INSTALLATION INSTRUCTIONS

SERVICE KIT - FLOMATE Part No. **28457**

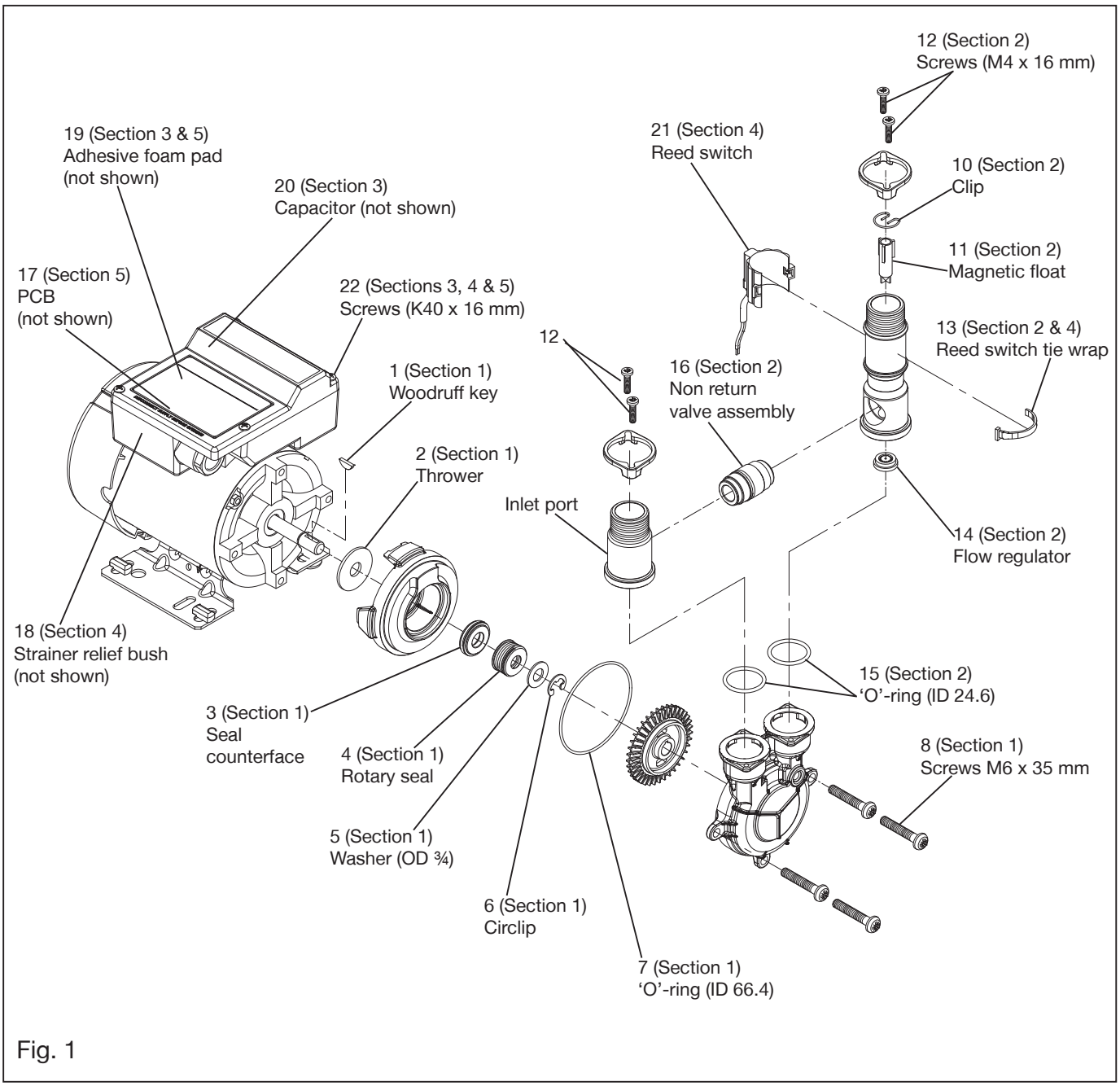


Fig. 1

Note: 1) Item 16 is a pre-assemble part, see relevant section for detailed instructions.
2) See relevant section for detailed instructions.

Cont ...

● COMPLETE KIT CONTENTS

This kit contains parts for a range of different pump types - please ensure you correctly identify the relevant parts for the pump being serviced before commencing. Also refer to the relevant section for detailed instructions for the correct installation of the parts.

Fitting of incorrectly identified parts could lead to pump failure. If in doubt contact PumpAssist on +44 (0) 844 98 000 97.

ITEM		QTY	ITEM		QTY
1	Woodruff Key	1	12	Screws (M4 x 16)	4
2	Thrower	1	13	Reed Switch Tie Wrap	1
3	Seal Counterface	1	14	Flow Regulator	1
4	Rotary Seal	1	15	'O'-ring (ID 24.6 mm)	1
5	Washer (ID 3/8 "x OD ¾ ")	1	16	Non-Return Valve Assembly	1
6	Circlip	1	17	PCB (not shown)	1
7	'O'-ring (ID 66.40, c/sec 1.78)	1	18	Strainer Relief Bush (not shown)	1
8	Screws (M6 x 35 mm)	4	19	Adhesive Foam Pad (not shown)	1
9	Seal Applicator Tool (not shown)	1	20	Capacitor (not shown)	1
10	Clip	1	21	Reed Switch	1
11	Magnetic Float	1	22	Screws (K40 x 16 mm)	4

Check to see that you have all the above items and that they are not damaged. If any damage is found contact Stuart Turner Ltd within 24 hours of receipt.

● PUMP PREPARATION

To prepare the pump to accept the service kit parts, each pump part must be removed noting its exact position and sequence (Fig. 1).
Now clean all the individual parts. Before fitting the new service kit parts, the pump and seal type must be identified.

● CONTENTS

Cont ...

SECTION 1 - MECHANICAL SEAL REPLACEMENT

The parts required to replace the seal are:

ITEM		QTY	ITEM		QTY
1	Woodruff Key	1	6	Circlip	1
2	Thrower	1	7	'O'-ring (ID 66.40, c/sec 1.78)	1
3	Seal Counterface	1	8	Screws (M6 x 35 mm)	4
4	Rotary Seal	1	9	Seal Applicator Tool (not shown)	1
5	Washer (ID 3/8 "x OD ¾ ")	1			

- **PUMP PREPARATION**
  1. Turn off and isolate power supply.
  2. Isolate and drain down pump of liquid.
  3. To prepare the pump to accept the service kit parts, each pump part must be removed noting its exact position and sequence.
     Difficulties may be experienced in the removal of the impeller. To overcome this, 2 screwdrivers can be used to prize the impeller from the shaft as shown; ensuring equal pressure is applied to each side of the impeller to avoid shaft bending.

