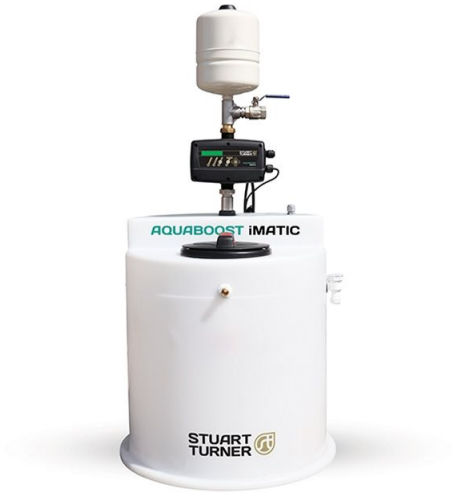
AQUABOOST

Installation, Operation & Maintenance Instructions

Please leave this instruction booklet in a safe place as it contains important guarantee, maintenance and safety information

Read this manual carefully before commencing installation.



This manual covers the following products:

Model	Part No
iMatic 0304 1S-CMT/8 450	47359
iMatic 0304 2S-CMT/24 800	47360
iMatic 0504 2S-CMT/24 1200	47361

Please note images are representative only and may not portray your model

CE

CONTENTS

1 PRODUCT OVERVIEW

1.1 Product Description

The iMatic range is a water pressure and flow booster set with integral water storage tank and electric motor driven centrifugal pump complete with an automatic control system, consisting of flow switch, pressure switch, pressure vessel and electronic control. The design of the tank incorporates an AC air gap for fluid isolation (BS EN 1717).

1.2 Application

The Aquaboost iMatic range is designed to meet the demand of pressurised systems in domestic applications where the existing mains water supply is insufficient.

Inlet pressures to the tank and ambient temperatures must not exceed the values given in the technical specifications.

1.3 Storage

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

2 WARNINGS

- This pump set must not be used for any other application without the written consent of Stuart Turner Limited.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- This product should not be used for the supply of water to more than one dwelling (house, apartment, flat).
- Cleaning and user maintenance shall not be made by children without supervision.
- The motor casing can become very hot under normal operating conditions. Care must be taken to ensure it cannot be touched during operation.
- The electrical installation must be carried out in accordance with the current national electrical regulations.

- The electrical installation must be undertaken by a qualified person.
- RCDs/ELCBs are not recommended for use with variable speed drives/motors. If an RCD is mandatory use type B RCDs.
- For single phase sets with invertor motors the earth leakage circuit breaker must trip out when an earth fault currents with DC content (pulsating DC) occur.
- RCD's suitable for use with variable speed drives/motors are not suitable for personnel protection.

- Before starting work on the electrical supply ensure power supply is isolated.
- 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.
- This appliance must be earthed via the supply cord, which must be correctly connected to the earth point located in the terminal box.
- 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 re-assembly to the same factory pattern is always maintained.
- 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.

Please read installation details carefully as they are intended to ensure this product provides long, trouble free service. Failure to install the unit in accordance with the installation instructions will lead to invalidation of the warranty.

3 CHECKLIST

IMPORTANT: With the appliance removed from its packaging check for any damage prior to installation. If any damage is found contact Stuart Turner Ltd within 24 hours of receipt.

3.1 iMatic Single Pump Booster Set

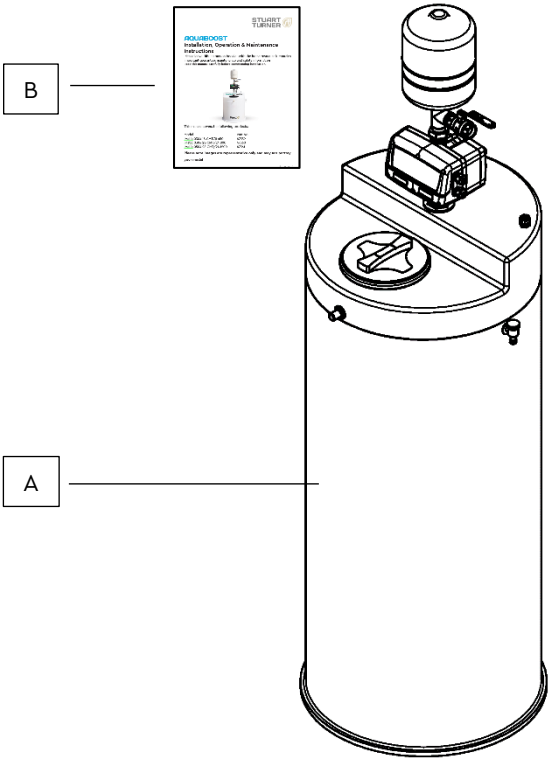


Figure 1

Item	Description	Qty
A	iMatic Single Set	1
B	Instruction guide	1

Your product may vary slightly from the illustration above.

