

# GRANT CYLINDER RANGE

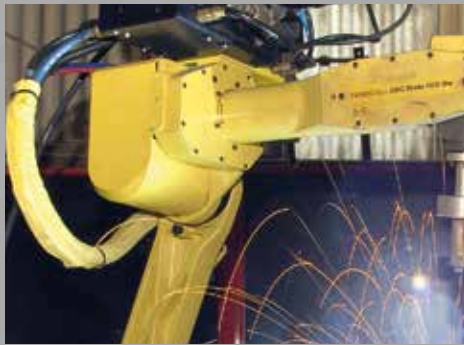
High efficiency direct and indirect hot water storage solutions



# Grant Profile

At Grant we have been designing and manufacturing reliable and easy to install heating products for four decades. From award winning oil-fired condensing boilers to the latest renewable technologies, our heating systems have a reputation for quality that is second to none.

We combine precision engineering, innovation, performance and value for money to produce sustainable heating solutions that are trusted by both installers and householders.



## Quality Design

There is never a compromise on quality. We design all of our products so that you can be sure that the durability and efficiency are sector leading. We continually develop new technologies and use only the best materials to ensure our products exceed all performance and environmental standards.

Our belief in simple solutions ensures that, while our technology is sophisticated, our products are low maintenance and easy to install. For a high quality, reliable and sustainable heating system, trust in Grant.

## Heating Responsibly

Grant manufacture heating systems that respond to the challenges of rising fuel costs whilst protecting our environment. Environmental responsibility is central to all we do and we continue to develop and innovate to produce even more efficient products that make best use of our natural resources.

We are passionate about developing sustainable, high-performance and affordable alternatives for heating homes into the future.

## Our Guarantee

The Grant label is a guarantee of reliability, quality and value. We put our customers first and our independence ensures that we can monitor our standards and processes to deliver the very best quality and service.

That's why, when you order your system from a Grant stockist, you can be sure of a tailored service and excellent after sales support.

# Grant Wave cylinder and thermal stores

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## High specification

The Wave range of cylinders and thermal stores are manufactured to the highest specifications. The cylinders are produced using high quality 1mm thick duplex 2034 stainless steel and the internal coils are manufactured from either 20mm or 25mm corrugated stainless steel tubing to deliver maximum heat transfer and recovery.

The finished products are insulated with 40mm of CFC/HCFC free polyurethane foam to ensure low standing heat losses and outstanding efficiency and reliability. All units are pressure tested to a full 12 bar.

## Application

All products in the range have been designed to complement both conventional and renewable technologies and combine seamlessly with most household hot water systems. From oil and gas boilers to electric heating, air source heat pumps and even solar thermal, whatever combination is required, our cylinder and store range offers an eco-friendly, reliable and energy efficient solution to your hot water needs.

## Manufacturing standards

Grant cylinders are manufactured in accordance with BS EN 12897 and comply with Building Regulations G3 and Water Regulations. Cylinder performance complies with the requirements BSEN806, BS1566 and BS7206 and meets the NHBC criteria.

All products within the range are covered by the Benchmark - the Code of Practice for the installation and commissioning of central heating systems.

## Features

- 25-year material guarantee on cylinder/store shell\*
- 22mm and 28mm compression fittings
- No anode required
- Immersion heater
- Fast recovery stainless steel corrugated coils (all indirect and solar direct models)
- Labelled and colour-coded tappings
- Global warming potential (GWP) = less than 3
- Ozone depletion potential (ODP) = 0

\* Terms and Conditions apply



## Grant Heat Pump cylinder range

Duplex stainless steel unvented indirect, mains pressure cylinders with single coil versions for air source heat pumps and a twin coil option for combining an additional heat source.

### Heat Pump cylinders

The Grant range of stainless steel heat pump cylinders is specifically matched to Aerona air to water heat pump range, which incorporates a larger primary coil for quicker heat transference. The cylinders are available in seven indirect single coil versions, ranging from 125-400 litres and five indirect twin coil versions ranging from 170-400 litres. Grant Heat Pump cylinders feature compression fittings which are conveniently located to make installation quicker and easier.

