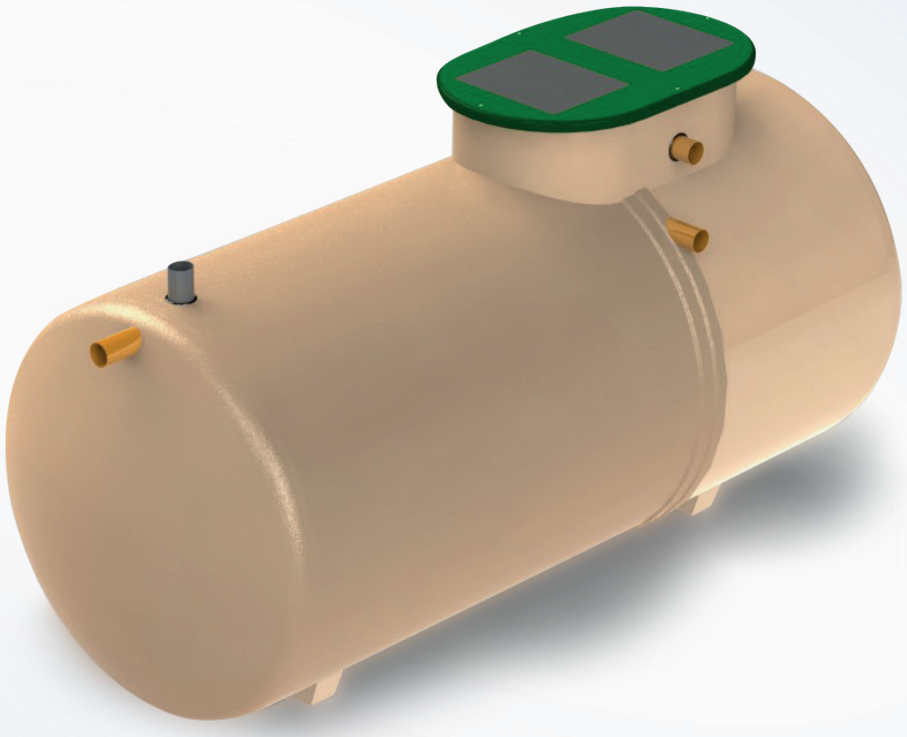
BioFicient 4-6

INSTALLATION MANUAL



Part Code	Issue	Description	Date
017904	01	Initial Issue	August 2014

Kingspan Environmental

Contents

HEALTH AND SAFETY

You must read these warnings carefully before installing or using the equipment. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied. Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated. Take care to maintain correct posture, particularly when lifting. Use appropriate lifting equipment when necessary.

- Only experienced contractors should carry out installation, following the guidelines.
- The unit should have a Pre-Service Agreement Inspection by an approved engineer.
- A qualified electrician should carry out electrical work.
- Covers must be kept locked.
- Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.

CLOTHING

- We recommend the use of a dust mask and gloves when cutting GRP components.
- Any person carrying out maintenance on the equipment should wear suitable protective clothing, including gloves.