3.2 iMatic Twin Pump Booster Set

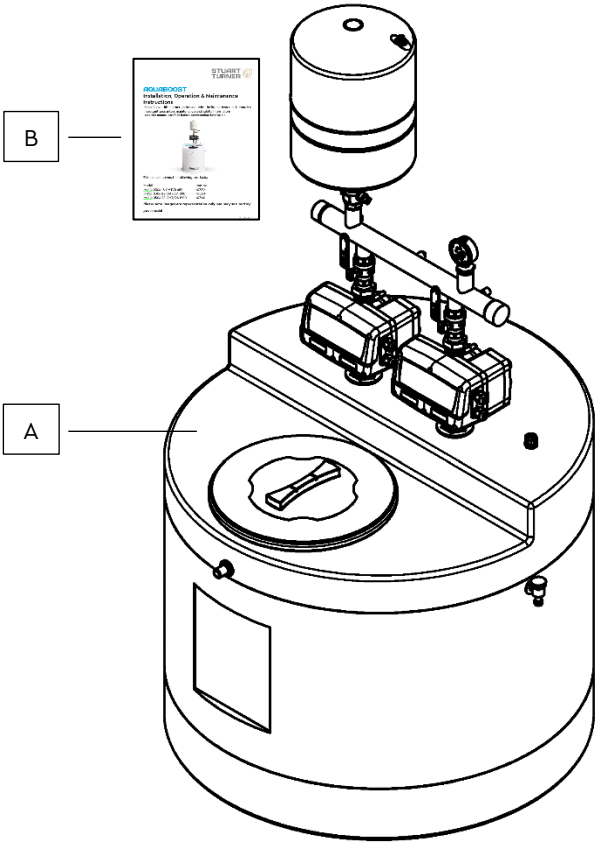


Figure 2

Item	Description	Qty
A	iMatic Twin Set	1
B	Instruction guide	1

Your product may vary slightly from the illustration above.

4 IMPORTANT - READ BEFORE COMMENCING INSTALLATION

4.1 Water Storage Capacity

The iMatic usable water volume can be found in the technical specification table (Section 8); the length of time the iMatic delivers water will be dependent on the usage and refill rates

4.2 Water Temperature

This unit is designed to pump cold water only which should not exceed the following values:

The maximum allowable water temperature is 23 °C.

The minimum allowable water temperature is 4 °C.

4.3 Pipework - General

Do not drill holes or put fastenings into the iMatic tank, this will cause leakage.

System leaks: Ensure the system to be boosted is able to hold pressure and is leak free before installing iMatic. Failure to do so will cause abnormal operation and damage to the unit.

Secure pipework: Ensure pipework to and from pump is independently supported & clipped to prevent forces being transferred to inlet and outlet branches of pump. Do not secure pipework to the iMatic, this will cause damage and possible leakage.

Flux: Solder joints must be completed and flux residues removed prior to iMatic installation (flux damage will void any warranty).

Pipework design: Care should be taken in the design of pipework runs to minimize the risk of air locks e.g. use drawn bends rather than 90° bends.

DO NOT introduce solder flux to flexible hose, tank, pump or any parts manufactured from plastic.

DO NOT allow contact with oil or cellulose based paints, paint thinners or strippers, acid based descalents or aggressive cleaning agents.

DO NOT feed other header or gravity tanks with iMatic. It is acceptable to feed toilet cisterns provided the toilet fill valve operates correctly and is leak free.

4.4 Plumbing Installation Regulations

The plumbing installation must comply with the current water and building regulations.

The plumbing installation must be installed by a qualified person.

4.5 Pressure Vessel

The iMatic pressure vessel is pre-charged at the factory and must be set correctly during installation see Section 10 for details.

5 LOCATION - GENERAL

- **Access:** For emergencies and maintenance the pump must be easily accessible.
- **Protection:** The iMatic must be located in a dry, frost free area. The iMatic must not be installed in a loft space.
- **Ventilation:** Ensure an adequate air flow to cool the iMatic. Separate the iMatic from other appliances that generate heat.
- **Water retention:** Site the unit in a location where in the unlikely event of a water leak, any spillage is contained or routed to avoid electrics or areas sensitive to water damage.
- **Supply inlet pressure:** The water supply inlet pressure must be lowerthan 7 bar; lower supply inlet pressures will reduce the tank fill rate and reduce the time the iMatic will run at higher flow rates before running out of stored water.
- **Ambient temperature:** The iMatic must be sited in a location where the ambient temperature does not exceed 30 °C.
- **Pipework:** For optimum performance outlet pipework must be 22 mm pipe. Pipework should only reduce to 15 mm when entering terminal fittings.
- **Static outlet pressure:** The static outlet head must also be within the maximum requirement of 15 metres (vertically above the appliance).
- **Isolating valves:** Separate system isolating valves (non restrictive) must be fitted to allow easy pump service. Isolating valves must be mounted where specified to allow the system isolation and removal of the iMatic if needed.
- **Preferred iMatic location:** The preferred iMatic location is on a smooth level floor of sufficient strength to support the filled weight of the iMatic close to the water source and a suitable overflow position (see Section 11 - Technical Specification for filled weight).

  The iMatic must not be installed in a loft space.

  It must also be considered that the noise and vibration from the iMatic may be transmitted through the structure the iMatic is sited on.

