

Grant

Internal 50 litre Volumiser

Installation & Operating Instructions



IMPORTANT NOTE FOR INSTALLERS

These instructions are intended to guide installers on the installation and commissioning of the Grant 50 litre internal volumiser intended for use with Grant Aeron air source heat pumps. After installing the unit, leave these instructions with the user.

SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

! WARNING !

Warning of possible human injury as a consequence of not following this instruction.

! CAUTION !

Caution concerning likely damage to equipment or tools as a consequence of not following this instruction.

! NOTE !

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

PRODUCT CODES & SERIAL NUMBERS

The serial numbers used on the product consist of a 15 digit numerical code with the final three digits being the product identifier.

For example:

XXXXXXXXXXXXX918

This serial number can be found on a label attached to the unit.

These instructions cover the following product codes and serial numbers:

Product Code	Product Name	Serial No identifier
HPIDVOL50	50 litre Internal Volumiser (UK) with 3kW immersion heater	918
HPIDVOL50X	50 litre Internal Volumiser (UK)	937



GRANT ENGINEERING (UK) LIMITED

Frankland Road, Blagrove Industrial Estate, Swindon, SN5 8YG

Tel: +44 (0)1380 736920 Fax: +44 (0)1380 736991

Email: info@grantuk.com www.grantuk.com

This manual is accurate at the date of printing but will be superseded and should be disregarded if specifications and/or appearances are changed in the interests of continued product improvement. However, no responsibility of any kind for any injury, death, loss, damage or delay however caused resulting from the use of this manual can be accepted by Grant Engineering (UK) Limited, the author or others involved in its publication.

All goods sold are subject to our official Conditions of Sale, a copy of which may be obtained on application.

© Grant Engineering (UK) Limited. No part of this manual may be reproduced by any means without prior written consent.

! CAUTION !

Electric device under voltage!

Before any action related to the power supply (cables connection, device installation etc.) Check to ensure the controller is not connected to the mains power. Installation should be done by a person with appropriate electrical qualifications. Improper cable connection could result in controller damage. The controller must not be installed in steamy conditions or exposed to water, such as bath or shower room

CUSTOMER SUPPORT CENTRE

Grant UK provides an online support centre for Heating Professionals and Homeowners to access post-installation care, advice and maintenance support for Grant products. Follow the QR codes below to access your relevant Customer Support Centre.



SUPPORT HUB

Homeowner



SUPPORT HUB

Professional

CONTENTS

1	INTRODUCTION	4
1.1	General	4
1.2	Construction	4
1.3	Product contents	4
1.4	Cylinder stand	4
1.5	Health & Safety Information	4
2	TECHNICAL DATA	5
2.1	Technical specification	5
2.2	Dimensions	5
2.3	Optional cylinder stand	5
3	INSTALLATION	6
3.1	General	6
3.2	Regulations and standards	6
3.3	Location	6
3.4	Unpacking	6
3.5	System connections	6
4	ELECTRICAL	7
4.1	General	7
4.2	Immersion heater	7
4.3	Immersion heater wiring	7
4.4	Immersion heater safety cut-out	8
4.5	Smart controller wiring	8
4.6	Aerona ³ wiring	9
5	VOLUMISER INSTALLED ON FLOW	10
5.1	Volumiser installed on flow	10
5.2	Aerona Smart controller	10
5.3	Aerona ³	10
6	VOLUMISER INSTALLED ON RETURN	12
6.1	Volumiser installed on return	12
6.2	Aerona Smart controller	12
6.3	Aerona ³	12
7	DECLARATION OF CONFORMITY	14
8	END OF LIFE	15
8.1	General	15
8.2	Disassembly	15
8.3	Recycling	15
8.4	Disposal	15
8.5	Directive WEEE 2012/19/EU	15
9	GUARANTEE	16
	NOTES	18

1 INTRODUCTION

1.1 GENERAL

The Grant 50 litre Internal Volumiser is an insulated vessel used to increase the volume of the system to meet the minimum volume requirements for the Grant AERONA air source heat pumps.

This is available in two versions – one with a factory-fitted 3kW immersion heater and the other without the immersion heater. On the version without the immersion heater, the immersion heater boss is still fitted and sealed with a brass plug, allowing an immersion to be fitted at a later date if required.

The 3kW electric immersion element provides a supplementary heat source, if required. Refer to Section 4 for full details on the electrical connections for the immersion heater.

1.2 CONSTRUCTION

The Grant Internal volumiser is a welded stainless steel cylindrical tank with 50mm Polyurethane foam insulation, housed in a cylindrical galvanized steel external casing with a powder coated paint finish.

It is designed to be located internally on a floor or other flat surface capable of carrying the weight when full. Refer to Table 2.1 for weights.

It has a single inlet located on the side and an outlet located at the top, both of which are 1" BSP female connections. Refer to Section 2 for further details on dimensions.

The 3kW electric immersion heater is supplied, factory fitted in the side of the cylinder. This can be used to provide a back-up heat source, if required, controlled via a Grant Immersion Relay (Part code: **HPIDSMARTIMM**) from either the Grant AERONA Smart controller or Grant AERONA³ air source heat pump to which it is connected. Refer to Section 4 – Electrical.

1.5 HEALTH & SAFETY INFORMATION

For details of the Health and Safety Information for the heat pump, refer to the Health & Safety section of your installation and servicing instructions supplied with your chosen heat pump..

For details of the Health and Safety Information for any other heating appliances being used, refer to the instructions supplied with the appliance.

Under the Consumer Protection Act 1987 and Section 6 of the Health & Safety at Work Act 1974, we are required to provide information on substances hazardous to health (COSHH Regulations 1988).

! WARNING !

The immersion heater must NOT be used unless it is fully immersed in water, i.e. the volumiser is completely filled and vented.

Always ensure that the electrical supply to the immersion heater is isolated BEFORE draining down the volumiser.

Also, ensure that volumiser is fully refilled with water and vented BEFORE switching the electrical supply back on.

1.3 PRODUCT CONTENTS

The Grant Internal volumiser is supplied as follows:

- Grant 50 litre Internal volumiser
- DOC0207 - Grant Internal Volumiser Instructions

1.4 CYLINDER STAND

Grant Engineering offer an optional cylinder stand (Product Code: **MB-50**) to allow the volumiser to be installed underneath a Grant QR DHW indirect heat pump cylinder.

The cylinder stand has a maximum load carrying capacity of 300kg.

! CAUTION !

Ensure there is sufficient height for the cylinder if it is being placed on a stand at the place of install. Refer to Section 2 for plinth dimensions and manufacturer information on the cylinder.

