

# Instructions for In-Line Hot or Cold Water Booster Pump

## “SHOWER MASTER” Model SM15-9AB

- **In-Line Bronze Body pump. Easy to install in new or existing pipelines. Supplied with ½” unions and cable.**
- **In AUTO mode, starts automatically on opening tap.**
- **Can develop Max (S.O.H) pressure of 90 kPa approx.**
- **Low capital / operating cost. Motor size P1/P2: 120/40W**
- **Three position switch OFF / AUTO / MANUAL**  
(Manual position temporarily blocked to avoid continuous running).
- **One pump suitable to boost pressure for ONE TAP / OUTLET ONLY AND NOT FOR ENTIRE HOUSE.**
- **Suitable for clean water only without any solids.**
- **Max working temp 65 deg C for Open domestic hot water circuit & closed heating circuit.**
- **Max working pressure 6 bar, Max suction pressure 4bar**
- **IP42 motor. Must be installed in weatherproof place.**



Above picture/ photo is indicative only. Actual pump may vary from above. Wallace pump reserves rights of changing / modifying any / all aspects of pump without any prior notice

### 1) Pump type:

This is a small in-line domestic hot or cold water booster pump designed to boost the water pressure in the pipeline in which the pump is installed. One pump is **suitable to operate only one outlet and not multiple outlets**. This pump **must be used only on CLEAN WATER SERVICE ONLY** without any solids or impurities like sand, grit, lime scale, iron etc.

**This is not a main domestic house pressure pump** which can supply pressurised water to multiple taps or the entire house. For such main domestic pressure pump please contact Wallace Pumps.

Each pump is supplied with a **Built-In automatic flow switch, 2 X ½” Brass Unions with gaskets and Power cord with 3 Pin plug** connected to pump.

A three position selector switch is available on the pump. The pump operation on each of the three positions on the selector switch is as below.

**Switch Position I** : Pump will be “OFF” continuously.

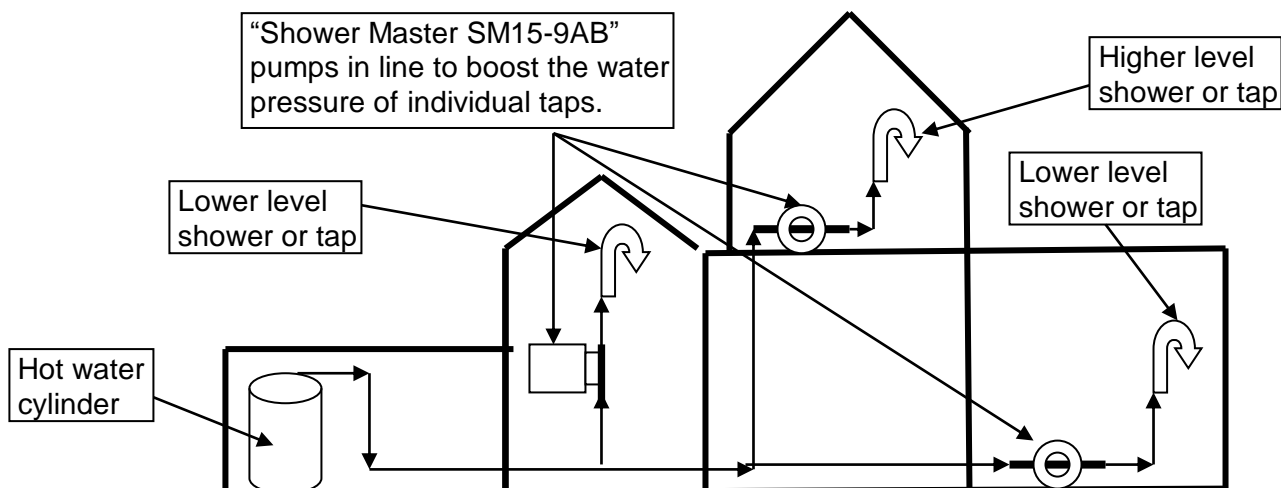
**Switch Position II** : Pump will “START & STOP” automatically when tap is opened & closed.