### Domestic hot water (DHW) boost kit

Grant's DHW boost kit (part code: HPDHWBK2) automatically switches on the cylinders immersion element when the heat pump has raised the cylinder contents to about 45°C, taking the water up to the desired water temperature, set by the immersion thermostat. An override switch allows the consumer to turn on the immersion. It also has an additional feature of automatic bacteria protection. An integrated timer can be programmed to bring on the immersion either daily or weekly for a short period of time, allowing sanitisation of the cylinder contents. This sanitisation regime is a requirement of SAP and should be fitted with every heat pump/cylinder installation.



GRANT  
DUOWAVE  
HEAT PUMP  
CYLINDER

## Components

Grant MonoWave and DuoWave Heat Pump cylinders include a factory-fitted temperature and pressure relief valve, set to operate at 7 bar and 90°C and 3kW immersion heaters. Indirect models are also supplied with an installation kit comprising:

MonoWave models	DuoWave models
Expansion vessel	Expansion vessel
15mm/22mm tundish	15mm/22mm tundish
Inlet manifold assembly	Inlet manifold assembly
Installation and user instruction manual	Installation and user instruction manual
Benchmark book	Benchmark book
Dual thermostat	2 x Dual thermostat
2-port zone valve	2-port zone valve

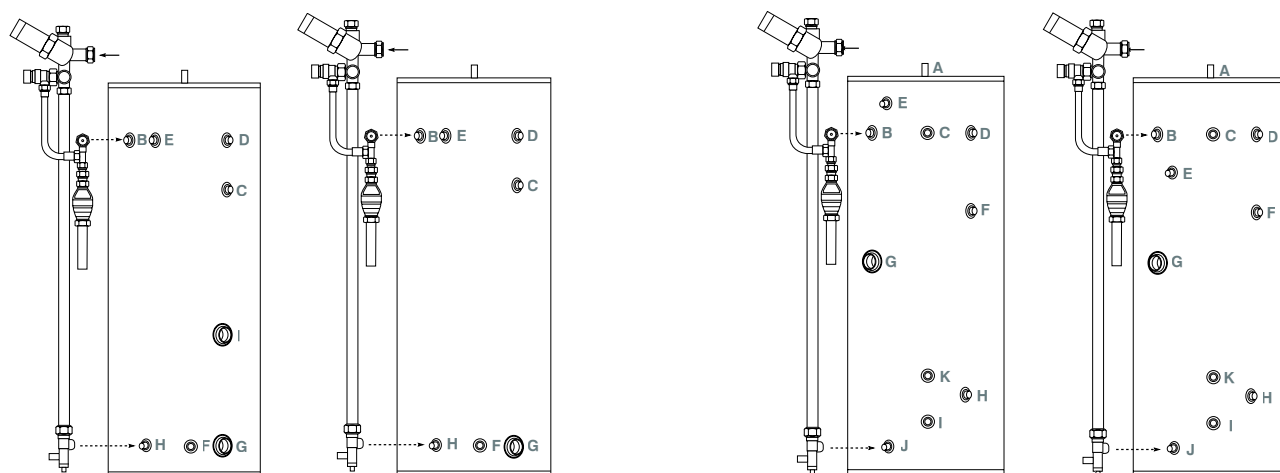


## Grant MonoWave HP connections

## Grant DuoWave HP connections

- A Hot out
- B T+P valve
- C Secondary return
- D Heat pump flow
- E Heat pump return
- F Thermostat pocket
- G Immersion heater
- H Cold In
- I Immersion heater  
(300 & 400ltr models only)

- A Hot out
- B T+P valve
- C Secondary return
- D Heat pump flow
- E Heat pump return
- F Thermostat pocket
- G Immersion heater
- H Cold In
- I Immersion heater  
(300 & 400ltr models only)



### Grant MonoWave Heat Pump cylinders unvented indirect single coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Pressure regulator (bar)	Immersion fitted (kW)	Expansion vessel (ltrs)	Coil rating primary (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
HPMONO/IND125	125	C	3	3	12	24.0	1.86	800	580	30	155
HPMONO/IND150	150	C	3	3	12	27.8	1.80	890	580	32	182
HPMONO/IND170	170	C	3	3	19	27.8	1.48	1075	580	45	215
HPMONO/IND200	200	A	3	3	19	47.0	1.03	1950	580	70	270
HPMONO/IND200	200	B	3	3	19	47.0	1.54	1230	580	49	249
HPMONO/IND250	250	C	3	3	24	47.0	1.83	1480	580	59	309
HPMONO/IND300	300	C	3	3*	24	56.6	2.08	1745	580	68	368
HPMONO/IND400	400	C	3	3*	35	56.6	2.38	2110	580	76	476