2 TECHNICAL DATA

2.1 TECHNICAL SPECIFICATION

Table 2-1: Internal Volumiser technical data

Nominal capacity (litres)	50
Weight - empty (kg)	14.2
Weight - full (kg)	64.5
Inlet/outlet connections	1" BSP (Female)
Materials	
Shell	2304 Duplex Stainless steel
Outer casing	Galvanised mild steel, powder coated
Insulation	50mm Polyurethane foam
Immersion Heater (if fitted)	
Make	Cothorm TSE
Output (kW)	3
Electrical supply	230V 50Hz 1ph
Power supply wiring size	3 x 1.5mm ²

2.2 DIMENSIONS

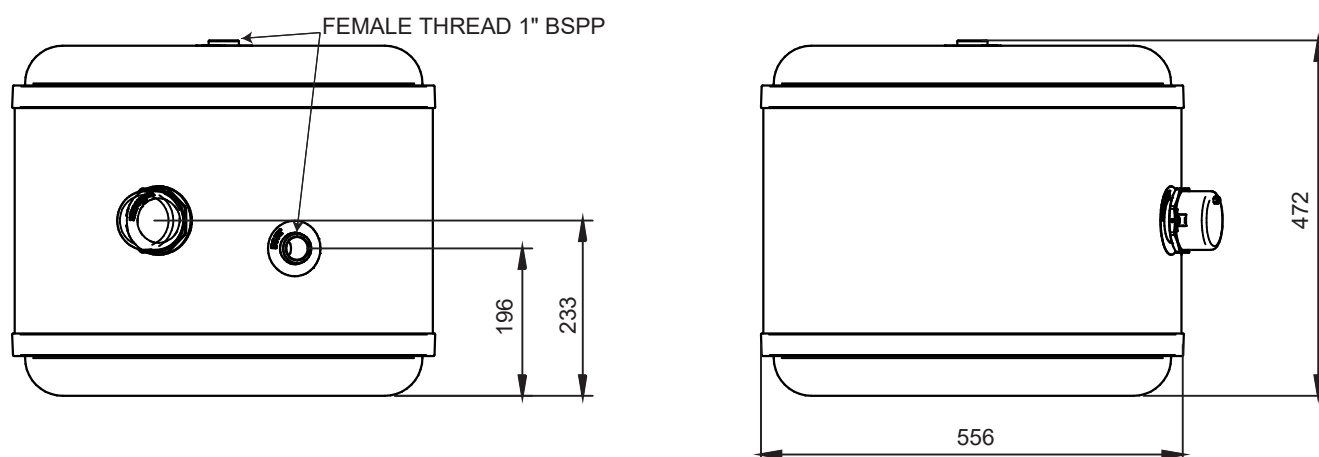


Figure 2-1: 50 litre Internal Volumiser dimensions (including Immersion heater if fitted)

2.3 OPTIONAL CYLINDER STAND

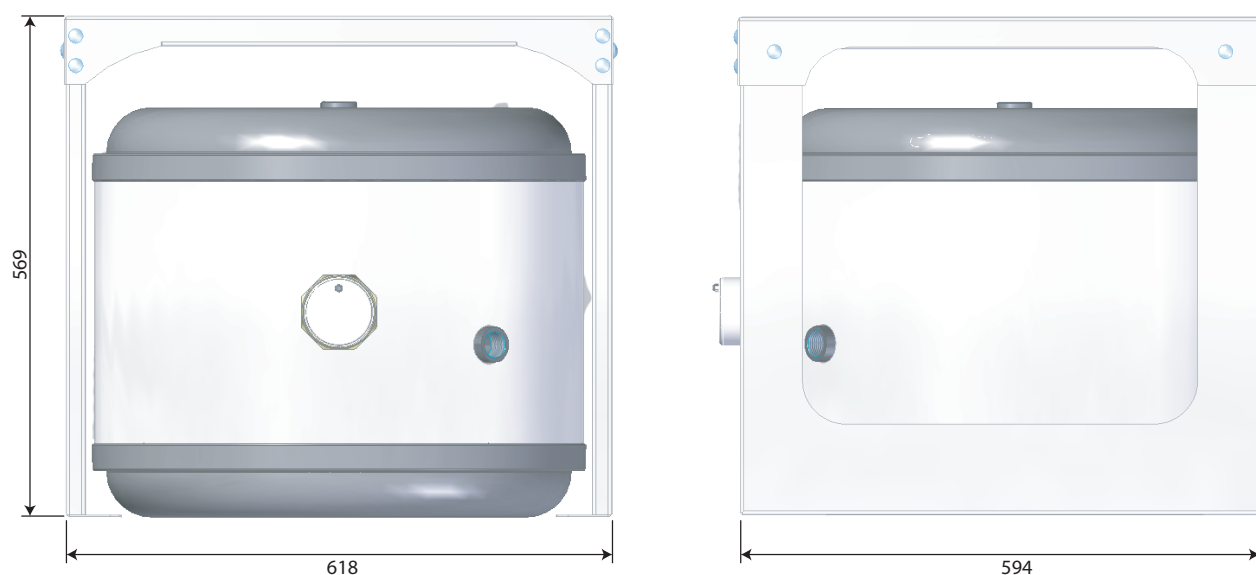


Figure 2-2: Optional cylinder stand dimensions

3 INSTALLATION

3.1 GENERAL

This section gives details of the installation process for the Grant Internal volumiser with immersion heater.

These installation instructions must be read in conjunction with the Grant Aeronas or Grant Aeronas 290 air source heat pump installation instructions (provided with the heat pump).

Before starting any installation work on the Grant Internal Volumiser, please read the Health and Safety information given in Section 14 of the Aeronas Installation Instructions.

3.2 REGULATIONS AND STANDARDS

The installation of the Grant Aeronas or Grant Aeronas 290 air source heat pump and the Internal Volumiser must be in accordance with the following recommendations, as applicable:

- Building Regulations for England and Wales, and Building Standards for Scotland
- Local Bylaws (check with the Local Authority for the area)
- Water Supply (Water Fittings) Regulations 1999
- MCS Installer Standards (if applying for the Renewable Heat Incentive)
- MIS3005 Requirements for contractors undertaking the supply, design, installation, set to work, commissioning and handover of microgeneration heat pump systems.
- MCS020 MCS Planning Standard

The installation should also be in accordance with the latest edition of the following standards and Codes of Practice:

- BS7671 and amendments
- BS EN 12831

3.3 LOCATION

The Grant Internal Volumiser can be installed on either the flow to or the return from the heat pump and must be placed on a suitable surface capable of supporting the weight of the unit when full of water. Refer to Section 2 for information of empty and full weights of the Grant Internal Volumiser.

