

STUART TURNER



AUTOMATIC FLOW SWITCH PUMPS OPERATING INSTRUCTIONS

**Please leave this instruction booklet with the pump as it
contains maintenance and safety information
(Original Instructions)**

MODELS

| Vertical Suction | End Suction | |
|------------------|-------------|---------|
| RGFL4000 | ESFL4000 | KFL9-2 |
| RGFL6000 | ESFL6000 | KFL12-2 |
| RGDFL6000 | | LFL5-4S |
| | | LFL7-4S |
| | | TFL6-2 |
| | | TFL12-2 |

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IMPORTANT NOTES



- Please read these instructions fully before starting the installation:
- The installation must comply with the relevant water supply, electrical and building regulations and be installed by a competent person.
- If in doubt, consult Stuart Turner Ltd.

APPLICATION

The range of Automatic Flow Switch pumps is designed for pressure boosting applications in vented stored hot or cold clean water systems where under gravity some flow is available.

Other clean, non aggressive, non explosive liquids with similar characteristics to water may be pumped, consult Stuart Turner for such applications.

WARNING AGAINST MISUSE



- This pump set must not be used for any other application without the written consent of Stuart Turner Limited and, in particular, must not be connected directly to the mains water supply or used outside the conditions specified in the limits of application.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.

PRODUCT DESCRIPTION

Electric motor driven pump complete with automatic control system consisting of flow switches and electronic controls.

Motor

Induction type, totally enclosed fan ventilated cooling*, class 'F' insulation, permanent capacitor, complying with BS5000 or IEC34-1. All models have integral auto resetting thermal overload protection.

The standard range of motors are suitable for a supply of 230V, 1 phase, 50Hz.

Optional motors are available on certain models to suit various voltages and frequencies (see technical specification for details).

*Variations of rating and enclosure details can be found in the technical specification section.

Pump

All models are close coupled to motor.

RGFL range are of single stage, peripheral design, with vertical suction and discharge ports.

RGDFL6000 consists of twin pump heads situated at each end of the motor. The pump design is of the single stage, peripheral design, with vertical suction and discharge ports.

ESFL range are of single stage, end suction, peripheral design.

KFL range are of single stage, end suction, centrifugal design.

LFL range are of four stage, end suction, centrifugal design.

TFL range are of two stage, end suction, centrifugal design.

Standard pump materials of construction of major wetted parts are as follows:-

| Model | Body | Impeller | Shaft | Mechanical Seal |
|------------|--------------------------|---------------|-----------------|---|
| RGFL range | Brass | Brass | Stainless Steel | Nitrile/Carbon Ceramic/Stainless Steel |
| ESFL range | Brass | Brass | Stainless Steel | Nitrile/Carbon Ceramic/Stainless Steel |
| RGDFL6000 | Brass | Brass | Stainless Steel | Nitrile/Carbon Ceramic/Stainless Steel |
| KFL range | Brass | Acetal | Stainless Steel | Nitrile/Carbon Ceramic/Stainless Steel |
| LFL range | Noryl Stainless Steel | Polycarbonate | Stainless Steel | Nitrile/Carbon/Silicon Carbide/Stainless Steel |
| TFL range | Noryl Stainless Steel | Polycarbonate | Stainless Steel | Nitrile/Carbon/Silicon Carbide/Stainless Steel |

General:

All models use a flow switch assembly which is directly connected to the pump discharge port. The wetted materials of construction are brass, stainless steel, strontium ferrite, nitrile and acetal.

All models are supplied with a mains connecting lead and resilient mounting foot.

LIMITS OF APPLICATION

| Model | Max. Liquid Temp. °C | Min. Liquid Temp. °C | Max. Ambient Air Temp. °C | Inlet Head (Suction) | Max. No of Starts/h | *Max. Working Pressure kPa (bar) | Max. Inlet Head (m) | Max. Head (pump closed valve) (m) | Cut in Flow (l/min) |
|-----------|----------------------|----------------------|---------------------------|----------------------|---------------------|----------------------------------|---------------------|-----------------------------------|---------------------|
| RGFL4000 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 30 | 0.6 |
| RGFL6000 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 40.6 | 0.6 |
| RGDFL6000 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 41.6 | 0.6 |
| ESFL4000 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 29.5 | 0.6 |
| ESFL6000 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 40 | 0.6 |
| KFL9-2 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 9 | 1 |
| KFL12-2 | 80 | 4 | 40 | Flooded | 60 | 600 (6) | 14 | 13.9 | 1 |
| LFL5-4S | 65 | 4 | 40 | Flooded | 60 | 700 (7) | 14 | 44 | 1 |
| LFL7-4S | 65 | 4 | 40 | Flooded | 60 | 700 (7) | 14 | 48 | 1 |
| TFL6-2 | 65 | 4 | 40 | Flooded | 60 | 400 (4) | 10 | 29.8 | 1 |
| TFL12-2 | 65 | 4 | 40 | Flooded | 60 | 400 (4) | 7 | 32 | 1 |

*Note: Max working pressure is the maximum pressure that can be applied to the pump internal casing under any installation conditions.

TECHNICAL SPECIFICATION

| Model | Supply | Max. Watts Consumed | Nominal Watts Output (Motor) | Full Load Current (AMPS) | Enc. Rating | Duty Rating | Dims (mm) | | | Gross Weight (packed) kg | No of Pump Stages |
|-----------|----------|---------------------|------------------------------|--------------------------|-------------|-------------------------------------|-----------|-----|-----|--------------------------|-------------------|
| | | | | | | | L | W | H* | | |
| RGFL4000 | 230/1/50 | 350 | 120 | 1.5 | IP44 | Continuous (S1) @ 2.5 l/min & above | 203 | 126 | 202 | 5.1 | 1 |
| RGFL6000 | 230/1/50 | 540 | 300 | 2.4 | IP44 | | 203 | 126 | 202 | 5.7 | 1 |
| RGDFL6000 | 230/1/50 | 860 | 550 | 3.4 | IP44 | | 301 | 126 | 201 | 8.4 | 1 (twin pump) |
| ESFL4000 | 230/1/50 | 360 | 120 | 1.6 | IP44 | Continuous (S1) @ 4.5 l/min & above | 232 | 126 | 221 | 5.6 | 1 |
| ESFL6000 | 230/1/50 | 550 | 300 | 2.5 | IP44 | | 232 | 126 | 221 | 5.9 | 1 |
| KFL9-2 | 230/1/50 | 265 | 180 | 1.2 | IP44 | Continuous | 242 | 133 | 231 | 6.5 | 1 |
| KFL12-2 | 230/1/50 | 485 | 250 | 2.1 | IP44 | Continuous | 242 | 133 | 231 | 6.7 | 1 |
| LFL5-4S | 230/1/50 | 925 | 600 | 4.1 | IP44 | Continuous | 401 | 202 | 307 | 11.1 | 4 |
| LFL7-4S | 230/1/50 | 1085 | 760 | 5.0 | IP44 | Continuous | 401 | 202 | 307 | 12.5 | 4 |
| TFL6-2 | 230/1/50 | 890 | 530 | 3.9 | IP44 | Continuous | 326 | 210 | 304 | 9.9 | 2 |
| TFL12-2 | 230/1/50 | 1155 | 800 | 5.3 | IP44 | Continuous | 350 | 210 | 304 | 11.1 | 2 |

*Height not inclusive of resilient mounting foot.

