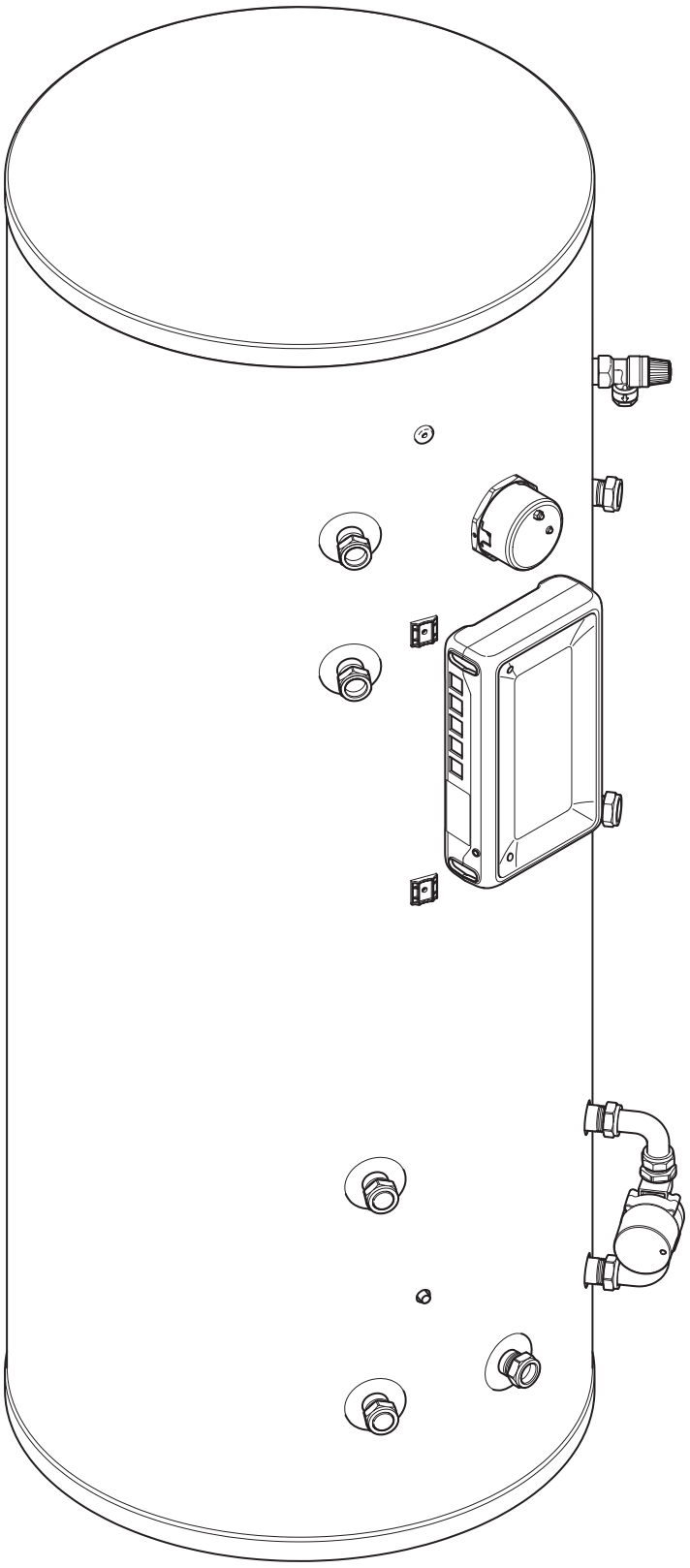
Mixergy X

Installation & Servicing instructions

For stainless steel hot water cylinders



CIPHE
ciphe.org.uk
INDUSTRIAL ASSOCIATE

WRAS
APPROVED PRODUCT

hot water association

PLEASE LEAVE WITH HOUSEHOLDER

Failure to install and maintain this system in accordance with these instructions will invalidate the manufacturer's warranty.

mixergy®

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1.0 Cylinder details - MX number

Your cylinder MX number can be found on the label placed on the front of the cylinder.

For detailed guidance on how a Mixergy cylinder operates and how to optimise system performance, visit **support.mixergy.co.uk**

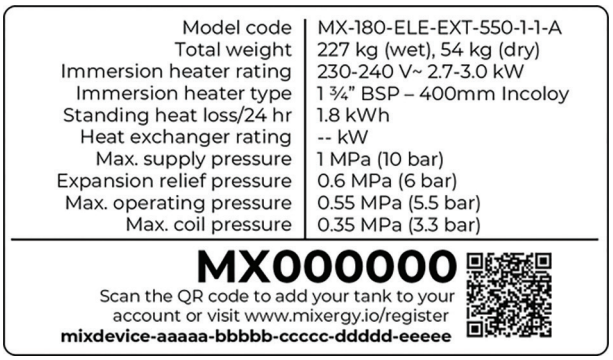


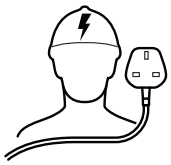
Fig. 1

2.0 Technical data

Max. supply pressure to pressure reducing valve	10 bar
Operating pressure	3 bar
Expansion vessel charge pressure	3 bar
Expansion relief valve setting	6 bar
P&T relief valve setting (pressure)	7 bar
P&T relief valve setting (temperature)	90 °C
Thermostat safety cut-out temperature	80 °C
Adjustable temperature range (digital)	50 - 65 °C
Coil max. working pressure (indirect)	3.5 bar
Immersion heater(s) rating	230-240 V~ 2.7-3.0 kW
Immersion heater(s) specification	EN 60335-2-73
Immersion heater(s) type	356 mm Incoloy

3.0 Safety

This equipment must be connected to a protective earthing (PE) conductor.



This equipment is designed for connection to single phase supplies with the neutral conductor at earth potential – category TN or TT. This equipment is not designed for use with live and neutral connections reversed or where the neutral conductor is not at earth potential (IT supplies).

This device must be connected via a 16A MCB protected supply.

Always disconnect the device from the supply before removing or replacing the cover. This device has been manufactured in accordance with current safety standards. However, incorrect operation or misuse may result in:

- Injury or death to the operator or third parties.
- Damage to the device and other property of the operator.
- Incorrect operation of the device.

All persons involved in commissioning, maintaining, and servicing the device must:

- Be suitably qualified and competent.
- Have knowledge of and experience in dealing with electrical installations.
- Read and follow these operating instructions carefully.

Unvented hot water cylinders must not be used with solid fuel boilers as the energy source. All models are factory fitted / supplied with immersion heaters that have built-in thermal cut-outs. Heaters without thermal cut-outs must not be fitted. All unvented installations must be fitted with a pressure reducing valve (supplied) and P&T relief valve (fitted). These must not be removed or used for any other purposes than what they are designed for.

4.0 Performance

Product code	ErP rating	ErP profile	ErP AEC	ErP efficiency	Standing loss*	Coil rating**	Recovery time***
Direct	--	--	kWh	%	W	kW	min
120-ELE-582	B	M	1310	39.2	45	--	44 - 140
150-ELE-582			1310	39.2	48		44 - 176
180-ELE-582			1257	40.0	53		44 - 210
210-ELE-582			1293	39.7	58		44 - 246
250-ELE-582			1282	40.0	68		44 - 293
300-ELE-582			1296	39.6	72		44 - 350
Direct slim	--	--	kWh	%	W	kW	min
120-ELE-475	B	M	1288	39.9	56	--	30 - 140
150-ELE-475			1287	39.9	66		30 - 176
180-ELE-475			1276	40.0	72		30 - 210
210-ELE-475			1315	39.0	87		30 - 246
Indirect	--	--	kWh	%	W	kW	min
120-IND-582	B	--	--	--	45	12	11 - 38
150-IND-582					48	15	11 - 38
180-IND-582					53	19	11 - 36
210-IND-582					58	21	11 - 38
250-IND-582	C				68	21	11 - 46
300-IND-582					72	21	11 - 55
Direct slim	--	--	kWh	%	W	kW	min
120-IND-475	C	--	--	--	56	12	11 - 38
150-IND-475					66	15	11 - 38
180-IND-475					72	19	11 - 36
210-IND-475					87	21	11 - 38

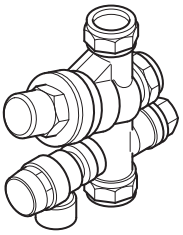
* Standing loss is given in Watts at 100% charge, for SAP calculations this can be converted to kWh/24hr by multiplying by 0.024.

** Coil rating is given according to BS EN 12897 at 80°C, 15 L/min flow.

***Recovery time is given as a range between minimum reheat time and 100% charge reheat time for a 15°C - 60°C heat.

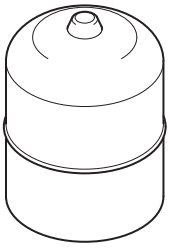
5.0 Additional components

- Monobloc cold water inlet control group including pressure reducing valve, check valve, pressure and temperature relief valve and expansion relief valve (unvented only)

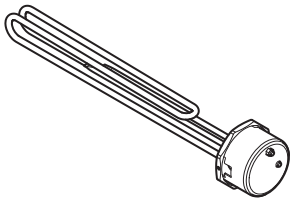


- Tundish (unvented only)

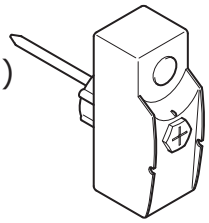
- Expansion vessel including mounting bracket and 3/4" x 22mm adaptors (unvented only)



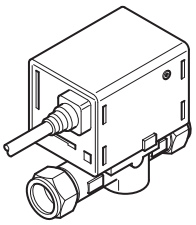
- 3 kW immersion heater(s) 1.3/4" BSP (factory fitted)



- High limit thermostat (indirect only, fitted)



- 2-port diverter valve V4043H1056 (indirect only)



- Powerline to ethernet adaptor TL-PA4010

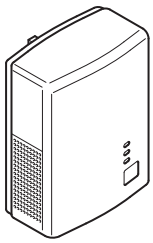
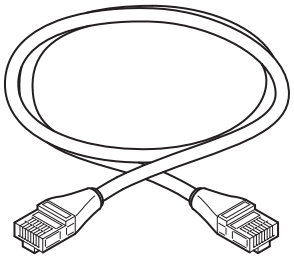
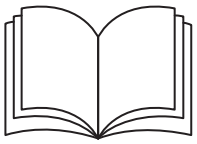


Fig. 2

- Ethernet cable



- User guide



- Gauge

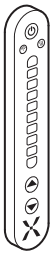


Plate heat exchanger assembly:
Optional extra for heat pumps.

