Glow-worm

High Efficiency Boiler Range Technical Guide

Glow-worm

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Introduction

Today, Glow-worm offers a comprehensive range of proven High Efficiency boilers as well as a growing range of problem solving products and accessories.

The Glow-worm High Efficiency boilers Technical Guide is designed to assist with the installation and servicing of our latest range of condensing boilers - providing all the technical information you will ever need in one easy to use booklet*.

With over 75 years of experience in providing UK homes with value for money heating and hot water solutions, Glow-worm has built a reputation on providing straightforward and reliable systems you can depend on.

Glow-worm fully support and comply with “benchmark” the industry initiative to promote higher standards of installation. We also provide installer training, offering ‘hands on’ training on installation of our appliances.

For more information on training telephone 01773 596 156 or visit our website www.glow-worm.co.uk

At Glow-worm we are committed to supporting you with technical help and after sales service 7 days a week, 364 days a year. If you require technical advice telephone 01773 828 300 or for after sales service 01773 828 100.

We hope this brochure gives you all the information needed to help you take the next stage in installing your new Glow-worm heating and hot water system. Should you wish to discuss any area in more detail or if you need any further information, please contact us to see how we can help.

*Please always refer to installation and servicing manuals

Contact us

By phone
01773 828300
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Ultracom

The Ultracom ranges of High Efficiency boilers are suitable for any application. Offering exceptional reliability and performance available in as a combi, storage combi, regular heat only and sealed system appliances in a range of outputs as well as complete flexibility with a wide range of control options

Ultracom$_2$ cxi & sxi

High Efficiency range of combi and system boilers

- Combi models available in 24, 30 & 35kW, system models available in 12, 18 and 30kW
- Provides excellent heating and hot water comfort
- One way fit, simple wiring connections for easier and quicker installation
- Enhanced commissioning features - boiler self-check routine - initial pre-purge feature Excellent front access for installation, servicing and maintenance
- Improved combustion technology for ultra quiet operation
- Unique receiver slot inside the boiler for easy installation of the Climapro$_2$ RF, our easy to use homeowner control

Ultracom hxi

High Efficiency regular heat only boiler range

- Available in 12, 15, 18, 24, 30 and 38 kW models
- Awarded Which? Best Buy award 2010
- Advanced diagnostics
- Inbuilt digital programmer and frost protection
- LPG compatible without conversion kit

Ultracom$_2$ 35 store

High Efficiency storage combi

- High Efficiency compact wall hung boiler of exceptional performance
- Instant and unlimited hot water provision (DHW flow rate 19.7l/min)
- System contains two highly insulated 21 litre integrated tanks to provide constant and large hot water usage, and reduced heat loss
- Fast re-generation times of less than 5 minutes

Flexicom

The Flexicom range of High Efficiency boilers will fit just about anywhere. The Flexicom are compact enough to fit in a standard kitchen cupboard to replace an old boiler or install a new one with minimum fuss. Available as a combi, regular heat only or a sealed system boiler with a wide range of outputs.

- Proven range of combi, system and regular heat only models
- Compact dimensions for easy and discreet installation within the home; fits inside a standard kitchen cupboard*
- Amazingly flexible; first high efficiency boiler with a direct rear flue
- Easy to service; accessible forward facing components
- Easy to install and commission without removing the case
- Advanced diagnostics for easier and quicker installation servicing and maintenance
- In-built frost protection
- Aluminium heat exchanger allowing compact boiler size and improved waterways providing greater tolerance to system debris making it the perfect choice for retrofit

*Sizes of kitchen cupboards may vary. Please check boiler and cupboard.

Flexicom cx

- Available in 24, 30, 35kW models
- 5 second hot water delivery (measured at tap 1m from boiler)
- Optional glide down plug-in analogue timer (on combi only - as shown right)

Flexicom hx

- Available in 12, 15, 18, 24, 30, 35kW models

Flexicom sx

- Available in 18, 30kW models

Ultrapower

Some properties require a heating system which can keep up with even the busiest of families. Designed specifically for larger homes, Glow-worm's ultrapower can provide both outstanding performance and significant energy savings in one floor standing appliance.

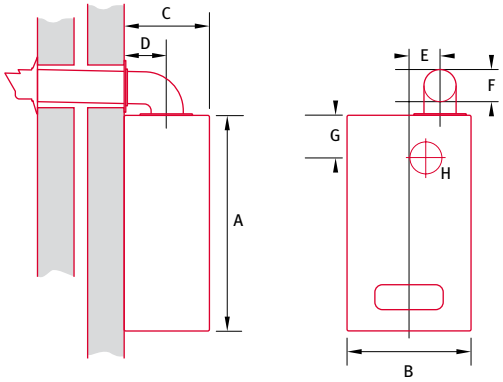
- One of the most efficient boilers in the UK as rated by SEDBUK
- Endless hot water on demand for large families through an innovative storage system, with fast reheat times and back-up from the inbuilt 31kW combi
- Complete heating system within a single appliance that fits inside an airing cupboard
- Features an inbuilt digital programmer, providing a 7 day single or two channel control for central heating and hot water

Dimensions (mm)