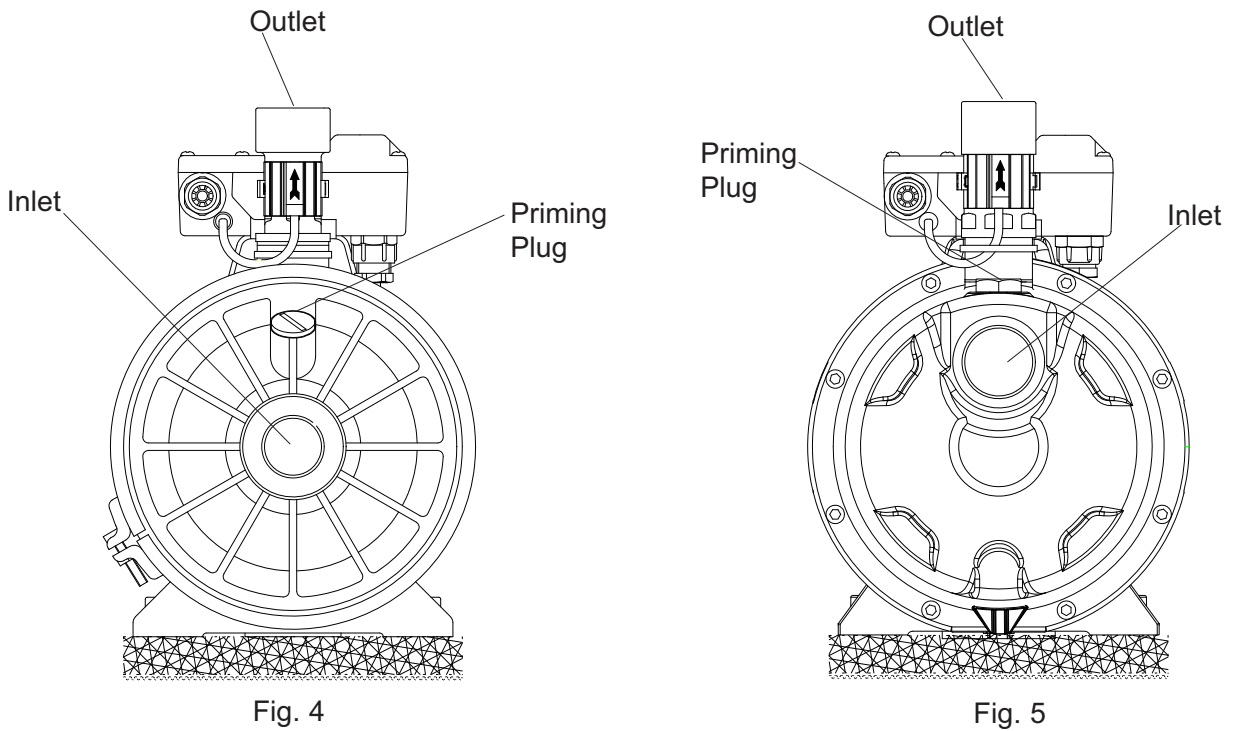
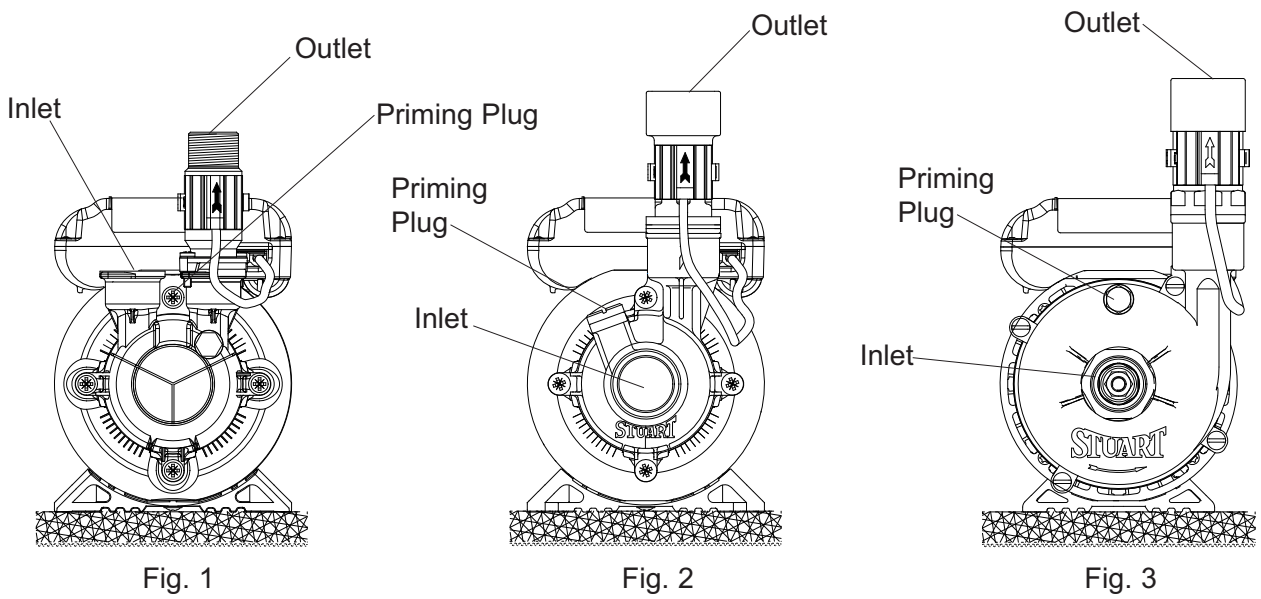
Note: For information on other voltages/frequencies which are not shown, consult any supplementary instruction sheet supplied, or rating label attached to the pump.

Stuart Turner reserve the right to amend the specification in line with its policy of continuous development of its products.