MAINTENANCE AND INSPECTION PROCEDURES

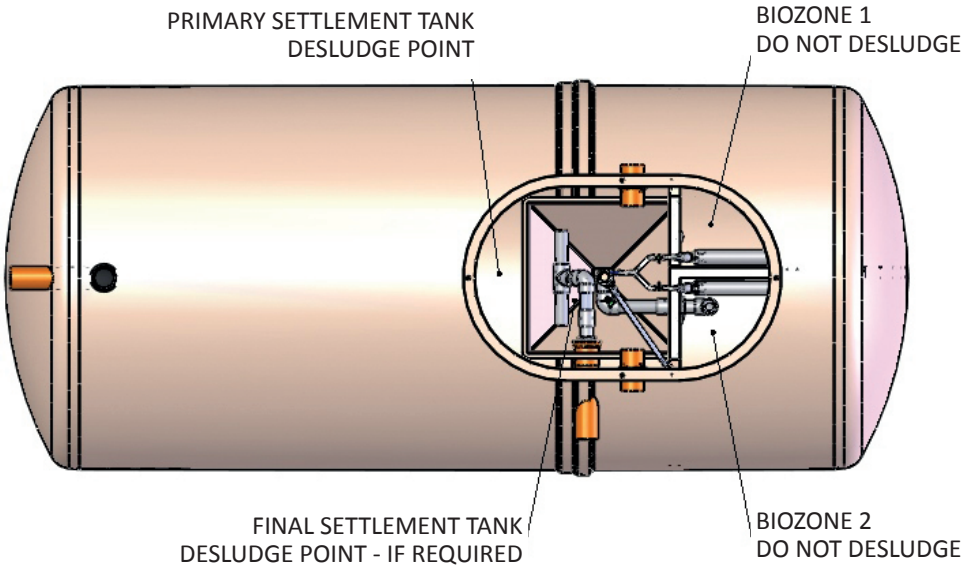
- Should you wish to inspect the operation of the equipment, please observe all necessary precautions, includin g those listed below, which apply to maintenance procedures.
- The power supply to the equipment must be isolated at the control panel(s) before lifting the covers.
- If the equipment has to run with the covers off, all care must be taken to avoid contact with moving parts and electrical components or conductors.
- Once power has been isolated, the control panel must be kept locked shut to avoid accidental re-connection whilst work or inspection is being carried out.

WORKING AREA

- Ensure that the working area is adequately lit.
- Ensure that you are familiar with the safe working areas, accesses and that the area is adequately lit.
- Use only the designated access walkways. Do not walk on the cover or deep well safety mesh(es).
- Keep proper footing and balance at all times. Avoid any sharp edges.