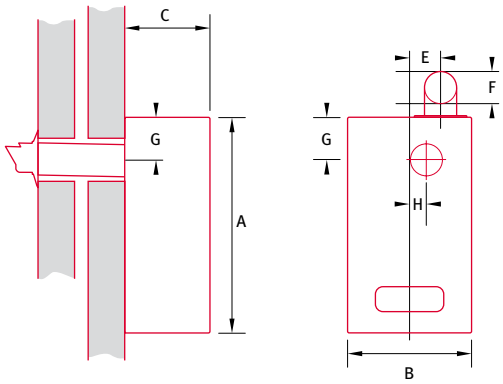
Range	A	B	C	D	E	F	F	G	H
	Height	Width	Depth	Flue Outlet position 1	Flue outlet position 2	Ø60/100 Flue diameter	Ø80/125 Flue diameter	Flue outlet Position 3	Flue outlet Position 4
Ultracom									
Ultracom$_2$ cxi	740	418	346	130	0[1]	100	125	n/a	n/a
Ultracom$_2$ sxi	740	418	346	130	0[1]	100	125	n/a	n/a
Ultracom hxi	610	375	334	176	53	100	125	n/a	n/a
Ultracom$_2$ 35 store	892	470	570	361	0[1]	100	125	n/a	n/a
Flexicom									
Flexicom cx	700	390	280	149	25	100	125	76	47
Flexicom hx	600	375	280	149	25	100	125	76	52
Flexicom sx	700	390	280	149	25	100	125	76	47
Ultrapower sxi									
Ultrapower sxi 100	1260	575	600	145	106.5	100	125	n/a	n/a
Ultrapower sxi 170	1520	575	600	145	106.5	100	125	n/a	n/a

Notes:
1 Flue is central to the boiler.

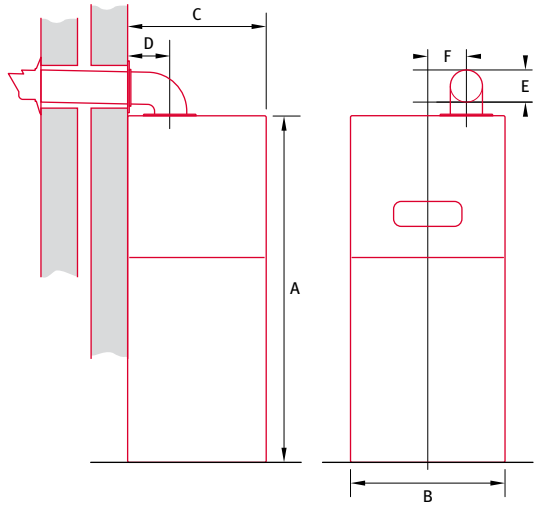
Ultracom & Flexicom



Flexicom available with direct rear flue



Ultrapower sxi



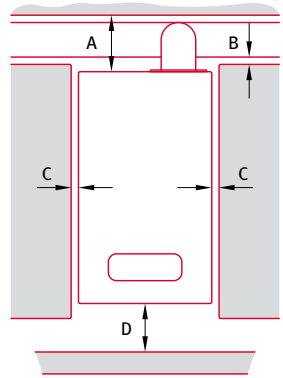
Visit www.glow-worm.co.uk to view and download technical data

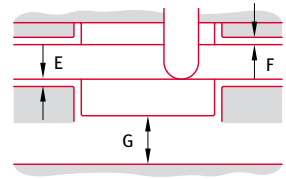
Minimum clearances (mm)

Range	A	B	C	D	E	F	G
	Top flue	Top	Side	Bottom	Flue#1	Flue#2	Front
Ultracom							
Ultracom$_2$ cxi	150	5	0	200	5	5	600[2]
Ultracom$_2$ sxi	150	5	0	200	5	5	600[2]
Ultracom hxi	150	5	20	200	5	5	600[2]
Ultracom$_2$ 35 store	300	5	50[4]	200	5	5	600[2]
Flexicom							
Flexicom cx	150[3]	5	5	150	5	5	600[2]
Flexicom hx	150[3]	5	5	150	5	5	600[2]
Flexicom sx	150[3]	5	5	150	5	5	600[2]
Ultrapower							
Ultrapower sxi 100	150	5	5	n/a	n/a	n/a	600[2]
Ultrapower sxi 170	150	5	5	n/a	n/a	n/a	600[2]

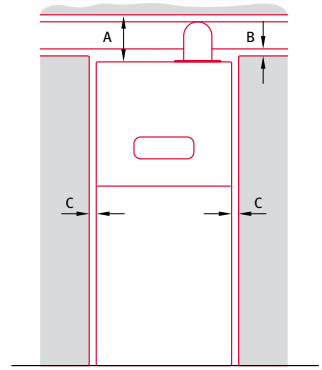
Notes:
1. Flue is central to the boiler.
2. A removable compartment door can be placed at least 5mm in front of the appliance.
3. This can be reduced to 20mm if using a direct rear flue.
4. 50mm side left but 150mm side right.