6 KEY FEATURES

6.1 iMatic Single Pump Booster Set

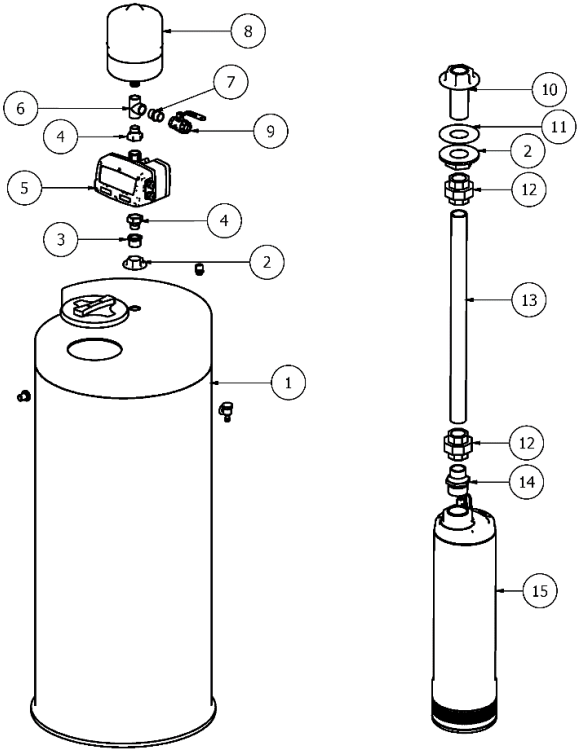


Figure 3

ITEM	QTY	DESCRIPTION
1	1	450 Litre Tank – Fitted with Inlet and Overflow
2	1	Tank Connector Nut
3	1	Reducing Bush
4	2	M/F Union
5	1	iMatic Controller
6	1	Tee
7	1	Nipple
8	1	8 Litre Pressure Vessel
9	1	Ball Valve
10	1	Tank Connector
11	1	Tank Connector Rubber Seal
12	2	F/F Union
13	1	PVC Pipe
14	1	Reducing Nipple
15	1	Pump

6.2 iMatic Twin Pump Booster Set

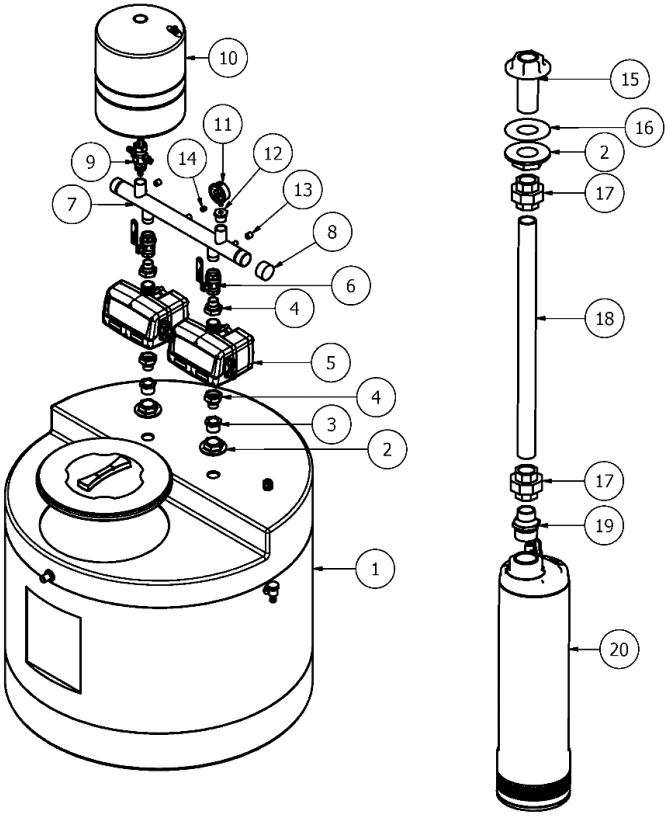


Figure 4

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	1	800 Litre Tank – Fitted with Inlet and Overflow	11	1	Pressure Gauge
2	2	Tank Connector Nut	12	1	Reducing Bush
3	2	Reducing Bush	13	2	Small Cap for manifold ports
4	4	M/F Union	14	1	Small Plug for manifold ports
5	2	iMatic Controller	15	1	Tank Connector
6	2	Ball Valve	16	1	Tank Connector Rubber Seal
7	1	Manifold	17	2	F/F Union
8	1	End Cap	18	1	PVC Pipe
9	1	Flow Through Isolating & Drain Valve	19	1	Reducing Nipple
10	1	Pressure Vessel	20	1	Pump

7 INSTALLATION & CONNECTIONS

7.1 Mains Water Connection

The iMatic is to be permanently connected to the mains water supply using rigid pipe or suitably sized and rated flexible hose to comply with current building and plumbing regulations. The water tank fill valve has a G ½ male threaded fitting; a suitable 90° elbow type fitting must be used. When tightening ensure the fill valve within the tank is not rotated. If the valve is rotated it may not function correctly with the risk of flooding.

Ensure there is a demountable joint in the pipe to allow the removal of the iMatic if needed.

7.2 Water Outlet Pipework

1. The pump has a G ¾ threaded connection to accept the supplied hose. The hose is made water tight with a sealing washer on assembly, nip tight to 4 to 5 Nm for water tight seal. (Do not overtighten). The supplied hose must only be connected to 22 mm pipework.

   Ensure the pipe is free from all score marks and deformities in the area of the insertion depth (Figure 4) and cut the pipe square removing all burrs and sharp edges to prevent damage to the sealing 'O'-ring.

2. Prior to inserting the pipe into the fitting mark the insertion depth on the wall of the pipe with a soft pencil at a distance of 33 mm from the end to be inserted.

3. Check in the mouth of the fitting that the 'O'-ring, nylon washer and collet are in position.

4. Push pipe firmly into fitting, until pencil mark is level with the top of the collet and the pipe stop resistance is felt. Pull on the pipe to check it is secure and correctly fitted.