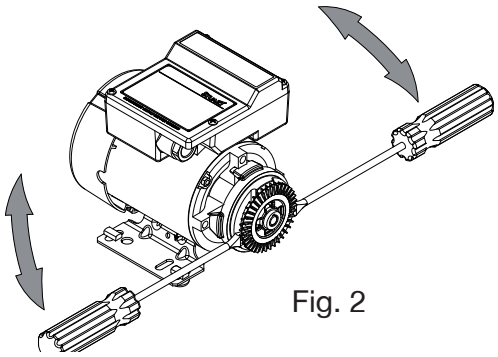


Fig. 2

NOTE: DO NOT USE EXCESSIVE FORCE, AS THIS MAY DAMAGE THE COMPONENTS

  4. Clean all the components not replaced by the service kit.

- **SEAL IDENTIFICATION**
  The seal as supplied is shown in order of assembly in Fig. 3.

A Seal seat complete with rubber cup washer.
B Rotary seal assembly.
C Stainless steel washer.
D Seal retaining clip.

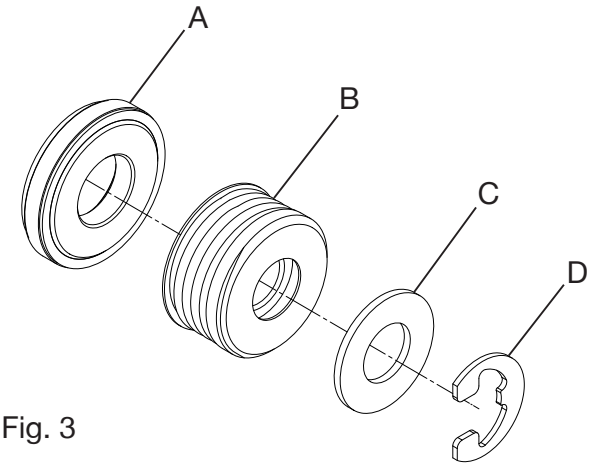


Fig. 3

Cont ...

- **MAINTENANCE AND CARE UPON ASSEMBLY**

  To allow ease of assembly along with correct functioning of the pump, the following points on assembly are necessary.
  - All pump parts must be free from debris and assembled correctly.
  - The seal must always be replaced as a complete unit using the seal applicator tool as provided.
  - The seal faces must not be handled or damaged.
  - The impeller must be a slide fit on the shaft.

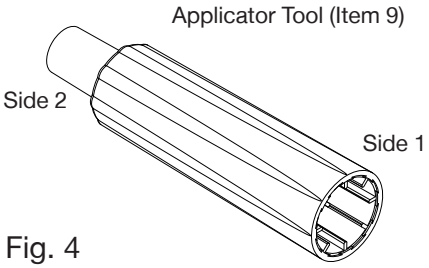


Fig. 4

Fig. 5

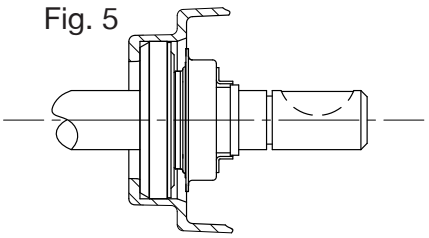


Fig. 6

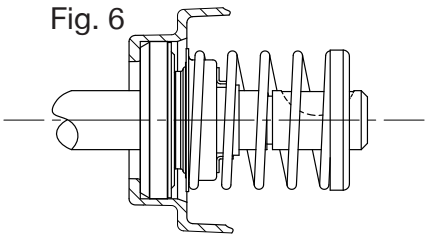
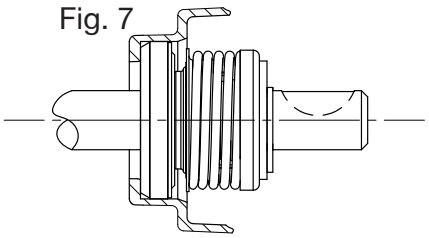


Fig. 7



To assemble the seal correctly, the shaft must be clean and the following steps carried out.

1 Use Side 1 of the Applicator Tool to push the seal seat (item A) firmly into the housing ensuring it is located flat against back of housing.

2 Now use Side 2 of the Applicator Tool to push the rotary section of the seal assembly (item B) onto the motor shaft until it is flat against the seal seat (Fig. 5). The shaft may be lubricated with clean water to assist assembly.
Assemble the spring and location plate onto the shaft so as to complete the rotary seal assembly (Fig. 6).

3 The washer (item C) can then be placed on the shaft and the whole assembly held into position by locating the E clip (item D) in the groove and pushing it into position (Fig. 7).
WARNING:- Do not install E Clip onto full shaft diameter.

- **INITIAL OPERATING INSTRUCTIONS**
  - Insert screwdriver into motor shaft slot located at fan cowl end of motor, rotate shaft by hand to ensure free rotation of pump.
  - Do not run pump dry. Allow the liquid to be pumped to enter the pump body thus ensuring the seal is lubricated before switching the pump on. Failure to do this will damage the seal.
  - Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

Cont ...

SECTION 2 - VALVE REPLACEMENT

The parts required to replace the valve are:

ITEM		QTY	ITEM		QTY
10	Clip	1	15	'O'-ring, ID 24.60, c/sec 2.40	2
11	Magnetic Float	1	16*	'O'-ring, ID 18, c/sec 1.5	2
12	Screw, M4 x 16 mm	4	16*	Non Return Valve	1
13	Reed Clamp Tie	1	16*	Crossflow Pipe	1
14	Flow Regulator - 12 l/min	1			

*Parts pre-assembled

- **DISASSEMBLY** (Reference Fig.1)
  - Remove the existing reed switch by cutting the securing tie wrap (Item 13).
  - Remove four screws (Item 12) and carefully remove manifold assembly from pump.