**Switch Position III** : Pump will be manually “ON” continuously. **(This position is temporarily blocked to avoid accidental damage to pump due to continuous operation on dead head)**

### 2) Typical application areas:

To boost hot water pressure to a shower or taps when low pressure cylinder is installed.

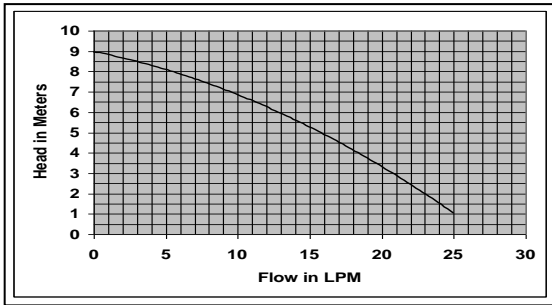
To boost cold water pressure to a shower or taps when header tank water supply is installed.



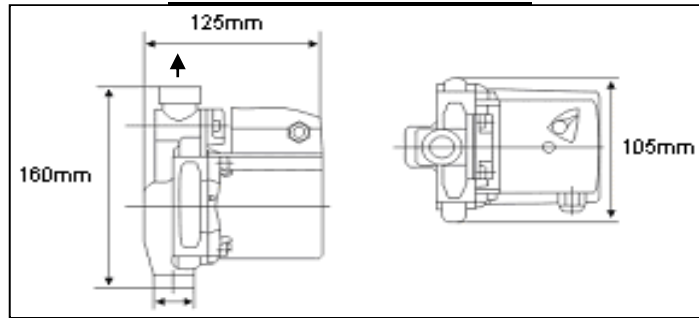
Note: Above is a typical schematic drawing showing each individual shower or tap pressure boosting by a separate Booster Pump. For Multiple pumps operation at same time, suction side pipe from cylinder to pumps Must be of large dia size to supply design flow with pressure drop less than 1 m.

### 3) Hydraulic Performance:

#### Performance Chart:



#### Dimensional Details:



#### Hydraulic Performance & Technical details:

Pump Model	Motor Watts P1 / P2 Volts/Ph/Amps	Inlet & Outlet	Approx total head in metres (At test conditions)					Approx Size L X W X D mm	Approx Weight Kg
			2 m	4 m	6 m	8 m	9 m		
			Approx flow in Litres per hour (At test conditions)						
<b>SHOWER MASTER SM15-9AB</b>	120 W / 40 W 230V/1Ph/0.5A	1/2" BSP	1380 lph	1080 lph	750 lph	300 lph	0 no flow	160X125X 105 mm	3 Kg