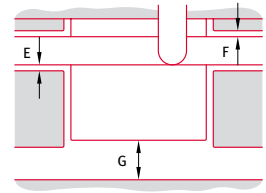
Ultracom & Flexicom





Ultrapower sxi



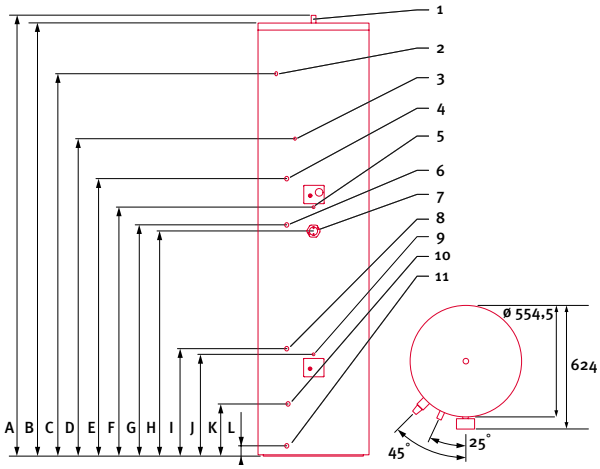


Max flue lengths

Range	Horizontal	Vertical	Horizontal	Vertical
	Ø60/ 100 mm	Ø60/ 100 mm	Ø80/ 125 mm	Ø80/ 125 mm
Ultracom				
Ultracom$_2$ cxi	10m	10m	25m	25m
Ultracom$_2$ sxi	10m	10m	20m	20m
Ultracom hxi	10m	10m	25m	25m
Ultracom$_2$ 35 store	10m	10m	12m	13m
Flexicom				
Flexicom cx	8m	8m	20m	20m
Flexicom hx	8m	8m	20m	20m
Flexicom sx	8m	8m	20m	20m
Ultrapower sxi				
Ultrapower sxi 100	8m	8m	25m	25m
Ultrapower sxi 170	8m	12m	25m	25m

Unvented storage cylinder dimensions

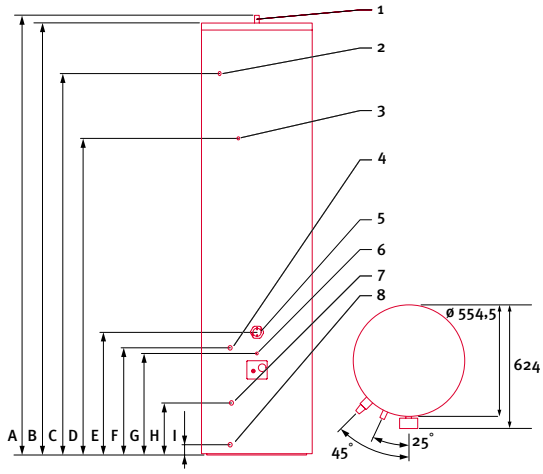
Flurocyl$_2$ solar hot water cylinders



1	Hot water draw off
2	Temperature and pressure relief valve connection
3	Secondary circulation return
4	Primary heater flow
5	Primary heating sensor pocket (SP 1)
6	Primary heater return
7	Electric immersion heater
8	Solar flow
9	Solar circuit sensor pocket (SP 2)
10	Cold mains inlet connection
11	Solar Return

Model	A	B	C	D	E	F	G	H	I	J	K	L
200l	1625	1593	1341	1158	1052	912	822	802	534	506	259	51
250l	1875	1843	1591	1346	1102	962	872	872	534	506	259	51
300l	2185	2153	1901	1578	1377	1237	1147	1127	534	506	259	51

Hydracyl unvented hot water cylinders

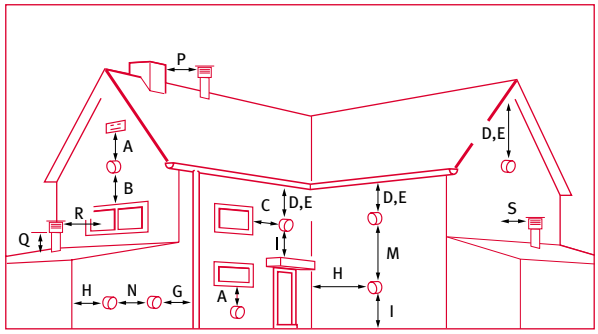


1	Hot water draw off
2	Temperature and pressure relief valve connection
3	Secondary return
4	Primary heater flow
5	Electric immersion heater
6	Primary heater sensor pocket
7	Cold mains inlet connection
8	Primary heater return

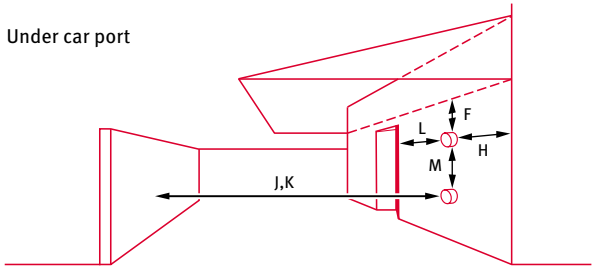
Model	A	B	C	D	E	F	G	H	I
150l	1229	1197	939	857	616	534	506	259	51
205l	1631	1599	1341	1158	616	534	506	259	51
250l	1881	1849	1591	1346	616	534	506	259	51
300l	2191	2153	1901	1578	616	534	506	259	51

Flue terminal location & ventilation

Fanned Flue Terminals position



Under car port



Minimum Siting dimensions

Horizontal Flues		mm
A	Directly below an opening, air brick, opening windows	300
B	Above an opening, air brick, opening windows	300
C	Horizontally to an opening, air brick, opening windows	300
D	Below gutter, drain/soil pipe	25
E	Below eaves	25
F	Below a balcony or car port	25
G	From vertical drain pipes and soil pipes	25
H	From internal/external corners	25
H*	To a boundary alongside the terminal	300
I	Above adjacent ground or balcony level	300
J*	From surface or a boundary facing the terminal	600
K	Facing the terminals	1200
L	From opening (door/window) in car port into dwelling	1200
M	Vertical from a terminal	1500
N	Horizontal from a terminal	300
Vertical		
P	From another terminal	600
Q	Above roof level	300
R	From adjacent opening window	1000
S	From adjacent wall to flue	300

* These dimensions comply with the building regulations, but they may need to be increased to avoid wall staining from the plumbing depending on the site conditions.

