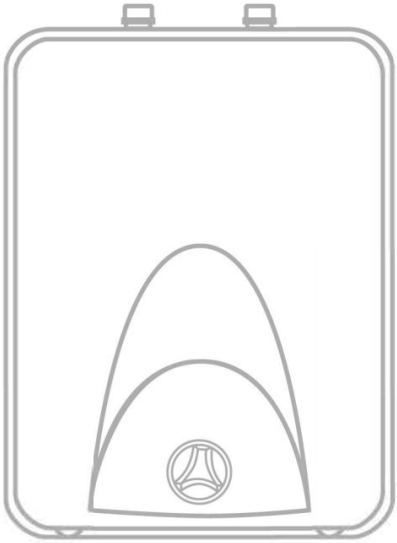
hyco

Product Instruction Manual

Speedflow



SF05K
SF10K, SF10K12
SF15K, SF15K12
Unvented Water Heater

v23.11.1

Overview

Thank you for purchasing a Speedflow Unvented Water Heater. The range is available in sizes 5, 10 and 15 litres to supply hot water to up to 3 basins.

Selection Guide (approximate depending on usage)

SF05K (5 litre) - 1 basin
SF10K (10 litre) - 1 - 2 basins
SF15K (15 litre) - 2 - 3 basins

Please read and follow these instructions to ensure that installation and operation are as simple and safe as possible.

Box Contents

Speedflow water heater
Pressure relief valve
Wall mounting bracket set

Important Safety Points

This appliance can be used by children aged from 3 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 aged from 3 to 8 years are only allowed to operate the tap connected to the appliance.

Children shall not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.

Hot water may present a scalding hazard, especially to children or the infirm. A thermostatic blending valve is recommended in high risk situations.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

- The appliance should only be installed and maintained by a competent person in accordance with any local electrical and plumbing regulations.
- The supplied pressure relief valve must be fitted.
- Only connect the appliance to an electrical supply that meets the specification detailed on the rating label.
- This appliance must be earthed.
- The appliance must be permanently connected to the electrical supply through an appropriately rated isolating switch with a contact separation in all poles.
- Water may drip from the discharge pipe of the pressure-relief device and this pipe must be left open to the atmosphere.
- The pressure relief valve should be operated regularly to remove limescale deposits and to verify that it is not blocked.
- Only connect this appliance to a water supply that meets the min / max pressures specified in the specifications section of this manual.
- This appliance is not designed for outdoor use or use in damp environments.
- The drinking water standard for chloride is a maximum of 250 mg/L. The unit should not be installed where chloride levels are above this maximum as it will corrode the tank.

1. How the Heater Works

This appliance is an unvented water heater, it is intended to be connected directly to the mains water supply and depending on size will feed up to 3 outlets using standard taps. The range is available in 5, 10 and 15L, it is important to ensure the capacity meets the outlet usage requirements.

The water tank is glass lined steel (stainless steel models are available) and is protected against corrosion by a magnesium anode which must be inspected and replaced at least annually, depending on water conditions (see section 7 Cleaning and Maintenance).

Stored water temperature is controlled by an electro-mechanical thermostat and adjusted using the dial on the front of the appliance. Chosen temperature is adjustable between approximately 25 – 75°C with an economy setting of approximately 50°C. In the event that the appliance overheats a double pole, manual resettable thermal cutout will trip, switching the heating element off. This can be reset by the user; access is at the base of the appliance (see section 8 Thermal Cutout Reset).

The supplied pressure relief valve must be fitted on the incoming cold feed. This safety valve will discharge excess pressure to a safe waste if both the thermostat and thermal cutout fail. Discharge from the relief valve is also an indication that the incoming water pressure exceeds that stated and other accessories (pressure and expansion kits) are required.

As water heats it expands, expansion must be accommodated somewhere. Depending on installation circumstances the length of pipework to the nearest cold water draw off may be sufficient for this expansion. If this is not possible, or incoming water pressure is above that stated, other accessories (pressure and expansion kits) may be required (see section 3 Plumbing Connections).

2. Installation

Wall Mounting

Do not install the appliance if it has been subject to any significant physical impact, or if it could have been pressurised beyond its normal working pressure or if it has been subject to freezing. These factors can damage the glass tank lining and therefore dramatically shorten the life of the appliance, even if there is no obvious problem on first installation.