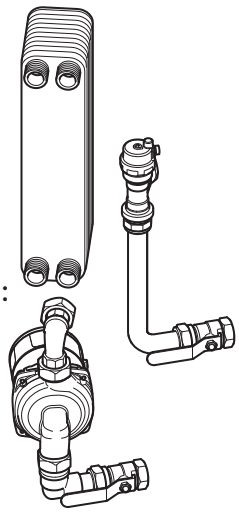


Fig. 3

6.0 Design notes

The Mixergy cylinder is currently available in two variations:

- **Direct** - provides hot water heated by electricity and is designed primarily for use with off peak/time of use tariffs.
- **Indirect** - provides hot water either by electricity or an internal primary coil which is designed for use with gas or oil fired boilers.

In addition, Mixergy cylinders can be fitted with the following options:

- PV switch to allow compatibility with third party PV diverters.
- Factory fitted PV diverter.
- Heat pump exchanger module for use with heat pumps.

Unvented hot water cylinders must not be used with solid fuel boilers as the energy source.

All models are factory fitted / supplied with immersion heaters that have built-in thermal cut-outs. Immersion heaters without thermal cut-outs must not be fitted.

All unvented installations must be fitted with a pressure reducing valve (supplied) and P&T relief valve (fitted). These must not be removed or used for any other purposes than what they are designed for.

The unit should be handled with care in order to avoid damage.
It should be stored upright in a dry place.

7.0 Schematic: Indirect

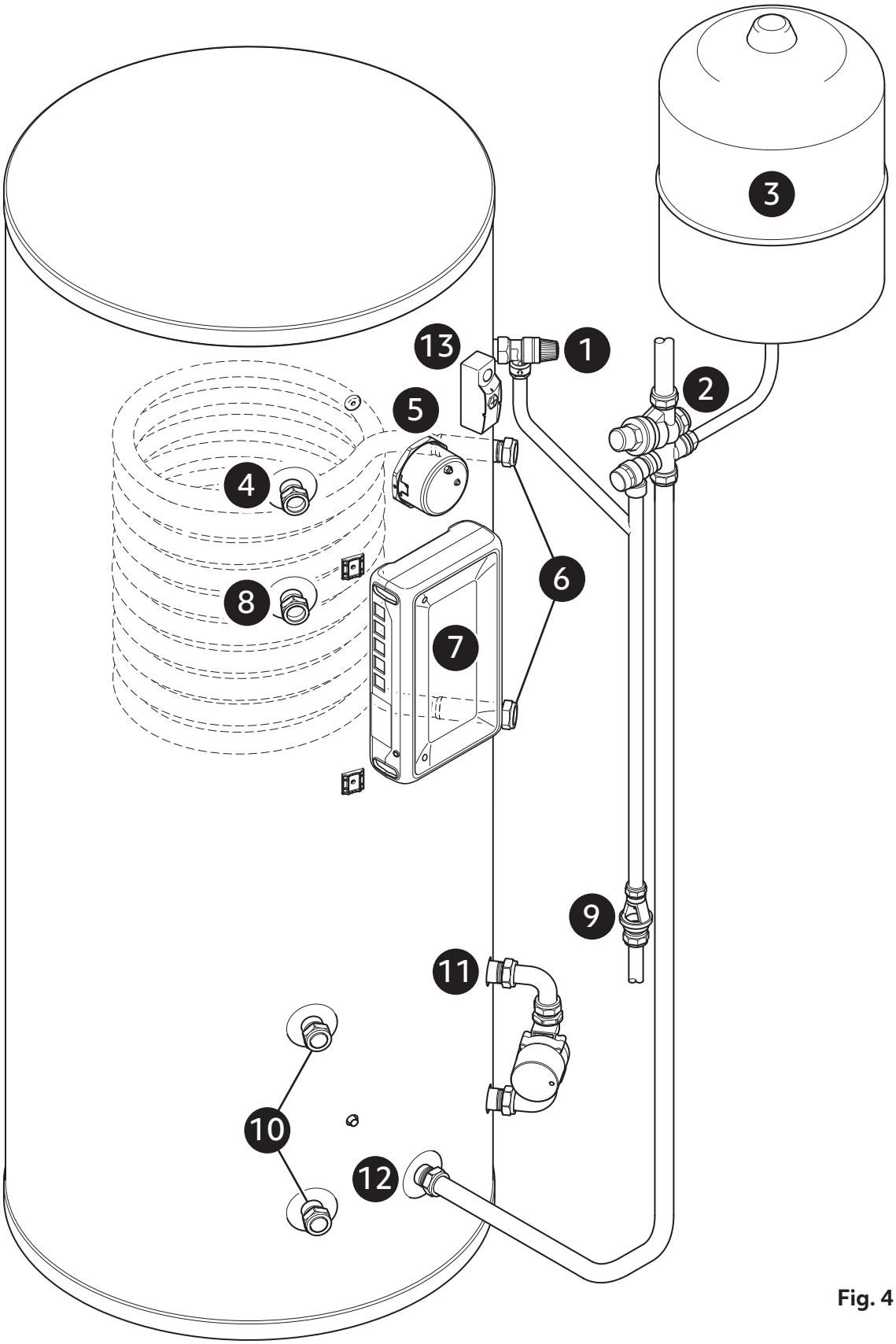


Fig. 4

1. T&P relief valve
2. Inlet control monobloc
3. Expansion vessel
4. Hot water outlet
5. Primary immersion
6. Primary coil
7. Controller
8. Secondary return (210L, 250L, 300L only)
9. Tundish and discharge pipework
10. Heat pump ready ports (Cap off if not used)
11. Pump assembly
12. Cold inlet
13. Indirect overheat thermostat

8.0 Schematic: Direct

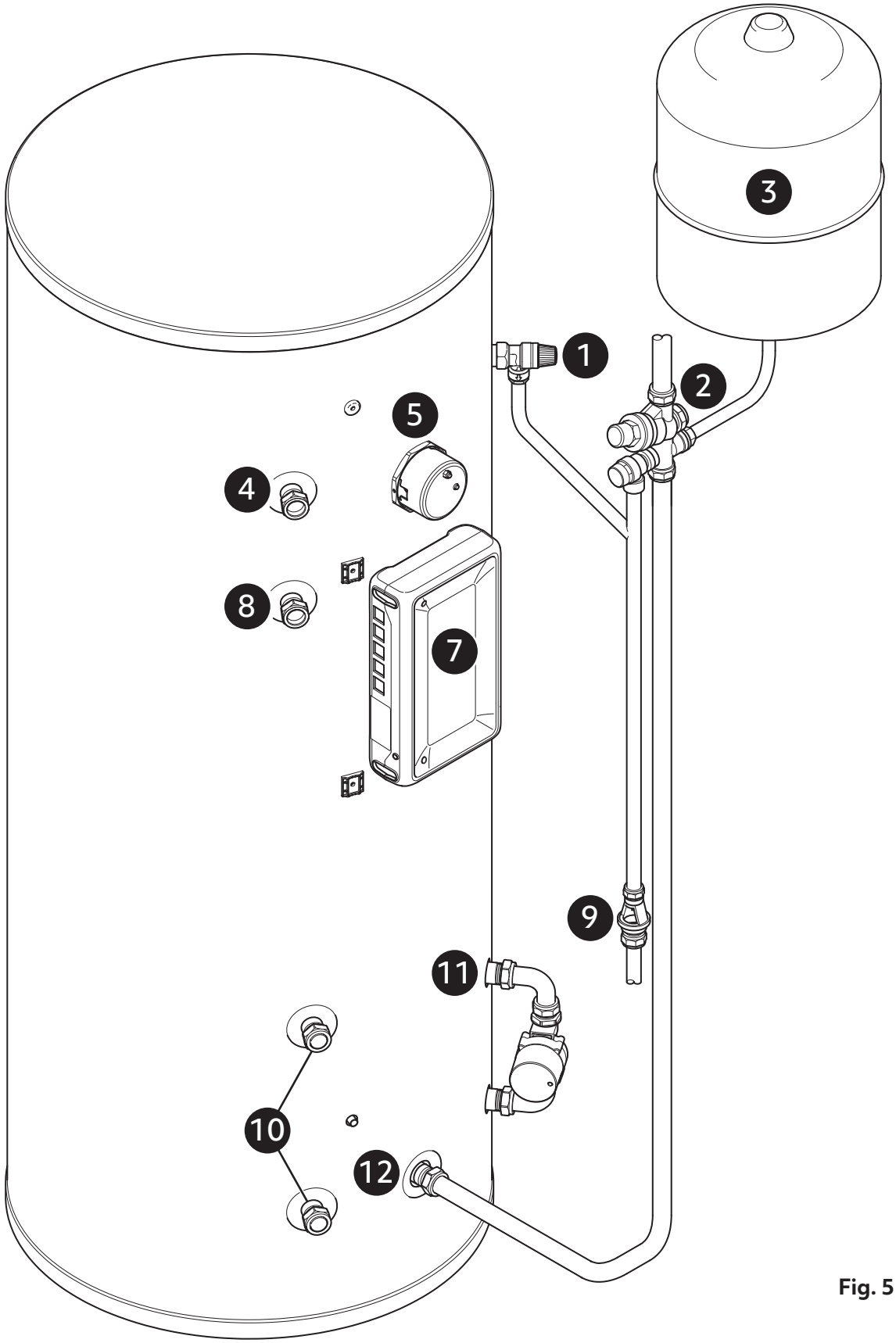


Fig. 5

1. T&P relief valve
2. Inlet control monobloc
3. Expansion vessel
4. Hot water outlet
5. Primary immersion
6. N/A
7. Controller
8. Secondary return (210L, 250L, 300L only)
9. Tundish and discharge pipework
10. Heat pump ready ports (Cap off if not used)
11. Pump assembly
12. Cold inlet
13. N/A

