FASTFLO®
PUMP SYSTEMS

Providing Pumping Solutions

Packaged Pump Station
INSTALLATION MANUAL

FASTFLO® PUMP SYSTEMS Providing Pumping Solutions

CONTENTS

BEFORE YOU BEGIN

- Read this manual completely before starting your installation.
- Consult local officials for any applicable codes and regulations.
- Determine the best location for your tank and control panel.
- Minimize the use of elbows on the gravity inlet line. If required only use 45° elbows.
- Minimize the use of elbows on the pump discharge line - only use 45° elbows or swept bends.
- Plan your installation location carefully to insure a minimum 1:80 drop on the inlet line while staying within the allowable inlet zone.
- Determine where the incoming power will be supplied from and if it can handle the rated load for your pump station.
- Mount control panel in accordance with electrical codes and where alarm light can be easily seen. (If applicable)
- Obtain all necessary permits. Call your local relevant authorities before digging to locate all underground lines and cables.
- Make sure you have the necessary equipment and supplies before starting your installation.
- Determine the ballast requirements for your particular tank size.
- Use the electrical requirements specified.

HEALTH & SAFETY

- Only qualified personal should, install, operate, and repair the pump and associated components.

- Safety and Protective clothing must be worn by service personal including overalls, protective footwear, and rubber gloves, and safety glasses.

- Do not touch or allow any sewage to come in contact with hands or mouth as sewage contains a multitude of germs, and infectious pathagens which could cause serious illnesses.
  (We recommend all operators have a tetanus injection prior to working in these pump stations)

- Do not enter the tank under any circumstances as sewage contains toxic and explosive gases which could cause suffocation. (If the tank is to be entered by the contractor then standard confined space procedures must be followed).

- Do not smoke or light any matches in the vicinity of the pump station to avoid the risk of explosion.

- Always make sure that the power supply to the pump station is switched off and safely isolated, using standard isolution procedures to reduce the risk of electrical shock or hazards

- Keep hands and fingers away from pump suction and discharge openings and do not insert fingers in pump while power is connected as this could cause serious personal injury.

- Do not leave the pump cover/lid off the pump chamber except while servicing to prevent foreign materials entering, or the danger of children falling into tank. (We recommend that a cone is put near the tank, and the tank is fenced off with a safety netting around tank while being serviced).

NB: PUMP AND VALVE SPECIALTIES ARE NOT RESPONSIBLE FOR LOSSES, INJURY OR DEATH RESULTING FROM A FAILURE TO OBSERVE THESE SAFETY PRECAUTIONS, MISUSE OF PUMPS OR EQUIPMENT.

PLUMBING INSTRUCTIONS & INSTALLATION PROCEDURES

IMPORTANT: *Please read all instructions before commencing installation.*

1. Excavate hole for tank. Excavation should be 100mm deeper than tank.
   Approximate excavation hole size to allow:-

FASTFLO MINI	950mm deep x 1.0m diameter
FASTFLO 1000	1.8m deep x 1.5m diameter
FASTFLO 1500	2.2m deep x 1.5m diameter
FASTFLO 2000	2.7m deep x 1.5m diameter

2. Lay 100mm of sand, pea or drainage metal in base of excavation, in order for tank to be bedded on a flat base, and also shaped to suit tapered base of tank.

3. Lower pump station into excavated hole and check for level. Pump station lid should be flush with finished ground level. Allow extra depth of hole if using traffic rated lid.

4. Tank should be backfilled as soon as possible (do not use shingle, pea metal or existing backfill):

   For low water table areas (e.g. 20 down drainage metal or AP20 base course):-
   Partially backfill with a cohesive backfill and compact in 300mm layers around tank (up to sewer inlet level only) using a mechanical plate compactor or vibrator. Ensure that tank is filled with water and kept same level while backfilling tank (refer to Important Notice on Page 15).

   For high water table areas:-
   If bottom of tank is below maximum ground water level, then tank should be bedded down in concrete whilst still fresh, and concrete continued up side of tank to just above second rib, or more for high water table areas. Ensure that the tank is filled with water ahead of pouring concrete balanced and kept at the same level while backfilling tank (refer to Important Notice on Page 15).
   If the tank is in a trafficable area, then an additional concrete cover slab should be poured with heavy duty lid option. (See Note 16)
   Alternatively, continue concrete up sides of tank to the underside of the cover slab (inlet and electrical outlet pipes to be done first – Refer No's 5 – 11).

5. Cut sewer inlet hole with hole saw, in the desired position (usually between 1st and 2nd rib from top) and insert large rubber inlet uniseal in hole from outside.
   Hole sizes are as follows:- (Refer to seperate instruction page)
   For 110mm uPVC = 127mm hole saw size
   For 160mm uPVC = 170mm hole saw size
   Lubricate inlet uniseal with o'ring lubricant or similar, and insert PVC inlet pipe (gravity drain) into tank.

6. Install 90º ramp/inspection bend (large inspection type) or 90º M&F inspection junction (supplied by others) on inside of tank, so as to direct liquid flow downwards into the pump chamber. This also allows access for plugging and water testing gravity drain.
   Sewer drain is now ready to be laid from pump station inspection bend or junction back up to dwelling/building.
7. Install vent from top of tank if required. Refer to separate page on Vent Requirements.
8. Cut discharge hole in tank wall with a hole saw, in desired position/direction (normally 75mm above top rib). Insert the small rubber discharge uniseal into discharge hole on inside of tank, and lubricate with o'ring lubricant or similar.
   Hole sizes are as follows:-

   For 50mm PVC pressure pipe = 76mm hole saw
   For 80mm PVC pressure pipe size = 102mm hole
   For 100mm PVC pressure pipe saw size = 127mm
   hole saw size
9. Screw vertical discharge pipe into pump outlet (if not already installed).

   Note: If overall discharge height out of tank is lower than standard height, then shorten vertical discharge pipe to suit.

   Glue swept discharge bend (with valves attached) onto vertical pipe before installing pump(s), making sure bend is facing over top of pump(s).

   Note: The non-return ball valve must always be vertical, as per the prefabricated position. This must not be altered to any other position, as this will cause operational failure.
10. Install pump(s) in tank, as close to centre as possible. Pump(s) should sit on flat base of tank, so that when valves are installed later, they are easily accessible when lid is open. Allow enough room for gravity drain inlet bend/junction if directly opposite pump discharge position.
11. Install short PVC discharge pipe with coupling nut from inside tank. Push through the rubber uniseal the required distance, so as to match up to pump pipework, and tighten quick connect coupling. Extend discharge pipework beyond pump station to discharge point, in pipe material selected.
12. Hang rope(s) or chain(s) on hook(s) at top corner of tank. If hooks not mounted, position in corners adjacent to pumps. KEEP CHAIN(S) WELL AWAY FROM PUMP FLOATS – ON OPPOSITE SIDE OF PUMP FLOATS, TO AVOID MALFUNCTION.
13. Electrician to install 32mm/50mm PVC electrical conduit(s) and wiring between pump station and control box/panel (mounted on building adjacent to pump station). Refer to electrical installation diagram and instructions. Refer to Electrical Wiring Instructions for testing pump(s) and alarms.
14. Feed pump and alarm float cables through conduit(s) to control box/panel.