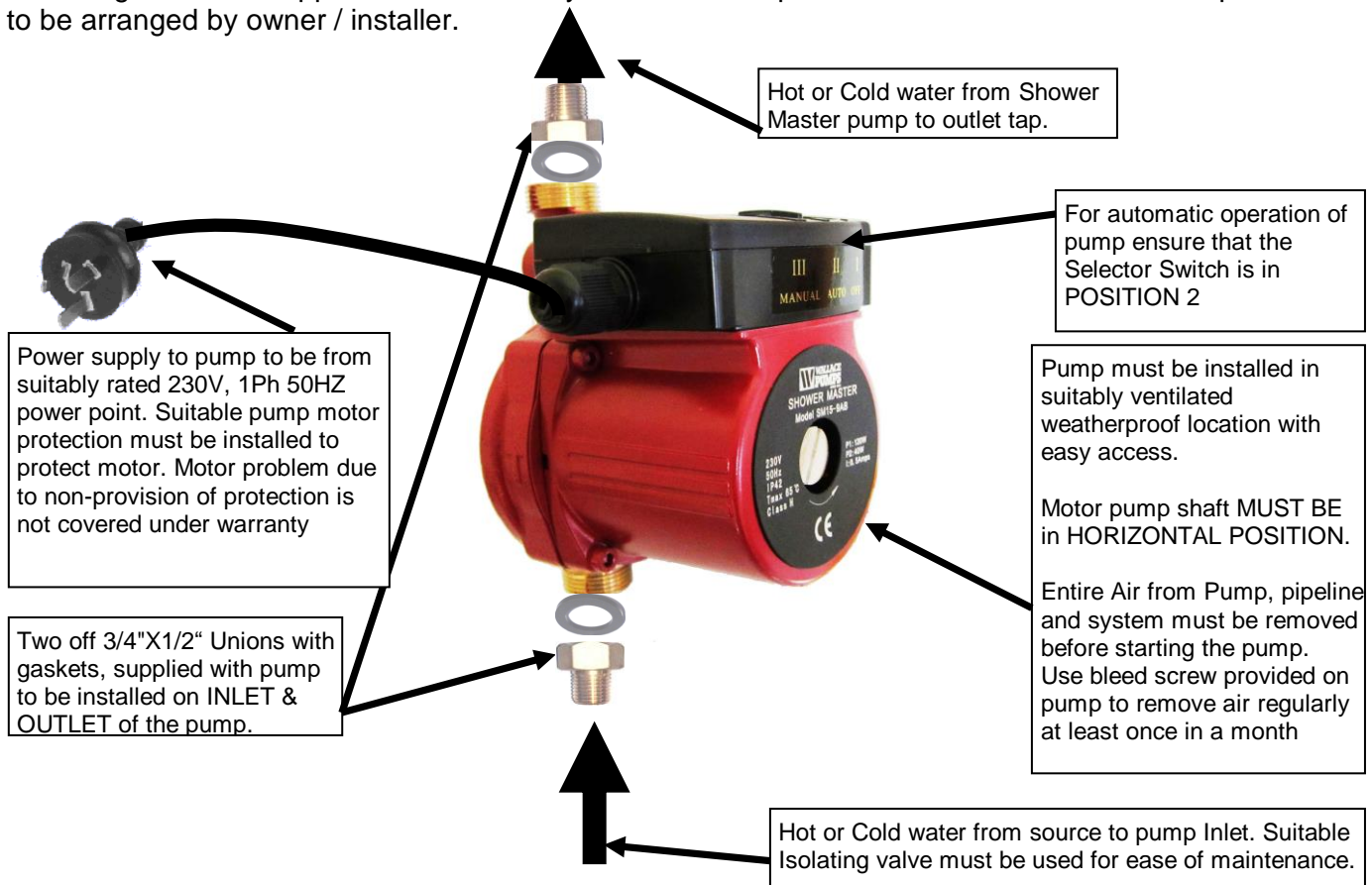
#### 4) Technical Data & operating parameters:

- 1) Pump is suitable to handle **CLEAN WATER ONLY** without any solids or impurities like sand, grit, lime scale, iron etc with neutral pH value.
- 2) Maximum working pressure 6 bar / 600 kPa and maximum suction pressure 4 bar / 400 kPa
- 3) Maximum water temp **65 Deg C** in **Open domestic hot water circuit and / or closed heating circuit with minimum 40 to 50 kPa gauge pressure up to maximum 400 kPa gauge pressure at pump suction.**
- 4) The pump **must be installed in dry moisture free, suitably ventilated for motor cooling, weatherproof location** with easy access for operation, maintenance & repairs.
- 5) Pump assembly, installation, operation & maintenance must be as per instructions below.

#### 5) Assembly:

A very simple assembly of items supplied is required to be carried out at site.

Following items are supplied in the box. Any other items required for correct installation and operation to be arranged by owner / installer.

