SIMPLY BETTER

Unvented Calorifer Range

Installation and Operating Manual

MHG Heating Ltd, Unit 4 Epsom Downs Metro Centre, Waterfield, Tadworth, Surrey, KT20 5LR
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MAINS PRESSURE HOT WATER APPLIANCE

STORAGE CAPACITY IN LITRES	Weight When Full
90	125
125	165
150	195
170	220
200	250
250	310
300	360
400	448
500	557
600	715
700	825
800	946
900	1075
1000	1185

WARNING TO USER

This appliance must be serviced annually by a competent person. Failure to comply with the above will invalidate the manufacturer's warranty.

Do not remove or adjust any component part of this unvented water heater: Contact the installer.

If this unvented water heater develops a fault, such as a flow of hot water from the discharge pipe, switch the heater off and contact the installer.

WARNING TO INSTALLER

This installation is subject to building regulation approval; notify Local Authority of intention to install.

Use only manufacturer's recommended replacement parts.

Water Supply Pressure Max /Min	12 Bar/1.5Bar
Electric Immersion Heaters	14"/3kW • 230V AC
Maximum Operating Pressure	5.5 BAR
Expansion Vessel charge Pressure	3 BAR
Expansion relief valve setting	6 BAR
Pressure & Temperature relief valve setting	7 BAR • 90°C
Maximum Primary working Pressure	2.5 BAR
Maximum Solar Coil Working Pressure	5.5 BAR

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Single Coil Indirect Unit

#	Description	Connection Size 90 – 300L	Connection Size 400 – 500L	Connection Size 600 – 1000L
1	Cold Fill In	22mm	28mm	28mm
2	Primary Flow and Return	22mm	28mm	28mm
3	Hot Water Out	22mm	28mm	28mm
4	Immersion Element	Supplied Loose (Twin with Direct Units)	Supplied Loose (Twin with Direct Units)	Supplied Loose (Twin with Direct Units)
5	Thermostat Pocket	22mm (Indirect unit Only)	22mm (Indirect unit Only)	22mm (Indirect unit Only)
6	Temperature and Pressure Relief Valve	Fitted	Fitted	Fitted

Twin Coil Indirect Unit

#	Description	Connection Size 90 – 300L	Connection Size 400 – 500L	Connection Size 600 – 1000L
J	Cold Fill	22mm	28mm	28mm
D	Boiler Primary Flow and Return	22mm	28mm	28mm
B	Hot Water	22mm	28mm	28mm
F	Immersion Element 3kW 1 Phase	Supplied Loose (Twin with Direct Units)	Supplied Loose (Twin with Direct Units)	Supplied Loose (Twin with Direct Units)
A	Solar Thermostat Pockets	Sensor Phial	Sensor Phial	Sensor Phial
C	Temperature and Pressure Relief Valve	Fitted	Fitted	Fitted
E	Thermostat Pockets	22mm	22mm	22mm
G / H	Solar Primary Flow and Return	22mm	28mm	28mm
I	Aux Thermostat Pocket	22mm	22mm	22mm

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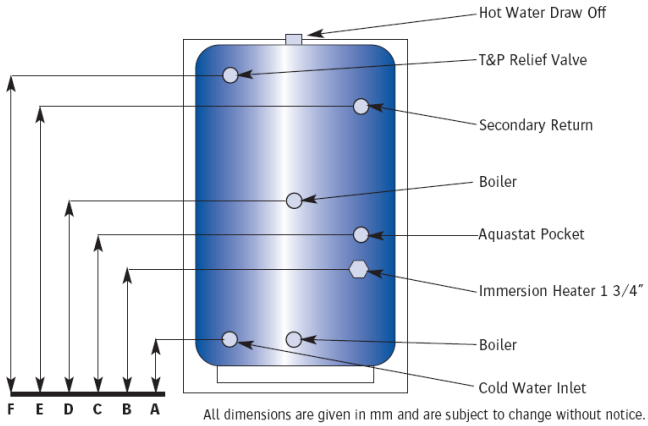
Unvented Items Supplied

