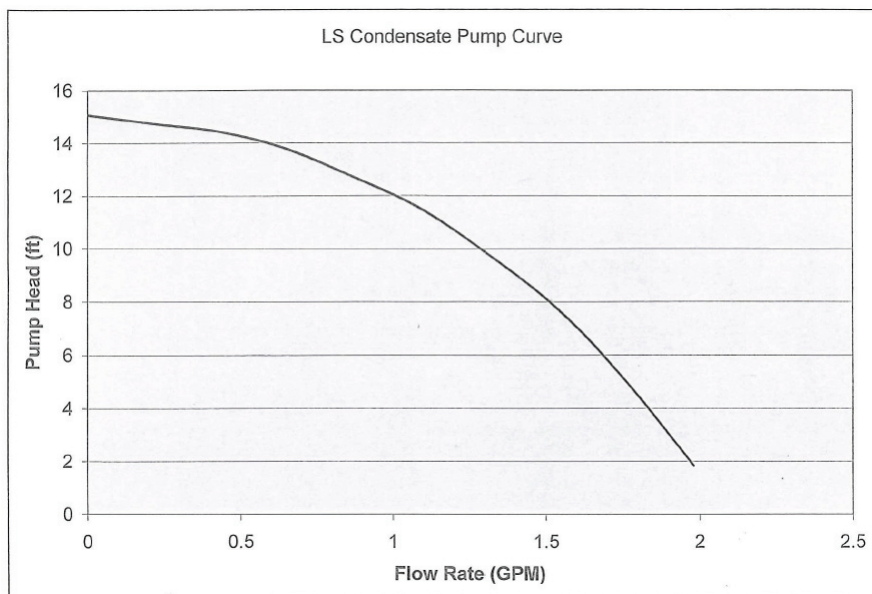
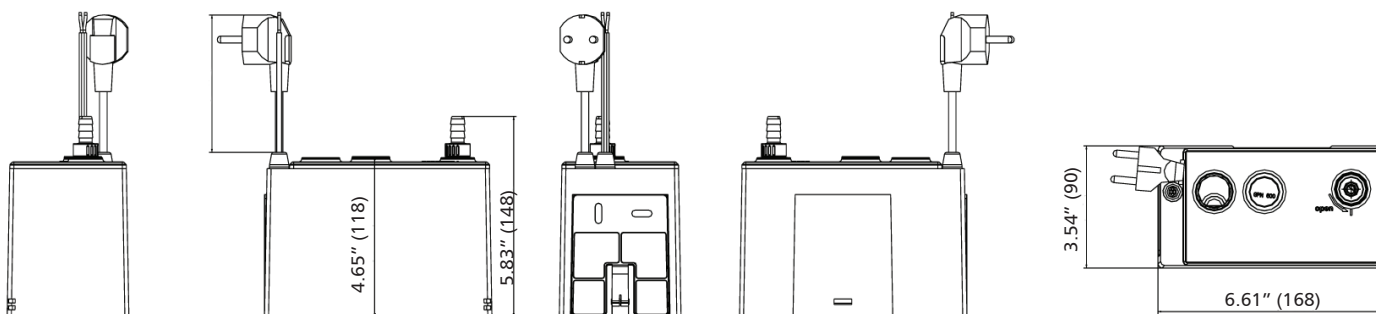


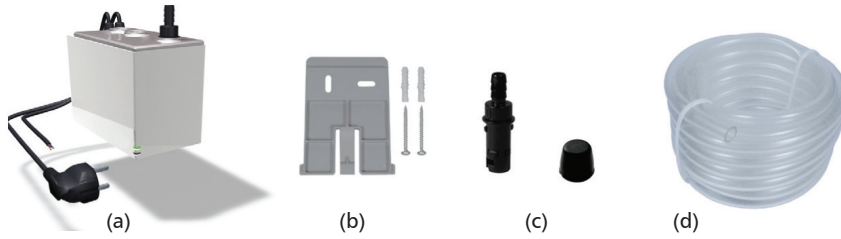
Fig.2

Dimensional Drawings Fig.3



Included Items

Your LS Condensate Pump should include the following items. See Fig.4 below.