The unit **MUST** be installed laid flat, with the outlet at the top and the inlet and immersion heater (if fitted) in an accessible position.

It **MUST** only be installed inside a property, and not located externally, as it not designed to be weatherproof.

If using the optional cylinder stand to raise up the DHW cylinder, ensure there is adequate height for the cylinder to be placed on top.

! NOTE !

The Grant Internal volumiser **MUST NOT be installed externally.**

3.4 UNPACKING

The Grant Internal Volumiser is supplied boxed.

! NOTE !

Take care if cutting the box with a knife not to damage the volumiser casing immediately beneath.

3.5 SYSTEM CONNECTIONS

If fitting on the flow:

The flow from the heat pump to the volumiser should be made 1" BSP female inlet connection on the side of the volumiser.

The flow to the heating system should be made to the 1" BSP female outlet connection on the top of the volumiser.

If fitting on the return:

The return from the heating system to the volumiser should be made to the 1" BSP female inlet connection on the side of the volumiser.

The return to the heat pump is to be made to the 1" BSP female outlet connection on the top of the volumiser.

! NOTE !

Ensure to use suitable thread sealant to prevent leaks.

4 ELECTRICAL

All electrical work must be undertaken by a competent person and in accordance with the current edition of BS7671 (the I.E.T. Wiring Regulations), including any amendments. Failure to observe this legislation could result in an unsafe installation and will invalidate all guarantees.

The equipment supplied must be wired according to these Installation instructions to ensure that the heat pump and immersion heater function safely. All electrical connections made on-site are solely the responsibility of the installer.

4.1 GENERAL

If installed, the electric immersion heater is located on the side of the volumiser. Refer to Figure 4-1.

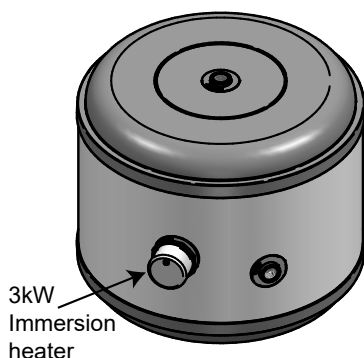


Figure 4-1: Immersion heater

If fitted, the electric immersion heater is located on the side of the volumiser. Refer to Figure 4-1.

If the immersion heater fitted to the Grant Internal volumiser is to be used, it requires a 230V 50Hz single phase electrical supply. Refer to Section 4.2 – Electrical Connections.

The immersion heater can be controlled through a relay, either from the:

- Grant Aeronia Smart Controller from the H1 terminals of the wiring centre.
- Aeronia³ connected to the heat pump terminal PCB via terminal 46 (If the Aeronia³ is not being controlled using the Grant Aeronia Smart Controller).

4.2 IMMERSION HEATER

Grant Internal Volumisers are available in two versions with one supplied factory-fitted with a 3kW immersion heater. This immersion heater conforms to EEC Directive 76/889 for radio interference and complies with EN 60335-2-73.

The BEAB approval certification on this immersion heater only applies if a Cotherm TSE rod type thermostat is used.

The control thermostat is pre-set on between 4 and 5 at a temperature of approximately 60°C. Refer to Figure 4-2.

Installation and wiring instructions for the immersion heater are supplied with each unit. The wiring connections are also shown in Figure 4-2. Follow the wiring instructions connecting the live, neutral and earth as indicated.

The immersion heater must be permanently connected to the electrical supply via a relay which incorporates a double-pole isolator and is fused at 16 amps. A safety cut-out is also incorporated within the thermostat and is factory set to operate at 83°C (± 5°C).

The immersion heater is factory-fitted to the volumiser. If the immersion heater needs to be replaced it must be fitted to the volumiser using the gasket provided on the unit. Only use a correctly shaped spanner. Stilsons or pipe grips should not be used. The use of sealing compound is not recommended.

! WARNING !

The immersion heater must NOT be used unless it is fully immersed in water.

Always ensure that the volumiser is full of water BEFORE switching on the electrical supply.

4.3 IMMERSION HEATER WIRING

Ensure that the supply voltage corresponds to the voltage rating of the immersion heater as shown on the rating label on the terminal cover.

Each 3kW 230V 50Hz immersion heater should be wired in accordance with the instructions given in Figure 4-2.

The cable must be routed through the strain relief bush. The cable grip should be secured using only the screws provided.

The 230V 50Hz power supply for the immersion heater should be wired to a 16 amp relay, which incorporates a double pole isolator switch and is independently fused at 16 amps.

Use 85°C heat resistant rubber insulated HOFR sheathed flexible cable, with minimum cross sectional area of 1.5mm², to comply with BS 6141 table 8 and must be fully earthed.

! WARNING !

Always ensure that the immersion heater cap is not covered.

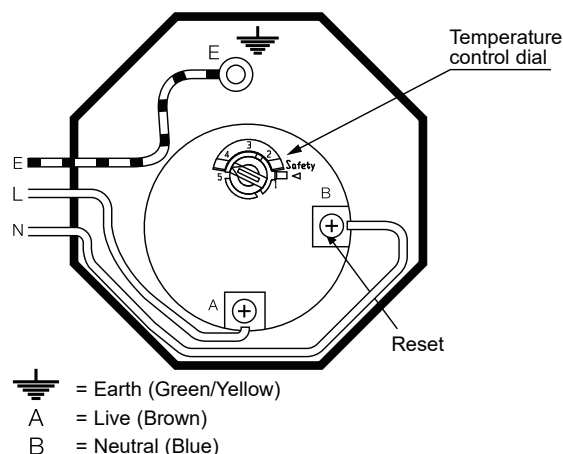


Figure 4-2: Immersion heater wiring connections

! WARNING !

This immersion heater must be earthed.

! WARNING !

The manual reset high limit thermostat must not under any circumstances be by-passed. This is pre-set to 83°C (±5°C) and to prevent nuisance tripping, the control thermostat should always be left in original set position.

4.4 IMMERSION HEATER SAFETY CUT-OUT

The immersion heater incorporates an independent non self-resetting over temperature cut-out device to prevent excessive water temperatures.

In normal operation the reset pin positioned to the side of the control knob and indicated by a triangle (with the word 'safety' above) will be approximately 2-3mm below the upper surface of the thermostat cap.

Should the over temperature cut-out operate:

- The reset pin will be pushed upwards to become level with or slightly above the cover.
- Wait until the temperature has fallen sufficiently.
- Investigate and identify the cause of the cut-out operation and rectify the fault.
- Manually reset the cut-out by pressing in the reset pin to its normal operating position using hand pressure only with a suitably sized implement.