Type	90	125	150	170	200	250	300	400	500	600	700	800	900	1000
Inlet Group 22mm 3 bar Pressure Reducing Valve Single Check Valve Filter 6 bar Pressure Relief Valve	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cylinder Thermostat (Indirect Only)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Energy Cut-Off valve 2 Port Spring Return Zone Valve (Indirect Only)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tundish	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Expansion Vessel 8L	Yes	~	~	~	~	~	~	~	~	~	~	~	~	~
Expansion Vessel 12L	~	Yes	Yes	~	~	~	~	~	~	~	~	~	~	~
Expansion Vessel 18L	~	~	~	Yes	Yes	~	~	~	~	~	~	~	~	~
Expansion Vessel 24L	~	~	~	~	~	Yes	Yes	~	~	~	~	~	~	~
Expansion Vessel 50L	~	~	~	~	~	~	~	Yes	Yes	Yes	~	~	~	~
Expansion Vessel 100L	~	~	~	~	~	~	~	~	~	~	Yes	Yes	Yes	Yes

Dimensions

Single Coil Indirect (90-500)



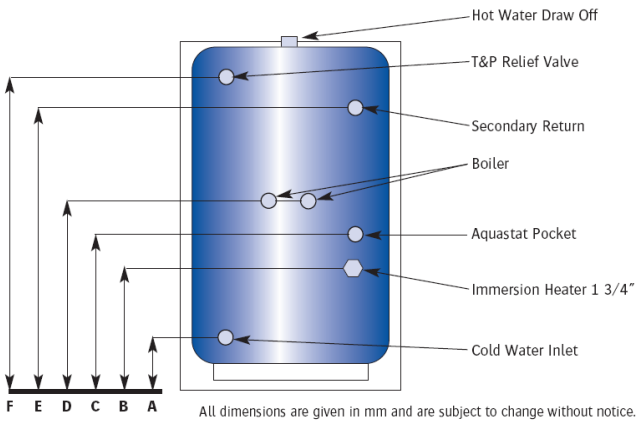
All dimensions are given in mm and are subject to change without notice.

Cap (Ltr)	90	125	150	170	200	250	300	400	500
Height	750	935	1060	1200	1120	1330	1650	1590	1835
Diameter	510	510	510	510	554	554	554	660	660
A	170	170	170	170	195	195	195	240	240
B	200	200	200	200	225	225	225	270	270
C	400	400	400	450	475	555	555	640	640
D	495	495	495	600	625	845	845	870	890
E	-	-	-	-	815	975	1255	1240	1390
F	550	750	880	1030	930	1140	1435	1340	1590

Cap (L)	24 Hrs Standing Heat Loss	Immersion Heater
90 Ltr	1.63Kw/24Hrs	1 x 3Kw 240v single phase
125 Ltr	1.70Kw/24Hrs	1 x 3Kw 240v single phase
150 Ltr	1.92Kw/24Hrs	1 x 3Kw 240v single phase
170 Ltr	2.04Kw/24Hrs	1 x 3Kw 240v single phase
200 Ltr	2.45Kw/24Hrs	1 x 3Kw 240v single phase
250 Ltr	2.69Kw/24Hrs	1 x 3Kw 240v single phase
300 Ltr	2.71Kw/24Hrs	1 x 3Kw 240v single phase
400 Ltr	2.94Kw/24Hrs	1 x 3Kw 240v single phase
500 Ltr	3.15Kw/24Hrs	1 x 3Kw 240v single phase

Foam Information
ODP Ozone Depletion potential = 0
GWP Global Warming Potential = 2.2
Foam Type = Polyurethane
British Standard 1566, D: 2002

Single Coil Indirect (90-500) High Recovery



All dimensions are given in mm and are subject to change without notice.