- a. LS Condensate Pump unit
- b. Mounting bracket (designed for rear wall or left side wall mounting)
- c. Pressure hose connection kit
- d. Pressure hose (19ft.)

Optional items that may be needed for pump installation: Hose clamps

Safety Requirements

Prior to starting the installation process, please observe and understand the following safety requirements. Failure to understand these instructions could result in personal injury, death, and/or property damage.

Mechanical Safety



WARNING: - Excessive System Pressure Hazard - The maximum working pressure of the pump is listed on the nameplate - **Do Not Exceed This Pressure.** Failure to follow these instructions could result in serious personal injury, death and/or property damage.



WARNING: - Excessive Pressure Hazard Volumetric Expansion - The heating of water and other fluids causes volumetric expansion. The associated forces may cause failure of system components and the release of high temperature fluids. This can be prevented by installing property sized and located compression tanks and pressure relief valves. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

Thermal Safety



WARNING: - Extreme Temperature Hazard - If the pump, motor or piping are operating at extremely high or low temperature, guarding or insulation is required. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

Electrical Safety



WARNING: - Electrical Shock Hazard - Electrical connections are to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices. Failure to follow these instructions could result in serious personal injury, death and/or property damage.



WARNING: - Electrical Grounding Hazard - Adequate electrical grounding is required for the safe operation of B&G Pumps. Connect the ground wire to the ground terminal in the wiring compartment. Failure to follow these instructions could result in serious personal injury, death and/or property damage.



WARNING: - Risk of Electric Shock - Do not install this pump in swimming pool or marine areas. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

Installation

The LS Condensate Pump must be installed in dry rooms (frost proof and where the air temperature does not exceed 140°F (60°C) using the installation bracket provided. It is mounted to the wall below the condensate supply outlet. Ensure that the pump is mounted horizontally. If floor-mounted, ensure that it is in a stable position. We recommend that you also secure it to the nearest wall.



WARNING: The unit may not be installed in areas where there is a danger of explosion!

After a suitable location for installation has been determined. Follow these steps and pre-cautions continued on the next page:

1. Condensate supply hose must be routed with a downward slope to the LS Condensate Pump. (See Fig.5)
2. Ensure condensate supply hose is inserted deep enough into the tank inlet so that it cannot slip out unintentionally. A second inlet opening is available for additional hose connections.
3. For installation of the condensate drainage hose ensure hose is inserted as far as possible onto the non-return valve. Tip: We recommend that you also secure the hoses using hose clamps.
4. After securing hose on non-return valve, lock non- return valve by rotating valve one quarter turn clockwise.

Electrical Connection

The LS has a 6.5 ft (2m) long mains cable with a shock-proof plug. If the cable is not long enough, we recommend that you use an extension lead or connect a distribution box. The mains cable is permanently connected to the pump and cannot be removed and replaced with a longer mains cable. The electrical connection used must comply with the applicable standards. In particular, it must be properly earthed and fused.



WARNING: All electrical work done may only be performed by qualified electrical professionals.

Alarm connection

The LS Condensate Pump is equipped with an alarm connection (switching with a 15 sec delay). This allows the condensing or air conditioning system to be switched off to prevent more condensate being fed and the tank overflowing. If the alarm connection is to be used, the 6.5 ft (2m) alarm connection cable must be connected as shown in the illustration. If the cable is not long enough, we recommend that you connect a distribution box. The alarm cable is permanently connected to the pump and cannot be removed. If the alarm connection is not used, the alarm cable can be cut off directly at the pump. In order to prevent moisture penetrating into the pump electronics, replace the original rubber cap with the hole with the closed rubber cap provided.

Functional Testing

After installing the condensate pump, we recommend that you test it to ensure that it functions correctly. To test the function, pour water (approx. 0.4 l) into the tank – via the secondary inlet opening if possible, until the activation level is reached and the pump starts. If air in the pump causes the integrated dry-run protection to actuate (pump deactivates, green and red operating lamp flash), add a further 0.2 l of water and wait for one minute. The pump restarts automatically after one minute. The LS condensate pump is now functional.

Routine Maintenance and Disassembly of LS Condensate Unit



WARNING: The LS Condensate Pump must be disconnected from the mains power supply before maintenance or disassembly!