### Grant DuoWave Heat Pump cylinders unvented indirect solar twin coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Pressure regulator (bar)	Immersion fitted (kW)	Expansion vessel (ltrs)	Coil rating primary (kW)	Solar (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
HPDUO/IND170	170	C	3	3	19	32	8.5	1.48	1075	580	57	227
HPDUO/IND200	200	B	3	3	19	47	10	1.54	1230	580	61	261
HPDUO/IND250	250	C	3	3	24	47	16	1.80	1480	580	71	321
HPDUO/IND300	300	C	3	3	24	55.6	16	2.09	1745	580	80	380
HPDUO/IND400	400	C	3	3	35	55.6	23	2.38	2110	580	100	500

\* 2 x 3kW immersion heaters

## Grant DuoWave Solar cylinder range

Duplex stainless steel, unvented, direct solar single coil and indirect solar twin coil mains pressure hot water cylinders for renewable applications.

### DuoWave cylinders

The DuoWave range of mains pressure hot water cylinders were developed to meet the growing demand for systems that combine a renewable heat source with a standard oil, gas or electric boiler. They are particularly suitable for use with solar hot water systems like Grant Solar Thermal. When correctly installed this arrangement can significantly reduce the dependence on traditional fossil fuels resulting in lower energy bills.

Sizes range from 170 litres to 500 litres, comprising five direct and six indirect models which can meet the needs of even the largest of domestic properties.

### Design

Direct models are designed to be electrically heated but also incorporate a high performance solar coil to allow easy connection to a solar thermal system. Indirect cylinders have two coils for connection to primary heat sources. The solar heat supply should be connected to the bottom coil, which is designed to preheat, or heat the surrounding water, depending on the temperature of the incoming supply. The central heating boiler connections should then be made to the top coil. The boiler will only operate if the water in the cylinder has not reached the desired preset temperature and the boiler/cylinder controls are installed and commissioned correctly.

Featuring high efficiency corrugated heating coils, the Grant DuoWave range is developed to ensure a maximum transfer of the energy collected by renewable systems. As a safety feature, indirect cylinders are supplied with a control/high limit thermal cut-out that operates at 90°C.



### Components

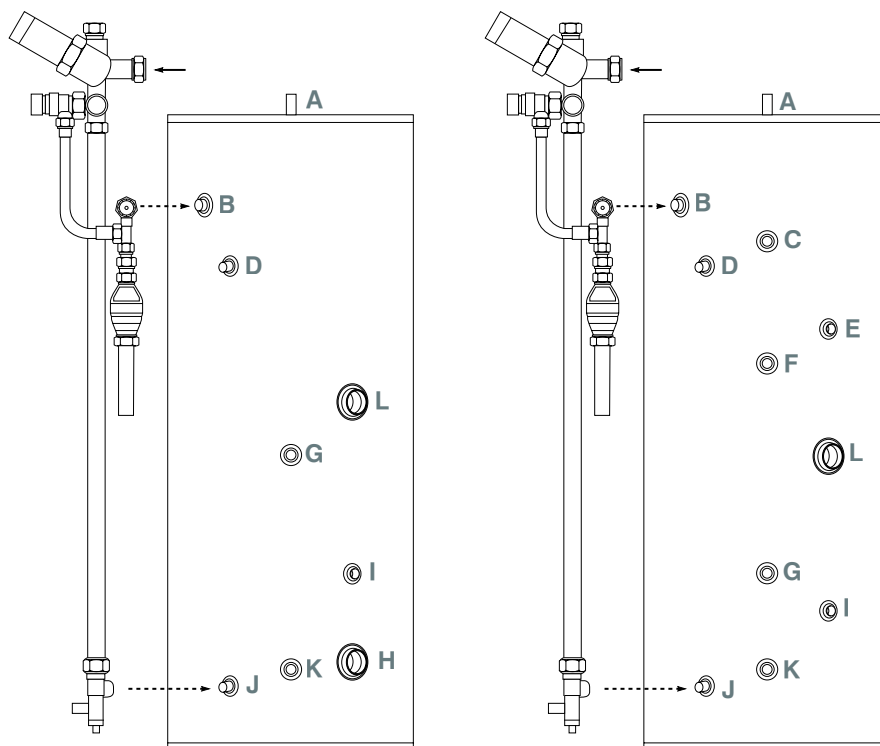
DuoWave cylinders include a factory-fitted temperature and pressure relief valve, set to operate at 7 bar and 90°C, and 3kW immersion heater(s). They are also supplied with an installation kit comprising:

Direct models	Indirect models
Expansion vessel with hose and bracket	Expansion vessel with hose and bracket (no bracket and hose on 500ltr model)
15mm/22mm tundish	15mm/22mm tundish
Inlet manifold assembly	Inlet manifold assembly
Installation and user instruction manual	Installation and user instruction manual
Benchmark book	Benchmark book
Dual thermostat	2 x dual thermostats
	2-port zone valve



## Grant DuoWave connections

- A Hot out
- B T+P valve
- C Primary return (indirect only)
- D Secondary return
- E Top thermostat pocket (indirect only)
- F Primary flow (indirect only)
- G Solar return
- H Immersion heater (direct models only)
- I Thermostat pocket (bottom)
- J Cold mains in
- K Solar flow
- L Immersion heater



DuoWave Direct models

DuoWave Indirect models

### Grant DuoWave cylinders unvented direct solar single coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Pressure regulator (bar)	Expansion vessel (ltrs)	Coil rating primary (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
GDUO/DIR170	170	B	3	19	8.5	1.39	1075	580	37	207
GDUO/DIR200	200	C	3	19	10.0	1.56	1230	580	41	241
GDUO/DIR250	250	C	3	24	16.0	1.86	1480	580	47	297
GDUO/DIR300	300	C	3	24	16.0	2.16	1745	580	53	353
GDUO/DIR400	400	C	3	35	24.0	2.45	2110	580	65	465

### Grant DuoWave cylinders unvented indirect solar twin coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Pressure regulator (bar)	Expansion vessel (ltrs)	Coil rating primary (kW)	Solar (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
GDUO/IND170	170	B	3	19	8.5	8.5	1.38	1075	580	49	219
GDUO/IND200	200	C	3	19	8.5	10.0	1.54	1230	580	53	253
GDUO/IND250	250	C	3	24	8.5	13.9	1.70	1480	580	63	313
GDUO/IND300	300	C	3	24	8.5	16.0	2.09	1745	580	72	372
GDUO/IND400	400	C	3	35	10.0	24.0	2.38	2110	580	92	492
GDUO/IND500	500	D	3	50	16.0	27.0	3.08	1835	660	108	608



## Grant DuoWave Plus Solar cylinder range

Duplex stainless steel, open-vented or unvented, indirect, triple-coil, mains pressure hot water cylinders for combining solid fuel\*, biomass, gas, electric or oil-fired boilers and solar thermal systems.

### Grant DuoWave Plus cylinders

The Grant DuoWave Plus is a further development of the DuoWave cylinder range and is available in a 300 litre model only.

The cylinder is designed to combine different heating technologies within a single system by utilising up to three separate high performance heating coils and one 3kW immersion heater.

### Design specifications

When installed as an open vented cylinder, it is possible to combine a solid fuel or wood burning appliance with an oil or gas boiler. An additional heat source, such as solar thermal can also be linked using the high performance coil, located at the bottom of the cylinder.

The unvented version is similar in design, but incorporates all of the additional controls necessary to use the unit in an unvented system installation. It enables up to three separately controlled heat sources to be linked together. This is particularly useful when combining traditional fossil fuel appliances like oil or gas boilers with renewable technologies like heat pumps, solar thermal or fully controlled wood pellet (biomass) boilers.



## Components

DuoWave Plus cylinders include a factory-fitted temperature and pressure relief valve, set to operate at 7 bar and 90°C, and one 3kW immersion heater. They are also supplied with an installation kit comprising:

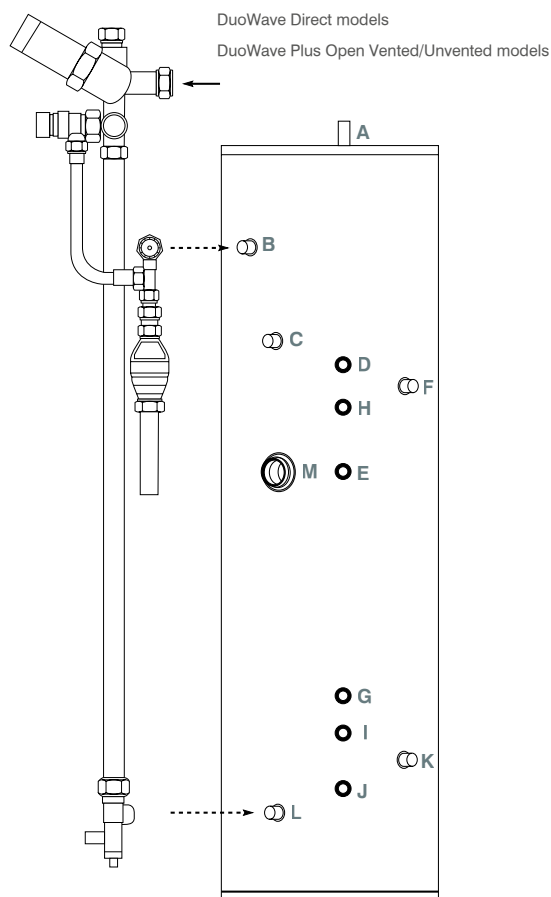
Open-vented models	Unvented models
2 x dual thermostats	Expansion vessel with hose and bracket
15mm/22mm tundish	15mm/22mm tundish
Benchmark book	Inlet manifold assembly
Installation and user instruction manual	Installation and user instruction manual
	2 x dual thermostats
	2-port zone valve
	Benchmark book





## Grant DuoWave Plus connections

- A** Hot out
- B** T+P valve
- C** Secondary return
- D** Primary return
- E** Solid fuel flow
- F** Thermostat pocket (top)
- G** Solid fuel return
- H** Primary flow
- I** Solar return
- J** Solar flow
- K** Thermostat pocket (bottom)
- L** Cold mains in
- M** Immersion heater



### Grant DuoWave Plus cylinders open vented indirect solar triple coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Coil rating primary 1 (kW)	Coil rating primary 2 (kW)	Solar (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
GDUO/PLUS300	300	C	11.6	8.5	16	2.41	1745	580	57	357

### Grant DuoWave Plus cylinders unvented indirect solar triple coil duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Pressure regulator (bar)	Expansion vessel (ltrs)	Coil rating primary 1 (kW)	Coil rating primary 2 (kW)	Solar (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
GDUO/PLUS300U	300	C	3	24	11.6	8.5	16	2.41	1745	580	57	357

### \*Important

If the DuoWave Plus is to be connected to a non-thermostatically controlled appliance (e.g. solid fuel back boiler), the cylinder must be installed in an open-vented system to comply with current Building Regulations.

**Note:** In an open-vented system, the T+P valve would not operate in pressure mode, but may still be operated on temperature, so it should be connected in the correct manner (see installation manual).

## Grant ThermaWave thermal store range

Duplex stainless steel, open vented and sealed system thermal stores for combining multiple heat sources in a variety of configurations.

### Combining technologies

With rising fuel prices, looking for ways to lower home heating costs and save energy are now more important than ever. Many people are opting for renewable technologies to heat their homes. However, finding a way of combining several renewable technologies with traditional heating systems has proved very difficult, until now.

Thermal stores allow multiple heat sources to be connected in a number of different ways, with immersion heater(s) back-up. This makes it possible to have a gas or oil fired boiler connected to a solid fuel appliance and also a renewable heat source such as solar thermal or a heat pump. Furthermore, underfloor heating system manifolds as well as radiator circuits can also be directly connected to the store.

### Grant ThermaWave stores

The Grant ThermaWave is available in three variations: open-vented with solar coil, open-vented with solar and DHW coils and sealed system with solar and DHW coils. Sizes range from 250-500 litres. ThermaWave DHW stores have been designed for situations where there is a greater demand for domestic hot water. The addition of the DHW coil means there is no need to link the store to an additional cylinder, resulting in a more cost effective and compact installation.

A sealed system kit is available to complement existing sealed system products e.g. oil or biomass boiler. Note: uncontrolled heat sources like solid fuel log burners, must not be used with a sealed system thermal store or unvented cylinder.