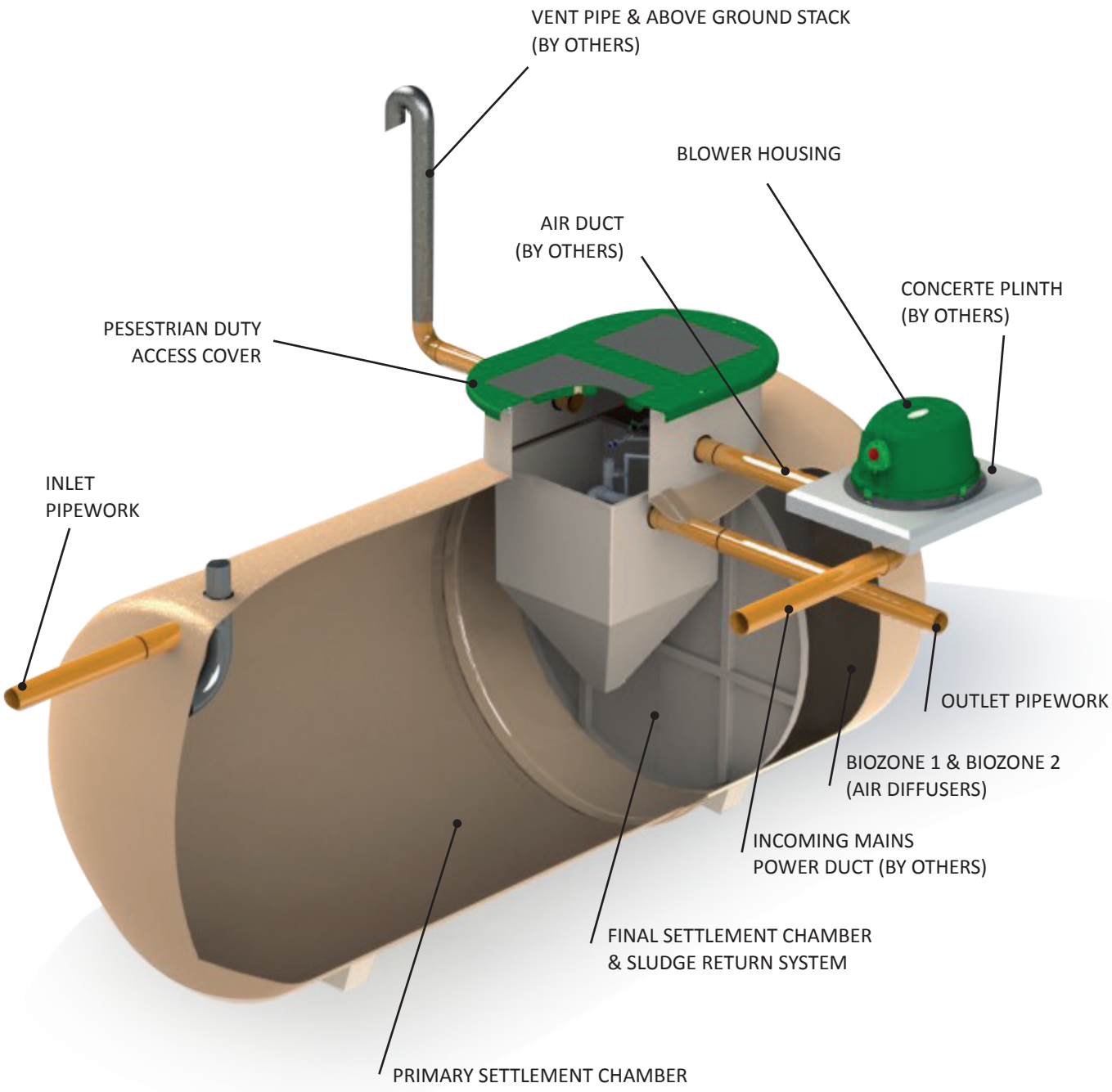
DESLUDGING

- Desludging should be carried out by a licensed waste disposal contractor holding the relevant permits to transport and dispose of sewage sludge.



SYSTEM OVERVIEW

Pictorial representation below indicates basic requirements for a standard system, please note not all of the items required are supplied by Kingspan.



BioFicient® CHECKLIST

The delivery paperwork will have 3 no. items listed; check that the Tank Code (Item 1) & Blower Assembly Code (Item 2) are the same as the codes on the units delivered.

Example;

Top Level Product Code – BFG4G050K

Item 1 – BFGTANK4G050K (Tank Code)

Item 2 - BHBF4G0K (Blower Assembly Code)

Sewage Treatment Tank

Item 1

NB: Storage tanks vary in design and volume (6PE to 10PE) Please check your particular order and cross reference with relevant sales drawing. (BioFicient 1 - 1.0 m Invert Shovn)

Blower Housing Assembly

Item 2

NB: Storage tanks vary in design and volume (6PE to 10PE) Please check your particular order and cross reference with relevant sales drawing. (BioFicient 1 - 1.0 m Invert Shovn)

13 mm Hose Coil - 15 Metres

Item 3

13 mm Hose required to connect from 1/2” Hose Connector in Blower Housing to Sludge return Pipework located with the Tank). (Suppiled inside Blower Housing Packaging)

19 mm Hose Coil - 15 Metres

Item 4

19 mm Hose required to connect from 3/4” Hose Connector in Blower Housing to Air Diffuser Manifold located with the Tank). (Suppiled inside Blower Housing Packaging)

INSTALLATION

1. EXCAVATE A HOLE

Approximate dimensions

Model	Diameter /Width (mm)	Length (mm)	Inlet invert (mm)	Outlet invert (mm)	Installation depth (mm)
Bioficient 4	1920	3230	500	630	2300
Bioficient 5	1920	4390	500	630	2300
Bioficient 6	1920	6220	500	630	2300

