OPERATION & MAINTENANCE MANUAL

SewerMate Pump Chamber

OPERATION & MAINTENANCE MANUAL
SEWERMATE PUMP CHAMBER

Section 1

GENERAL SPECIFICATIONS

PUMP CHAMBER DETAILS

SEWERMATE PUMP CHAMBER
GENERAL SPECIFICATION

Each pump chamber is supplied as a fully integrated packaged system, including:-

HOLDING TANK

A polyethylene rotationally-moulded holding tank complete with sealed polyethylene lid. The tank is fitted up complete with pump, valves and pipework as specified below.

PC-SM	1200mm L x 1200mm W x 2070mm H

PUMP

A single phase submersible pump.
Pump Model: PCG32-110M

PIPEWORK & VALVES

PC-SM: The pump in these models is the PCG32-110M
The pre-fabricated pump pipework is a 32mm rubber pressure hose. A 32mm 316 stainless steel non-return valve and a quick-release camlock coupling are supplied within the pipework. A stainless steel anti-syphon valve is also installed to prevent any syphoning out of the chamber once the pump stops. Outlet is 32mm female BSP.

ELECTRICAL CONTROLS

The pump chamber comes pre-wired ready for connection to power. A pump control panel is also supplied. An electrician will be needed to connect the pump and controller to power, once onsite.

Pump Control Panel includes:
1 x outdoor control box that will provide pump protection with self-learning of pump operating data during initial setup, including run dry failure and monitoring of power supply and motor limits, rapid cycle protection. This controller also comes complete with a red flashing alarm, buzzer, and also a mute switch on the front overlay.

WORKING VOLUMES

PC-SM	Total volume 1300L, working volume 315L, reserve volume 985L

PRODUCER STATEMENT
ALLFLOW PUMP CHAMBER

1. WET WELLS

Polyethylene wet wells are rotationally moulded in virgin material circumferentially reinforced, and with wall thickness designed to take internal and external hydraulic pressures as applicable to buried tanks.

Design Life: 50+ years

2. PUMPS

Pumps as manufactured by leading ISO 9001 certified pump companies, to meet consultant's specification. Manufacturer's standard 24 months warranty applies.

3. COMPONENTRY, PIPEWORK & VALVES

All in-tank components to consultant's requirements, in new materials, including isolation and non-return valves, all conforming to applicable AS/NZS Standards.

All in-tank work by registered and experienced tradesmen.

4. ELECTRICAL / CONTROLS

All electrical controls and control panels comply with appropriate AS/NZS Standards, manufactured and tested by registered electricians.

5. MANUFACTURE

All fabrication and assembly of components, electrical wiring and control panels are executed in our premises by our own qualified staff.

6. INSTRUCTIONS

Each pump station is provided with a comprehensive manual with full installation instructions, wiring diagrams and commissioning details.