The store has been designed in such a way that it slows inlet water velocities, ensuring multi-level temperature distribution. High specification 1mm thick duplex 2304 stainless steel is utilised which resists all forms of corrosion. Compression fittings on most connections dramatically reduces fitting time for the installer and 40mm injected polyurethane foam insulation gives an exceptionally low standing heat loss, making the units highly efficient.



### Components

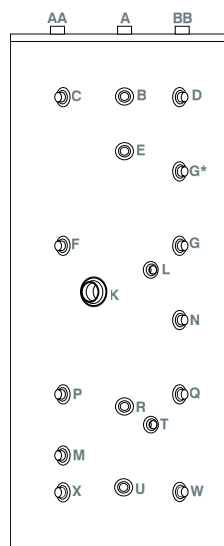
All ThermaWave stores include a factory-fitted temperature and pressure relief valve, set to operate at 7 bar and 90°C, and one 3kW immersion heater. DHW stores are also supplied with an installation kit comprising:

Open-vented models	Sealed system models
1ltr shock arrestor	1ltr shock arrestor
22mm thermostatic mixing valve	22mm thermostatic mixing valve
22mm x 22mm 1/2" BSPF fitting	22mm x 22mm 1/2" BSPF fitting
3 bar/6 bar inlet group (optional extra)	3 bar/6 bar inlet group (optional extra)
Benchmark book	Benchmark book
Installation and user instruction manual	Installation and user instruction manual
	Expansion vessel
	Expansion vessel bracket/hose
	Reducer fitting (400/500ltr models only)
	22mm x 22mm x 3/4" BSPF fitting
	1/2" BSPM TO 15mm fitting (90°)
	Filling loop kit
	PRV & Pressure gauge
	80°C limit stat
	Electrical control box

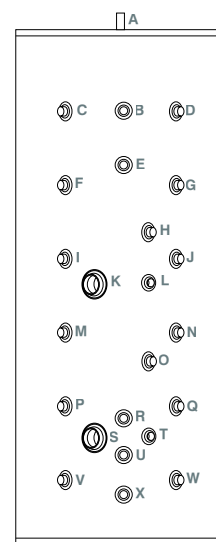


## Grant ThermaWave connections

- A** Output seven (e.g to DHW kit or flow to DHW cylinder + OSV)
- B** T&P Valve (1/2" BSPF for 250L & 300L and 3/4" for 400L & 500L models)
- C** Input one (e.g flow from boiler if DHW is fitted)
- D** Output one (e.g CH flow if no DHW is fitted)
- E** Thermostat pocket
- F** Input two (e.g flow from boiler if no DHW is fitted)
- G** Output two (e.g CH flow if DHW is fitted)
- G\*** Output two alternative position (e.g. if less DHW is required)
- H** 28mm gravity flow (e.g solid fuel)
- I** Input three (e.g return from DHW kit or cylinder)
- J** Output three (e.g to UFH if high capacity)
- K** Immersion heater
- L** Thermostat pocket
- M** Input four (e.g flow from heat pump)
- N** Output four (e.g return to boiler)
- O** 28mm gravity return (e.g solid fuel)
- P** Input five (e.g return from CH)
- Q** Output five (e.g UFH flow if low capacity)
- R** Solar coil return
- S** Immersion heater
- T** Thermostat pocket
- U** Solar coil flow
- V** Input six (e.g return from UFH)
- W** Output six (e.g return to heat pump)
- X** 22mm fill and drain point
- AA** Cold mains
- BB** DHW out



ThermaWave DHW open-vented models  
ThermaWave DHW unvented models



ThermaWave open-vented models

**Note:** The inputs and outputs highlighted above may vary depending upon the technologies being connected to the thermal store, and if a nominal quantity of domestic hot water is also required. For further guidance consult the installation manual or Grant Technical Services.

### Grant ThermaWave stores open-vented duplex stainless steel

Model	Capacity (ltrs)	ErP Rating	Coil rating solar (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
G THERM/250	250	C	16	2.69	1485	580	55	305
G THERM/300	300	C	16	2.71	1735	580	61	361
G THERM/400	400	C	24	2.94	2110	580	74	474

### Grant ThermaWave DHW stores open-vented duplex stainless steel c/w hot water coil

Model	Capacity (ltrs)	ErP Rating	Coil rating solar (kW)	Coil rating DHW (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
G THERM300HW	300	C	16	46.4	2.64	1650	555	65	365
G THERM400HW	400	C	27.6	55.2	2.83	1590	660	80	480
G THERM500HW	500	D	27.6	55.2	2.98	1835	660	87	587