15. Check that pump control and alarm floats are free and clear of any obstructions.
    Check that high level alarm float is not directly below sewer inlet drain where it enters the pump chamber. If so, it must be shifted to one side, as this could cause malfunction of alarm.
    Correct high level float operating position should be approx. 550mm from the bottom of the centre of the float.
    Some special electrical instructions may apply to 3-phase single or dual pump stations.
16. Complete backfilling as follows:-

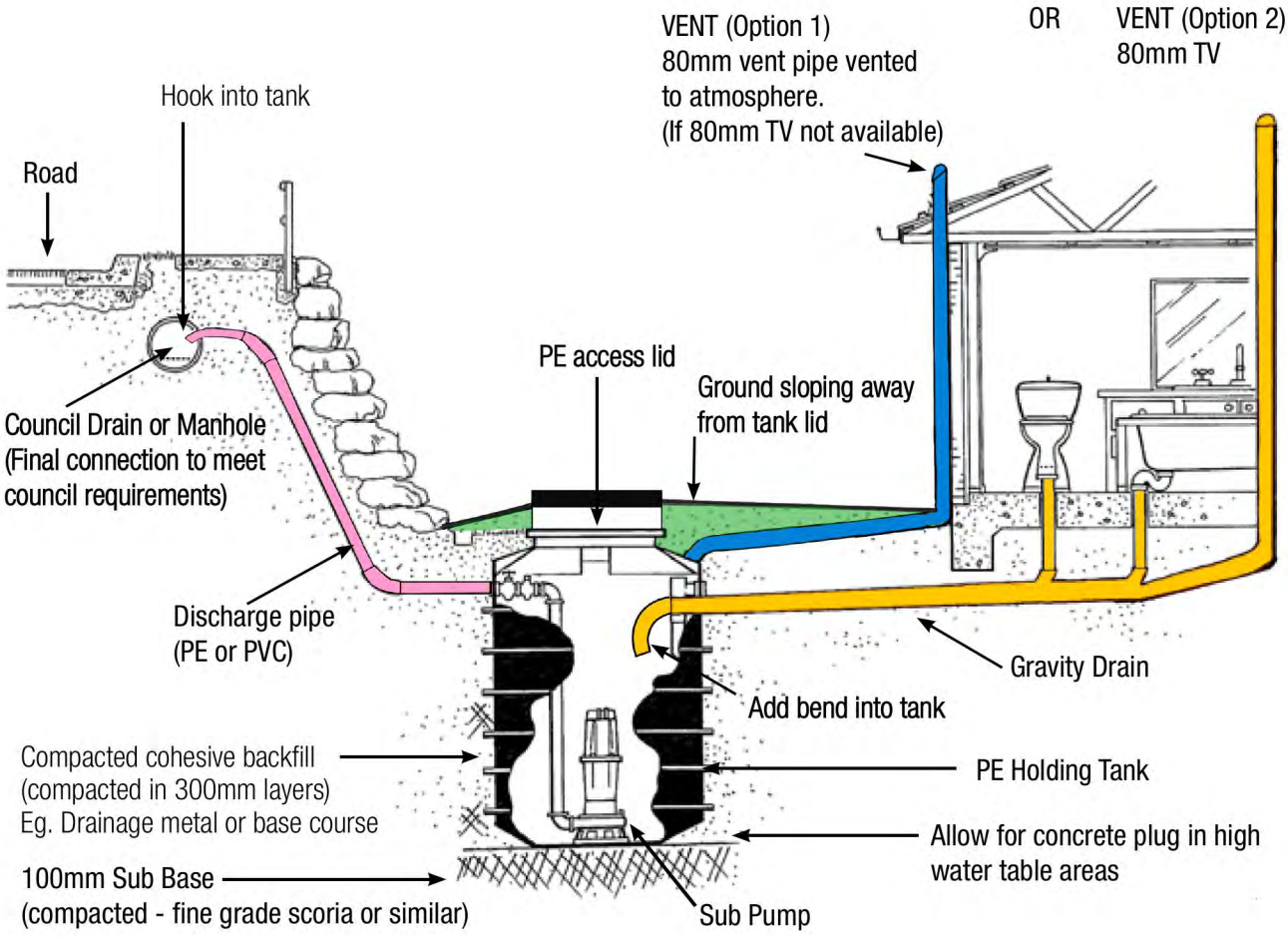
    OPTION 1: STANDARD PE PEDESTRIAN-RATED LID

    Backfill as detailed previously (refer to Note 4).

    OPTION 2: CAST IRON TRAFFICABLE-RATED LID

    Backfill as detailed previously (refer to Note 4), and prepare for concrete apron.
    Cast Iron lid / frame needs to be set in a concrete apron (i.e. 100mm – 150mm cover slab x 300mm wide), which is poured above the top of the P.E tank opening.
    Allow for a 20 – 25mm gap to separate the cast-iron lid from the PE pump station neck, to avoid direct traffic load bearing onto P.E tank. (Refer to drawing FFP40A).
17. Pump Station may now be commissioned as follows:-
    (a) Fill tank with water up to normal pump working float level and check pump operation.
    (b) Lift high level float and check audio-visual alarm operation.
    (c) Check that ball isolation valve in tank is turned on.
    (d) Bolt down lid with stainless steel bolts provided or padlock lids if provision available.