9.0 Hydraulic schematics

9.1 Direct unvented

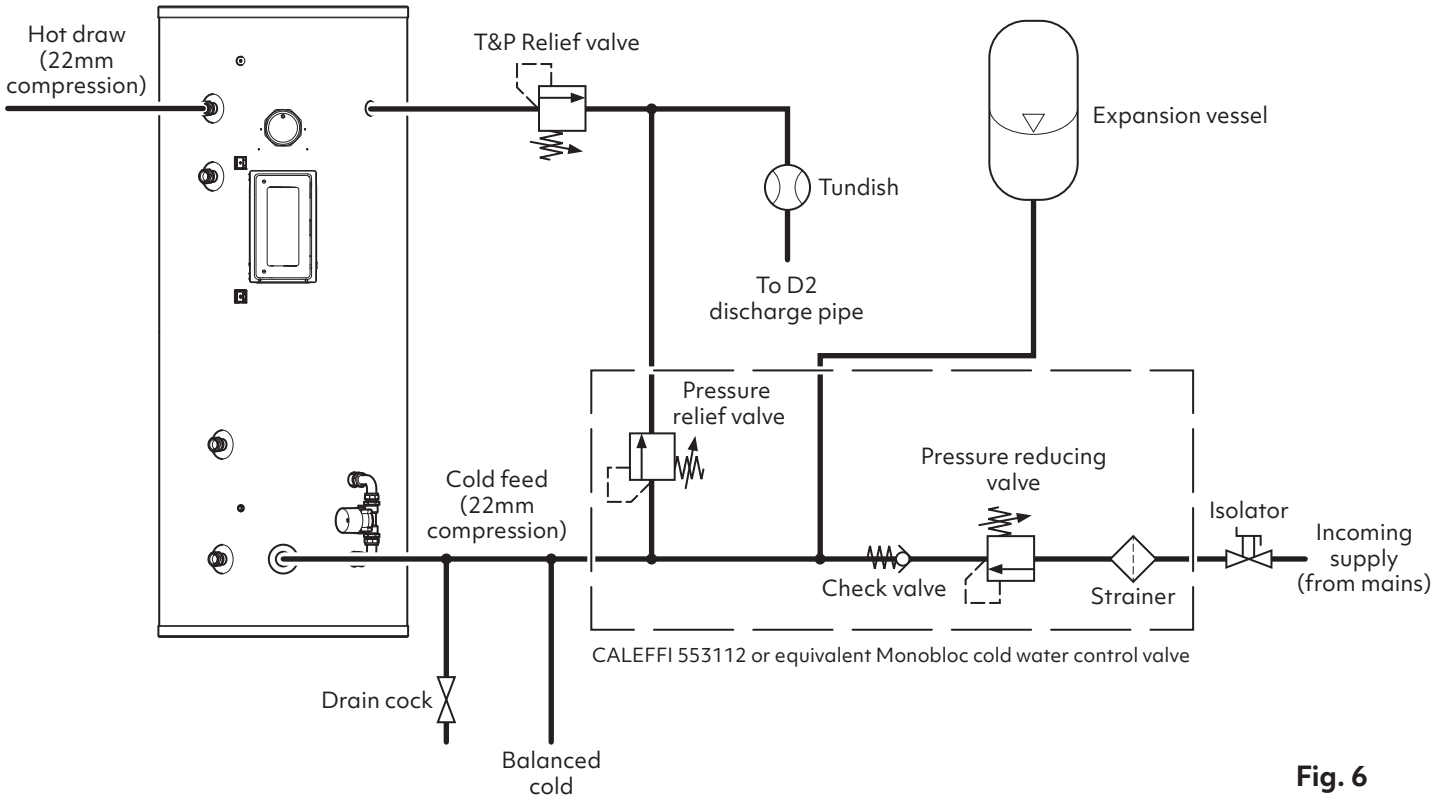


Fig. 6

9.2 Indirect unvented

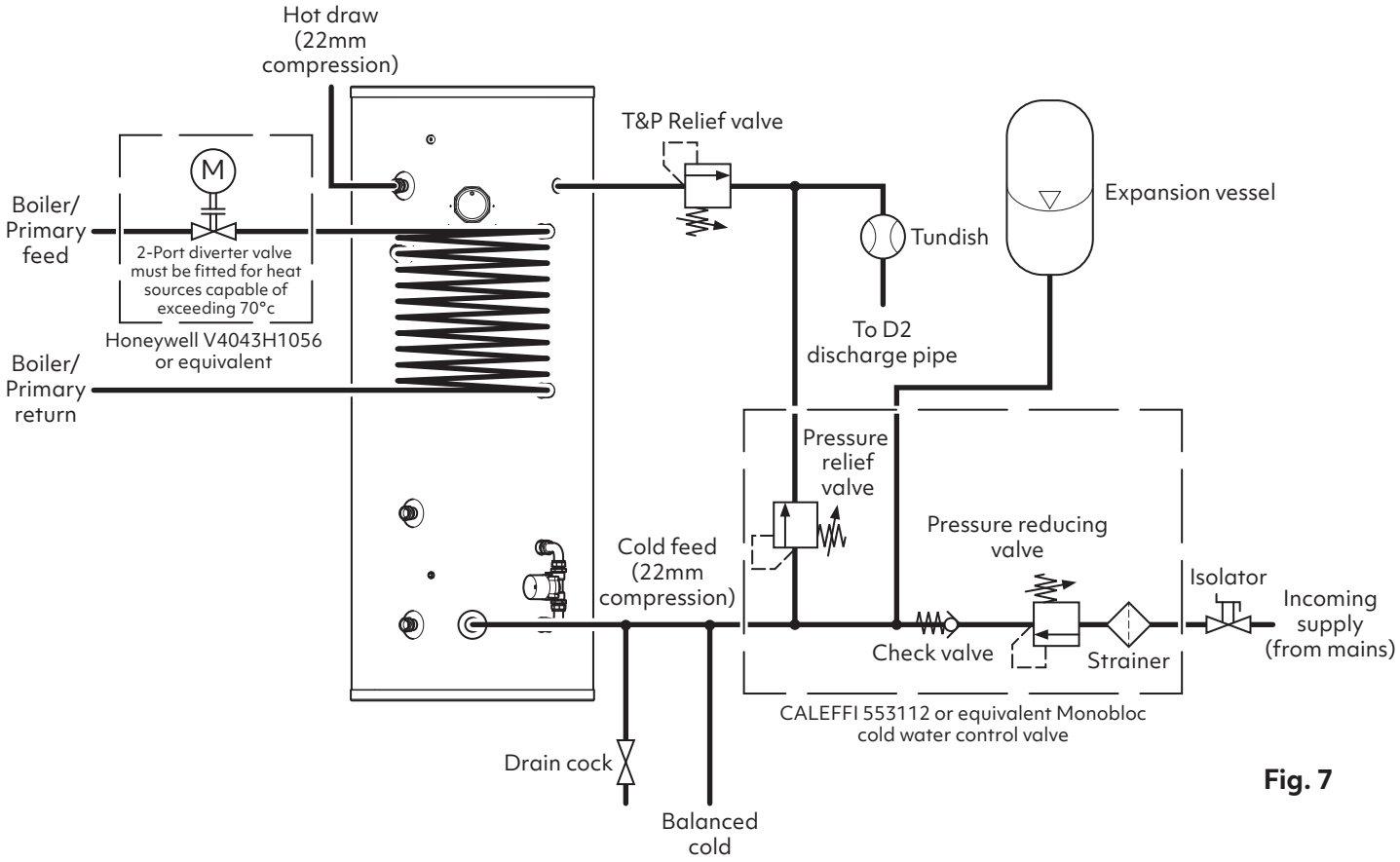


Fig. 7

10.0 Installation: general guidelines

In the case of an unvented installation, this product should only be installed by a "competent operative" i.e. the installer must have attended a recognised course in unvented hot water systems.

The installation area should be able to cope with the weight, incoming pipes and discharge pipe when full.

10.1 Positioning of the cylinder

Position of the cylinder should suit the installation; all connections should be to the front for ease of access.

Ensure suitable space is left for access for repair and/or replacement of immersions and valves etc.

Ensure at-least 100mm of vertical clearance above the cylinder.

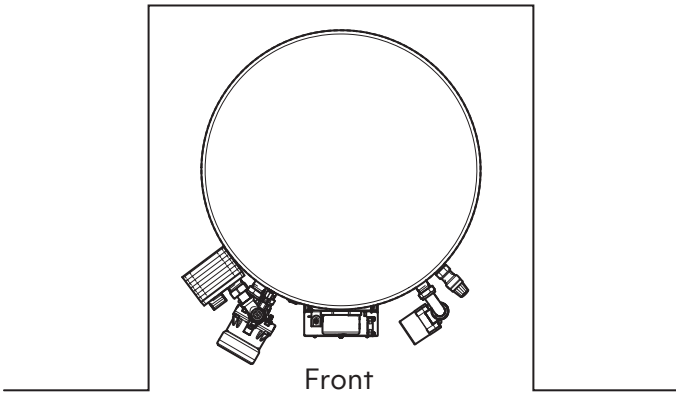


Fig. 8

Mixergy X

Model	120L	150L	180L	210L	250L	300L
Height	986mm	1166mm	1346mm	1526mm	1766mm	2066mm
Diameter	582mm	582mm	582mm	582mm	582mm	582mm
Weight empty	35kg	38kg	42kg	45kg	51kg	55kg
Weight full*	155kg	188kg	212kg	255kg	301kg	355kg

Mixergy X Slimline

Model	120L	150L	180L	210L
Height	1250mm	1440mm	1690mm	2000mm
Diameter	479mm	479mm	479mm	479mm
Weight empty	33kg	37kg	41kg	45kg
Weight full*	151kg	184kg	208kg	242kg

10.0 Installation: general guidelines

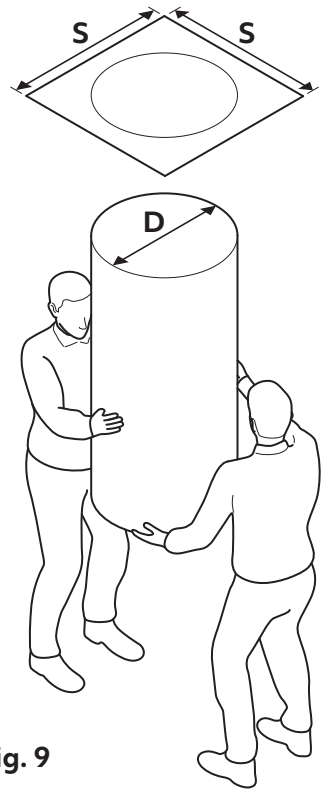


Fig. 9

* Add 5kg to the full cylinder weight for cylinders with an external heat exchanger fitted.

Ensure that any apertures (such as loft hatches) that the cylinder must pass through, meet the minimum space requirement S.

Nominal diameter D	Space requirement S
470-480mm	550mm
550-582mm	700mm
700-720mm	850mm

10.2 Unvented installations

In the case of an unvented installation, installers should ensure incoming mains pressure is less than 10 bar and at-least 1 bar with a minimum flow rate of 10 L/min.

10.3 Pipework and cold water inlet control group

The unit should be piped in with a nominal 22mm pipe to ensure adequate flow rate. The unit is supplied with a monobloc pressure reducing valve that has a set pressure of 3 bar. The valve also consists of a serviceable strainer, non-return valve, expansion relief valve, connection for an expansion vessel and balanced cold feed supply. We would strongly recommend fitting an isolating valve (not supplied) prior to the monobloc valve for ease of maintenance at a later date. Under no circumstances should an isolating valve be fitted between the expansion valve and the storage cylinder.