Cap (Ltr)	90	125	150	170	200	250	300	400	500
Height	750	935	1060	1200	1120	1330	1650	1590	1835
Diameter	510	510	510	510	554	554	554	660	660
A	170	170	170	170	195	195	195	240	240
B	200	200	200	200	225	225	225	270	270
C	400	400	400	450	475	555	555	640	640
D	495	495	495	600	625	845	845	870	890
E	-	-	-	-	815	975	1255	1240	1390
F	550	750	880	1030	930	1140	1435	1340	1590

Cap (L)	24 Hrs Standing Heat Loss	Immersion Heater
90 Ltr	1.63Kw/24Hrs	1 x 3Kw 240v single phase
125 Ltr	1.70Kw/24Hrs	1 x 3Kw 240v single phase
150 Ltr	1.92Kw/24Hrs	1 x 3Kw 240v single phase
170 Ltr	2.04Kw/24Hrs	1 x 3Kw 240v single phase
200 Ltr	2.45Kw/24Hrs	1 x 3Kw 240v single phase
250 Ltr	2.69Kw/24Hrs	1 x 3Kw 240v single phase
300 Ltr	2.71Kw/24Hrs	1 x 3Kw 240v single phase
400 Ltr	2.94Kw/24Hrs	1 x 3Kw 240v single phase
500 Ltr	3.15Kw/24Hrs	1 x 3Kw 240v single phase

Foam Information
ODP Ozone Depletion potential = 0
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Foam Type = Polyurethane
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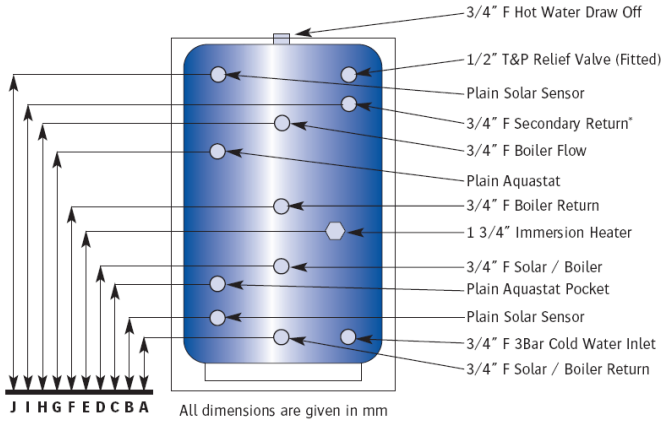
Twin Coil Indirect (90-500)



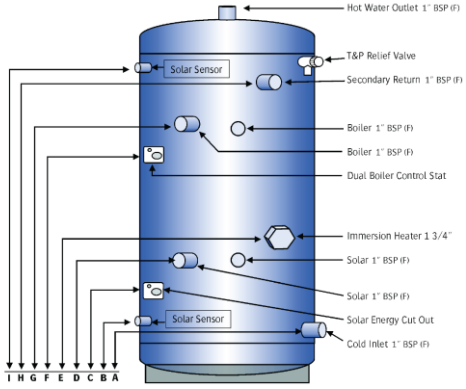
All dimensions are given in mm

Cap (Ltr)	170	200	250	300	400	500
Height	1200	1120	1330	1650	1590	1835
Dia	510	554	554	554	660	660
A	175	190	190	190	235	235
B	175	245	245	245	285	285
C	395	390	390	390	435	435
D	500	500	500	500	620	620
E	535	545	575	570	715	715
F	585	585	640	640	820	820
G	865	780	890	885	1120	1120
H	N/A	890	1025	1250	1240	1390
I	1015	890	1025	1020	1240	1260
J	1040	930	1140	1430	1340	1590

Cap (L)	24Hrs Standing Heat Loss	Immersion Heater	Boiler & Solar Cap (L)
170Ltr	2.04Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler
200Ltr	2.45Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler
250Ltr	2.69Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler
300Ltr	2.71Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler
400Ltr	2.94Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler
500Ltr	3.15Kw/24Hrs	3Kw 240v Single Phase	50% Solar 50% Boiler

Foam Information
ODP Ozone Depletion Potential = 0
GWP Global Warming Potential = 2.2
Foam Type = Polyurethane
British Standard 1566,D:2002

Single Coil Indirect (600-1000)