Do not locate the appliance where the consequences of a water leak could be unusually serious.

- The appliance **must** be installed in the upright position (inlet/ outlet pipes at the top). It will malfunction in any other orientation.
- The appliance should be installed as close as is practical to any hot outlet(s), this will reduce losses through unnecessary pipework and improve the response time for hot water at the outlet(s).
- If required it can be mounted above or to the side of the outlet provided it remains vertical.
- The appliance can either be placed directly on the floor or fixed to a wall using the mounting bracket supplied.

3. Plumbing Connection

The supplied pressure relief valve must be fitted.

Hot water may present a scalding hazard, especially to children or the infirm. A thermostatic blending valve is recommended in high risk situations.

Only connect this appliance to a water supply that meets the min / max pressures specified in the specification section of this manual.

Water may drip from the discharge pipe of the pressure relief device and this pipe must be left open to the atmosphere.

Always fit the appliance the correct way up (pipes should be at the top).

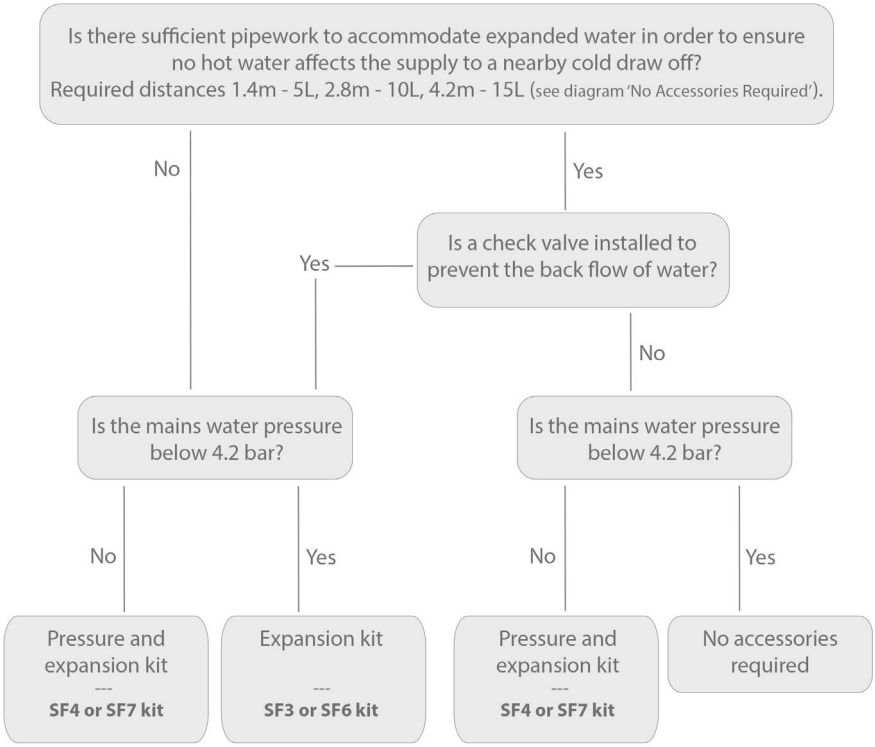
This appliance is intended to be permanently connected to the water mains and should not be connected by a detachable hose-set.

The drinking water standard for chloride is a maximum of 250 mg/L. The unit should not be installed where chloride levels are above this maximum as it will corrode the tank.