5. To break the joint, push pipe firmly into fitting, hold collet down and gently remove pipe. If the system has been fitted with water care should be taken to isolate pump and towels used to absorb spilled water.

7.3 Connection to Overflow/Warning Pipe

The overflow fitting is designed to use G 1 ¼ (35 mm OD) plastic waste pipe. Ensure there is a demountable joint in the pipe to allow the removal of the iMatic if needed (Figure 8). The overflow must be free to vent to atmosphere either via a tundish or a dedicated external pipe.

7.4 Unit Location

The iMatic is intended to be installed as a freestanding unit with its back to a wall.

1. Slide the iMatic into position in front of the services leaving approximately 20 mm gap between the iMatic and the wall behind.
2. Connect the services using isolation valves and demountable fittings (push-fit or compression). The positioning of these fittings should allow the iMatic to be removed without cutting pipes or draining the system.

7.5 Drinking Water Tap

It is recommended that at least one drinking water tap is connected into the un-pumped mains water supply (typically a kitchen sink), so the water supply is maintained in the event of a failure of the pumped supply.

8 ELECTRICAL INSTALLATION & EARTHING

8.1 Regulations

- The electrical installation must be carried out in accordance with the current national electrical regulations and installed by a qualified person.

8.2 Safety

- RCD's/ELCB's are not recommended for use with variable speed drives/motors. If an RCD is mandatory use type B RCD's.
- For single phase sets with invertor motors the earth leakage circuit breaker must trip out when an earth fault currents with DC content (pulsating DC) occur.
- RCD's suitable for use with variable speed drives/motors are not suitable for personnel protection.
- Do not touch any electrical components for at least 5 minutes after the unit has stopped to allow any discharge to occur safely.

8.3 Before Starting Work

- Before starting work on the electrical supply ensure power supply is isolated.

8.4 Supply Cord

- 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.

8.5 Adjacent Pipes

- Adjacent suction and delivery pipes should be fitted with earthing clamps in accordance with current regulations (Figure 10).

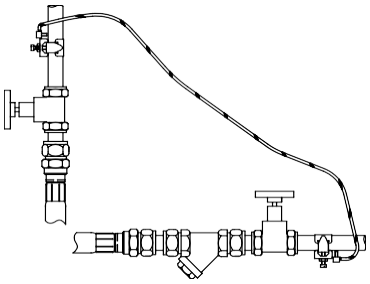


Figure 5

8.6 Earthing

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

8.7 Pipework

- Copper or metallic pipework must have supplementary earth bonding where the continuity has been broken by flexible hoses or plastic components.

8.8 Additional Earthing

- 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.

8.9 Connections

- The pump must be permanently connected to the fixed wiring of the mains supply using the factory fitted supply cord, via a double pole switched (with a minimum of 3 mm contact separation) fused spur off the ring main and NOT connected to the boiler or the immersion heater circuits.
- The electrical connection must be made adjacent to (not behind) the iMatic to allow disconnection of the electrical supply should the pump module need to be removed for service or maintenance.

8.10 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.

8.11 Wiring Diagrams

iMatic (Twin Controller)

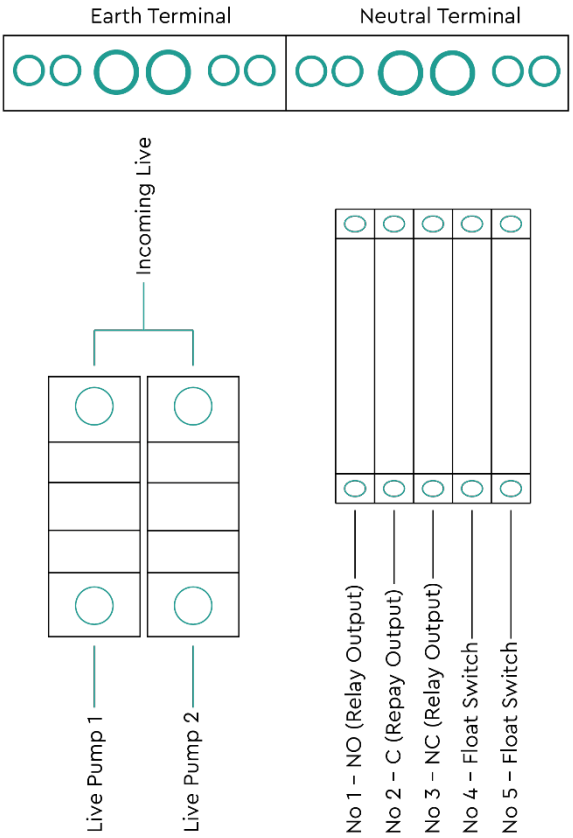


Figure 6

8.12 Fuses

The following fuse size should be used:

Model	Fuse Size (AMPS)
iMatic all models	10

8.13 Supply Cord Replacement

- 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 re-assembly to the same factory pattern is always maintained.

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. Re-assemble to the same pattern.