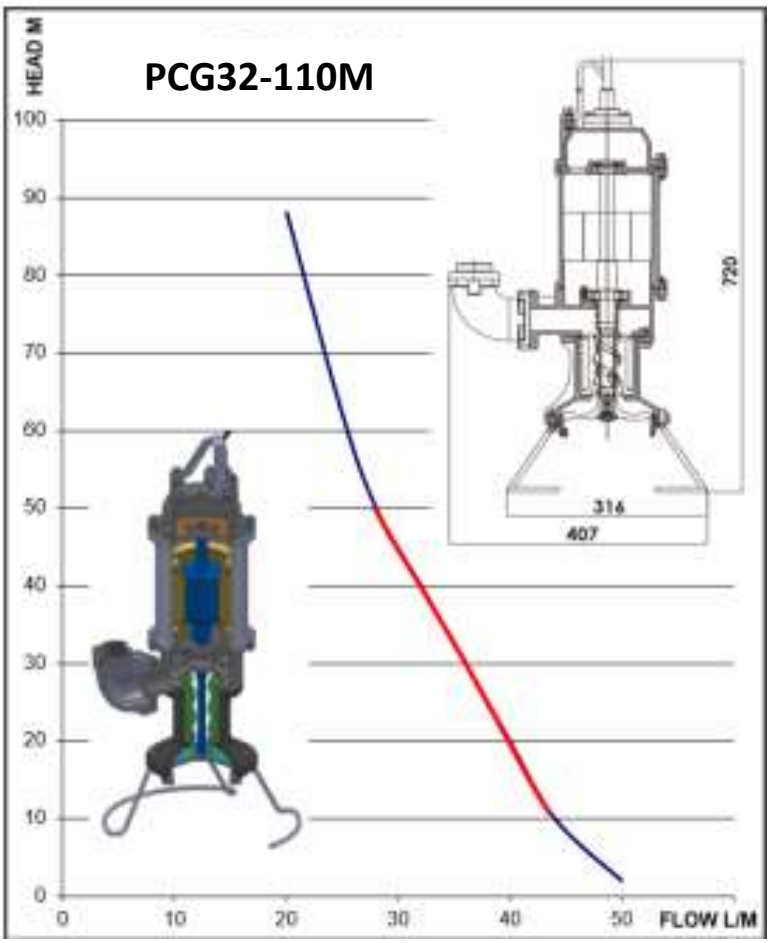
7. WARRANTIES

All components, controls, pipework and fittings are warranted for 24 months against defective equipment and workmanship.

Section 2

PUMP DATA

PGC32-110M-SERIES POSITIVE DISPLACEMENT SUBMERSIBLE GRINDER PUMP



OUTPUT POWER (KW)	1.1kW P2
MOTOR NO LOAD W	640W
MAX. HEAD [M]	90M
MAX. FLOW L/MIN	50 l/min
LIQUID TEMPERATURE	2 - 40 deg C
MAXIMUM TEMPERATURE	50 deg C
MOTOR	4 pole induction motor
MOTOR INSULATION	B Class insulation
MOTOR PROTECTION	In-built thermal overload
PROTECTION CLASS	IP68
GROSS WEIGHT (KG)	40 kg

RATED VOLTAGE	220 - 240V 1Ph 50 Hz
CURRENT	10.7 amps
START CAPACITOR	300uF 450V
RUN CAPACITOR	30uF 450V
POWER CABLE	9.5m long 10 amp rated H07 flex 10 amp 3 pin plug
MAX SUBMERGENCE	6.5m
AUTOMATIC OPERATION	No
PUMP BODY	Cast Iron
INTERNALS	Stainless rotor / Elastomer stator
MECHANICAL SEAL	Silicon Carbide / Silcon Carbide
OUTLET	1 1/4" BSPF

Section 3

OPERATIONAL INFORMATION & MAINTENANCE SCHEDULE

OPERATIONAL INFORMATION

Effluent enters the pumping station through the inlet pipe, and accumulates in the plastic chamber. When the effluent enters the tank, the level sensor notices the water level rise until it reaches the pump's activation level. The pump then starts up and the effluent is pumped automatically into the discharge pipe. As soon as the effluent level reaches the minimum effluent level in the tank, detected by the level sensor, the pump switches off automatically.

Should the pump not turn on, the effluent level will continue to rise until the alarm level is reached.

MAINTENANCE SCHEDULE

- In general, the SewerMate Pump Chamber does not need regular servicing, however please ensure that no wet wipes, nappies, sanitary pads, tampons, condoms, socks, rags, clothes or other non-pumpable items are flushed down the toilet, as these will block the pump and cause damage to the pump.

- In commercial kitchens or other high grease applications, a suitably sized grease trap should be installed, and this should be degreased on a regular basis by a waste removal contractor.

- It is recommended that the pump chamber area is keep clean and accessible should a serviceman need to access the pump, or alarm panel.

- Below is a short list of things that can be flushed down a toilet:
    - Human waste
    - Toilet paper

Below is a list of things that cannot be flushed down a toilet:

- Wet wipes (even ones labelled “flushable”)
- Baby wipes, makeup wipes
- Paper towels, tissues, napkins
- Feminine hygiene products (tampons, pads)
- Hair, dental floss, nail clippings
- Condoms
- Pet waste
- Cooking oils, fats, grease (down sinks) — major cause of fatbergs
- Food scraps, coffee grounds, tea leaves

In the event of an alarm, please contact your service provider / installer.

In the case of a power failure, the pump will empty the chamber once the power comes back on.