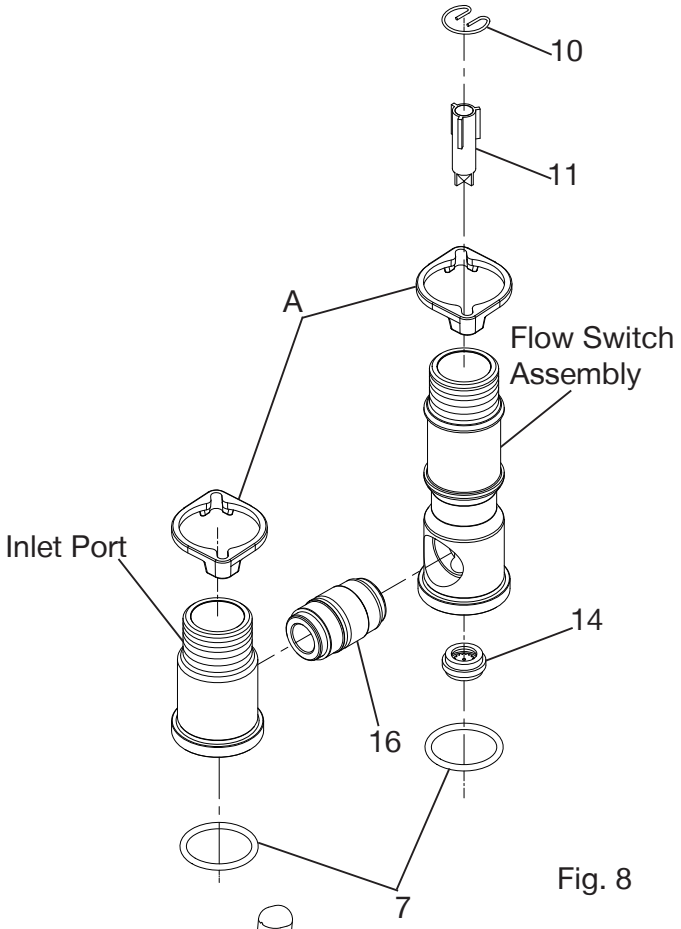


Fig. 8

- Carefully dismantle the flow switch assembly, inlet port, NRV assembly (Item 16) and manifold clamps (Item A) – see Fig. 8.

Flowswitch Disassembly:

- Remove the circlip (item 10) from flow switch assembly using circlip or fine point pliers (Fig. 8)
- Remove the magnet float (item 11) from the flow switch.
- Remove the flow regulator (Item 14) by pushing out using a diameter 8-9 mm rod or shaft – mild force will be required (Fig. 9).

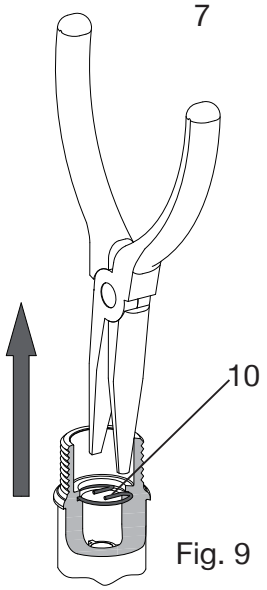


Fig. 9

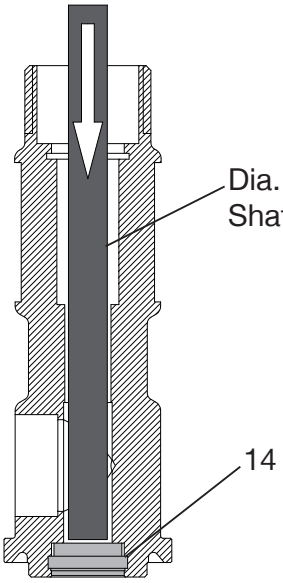


Fig. 10

Cont ...

- **REASSEMBLY**
  - Reassembly is the reverse of the disassembly instructions with the new replacement parts fitted as required.
  - Parts can be lubricated with clean water to aid assembly.
  - Secure manifold clamp screws, to a torque of 1.5 Nm. (Item 12).

Note – it is imperative that the new flow regulator (item 14) is fitted during this operation as **NOT** to do so will infringe Regulation 5 of the Water Supply Regulations that states any pump fitted to the mains supply pipe can only draw 12 l/min or less.

Note – Ensure the manifold clamps (item A) are placed over the flow switch assembly and inlet port **BEFORE** assembling them onto the NRV assembly (item 16), see Fig. 8.

Note – For correct operation the NRV assembly (item 16) must be fitted with the orientation groove to the left (inlet port side) as shown in Fig. 11.

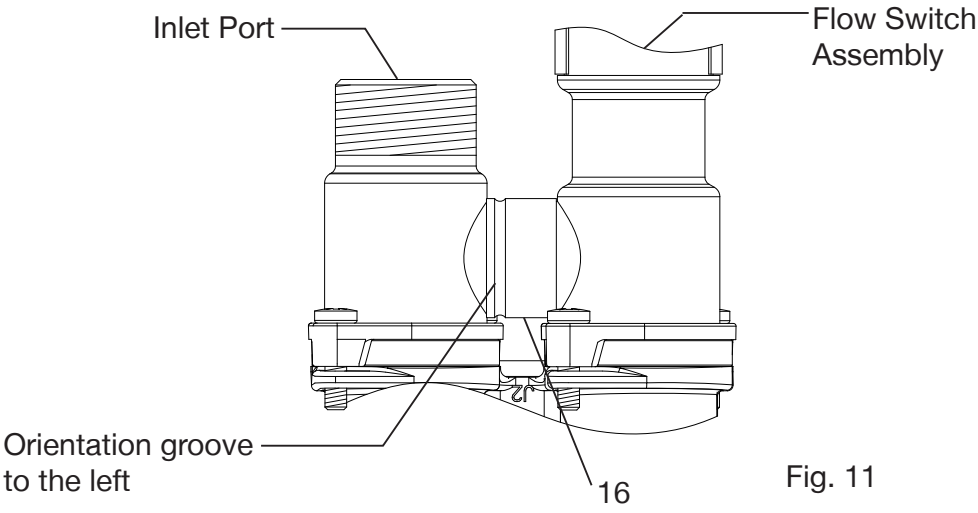


Fig. 11

For correct operation of the flow switch, the reed must be secured to the body as detailed below.
Firstly feed the tie warp through the retainer on the reed switch, ensuring that the tie wrap serrations are facing outwards (see Fig. 12).