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

9 COMMISSIONING & STARTING

9.1 Control Panel

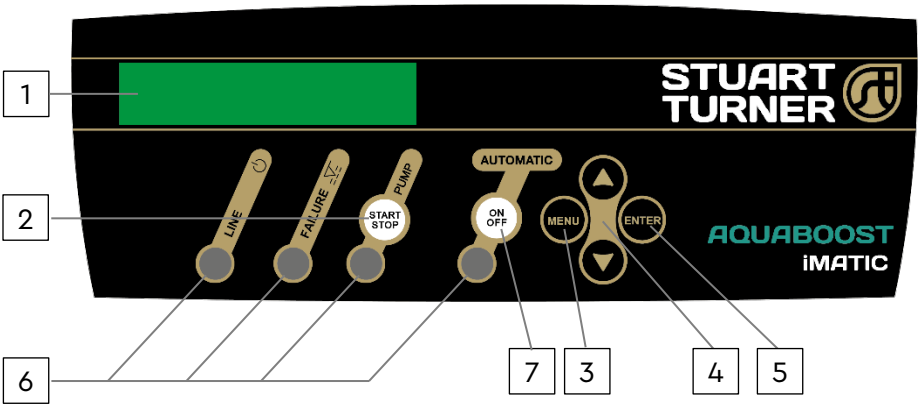


Figure 7

1. LCD screen. Shows the pressure in working mode.
2. MANUAL START-STOP pushbutton.
3. Pushbutton for ENTER or EXIT menu.
4. Pushbuttons for changing programming values showed in the LCD screen (1).
5. ENTER for saving programmed values. Every press is succeeded by a new field of the CONFIGURATION MENU.

   To quit the configuration sequence press MENU (3).
6. Led lights:
   a. LINE green: Electric supply. ON when it is connected.
   b. FAILURE red: Bright or intermittent depending on type of failure.
   c. PUMP yellow: When it is bright means pump working. It is lit with the pump stopped or when the device is not connected.
   d. AUTOMATIC green: it is bright in AUTOMATIC mode. When it is intermittent in MASTER&SLAVE mode it means that this device will be auxiliary in the following cycle.
7. ON/OFF: Change from AUTOMATIC to MANUAL mode or vice versa.

9.2 Start Up (Single Controller)

Be sure that the pump is correctly primed.

FAILURE led light will be ON. Wait for 10 seconds while the iMatic conducts an autotest. Once it finishes, led light FAILURE is OFF and led light LINE is ON. The LCD screen will show message "IMATIC" and the language display of the configuration mode.

The device is ready to be configured.

9.3 Start Up (Twin Controller)

During the configuration process it is possible to select which device is the MASTER.

CONFIGURATION OF THE MOTOR SUPPLY (single-phase / three-phases):

The device is suppliedby default for connection to an three-phase motor. If it must be connected to a single-phase motor the following steps should be followed:

The electrical connection will be done following the indications of the section "ELECTRICAL CONNECTION" for single-phase motors. (see scheme fig.6).

Once the device is connected, we will press simultaneously the pushbuttons, MENU + ENTER, to enter in the expert menu. In this menu can be modified variables of the program (integration, acceleration and deceleration) and also to be chosen the type of supply of the motor. It is not recommended the modification of the variables.

Values are changed using pq and pushing ENTER to memorize changes. Use ENTER 3 times to confirm the initial values of the program variables (integration, acceleration and deceleration) and next, using the pushbuttons pq we will choose single-phase or three-phase. Push ENTER to quit the expert menu. Example:

The device must be unswitched from the electric supply and wait until the LCD will be off. Turn on the device again.

9.4 Configuration

Using ▲▼ we can change the values and press **ENTER** for validation. To quit the configuration sequence at any time press **MENU**. After every **ENTER** the different screens that constitute the configuration sequence will appear.

P LINE INPUT P

To start configuration sequence press **MENU** during 3".

SET UP MENU

Configuration menu, access to installation phase

LANGUAGE

ENGLISH

By mean of keys ▲▼ select the desired language:

"LANGUAGE ENGLISH"

"LANGUE FRANÇAISE"

"LINGUA ITALIANA"

"IDIOMA ESPAÑOL"

MAX. INT. PUMP

OFF

By mean of keys ▲▼ input the nominal intensity value in A of pump 1 enabling the thermal protection. This value is located over the characteristics plate of the motor. Press **ENTER** for validation.

ROTATION SENSE

0 Hz

Using the START/STOP pushbutton verify the rotation sense. By mean of keys pq(0/1) we can change it. Press **ENTER** for validation.

MIN. SPEED

15 Hz

Using ▲ we can increase the lower limit of the speed of rotation of the pump's motor.

LEVEL PROBE

NO

If the installation does not have level probe press **ENTER** to validate **NO**.

If the installation has a level probe, use keys ▲▼ to change to **YES**.

PROGRAMMING

Being inside configuration menu we have access to the phase of programming.

SET PRESSURE

2.0 bar

This will be the system operating pressure. Use keys ▲▼ to modify the initial value (2 bar).

WARNING ! The input pressure must be al least 1 bar lower than the maximum pressure of the pumps.

NOTE: In case of group assembly, the system operates at the pressure set in the MASTER device, so that the configuration of set pressure in the slave device is superfluous.

DIF. START

0.3 bar

The default value is 0.3 bar. This value of pressure is the one that the system will subtract from the input pressure, resulting the final pressure to which the system will set in motion when the hydraulic network has a demand. Using keys ▲▼ to modify the initial value. It is recommended to maintain this value between 0.3 and 0.6 bar.

Example:

- Input pressure: 2 bar.
- Differential start: 0.3 bar.
- Final start pressure: 2 – 0.3 = 1.7 bar.