Horizontal flueing options

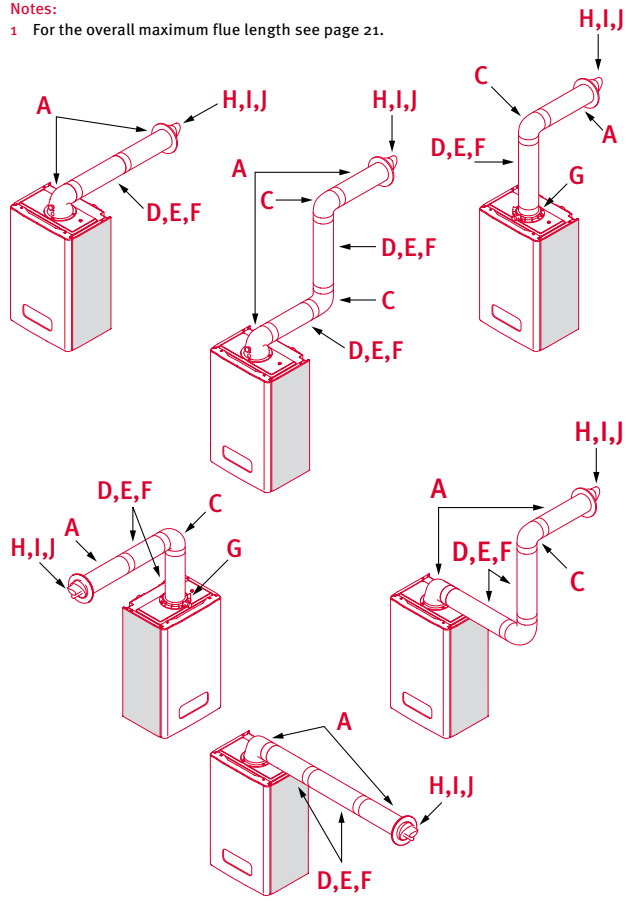
Horizontal flue lengths

The horizontal flueing information below applies to all Glow-worm High Efficiency boilers.

Boiler	Ø60/100 Max horizontal	Ø80/125 Max horizontal	Compatible with Plume Management Kit
Ultracom$_2$ cxi	10m	25m	Yes[1]
Ultracom$_2$ sxi	10m	25m	Yes[1]
Ultracom$_2$ 12 sxi	10m	20m	Yes[1]
Ultracom hxi	10m	25m	Yes[1]
Ultracom$_2$ 35 store	10m	12m	Yes[1]
Flexicom	8m	20m	Yes[1]
Ultrapower sxi	8m	25m	Yes[1]

Notes:

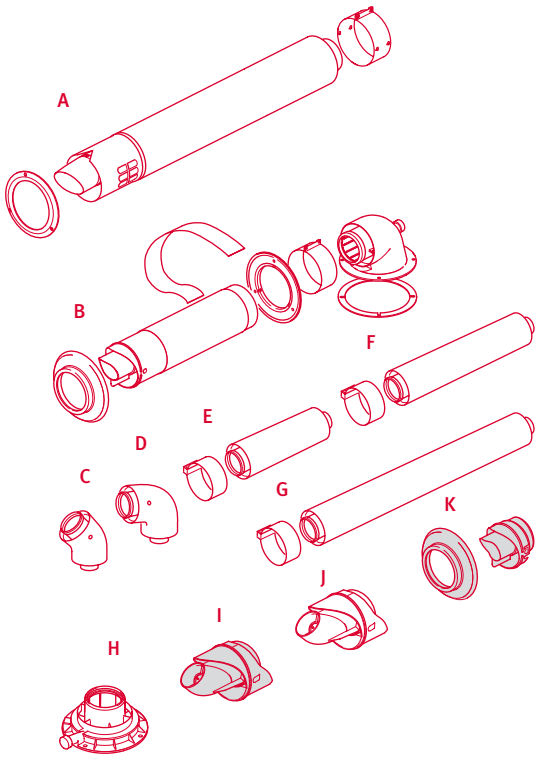
1 For the overall maximum flue length see page 21.



Horizontal flueing options
continued

Horizontal flue accessories

Component	Description	Part Number Ø60/100	Part Number Ø80/125
A	Standard Horizontal flue	A2043400	0020104551
B	Horizontal Telescopic flue	A2043600	-
C	45° Bend (2 off)	002000460485	0020104557
D	90° Bend (1 off)	002000460484	0020104556
E	0.5m Extension (1 off)	002000460481	0020104553
F	1m Extension (1 off)	002000460482	0020104554
G	2m Extension (1 off)	002000460483	0020104555
H	Vertical Flue Adaptor	A2024600	0020104550
I	Deflector Terminal (Black)	0020060582	-
J	Deflector Terminal (White)	0020060583	-
K	Black Terminal	A2043700	-