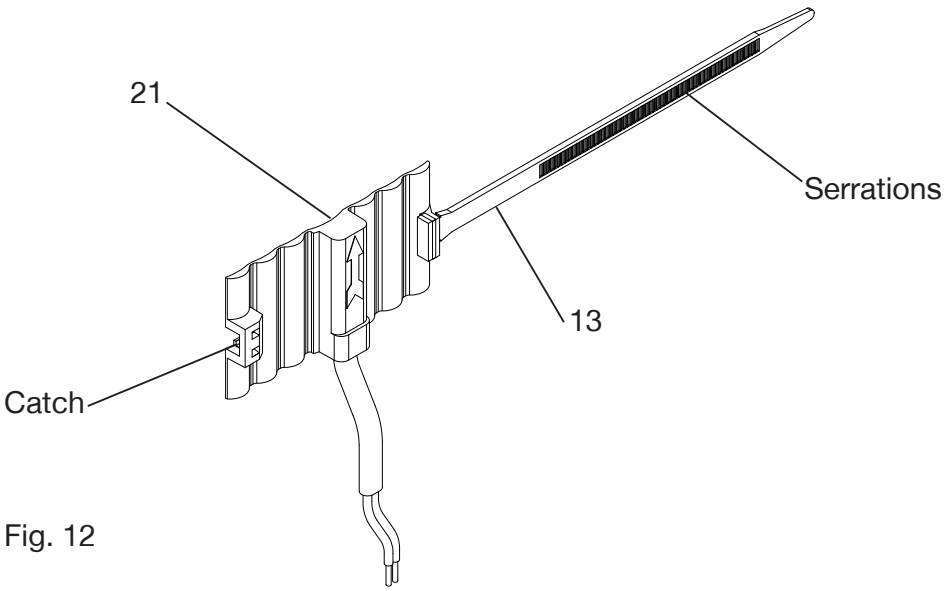


Fig. 12

Cont ...

Now locate the reed switch within the body groove as highlighted X-X in Fig. 13 below, and feed the tie wrap through the second catch.
The tie wrap can now be pulled tight to secure the reed and the excess cut to length as shown in Fig. 14.

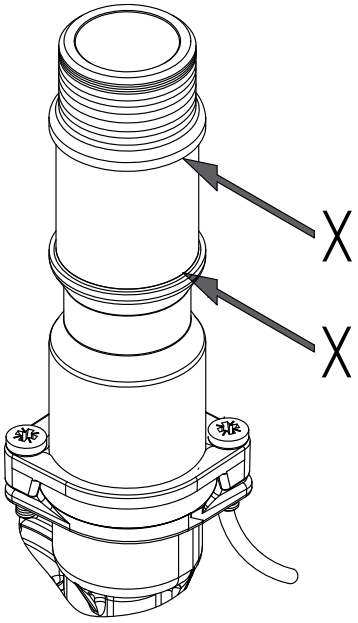


Fig. 13

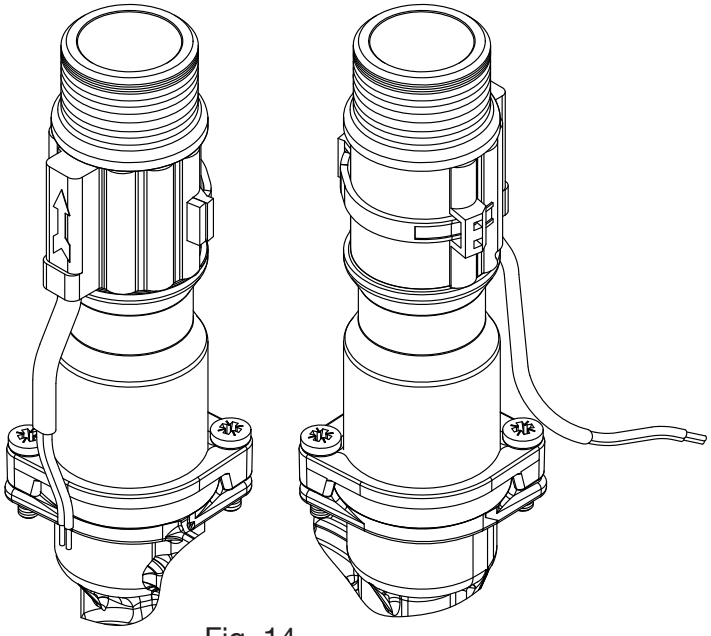


Fig. 14

- **INITIAL OPERATING INSTRUCTIONS**
  - Do not run pump dry. Allow the liquid to be pumped to enter the pump body thus ensuring the seal is lubricated before switching the pump on. Failure to do this will damage the seal.
  - Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

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SECTION 3 - CAPACITOR REPLACEMENT

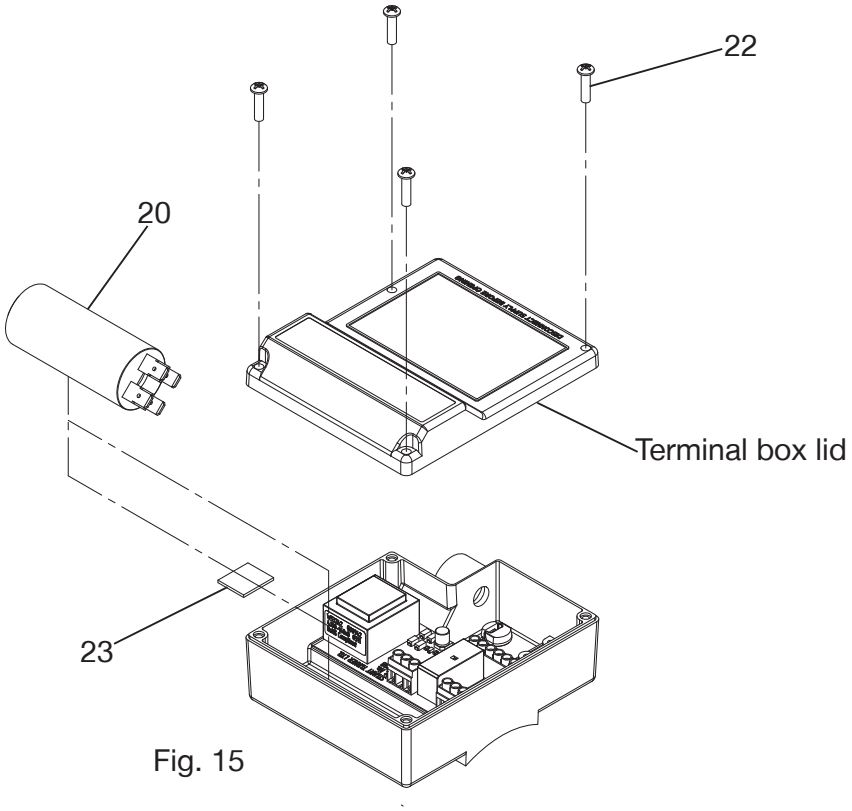


Fig. 15

The parts required to replace the capacitor are:

ITEM		QTY	ITEM		QTY
19	Double Sided Adhesive Foam Pad	1	22	Screws (K40 x 16 mm)	4
20	Capacitor	1			

- **DISASSEMBLY**

- **Isolate electrical supply before fitting replacement part.**
- **Replacing the capacitor, should only be carried out by a competent person.**
- **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 prior to any disturbance of this internal wiring, all cable routing and securing details are carefully noted to ensure reassembly to the same factory pattern is always maintained.**

Reference Fig 15:

- Remove 4 screws (item 22), and carefully remove terminal box lid.
- **IMPORTANT:** Take note of capacitor wiring connection and colours before removal. Disconnect and remove capacitor (item 20) and foam securing pad (item 23), make note of pad fitted position.

Damaged components must be replaced. Contact Stuart Turner for advice on replacements not supplied with kit.

Cont ...

- **REASSEMBLY**

  Reassembly is the reverse of the disassembly instructions, with new replacement parts fitted as required.

  Note: For correct installation the capacitor must be connected, secured and positioned as detailed (Figs. 16 & 17).

  Secure terminal box lid screws to a torque of 0.8 Nm (item 22).

  IMPORTANT NOTE: For correct pump rotation, ensure both blue wires are connected to the linked capacitor terminals as shown.

Fig. 16

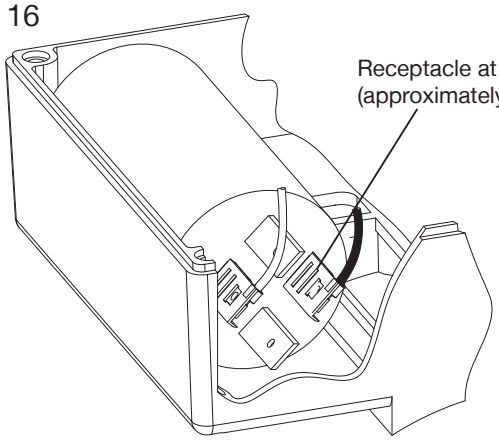
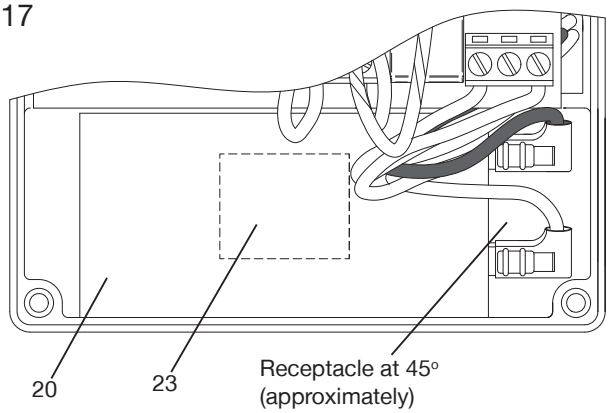


Fig. 17



- **INITIAL OPERATING INSTRUCTIONS**
  - Consult instruction manual for commissiong instructions.
  - Do not run pump dry. Allow the water to be pumped to enter the pump body thus ensuring the seal is lubricated before switching the pump on. Failure to do this will damage the seal.
  - Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

Cont ...

SECTION 4 - REED SWITCH REPLACEMENT

The parts required to replace the reed switch are:

ITEM		QTY	ITEM		QTY
13	Reed Switch Tie Wrap	1	21	Reed Switch	1
18	Strain Relief Bush	1	22	Screws (K40 x 16 mm)	4

- **WIRING DIAGRAMS**

Fig.	Pump	UK	Eire
18	Flomate Mains Boost	✓	✓
	Flomate Mains Boost Extra 60	✓	✓
	Flomate Mains Boost Extra 80	✓	✓
	Flomate Mains Boost Extra 100	✓	✓
	Flomate Mains Boost Extra 200	✓	✓
	Flomate Mains Boost Extra 300	✓	✓