The value should be greater as much as smaller be the accumulation and vice versa.

TIMER STOP

5 s

TIMER STOP default value is 5". This will be the employed time by the system in stopping once ceased the consumption in all the installation. Using keys ▲▼ we can modify the initial value.

VIEW MODE

NORMAL

There are 2 view modes to choose:

- NORMAL: it is visualized "P LINE" (real pressure of the installation) and "INPUT P" (configured pressure).

- SERVICE: it is visualized "Hz" (working frequency of the inverter), "REF" (configured pressure), "PRESS" (real pressure of the installation) y "FL" (flow sensor state).

SERIAL CONTROL

SLAVE

The iMATIC controller is configured by default as "SLAVE".

In case of individual assembly just confirm "**SLAVE**" by pressing **ENTER**.

In case of group assembly (M-S), we will do the same for the slave device. For the "**MASTER**" device we will change "**SLAVE**" by "**MASTER**" pressing ▼.

In the case of twin controller systems, change "**SLAVE**" by "**SWITCHER**" pushing ▼ twice.

DIRECTION

CH 1

To set the communication channel. Press **ENTER**.

P LINE INPUT P

00.0 bar 00.0

After pressing **ENTER**, the system will remain configured showing the type of view chosen in the previous section, Press **AUTOMATIC** in order to quit manual mode.

In case of group assembly press **AUTOMATIC** only in the device configured as **MASTER**.

In case of group assembly, after pressing **AUTOMATIC** in the **MASTER** device, the **AUTOMATIC LED LIGHT** of the **SLAVE** device will start to flash intermittently, indicating that communication between both devices is ready. If this does not happen verify the connection (fig 9).

9.5 System Flushing

- The pipework system should be flushed out prior to the iMatic being connected to ensure any contaminants/chemical residues and foreign bodies are removed from elsewhere in the system.

9.6 Water Supply

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

9.7 Priming

- Never operate pump with inlet and/or outlet isolating valves in the closed position. Damage will occur!
- The tank must be filled with water before starting the pump.

1. Turn on the service valves nearest the iMatic and allow the air to vent from the system.
2. Turn on the iMatic and allow the pump to build up pressure purging the air from the system.
3. Open all the service valves (including flushing WCs) in turn to fully purge the air from the system.

9.8 Starting

1. Ensure all outlets are closed, turn power supply 'on' - pump will start, pressurise the system then stop.
2. Open and close all outlets in turn associated with the pump, (including w/c systems) allowing water to flow from each outlet until all air is purged. As each outlet is opened and closed, the pump will start and stop respectively.

   Note: After closing the outlet there will be a small time delay before the pump stops, which is normal.
3. Any tap or control valve within the system when opened and closed will now turn the iMatic on/off, there will be a delayed start due to the water stored in the pressure vessel. Providing this is the case the system is now operating correctly.
4. Carefully check pump and pipework for leaks whilst pump running and stationary before leaving the installation unattended.

9.9 For Further Technical Support

Phone the Stuart Turner TechAssist team on +44 (0) 800 31 969 80. Our staff are trained to help and advise you over the phone.

10 MAINTENANCE

10.1 Pressure Vessel

The pressure vessel should be checked once every 12 months to have its pre-charge checked or replenished, this should be carried out as follows:

1. Isolate pump electrically.
2. Remove the front cover.
3. Isolate the water supply by closing the appropriate isolating valves.
4. Release system water pressure by opening an outlet on the system.
5. Check pre-charge at Schrader valve (Figure 17) using a tyre pressure gauge.
6. Replenish pre-charge by injecting air into the vessel via the Schrader valve using a car or bicycle pump (Figure 17).
7. Close all system outlets, open inlet and outlet isolating valves.
8. After maintenance is completed refer to Section 11 - Commissioning for instructions on re-starting pump.

Model	Pre-charge bar (psi)
iMatic	The pressure vessel pre-charge must be set to 90% of the pump set pressure. I.e. If pump pressure is set to 3 bar, then the pre-charge value should be 3 x 0.9 = 2.7 bar (39 psi).

10.2 Water Scale

In areas of hard water, scale can cause the mechanical pump seal to stick if left without use for long periods. The pump must be run for at least 5 minutes every four weeks to "exercise" all working parts. See Section 13 - Technical Specification for note on water temperature.

10.3 Water Quality

The iMatic has been manufactured to the highest standard from WRAS approved materials.

As with any stored volume of water; in order to ensure that the water remains fit for use the water temperature needs to remain below 20 °C. The quality of stored water will deteriorate with time and temperature. Bacterial growth is dependent on the water temperature, growth rates will be higher when the conditions are warm.

If the water remains unused for long periods of time, the tank should be drained and flushed through. The tank should be cleaned on an annual basis to protect against bacterial growth. If the iMatic is installed in a rental property, it must be maintained in line with current Health & Safety regulations.

10.4 Draining the tank

The tank can be drained by either:

1. Isolating the mains water supply to the fill valve and using the pump to pump the water out of the tank.

or

2. Isolating the water supply to the tank and attaching a flexible hose to the drain valve.

10.5 Front Cover and Keypad Cleaning

The front cover is made from acrylic capped ABS, it must only be cleaned with warm soapy water or mild detergent. Do not use abrasive cleaners. The front cover is supplied with clear protective film in place, this can be removed by lifting at the edge.