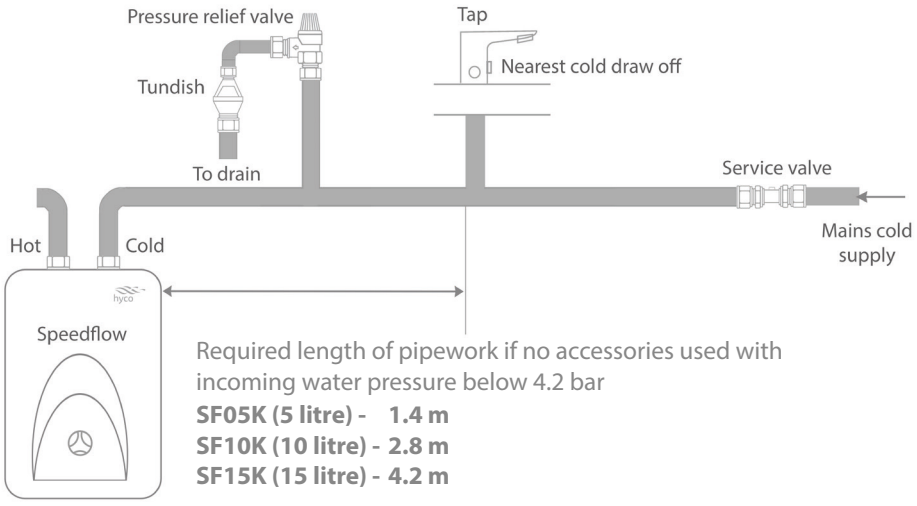
- A service valve (not supplied) should be fitted to facilitate future maintenance.
- The supplied 6 bar pressure relief valve must be fitted. There must be no obstructions in the pipework between the appliance and the relief valve.
- The relief valve must discharge safely to drain via an air gap using a device such as a tundish (not supplied).
- Verify the drain has sufficient capacity to accommodate the discharged water.
- The hot and cold connections at the top of the appliance are 1/2" BSP. Connections are colour coded (blue - cold, red - hot). They are not interchangeable.
- To ensure a watertight seal use fibre washers to connect the inlet and outlet pipes to the appliance. Complete the seal by applying PTFE tape to the threads (do not over-apply or extend beyond the threads as this will lessen the effectiveness of the joint). Do not use plumbers paste to secure joints (this can impair the operation of any valves connected to the appliance).
- Depending on the installation circumstances, other accessories may be required. Use the Unvented Accessory Selection flow chart to identify what, if any, accessories are needed. If required, these must be ordered separately and are installed as shown in the corresponding diagrams.
- Open the hot water tap and allow water to run through for at least 5 seconds to clear airlocks (see section 5 Commissioning).
- Water pressure can increase considerably at night when demand is low, so a pressure reducing valve may be required even if there is no obvious problem at installation.

Unvented Accessory Selection

Note - If in doubt always install a Pressure and Expansion kit



No Accessories Required



Required length of pipework if no accessories used with incoming water pressure below 4.2 bar

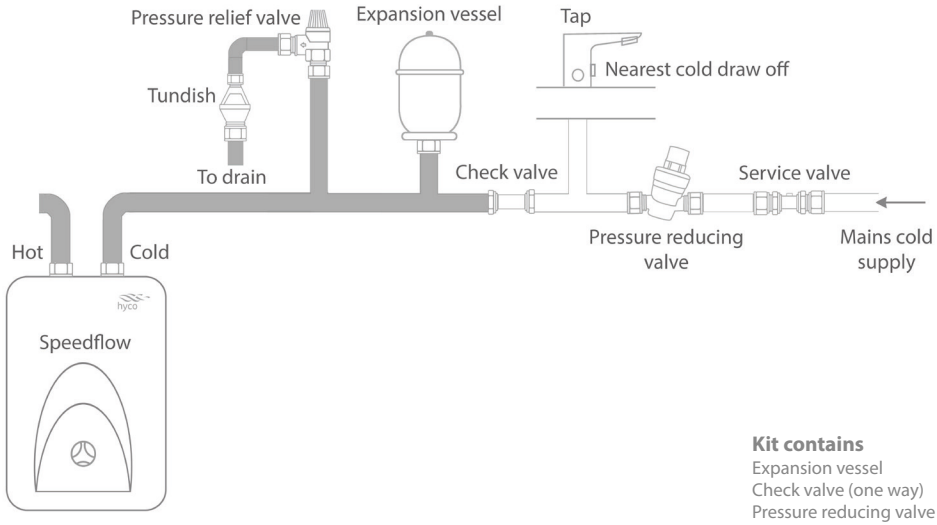
SF05K (5 litre) - 1.4 m
SF10K (10 litre) - 2.8 m
SF15K (15 litre) - 4.2 m

Pressure and Expansion Kit

Pressure is above 4.2 bar and hot water expansion cannot be accommodated in the pipework