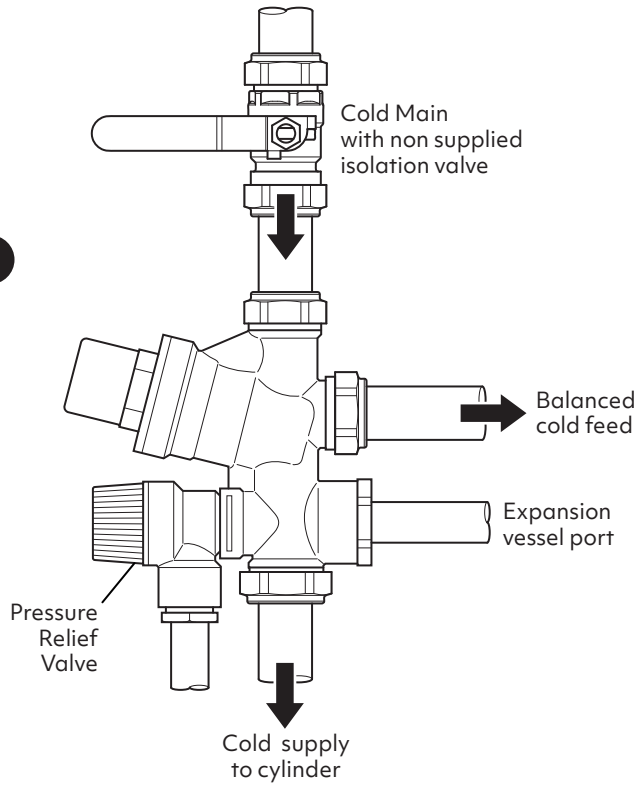


Fig. 10

10.4 Fitting a drain valve

Please ensure that a drain valve is fitted to the lowest part of the pipework installation.

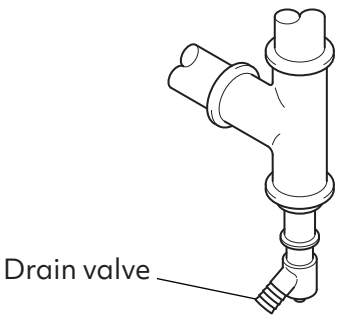


Fig. 11

10.0 Installation: general guidelines

10.5 Positioning the tundish

The tundish, which shows visible discharge from the relief valves, is to be in a prominent, visible and safe position away from any electrical devices. See 11.1 Discharge pipes from safety devices on page 17.

10.6 Checking the pump and T&P relief valve

The temperature and pressure relief valve is set at 7 bar and 90°C. Both the pump and T&P valve are factory fitted and sealed prior to dispatch. Whilst we endeavour to make sure there are no leaks from these seals, we would advise checking the connection as the valve/ pump may have been disrupted in transit.

10.7 Fitting the expansion vessel

The expansion vessel should be checked and if required charged at 3.0 bar. The vessel should be mounted securely to the wall or sufficient support with the fixing kit supplied. The connection should be made between the vessel and monobloc kit using the included 3/4" x 22mm compression adaptor.

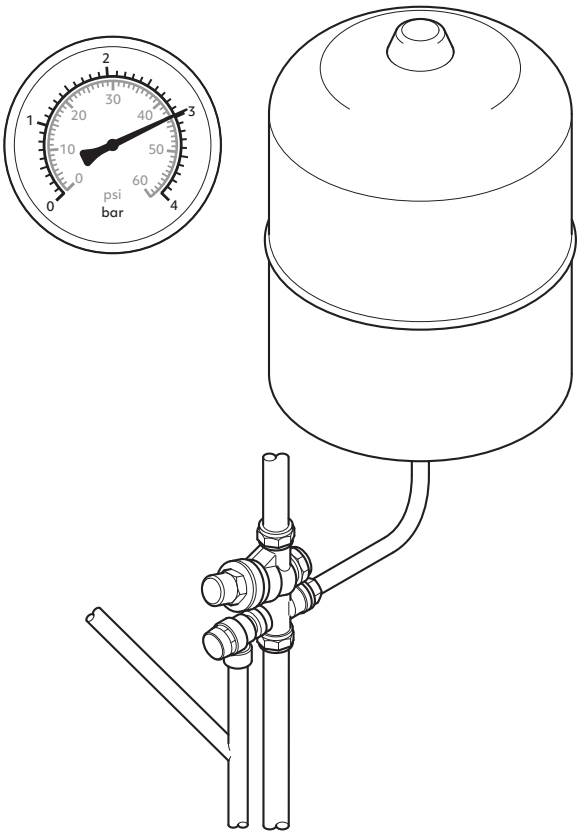


Fig. 12

The relief valves are only to be used for relief discharge purposes. No valves should be fitted between the relief valves and the cylinder.

11.0 Discharge pipework

11.1 Discharge pipes from safety devices

- Safety devices such as temperature relief valves or combined temperature and pressure relief valves should discharge either directly or by way of a manifold via a short length of metal pipe (D1) to a tundish (Fig. 14).
- The diameter of discharge pipe (D1) should be not less than the nominal outlet size of the safety device, e.g. temperature relief valve.
- Where a manifold is used it should be sized to accept and discharge the total discharge from the discharge pipes connected to it.
- Where valves other than a temperature and pressure relief valve from a single unvented hot water system discharge by way of the same manifold that is used by the safety devices, the manifold should be factory fitted as part of the hot water storage system unit or package.

11.2 Tundish

- The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the safety device, with no more than 600mm of pipe between the valve outlet and the tundish. Note: to comply with the Water Supply (Water Fittings) Regulations, the tundish should incorporate a suitable air gap.
- Any discharge should be visible at the tundish. In addition, where discharges from safety devices may not be apparent, e.g. in dwellings occupied by people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.

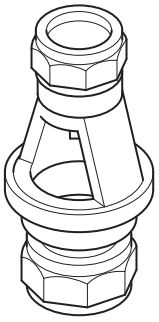


Fig. 13

11.3 Typical discharge pipe arrangement

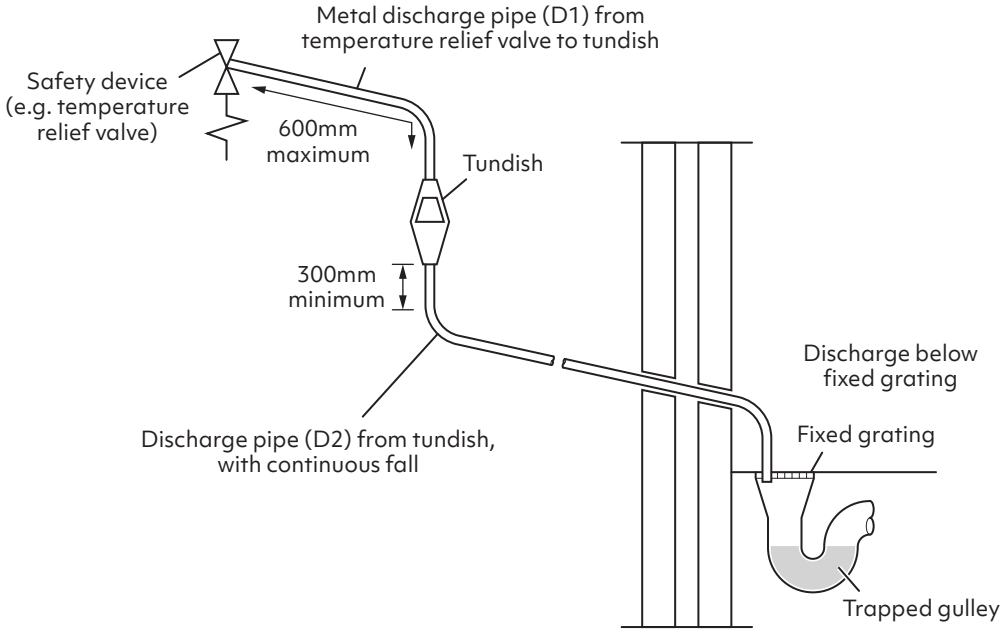


Fig. 14

11.0 Discharge pipework

11.4 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	Resistance created by each elbow or bend
G 1/2"	15mm	22mm	< 9m	0.8m
		28mm	<18m	1.0m
		35mm	<27m	1.4m
G 3/4"	22mm	28mm	<9m	1.0m
		35mm	<18m	1.4m
		42mm	<27m	1.7m

11.5 Discharge pipe D2

- The discharge pipe (D2) from the tundish should have a vertical section of pipe at least 300mm long below the tundish before any elbows or bends in the pipework. It should be installed with a continuous fall of at least 1 in 200 (Fig. 14).

- The discharge pipe (D2) should be made of metal or other material that has been demonstrated to be capable of safely withstanding temperatures of the water discharged and is clearly and permanently marked to identify the product and performance standard (e.g. as specified in the relevant part of BS 7291-1:2006.)

- The discharge pipe (D2) should be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long, i.e. for discharge pipes between 9m and 18m the 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.

- Where a single common discharge pipe serves more than one system, it should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected.

An alternative approach for sizing discharge pipes would be to follow Annex D, section D.2 of BS 6700:2006 + A1:2009 Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

11.0 Discharge pipework

- The discharge pipe should not be connected to a soil discharge stack unless it can be demonstrated that the soil discharge stack is capable of safely withstanding the temperatures of the water discharged, in which case, it should contain a mechanical seal, not incorporating a water trap, which allows water into the branch pipe without allowing foul air from the drain to be ventilated through the tundish.

- If plastic pipes are used as branch pipes carrying discharge from a safety device, they should be either polybutylene (PB) or cross-linked polyethylene (PE-X) complying with national standards such as Class S of BS 7291-2:2006 or Class S of BS 7291-3:2000 respectively; and be continuously marked with a warning that no sanitary appliances should be connected to the pipe.

- Where pipes cannot be connected to the stack it may be possible to route a dedicated pipe alongside or in close proximity to the discharge stack.

Plastic pipes should be joined and assembled with fittings appropriate to the circumstances in which they are used as set out in BS EN ISO 1043-1:2002.

11.6 Termination of discharge pipe

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.

Examples of acceptable discharge arrangements are:

- To a trapped gully with the end of the pipe below a fixed grating and above the water seal.

- 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 a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.

- Discharges at high level: e.g. into a metal hopper and metal downpipe with the end of the discharge pipe clearly visible or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering system that would collect such discharges.

12.0 Fitting the gauge

The gauge has a magnetic backing strip to attach directly to the cylinder, or by using the self adhesive pad can be installed outside of the cylinder cupboard for easy user access.

If required, the cable can be extended by using a RJ11 extension cable (available from Mixergy).

Insert the connector into the control box (Fig. 15).