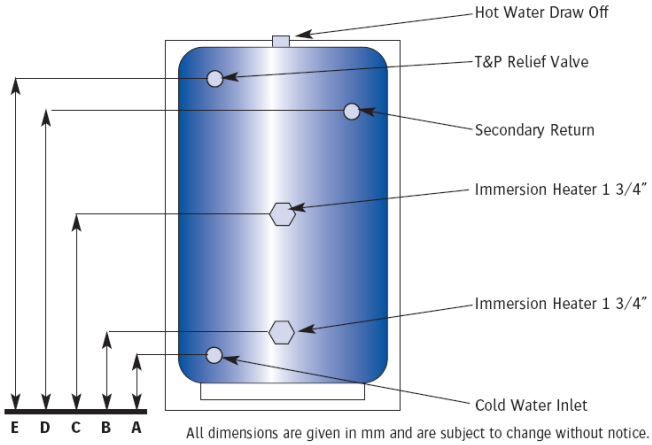


Cap (Ltr)	600	700	800	900	1000
Height	1435	1664	1864	2064	2314
Diameter	822	822	822	822	822
A	280	280	280	280	280
B	330	330	330	330	330
C	480	480	480	480	480
D	630	630	630	630	630
E	710	710	710	710	710
F	890	890	890	890	890
G	1190	1190	1190	1190	1190
H	1170	1370	1580	1780	2180
I	1320	1520	1730	1930	2180

Foam Information
ODP Ozone Depletion potential = 0
GWP Global warning Potential = 2.2
Foam Type = Polyurethane
British Standard 1566,D:2002

Cap (L)	24Hrs Standing Heat Loss	Inmersion Heater
600 Ltr	2.04Kw/24Hrs	3kw 240v single phase
700 Ltr	2.45Kw/24Hrs	3kw 240v single phase
800 Ltr	2.69Kw/24Hrs	3kw 240v single phase
900 Ltr	2.71Kw/24Hrs	3kw 240v single phase
1000 Ltr	2.94Kw/24Hrs	3kw 240v single phase

Direct (90-500)



All dimensions are given in mm and are subject to change without notice.

Cap (Ltr)	90	125	150	170	200	250	300	400	500
Height	750	935	1060	1200	1120	1330	1650	1590	1835
Diameter	510	510	510	510	554	554	554	660	660
A	170	170	170	170	195	195	195	240	240
B	200	200	200	200	225	225	225	270	270
C	410	410	620	620	645	645	645	690	690
D	-	-	-	-	815	975	1255	1240	1390
E	550	750	880	1030	930	1140	1435	1340	1590

Cap (L)	24 Hrs Standing Heat Loss	Immersion Heater
90 Ltr	1.63Kw/24Hrs	2 x 3Kw 240v single phase
125 Ltr	1.70Kw/24Hrs	2 x 3Kw 240v single phase
150 Ltr	1.92Kw/24Hrs	2 x 3Kw 240v single phase
170 Ltr	2.04Kw/24Hrs	2 x 3Kw 240v single phase
200 Ltr	2.45Kw/24Hrs	2 x 3Kw 240v single phase
250 Ltr	2.69Kw/24Hrs	2 x 3Kw 240v single phase
300 Ltr	2.71Kw/24Hrs	2 x 3Kw 240v single phase
400 Ltr	2.94Kw/24Hrs	2 x 3Kw 240v single phase
500 Ltr	3.15Kw/24Hrs	2 x 3Kw 240v single phase

Foam Information
ODP Ozone Depletion potential = 0
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Foam Type = Polyurethane
British Standard 1566, D: 2002

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Installation Procedure

Read this instruction book carefully before proceeding.

The cylinders are mains pressure products and are unvented. Unvented hot water systems should only be fitted and serviced by competent persons, as defined by the current edition of the Building Regulations (England and Wales) Approved Document G or equivalent regulations.

The expansion vessel is fitted outside the case.

Please verify which model you have before proceeding with the installation.

The unit must be stored in an upright and dry place before installation.

Only use the components supplied with the cylinder. Failure to do so is potentially dangerous and will invalidate the product guarantee.

The cylinder should be connected to a public mains water supply through the Inlet Control Group supplied.

Indirect models must only be used with pumped primary system.

The standard cylinders cannot be used with solid fuel boilers.