TYPICAL PLUMBING INSTALLATION

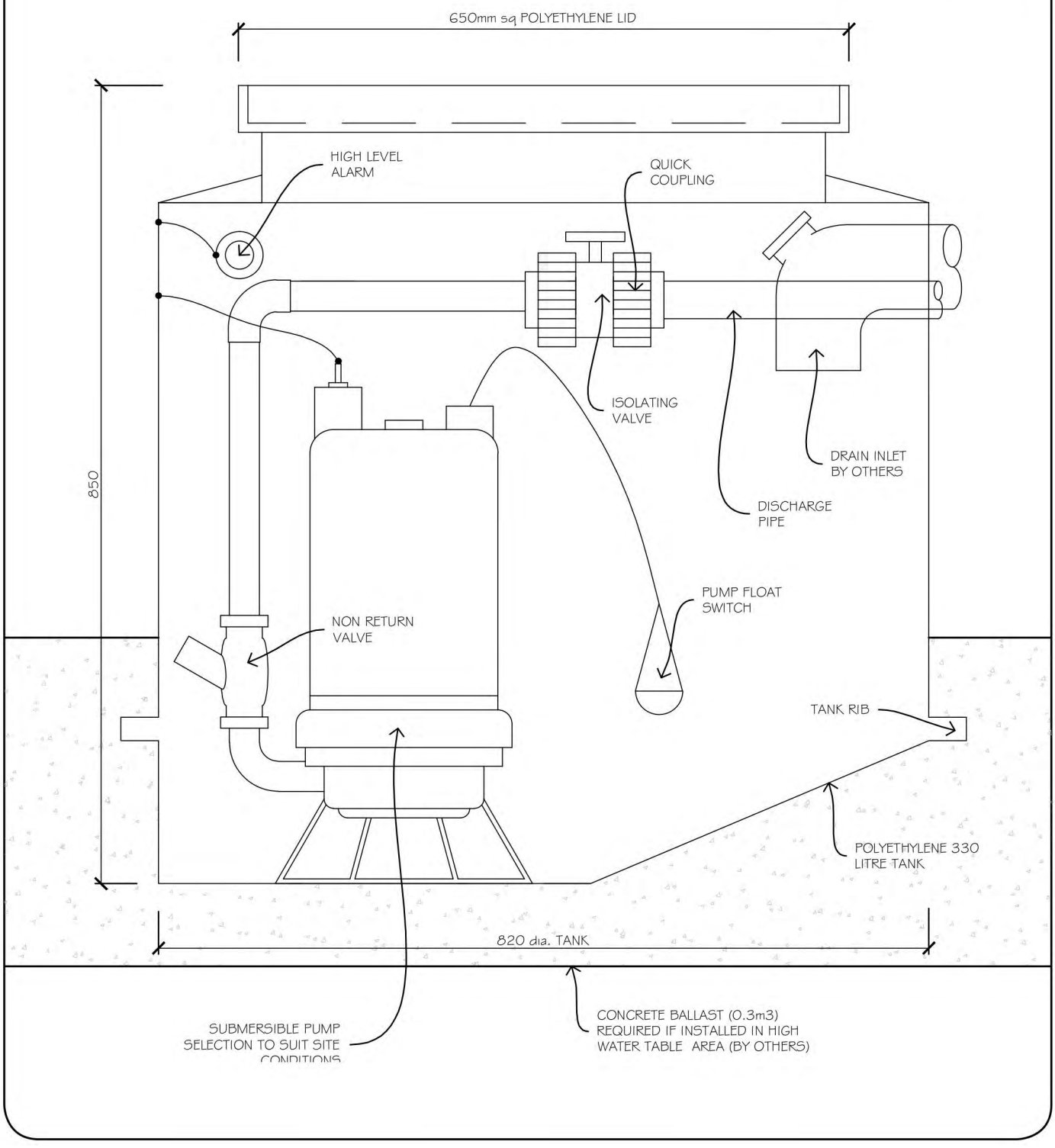


Installation Notes:

- Ground level should be sloping away from tank to avoid ponding and floatation of pump station
- Position tank at the lowest part of drainage system or in a position appropriate to drainage system.
- Drill gravity inlet and discharge pipe between ribs of pump chamber at a height to suit the on-site conditions.
- Control Panel to be mounted on wall in a position within close proximity to pump station
- Tank to be backfilled with compatable material in 300mm layers.
- Must have a concrete plug in high water table areas.

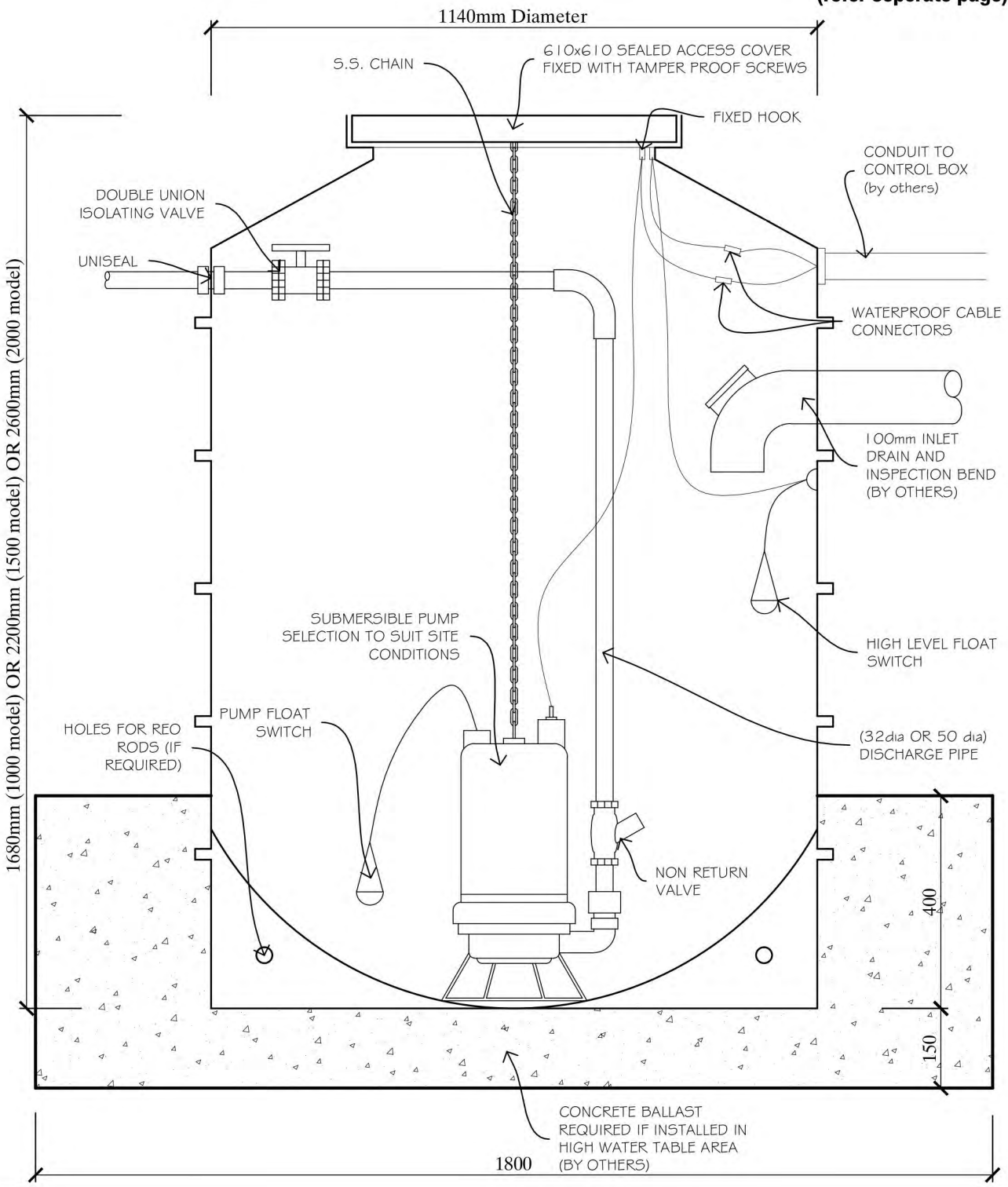
MINI 330 LTR TANK

NB: Tank must be vented (refer seperate page)