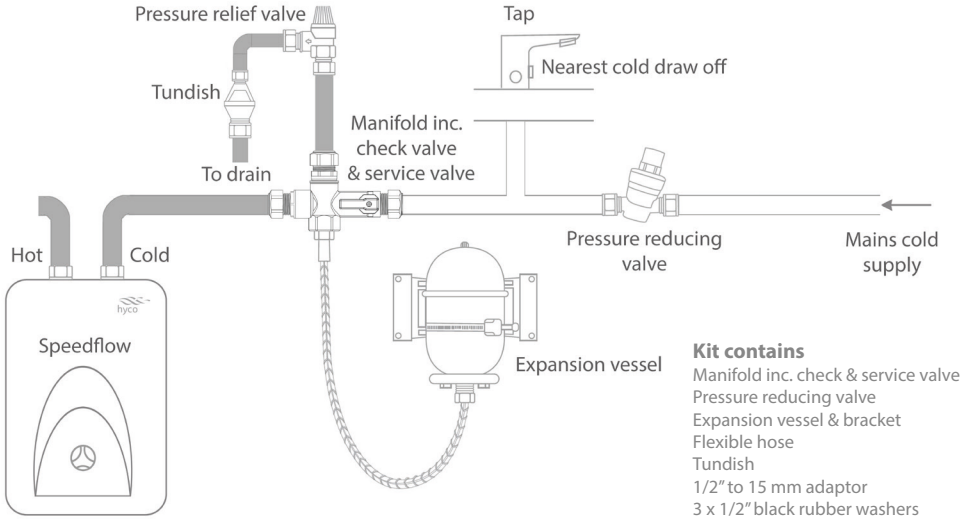
Grey area represents expansion zone. It is imperative that no fittings, other than those specified, are fitted in the expansion zone.

Low cost install - pressure and expansion - SF4 kit



Kit contains
Expansion vessel
Check valve (one way)
Pressure reducing valve

Fast install - pressure and expansion - SF7 kit



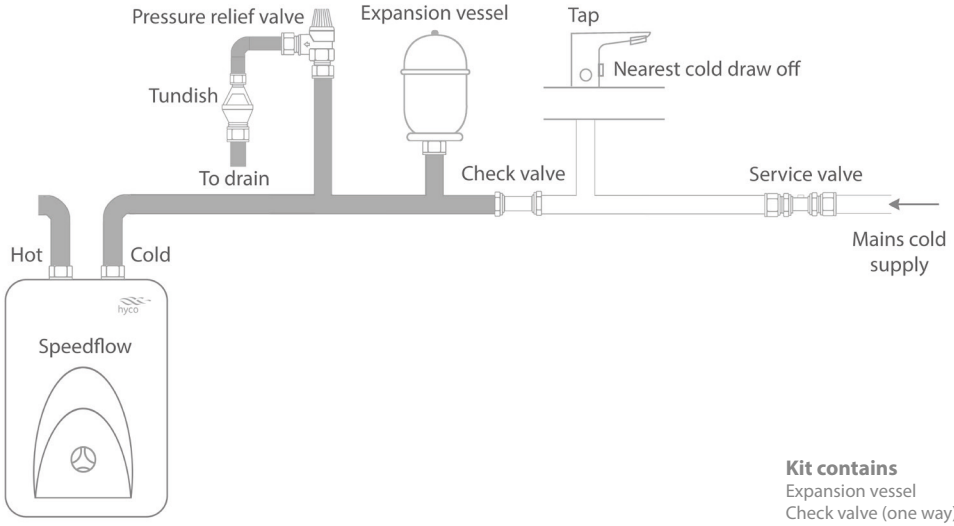
Kit contains
Manifold inc. check & service valve
Pressure reducing valve
Expansion vessel & bracket
Flexible hose
Tundish
1/2" to 15 mm adaptor
3 x 1/2" black rubber washers

Expansion Kit

Pressure is below 4.2 bar and hot water expansion cannot be accommodated in the pipework