The cylinder and mains pressure systems require an annual safety check by a competent person.

Failure to carry out this safety check will invalidate the warranty.

Measure the area in which you plan to install the cylinder and ensure that the floor can support the weight of the cylinder when full.

Unit	Full Weight kg	Height mm	Diameter mm	Standard Heat Up Time to 55C (mins)	Standard Reheat time to 60C after 70% draw-off (mins)	High Recovery Heat Up Time to 55C (mins)	High Recovery Reheat time to 60C after 70% draw-off (mins)
90	125	750	510	26	18	13	9
125	165	935	510	36	25	19	13
150	195	1060	510	37	26	19	13
170	220	1200	510	36	25	19	13
200	250	1120	554	33	24	17	12
250	310	1330	554	35	25	18	13
300	360	1650	554	40	29	20	15
400	480	1590	660	46	34	23	18
500	580	1835	660	52	39	25	20
600	715	1435	822	69	34	51	29
700	825	1664	822	72	36	51	28
800	946	1864	822	74	38	54	30
900	1075	2064	822	78	35	53	29
1000	1185	2314	822	86	37	50	28

Please note the above figures are for guideline purpose only.

Heat-up and re-heat times are for indirect models.

All dimensions and weights are nominal.

The Cylinders are designed to work efficiently under most water flow and pressure conditions. However, the full potential of a mains pressure system is unlikely to be achieved if the flow falls below 20 L/Min and the dynamic pressure is less than 1.5 bar.

To prevent damage to the coil and cylinder connections, make any soldered joints before connecting pipework to the cylinder.
Position the unit vertically and make the incoming cold water connection to the fitting labelled “mains water inlet”.
For commissioning and later maintenance purposes it is essential to fit a service valve immediately before the connection to the Inlet Control Group.

Installing the Inlet Control Group

The mains cold water supply should first pass through the pressure reducing valve, which reduces the pressure to 3.0 bar - this is factory set and cannot be adjusted - and then through the 6.0 bar expansion valve .
The Inlet Control Group includes a single check valve and filter.

***NB** Upon commissioning. The expansion vessel pressure should be adjusted to 0.2 bar less than the incoming water pressure.

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Ensure that the Inlet Control Group is fitted adjacent to the cylinder with the arrows on the side pointing in the direction of the flow.

It must be no further away than 500mm and have no devices or connections/draw offs between it and the cylinder*.

Balanced supplies for showers and mixer taps only should be taken from the appropriate connection on the Inlet Control Group (see illustration).

Water regulations require that a single check valve should be fitted in the balanced draw off to prevent back flow.
The inlet group supplied incorporates a single check within the body of the group.

*The expansion vessel for the cylinder must be fitted between the inlet control group and the unit (see illustration)

A suitable means for draining the unit must be incorporated into the cold feed (see illustration) –
Positioning the drain as suggested will allow a minimum of 80% of the cylinder to be drained off.

Connect the discharge pipework and tundish to the valve labelled "P&T" The tundish should be connected to the cylinder using 15mm metal pipe.

The tundish (supplied) must be fitted within 500mm of the outlet of the P&T valve and have at least 300mm of straight metal pipe below it, before any elbow or bend.

The pipework below the tundish should be fitted in accordance with the current edition of the Building Regulations.

The discharge from the expansion valve on the Inlet Control Group must be connected into the discharge pipe work.

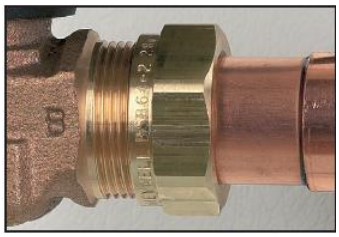
We recommend a double check valve should be fitted to the hot water draw off to prevent any back pressure.

Connect the boiler flow and return to the labelled connections. Before making the connections ensure that the coil is free from obstructions by blowing through it.

The Energy Cut Out valve is an essential part of the safety requirements for indirect mains pressure cylinders and should be installed on the primary flow to the cylinder with port 'B'(embossed on side of valve body) to the cylinder. The valve will open and close on receiving a signal from the cylinder thermostat.