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CONNECTIONS

| Pump Type | Inlet | Outlet | Fig. No |
|-----------|---------------------------------------|------------------------------------|---------|
| ESFL | G1 Female | G1 Female | 2 |
| RGFL | G ³ / ₄ Female | G ³ / ₄ Male | 1 |
| RGDFL6000 | G ³ / ₄ Female | G ³ / ₄ Male | 1 |
| KFL | G1 Female | G1 Female | 3 |
| LFL | G1 ¹ / ₄ Female | G1 Female | 5 |
| TFL | G 1 Female | G1 Female | 4 |



SITING OF THE PUMP / PIPEWORK

WARNINGS:



- The motor casing can become very hot under normal operating conditions, care should be taken to ensure it cannot be touched during operation.
- **Pump Location**
If possible site the pump in a location where in the unlikely event of a liquid leak, any spillage is contained or routed to avoid electrics or areas sensitive to liquid damage.
- Care should be taken to protect pump from frost and freezing.
- Always install isolating valves to both suction and delivery pipework.

Pump Location (General)

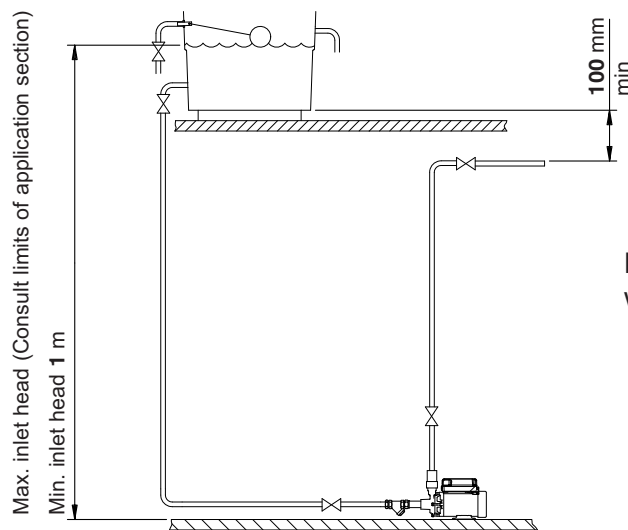


Diagram showing typical cold water boosting installation.

Fig. 6

Locate the pump in dry, frost free position where it cannot be sprayed with water. It should be positioned horizontally on its anti-vibration mounting feet and should not be screwed down. It should be positioned as close to the liquid source as possible having a minimum flooded suction head of 1 metre at all times.

Ensure the liquid flow is in the direction of the arrow that is marked on the flow switch reed clamp (vertically upwards).

For the pump to function correctly, it must be installed in a positive head position, a minimum gravity flow of approx. 0.6 l/min (RGFL/RGDFL/ESFL models) or approx. 1 l/min (KFL, LFL and TFL models) is required from the highest outlet to operate the built-in flow switch. This is normally achieved with a static head of 100 mm from base of storage tank to the highest outlet in the system (Fig. 6).

Before deciding where to position the unit, check to ensure the static inlet head of liquid above the pump (Fig. 6), does not exceed the maximum given in the limits of application section.

The pump enclosure must be ventilated and there should be a minimum clearance of 80 mm between pump and housing on all sides.

The resilient anti-vibration mounting feet which are supplied as standard, are a precaution to reduce noise transmission, however care must be taken when mounting the pump that any noise is not amplified through loose panels, pipework or other mounting medium.

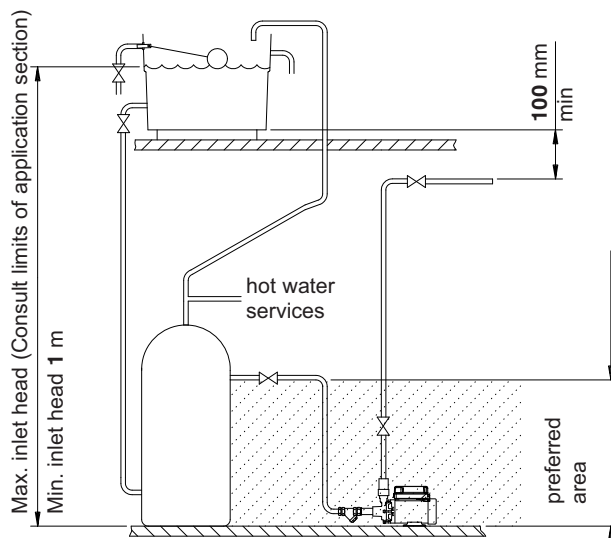
Noise transmission in pipework can be reduced by fitting flexible hoses to pump inlet and outlet ports.

An installation pack which includes flexible hoses is available, consult Stuart Turner for details.

We do not recommend location of the pumps in the roof space, since air locks can easily result. If there is no alternative, please contact our technical sales department for advice.

Pump Location (Hot Water Installation)

The preferred pump location is at floor level next to the hot water cylinder or a level that is below the secondary tapping that feeds the pump. This will ensure the pump has access to an air free water supply which is important for trouble free operation (Fig. 7).



Preferred Pump Location
with pump at a level below
draw off tapping in cylinder.

Fig. 7

Where secondary circuits are in use, the pump should be sited as close as possible to the draw off points from the circuit.

Pipework Connections (General)

WARNINGS



- Ensure pipework to and from pump is independently supported to prevent forces being transferred to inlet and outlet branches of pump.
- Do not introduce solder flux to pumps or pump parts manufactured from plastic. All solder joints should be completed and flux residues removed prior to pump connection.
- Do not allow contact with oil or cellulose based paints, paint thinners or strippers, acid based descalents or aggressive cleaning agents.
- Do not allow scale or debris to enter pump. Fit inline strainers to eliminate the problem in systems at risk.
- **Do not install a non-return valve, or devices which contain non-return valves, in the suction (inlet) pipework to the pump. The pump must be free to vent to the supply tanks at all times.**

It must be ensured that the storage capacity of the liquid supply is adequate for the flow rates required by the pump.

The pipework feed to the storage tank should be of adequate size to ensure replenishment rate of tank is sufficient to meet the needs of the pump.

The pump must be supplied with a dedicated feed direct from the liquid storage tank.

Isolating valves should be fitted in suction and delivery pipework to enable easy isolation and access to the pump.

When the pump is to be installed in areas where there is a risk of debris or scale build up within the system, it is recommended that the inlet pipework is fitted with an inline strainer.

To prevent loss of pressure through pipework, use a pipe size to match pump whenever possible, minimising 90° bends.

The pipe runs from the pump to the highest outlet should not be routed above the level of the storage system.