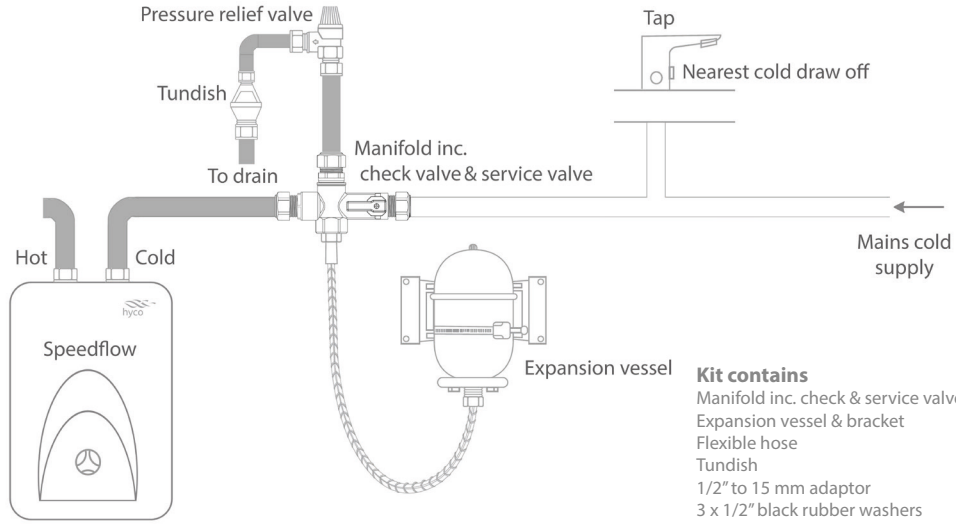
Grey area represents expansion zone. It is imperative that no fittings, other than those specified, are fitted in the expansion zone.

Low cost install - expansion - SF3 kit



Kit contains
Expansion vessel
Check valve (one way)

Fast install - expansion - SF6 kit



Kit contains
Manifold inc. check & service valve
Expansion vessel & bracket
Flexible hose
Tundish
1/2" to 15 mm adaptor
3 x 1/2" black rubber washers

4. Electrical Connection

Do not switch on electrical power unless the appliance is full of water.

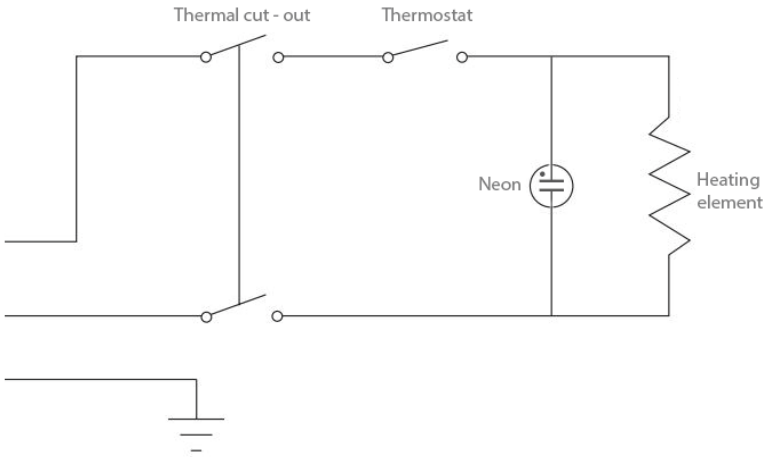
Only connect the appliance to an electrical supply that meets the specification detailed on the rating label.

This appliance must be earthed.

The appliance must be permanently connected to the electrical supply through an appropriately rated isolating switch with a contact separation in all poles.

- Connection should be made to a fused switched 13 A spur.
- If the cable length is insufficient, it is recommended that the entire cable is replaced and no joins are made to the original.

Wiring Diagram



5. Commissioning

- Upon completion of installation, turn on the water supply to the appliance and allow it to fill. Open the hot water tap to allow air to purge from the system.

- Once the water runs smoothly from the hot water tap and the air is purged from the system, close the tap and inspect all fittings for leaks. Inspect the tundish to ensure no signs of discharge from the pressure relief valve (see section 12 Trouble Shooting).

- Turn on power and set the thermostat dial to maximum temperature. This is required to ensure the pipework (or accessories if installed) is able to accommodate the full amount of expansion the water heater can produce.

- Allow the heating cycle to finish and inspect all fittings for leaks. Inspect the tundish to ensure no signs of discharge from the pressure relief valve (see section 12 Trouble Shooting).

- Upon completion of commissioning, set the appliance to the desired temperature setting.