1000/1500/2000 LTR TANK

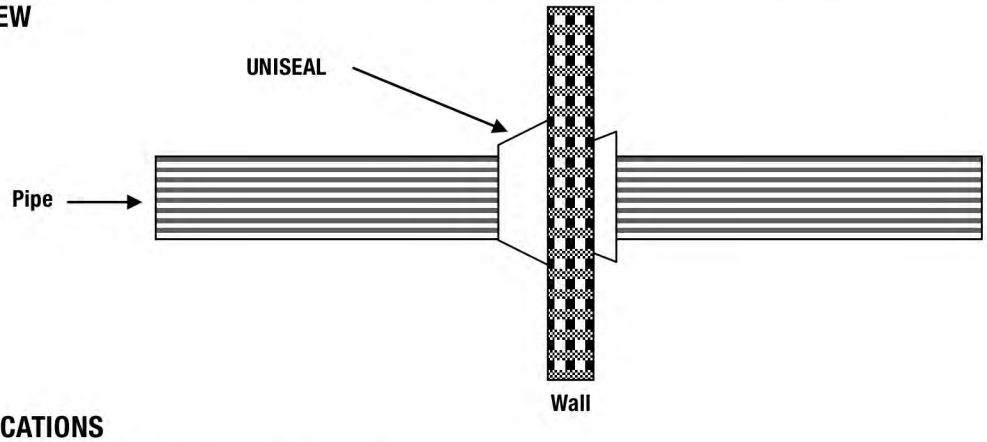
NB: Tank must be vented (refer seperate page)



UNISEAL INSTRUCTIONS

1. Cut hole to the Holesaw size indicated for the UNISEAL® you are using (see below).
   Example: 3" UNISEAL® =4" Hole (Holesaw).
2. Ensure that the hole is clean cut with sharp edges. Irregularities could cause poor seating and ultimate leakage.
3. Insert the UNISEAL® into the hole with the wide side facing the pipe to be inserted.
4. Make certain that the pipe end to be inserted is clean cut. File the edges so that there are no sharp points to cut UNISEAL®.
5. Using detergent, lubricate the outside of the pipe end to be inserted, then push the pipe through the UNISEAL® from the large flange side. The detergent will be squeezed off as the pipe passes through the UNISEAL®. The co-efficient of friction of the rubber holds the pipe tightly in place.

SIDE VIEW



SPECIFICATIONS

Wall Thickness – 1/8" X ½" 3mm – 12mm

Part #	DN#	Pipe ID	Pipe OD		Holesaw	
U018		3/16"	0.25"	6mm	0.375"	10mm
U025		¼"	0.375"	10mm	0.5"	12.7mm
U038	10	3/8"	0.675"	17mm	1"	25.4mm
U050	15	½"	0.840"	21mm	1.25"	31.7mm
U075	20	¾"	1.050"	27mm	1.25"	31.7mm
U100	25	1"	1.315"	33mm	1.75"	44.4mm
U125	32	1"	1.660"	42mm	2"	50.8mm
U150	40	1 ½"	1.900"	48mm	2.50"	63.5mm
U200	50	2"	2.375"	60mm	3"	76.2mm
U300	80	3"	3.500"	89mm	4"	101.6mm
U400	100	4"	4.500"	114mm	5"	127mm
U600		6"	6.625"	168mm	7"	178mm
U400-35	4"		110mm		5"	127mm
U600-35	6"		160mm		7"	178mm

Metric Hole Tolerance +2mm.

IMPORTANT NOTES FOR ALL INSTALLATIONS

PLEASE READ CAREFULLY

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

---

1. Each FASTFLO Pump Station installation should be done in accordance with local Territorial Authority requirements.
2. All discharge pipework bends should be large radius type (formed swept bends if possible, or 2x 45° bends).
3. Keep pipe runs to discharge as direct as possible and keep number of bends to a minimum for smooth liquid flow.
4. Minimum discharge pipe diameters as follows:
   Vortex & Cutter pumps: 50mm I.D.
   Grinder pumps: 40mm I.D.
   For longer pipe runs, consult with Fastflo Pump Systems.
5. Check that all pump leads, chains, high level floats, etc, are free of obstructions, and that high level floats are not directly below sewer inlet drains, where it enters the pump chamber.
6. PUMP STATION VENTING: Refer separate vent requirement details.
7. Once installed, tank must be left with enough water in it to avoid any risk of floatation caused by heavy rainfall or unpredicted water entry. This also applies if tank installation is left uncompleted temporarily, as well as when unit is fully installed.
8. Make sure there is no chance of any stormwater entry, e.g. entry from unfinished downpipes or any rainwater/drainway runoff.
9. Once unit is installed, never leave lid(s) unbolted or unpadlocked at any time, to avoid serious or fatal injury.

VENTILATION REQUIREMENTS

PLEASE READ CAREFULLY

ALL VENTING MUST COMPLY WITH THE PLUMBING REGULATIONS, CODES OF PRACTICE AND THE PLUMBING AND DRAINAGE STANDARD AS/NZS3500.2 : 2003.

FASTFLO Undersink Sullage Chamber
Must be vented at all times to atmosphere.
Minimum vent size should be 32mm

FASTFLO MINI / 1000 / 1500 / 2000 Models
Refer to Drg No's FFP.1 and FFP.2.

For Domestic Applications

Vent size required: 80mm either indirectly or directly.

If the pump station is within 40 mtrs of the 80/100mm house drain TV(Terminal Vent) and the dwelling has less than 3 WC pans - then no extra vent pipe is required.

If the 80mm house drain vent has been reduced in size then a seperate 80mm pump chamber vent should be provided. All vents to atmosphere shall terminate in accordance with AS/NZS3500.2 and vent shall be taken from the top of the pump chamber.

For Industrial / Commercial Applications

Vent size required:	80mm	Above ground level
	100mm	From tank / below ground level

All vents to atmosphere shall terminate in accordance with AS/NZS3500.2 and vent shall be taken from the top of the pump chamber.

FASTFLO 3000 / 4000 / XL / FRP Models
Refer to Drg No's FFP.10 and FFP.11 (3000 & 4000)

Minimum vent size required:	80mm	Above ground level
	100mm	From tank / below ground level

All vents shall terminate in accordance with AS/NZS3500.2 and the vent shall be taken from the top of the pump chamber.

IMPORTANT NOTE

AIR ADMITTANCE VALVES MUST NOT BE USED ON A FASTFLO PUMP STATION AT ANY TIME.

ALL VENTS MUST BE OPEN TO ATMOSPHERE.

IMPORTANT NOTICE FOR INSTALLER WHEN BACKFILLING HOLDING TANK

WARNING: Tank flotation may occur if not installed correctly.

Installation in LOW WATER TABLE AREAS

1. To avoid flotation, the tank must be backfilled with cohesive compactable backfill - e.g 20 down drainage metal or AP20 base course and compacted in 300mm layers, keeping compactor approx. 150mm from side of tank.