Pipework Connections (Hot Water)

When a hot water cylinder or storage tank is used, ensure the pipework size from the cold water storage to the hot water storage is of adequate size.

The pump must be supplied with dedicated feed direct from the hot water cylinder.

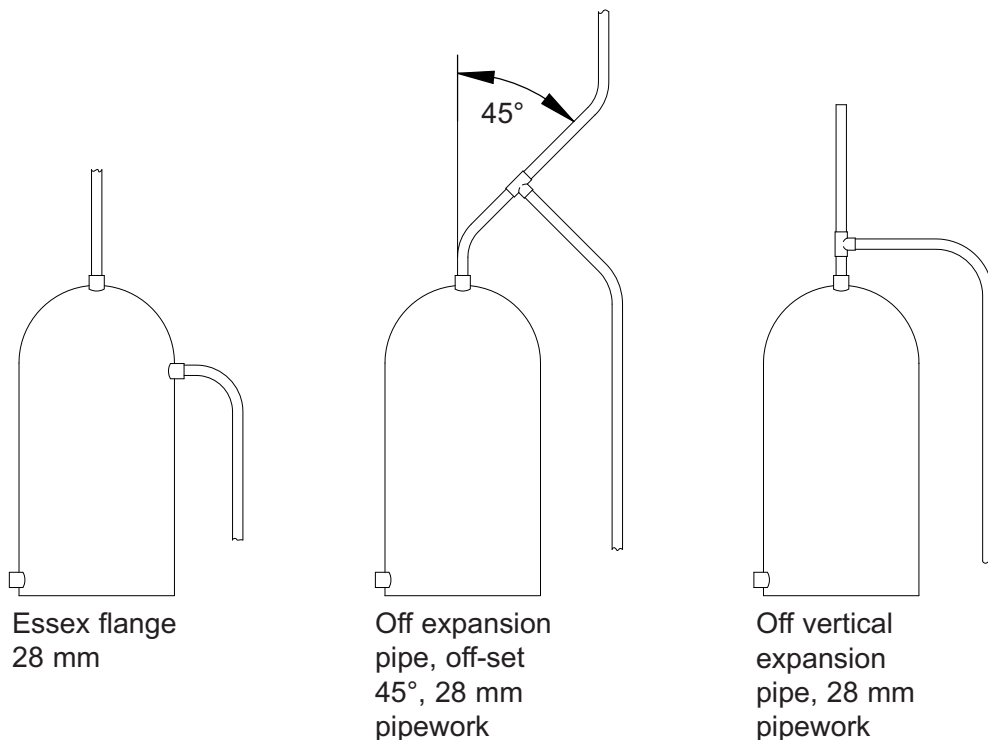
Pipework Connections (Hot Water)

(KFL, TFL and LFL range)

These pumps should have a minimum of 28 mm pipework throughout the system.

The supply must be air free and connection to the cylinder can be via an Essex flange or by one of the following methods shown.

When method of connection is to be via the expansion pipe, the cold water storage cistern should be at least 1.5 metres above the top of the hot water cylinder.



(As close to the cylinder as possible)

Fig. 8

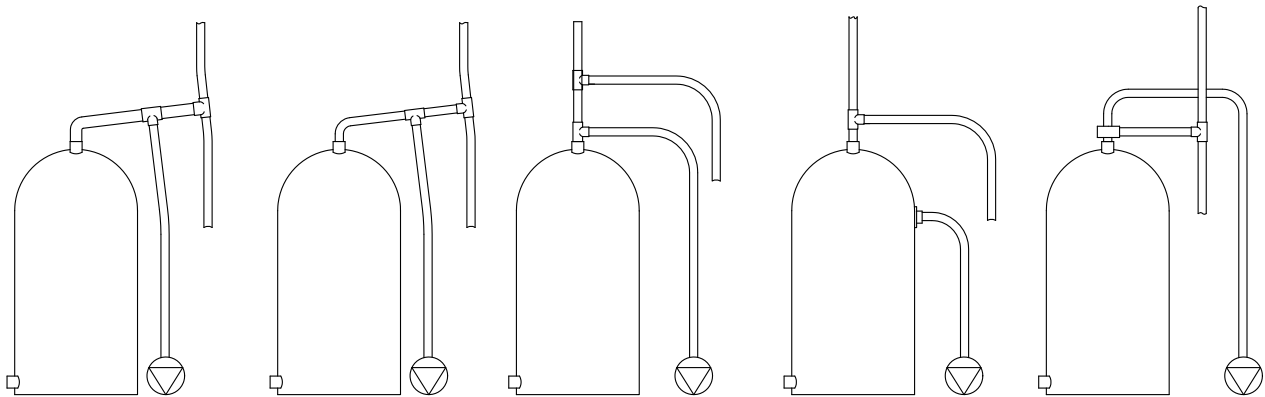
Pipework Connections (Hot Water)

(RGFL, RGDFL and ESFL range)

These pumps should have a minimum of 22 mm pipework throughout the system.

The supply must be air free and connection to the cylinder can be made by one of the following methods shown.

When method of connection is to be via the expansion pipe, the cold water storage cistern should be at least 1 metre above the top of the hot water cylinder.



Off expansion pipe with rising 28 mm offset reducing to 22 mm pipework to pump and expansion pipe.

Off expansion pipe with rising 22 mm offset and 22 mm pipework to pump.

Off vertical expansion pipe with 22 mm pipework to pump.

Factory installed G $\frac{3}{4}$ secondary tapping with 22 mm pipework to pump.

or
Site installed G $\frac{3}{4}$ Essex Flange with 22 mm pipework to pump.

Warix Flange with 22 mm pipework to pump.

Fig. 9

ELECTRICAL INSTALLATION

WARNINGS:



- The electrical installation must be carried out in accordance with the current national electrical regulations and installed by a competent person.
- In the interests of electrical safety a 30 mA residual current device (R.C.D.) should be installed in the supply circuit. This may be part of a consumer unit or a separate unit.
- Before starting work on the electrical installation ensure the power supply is isolated.
- This appliance must be earthed.
- The motor and wiring must not be exposed to water.
- Do not allow the supply cord to contact hot surfaces, including the motor shell, pump body or pipework. The cord should be safely routed and secured by cable clips.

The motor fitted to this pump is suitable for a single phase 230V, 1 phase, 50Hz supply. It is thermally protected by an integral auto resetting thermotrip for your safety. The pumps are rated for the duty listed in the technical specification section.

Electrical Connection

The motor is provided with a factory fitted supply cord. This must be permanently connected to the fixed wiring of the mains supply. Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

A suitable method of connection would be via a double pole switched, fused connection unit complying with BS 1363-4, protected with a fuse (see fuse section).