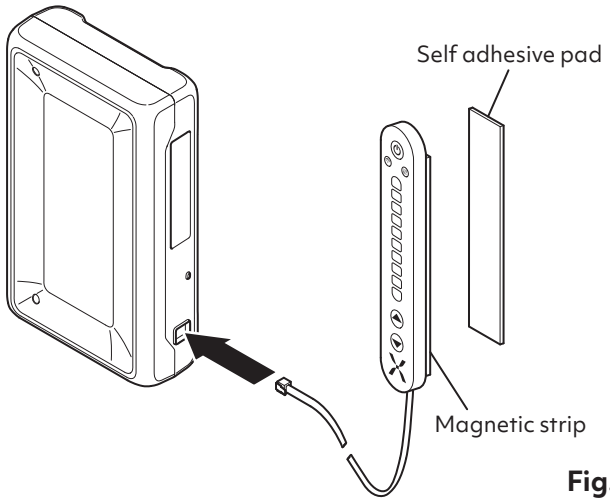


Fig. 15

13.0 Installation: electrical

13.1 Indirect units and electrical wiring

On indirect units, where a coil is fitted to the cylinder, the supplied two port motorized zone valve must be fitted when the indirect source is capable of exceeding 70°C in accordance with the instruction details supplied for the appropriate installation. Maximum working pressure of the coils is 3.5 Bar. All electrical wiring to electronics, zone valve and immersion heaters must be earthed and to current IEE Wiring Regulations.

ENSURE ALL ELECTRICAL SUPPLIES ARE SWITCHED OFF BEFORE MAKING ANY CONNECTION TO THE UNIT.

ELECTRICAL INSTALLATION MUST BE CARRIED OUT BY COMPETENT ELECTRICIAN AND BE IN ACCORDANCE WITH THE LATEST I.E.T. REGULATIONS

13.2 External wiring

Mixergy cylinders come supplied with cable. Any extensions to the supplied cabling should match or exceed the current and voltage ratings of the cables to be extended.

13.3 Primary supply (13A, 230-240V~, 1.5mm2 CSA)

The white 3-core (L,N,E) cable labelled '**PRIMARY SUPPLY**' must be connected to the household's main supply via a dedicated 16A MCB protected circuit with a 20A DP switch. This is the primary power supply for the control electronics and is used to power the immersion when the cylinder is set to heat in direct mode.

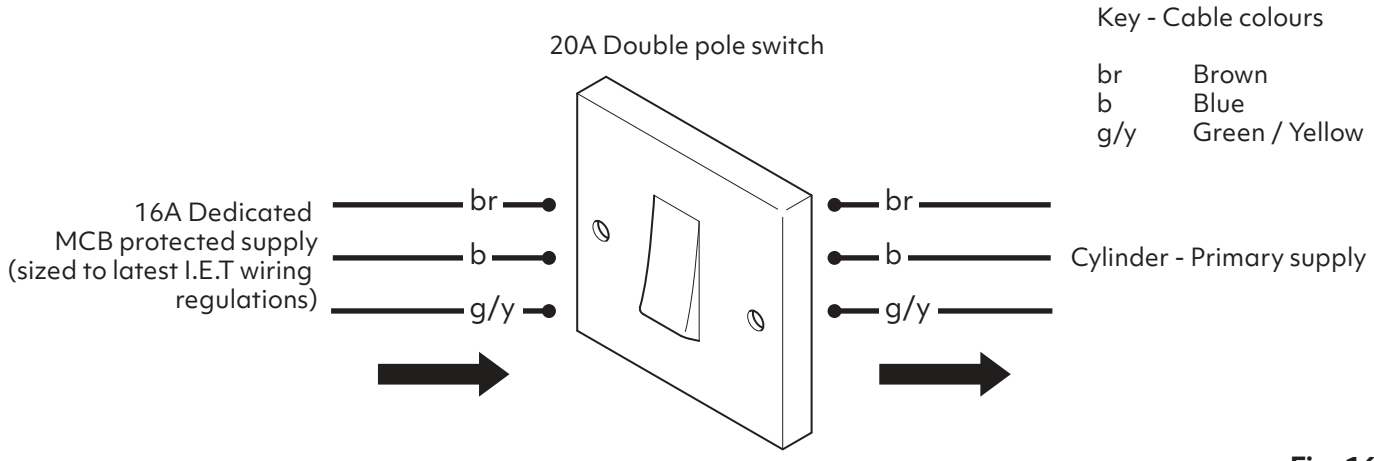


Fig. 16

13.0 Installation: electrical

13.4 Timer control (VOLT-FREE, 10mA 80-240V~, 0.5mm2 CSA)

The black 3-core (L,N,E) cable labelled '**TIMER CONTROL**' can be used to integrate the Mixergy cylinder with any existing timers or controllers i.e. economy 7 timer or a hive dual channel controller. This cable detects a 80-240VAC signal and instructs the cylinder to heat unless otherwise disabled in software.

13.5 Indirect control (VOLT-FREE, 6A 240V~ MAX, 0.75mm2 CSA)

The white 4-core (BLACK(C), BROWN(1), GREY(2), GREEN/YELLOW(E)) cable labelled '**INDIRECT CONTROL**' can be used to provide an indirect control signal for the purpose of making a call for heat to an indirect source such as a boiler/heat pump.

Both the timer control cable and indirect control cable are attached to volt free contacts within the controller and can be safely left tucked away if not required.

These instructions are given as a generic reference, specific timer/smart controller and central heating valve wiring may vary.

13.6 Indirect wiring

Indirect cylinders are wired using the cable labelled '**INDIRECT CONTROL'** - see wiring diagram on page 22.

All conductors of this cable must be safely terminated when an indirect installation is made. The grey wire within the indirect cable is not used and must also be left safely terminated.

If a direct installation is made it is recommended to leave this cable and the high limit stat cable tucked away in case it is required for a subsequent heat pump installation.

13.7 Wiring with 2 port zone valve (S-plan)

- 3A fused supply **L** to indirect control cable **BLACK**.
- 3A supply **N** to both valves **BLUE**.
- 3A supply **E** to indirect control cable **YELLOW/GREEN**.
- 2 port valve **BROWN** to indirect control cable **BROWN**.

13.0 Installation: electrical

13.8 Wiring diagram

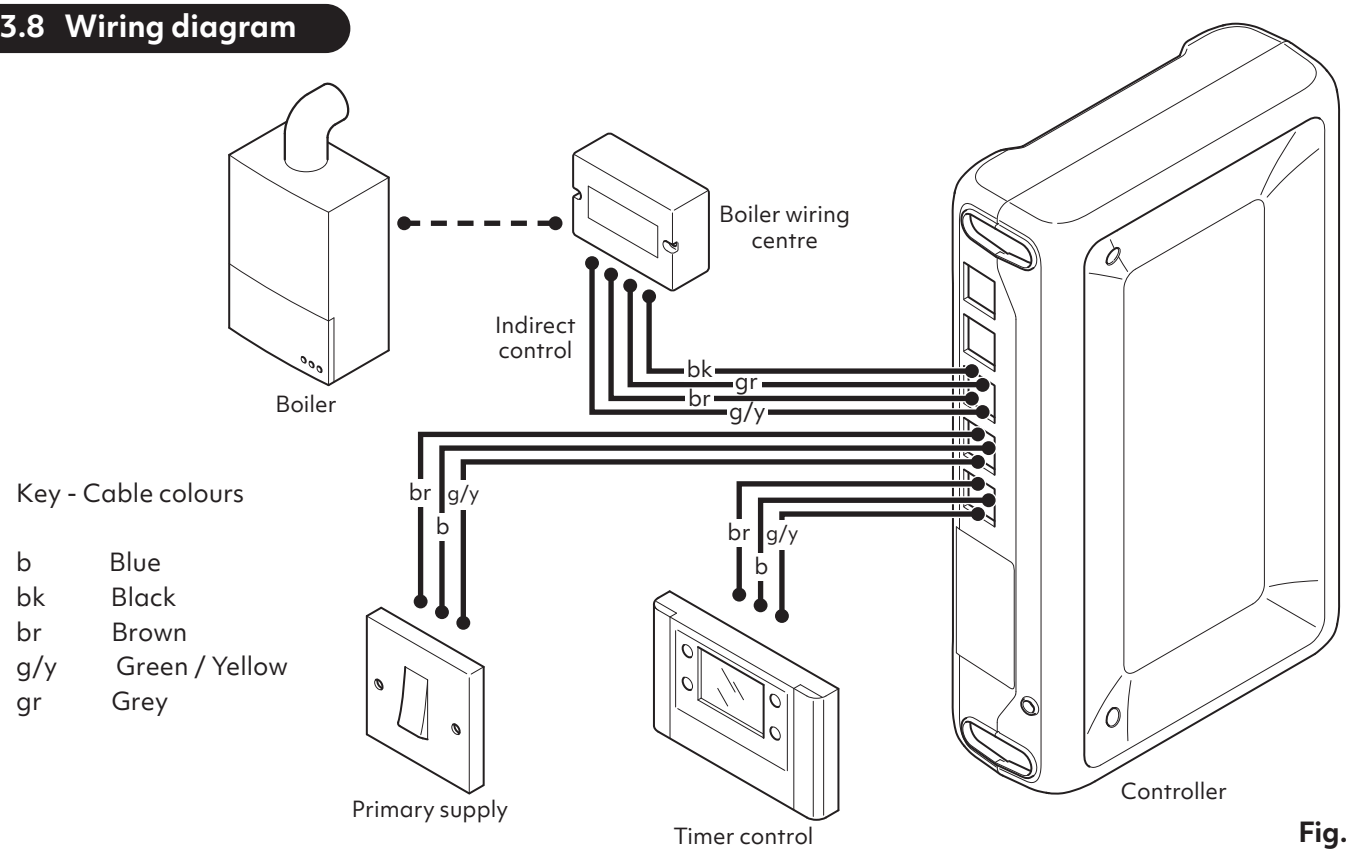


Fig. 17

14.0 Installation: connectivity

14.1 Installing the powerline adaptor

The Mixergy cylinder requires internet connectivity to allow for full control of the system. Connection to the cylinder can be made using the provided ethernet to powerline adaptor or by hard-wired ethernet.

If an existing HomePlug AV powerline network is installed at the property, it is recommended to pair the cylinder with the existing network as per page 26. Powerline connectivity between the cylinder and internet router is only possible in houses where both the cylinder and adaptor are powered from the same electrical phase.

DO NOT USE AN EXTENSION LEAD AS THIS WILL NOT ALLOW THE POWERLINE TO WORK CORRECTLY

1. Plug the powerline adaptor into a wall socket within 2m of the internet router.

2. Plug the powerline adaptor into the internet router using the included 2m ethernet cable.

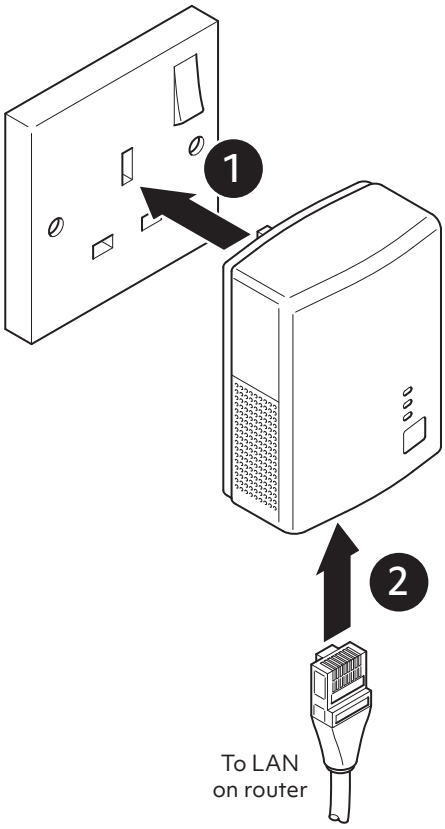


Fig. 18

14.0 Installation: connectivity

14.2 Wiring an ethernet connection

If a hard-wired CAT5/CAT5e/CAT6 network connection is desired, this can be achieved as follows:

ENSURE ALL ELECTRICAL SUPPLIES ARE SWITCHED OFF BEFORE OPENING THE CYLINDER CONTROLLER COVER AND SAFE ISOLATION PROCEDURE IS FOLLOWED (see page 33).