   DO NOT backfill with shingle or pea metal, or existing backfill.

2. The tank must be gradually filled with water at the same time as the backfilling level, to ¾ of the way up the tank.

Installation in HIGH WATER TABLE AREAS:

1. The tank must be approximately half filled with water ahead of concrete being poured around tank.
2. The tank requires concrete to be placed around tank ribs, around sides of tank.

   Minimum amount of concrete:

250 litre Valve Box	0.2m³	concrete
330 litre Mini Tank	0.3m³	concrete
500 litre Double Valve Box	0.3m³	concrete
1000 litre Tank	0.5m³	concrete
1500 litre Tank	0.75m³	concrete
2000 litre Tank	1.0m³	concrete

3. If further backfill is required, this should be compacted in 300mm layers (as above), BUT ONLY ONCE CONCRETE HAS SET.
4. Tank should continue to be filled with water as the backfilling is done.

ELECTRICAL WIRING INSTRUCTIONS

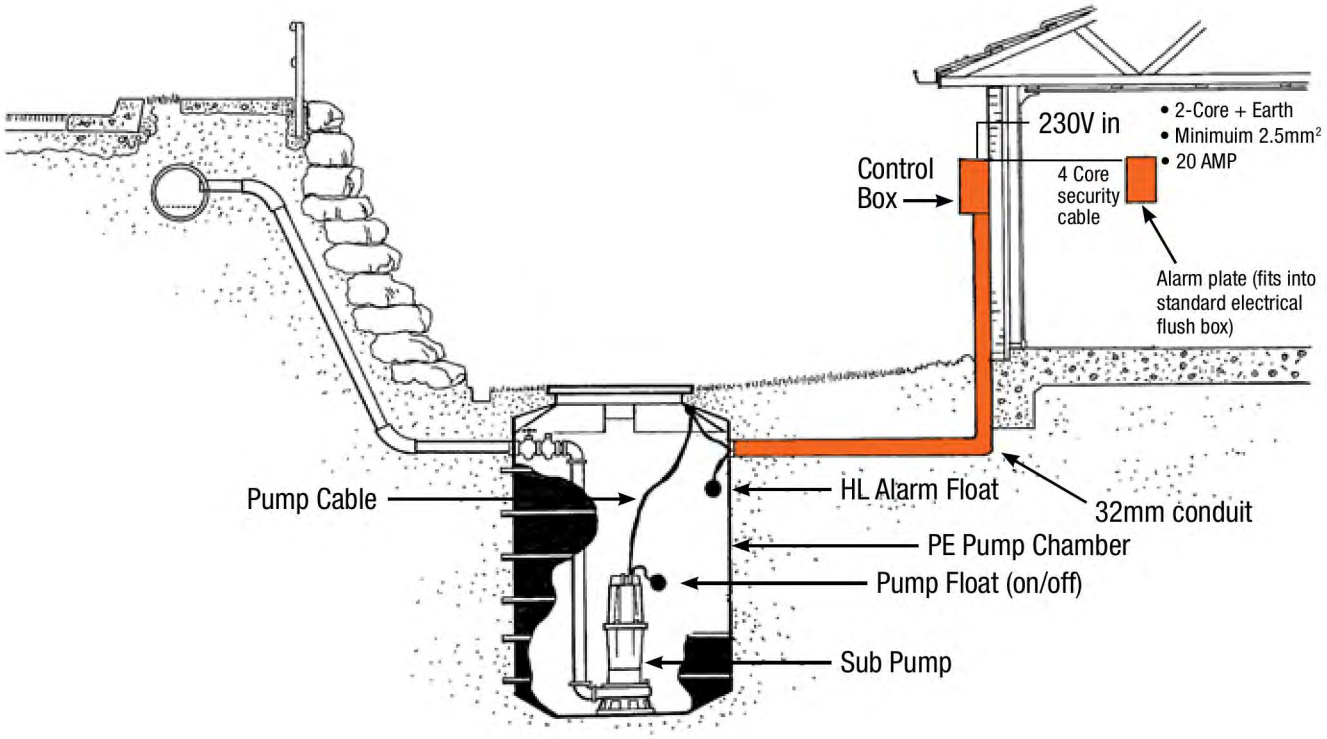
1-PHASE OR 3-PHASE PUMPS

ALL WORK MUST BE CARRIED OUT BY A REGISTERED ELECTRICIAN BEING ON THE EWRB NZ REGRISTRAR AND INSTALLATION MUST COMPLY WITH THE AS/NZS STANDARDS AND REGULATIONS AS/NZS3000 WIRING RULES.

1. Pump station requires a dedicated 20A power supply from the nearest power distribution board.
2. Also required is a 4C Security cable (or CAT6) between the Pump Controller Panel and the indoor alarm position.
3. Mount the Pump Control panel where is is sheltered from the weather and do not mount in direct sunlight.
4. Supply and install the following rigid conduits between the Pump Controller Panel and the pump chamber:
   1 x 32mm for single pump
   2 x 32mm for dual pumps

   • Conduits are to be lock nutted into chamber wall and into the control panel, with plain to screw adaptors
   • Large radius or swept bends only to be used.
   • Ends of conduit to be sealed to prevent the transfer of sewer gas which is extremely corrosive to electrical components.
5. Run pump and float cables directly into the control panel, via the conduits detailed above.
6. Connect Power Supply to terminals marked E/A/N "SUPPLY"
7. Connect Pump Cable terminals marked E/A/N "PUMP"
8. Connect high level float to terminals marked "HIGH LEVEL FLOAT", these are non polarised, use black and brown cores(closed when up)
9. The front keypad is connected to the Circuit Board via a ribbon cable and a 4 Pin connector if this becomes disconnected for any reason, it is important to re connect this. **
10. Before lowering the pumps into the tank, check that the pump is operating. For 3-phase pumps, check directions of rotation, by observing the direction of the starting kick when power is momentarily applied. The starting kick should be anti-clockwise when looking down the pumps. Check correct setting of overload to match the pump running current.
11. Check starting and stopping of each pump, and the auto-alternating feature of the dual pumps.
12. Check operation of the high level alarm by lifting up the high level alarm float.