4.5 SMART CONTROLLER WIRING

The Aeronia Smart controller can operate the immersion heater fitted to the Grant Internal Volumiser in both Grant Aeronia 290 and Grant Aeronia and Aeronia3 heat pump installations to supply supplementary heat during either space heating or defrost functions.

The operation of the immersion heater as an additional heat source is controlled using the Grant Smart Immersion relay. Refer to Figure 4-3.

1. Create a link between Terminal 22 to 20. This will create a switched live out of Terminal 19 when there is a demand for the immersion heater in the volumiser to operate.
2. Connect a cable to Terminal 19(L) and Terminal 18(N).

! NOTE !

Any neutral terminals in the wiring centre can be used.

3. From the smart controller:
 - Connect Terminal 19 from the wiring centre to A1 on the relay (L).
 - Connect Terminal 18 from the wiring centre to A2 on the relay (N).
4. From the independent power supply source for the immersion heater:
 - Connect the live to Terminal 1 of the smart immersion relay.
 - Connect Terminal 2 from the immersion relay to the live of the Immersion heater.
 - Connect immersion heater neutral and earth back to supply for the immersion heater.
5. Tighten all cable glands to securely grip the cables.

Refer to Section 5.1 for configuration parameters for the Grant Aeronia Smart controller.

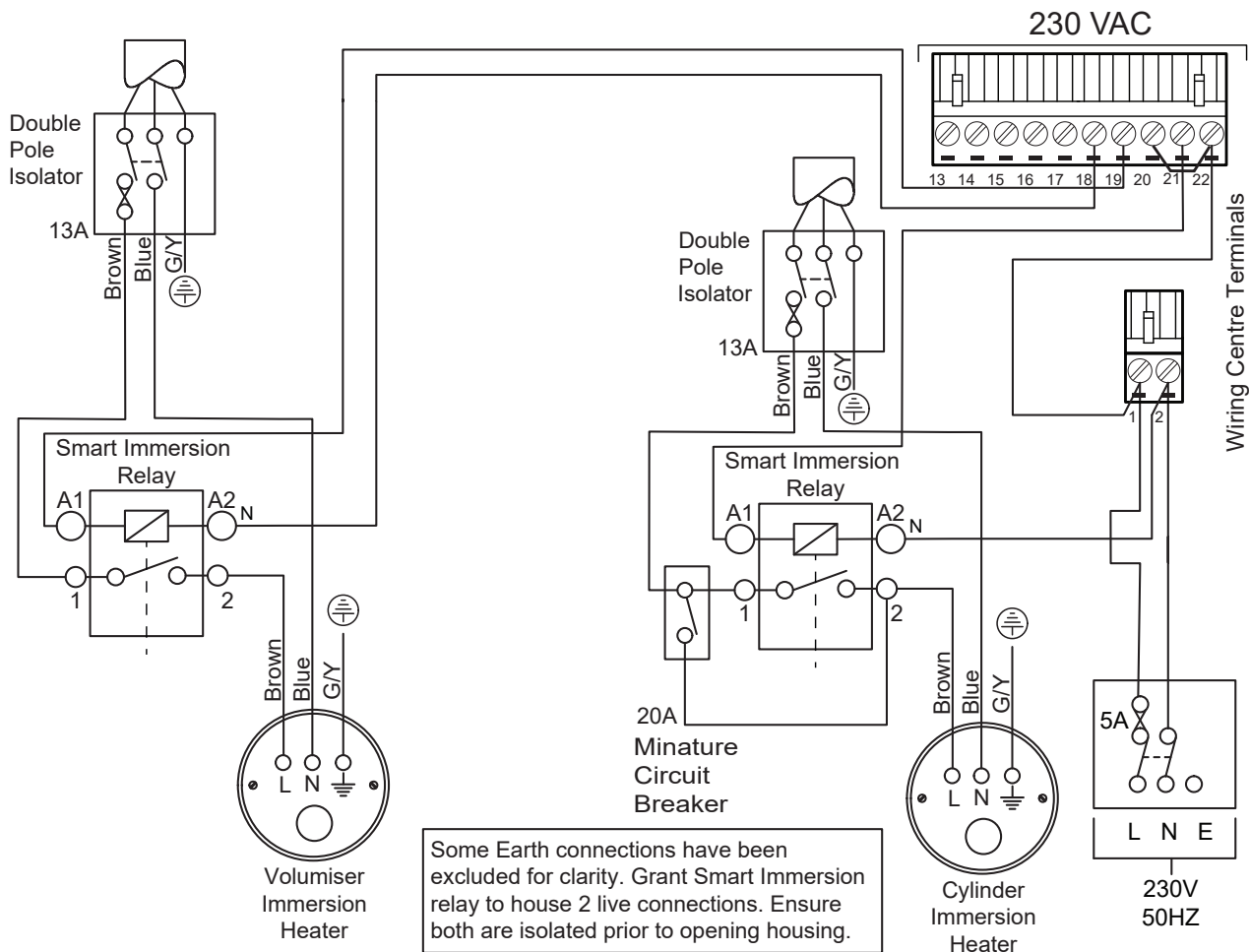


Figure 4-3: Supplementary & DHW heating examples

4.6 AERONA³ WIRING

If the Grant Aeronas³ Smart Controller is not being used to control a Grant Aeronas³ heat pump then the Grant Internal Volumiser can be directly operated from the Aeronas³ heat pump, via the installed Grant Aeronas³ standard remote controller, to supply supplementary heat during either space heating or defrost functions.

The operation of the immersion heater as an additional heat source is controlled using the Grant Smart Immersion relay or other suitable relay. Refer to Figure 4-4.

1. Connect a cable to the 230V output from the 'Electric heater' terminals (terminals 46 and N) on the Aeronas³ Terminal PCB.
2. Pass this cable into Smart Immersion relay housing and:
 - Connect Terminal 46 on heat pump terminal PCB to Terminal A1 on the relay (L).
 - Connect Terminal N on heat pump Terminal PCB to Terminal A2 on the Back-up heater relay (N).
3. From the independent power supply source for the immersion heater:
 - Connect the live to Terminal 1 of the smart immersion relay.
 - Connect Terminal 2 from the immersion relay to the live of the Immersion heater.
 - Connect immersion heater neutral and earth back to supply for the immersion heater.
4. Tighten all cable glands to securely grip the cables.

Refer to Section 5.1 & 5.2 for configuration parameters using the Aeronas³.