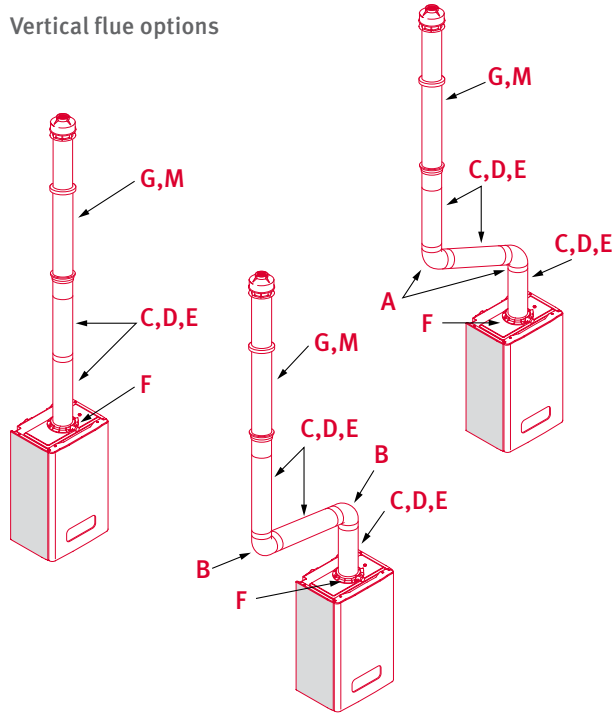
Vertical flueing options

Vertical flue lengths

Boiler	Ø60/100 Max vertical	Ø80/125 Max vertical	Compatible with Plume Management Kit
Ultracom$_2$ cxi	10m	25m	Yes[1]
Ultracom$_2$ sxi	10m	25m	Yes[1]
Ultracom$_2$ 12 sxi	10m	20m	Yes[1]
Ultracom hxi	10m	25m	Yes[1]
Ultracom$_2$ 35 store	10m	13m	Yes[1]
Flexicom	8m	20m	Yes[1]
Ultrapower sxi	12m	25m	Yes[1]

Notes:
1 The overall maximum flue length see page 21.

Vertical flue options

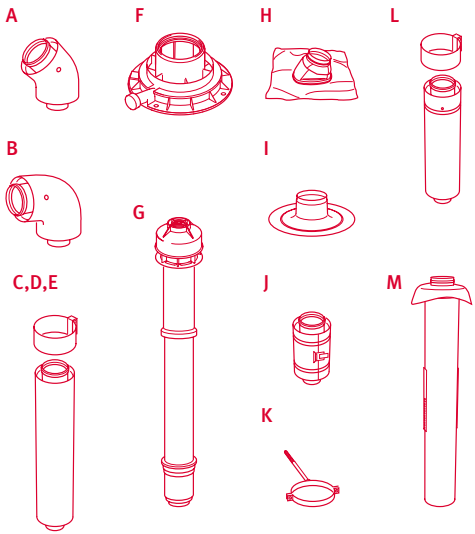


Notes:
i Horizontal sections must have a continuous fall of at least 2.5° (44mm/meter) back to the boiler.

Vertical flueing options
continued

Vertical flue accessories

Component	Description	Part Number Ø60/100	Part Number Ø80/125
A	45° Bend (2 off)	002000460485	0020104557
B	90° Bend (1 off)	002000460484	0020104556
C	0.5m Extension (1 off)	002000460481	0020104553
D	1m Extension (1 off)	002000460482	0020104554
E	2m Extension (1 off)	002000460483	0020104555
F	Vertical Flue Adaptor	A2024600	0020104550
G	Vertical Roof Terminal	002000460480	0020104552
H	Pitched Roof Flashing	002000460479	002000460479
I	Flat Roof Flashing	002000460478	002000460478
J	Sliding Sleeve	002000460487	0020104558
K	Fixing Bracket (5 off)	002000460486	0020104559
L	Telescopic Extension	A2036900	-
M	Ridge Tile Terminal	A2043800	-



Direct rear flueing options

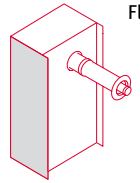
Direct rear flue lengths

The direct rear flueing information below applies to the Glow-worm Flexicom range of high efficiency boilers only.

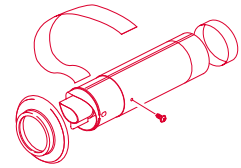
Boiler	Max Direct Rear	Compatible with Plume Management Kit
Flexicom	0.55m	YES[1]

Notes:
1 The overall maximum flue length must not be exceeded

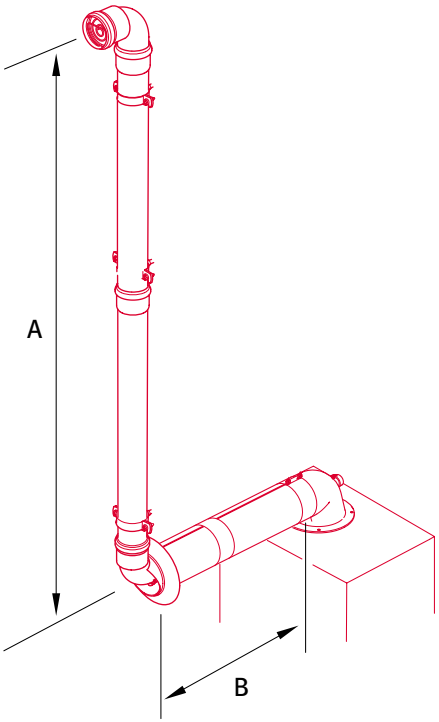
Direct rear flue option



Flueing example using Horizontal Telescopic Rear Flue A2043500



Plume and Concentric Flue length



Note

For every elbow the flue pipe length should be reduced by the following amounts:
1 x 90°= 1 metre
2 x 90°= 2 metres
1 x 45°= 0.5 metres
2 x 45°= 1 metre

The total flue length (Plume Management Kit + Concentric Flue) must not exceed the maximum total flue length of the appliance.

Example: Ultracom, A = 4.0m + B = 6.0m = 10.m max.