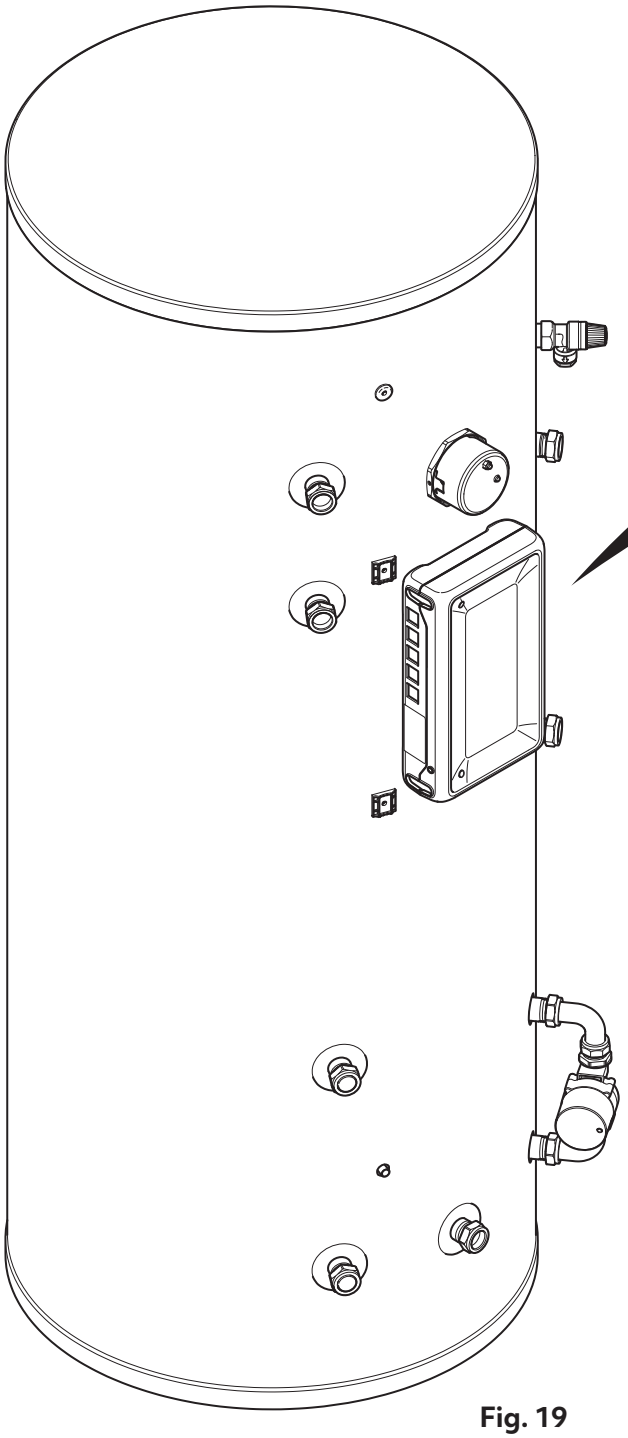


Fig. 19

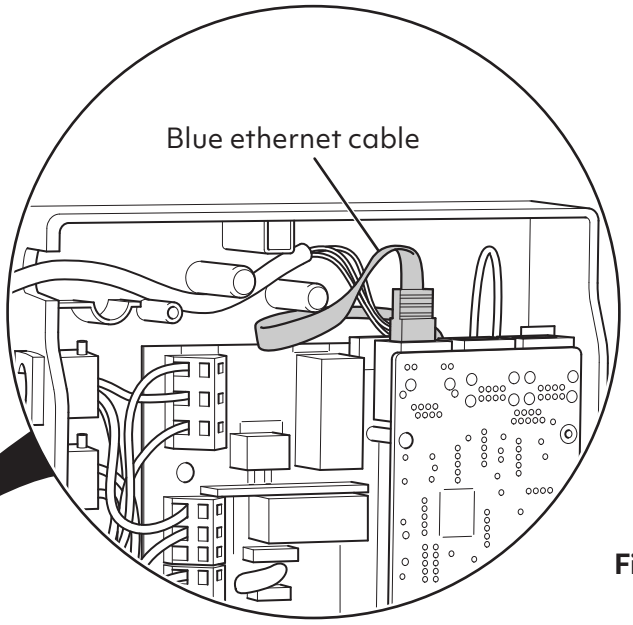


Fig. 20

1. Unscrew and remove the cylinder controller's cover and then disconnect the blue ethernet cable (Fig. 20).

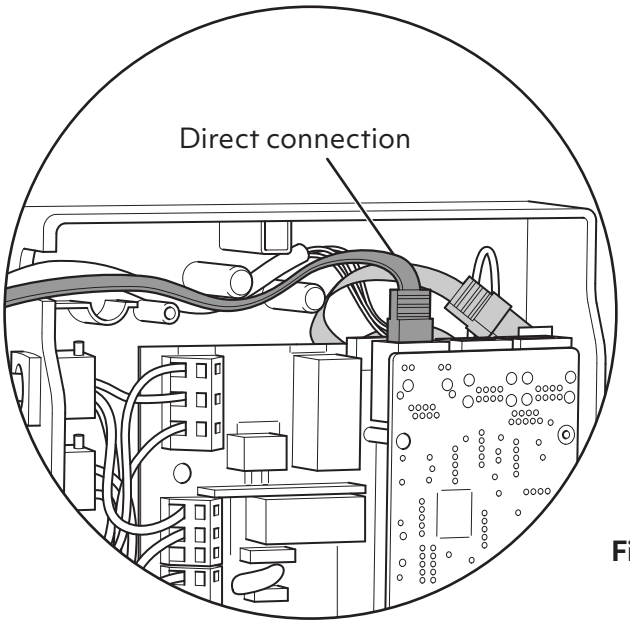


Fig. 21

2. Replace the removed ethernet cable with a suitable direct connection to the network (broadband router/switch) (Fig. 21).

15.0 Commissioning

DO NOT SWITCH THE SYSTEM ON UNLESS THE CYLINDER IS COMPLETELY FILLED WITH WATER.

All factory fitted valves etc. are fitted using a thread sealant. If this seal is broken it should be re-sealed using a suitable sealant. It is the installer's responsibility to ensure all the connections are water tight prior to leaving the property.

1. Ensure the drain on the cold feed pipework is closed.

2. Open a hot tap the furthest distance from the unit.

3. Gradually open the cold mains isolator valve and fill cylinder until water appears at the hot tap. Attend to each hot water outlet in turn and ensure water flow is obtained at each outlet expelling any air within the pipework.

4. To ensure the safety valves are operating correctly, turn the tops of the valves independently to ensure water passes through the valve and into the tundish. Once this is confirmed, open both valves together allowing as much water as possible to flow through the tundish. At this point make sure that your discharge pipework is free from debris and is transporting the water away to waste effectively. The valves can then be released and a check should be made to ensure they have re-seated correctly.

5. Switch on the Mixergy cylinder and check for correct operation. **Mixergy cylinders come supplied in 'eco mode'. Pressing any button on the gauge twice will exit eco mode.**

On power up the tank controller runs a series of tests and displays the results on the gauge.

Note that this will only run when the main controller has booted up which takes approximately 50 seconds.

Check that no LEDs light red and that the bottom seven LEDs light green.

Fig. 22 shows the meaning of each LED.

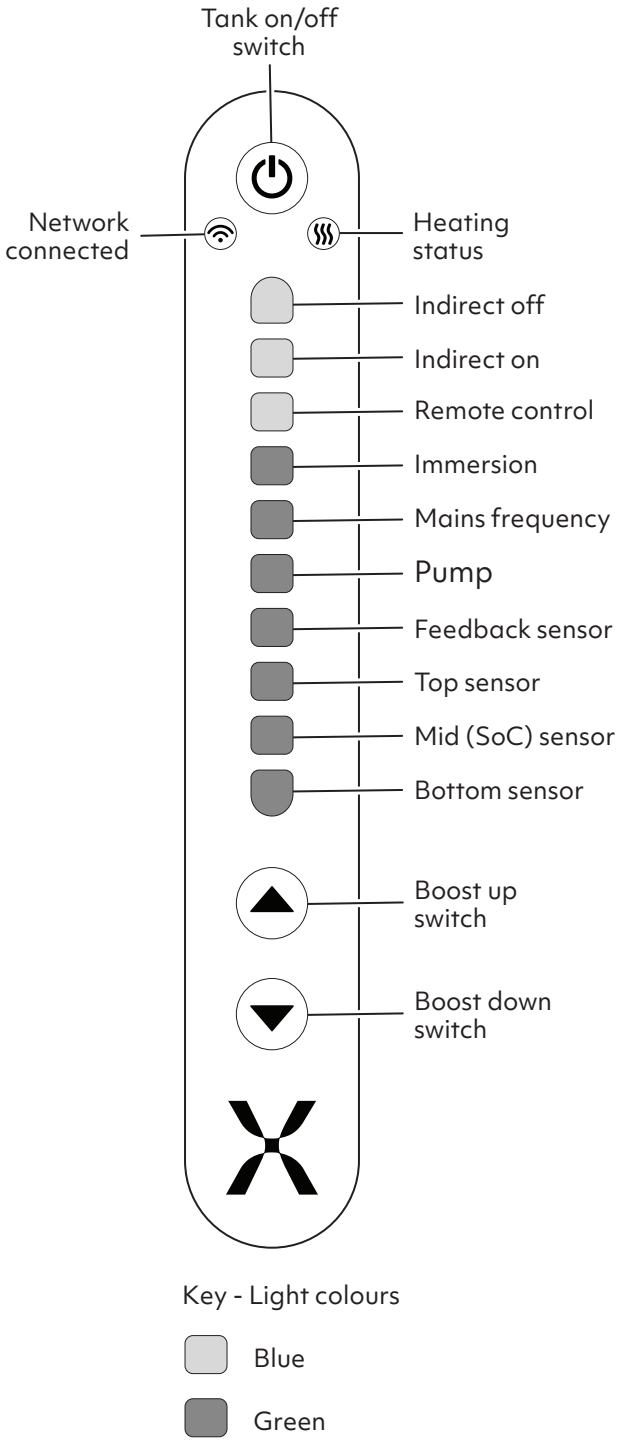


Fig. 22

15.0 Commissioning

Note that if a voltage is applied to the Remote Control input the Remote Control LED will light green rather than blue.