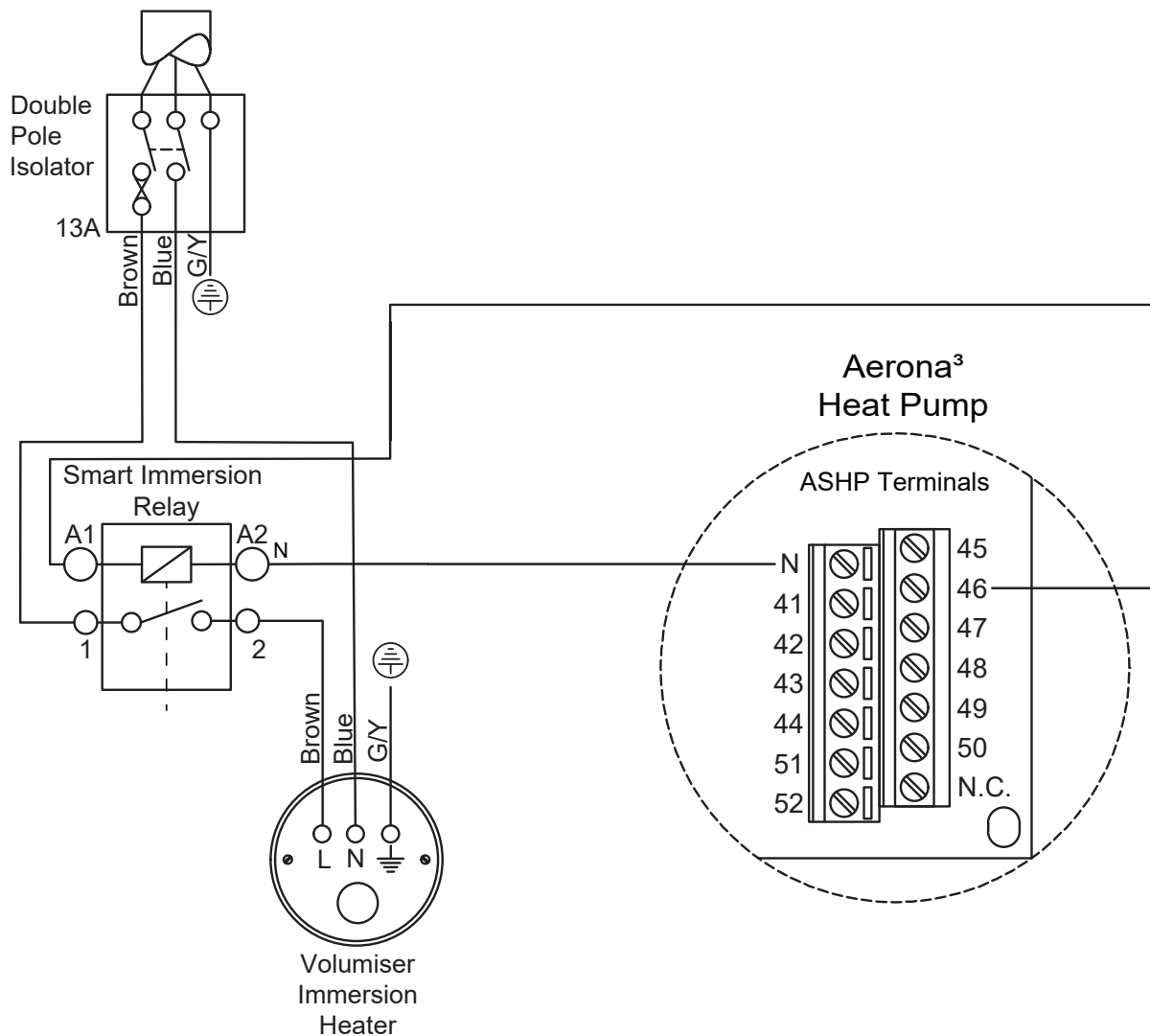


Figure 4-4: Aeronas³ Volumiser heater wiring

5 VOLUMISER INSTALLED ON FLOW

5.1 VOLUMISER INSTALLED ON FLOW

When installed on the flow, the Grant 50 litre internal volumiser with fitted 3kw electric immersion heater can be used to supplement the output of a heat pump to raise the flow temperature should the ambient temperature fall below the design conditions.

The flow from the heat pump to the volumiser should be made to the 1" BSP female inlet connection on the side of the volumiser. The flow to the heating system should be made to the 1" BSP female outlet connection on the top of the volumiser. Refer to Figure 5-1.

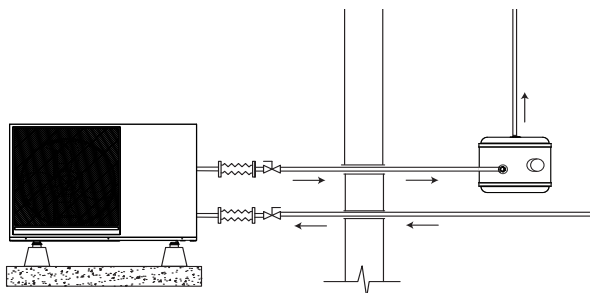


Figure 5-1: Internal Volumiser installed on Flow

5.2 AERONA SMART CONTROLLER

The AERONA Smart controller can operate the immersion heater fitted to the Grant Internal Volumiser in both Grant AERONA 290 and Grant AERONA³ heat pump installations to supplement the output of a heat pump to raise the flow temperature should the ambient temperature fall below the design conditions.

This can be achieved either through the Smart Controller wiring centre (Refer to Section 4.6 and Section 9 of your supplied Smart controller manual).

5.2.1 CONFIGURING SUPPLEMENTARY ASSISTANCE

The AERONA Smart controller can utilise the Grant Internal Volumiser in both the Grant AERONA 290 and Grant AERONA³ heat pump range to supplement the flow to the heating system when a space heating demand is active on the heat pump. Refer to Section 8 of your supplied AERONA Smart controller manual for further information

To enable the supplementary heater support:

1. Tap the Settings Menu button.
2. Tap 'SERVICE SETTINGS' and input the password: '0000'. Tap 'ENTER' to confirm.
3. Tap 'INSTALLATION CONTROLLER'.
4. Swipe the touchscreen to move down and tap 'HEATERS'.
5. Toggle on 'BACK-UP HEATER' to enable heater support. Enabling this function will cause the menu to expand with related configurable options Refer to Table 5-1.
6. Toggle on and configure required parameters to trigger immersion heater output. Refer to table 5-1 for options to choose from in how you wish to configure the supplementary support.