### Grant ThermaWave DHW stores sealed system duplex stainless steel c/w hot water coil

Model	Capacity (ltrs)	ErP Rating	Coil rating solar (kW)	Coil rating DHW (kW)	Standing heat loss (kW/24hrs)	Height (mm)	Diameter (mm)	Weight empty (kg)	Weight full (kg)
G THERM300HWU	300	C	16	46.4	2.64	1650	555	65	365
G THERM400HWU	400	C	27.6	55.2	2.83	1590	660	80	480
G THERM500HWU	500	D	27.6	55.2	2.98	1835	660	87	587

### Grant ThermaWave DHW stores performance data

Capacity	Draw off 1* (20l/min at 70°C)	Reheat time (mins)	Draw off 2* (20l/min at 70°C)	Reheat time (mins)	Draw off 3* (20l/min at 70°C)	Reheat time (mins)
300	115	11	230	20	400	28
400	145	12	285	22	420	32
500	175	14	355	24	455	35

**\*Note:** Draw off provides a final mixed water temperature (e.g. for a bath) of 45°C. Draw off 1 is the top third of the store. Draw off 2 is the top 2/3 of the store. Draw off 3 is the full store (without solar thermal input). Reheat times relate to raising the same volume of water back to 70°C.



## Water supply

All Grant cylinders will operate at minimum bylaw supply requirements however, the best performance is achieved above 25 l/m and 1.5 bar working pressure. They must be connected to a mains water supply. Installations involving a private water supply e.g. boreholes, are not covered by the Grant Cylinder guarantee.

## Installation

The installation of a Grant cylinder or store must be carried out by a competent person in accordance with the current IEE Wiring Regulations, Electricity at Work Regulations 1989, relevant Building Regulations, Building Standards in Scotland, Water Regulations and bylaws of the local Water Authority. Comprehensive technical information can be found in the installation manual, which is supplied with every cylinder/store. Designed to be installed in a vertical position only, the cylinders/stores can stand on any flat level surface without special preparation, provided that the flooring is capable of supporting the weight of the fully filled cylinder/store. The cylinders/store controls should be wired to the heat source(s) in accordance with chosen control scheme. The immersion heater(s) for direct models must be permanently connected to the supply through a double pole linked isolating switch with a minimum breaking capacity of 13A.

## Training Academy

The Grant Training Academy runs Logic unvented domestic hot water certificate courses, intended for plumbers and heating installers who wish to obtain the necessary qualification to allow them to install domestic unvented hot water systems in compliance with the Building Regulations G3 in England & Wales. The course involves both theory and hands on training, whilst the assessment involves both written and practical tasks.

## Grant WinterSol

The Grant WinterSol has been designed to provide homeowners with a fully heated cylinder of hot water during times when there may not be sufficient solar (or heat pump) gain, therefore ensuring hot water demand is satisfied.



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## Compatibility

All Grant indirect cylinders can be used with gas, oil and electric boilers in either open-vented or sealed heating systems. The cylinders themselves can also operate in either open-vented or unvented arrangements. Unvented cylinders must not be used with an uncontrolled heat source such as a solid fuel back boiler.

## Guarantees

Grant Engineering (UK) Limited guarantees the manufacture of the cylinder including all electrical and mechanical components for a period of **twelve months from the date of installation**, unless the installation was more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase, provided that the cylinder has been installed in full accordance with the installation and servicing manual issued. This will be extended to a total period of **two years** if the boiler is registered with Grant Engineering (UK) Limited **within thirty days of installation** and serviced at twelve monthly intervals. In addition, the stainless steel (shell) used in the manufacture of the cylinder is guaranteed for a period of twenty five years from the date of installation.

To register your boiler visit: [www.grantuk.com](http://www.grantuk.com).

## Aftersales service

For peace of mind, Grant cylinders and stores are backed by a national network of service engineers. In the unlikely event of a problem occurring, your installer should telephone our Customer Service Department on: +44 (0)1380 736920

This leaflet is accurate at the time of printing but as Grant UK has a policy of continual improvement it may be superseded. We reserve the right to amend specifications without prior notice. The statutory rights of the consumer are not affected.

All products manufactured under I.S. EN ISO 9001. Grant UK additionally holds ISO 14001 accreditation.

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