The connection unit should be mounted in an easily accessible position and should be labelled if confusion is possible, to allow easy identification of the pump isolating switch.

Earthing

This appliance must be earthed via the supply cord, which must be correctly connected to the earth point located in the terminal box.

Copper or metallic pipework must have supplementary earth bonding where the continuity has been broken by flexible hoses or plastic components. Adjacent suction and delivery pipes should be fitted with earthing clamps to BS 951 and connected with earthing wire size 4 mm² (Fig. 10). A standard kit is available from Stuart Turner (Part No. 17044).

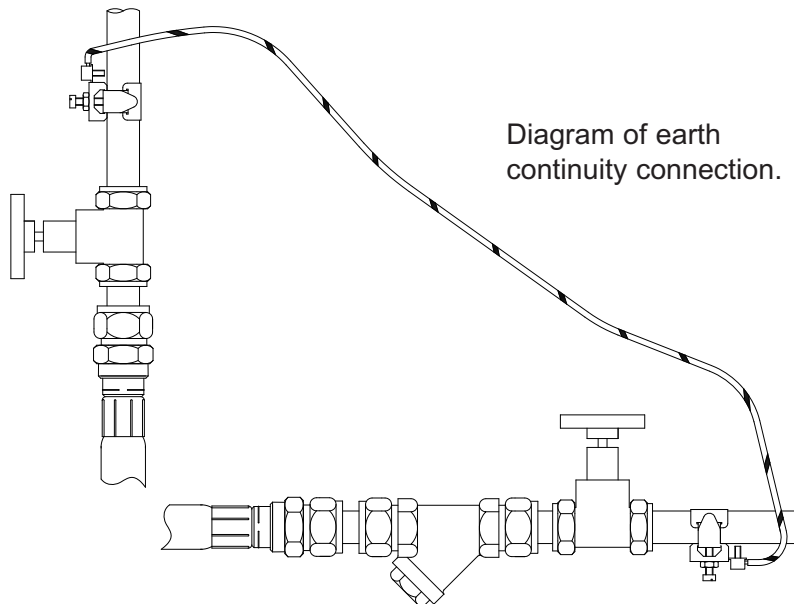


Fig. 10

Certain installations may require additional earthing arrangements such as equipotential bonding. Reference should be made to the relevant regulations concerning this subject to ensure compliance.

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Wiring Of Connection Unit




WARNING: This appliance must be earthed.

The wires in the mains lead (supply cord) are coloured in accordance with the following code:

Green and Yellow:- Earth. Blue:- Neutral. Brown:- Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your connection unit proceed as follows:

The wire which is coloured green and yellow must be connected to the terminal in the connection unit which is marked with the letter 'E' or by the earth symbol  or coloured green or green and yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red.

Fuses

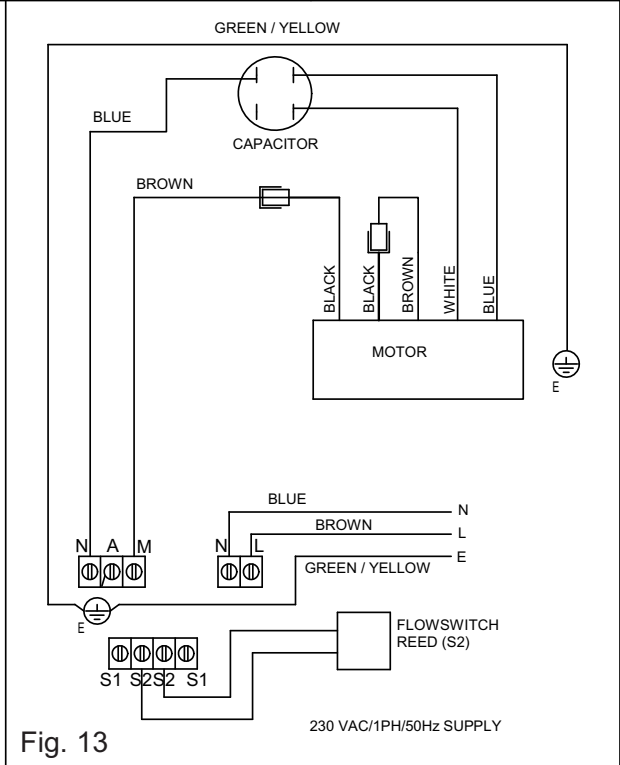
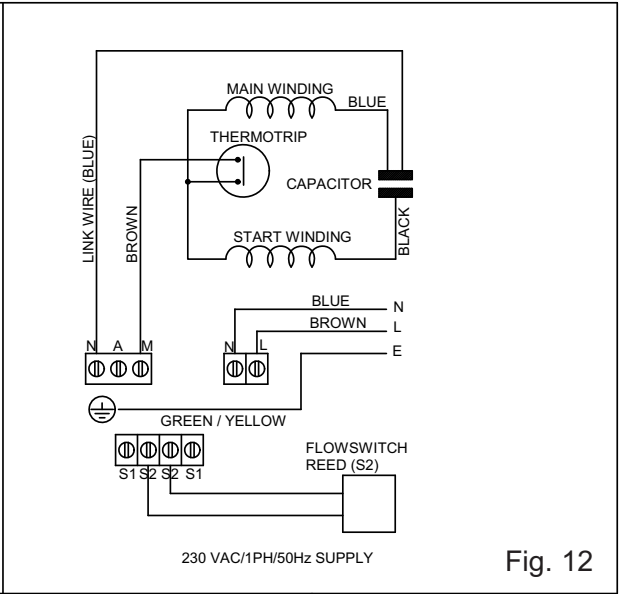
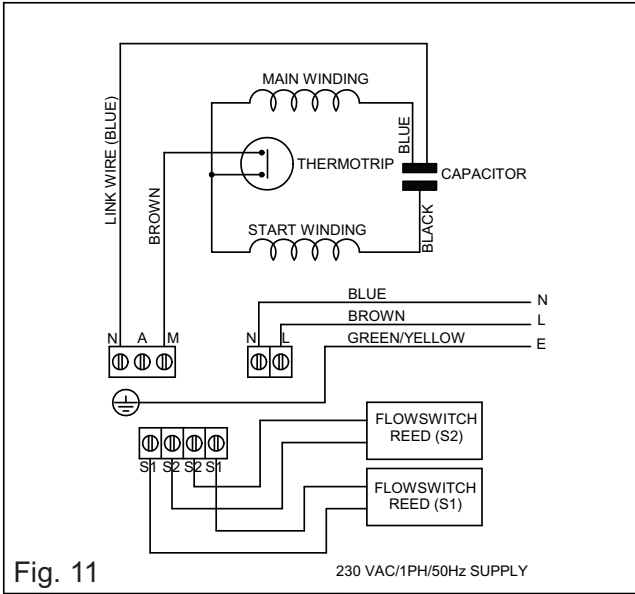
The following fuse size should be used with the appropriate pump:

| Model | Fuse Size (Amps) |
|-------|------------------|
| RGDFL | 13 |
| RGFL | 5 |
| ESFL | 5 |
| KFL | 5 |
| LFL | 13 |
| TFL | 13 |