If you have any questions or problems, please call Allflow on 0800739376

Section 4

PLUMBING INSTRUCTIONS & INSTALLATION PROCEDURE

Allflow Pump Chamber
Plumbing Instructions & Installation Procedure

IMPORTANT: Please read all instructions before commencing installation.

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1. POSITION

(a) Identify the correct location, level, and orientation for the chamber to be installed and prepare a hole large enough for the chamber. Allow room for access to the inlet and outlet fittings, and a minimum of 100mm around the circumference of the chamber for clean backfill material.
(b) Ensure the base of the hole is reasonably level and free from large stones, then place the chamber in the correct position.
(c) Check that the top of the chamber is at the correct level relative to the proposed finish level.
    a. This should be 50-100mm above the finish level for non-trafficable areas to prevent flooding or debris from entering the tank during servicing.
    b. This should be 150-400mm below the finished level for trafficable areas.
(d) Check that the top of the chamber is level, then backfill and compact in layers with clean fill.

Important: Fill the pump chamber with water to prevent the chamber from moving during backfilling.

2. PIPE CONNECTION

(a) Using the correct size hole saw, cut a hole on the selected side of the chamber for the inlet pipe. (Refer to the Uniseal chart for the correct hole saw size).
(b) Install the Uniseal on the outside of the chamber and then insert the inlet pipe to form a waterproof joint into the chamber.
(c) Install a 90-degree junction on the end of the inlet pipe, inside the chamber, to direct the flow downwards.
(d) Use a suitable bedding chip to ensure that the connection into the chamber is in such a way that no stress can come onto the chamber.

3. DISCHARGE

(a) Connect up and run the pump discharge pipework from the female BSP outlet connector on unit to the desired discharge point.
(b) A 40mm PN16 Medium Density pressure pipe is recommended for the pump discharge line.

4. VENT

(a) The tank must be vented.

(b) Using the 40mm Uniseal already fitted to the chamber, install a minimum 40mm, unrestricted air vent to prevent the chamber from coming under vacuum during pump-out.

(c) Run the vent to a suitable position where it cannot be flooded or become choked in any way.

AIR ADMITTANCE VALVES MUST NOT BE USED ON AN ALLFLOW PUMP CHAMBER AT ANY TIME AND ALL VENTS MUST BE OPEN TO ATMOSPHERE.

5. BACKFILL

(a) Once the pump chamber in installed into the hole, please ensure that the pump chamber is backfilled with gravel or a suitable backfill material. Ensure any backfill material is compacted in layers to prevent any will slump over time causing stress to the pipework.

6. ELECTRICAL & COMMISSIONING

(a) Employ a suitably qualified electrician to install the in-ground conduit and wiring to a suitable 10-amp power source

(b) Check that pump and transducer are free of obstructions inside tank, and the tank is free of any debris / gravel.

(c) Check that the isolation valve inside the chamber is turned to the open position.

(d) Connect to the 230-volt power supply and switch on. The pump should run and pump out some of the water.

(e) Check for any leaks and check the operation of the pump by filling the chamber with water to ensure pump turns on at 500mm deep and off at 300mm deep.

(f) Place the lid on the unit and secure it correctly to prevent any unauthorised entry.

Your fully automatic SewerMate Pump Chamber installation should now be complete.

GENERAL INSTALLATION GUIDELINES

Allflow Pump Chambers are all pre-assembled and ready for installation and require no adjustments. We recommend that certain minimum guidelines are adhered to as follows: -

1. All units must be vented, using an external vent as above.

2. All plumbing must be carried out by a registered craftsman plumber/drainlayer, and must comply with Plumbing Regulations and Codes of Practice.

3. All electrical permanent connections must be done by a registered electrician, and must comply with the Electricity Regulations and Codes of Practice.

4. All installation should be done in accordance with the Local Authority's guidelines and permit requirements.

5. No acids, solvents, corrosives, chemicals, or inflammable liquids should be allowed into the unit, as it could cause serious problems.

6. The maximum water temperature permitted into the unit is 60ºC

ALL WORK MUST BE CARRIED OUT BY A REGISTERED PLUMBER / DRAINLAYER AND MUST COMPLY WITH THE PLUMBING REGULATIONS AND CODES OF PRACTICE.

Pump chamber must be vented at all times to atmosphere.