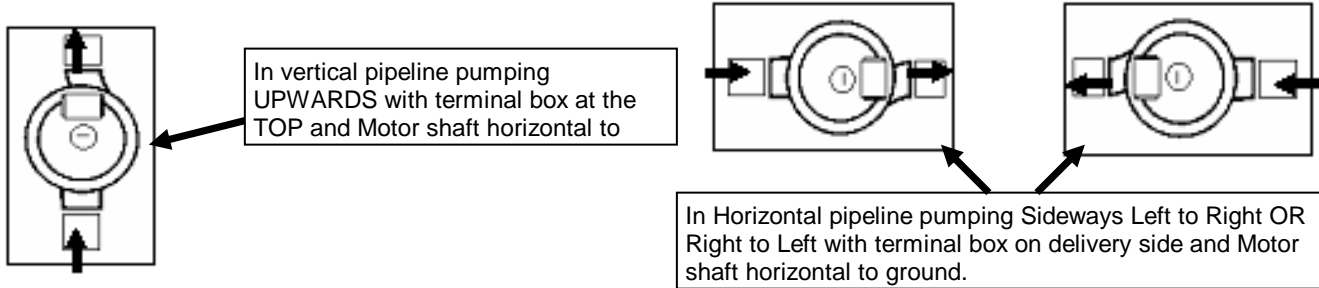


- 1) Install 2 X ½” Brass Unions using gasket provided, to the Inlet & Outlet side of the pump.
- 2) Suitable Isolating Valve to be installed in both Inlet and outlet sides, for ease of maintenance. Installing a strainer on Inlet side will help in avoiding solids entering pump and subsequent damage to pump. However the pressure drop via such strainer must not be more than 10 kPa for max flow of 40 to 50 lpm. Such strainer if installed must be kept clean without any blockage due to debris all the time by cleaning it regularly every month.
- 3) Installation of Non Return Valve on Inlet side of pump after isolating valve is recommended but not necessary for operation of pump. If such NRV is installed it MUST have opening pressure not greater than 10 to 15cm. Such NRV if installed must be kept clean without any blockage due to debris all the time by cleaning it regularly.
- 4) Power supply to pump motor to be from a dedicated suitably rated 230V, 1Ph, 50HZ power point. **Do not give power supply to pump from same power point which is supplying power to hot water cylinder.** Suitable pump motor protection must be installed to protect motor. Pump problems due to non-provision of protection is not covered under warranty.