6. Operation

The appliance should be drained if it will be switched off or unattended for any length of time, particularly during the colder months of the year where a possibility of freezing temperatures exists.

Hot water may present a scalding hazard, especially to children or the infirm. In high risk situations a thermostatic mixing valve is recommended.

- Switch on the mains supply.
- Select the required thermostat setting using the dial on the appliance (Diagram 1), temperature adjustable from approx. 20 °C - 75 °C.
- Recommended economy setting is approx 50°C.
- The external neon lamp indicates when the element is heating, the light will go off when the desired temperature is reached.
- Using the lowest acceptable temperature setting will help save energy and reduce limescale.

C - approx. 20°C

E - economy approx. 50°C

H - approx. 75°C

Diagram 1

Depending on the installation circumstances, it is recommended a **Thermostatic Mixing Valve (not supplied)** is installed:

- This ensures water supply is maintained at a safe and constant temperature. Water can be stored at high temperatures and blended with cold water to a pre-set outlet temperature, this allows extension of effective capacity.

7. Cleaning and Maintenance


Isolate the appliance from the electrical supply before performing any maintenance.


The pressure relief valve should be operated regularly to remove limescale deposits and to verify that it is not blocked.


Ensure any future maintenance or modifications to the plumbing system also complies with the guidelines in these instructions.


Do not use abrasive materials or chemicals to clean this appliance.

- Use a soft damp cloth when cleaning, avoid excessive use of liquids.
- Check the operation of the pressure relief valve at least annually by twisting the cap and ensuring water flows. Verify the drain has sufficient capacity to accommodate the discharged water.
- The water tank of this appliance is fitted with a cylindrical magnesium sacrificial anode to aid against tank corrosion. The anode condition should be inspected at least annually and replaced if the there are signs of significant corrosion.
- During inspection of the anode the element and tank should also be inspected and any limescale deposit removed from both. If there is any sign of rust marks inside the appliance, isolate the water supply and discontinue use.
- For appliances installed where water conditions are particularly aggressive inspection is required more frequently.
- Visually inspect the appliance and its immediate surroundings regularly (at least annually depending on installation) for signs that the appliance could be nearing the end of its natural life. Such signs can include: orange / rust coloured water coming from nearby taps, especially after a period of non-use, rust streaks anywhere on or near the appliance including the inlet / outlet pipes, especially new ones and any unexplained water on or near the appliance.
- Ignoring early warning signs needlessly risks allowing a minor leak to develop into a major one. If there are warning signs isolate and replace the appliance at the first opportunity.
- Refer to instructions supplied separately for maintenance guidance if any accessories such as a pressure reducing valve and expansion vessel have been installed.
- Keep records of maintenance and ensure any future occupier of the building is fully aware of the requirement for maintenance.

8. Thermal Cutout Reset, Element / Anode Replacement

⚠ Isolate the appliance from the electrical supply before performing any maintenance task.

- A re-settable safety thermal cutout switches off the element in the event of the appliance overheating.
- The thermal cutout may trip occasionally in normal use. In the event this happens the appliance will not heat water and the element light will not come on.
- The thermal cutout is located on the underside of the appliance behind the grey access plate. Depending on the mounting position, you may need to uninstall the appliance for ease of access to the cutout.
- In these cases, isolate then disconnect electrical and plumbing supply. Drain water from the appliance and locate grey access plate.
- Remove the cover retaining screws and gently prise cover off. The thermal cutout will be visible, as shown in Diagram 2.
- To reset the cutout, depress the button in the centre of the device. If the device has tripped reduce the thermostat setting if possible.
- If the device trips repeatedly with a low thermostat setting, contact Hyco Technical Department on 01924 225200.
- To remove the element or anode, unscrew the bolts holding the flange in position. The element and anode can then be removed. Reverse to re-fit.