Check that all buttons (boost UP, boost DOWN and power) work correctly.

For further information on gauge operation please reference the Mixergy iHP User Guide.

6. Connect the cylinder to the internet by pairing to the included powerline adaptor. For more information on pairing the cylinder to the adaptor, please reference page 26, or visit support.mixergy.co.uk.

Ensure the cylinder's gauge illuminates and all buttons (boost UP, boost DOWN and power) work correctly.

For more detailed guidance on gauge operation, please visit support.mixergy.co.uk

15.1 Changing heat sources

All Mixergy systems leave the factory in direct (electric) operation. In the case of a heat pump or indirect (boiler) installation, the cylinder's primary heat source must be switched to their relevant setting to allow for operation of the 2 port valve and boiler or heat pump.

During commissioning, the primary heat source can be set by holding the boost UP and DOWN buttons simultaneously. The display will illuminate white to acknowledge that you have entered this mode. To change the heat source, let go of the buttons once any of the display LEDs have changed to the required colour (BLUE for direct, RED for indirect, GREEN for heat pump). The display will then flash either blue, red or green to indicate the new default heat source. Switch the cylinder off and on (power cycle) for the change to take effect.

Please note that any heat source that is set while the cylinder is offline will be overwritten once the cylinder establishes an internet connection, please ensure that the default heat source is set correctly on the app once the system is fully connected.

15.0 Commissioning

15.2 Status LED error codes

If the system is not behaving as expected, please check the status LED on the side of the controller enclosure and contact Mixergy:

- **Flashing green**: System OK.
- **Solid green/red**: System updating (DO NOT REMOVE POWER).
- **Very slow flashing red (once every two seconds)**: Temp. sensor problem.
- **Slow flashing red (once a second)**: No gauge detected.
- **Fast flashing red (twice a second)**: Energy measurement issue.
- **Very fast flashing red (five times a second)**: Main processor issue.

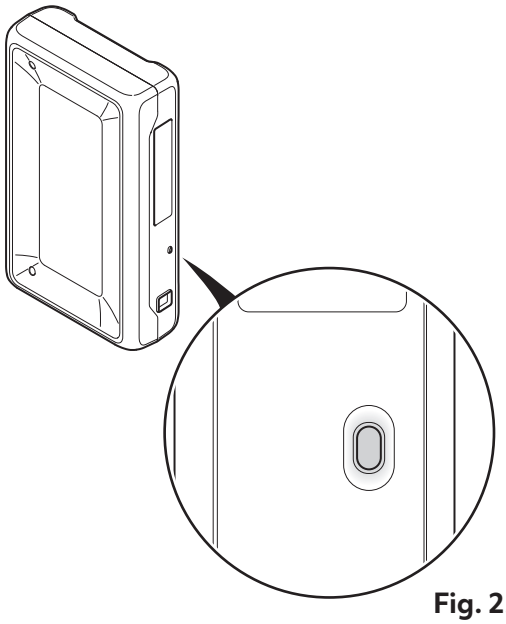


Fig. 23

15.3 Pairing the cylinder and connecting to the internet

In the case that the cylinder does not automatically pair to the powerline adaptor or connection to an existing homeplug AV network is desired, please follow the steps below to pair the cylinder to the network.

1. Use a thin tool to depress and hold the pair button for 1 - 2 seconds.
2. Depress the pair button on the powerline adaptor for 1-2 seconds within 2 minutes of step 1.
3. Observe all 3 LEDs as solid green on the powerline adaptor.

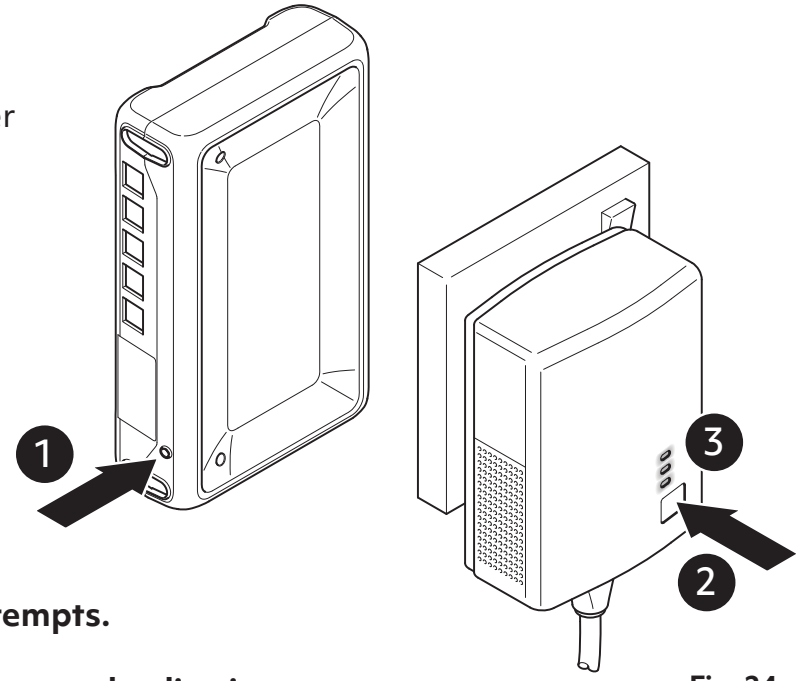


Fig. 24

NOTE: Steps 1-3 could take multiple attempts.

The cylinder must be registered and connected online in order to validate the manufacturer's 25 yr warranty.

15.0 Commissioning

15.4 Commissioning checklist

This Commissioning Checklist is to be completed in full (either in this booklet or on the side of the cylinder) by the competent person who commissioned the cylinder as a means of demonstrating compliance with the appropriate Building Regulations.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Please ensure all information is filled in correctly below.

Customer name:		Telephone No:	
Address:			
Cylinder model:			
Cylinder serial no:			
Commissioned by: (Print name)		G3 Certificate No:	
Company name:		Telephone No:	
Company address:			

ALL SYSTEMS				
What is the incoming static cold-water pressure at the inlet to the system?				bar
Has the strainer been cleaned of installation debris?	Yes		No	
Is the installation in a hard water area (above 200ppm)?	Yes		No	
If yes, has a scale reducer been fitted?	Yes		No	
What type of scale reducer has been fitted?				
What is the hot water temperature set to?				°C
What is the maximum hot water flow rate (measured at high flow outlet)?				min
Time & temperature controls have been fitted in compliance with Part L of the Building Regulations?	Yes			
Is the cylinder renewable compatible?	Yes		No	
What is the hot water temperature at the nearest outlet?				°C
All appropriate pipes have been lagged up to 1m or at the point they become concealed?	Yes			

15.0 Commissioning

UNVENTED SYSTEMS ONLY				
Where is the pressure reducing valve located?				
What is the pressure reducing valve setting?				Bar
Has a combined temperature & pressure relief valve and expansion valve been fitted, and discharge tested?	Yes		No	
The tundish & discharge pipework have been connected and terminated to Part G Building Regulations?	Yes		No	
Are all energy sources fitted with a cut-out device?	Yes		No	
Has the expansion vessel been checked?	Yes		No	

ALL INSTALLATIONS		
The hot water system complies with the appropriate Building Regulations	Yes	
The system has been installed in accordance with the manufacturer's instructions	Yes	
The system has been commissioned in accordance with the manufacturer's instructions	Yes	
The system controls have been demonstrated to and understood by the customer	Yes	
The cylinder has been connected to the internet and the customer has been registered online	Yes	
The manufacturer's literature has been explained and left with the customer	Yes	
Building Regulations Notification Number (if applicable)		
To be completed by the customer on receipt of a Building Compliance Certificate*		
Commissioning Engineer's Signature		
Customer's signature (to confirm satisfactory demonstration & receipt of manufacturer's literature)		

* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulation Compliance Certificate will then be issued to the customer.

16.0 Problem solving

Discharge from either of the relief valves indicates a malfunction in the system and must be investigated immediately.

16.1 Overheated water

In the unlikely event of overheated (95°C) water being discharged, the Mixergy controller should be switched off immediately and a competent engineer called out. Please contact your original installer or contact Mixergy directly if your product is under warranty.

Do not shut off the cold water supply to the unit.

16.2 Water discharge

If water is occasionally being discharged during heating, this likely indicates that the Expansion Vessel needs to be recharged. In the event of this occurring, switch off all power supplies to the cylinder, and re-charge the vessel. If water is continually being discharged, firstly check with a gauge that the pressure allowed through the PRV does not exceed 3 bar. Should a replacement be required then only one supplied by Mixergy should be used.

16.3 Electrical fault

If an electrical fault of the controller is suspected or the electrical system does not operate as expected, please visit support.mixergy.co.uk for further guidance.

16.4 Connectivity issues

If a connectivity issue is suspected, please visit support.mixergy.co.uk for further guidance.

16.5 Expansion vessel check and re-charging

Check pressure via the Schrader valve on top of the vessel which is situated under the removable plastic cap. The vessel can be checked and recharged by switching off the stopcock or isolating the water supply to the cylinder, then opening a hot tap to deplete the pressure inside the cylinder. Unscrew the black plastic cap on the expansion vessel to reveal the Schrader valve, with the aid of a pressure gauge ensure the pressure reads 3.0 bar. If there is insufficient pressure within the vessel, top up the vessel via a pump and recharge to 3.0 bar.

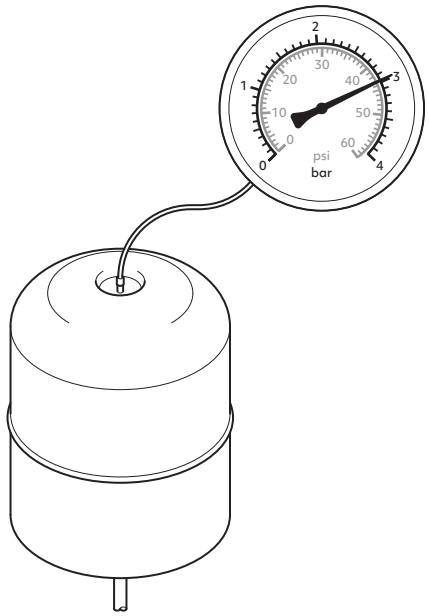


Fig. 25

16.0 Problem solving

16.6 Safety valves

If all previous checks have been done and water is still being discharged from either safety valve, determined which valve is faulty and replace with one supplied by Mixergy.