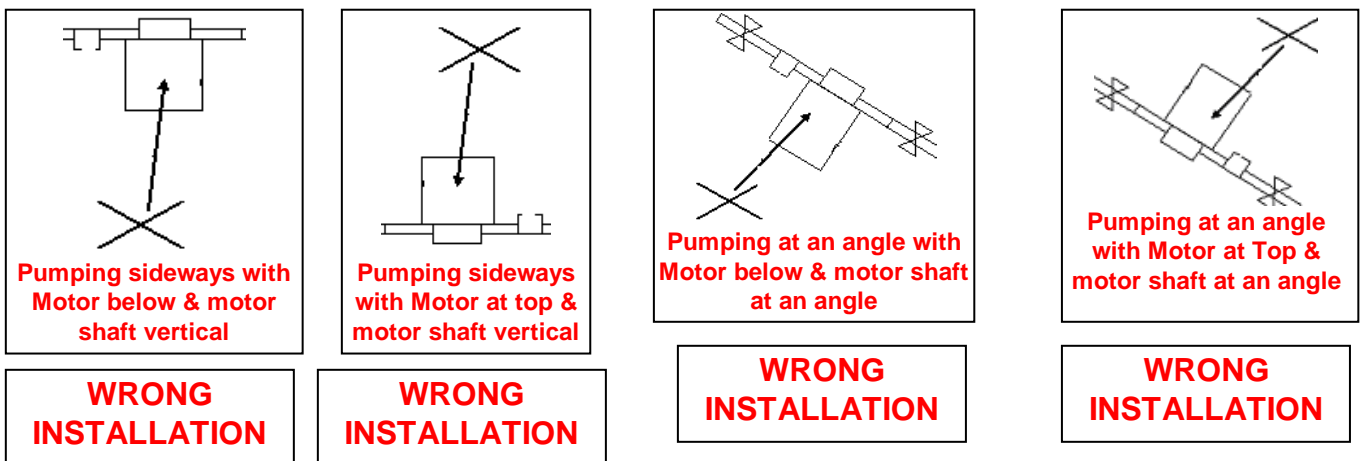
## **6) Installation:**

- A) All Plumbing / Electrical / Mechanical or any other work during the installation of pump must be carried out by person/s qualified to do so & must be as per NZ laws / building code /local rules & regulations which is applicable.
- B) It is owner's / installer's responsibility to obtain any permissions / permits required as per building code and / or local authority's rules & regulations, for installation & operation of the booster pump unit.
- C) The pump must be installed in dry moisture free, weatherproof location with easy access for operation, maintenance & repairs. The location must have proper ventilation required for motor cooling.
- D) Suitable Isolating Valve to be installed in both Inlet and outlet sides, for ease of maintenance. Installing a strainer on Inlet side will help in avoiding solids entering pump and subsequent damage to pump. However the pressure drop via such strainer must not be more than 10 kPa for max flow of 40 to 50 lpm. Such strainer if installed must be kept clean without any blockage due to debris all the time by cleaning it regularly every month.
- E) Installation of Non Return Valve on Inlet side of pump after isolating valve is recommended but not necessary for operation of pump. If such NRV is installed it MUST have opening pressure not greater than 10 to 15cm. Such NRV if installed must be kept clean without any blockage due to debris all the time by cleaning it regularly.
- F) All piping material & installation must be as per relevant standards. Use only copper or synthetic pipes of suitable size & ratings to ensure flow rate possible via pipes is always more than the max flow rate by the pump. Since Pump body is in Bronze, do not use Iron pipe or dissimilar material pipe which may cause corrosion / damage to pump, which is not covered under warranty.
- G) Ensure that the pump never runs dry (without water). Any damage to pump due to “dry running without water” is not covered under warranty.
- H) The piping installation and layout should not add any extra strain on the pump body and should be properly supported.
- I) The pump body also to be suitable secured and supported to avoid any strain on the pipes.
- J) Pump being a rotating machine is bound to make some noise and/or vibrations when operating. Suitable care must be taken that this operating noise / vibrations are not transmitted via pipes, wall, ceiling to other part of the house. Suitable noise insulation / vibration dampeners to be used if necessary.
- K) Please refer to following pages for orientation of piping and pump positions for correct installation of pump.
- L) Once the installation is complete please ensure following.
  - 1) The suction pipe up to pump & the pump body itself is full of water and there is no entrapped air in the line or any restrictions for the water to flow in the pump suction.
  - 2) The water pressure in the pipe connected at pump suction side is not less than 40 to 50 kPa gauge OR not more than 400 kPa gauge.
  - 3) The temperature of water coming in the pump is not more than 65 Deg C.
  - 4) Water coming in the pump suction is clean without any solids or impurities.

**A) Correct Installation positions are shown below with Water Pumping Direction Vertically Upwards OR Pumping direction Sideways. In all cases the MOTOR SHAFT MUST BE IN HORIZONTAL POSITION.**

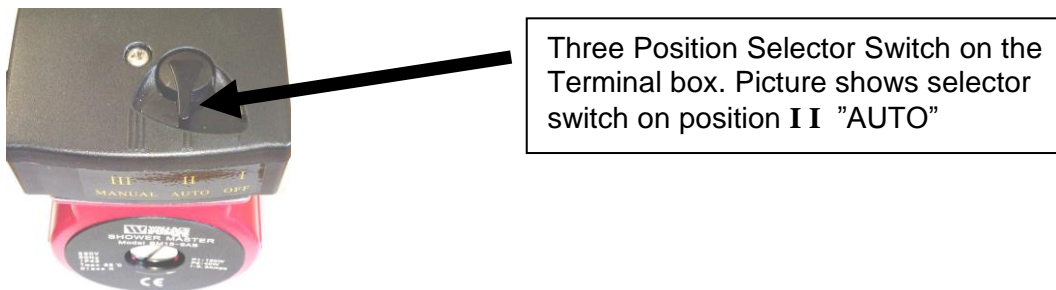


**B) Do not install the pump with motor shaft in vertical downward or upwards or with an angle position as shown below. Pump failure due to such installation is not covered under warranty.**



**7) Operation:**

Once the correct installation is complete follow the instructions below for correct operation of the pump. Refer the Three Position Selector Switch provided on the Terminal Box as shown below.