No further control is required for the hot water in a two zone valve system.

This valve must also be used in a flow share (Y Plan) system, in conjunction with the mid-position valve, to act as a safety cut out valve.



The cylinder thermostat controls the temperature of the hot water and also acts as an emergency cut out in the event that the boiler temperature controls fail. The cylinder thermostat is fitted into the pocket labelled "Store Temp Control" in the cylinder, and should be connected to operate the energy cut out valve in accordance with the wiring diagram for the scheme being installed.

Connect hot water draw off to connection labelled "Hot Water Draw Off".

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NB: If the secondary circulation system (where used) contains more than 15 litres of water a separate expansion vessel must be provided to compensate for the larger stored volume.

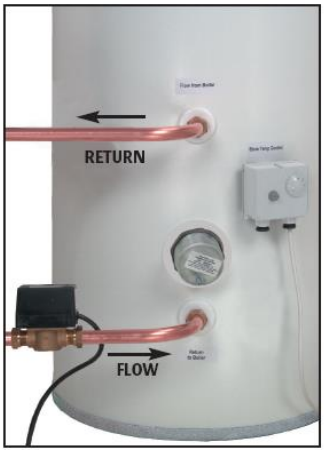
Make electrical connections to the immersion heaters – see wiring diagram inside cap of immersion heater. All electrical installations must be to IEEE standards.

The immersion heaters supplied with the cylinder are of a special construction and include both a control thermostat and overheat protection. When fitting, ensure the 'O' ring is positioned correctly on the head of the immersion heater and lubricate before fitting.

Fit it by hand until almost home then tighten gently as the 'O' rings will seal easily.

Only use genuine replacement parts which can be obtained from a MHG Water Heaters approved merchant.

Ensure that the immersion heater control setting is set between 55°C and 65°C for economical operation.
T**he upper limit thermostat is set to 80°C and must not be tampered with.**



Commissioning & Operating

Ensure all connections are fully tightened.

Open all of the hot taps supplied by the cylinder and slowly fill the unit by opening the service valve.

Continue to fill the unit until water runs continuously from all of the open taps. Open the service valve fully, and close all hot taps. Check for leaks.

Heat the water to 60°C. When up to temperature, the cylinder should be isolated and drained to flush out any flux/solder introduced during the installation process. The filter in the inlet control set should be removed, cleaned and re-fitted - see photograph

Reheat the cylinder to desired temperature and recheck for leaks.

For safety and energy saving reasons it is advisable to operate the cylinder at a temperature between 55°C and 60°C.

Place this instruction book in a convenient place for the end user. Complete the Service Record Log Book and leave with the cylinder. Complete the guarantee card and post it.

We recommend the installation of a gate valve between the boiler flow and return pipes immediately before the energy cut out valve to balance the primary flow.

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Building Regulations

Discharge pipes must be installed in accordance with the latest edition of the Building Regulations.

Discharge Pipes

The discharge pipe (D1) from the vessel up to and including the tundish is generally supplied by the manufacturer of the hot water storage system (see paragraph 3.5). Where otherwise, the installation should include the discharge pipe(s) (D1) from the safety device(s). In either case the tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible and within 500mm of the safety device e.g. the temperature relief valve.

The discharge pipe (D2) from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge, be of metal and:

a. Be at least one pipe size larger than the normal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 sizes larger, and so on.
Bends must be taken into account in calculating the flow resistance. Refer to Diagram 1, Table 1 and the worked example. An alternative approach for sizing discharge pipes would be to follow BS 6700: 1987 Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages, Appendix E, section E2 and table 21.

b. Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.

c. Be installed with a continuous fall.

d. Have discharges visible at both the tundish and the final point of discharge but where this is not possible or is practically difficult there should be clear visibility at one or other of these locations. Examples of acceptable discharge arrangements are:

i. Ideally below a fixed grating and above the water seal in a trapped gully.

ii. Downward discharges at low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children may play or otherwise come into contact with discharges a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.

iii. Discharges at high level; e.g. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3 m from any plastics guttering system that would collect such discharges (tundish visible).

iv. Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation discharging can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place.