**Based on 500mm invert

2. LAY CONCRETE BED 150-200 MM

3. LOWER UNIT ONTO CONCRETE

Should not be lifted with any water inside

4. BACKFILL AND LEVEL

1. Pour 300 mm of water into the tank,

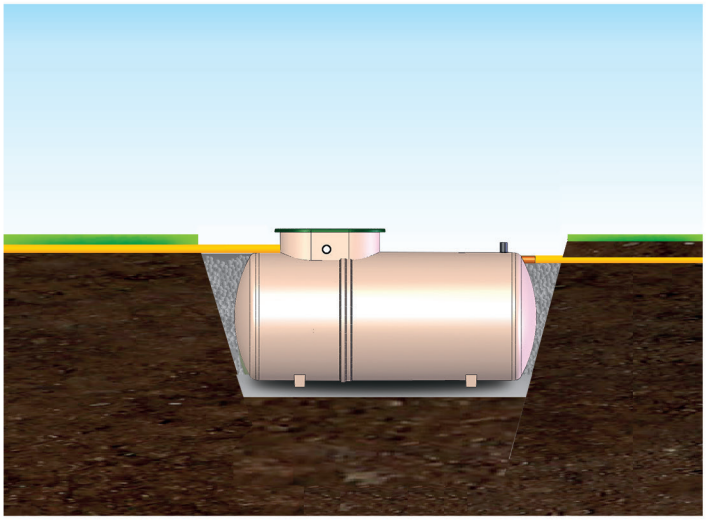
2. Backfill with pea gravel or similar. Pea gravel is reliant on use of correct strapping and anchoring.

Wet site: Make sure the base is adequate to support the weight of the tank and its contents. If the base is unstable excavate an additional 250-300mm below the concrete levels and fill up with compacted hard-core.

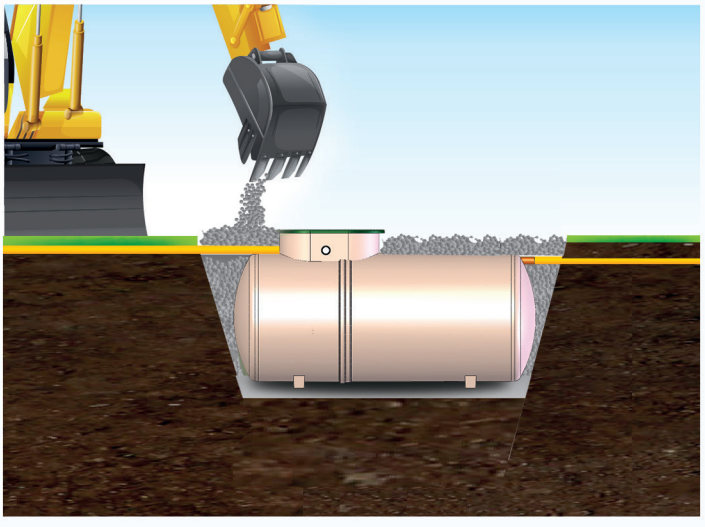
Check that the inlet and outlet orientation is correct and that the unit is level.