10.6 Float Fill Valve

The float level is factory set but if in time the water level in the tank is found to be too high, the level can be adjusted by carefully bending the arm of the fill valve down slightly (Figure 19).

Access the float fill valve by removing the lid of the tank.

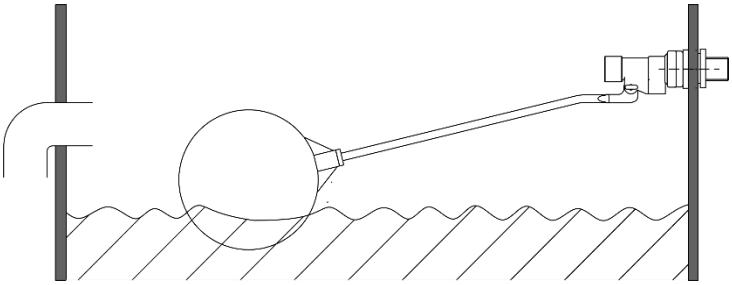


Figure 8

11 TECHNICAL SPECIFICATION

Model		**iMatic 450 46668**	**iMatic 800 46711**	**iMatic 1200 47361**
General	Warranty	1 year		
	Approvals	CE		
Features	Water tank air gap	Type AF		
	Fluid category	Cat 3, Cat 4		
	Pump control system	Variable speed		
	Pump control mode (twin pump)	Duty-Assist or Duty-Standby		
	Dry run protection	✓		
	Pressure vessel	24 litres / 10 bar		
	Pump check valves	✓		
	Flexible connection hose (outlet)	Optional		
Performance	Nominal head (twin pump)*	4.4 bar	4.4 bar	4.6 bar
	Maximum head (twin pump)*	6.4 bar	6.4 bar	6.6 bar
	Nominal flow rate	3.5 m³/h	7.0 m³/h (3.5 m³/h per pump)	12.0 m³/h (6.0 m³/h per pump)
	Maximum flow rate	6.0 m³/h	12.0 m³/h (6.0 m³/h per pump)	20.0 m³/h (10.0 m³/h per pump)
	Ambient air temperature	0 °C - 40 °C		
Water tank	Nominal water tank size	450 litres	800 litres	1200 litres
	Usable water capacity	380 litres	650 litres	1000 litres
	Float valve type	WRAS Approved		
	Water tank fill rate	30 l/min*		
Connections	Inlet connection	½ BSP		
	Outlet connection	1" BSP	1½" BSP	1½" BSP

	Overflow	22 mm		
Materials	Water tank	MDPE, food grade rated		
	Water tank base	MDPE, food grade rated		
Manifold	Manifold construction	-	Stainless steel	Stainless steel
	Pump isolation valves	WRAS Approved, full bore, lever		
Pump	Pump type	Submersible multistage centrifugal		
	Motor type	Induction thermal protection		
	Duty rating	Continuous		
Electrical	Power supply (Vac/Ph/Hz)	16A 230 V a.c. / 1 / 50 Hz		
	Current - full load	6 Amps	12 Amps	12.8 Amps
Dimensions	Depth	680 mm	1000 mm	1000 mm
	Width	680 mm	1000 mm	1000 mm
	Height	2245 mm	1825 mm	2330 mm
Weight	Dry	45 Kg	75 Kg	85 Kg
	Filled	425 Kg	725 Kg	1025 Kg

Stuart Turner reserve the right to amend the specification without notice.

*Assumes 1 bar inlet pressure.

Noise

The equivalent continuous A-weighted sound pressure level at a distance of 1 metre from the front of the unit is less than 58 dB(A).

12 TROUBLE SHOOTING

12.1 Alarms (Single Pump Systems)

In case of simultaneous alarms, quit the automatic mode and go to manual mode by pressing AUTOMATIC ON/OFF (led light PUMP will turn off). Using keys ▲▼ will be displayed the succesive alarms. Once visualised, to quit the menu, press **ENTER** returning to **MANUAL** mode.

A1 DRY RUNNING

- ✹ Failure verification
- ● Final failure

If the system detects dry running during more than 10 seconds, it will stop the pump and the ART (Automatic ResetTest) will be activated.

After 5 minutes, the ART system will start the pump again for 30 seconds, in an attempt to restore the system.

In case of persistent lack of water, it will try it again every 30 minutes for 24 hours.

If after all these cycles , the system still detects lack of water, pumps will remain permanently out of order until the fault is resolved.

Dry running, it has been activated the safety system: you should verify the feeding of the hydraulic network. The pumps can be primed using the push-button START/STOP (the led light AUTOMATIC should be off, if it is not, press the push-button to disable it).

Special case: If the pump cannot provide the programmed pressure (configuration mistake) the Speedmatic reacts as it was dry-running.

A2 OVER-INTENSITY

✹ Failure verification

● Final failure

The system pumps are protected against over currents by mean of the intensity values established in the installation menu. These over currents are produced generally by dysfunctions in the pump or in the electric supply.

When detecting the thermal failure, the pump will be automatically stopped. The system will try again to restart the pump when the demand of consumption require it. The control system will carry out 4 attempts in this circumstances. If the system remain locked after the 4th attempt, the pump will remain definitively out of order.

Verify the state of the pump, for example the impeller could be blocked. Verify intensity values introduced in the configuration menu. Once the problem have been solved the operation will be restored going to the "SET UP" menu (see the chapter configuration) and configuring the adequated intensity values.