16.7 Immersion heaters

If the immersion heater is not heating the water adequately it has either failed (in which case a replacement immersion heater as supplied by Mixergy should be fitted), an electrical fault is present or the electrical cut-out has operated due to the control thermostat being set too low or being faulty. Activate the reset button under the immersion cover. If the problem persists please visit support.mixergy.co.uk

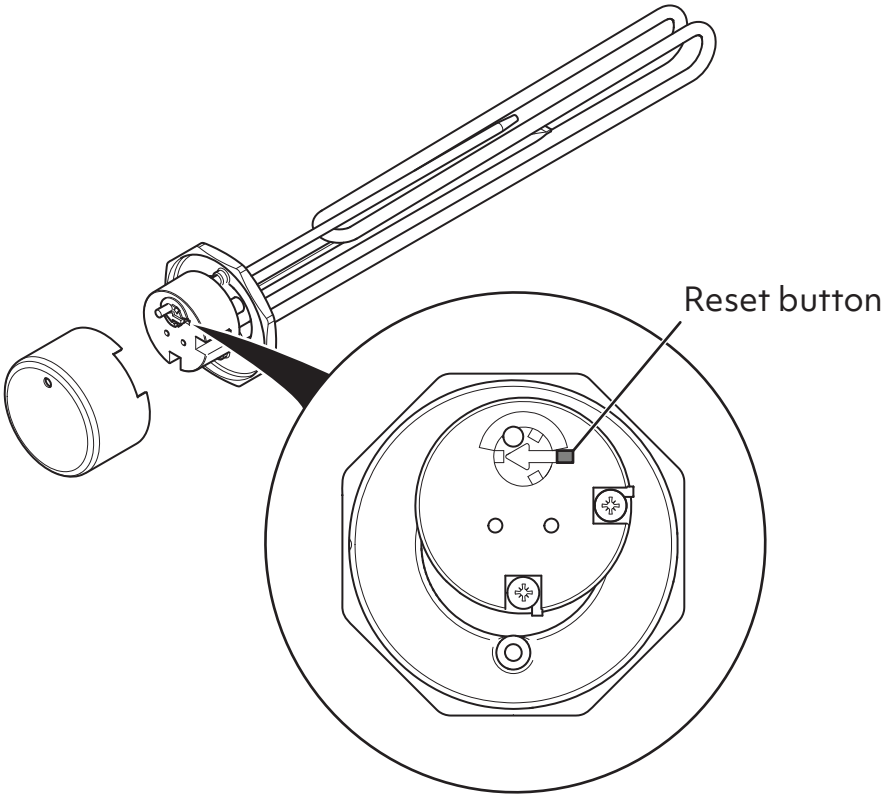


Fig. 26

17.0 Draining the cylinder

1. Switch off the immersion heater(s), boiler and any other heat sources.
2. Switch off water at mains.
3. Open nearest hot tap.
4. Open drain to start draining the cylinder.

To re-fill follow the commissioning instructions.

17.1 Flushing the cylinder

To flush out the system, drain the unit as above, fill and repeat.
If after recharging the expansion vessel the cylinder is still discharging, it may be due to cross-flow - ensure appropriate check valves are fitted. The pressure reducing valve, one of the relief valves, or the expansion vessel may have failed. The component should be identified and replaced by one supplied by Mixergy.

18.0 Replacement parts

Do not attempt to repair or replace any parts of the Mixergy cylinder unless you are a trained operative. If you suspect a fault or a replacement part is needed, please visit: support.mixergy.co.uk

To determine the correct parts for your system, please ensure you have your cylinder MX number which can be found on the nameplate located at the front of the cylinder.

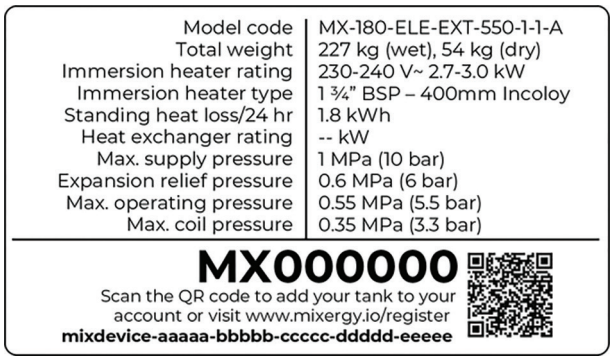
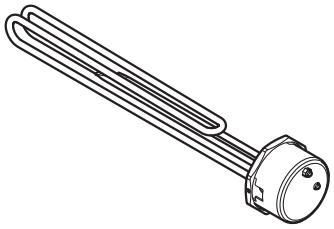
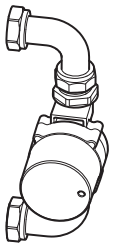
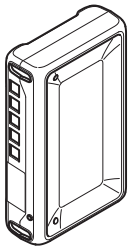
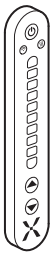
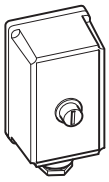
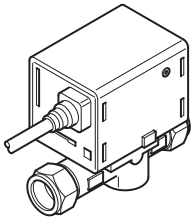


Fig. 27

18.0 Replacement parts

Part description	Part number
Immersion stat 	MEL0018
Pump assembly 	MAS0092/93/94
Controller 	MAS0005
Gauge 	MAS0043
Indirect stat 	MEL0027
2-port valve 	MEL0023

19.0 Guide to safe isolation

A Mixergy cylinder may have more than one incoming main electrical supply.

Indirect control black wire on connection 2.

Primary supply brown wire on connection 6.

Timer control brown wire on connection 8.

All of which must be “Proven Dead” before commencing work.

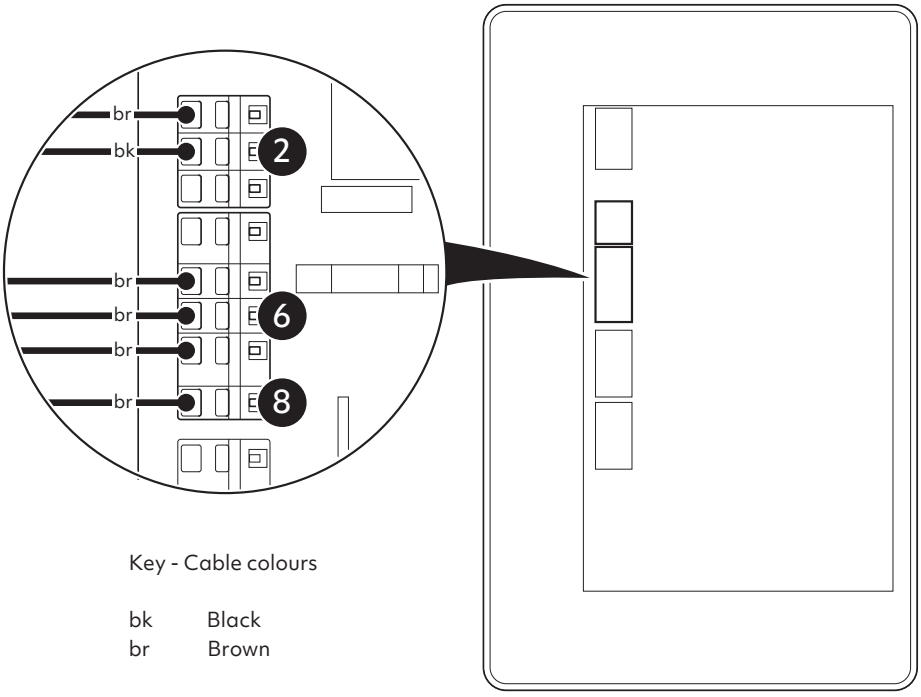


Fig. 28

A Mixergy cylinder may have more than one point of isolation:

Primary supply: 16A MCB protected circuit with a 20A DP switch

Indirect control: 3A fuse spur

Timer control: 3A or 13A fuse spur

All of which must be isolated and locked-off before testing.

For more information on safe isolation see www.electricalsafetyfirst.org.uk and search best practice.

20.0 Servicing and maintenance

ANNUAL MAINTENANCE should be performed by a competent operative.

A maintenance record should be kept on the service record on page 35 of this booklet.

20.1 Annual service checks

- **Expansion relief valve** - manually open the twist cap and check that the water is discharged and runs clearly through the Tundish and out at the final discharge point. Ensure that the valve re-seats/re-seals itself.

- **Pressure & temperature relief valve** - repeat the above procedure. Ensure that the valve re-seats/re-seals itself.

- **Strainer** - turn off mains at stopcock. There will be a small amount of residual water in the pipework, remove the cartridge from Pressure Reducing Valve, clean Strainer and replace.

- **Expansion vessel** - check pressure via the valve on top of the vessel which is located under the plastic cap. Ensure pressure is 3 Bar. Vessel can be recharged if required as per 'Expansion vessel check and re-charging' on page 29.

20.2 Disassociating an account

If a new tenant is moving into the property and the user of the account tied to the cylinder needs to be changed, the new tenant will have to disassociate the cylinder from the existing account before registering. This can be performed by pressing and holding the boost down and power buttons for approximately 15 seconds.

21.0 Service Record

It is recommended that your hot water system is serviced regularly and that the appropriate service record is completed.

Before completing the service record below, please ensure you have completed the service in accordance with the manufacturer's instructions.

Service No.1	Date		**Service No.2**	Date	
Engineer name			Engineer name		
Company name			Company name		
Telephone No.			Telephone No.		
Email address			Email address		
Comments			Comments		
Signature			Signature		
Service No.3	Date		**Service No.4**	Date	
Engineer name			Engineer name		
Company name			Company name		
Telephone No.			Telephone No.		
Email address			Email address		
Comments			Comments		
Signature			Signature		

21.0 Service Record

Service No.5	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.6	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.7	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.8	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.9	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.10	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

21.0 Service Record

Service No.11	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.12	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.13	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.14	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.15	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.16	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

21.0 Service Record

Service No.17	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.18	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.19	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.20	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.21	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

Service No.22	Date	
Engineer name		
Company name		
Telephone No.		
Email address		
Comments		
Signature		

21.0 Service Record

Service No.23	Date		**Service No.24**	Date	
Engineer name			Engineer name		
Company name			Company name		
Telephone No.			Telephone No.		
Email address			Email address		
Comments			Comments		
Signature			Signature		
Service No.25	Date		**Service No.26**	Date	
Engineer name			Engineer name		
Company name			Company name		
Telephone No.			Telephone No.		
Email address			Email address		
Comments			Comments		
Signature			Signature		
Service No.27	Date		**Service No.28**	Date	
Engineer name			Engineer name		
Company name			Company name		
Telephone No.			Telephone No.		
Email address			Email address		
Comments			Comments		
Signature			Signature		

For further guidance and troubleshooting
visit **support.mixergy.co.uk**

mixergy®

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Issue 1 12/25 MDC0001-19