Wiring Diagrams



- The supply cord and internal wiring within the terminal box are routed and secured to ensure compliance with the electrical standard EN 60335-1. It is essential that any disturbance of this internal wiring is avoided and the factory routing and securing of all internal wiring is always maintained.
- Parallel wiring of two single pumps is not recommended.



| Model | Fig. No |
|-------|---------|
| RGDFL | 11 |
| RGFL | 12 |
| ESFL | 12 |
| KFL | 12 |
| LFL | 13 |
| TFL | 13 |

Cont....

Supply Cord Replacement

If the supply cord is to be changed or is damaged, it must be replaced with a special cord assembly available from Stuart Turner or one of their approved repairers.

On disassembly note the cord retention and routing system. Reassemble to the same pattern.

For information on cable connection consult the wiring diagram and cable gland fitting instructions.

Intermediate Connecting Cord Replacement

(Applicable to TFL and LFL ranges only)

These pumps incorporate an additional cord which connects the main terminal box to the motor terminal box. If this cord is damaged, it must be replaced with a special cord assembly available from Stuart Turner or one of their approved repairers.

On disassembly note the cord retention and routing system. Reassemble to the same pattern.

For information on cable connection consult the wiring diagram.

Supply Cord Extension

The pumps are fitted with a supply cord to the following specification:

RGFL, RGDFL, ESFL & KFL range:- . . . HO5VV-F3 G 0.75 mm², 6 Amp rating.

LFL & TFL range:- HO7RN-F3 G 1.0 mm², 10 Amp rating.

If the supply cord is to be extended, a cord of the same specification should be used. Any connections or junction boxes used should be specifically suited for the application and installed in accordance with the manufacturers instructions.

Cable Gland Fitting Instructions

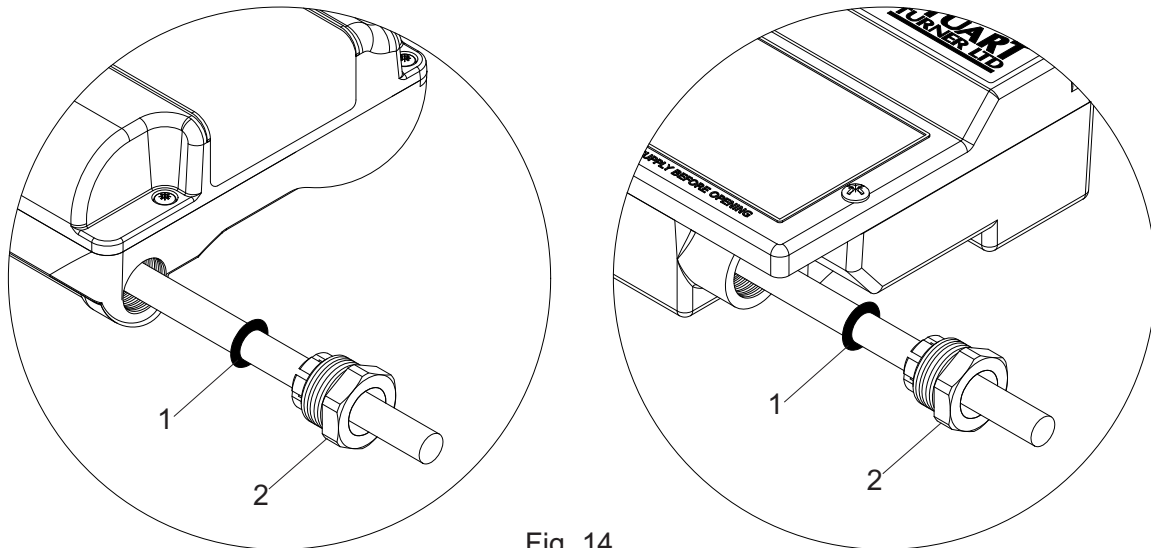


Fig. 14

The cable gland assembly Fig. 14 (items 1 & 2) provides the necessary protection against ingress of solid objects and moisture as well as providing cable retention.

Assembly instructions are as follows:-

- 1) Cable sheath diameter permitted range (6.5 to 9.5 mm).
- 2) Disassemble cable gland as shown in Fig. 14 and insert cable into position ensuring 'O'-ring (item 1) is placed over cable before the clamping insert (item 2) is tightened.

NOISE

The equivalent continuous A-weighted sound pressure level at a distance of 1 metre from the pumpset does not exceed 70 dB(A).

COMMISSIONING

WARNINGS:



- The motor casing can become very hot under normal operating conditions, care should be taken to ensure it cannot be touched during operation.
- Do not run pump without guards and terminal box lid correctly fitted.
- The pump chamber must be full of liquid at all times. Seal damage will result if the pump runs dry.



1. System Flushing

Some pumps incorporate plastic components that must not come into contact with solder flux, acid-based descalents or aggressive cleaning agents. The pipework system should be flushed out prior to the pump being connected, to ensure any contaminants/chemical residues and foreign bodies are removed from elsewhere in the system.



2. Liquid Supply

Always ensure that liquid storage capacity is adequate to meet the demand. Ensure the pump chamber is full of liquid before starting the pump. Failure to do this could result in seal damage. To ensure dry running does not occur the pumps must be primed as described in priming section. **Do not run pump dry.**

3. Priming

a) All models

The pump must be primed (filled with liquid) before starting. Turn on liquid supply, prime and vent the pump by unscrewing the priming plug (Fig. 15) slowly until all air escapes and liquid emerges. Re-tighten the plug.