		A = Flue pipe length (metres)						A = Flue pipe length (metres)						A + B Max combined flue length
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	
B = Flue length (metres)	Ultracom$_2$	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	10.0
	Ultracom$_2$ 35 store	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	10.0
	Ultracom	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	10.0
	Flexicom	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	8.0
	Ultrapower	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	8.0

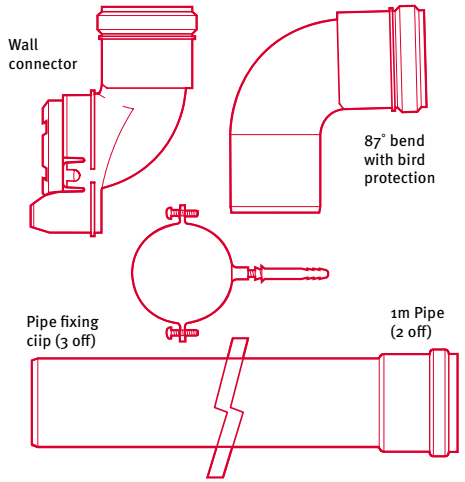
Plume Management Kit Information

The Plume Management Kit fits onto the horizontal flue, used with Glow-worm High Efficiency boilers, see below for contents. This kit exhausts plume further away from the duct, thereby reducing the visual impact of pluming. It can be used to overcome many site issues as illustrated in this guide.

The flue outlet supplied terminates at 87° but can, if required, terminate vertically or at 45° by simply using the appropriate fittings. Siting can either be on a wall face with the terminal exhausting at right angles to the wall or above the eaves of a building.

We recommend that terminals exhausting vertically above the eaves are secured. The termination of the Plume Management Kit should not be installed less than 2 metres above ground level. Additional elbows, bends and 1m extensions can be used as required. For each additional 87° or 2 x 45° bends fitted, the maximum length must be reduced by 1 metre. The maximum permissible flue lengths include the Plume Management Kit

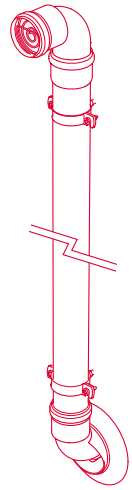
Plume Management Kit contents



Plume Management flueing options

Plume Management Kit accessories

Compatible with all Glow-worm High Efficiency boilers

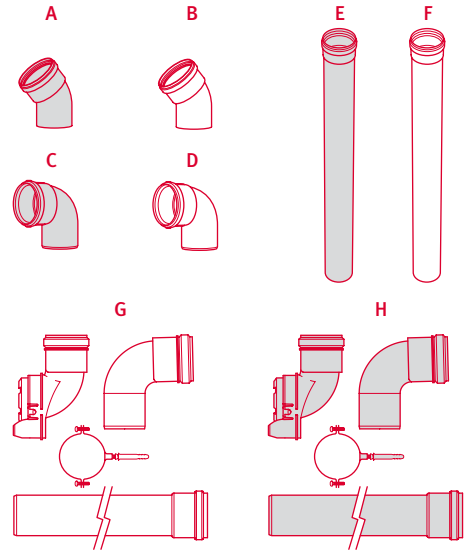


Component	Description	Part Number
A	45° Bend Black (2 off)	A2044400
B	45° Bend White (2 off)	A2044500
C	90° Bend Black	A2044600
D	90° Bend White	A2044700
E	1m Extension Black	A2044200
F	1m Extension White	A2044300
G	Plume Management Kit White	A2044100
H	Plume Management Kit Black	A2044000

Notes:

i Maximum flue lengths must not exceed 6m and be added to the total flue length calculation.

ii For each additional 90° or 2 x 45° bends fitted, the maximum lengths must be reduced by 1m.

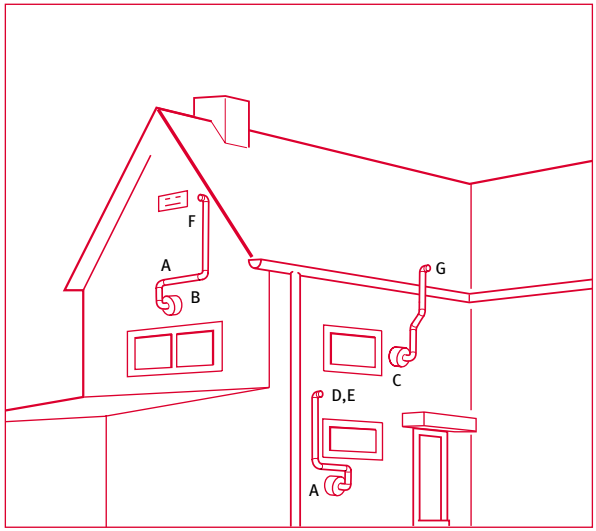


Plume Management Kit terminal sitings

Important

Please refer to the diagram below and the appropriate clearances for the flue outlet terminal in relation to openings, air inlet etc.

The minimum siting dimensions for the terminal positions, A, B, C as seen in the diagram below, can be applied when a Plume Management Kit is fitted.



Minimum Siting dimensions for fanned flue terminals position

Horizontal flues

Minimum Siting for Air Inlet		mm
A	Directly above an opening window	150
	Directly above an opening, air brick	150
B	Directly above an opening window	150
	Directly above an opening, air brick	150
C	Horizontal to an opening window	150
	Horizontal to an opening, air brick	150
Minimum Siting for Flue Outlet		
D	Directly below an opening, air brick, opening windows (Horizontal Discharge)	300
E	Directly above an opening, air brick, opening windows (Horizontal Discharge)	300
F	Horizontally to an opening, air brick, opening windows	300
G	Above roof line	300

Condensate Pump

The Condensate Pump improves the siting options for all Glow-worm condensing boilers allowing them to be installed in places with restricted access to drains (e.g. a basement).