Table 5-1: Back-up heater configuration options

Item	Description
Back-up heater (delay)	Tap to adjust the delay time for activating the Back-up immersion heater after a heat pump space heating demand starts.
Outside temp to activate heater	Tap the toggle icon to enable or disable Outside temp to activate heater. This will begin the delay time counter before activating the immersion heater when at the configured ambient temperature.
Outside temp force the heater	Tap the toggle icon to enable or disable Outside temp force the heater. This will activate the heater immediately on a heat demand when at the configured ambient temperature.

7. Tap '<' to navigate backwards when configuration completed.

5.3 AERONA³

5.3.1 ACTIVATING BACK-UP HEATER VIA THE AERONA³

A Smart Immersion relay (or other suitable relay) can again be used to activate the immersion heater in the Grant Internal Volumiser. The relay will need to be triggered via a connection from the Terminal PCB of the Grant AERONA³ heat pump. Refer to Figure 4-4 for an example of wiring required.

Before starting to commission the installation, including the AERONA³ air source heat pump, must be completed as detailed in Sections 3 and 4 of these instructions.

! NOTE !

In order to commission the installation, the following information must be used in conjunction with the AERONA³ installation instructions supplied with the heat pump.

1. Switch on the power to the heat pump, via the external isolator.
2. Press and hold the ON/OFF button on the heat pump remote controller for three seconds to turn the heat pump on – refer to AERONA³ installation instructions Section 9.1.
3. Set the day and time on the heat pump remote controller – refer to AERONA³ installation instructions Section 9.2.
4. Access the heat pump parameter setting menus via the heat pump remote controller – refer to AERONA³ installation instructions Section 9.3
5. If the factory-fitted electric immersion heater is to be used as a back-up heater refer to Table 5-2 for the correct parameter settings.

5.3.2 PARAMETER SETTINGS FOR SUPPLEMENTARY ASSISTANCE SUPPORT

The parameters listed in table 5-2 will allow you to configure at what point the supplementary heater is activated by the AERONA³ heat pump.

- Parameter 51 46 must be set to 1 to enable the relay connections on the terminal PCB of the AERONA³ heat pump.
- Parameter 46 00 must be set to 3 to enable supplementary assistance.

! NOTE !

Refer to the AERONA³ installation instructions, supplied with the heat pump, for further details on how to access and adjust the above heat pump parameters.

Table 5-2: Aeronas heat pump parameter settings for supplementary immersion heater operation

Level	Parameter		Function description	Display and input value			
	Group	Code		Default	Min.	Max.	Setting
I	46	00	Backup heater type of function 0 = disable 1 = Replacement mode 2 = Emergency mode 3 = Supplementary mode	0	0	3	3
I	46	01	Manual water set point	50°C	40	60	55
I	46	04	Heater activation delay time	5 mins	0	900	0
I	46	05	Integration time for starting heaters	600	0	900	0
I	46	11	Outdoor air temperature to enable Backup heaters and disable compressor	-5.0°C	-20.0	20.0	-20.0
I	46	13	Outdoor air temp to enable backup heaters (supplementary mode)	5.0°C	-20.0	+20	5
I	46	14	Outdoor air hysteresis to disable Backup heaters	5.0°C	0.5	10.0	2
I	51	46	Terminal 46: DHW electric heater or Backup heater 0 = DHW electric heater 1 = Backup heater	0 or 1	0	1	1

6 VOLUMISER INSTALLED ON RETURN

6.1 VOLUMISER INSTALLED ON RETURN

When installed on the return, the Grant 50 litre internal volumiser with fitted 3kw electric immersion heater can be used to assist the defrost function of the heat pump in cold ambient conditions.

The return from the heating system to the volumiser should be made to the 1" BSP female inlet connection on the side of the volumiser.

The return to the heat pump should be made to the 1" BSP female outlet connection on the top of the volumiser. Refer to Figure 6-1.

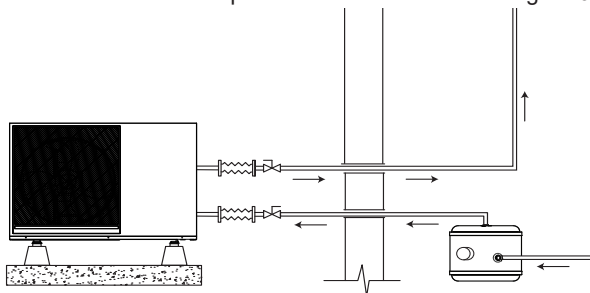


Figure 6-1: Internal Volumiser installed on Return

6.2 AERONA SMART CONTROLLER

The AERONA Smart controller can operate the immersion heater fitted to the Grant Internal Volumiser in both Grant AERONA 290 and Grant AERONA³ heat pump installations to supply additional heat to assist the defrost function of the heat pump in cold ambient conditions.

This can be achieved either through the Smart Controller wiring centre or terminal 46 of the AERONA³ (refer to section 4.6 and Section 9 of your supplied Smart controller manual).

6.2.1 SMART CONTROLLER BACK-UP HEATER

The AERONA Smart controller can utilise the Grant Internal Volumiser in both the Grant AERONA 290 and Grant AERONA³ heat pump range to supply additional support when a defrost function is active on the heat pump.

To enable the additional defrost support:

1. Tap the Settings Menu button.
2. Tap 'SERVICE SETTINGS' and input the password: '0000'. Tap 'ENTER' to confirm.
3. Tap 'INSTALLATION CONTROLLER'.
4. Swipe the touchscreen to move down and tap 'HEATERS'.
5. Toggle on 'BACK-UP HEATER' to enable heater support.
6. Toggle on 'BACK-UP HEATER OPERATION IN DEFROST'.
7. Tap '<' to navigate back.

! NOTE !

'BACK-UP HEATER DELAY' applies to supplementary heating functions and not Defrost support.

6.3 AERONA³

6.3.1 ACTIVATING BACK-UP HEATER VIA THE AERONA³

A Smart Immersion relay (or other suitable relay) can again be used to activate the immersion heater in the Grant Internal Volumiser. The relay will need to be triggered via a connection from the Terminal PCB of the Grant AERONA³ heat pump. Refer to Figure 4-4 for an example of wiring required.

Before starting to commission the installation, including the AERONA³ air source heat pump, must be completed as detailed in Sections 3 and 4 of these instructions.

! NOTE !

In order to commission the installation, the following information must be used in conjunction with the AERONA³ installation instructions supplied with the heat pump.