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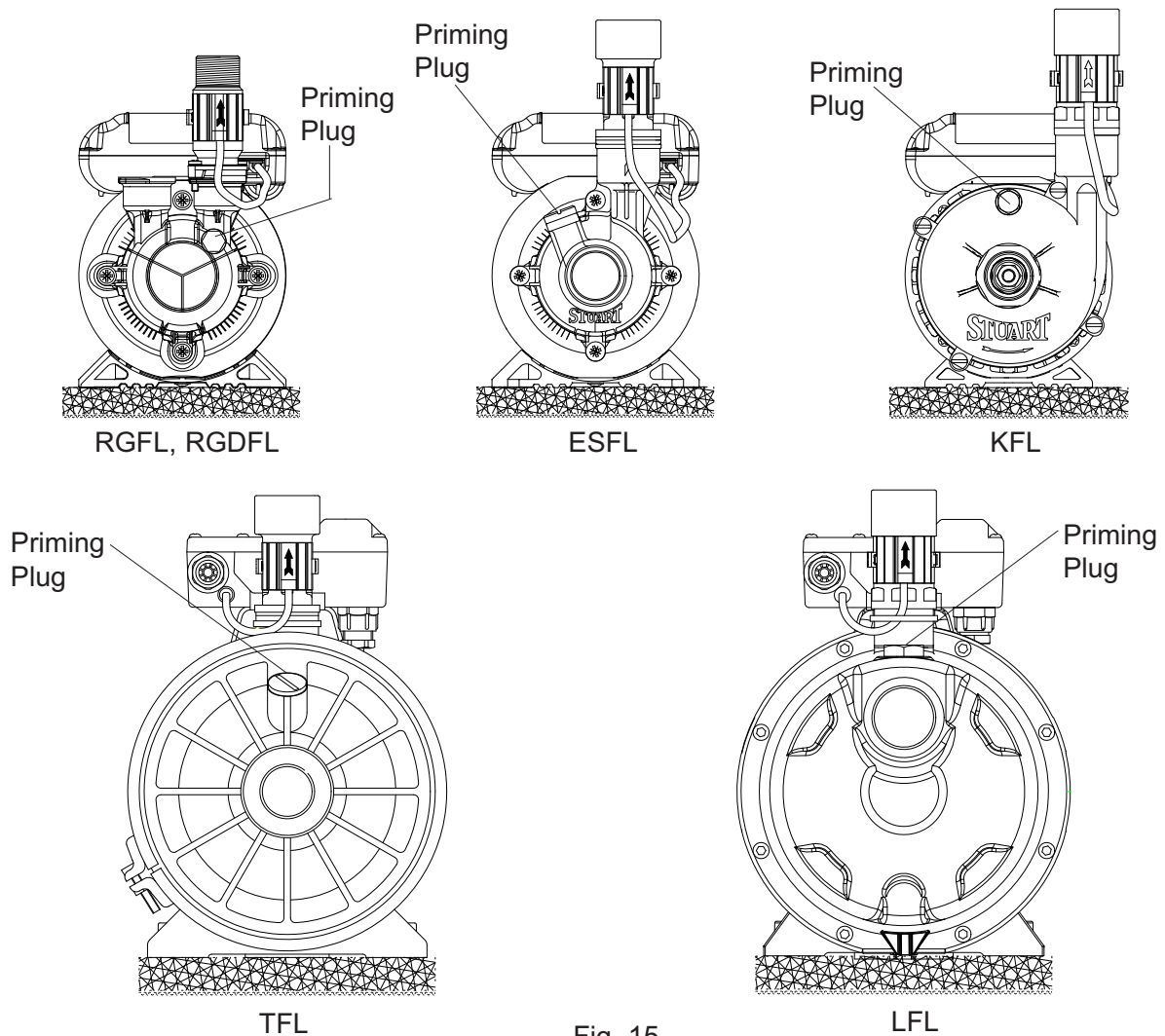


Fig. 15

b) Vertical suction models

This pump range are self venting and hence no priming plugs are fitted. Turn on liquid supply and open outlet valve to allow pump to fill and vent.

4. Pre-Start Check

Always ensure the pump is in a positive head position with flooded suction. A gravity flow of approx. 0.6 l/min (RGFL/ESFL) or approx. 1 l/min (KFL, LFL & TFL) from the highest outlet is required to operate the integral flow switch.

5. Starting

- a) Switch on power and open terminal fitting. Pump should start and stop upon demand.
- b) Open and close all outlets in turn associated with the pump allowing liquid to flow from each outlet until all air is purged. As each outlet is opened and closed the pump will start and stop respectively.
- c) Any tap or control valve within the system when opened and closed will now turn the pump on/off. Check system for leaks, if clear the system is now operating correctly.

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- d) Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

For Further Technical Support

Phone the Stuart Turner Pump Assist team on 0844 98 000 97. Our staff are trained to help and advise you over the phone or arrange for a service engineer to call.

Note: When pumps are installed in OEM equipment, please contact the OEM manufacturer for advice.

MAINTENANCE

WARNINGS



- **Care should be taken to protect pump from frost and freezing.**
- **Pump Location**
If possible site the pump in a location where in the unlikely event of a liquid leak, any spillage is contained or routed to avoid electrics or areas sensitive to liquid damage.

1. No routine maintenance is required but provision should be made for easy access to the pump to allow for repairs due to normal wear and tear.
2. Disconnect electrical supply before working on pump.
3. Turn off liquid supplies to the pump and release pressure by opening outlets before attempting maintenance.
4. If the installation is fitted with an inline suction strainer, the strainer must be cleaned as necessary to ensure the pump has unrestricted flow.
5. After maintenance is completed, refer to commissioning section for instructions on restarting pump.

Cleaners, Disinfectants and Descalents



On installations where chemical disinfectants or descalents are periodically used, the compatibility of the chemical solution regarding the pump must be considered.

Acid based descalents and aggressive cleaning agents must not come into contact with the pump. The pump must be removed from the system prior to the use of these products. The system should be flushed to remove all chemicals before the pump is reconnected.

If in any doubt as to the suitability of the chemical solutions, please contact our Pump Assist helpline.

STORAGE

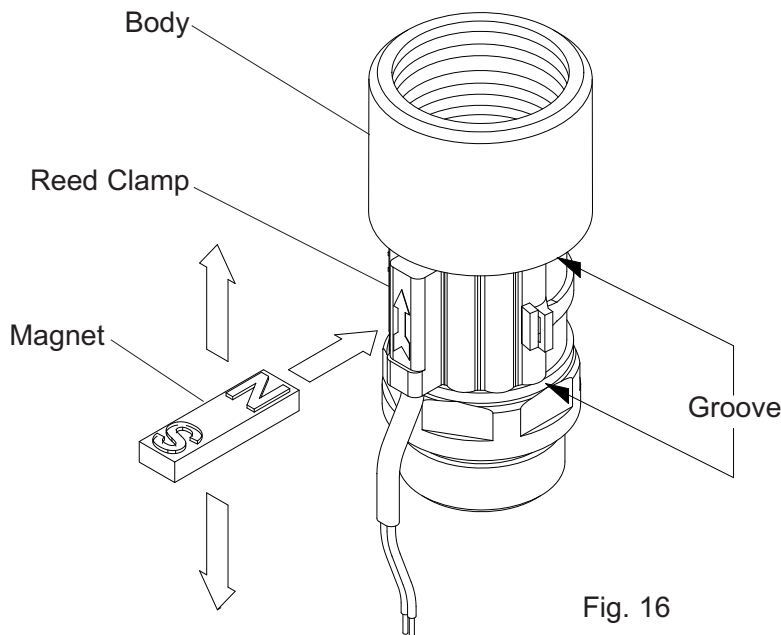
If this product is not installed immediately on receipt, ensure that it is stored in a dry, frost and vibration free location in its original packaging.