Note:
The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

DIAGRAM 1 - Typical discharge pipe arrangement

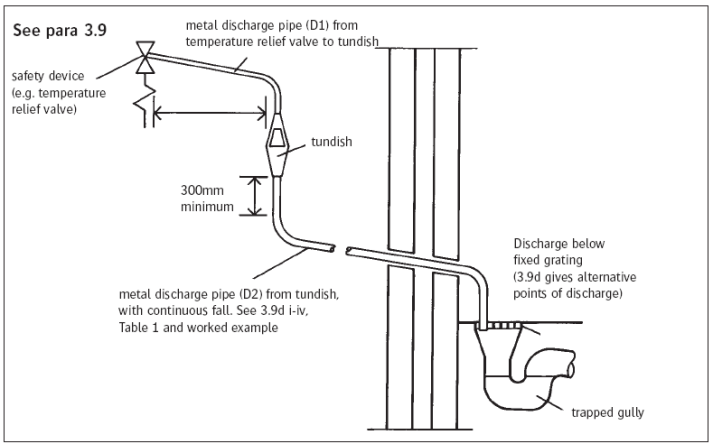

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Table 1 - Sizing of copper discharge pipe 'D2' for common temperature relief valve outlet sizes

Valve Outlet Size	Minimum Size of Discharge pipe D1*	Minimum Size of Discharge Pipe D2* from tundish	Maximum resistance allowed, expressed as a length of straight pipe (i.e. no elbows or bends)	Resistance created by each elbow or bend
G1/2	15mm	22mm	up to 9m	0.8m
		28mm	up to 18m	1.0m
		35mm	up to 27m	1.4m
G3/4	22mm	28mm	up to 9m	1.0m
		35mm	up to 18m	1.4m
		42mm	up to 27m	1.7m
G1	28mm	35mm	up to 9m	1.4m
		42mm	up to 18m	1.7m
		54mm	up to 27m	2.3m

*see 3.5, 3.9, 3.9(a) and Diagram 1

Worked Example

The example below is for a G1/2 temperature relief valve with a discharge pipe (D2) having 4 no. elbows and length of 7m from the tundish to the point of discharge.

From Table 1

Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is: 9.0m. Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m

Therefore the maximum permitted length equates to: 5.8m

5.8m is less than the actual length of 7m therefore calculate the next largest size.

Maximum resistance allowed for a straight length of 28mm pipe (D2) from G1/2 temperature relief valve equates to: 18m.

Subtract the resistance for 4 No. 28mm elbows at 1.0m each = 4m.

Therefore the maximum permitted length equates to 14m.

As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

NOTES ON WATER QUALITY AND SCALING

Water hardness can vary considerably around the country. If furring of kettles normally occurs in the area, then the unit should be fed with conditioned water only. This can be provided by a water softener with a high capacity flow rate, or a suitable water conditioner (not supplied). It is recommended that the temperature controls are set below 65°C to prevent lime scale build up.
The performance of all water storage appliances and their associated components may deteriorate if you do not protect adequately against hard water scaling. If more than 150ppm salts are present in local water samples, an effective conditioner should always be used.

Maintenance

The following checks should be conducted annually:

Check the operation of the T & P valve and Expansion valve by rotating the heads of the valves in turn until water is discharged. The discharge should stop immediately when the valve head is released. Should this not be the case the valve should be replaced. Check that the discharged water flows freely to waste and that there is no blockage.

Remove and clean the filter in the Pressure Reducing Valve.

Check that the expansion vessel charge pressure is set at 0.2 bar below the incoming pressure. If water is being discharged from the expansion valve it may be indicative of pressure loss within the expansion vessel itself. To check the pressure, isolate the unit from the cold supply and release any pressure by opening a hot tap until water stops flowing. Then use a tyre pressure gauge to verify the charge pressure. If the unit is more than 5 years old when this problem is experienced it may be advisable to replace the pressure vessel. If however, the pressure in the expansion vessel is 0.2 bar below incoming pressure the discharge may be being caused by back pressure or cross-over between the cold and hot water supplies - see below.