1. Switch on the power to the heat pump, via the external isolator.
2. Press and hold the ON/OFF button on the heat pump remote controller for three seconds to turn the heat pump on – refer to AERONA³ installation instructions Section 9.1.
3. Set the day and time on the heat pump remote controller – refer to AERONA³ installation instructions Section 9.2.
4. Access the heat pump parameter setting menus via the heat pump remote controller – refer to AERONA³ installation instructions Section 9.3.
5. If the factory-fitted electric immersion heater is to be used as a back-up heater refer to Table 5-1 for the correct parameter settings.

6.3.2 PARAMETER SETTINGS FOR ASSISTING DEFROST PROCESS

Depending on the overall system volume in place at the time of the defrost, it may be useful energising the supplementary immersion heater fitted to the Grant Internal Volumiser to assist the defrost process.

The overall time for a defrost should never be more than 5 minutes (including the compressor protection 'off' time of 3 minutes) so the total power used during a defrost period by the immersion element would not be more than 250W.

After the defrost function is completed, the immersion heater will switch off when the flow temperature has reached the minimum flow target temperature (Parameter 46 23) + 5°C.

Refer to Table 6-1 for defrost assistance parameters.

Table 6-1: Aeronas heat pump parameter settings for assisting defrost process

Level	Parameter		Function description	Display and input value			
	Group	Code		Default	Min.	Max.	Setting
I	46	00	Back-up heater type of function 0 = disable 1 = Replacement mode 2 = Emergency mode 3 = Supplementary mode	0	0	3	3
I	46	20	Freeze protection functions 0 = disable 1 = enabled during start-up 2 = enabled during Defrost 3 = enabled during start-up and Defrost	0	0	3	2
I	46	23	Outgoing water set point during Defrost	24	10	50	30
I	51	46	Terminal 46: DHW electric heater or Back-up heater 0 = DHW electric heater 1 = Back-up heater	0 or 1	0	1	1

! NOTE !

Refer to the Aeronas installation instructions, supplied with the heat pump, for further details on how to access and adjust the above heat pump parameters.

7 DECLARATION OF CONFORMITY



DECLARATION OF CONFORMITY

This declaration is made under the sole responsibility of the following Manufacturer.

The Manufacturer declares that the following Products conform to the requirements of the UK Legislation and Regulations as detailed below.

The Technical Construction Files are retained at the following Manufacturer's location.

We: Grant Engineering (UK) Limited

Of: Frankland Road
Blagrove
Industrial Estate
Swindon
SN5 8YG

Telephone: +44 (0)1380 736920

Fax: +44 (0)1380 736991

Email: info@grantuk.com

Website: www.grantuk.com

Product : 50 litre Volumiser C/W 3kW BACKUP HEATER

Model: HPIDVOL50

In accordance with the following Legislation:

Electrical Equipment (Safety) Regulations 2016

This declaration is only valid when the installation of this unit is carried out in accordance with the instructions supplied with the unit.

Responsible Person: Neil Sawers
Position: Commercial Technical Manager
Signature:

A handwritten signature in black ink, appearing to be "Neil Sawers", written over a light blue horizontal line.

Date: 30th August 2024

Grant Engineering (UK) Ltd
Frankland Road | Blagrove | Swindon | SN5 8YG
+44(0)1380 736920 | info@grantuk.com | www.grantuk.com

REGISTERED IN ENGLAND No: 3196757. REGISTERED OFFICE: AS ABOVE

8 END OF LIFE

8.1 GENERAL

Grant hot water storage cylinders and thermal stores incorporate components manufactured from a variety of different materials. The majority of these materials can be recycled whilst the smaller remainder cannot.

Materials that cannot be recycled must be disposed of according to local regulations using appropriate waste collection and/or disposal services.

8.2 DISASSEMBLY

There is little risk to those involved in the disassembly of the cylinder or thermal store if the process is undertaken with care and reasonable precautions are taken.

8.3 RECYCLING

Many of the materials used in Grant hot water storage cylinders and thermal stores can be recycled, as listed below:

COMPONENT	MATERIAL
Shell	Stainless Steel (Duplex 2304)
Caps	Stainless Steel (Duplex 2304)
Sockets	Stainless Steel (316L)
Outer casing	White Powder coated Zintec
Plastic caps	ABS
Immersion heater	Brass/stainless steel
Insulation	Polyurethane foam 50mm

8.4 DISPOSAL

All materials other than those listed above must be disposed of responsibly as general waste.



Neil Sawers
Technical Manager

8.5 DIRECTIVE WEEE 2012/19/EU

Purchased product is designed and made of materials of the highest quality.

The product meets the requirements of the Directive 2012/19/EU of 4 July 2012 on waste electrical and electronic equipment (WEEE), according to which it is marked by the symbol of crossed-out wheeled bin, meaning that product is subjected to separate collection.

Responsibilities after finishing a period of using product:

- Dispose of the packaging and product at the end of their period of use in an appropriate recycling facility,
- Do not dispose of the product with other unsorted waste,
- Do not burn the product.
- By complying with the above obligations of controlled disposal of waste electrical and electronic equipment, you avoid harmful impact on the natural environment and threats to human health.

9 GUARANTEE

You are now the proud owner of a Grant Volumiser from Grant Engineering (UK) Limited which has been designed to give years of reliable, trouble free operation.

Grant Engineering (UK) Limited guarantees the manufacture of the volumiser including all electrical and mechanical components for a period of twelve months from the date of installation⁴, provided that the volumiser has been installed in full accordance with the installation instructions issued.

This will be extended to a total period of two years if the volumiser is registered with Grant Engineering (UK) Limited within thirty days of installation and it is inspected when the heat source/heating system is serviced at twelve month intervals³. See main Terms and Conditions below.

Registering the product with Grant Engineering (UK) Limited

Please register your Grant Volumiser with Grant Engineering UK Limited within thirty days of installation. To do so visit:

www.grantuk.com/support/product-registration

You can register your volumiser for a further twelve months guarantee (giving two years from the date of installation⁴). This does not affect your statutory rights¹.

If a fault or defect occurs within the manufacturer's guarantee period

If your volumiser should fail within the guarantee period, you must contact Grant Engineering (UK) Limited who will arrange for the repair under the terms of the guarantee, providing that the volumiser has been correctly installed, commissioned and inspected when the heat source/heating system is serviced (if the product has been installed for more than twelve months) by a competent person and the fault is not due to tampering, debris, system water contamination, misuse, trapped air or the failure of any external components not supplied by Grant Engineering (UK) Limited, e.g. circulating pump, motorised valve, etc.

This two year guarantee only applies if the volumiser is registered with Grant Engineering (UK) Limited within thirty days of installation⁴ and is inspected after twelve months³, when the heat source and/or heating system is serviced.