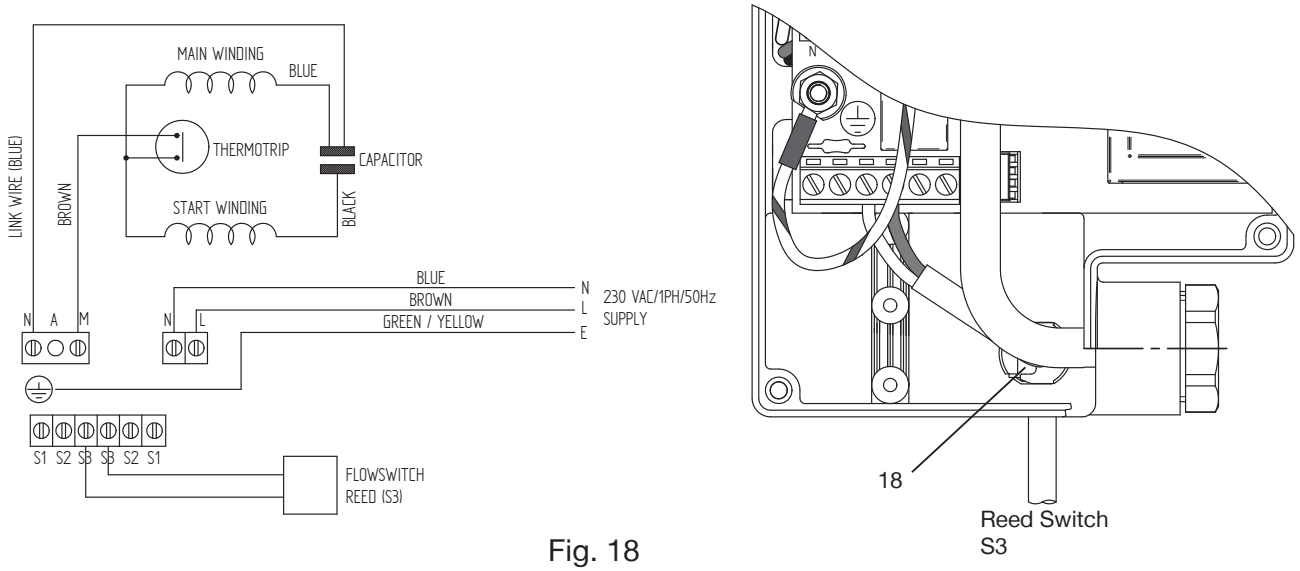


Fig. 18

- **DISASSEMBLY**

- **Isolate electrical supply before fitting replacement part.**
- **Replacing the reed switch components should only be carried out by a competent person.**
- **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 prior to any disturbance of this internal wiring, all cable routing and securing details are carefully noted to ensure reassembly to the same factory pattern is always maintained.**
- Remove four screws and carefully remove terminal box lid (item 22).
- Note the cable routing within the terminal box (Fig. 18).
- Slacken the two screws retaining the reed switch wires on the PCB.
- Remove the strain relief bush and reed switch cable by gripping with pliers (Fig. 19) and pulling downwards from the terminal box.
- Remove the existing reed switch by cutting the securing tie wrap and pulling away from the flow switch body (Fig. 19)

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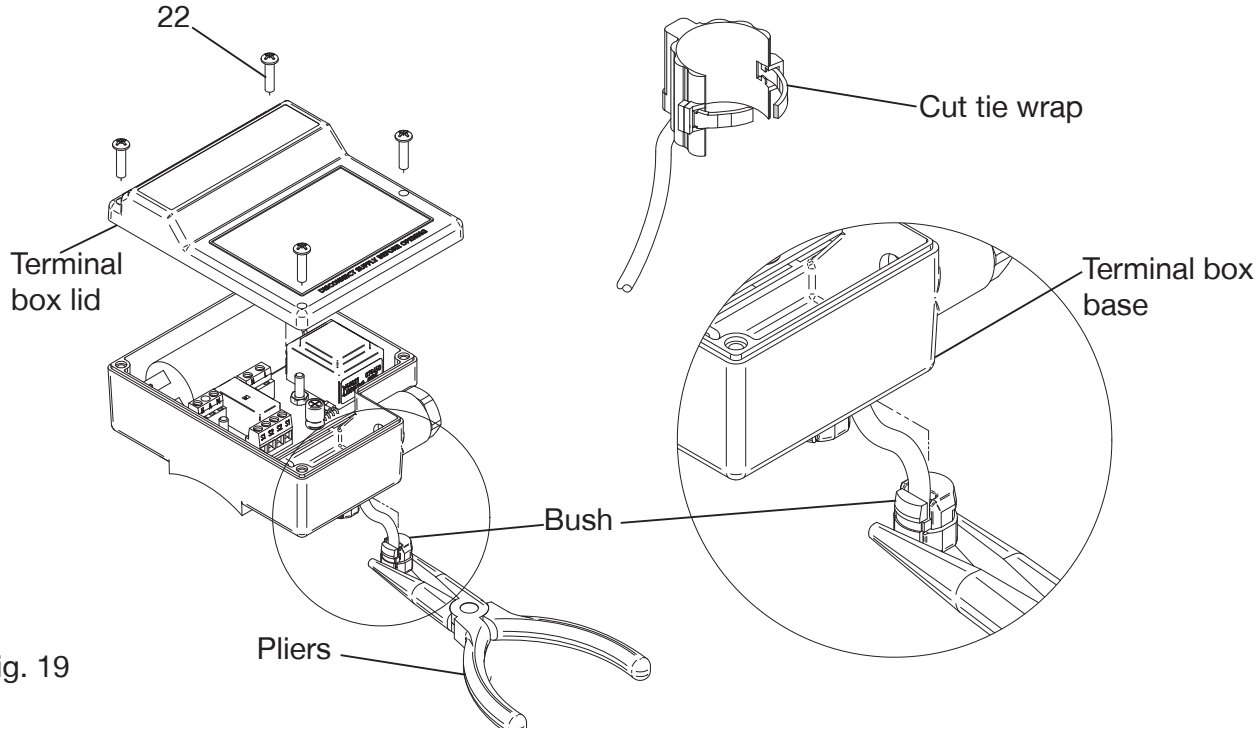

Fig. 19

Damaged components must be replaced. Contact Stuart Turner for advice on replacements not supplied with kit.

- **REASSEMBLY**
  - Fit the new strain relief bush around the reed switch cable and squeeze the strain relief bush with pliers to compress the cable.
  - Push the cable and bush into the base of the terminal box ensuring the bush is fully seated into its location.
  - Connect the two reed switch wires to the PCB (Fig. 18)
  - For correct operation of the flow switch, the reed must be secured to the body (Fig. 21)
  - Firstly feed the tie wrap (item 13) through the retainer on the reed switch, ensuring that the tie wrap serrations are facing outwards (Fig. 20).

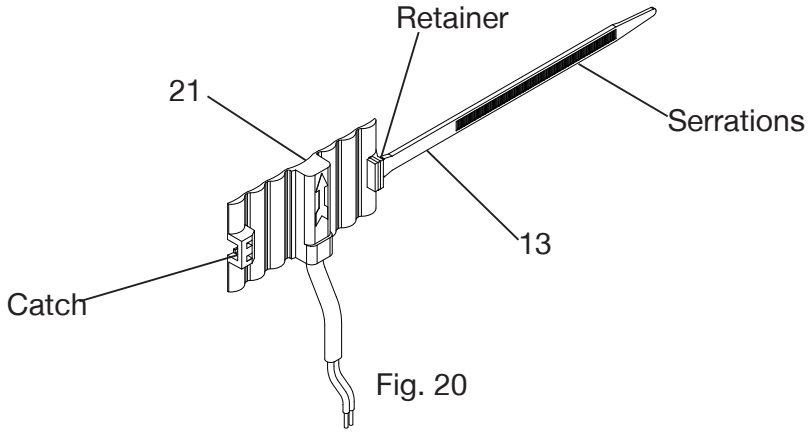

Fig. 20

  - Locate the reed switch within the body groove as highlighted X-X (Fig. 21), and feed the tie wrap through the second catch.
  - The tie wrap can now be pulled tight to secure the reed and excess cut to length as shown (Fig. 22)

Cont ...