The pump operation on each of the three positions on the selector switch is as below.

**Switch Position I : Pump will be "OFF" continuously.**

**Switch Position II : Pump will "START & STOP" automatically when tap is opened & closed.**

**Switch Position III : Pump will be manually "ON" continuously. (This position is temporarily blocked to avoid accidental damage to pump due to continuous operation on dead head)**

Select the correct position of the Selector Switch.

Connect the power supply to pump and switch power on to the pump.

***Please ensure that Application, Assembly, Installation and Operation is as per instructions stated above. Wallace pump is not liable & responsible for any damaged occurred to pump or person/s or property due to non compliance of instructions stated in this manual and/or as per relevant standards, regulations. Any such damage is also not covered under warranty.***

## 8) Maintenance:

Suitable maintenance schedule must be followed regularly to ensure trouble free operation of the pump. Some of the important checks are given below which must be carried out at least once in fortnight or as often as possible and suitable history records to be maintained.

- 1) Check for any water leakage from the pump casing, pipes, fittings etc. Any leakage found should be immediately attended by taking suitable corrective action. Any damage to motor or pump due to such water leakage is not covered under warranty.
- 2) Check regularly for cleanliness of water and check and maintain the water pressure, temperature, pH within the parameters mentioned above in point **"4) Technical Data & operating parameters"**
- 3) Pump must be operated once a day at least for 30 to 50 seconds to keep the pipes full of water and to flush the system avoiding any impurities build up.

## 9) Trouble Shooting & Fault Finding:

**NOTE:** If within warranty period, call Wallace Pumps Service Agent to assess. Warrantee will be applicable only if confirmed by Wallace Pump's authorised service agent.

**ALWAYS ensure isolation and disconnection of the power supply to the unit before and whilst carrying out any servicing work on the unit.**

<b>Sr No</b>	<b><u>OCCURRENCE</u></b>	<b><u>POSSIBLE CAUSE</u></b>	<b><u>REMEDY</u></b>
1.	Pump does not start.	a) No main power supply. b) Selector Switch in "I" OFF position. c) Flow Switch is blocked or damaged. d) Pump Motor damaged	a) Check main power supply. b) Check the selector switch and change to desired position. Position "I I" for Automatic operation. c) Check the Flow Switch. d) Check the pump motor for damage or for smell of winding burnt out.
2.	Pump starts but delivers less flow or pressure.	a) Blockage in Pump or Flow Switch or Pipes or Valve or Strainer or Fitting. b) Insufficient water flow or pressure or air in suction pipe.	a) Check for blockage in all possible areas. b) Check inlet piping up to the pump for cause
3.	Pump Noisy	a) Debris/Air in pump or pump working at almost no flow b) Bearing damaged c) Rotor touching the stator	a) Check the possible areas & clean pump, pipe from any debris, remove air. b) Check bearings & repair / replace. c) Check and take remedial actions
4.	Pump cycling	a) No NRV on Inlet of pump	a) Install correct NRV. Ref details in clause 6)E) in instructions under <b><i>"Installation:"</i></b>

## 9) Warranty & Limitations:

The purchaser and / or installer must ensure full compliance with all applicable regulations.

Wallace Pumps does not warrant for any damage to the unit or any other property caused by poor quality installation, workmanship or installations in contradiction with the instructions, or by failure of materials or fittings not supplied by the Company. The Company does not accept any liability resulting from flooding or from safety breaches the user must take the necessary steps to guard against such occurrences.

Subject to the above and where the unit has been installed, operated and maintained in accordance with local plumbing and electrical regulations and this instruction manual, Wallace Pumps warrants the unit for a period of 1 year from the date of purchase, against defects in materials and workmanship on the basis of return to our distributor's or service agent's premises, freight paid. Contact Wallace Pumps for a list of names and addresses.

If you require further assistance, call a sales engineer at any of our offices or distributing representative.

**We thank you for your custom.**

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