TROUBLE SHOOTING GUIDE

| Symptoms | Probable Cause | Recommended Action |
|--|--|---|
| Pump will not start. | <p>No liquid.</p> <p>Liquid supply.</p> <p>Filter blocked.</p> <p>Electrical supply.</p> <p>Faulty reed switch/PCB</p> <p>Internal motor thermotrip activated.</p> | <p>Check required gravity flow of liquid is available to the fittings of approx. 0.6 l/min (RGFL/RGDFL/ESFL models) or approx. 1 l/min (KFL, LFL & TFL models).</p> <p>If NO... check liquid level in the supply tank and all stopcocks are open.</p> <p>Remove and clean system filters.</p> <p>Check wiring connections. If gravity flow exists inline with requirements - check that all electric switches are on. Is the correct fuse fitted? Check circuit breaker is set.</p> <p>Refer to circuit test as detailed in Fig. 16.</p> <p>Wait for thermotrip to auto reset and check that duty point and run time is within specification (see Technical Section).</p> |
| <p>Pump starts when outlets are off.</p> <p>or</p> <p>Pump cycles (hunts) on/off frequently.</p> | Leak in system | Check tap washers, w/c valve washers, pipe joints. |
| No hot water. | <p>Air locked.</p> <p>Water feed.</p> <p>Boiler is switched off.</p> <p>Faulty thermostatic mixer valve.</p> | <p>Bleed pump to air.</p> <p>Check cold feed to hot water cylinder. Check water level in the supply tank and all stopcocks are open.</p> <p>Check boiler is switched On. Check cylinder thermostat is set. Is immersion heater operating? Check temperature of cylinder?</p> <p>Consult makers instructions.</p> |
| Pump runs on when all terminal outlets are closed. | <p>Leak in system.</p> <p>Reed clamp out of position.</p> <p>Jammed flow switch.</p> <p>Faulty reed switch or P.C.B.</p> | <p>Check tap washers, w/c valve washers, pipe joints.</p> <p>Ensure reed clamp is fitted correctly in location groove (Fig. 16).</p> <p>Remove flow switch reed clamp whilst pump is running. If pump stops proceed to isolate the pump electrically and hydraulically and remove brass housing that contains float. Check for free movement.</p> <p>Remove flow switch reed clamp whilst pump is running. If pump continues to run, this indicates a closed circuit in either the flow switch reed or P.C.B. in the terminal box, these should be checked electrically.</p> |
| Reduce flow/performance. | Blocked inlet strainers. | Clean inlet strainers (see maintenance section). |

Flow Switch Circuit Test

1. First confirm visually that the flow switch reed clamp has not been dislodged during handling or installation. The clamp must be fully located within its flow switch body groove as shown.
2. To carry out the following test you will need to obtain a magnet, a typical fridge magnet is suitable.
3. Ensure the power supply is switched on.
4. Position the magnet directly in front of the reed clamp as shown. If pump does not start, then slowly move the magnet up and down to a position that exceeds the extent of the reed clamp. The pump should instantaneously start at some point during this extent of movement. If this does not happen, this indicates a possible fault with the reed switch or the P.C.B which is located within the terminal box. These should be checked electrically. Consult Stuart Turner for further instructions.



ENVIRONMENT PROTECTION

Your appliance contains valuable materials which can be recovered or recycled.

At the end of the products' useful life, please leave it at an appropriate local civic waste collection point.



DECLARATION OF CONFORMITY

2006/42/EC

BS EN ISO 12100-1, BS EN ISO 12100-2, BS EN 809

2006/95/EC

BS EN 60335-1, BS EN 60335-2-41, EN 50366

2004/108/EC

BS EN 55014-1, BS EN 55014-2, BS EN 55022, BS EN 61000-3-2, BS EN 61000-3-3,
BS EN 61000-4-2, BS EN 61000-4-3, BS EN 61000-4-4, BS EN 61000-4-5, BS EN 61000-4-6,
BS EN 61000-4-11

IT IS HEREBY CERTIFIED THAT THE STUART ELECTRIC MOTOR DRIVEN PUMP AS
SERIAL NUMBER BELOW, COMPLIES WITH THE ESSENTIAL REQUIREMENTS OF THE
ABOVE E.E.C. DIRECTIVES.



RESPONSIBLE PERSON
AND MANUFACTURER

STUART TURNER LIMITED
HENLEY-ON-THAMES, OXFORDSHIRE
RG9 2AD ENGLAND.

Signed

Customer Relationship Manager

Stuart Turner are an approved company to BS EN ISO 9001:2000

YOUR 1 YEAR GUARANTEE

Stuart Pumps are guaranteed by Stuart Turner Limited to be free from defects in materials or workmanship for the applicable guarantee period from the date of purchase. The applicable guarantee period is stated in the installation booklet supplied with the pump. Within the guarantee period we will repair, free of charge, any defects in the pump resulting from faults in material or workmanship, repairing, exchanging parts or exchanging the whole unit as we may reasonably decide.

Not covered by this guarantee: Damage arising from incorrect installation, improper use, unauthorised repair, normal wear and tear and defects which have a negligible effect on the value or operation of the pump.

Reasonable evidence must be supplied that the pump has been purchased within the applicable guarantee period prior to the date of claim (such as proof of purchase or the pump serial number).

This guarantee is in addition to your statutory rights as a consumer. If you are in any doubt as to these rights, please contact your local Trading Standards Department or Citizen's Advice Bureau.

In the event of a claim please telephone Stuart Turner Limited on 0844 980 0097 or return your pump and flexible hoses with accessories removed, plugs, pipes etc. If you have any doubt about removing a pump, please consult a professional.

Proof of purchase should accompany the returned pump to avoid delay in investigation and dealing with your claim.

STUART TURNER

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