TYPICAL ELECTRICAL INSTALLATION SCHEMATIC



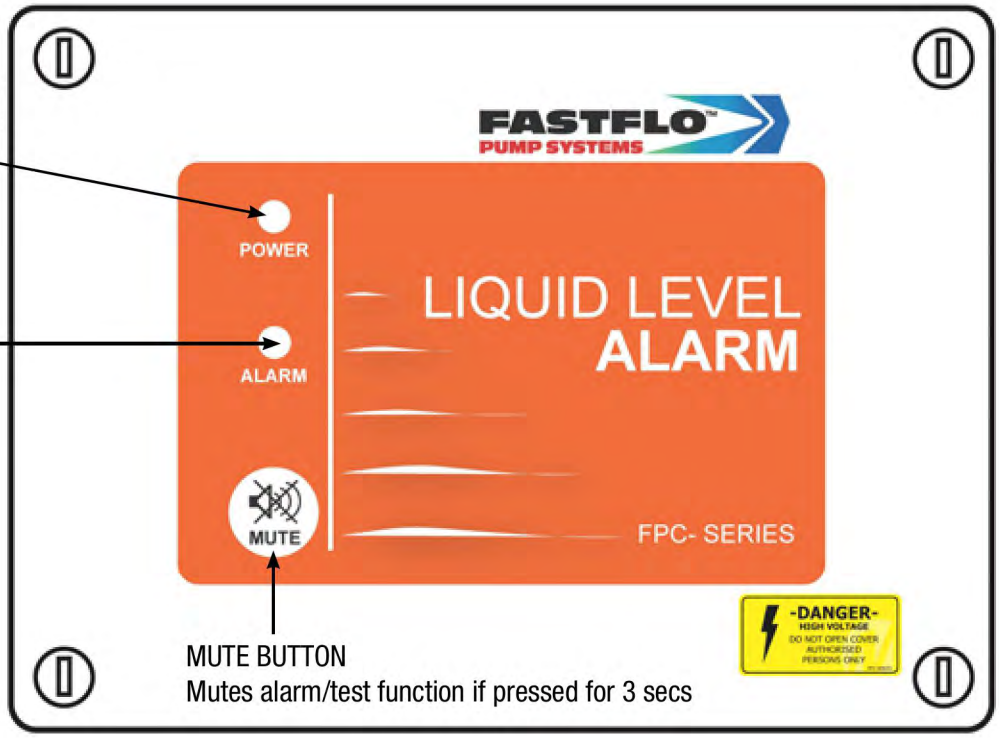
Notes:

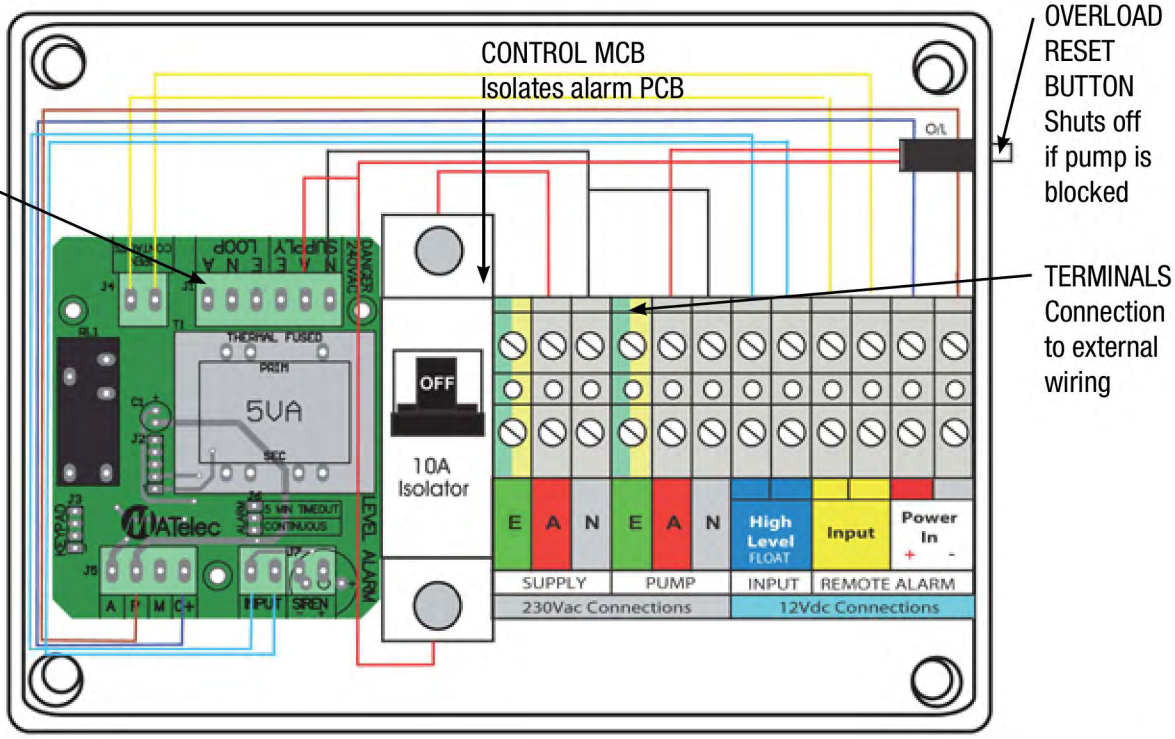
- 32mm conduit (to be sealed at both ends to prevent gas entry)
- 1x2 core + E pump cable 2.5mm² circular
- 1x3 core alarm cable 0.75mm² circular
- 1x 4 core security cable from Controller to Alarm Plate inside
- Max length of pump cable = 8m
- Max length of alarm cable = 8m
- If pump station is to be further than 6m from house, pump and control cables will need to be extended - ensure joint is waterproof.
- No cable joints are permitted in conduit.