Once connected, the condensate from the boiler is fed into the pump where it is stored. Once the fill level is reached, the reservoir pump will discharge the condensate in one go. In the unlikely event of the Condensate Pump becoming too full, the overflow safety switch will shut the boiler down and the pump's LED display will go red to indicate a fault.

The main advantages of the Glow-worm Condensate Pump are:

- It is ideal for situations where the installation site is remote from the waste drain system as it allows the condensate to be pumped upwards back into the waste system.
- As condensate is stored within the unit until the fill level is reached, the pump operates efficiently rather than as a continuous operation.
- The compact size of the Condensate Pump means it is suitable for installations where space is limited.
- The Condensate Pump is compatible with all Glow-worm High Efficiency boilers.
- The Condensate Pump is fitted with an overflow safety switch. This will shut the boiler down if condensate levels within the pump get too high or if the pump was to break down.

Technical Data	Units	Condensate Pump
Design		Appliance for wall-mounted installation
Normal capacity	l	0.5
Mains voltage	V	230
Max. current consumption	A	9
Frequency	Hz	50
Max power rating	W	22
Max. pump head	m	4
Flow volume	l/h	150
Dimension		
Height	mm	160
Width	mm	180
Depth	mm	100
Weight when filled with water	kg	1.8
Inlet hose (max. outside diameter)	mm	24
Inlet hose (min. inside diameter)	mm	10
Water inlet temperature	˚C	1....60
Ambient temperature	˚C	5....60
Safety		Radio-shielded, non-interacting with the mains supply
Overflow circuit breaker		5 mA....4A; 230 V
Level of protection according to EN 60529		IP 44

Ultracom$_2$ cxi & sxi range fault finding codes

Fault Code	Fault Descripton	Cause
F00	Flow heating temperature sensor fault.	Sensor open circuit.
F01	Return heating temperature sensor fault.	Return heating temperature sensor disconnected.
F10	Flow heating temperature sensor fault.	Sensor short-circuit.
F11	Return heating temperature sensor fault.	Return heating temperature sensor shorted.
F20	Overheating fault.	Over heating safety device activated (97˚C).
-		Air in heating system.
F23	Maximum temperature difference reached between return and flow heating.	Water circulation fault.
F24	Water circulation fault.	Malfunction of the pump (excessively rapid temperature increase).
F26	Fault in gas valve motor.	Disconnected or defective cables.
F27	Flame detection fault.	Abnormal flame detection.
-		Defective gas valve.
F28	Ignition fault.	No return gas / insufficient gas flow. Gas valve incorrectly adjusted. Defective firing electrode and flame control / Defective igniter unit.
F29	Loss of flame during operation.	
F32	Incorrect air pressure.	Incorrect fan speed.
F49	eBus voltage fault.	Fault in eBus line. Short circuit in eBus connector.
F61	Fault in the main board.	Gas valve command fault.
F62		Gas valve closure fault.
F63		Fault in the main board memory.
F64		Rapid fluctuation of return or flow heating sensor.
F65		Excessive main board temperature.
F66		Flame signal fault in the main board.
F67		Flame signal fault in the main board.

Fault Code	Fault Descripton	Cause
F68	Fluctuation of flame signal.	No return gas / insufficient gas flow. Gas valve incorrectly adjusted. Defective firing electrode and flame control / Defective igniter unit.
F70	User interface incompatible with the main board.	Incorrect product code.
F71	Flow heating temperature sensor fault.	Flow heating temperature sensor unclipped or defective (no temperature variation).
F72	Permanent temperature difference between flow and return heating sensors.	Mismatch between the flow and return heating temperatures (permanent difference).
F73	Heating circuit pressure sensor fault.	The sensor is shorted or disconnected.
F74		Fault in pressure sensor.
F76	Thermal fuse fault.	Thermal fuse disconnected. Defective thermal fuse.
F77	Fault in gas valve motor.	Defective gas valve. Defective Condensate Pump (option).
F83	No water in the installation: the temperature does not increase when the burner is lit.	Return water valve closed. Pump disconnected. Leak in the installation.
F84	Permanent temperature difference between flow and return heating sensors.	Inverted or disconnected flow and return heating temperature sensors. Defective temperature sensors.
F85	Flow and return heating sensors fault.	Flow and return heating temperature sensor connected to same tube.
F86	Underfloor heating contact fault.	Floor heating contact open. Sensor disconnected or defective.
Err	User interface fault.	Defective user interface.

Ultracom hxi fault finding codes

Fault code	Fault Description	Possible cause
F1	Boiler has attempted to light 5 times and failed on all occasions.	Gas tap is closed. Gas valve connector is loose, disconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment. Electrode Ignition leads loose, disconnected, faulty trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F3	Fan fault.	Fan speed incorrect. Fan connector loose, unconnected, faulty or wires trapped. Faulty fan.
F4	Flame goes out whilst lit during a demand.	Gas tap is closed. Gas valve connector is loose, unconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment Electrode Ignition leads loose, unconnected, faulty, trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F5	Overheat.	Boiler has overheated - press reset button.
F6	Central Heating Flow Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.
F10	Central Heating Return Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.
F11	Flow and/or return NTC faulty.	Thermistor wires unconnected, faulty, trapped.