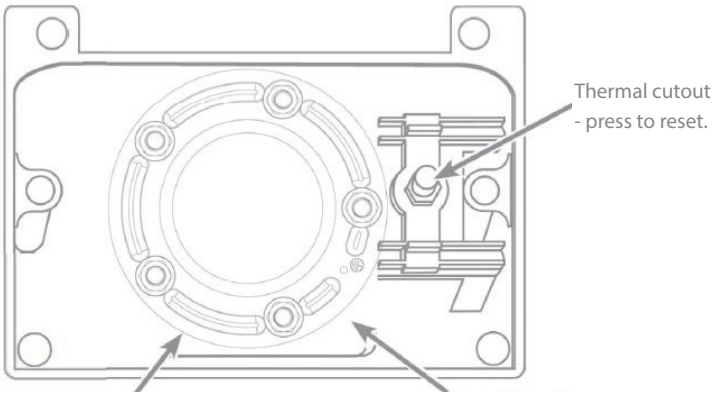
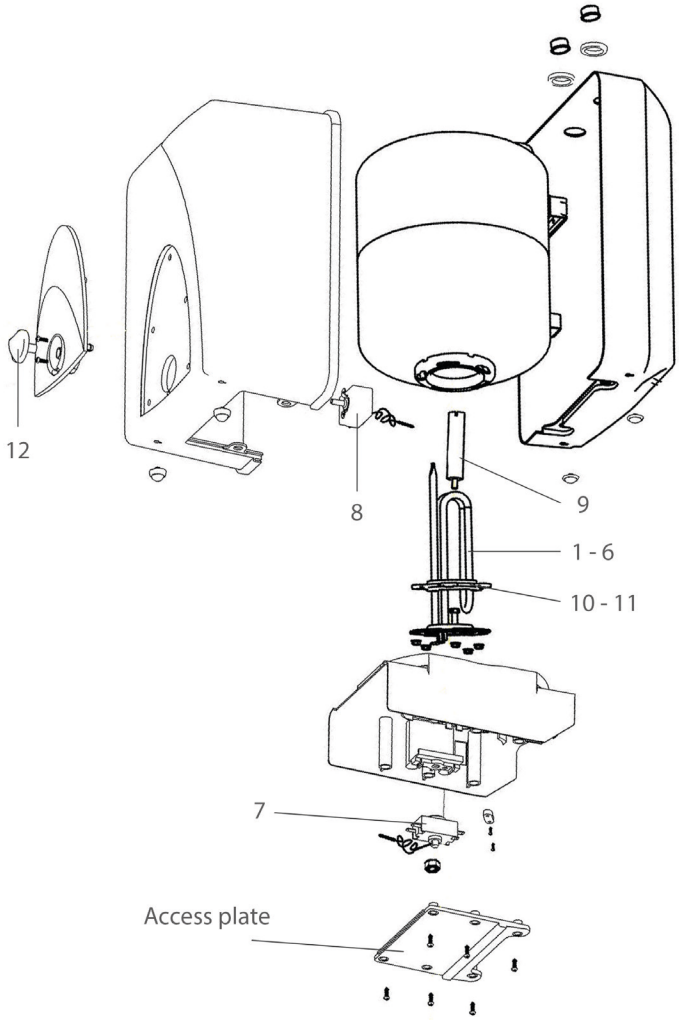


Diagram 2

9. Spare Parts Diagram



10. Spare Parts List

Spare parts 1 - 6 are **different** elements for different Speedflow models. Please check carefully to ensure the correct one is selected.

Diagram Reference	Part Code	Description
1	SF_ELEMENT_LARGE_V1	SF10K, SF15K 2k W element (square) c/w anode old model (*)
2	SF_ELEMENT_LARGE_V2	SF10K, SF15K 2k W element (round) c/w anode current model (*)
3	SF_ELEMENT_SMALL_V1	SF05K 2 kW element (square) c/w anode old model (*)
4	SF_ELEMENT_LARGE_V2	SF05K 2 kW Element (round) c/w anode current model (*)
5	SF_ELEMENT_1.2_V1	SF10K, SF15K 1.2 kW element (square) c/w anode
6	SF_ELEMENT_1.2_V2	SF10K, SF15K 1.2 kW element (round) c/w anode current model (*)
7	SF_TCO_V1	Speedflow thermal cutout for SF05K, SF10K, SF15K
8	SF_STAT_V1	Speedflow thermostat for SF05K, SF10K, SF15K
9	SF_ANODE_V1	Spare anode for Speedflow K model - (a new element is recommended as this c/w anode and is easier to fit)
10	SFSEALK	EPDM square seal for SF10K, SF15K
11	SFSEALKR	EPDM round seal for SF10K, SF15K Current Model (*)
12	SFDIALK	Thermostat control knob for SF05K, SF10K, SF15K
13	SFBRKTK	SF05K, SF10K, SF15K bracket
14	SFSWITCHK	SF10K, SF15K power switch