A3 DISCONNECTED P.

● Final failure

The iMATIC has an electronic safety system against short circuits as well as a 20 A fuse.

The device is disconnected.

The wound of the motor and the pump consumption should be verified. Once the problem has been solved the operation will be restored going to the "SET UP" menu (see the chapter configuration) and introducing the adequate intensity values. Verify the 20 A fuses (see Fig.3).

A5 TRANSDUCER

● Final failure

The transducer damages are showed in the iMATIC LCD screen.

The device operation is interrupted.

Contact FWS technical services.

A6 EXCESSIVE TEMP

- Final failure

The system has a cooling device to keep the **INVERTER** in optimum working condition.

If an excessive temperature is reached the own system leaves the inverter out of service and as consequence the pump too.

Verify the temperature of the water, it should be under 40 ºC and the temperature environment should be under 50 ºC.

Contact Stuart Turner technical services.

A7 SHORTCIRCUIT

- Final failure

The iMatic has an electronic system for protection against short circuits as well as a fuse of 20 A.

The pump remains stopped for 10". Then it starts again - 4 attempts. If the problem is not solved, the pump will remain definitively out of order.

Check the pump, if the problem persists, contact Stuart Turner technical services.

A8 OVERVOLTAGE

- Failure verification

The iMATIC has an electronic safety system against overvoltages.

IIn case of overvoltage the system remains stopped until an adequate value of voltage is reached. In this case, the system is automatically restored.

Check the electric supply.

A9 UNDERVOLTAGE

- Failure verification

The SPEEDMATIC has an electronic safety system against too low supply voltages.

In case of undervoltage the system remains stopped until an adequate value of voltage is reached. In this case, the system is automatically restored.

Check the electric supply.

BLANK SCREEN

Blank screen

Check the electric supply 230 V. In case of being in right conditions, the general fuse (20 A), located in the main plate (fig 3) should be verified.

12.2 Alarms - Twin Pump Systems

The alarms are similar to those of single pump systems with the specific particularities of operation with two controllers. Depending on the system's reaction there are 4 types of alarm:

1. Communication Failure

   No alarm is activated. Both devices continue operating independently.

2. Lack of Water

   If there is a lack of water alarm in a single pump system, the other one assumes the role of "main device", if there is an over-demand during next working cycles, the system will try to restore the device in failure. If the device is restored in these conditions then it will be also restored the alternated working mode. If there is lack of water on both devices, the system will activate the ART system in the MASTER unit.

3. Minimal Tank Level

   The alarm "LACK OF WATER" is activated and the device remains in failure. It will be automatically restored when the level sensor detects water again.

4. Other Alarms

   If the alarm has occurred in a single controller, the other will act as "main device". The system will try to restore the disabled device only in case of over demand, after 4 successive attempts without success the device is turned off, it should be restored manually. In case of alarms in both devices the system performs 4 restore attempts, if it does not succeed the system is disabled.

   To manually restore a device disabled by an alarm push AUTOMATIC ON / OFF in MASTER device and then ENTER in the device with the alarm.

12.3 Register of Operational Data and Alarms

By using simultaneously MENU + ▲ during 3" is acceded to register of operation data and alarms, by mean of **ENTER** we can advance through the sequence, once finished the sequence we come back to the main display.

Sequence:

REGISTER HOURS Counter of total time that the pump has been operating.

REGISTER STARTS Number of cycles of operation, a cycle is a start and a stop.

REGISTER SWITCH Number of connections to the electric supply.

MAX PRESSURE Maximum pressure reached by the installation. It allows the detection of water hammer.

ALARM COUNT SHORTCIRC Number of short circuit alarms.

ALARM COUNT I MAX Number of overcurrent alarms.

ALARM COUNT. TEMP Number of alarms by excessive temperature.

ALARM COUNT DRY RUN Number of dry-running alarms.

All the records are saved even if the device has been disconnected from the electric supply.

13 PRODUCT WARRANTY

Congratulations on purchasing a Stuart Turner product.

We are confident this product will provide many years of trouble free service as all our products are manufactured to the very highest standard.

The Aquaboost iMatic is warranted to be free from defects in materials or workmanship for 1 year from the date of purchase.

Within the warranty period we will repair, free of charge, any defects in the product resulting from faults in material or workmanship, repairing or exchanging the whole unit as we may reasonably decide.

Not covered by this warranty: 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 product.

Reasonable evidence must be supplied that the product has been purchased within the warranty term prior to the date of claim (such as proof of purchase or the product serial number).

This warranty 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.

In the event of a claim please telephone 'TechAssist' with proof of purchase and product serial number.

+44 (0) 800 31 969 80

You should obtain appropriate insurance cover for any loss or damage which is not covered by Stuart Turner Ltd in this provision.

Please record here for your reference:

TYPE NO.	SERIAL NO.	DATE PURCHASED

14 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY

Machinery Directive - 2006/42/EC

BS EN 12100, BS EN 809

Low Voltage Directive - 2014/35/EU

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

EMC Directive - 2014/30/EU

BS EN 55014-1, BS EN 55014-2, 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

EMF Directive - 1999/519/EC

BS EN 62233

RoHs Directive - 2011/65/EU
WEEE Directive - 2012/19/EU

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 ..... Engineering Manager

Stuart Turner are an approved company to BS EN ISO 9001:2015

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