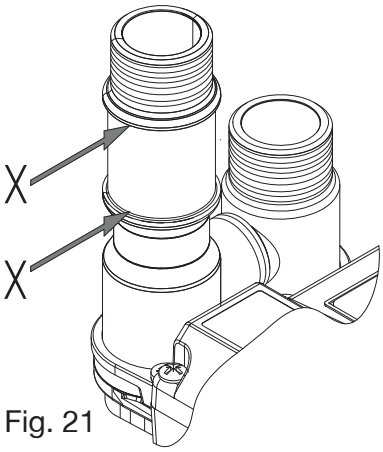

Fig. 21

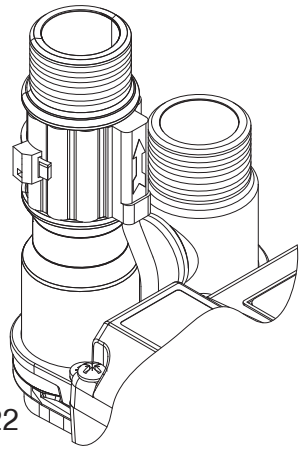
Fig. 22

- **INITIAL OPERATING INSTRUCTIONS**
  - Consult instruction manual for commissioning instructions.
  - Do not run pump dry. Allow the water to be pumped to enter the pump body thus ensuring the seal is lubricated before switching the pump on. Failure to do this will damage the seal.
  - Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

Cont ...

SECTION 5 - PRINTED CIRCUIT BOARD REPLACEMENT

The parts required to replace the printed circuit board are:

ITEM		QTY	ITEM		QTY
17	Printed Circuit Board	1	22	Screws (K40 x 16 mm)	4
19	Adhesive Foam Pad	1			

- **WIRING DIAGRAM**

Fig.	Pump	UK	Eire
23	Flomate Mains Boost	✓	✓
	Flomate Mains Boost Extra 60	✓	✓
	Flomate Mains Boost Extra 80	✓	✓
	Flomate Mains Boost Extra 100	✓	✓
	Flomate Mains Boost Extra 200	✓	✓
	Flomate Mains Boost Extra 300	✓	✓

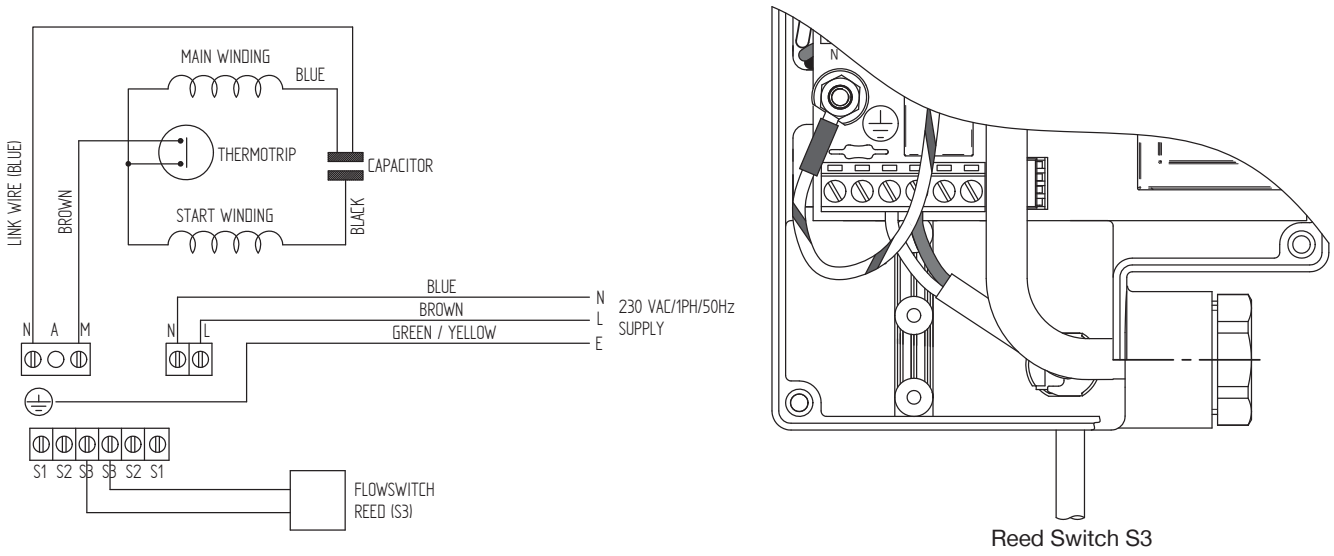

Fig. 23

- **DISASSEMBLY**

- **Isolate electrical supply before fitting replacement part.**
- **Replacing the PCB should only be carried out by a competent person.**
- **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 prior to any disturbance of this internal wiring, all cable routing and securing details are carefully noted to ensure reassembly to the same factory pattern is always maintained.**

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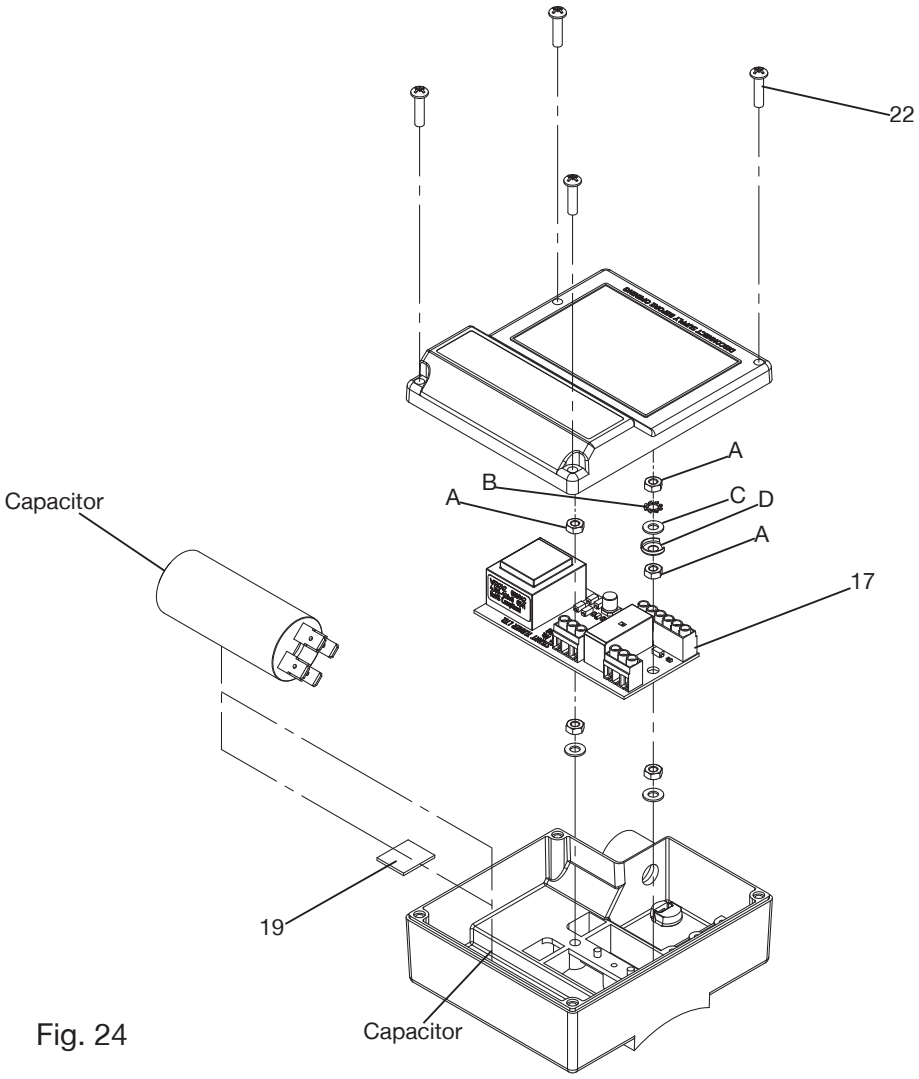