Water levels always higher than backfill

5. REMOVE TEMPORARY COVERS AND CONNECT INLET AND OUTLET PIPEWORK

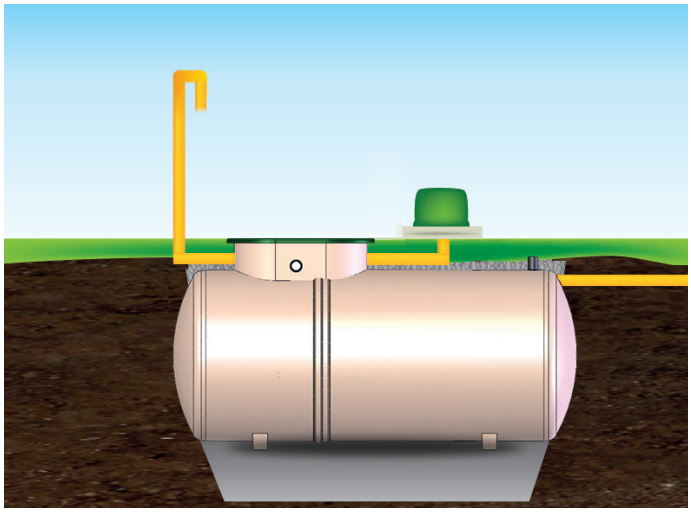


6. CONTINUE TO BACKFILL

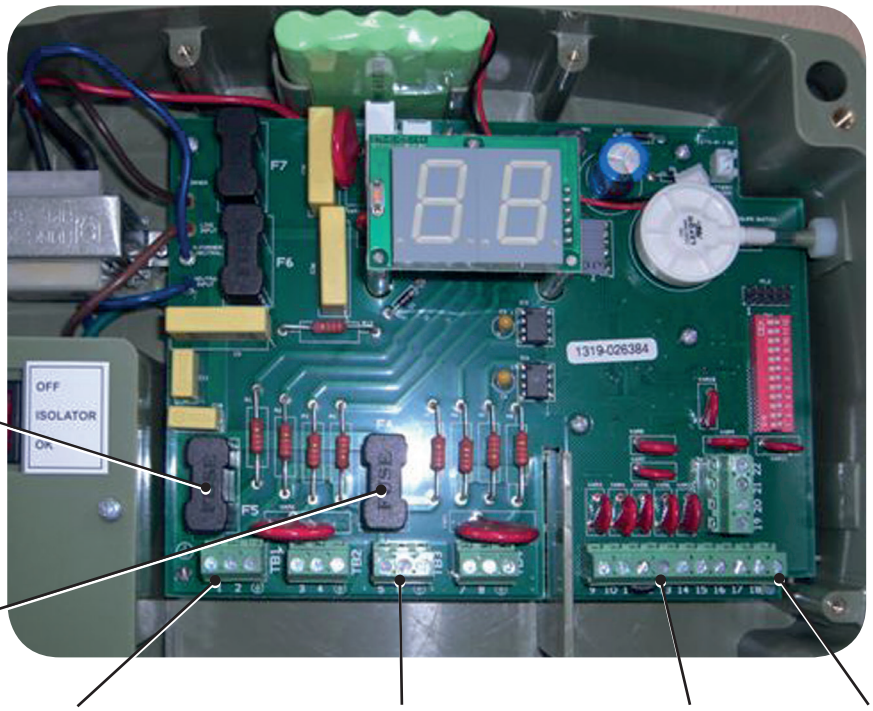


7. VENTING

To be vented locally at the plant



CONTROL PANEL INSTALLATION



Fuse 5 A
Discharge pump

Fuse 3,15 A
Motor drive

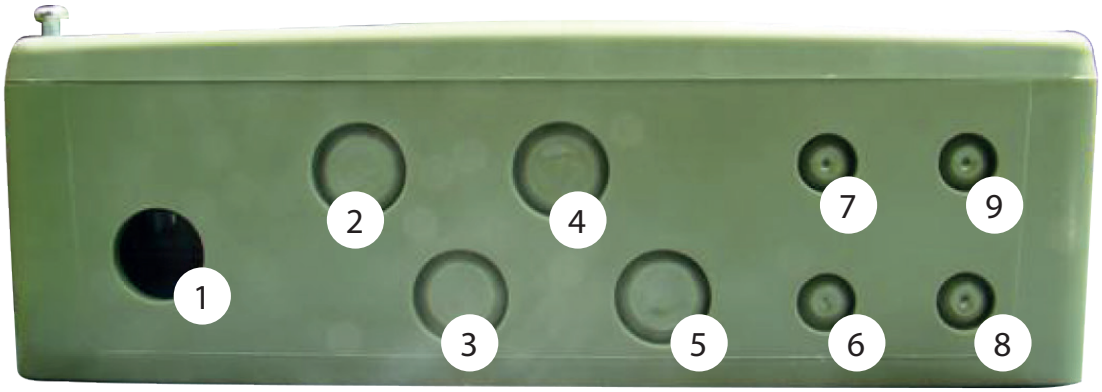
TB1
Discharge Pump/ Solenoid Valve
Phase (red)
on « 1 »
Neutral (black)
on « 2 »
and Ground
(if applicable)