PUMP TECHNICAL DATA

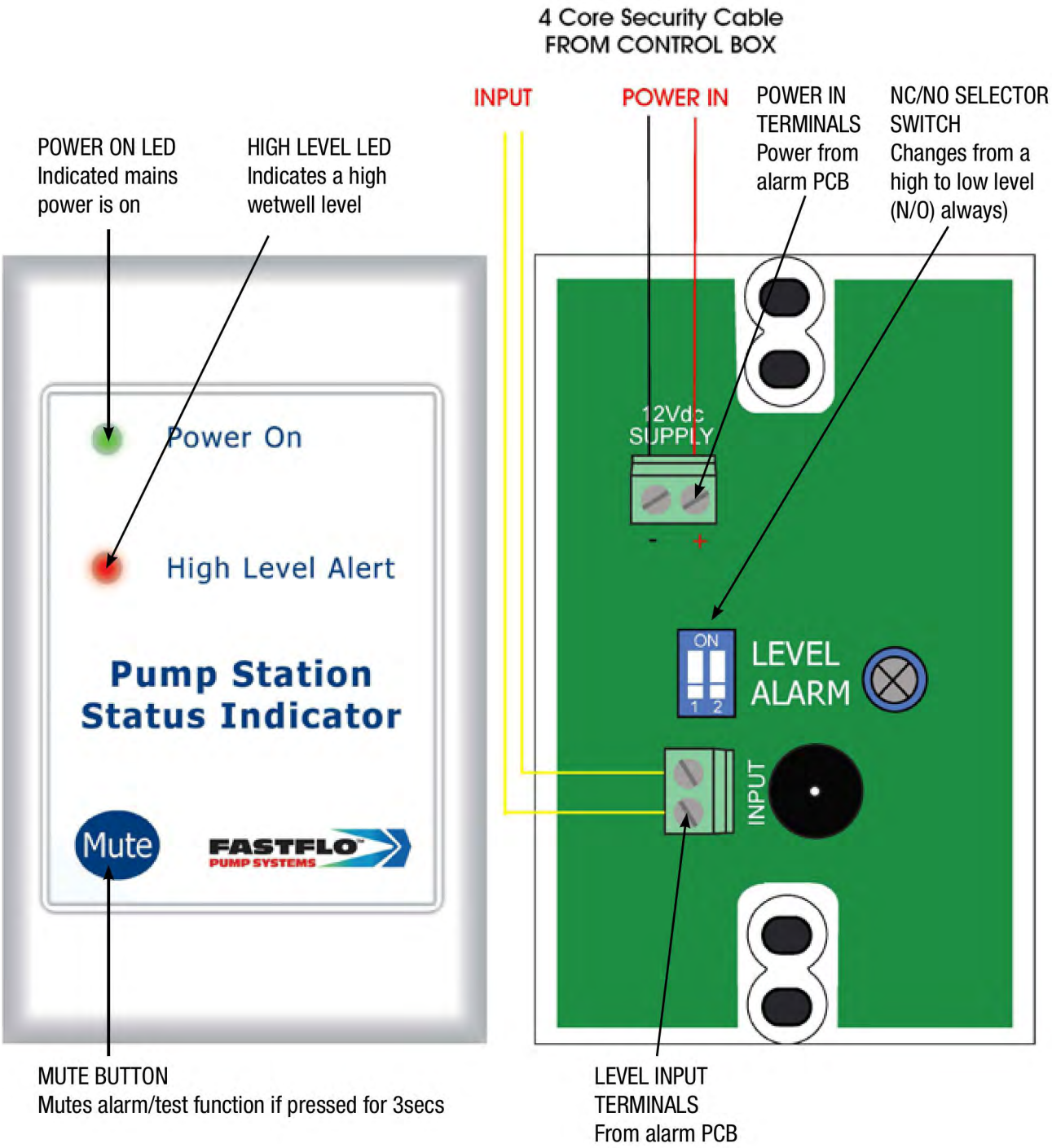
MODEL	PUMP	kW Rating	Amps	Phase	Type
VX	F-21U(F)	0.75 kW	5.3 Amps	1-phase	Vortex
CR	F-21P(F)	0.75 kW	5.3 Amps	1-phase	Cutter
GR	32GF21.0(F)	1.0kW	6.4 Amps	1-phase	Grinder
GR PLUS	32GF21.5(F)	1.5 kW	10.2 Amps	1-phase	Grinder

STD CONTROL BOX & LEVEL ALARM TECHNICAL





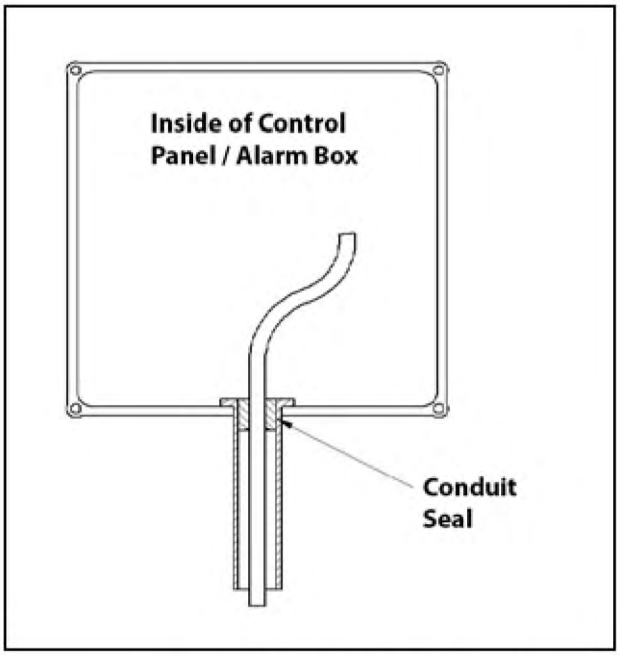
REMOTE ALARM PLATE TECHNICAL (**OPTIONAL)



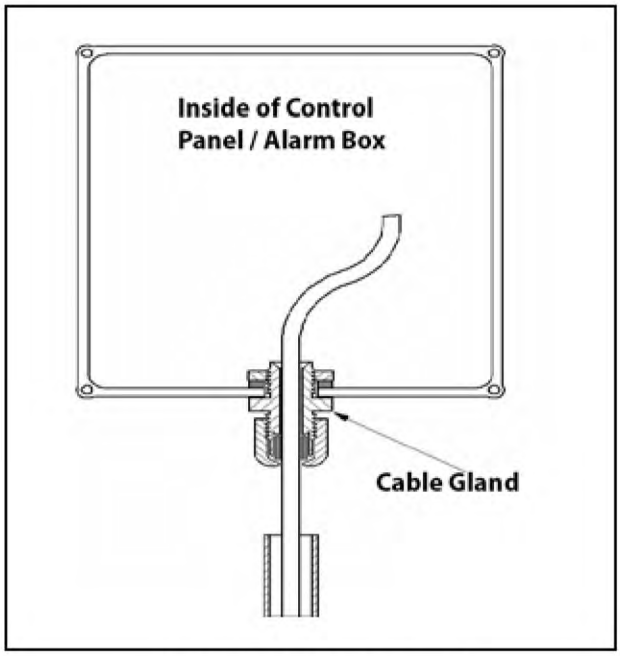
SEALING OF CONTROL PANEL CONDUIT

STEPS & TIPS:

- Conduit entering controller should be sealed to prevent water/fumes infiltration.
- Or cable/s should be glanded correctly in open conduit installs
- Before installing the cover make certain that all cords are cable-tied up and clear of the pump level control.



SEALING WHERE CONDUIT ENTERS
ELECTRICAL ENCLOSURE
(IF SEALED SEPARATE VENT MUST BE USED)



SEALING WITH CABLE GLAND
(WHEN SEALED CABLE GLAND OPTION
SHOULD BE USED)

FLOAT SWITCHES TECHNICAL

PRODUCT DESCRIPTION

Used as input signal to control a pump through control panel and other ancillary equipment.