Fig. 24

Reference Fig 24.

- Remove four screws (Item 22) and carefully remove terminal box lid.
- **IMPORTANT**: Take note of capacitor wiring connection and colours **before removal**.
- Disconnect and remove capacitor, and foam securing pad (Item 19) make note of pad fitted position.
- Remove M4 nut (Item A) then M4 lock washer (Item B) and plain washer (Item C), this allows removal of earth wire and cup washer (Item D).
- Disconnect all wiring from terminal blocks on printed circuit board (PCB Item 17).
- Remove two M4 nuts (item A) and carefully lift PCB (Item 17) away from terminal box.

Damaged components must be replaced. Contact Stuart Turner for advice on replacements not supplied with kit.

- **REASSEMBLY**

Reassembly is the reverse of the disassembly instructions with the new replacement parts fitted as required.

Note: For correct installation the capacitor must be secured and positioned as detailed in Figs. 25 & 26.

Secure PCB nuts to a torque of 1.5 Nm (item A).

Secure terminal box lid screws to a torque of 0.8 Nm (item 22).

IMPORTANT NOTE: For correct pump rotation, ensure both blue wires are connected to the linked capacitor terminals as shown.

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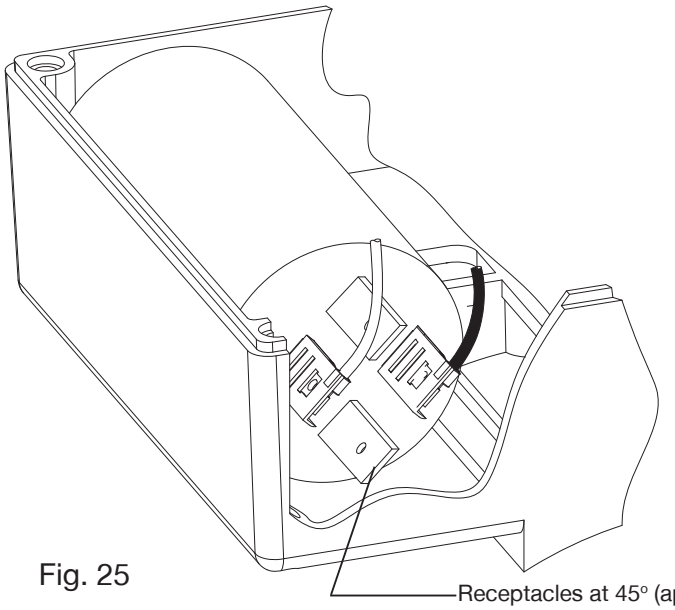

Fig. 25

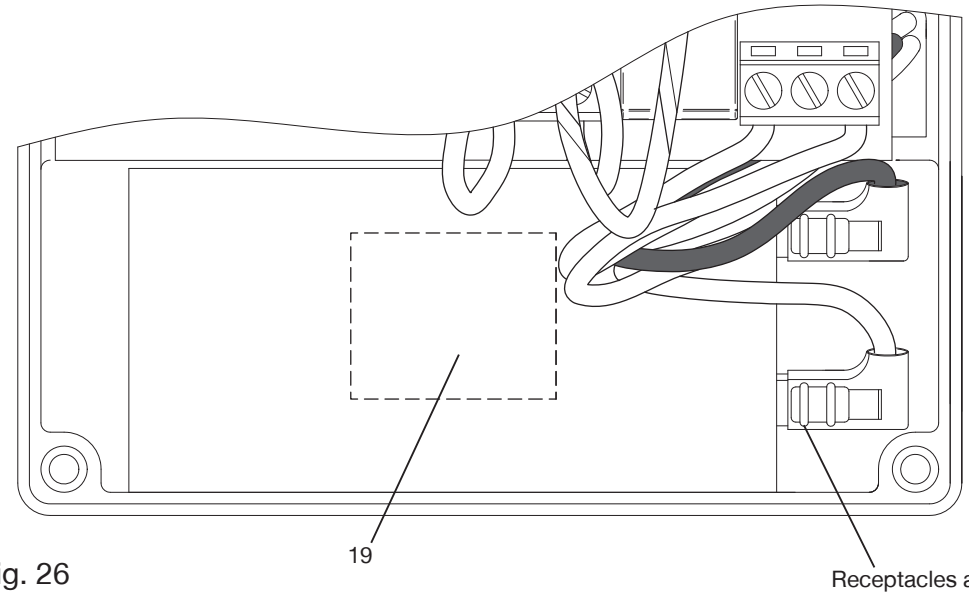

Fig. 26

- **INITIAL OPERATING INSTRUCTIONS**
  - Consult instruction manual for commissioning instructions.
  - Do not run pump dry. Allow the water to be pumped to enter the pump body thus ensuring the seal is lubricated before switching the pump on. Failure to do this will damage the seal.
  - Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

Stuart Turner Limited reserves the right to amend specifications without notice.

STUART TURNER
ENGINEERED TO EXCEL

Stuart Turner Ltd, Henley-on-Thames, Oxfordshire RG9 2AD ENGLAND
Tel: +44 (0) 1491 572655, Fax: +44 (0) 1491 573704
info@stpumps.co.uk www.stuart-turner.co.uk

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