A vent provision is provided near the top of pump chamber. This needs to be extended and terminate to a suitable position where it cannot be flooded or become chocked in any way.

IMPORTANT NOTE

AIR ADMITTANCE VALVES MUST NOT BE USED ON AN ALLFLOW PUMP CHAMBER AT ANY TIME.
ALL VENTS MUST BE OPEN TO ATMOSPHERE.

Section 5

ELECTRICAL WIRING INSTRUCTIONS

ELECTRICAL WIRING INSTRUCTIONS

ALLFLOW PUMP CHAMBER
WITH SINGLE PHASE PUMP

- **All units with controllers and alarms will require onsite work to be done by a registered electrician and must comply with the electricity regulations and codes of practice.**

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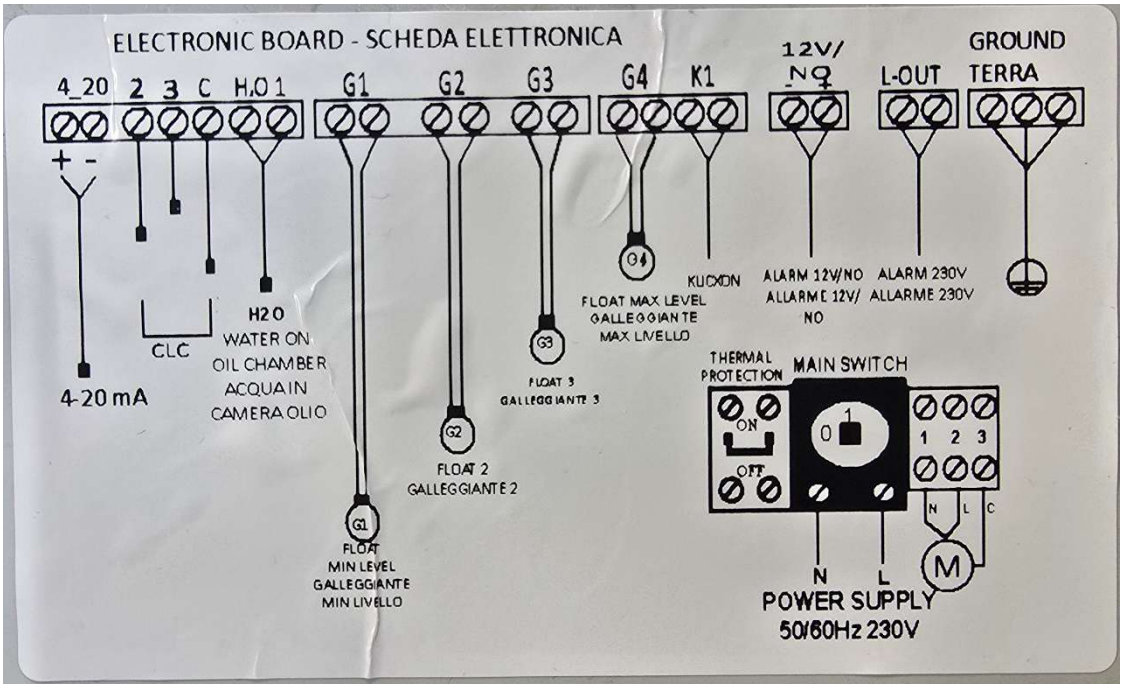
1. The pump controller box needs to be attached to the side of a building, and the power supply provided to the pump controller position onsite.

2. Once the controller is attached onsite, the pump lead wire is supplied out of the pump chamber as a bare wire fitted through a cable gland on the pump chamber, so fit pump lead wire into correct position in the pump controller. See below electrical diagram.



3. The pressure transducer wire is also fitted through a cable gland on the pump chamber, so fit these into the correct position in the pump controller. Red (4) and Green (20). Black wire is surplus.

4. Check correct setting of overload circuit breaker relay to match the pump running current to ensure pump does not trip the circuit breaker.

5. If the pump controller has a Timer Control Box included, the internal clock will also need to be set to the correct time, and the pump out time set according to the specifications.

6. Ensure there is water in the pump chamber prior to turning on, and check operation of the pump (500mm starting & 300mm stopping from bottom of chamber).

The electrical installation of the SewerMate in now complete.