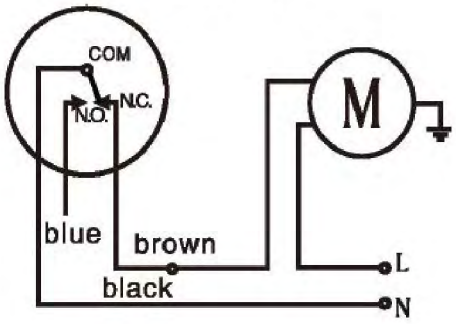
TECHNICAL DATA

- Rated Voltage: AC: 250V
- Maximum Current: 16Amp
- Frequency: 50-60Hz
- Max. Operating Temperature: 50°C
- Protection: IP68

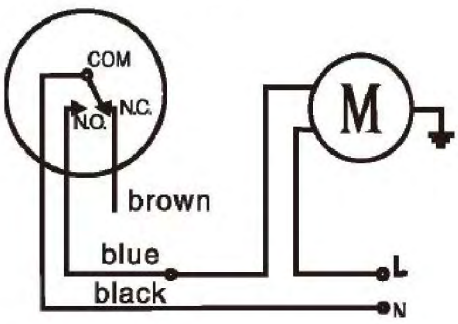
BIA-FSK1	700610	16(8)A	10m Float Switch	HO7 Neoprene Cable
BIA-FSK1-20	700611		20m Float Switch	

Dual Function Float Switch

Emptying



Filling



FAULT DIAGNOSIS

Warning - Any remedy that requires access inside the enclosure must be carried out by a suitably qualified and registered electrician.

Fault	Cause	Remedy
Level alarm (alarm indicator light solid)	Water in the tank/pit is at the alarm level.	Inspect the level in the tank/pit. If at the alarm level, mute the alarm until the level rises/falls and the alarm condition subsides.
	Float switch or probes installed incorrectly.	Ensure the float switch is installed at the correct height in the tank/pit, adjust if required.
	Moisture ingress into cable joins.	Check for moisture in any cable joins, repair if needed.
	Float switch wired incorrectly.	Check the float switch wiring into the input. If a high level alarm is required, ensure the float switch is wired as close on rise (black and brown wires for float switches).
	Float switch damaged or faulty.	Disconnect the float switch from the input. If the alarm clears, the float switch may be faulty. With the float in the open position, test for leakage/shorts across the across the wires. Replace the float switch if required.
	Liquid level alarm keypad damaged.	If disconnecting the input did not clear the alarm, disconnect the keypad ribbon from the module. If the alarm clears, the keypad is damaged and should be replaced.
	Liquid level alarm module faulty.	If disconnecting the input and keypad from the module did not clear the alarm, the module is damaged and should be replaced.
Level alarm not activating	Water in the tank/pit is not at the alarm level.	Inspect the level in the tank/pit. If not at the alarm level, the unit is operating correctly.
	Float switch or probes installed incorrectly.	Ensure the float switch or probes are installed at the correct height in the tank/pit, adjust if required/
	Float switch wired incorrectly or damaged.	Check the float switch wiring into the input. • If a high level alarm is required, ensure the float switch is wired as close on rise (black and brown wires for float switches). • After checking the float is wired correctly, raise/lower the float to test. If the alarm still doesn't activate, the float switch/cable is damaged, replace if required.
	Liquid level alarm module faulty.	If no other remedies were successful, bridge the input. If the alarm still does not activate, the module is damaged and should be replaced.
Alarm test not working	Liquid level alarm keypad damaged.	If the indicator light, strobe and buzzer fail to activate when the mute button is held down for 2 seconds, the keypad is damaged and should be replaced.
No power on indication	Liquid Level Alarm does not have power.	Connect and switch on the power supply to the panel. The power on indicator light will be illuminated when power is on.
	Keypad ribbon not connected.	Ensure the keypad ribbon is connected to the control module 'keypad' pins. If connected and still not working, the ribbon may be in the wrong orientation. Rotate the ribbon 180° on the module pins.
	Liquid level alarm keypad or module damaged.	Press the mute button on the keypad for 2 seconds (test this with the keypad ribbon connected to the module pins in both orientations). If the alarm activates, but the power on indicator does not, the keypad is damaged and needs replacing. If the alarm does not activate, the control module is damaged and needs replacing.

FASTFLO PUMP SYSTEMS Providing Pumping Solutions

JOB NO:

COMMISSIONING CHECK SHEET FOR FASTFLO PUMP STATION INSTALLATION

(To be completed, signed and returned to Fastflo Pump Systems)

PUMP STATION MODEL:		**TANK S/NO:**	
PUMP MAKE & MODEL:		**PUMP S/NO:**	
PURCHASER:		**DATE SUPPLIED:**	

CHECK LIST:

1. 230 Volt power supply at panel. YES NO
2. Is the pump operating and turning on/off via the control float? YES NO
3. Is high-level alarm system operating when alarm float is lifted up? YES NO
4. Pump running current.....amps.
5. Is the system being put into immediate use? YES NO
6. If not, is the pump sitting or likely to be sitting in water? YES NO
7. Has the pump system discharge valve been turned to OPEN? YES NO
8. Likely length of time between installation and commissioning ..... weeks.

ADDITIONAL NOTES

NOTE 1 : THERMAL OVERLOAD

FASTFLO Single phase submersible pumps, including drainage, cutter and grinder pumps are all factory fitted with the auto reset thermal cut-outs embedded in the winding. When supplied with packaged pump stations, an additional WEBER type resettable thermal overload is included in the control panel supplied.

NOTE 2 : DELAYED COMMISSIONING

Please note that cutter and grinder pumps have fine tolerances between the rotary and fixed parts. If there is a delay between installation and regular operating of the system, and especially if the pump is sitting in water before being put to use, it should be checked that the rotor is free just prior to being put into service.

COMPANY: .....

NAME: .....

COMMISSIONING DATE: .....

SIGNED: .....**DATE:** .....

Please return to Fastflo Pump Systems on completion of installation. Failure to do this may render the warranty invalid.

PRE START UP CHECKLIST

BEFORE STARTING YOUR UNIT, CHECK THE FOLLOWING ITEMS:

INSTALLATION QUESTIONS:

- ❒ Was a proper bedding material used
- ❒ Is chamber installed level
- ❒ Was the proper amount and type of ballast used
- ❒ Was proper backfill and compaction done to support piping
- ❒ Does the inlet location provide clear removal of the pump
- ❒ Are all penetrations through the pump chamber wall sealed water-tight
- ❒ Are all piping connections tight and required valves installed properly
- ❒ Has minimum of 300mm of water been put into the tank and still clean
- ❒ Are all control float/s clear of inlet flow
- ❒ Has the vent been installed (if required)
- ❒ Verify all valves are open
- ❒ Will stop float cut out before pump/s lose prime
- ❒ Lid is closed and bolted

Never start pump without making sure air lock is removed from pump pipe work. To do this see step 3.

ELECTRICAL QUESTIONS:

Before checking the following electrical questions, ensure that the electrical installation has been carried out by a qualified electrician to the necessary electrical codes.

- ❒ Are all of the cable glands tight
- ❒ Are all wiring connections secured
- ❒ Are all cables secured and clear of the pump
- ❒ Is the control panel securely mounted
- ❒ Is the control panel dry
- ❒ Is the conduit entering the control panel sealed
- ❒ Are all the wiring connections secured
- ❒ Turn the circuit breaker in control panel to “OFF” position
- ❒ Turn the circuit breaker in the household breaker panel to the “ON” position


FASTFLO®
PUMP SYSTEMS
Providing Pumping Solutions