To replace the pressure vessel, unscrew from threaded connection. The new pressure vessel should be adjusted to 0.2 bar below incoming pressure and then fitted to the cylinder, ensuring that the threads are sealed appropriately.

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Back pressure

Back pressure from a faulty or uncontrolled mixer valve or appliance will cause the cylinder to over pressurise and may result in water being discharged from the expansion valves. To protect the cylinder we recommend the fitting of a check valve on the hot water draw off to prevent back flow into the cylinder.

Use only genuine MHG replacement parts on all repairs.

Lifetime Guarantee

The Stainless steel vessel carries a lifetime guarantee against faulty manufacture or materials, provided that:
The product is used solely for the storage of water from a mains public supply.
The product has not been modified or tampered with.
The product has been installed and maintained in accordance with the installation instructions.
The product has not been subjected to damage caused by frost, or other external influence.
The Guarantee Card, supplied with the product, has been completed and returned within 90 days of installation.
The immersion heater, water control valves, cylinder thermostat, expansion vessel and energy cut out valves are guaranteed for two years from the date of manufacture.
This guarantee is only available in the United Kingdom of Great Britain and Northern Ireland.
Claims made against our Lifetime Guarantee must be supported with evidence of purchase and the product serial number, along with a copy of the completed Benchmark Log Book.
Your Statutory rights are not affected by this guarantee.
All vertical cylinders are WRAS Approved.
Exclusions to the guarantee
Any labour charges associated with replacement of the unit or any of its components.
Any consequential losses caused by malfunction or failure of the unit.
The effects of scale build up.
Failure to carry out the annual safety check on this product will invalidate the guarantee.

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Fault Finding

SYMPTOM	POSSIBLE CAUSES	ACTION
No flow	Mains service valve not open Blocked filter.	Open stop valve or replace. Clean filter in base of Pressure Reducing Valve.
Low Pressure	Service valve not fully open or partially blocked filter. Restricted delivery pipework Low mains pressure.	Ensure service valve is fully open or clean filter in PRV. Replace damaged or old pipework. Check incoming mains pressure or discuss with local water supplier
Discharge from P&T or P valve(s)	Expansion vessel. Inlet Pressure Reducing Valve. Defective expansion relief valve or debris or scale on seating of valve. Defective or incorrectly set cylinder thermostat (ie temperature set too high) allowing water to overheat. Crossflow from uncontrolled cold water mains supply to mixer tap or shower valves.	Replenish or replace in accordance with instructions in the maintenance section. Replace PRV Operate expansion relief valve mechanism to clear debris. If discharge does not stop replace expansion relief valve. Check setting and operation of cylinder thermostat (55-65°C). Replace if necessary. Check mixer taps and shower valve and fit check valves or area pressure controls if required. Alternatively supply cold water to mixer tap or shower valves from balanced supply position on inlet control set.
INDIRECT		
Water fails to heat	Boiler not working. Pump and/or control valve not operating. Cylinder thermostat upper limit stat has operated.	Check boiler controls. Check control functions and replace faulty parts. Reset the button on the dual cylinder thermostat after investigating cause of overheating.
Not enough hot water	Cylinder too small.	Check storage specification is adequate. Telford Service Department can help.
Water not hot enough	Boiler not providing enough heat. Cylinder thermostat settings incorrect.	Adjust thermostat to between 55°C and 65°C. Ensure boiler thermostat is set to above 75°C.
DIRECT		
Water fails to heat	Upper limit cut-out switch has operated in immersion heater.	Turn off electricity supply, open cap of I/H and reset cut-out (red button) or press external reset button if fitted.

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Installed by:

Name	
Address	
Tel. No	
Completion Date	
Unit Type	
Indirect / Direct	
APPLIANCE SERIAL NO	
Capacity	
Weight	
In	

Service Record

Activity	Date	Parts Replaced	Installer Names and Unvented Registration number
Installed			
Commissioned			
1st Service			
2nd Service			
3rd Service			
4th Service			
5th Service			
6th Service			
7th Service			
8th Service			
9th Service			
10th Service			
11th Service			
12th Service			
13th Service			
14th Service			

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