The LS pump does not require special maintenance. However, we recommend that you remove encrustation and rinse with clear water regularly in accordance with the occurrence of soiling. When you press in the clip, the LS can be removed by pulling it upwards away from the mounting bracket (see exploded view illustration). Disassembly of the condensate pump: Remove the pressure hose and non-return valve from the pump housing by turning them one quarter turn counter-clockwise. Pull the condensate supply hose carefully out of the tank.



WARNING: Condensate from condensing systems is aggressive. Avoid contact with residual condensate in the tank, in the condensate supply hose or in the pressure hose!

Fig.5

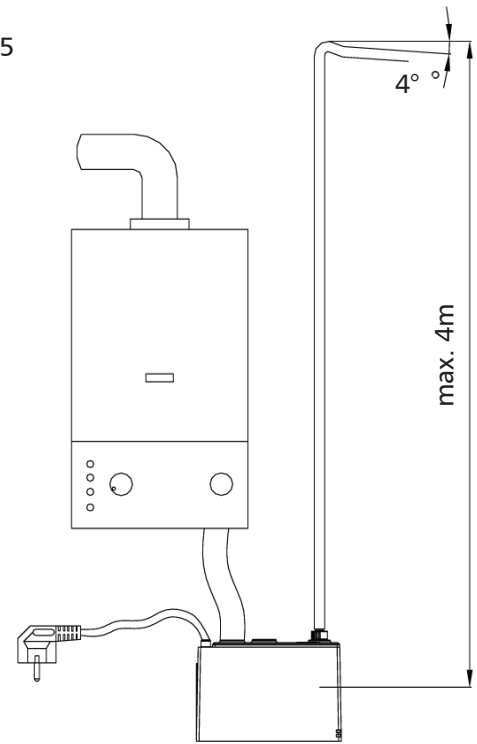
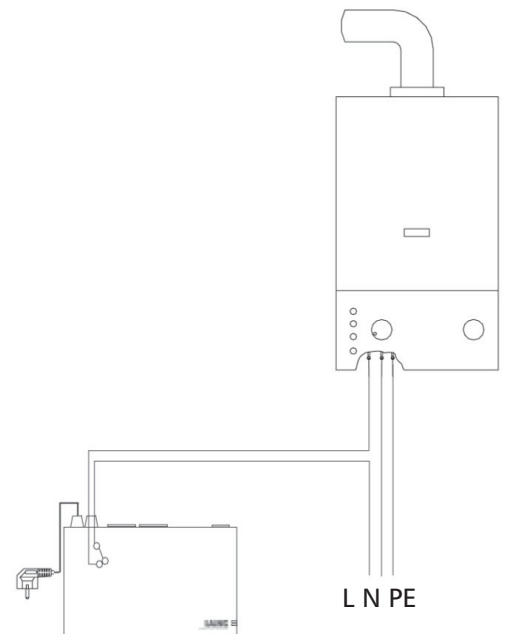


Fig.6



Operating Lights and Fault Overview

Ready for operation = Steady green light

Fault = Red light

Pump running = Flashing green light

The alarm output is opened when a fault occurs.



WARNING: Work on electrical parts of the LS Condensate Pump may only be performed by qualified electrical professionals.

Operating	Green	Lamp Red	Cause	Solution
Off		Off	Mains plug not plugged in Power failure	Insert plug Check mains and fuse
Flashing		Flashing	Dry-run (Poss. air in tank) Pump blocked	Pump restarts automatically after one minute Visual inspection of the pump inlet in the tank and removal or rinsing of dirt or foreign bodies
On		On	Level exceeds alarm level	Pressure hose / non-return valve blocked (clean or remove kink if applicable)
Off		Flashing	Pump blocked and alarm level exceeded	Visual inspection of the pump inlet alarm level exceeded in the tank and removal or rinsing of dirt or foreign bodies;