In the first instance

Contact your installer or commissioning engineer to ensure that the fault does not lie with the system components or any incorrect setting of the system controls that falls outside of the manufacturer's guarantee otherwise a service charge could result. Grant Engineering (UK) Limited will not be liable for any charges arising from this process.

If a fault covered by the manufacturer's guarantee is found

Ask your installer to contact Grant Engineering (UK) Limited Service Department on +44 (0)1380 736920 who will arrange for a competent service engineer to rectify the fault.

Remember - before you contact Grant Engineering (UK) Limited

- Ensure the volumiser has been installed, commissioned and inspected by a competent person in accordance with the installation instructions.
- Ensure the problem is not being caused by the heating system or its controls.

Free of charge repairs

During the two year guarantee period no charge for parts or labour will be made provided that the volumiser has been installed and commissioned correctly in accordance with the manufacturer's installation instructions, it was registered with Grant Engineering (UK) Limited within thirty days of installation⁴ and, for volumisers over twelve months old, details of inspection when the heat source and/or heating system is serviced are available³.

The following documents must be made available to Grant Engineering (UK) Limited on request:

- Proof of purchase
- Commissioning Report Form
- Service documents
- System Design Criteria

Chargeable repairs

A charge may be made (if necessary following testing of parts) if the breakdown is due to any fault(s) caused by the plumbing or heating system, e.g. contamination of parts due to system contamination, sludge, scale, debris or trapped air. Refer to 'Extent of manufacturer's guarantee'.

Extent of manufacturer's guarantee

The manufacturer's guarantee does NOT cover the following:

- If the volumiser has been installed for over two years.
- If the volumiser has not been installed, commissioned, or inspected by a competent person in accordance with the installation instructions.
- Instances where the serial number has been removed or made illegible.
- Fault(s) due to accidental damage, tampering, unauthorised adjustment, neglect, misuse or operating the volumiser contrary to the manufacturer's installation instructions.
- Damage due to external causes such as bad weather conditions (flood, storms, lightning, frost, snow, or ice), fire, explosion, accident or theft.
- Fault(s) due to incorrectly sized expansion vessel(s), incorrect vessel charge pressure or inadequate expansion on the system.
- Fault(s) caused by external electrics and external components not supplied by Grant Engineering (UK) Limited.
- Product servicing, de-scaling or flushing.
- Checking and replenishing system pressure.
- Electrical cables and plugs, external controls not supplied by Grant Engineering (UK) Limited.
- Heating system components, such as radiators, pipes, fittings, pumps and valves not supplied by Grant Engineering (UK) Limited.
- Instances where the volumiser has been un-installed and re-installed in another location.
- Use of spare parts not authorised by Grant Engineering (UK) Limited.
- Consumable items including, but not limited to, antifreeze and biocide inhibitor.

Terms of manufacturer's guarantee

- The Company shall mean Grant Engineering (UK) Limited.
- The volumiser must be installed by a competent person and in full accordance with the relevant Codes of Practice, Regulations and Legislation in force at the time of installation.
- The volumiser is guaranteed for two years from the date of installation⁴, providing that every twelve months the annual service has been completed³ and the volumiser registered with the Company within thirty days of installation. Any work undertaken must be authorised by the Company and carried out by a competent service engineer.
- This guarantee will be invalid if the volumiser is not inspected when the heat source/heating system receives its annual (every twelve months) service and will then be limited to twelve months from the date of installation⁴.
- The volumiser is operated correctly, in accordance with the Installation instructions.

- Grant Engineering (UK) Limited strongly recommends that a Grant Mag-One in-line magnetic filter/s (or equivalent⁵) is fitted in the heating system pipework. This should be installed and regularly serviced in accordance with the filter manufacturer's instructions. We reserve the right to ask for proof of installation – failure to provide this may result in the guarantee becoming invalid.
- Proof is provided that the system has been flushed or chemically cleaned where appropriate (refer to BS 7593) and that the required quantity of a suitable corrosion inhibitor added.
- Proof of annual servicing (including the checking of any expansion vessels and pressure relief valves) must be provided if and when requested by the Company.
- This guarantee does not cover breakdowns caused by incorrect installation, neglect, misuse, accident or failure to operate the volumiser in accordance with the manufacturer's installation instructions.
- The volumiser is registered with the Company within thirty days of installation. Failure to do so does not affect your statutory rights¹.
- The balance of the guarantee is transferable providing the installation is serviced prior to the dwelling's new owners taking up residence. Grant Engineering (UK) Limited must be informed of the new owner's details.
- The Company will endeavour to provide prompt service in the unlikely event of a problem occurring, but cannot be held responsible for any consequences of delay however caused.
- This guarantee applies to Grant Engineering (UK) Limited volumisers purchased and installed on the UK mainland, Isle of Wight, Channel Islands and Scottish Isles only². Provision of in-guarantee cover elsewhere in the UK is subject to agreement with the Company.
- All claims under this guarantee must be made to the Company prior to any work being undertaken. Invoices for call out/repair work by any third party will not be accepted unless previously authorised by the Company.
- Proof of purchase and date of installation, commissioning and service documents must be provided on request.
- If a replacement volumiser is supplied under the guarantee (due to a manufacturing fault) the product guarantee continues from the installation date of the original volumiser and not from the installation date of the replacement⁴.
- The volumiser must be connected to a mains water supply (installations utilising a private water supply are not covered by this guarantee).
- Breakdown/failure due to lime scale will not be covered by this guarantee.
- The replacement of a volumiser under this guarantee does not include any consequential costs.
- The volumiser must not be sited in a location where it may be subjected to frost (unless it is the Grant External Volumiser).

Foot notes

1. Your statutory rights entitle you to a one year guarantee period only.
2. The UK mainland consists of England, Scotland and Wales only. Please note that for the purposes of this definition, Northern Ireland, Isle of Man and Scilly Isles are not considered part of the UK mainland.
3. We recommend that your heating system is serviced every twelve months, and that your volumiser is inspected at the same time (even when the guarantee has expired) to prolong the lifespan and ensure it is operating safely and efficiently.
4. The guarantee period will commence from the date of installation, unless the installation date is more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase.
5. As measured by gauss. The MagOne Duo magnetic filter has a gauss measurement of 12,000.

NOTES

NOTES



GRANT ENGINEERING (UK) LIMITED

Frankland Road, Blagrove Industrial Estate, Swindon, Wiltshire, SN5 8YG

Tel: +44 (0)1380 736920 Fax: +44 (0)1380 736991

Email: info@grantuk.com www.grantuk.com