* Current model is batch 18887 and above from September 2016 for SF10K, SF15K and 19750 and above from December 2016 for the SF05K

11. Specification

Model	SF05K	SF10K/ SF10K12	SF15K/ SF15K12
Power	2 kW	2 kW/ 1.2 kW	2 kW/ 1.2 kW
Capacity	5 litres	10 litres	15 litres
Heat up time*	6 mins	12/ 20 mins	18/ 31 mins
Standing loss	0.51 W	0.63 W	0.71 W
Voltage	230 V ~	230 V ~	230 V ~
Frequency	50 Hz	50 Hz	50 Hz
Min working pressure	0.05 MPa (0.5 bar)	0.05 MPa (0.5 bar)	0.05 MPa (0.5 bar)
Max working pressure	0.42 MPa (4.2 bar)	0.42 MPa (4.2 bar)	0.42 MPa (4.2 bar)
Water connection inlet/ outlet	2 x 1/2″ BSP male	2 x 1/2″ BSP male	2 x 1/2″ BSP male
Rated tank pressure	0.8 MPa (8 bar)	0.8 MPa (8 bar)	0.8 MPa (8 bar)
Tank material	Glass lined steel	Glass lined steel	Glass lined steel
Pressure relief valve	0.6 MPa (6 bar)	0.6 MPa (6 bar)	0.6 MPa (6 bar)
Thermal cutout temperature	85 °C	85 °C	85 °C
Dimensions (h x w x d)	320 x 280 x 245 mm	410 x 310 x 280 mm	530 x 310 x 280 mm
Weight empty	5.5 kg	6.8 kg	8.3 kg
Weight full	10.5 kg	16.8 kg	23.3 kg
Approvals	CE, UKCA, WRAS	CE, UKCA, WRAS	CE, UKCA, WRAS

* Minimum theoretical heat up time for 70% tank capacity from 10 °C to 60 °C

12. Troubleshooting

Problem	Possible Cause	Solution
Water constantly flows from pressure relief valve	Water pressure too high (above 4.2 bar)	Install pressure and expansion kit (SF4/ SF7)
Water flows from pressure relief valve during heating cycle	Pressure build up caused by water expansion	Install expansion kit (SF3/ SF6)
Water not heating	Thermal cutout has tripped	Reset thermal cutout (see section 8)
Water not heating	Element has failed	Replace element (see section 8)
Water not heating	Thermostat has failed	Replace thermostat
Small volume of hot water produced	Appliance installed upside down	Reinstall correct way up
Small volume of hot water produced	Thermostat set too low	Increase thermostat setting
Small volume of hot water produced	Thermostat fault	Replace thermostat
Water appears to leak from appliance	Poor connections to pipework	Check plumbing connections, especially those to inlet/ outlet
Water appears to leak from appliance	Leaking tank/ element	Contact Hyco on 01924 225 200

If problems persist contact Hyco Technical Department on 01924 225200.

13. Guarantee and Service Policy

This product is covered by a standard parts or replacement warranty for a period of 1 year from the date of purchase.

If there is a manufacturing defect within the warranty period we will send spare parts, repair and return the unit or, at our discretion, supply a replacement product. Incorrect installation, frost damage, the consequences of limescale deposits or failure to follow correct operating and maintenance instructions are excluded. Consequential costs such as labour charges or damage to fittings and surroundings are expressly excluded.

14. Contact Us

If you experience a problem with this product you should first contact our customer service department on 01924 225 200 before taking any further action. Experience has shown that issues can often be resolved without the need to return or uninstall the product.

INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT IN ACCORDANCE WITH THE EUROPEAN DIRECTIVE 2012/19/EU.

At the end of its working life this equipment must not be disposed of as household waste. It must be taken to a local authority waste collection centre or to a dealer providing this service. Disposing of electrical and electronic equipment separately enables its components to be recovered and recycled to obtain significant savings in energy and resources. In order to underline the duty to dispose of this equipment separately, the product is marked with a crossed out dustbin.

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