Warranty



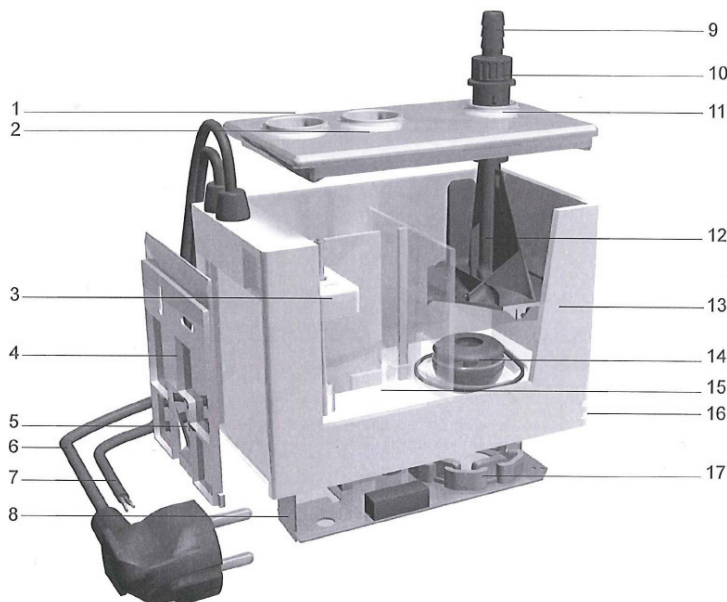
WARNING: The LS Condensate Pump must be disconnected from the mains power supply before maintenance or disassembly!

Malfunctioning condensate pumps can be returned to the manufacturer's address. The manufacturer will refuse to accept packages with unpaid shipping or invoices for repair. The manufacturer guarantees the LS condensate pump for two years subject to correct installation and proper use of the device.

Product Disposal

This product and parts thereof must be disposed of in an environmentally friendly way. Corresponding local regulations must be observed.

Product Breakdown



- | | |
|--|--|
| 1. Condensate inlet (.95" 24mm) | 10. Non-return valve with bayonet connection |
| 2. Additional inlet opening (6.95" 24mm) | 11. Opening for non-return valve |
| 3. Magnet float | 12. Pressure nozzle |
| 4. Mounting bracket (for rear wall or left side wall) | 13. Tank (0.7l; usable volume 0.5l) |
| 5. Clip | 14. Permanent magnetic rotor/impeller |
| 6. Main cable (6.5ft 2m) with shock-proof plug | 15. Pump sump |
| 7. Alarm connection cable (floating, 6.5ft 2m) | 16. Operating LEDs |
| 8. Non-contact electronic fill level detection with echo sensors | 17. Stator of the high-efficiency spherical motor pump |
| 9. Connection for pressure hose (.55"x .08", 19ft) | |

**WARNING:**

- a. "For indoor use only" and "Enclosure type 2"
- b. "Caution: this pump has been evaluated for use with water only" or equivalent
- c. "Non-submersible pump"
- d. "To reduce risk of electric shock, pull the plug before servicing this pump"
- e. "To reduce risk of electric shock, install with motor and all electrical components above the top grade level of the sump. This pump is not submersible."
- f. "Risk Of Electric Shock – This Pump Has Not Been Investigated For Use In Swimming Pool Or Marine Areas"
- g. "To reduce risk of electric shock, connect only to a properly grounded, grounding-type receptacle"

**WARNING:**

- a. EMPLOYER UNIQUEMENT À L'INTÉRIEUR and BOÎTIER DE TYPE 2
- b. "Attention: cette pompe a été évaluée pour une utilisation avec de l'eau"
- c. "Pompe non-submersible"
- d. "Pour réduire le risque de choc électrique, débranchez la fiche avant de réparer cette pompe"
- e. "Pour réduire le risque de choc électrique, placer le moteur et tous les composants électriques au-dessus du plus haut niveau de qualité du puisard. Cette pompe n'est pas submersible."
- f. "Risque de choc électrique - Cette pompe n'a pas été étudiée pour une utilisation en piscine ou en milieu marin"
- g. "Pour réduire le risque de choc électrique, connecter uniquement à une prise correctement mise à la terre prise de type"



WARNING: Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Instruction shall include the following cautionary: "Caution: this pump has been evaluated for use with water only" and "WARNING: Risk of electric shock – This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle."



Xylem Inc.
8200 N. Austin Avenue
Morton Grove, Illinois 60053
Phone: (847) 966-3700
Fax: (847) 965-8379
www.xyleminc.com/brands/bellgossett