TB3
Blower
Phase (red)
on « 5 »
Neutral (black)
on « 6 »
and Ground

TB6
High water level
detector.
Wire1
on « 11 »
Wire 2
no connection
Wire 3 on « 12 »
(if applicable)

TB7
Remote beacon
Phase (red)
on « 16 »
Neutral (white)
on «17 »
and Ground (black)
on « 18 »
(if applicable)

CONTROL PANEL ENTRY POINTS DEPENDING ON THE EQUIPMENT SUPPLY



Product	Required Gland	Feed through Gland Hole number	Terminate to connection
Mains power supply	M20	1	
Integral discharge pump power cable	M20	2	1&2
Sludge Return Solenoid Cable	M20	3	1&2
Blower power supply cable	M20	4	5&6
High level alarm cable	M12	7	11&12
Beacon	M12	9	16, 17&18

		Full Load Current (Amps)		
		Bioficient 4	Bioficient 5	Bioficient 6
Blower	240 volt single phase	0.7	1.0	1.4
Solenoid valve	Low voltage			

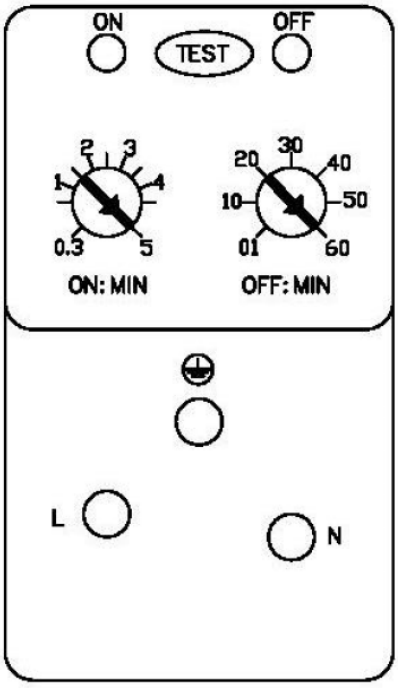
FAULT CODES AND FUSES

CODE	FAULT CONDITION	FUSE	Amp
F1	No power to the unit	Customer Fuse box	N/A
F2	The blower pressure has failed	N/A	N/A
F3	The high level alarm has activated (where fitted)	N/A	N/A
F4	The fuse to the motor has failed	F3	3.15
F5	The fuse to the discharge pump has failed (where fitted)	F1	5.0
F6	The fuse to the chemical dosing pump has failed (where fitted)	F4	0.25
F7	The fuse to the recirculation pump has failed (where fitted)	F2	5.0
F8	The loss of rotation alarm has been activated (not applicable)	N/A	N/A
- -	The unit has had a fault which has now corrected itself (Flashing left and right - Battery charging Flashing left only - Battery charged)	N/A	N/A

All fuses are Time Lag HBC 20mm type

SLUDGE RETURN SOLENOID RUN AND PAUSE TIME SETTING

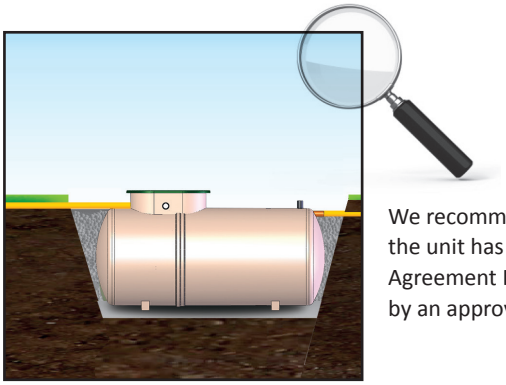
TIMER SETTINGS:
ON SETTING = 5 MINS (ie RUN FOR 5 MINS)
OFF SETTING = 60 MINS (ie OFF FOR 60 MINS)



TIMER SETTING DETAIL

The timer should be factory set at the correct settings

START UP



We recommend that the unit has a Pre-Service Agreement Inspection by an approved engineer.

Once the unit has been installed it should be left filled with water.

NOTES

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