Fault code	Fault Description	Possible cause
F13	PCB Memory or sensing faulty.	Loose connections on Main PCB or display PCB. Central Heating Flow or Return Thermistor wires unconnected, faulty, trapped. Electrode Ignition leads loose, unconnected, faulty, trapped. Earthing connection loose, disconnected.
F14	Gas Valve control defective.	Gas valve connector loose, wires unconnected, faulty or trapped. Faulty main board. Faulty gas valve.
F15	eBus failure.	Short circuit on eBus, overload on eBus.
F22	Low water pressure or ignition temperature rise too slow.	Not enough water in the system. Central Heating Flow or Return Thermistor wires loose, faulty, trapped. Central Heating Flow or Return Thermistor not connected to pipe correctly. Air in the system. Faulty pump or pump speed too fast.
F25	Central Heating Flow temperature rise too high during operation. Central Heating Return temperature rise or temperature difference (Between Flow and Return) too high during operation.	Check thermistors are connected to pipes correctly. Air in the system System is too restrictive.
F43	Generic error.	Check all electrical connections - internal & external.
F70	Software incompatible.	Telephone Group Service.
F77	Condensate Pump error (option).	Trapped, faulty wiring, blockage in Condensing Pump.

NO DISPLAY - Check connection from display PCB to main PCB connector X51

Flexicom range fault finding codes

Fault code	Fault Description	Possible cause
F1	Boiler has attempted to light 5 times and failed on all occasions.	Gas tap is closed. Gas valve connector is loose, unconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment. Electrode Ignition leads loose, unconnected, faulty, trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F3	Fan fault.	Fan speed incorrect. Fan connector loose, unconnected, faulty or wires trapped. Faulty fan.
F4	Flame goes out whilst lit during a demand.	Gas tap is closed. Gas valve connector is loose, unconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment. Electrode Ignition leads loose, unconnected, faulty, trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F5	Overheat in S/W.	Boiler has overheated - press reset button.
F6	Central Heating Flow Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.
F9	Pressure.	Water pressure connector loose, unconnected, faulty or wires trapped. Water Pressure Sensor Faulty no water in the system.
F10	Central Heating Return Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.

Fault code	Fault Description	Possible cause
F13	PCB Memory or sensing faulty.	Loose connections on Main PCB or display PCB. Central Heating Flow or Return Thermistor wires unconnected, faulty, trapped. Electrode Ignition leads loose, unconnected, faulty, trapped. Earthing connection loose, disconnected.
F22	Low water pressure or ignition temperature rise to slow.	Not enough water in the system. Central Heating Flow or Return Thermistor wires loose, faulty, trapped. Central Heating Flow or Return Thermistor not connected to pipe correctly. Air in the system. Faulty pump or pump speed too fast.
F25	Central Heating Flow temperature rise too high during operation. Central Heating Return temperature rise or temperature difference (Between Flow and Return) too high during operation.	Check thermistors are connected to pipes correctly. Air in the system. System is too restrictive.
F43	Generic error.	Check all electrical connections - internal & external.
F70	Software incompatible.	Telephone Group Service.
NO DISPLAY - Check connection from display PCB to main PCB connector X51		

Ultrapower sxi fault finding codes

Fault code	Fault Description	Possible cause
F1	Boiler has attempted to light 5 times and failed on all occasions.	Gas tap is closed. Gas valve connector is loose, unconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment. Electrode Ignition leads loose, unconnected, faulty, trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F2	Overheat - Flue thermostat.	Boiler overheated.
F3	Fan fault.	Fan speed incorrect. Fan connector loose, unconnected, faulty or wires trapped. Faulty fan.
F4	Flame goes out whilst lit during a demand.	Gas tap is closed. Gas valve connector is loose, unconnected, faulty, or wires are trapped. Ignitor connectors are loose, unconnected, faulty, trapped. Faulty Ignitor. Low gas inlet pressure. Incorrect gas valve adjustment. Electrode Ignition leads loose, unconnected, faulty, trapped. Electrode broken, defective, or position incorrect. Air inlet blocked, flue inlet blocked, flue duct leaking. Earthing connection loose, disconnected. Condensate blocked.
F5	Overheat.	Boiler has overheated - press reset button.
F6	Central Heating Flow Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.
F7	Domestic Hot Water thermistor fault.	
F8	Tank thermistor fault - Ultrapower sxi only.	
F9	Pressure.	Water pressure connector loose, unconnected, faulty or wires trapped. Water Pressure Sensor Faulty no water in the system.
F10	Central Heating Return Thermistor connection fault.	Thermistor wires unconnected, faulty, trapped.
F11	Flow and/or return NTC faulty.	
NO DISPLAY - Check connection from display PCB to main PCB connector X51		

Fault code	Fault Description	Possible cause
F13	PCB Memory or sensing faulty.	Fan speed incorrect. Fan connector loose, unconnected, faulty or wires trapped. Faulty fan.
F14	Gas Value control defective.	Gas valve connector loose, wires unconnected, faulty or trapped. Faulty main board. Faulty gas valve.
F15	eBus failure.	Short circuit on eBus, overload on eBus.
F22	Low water pressure or ignition temperature rise to slow.	Not enough water in the system. Central Heating Flow or Return Thermistor wires loose, faulty, trapped. Central Heating Flow or Return Thermistor not connected to pipe correctly. Air in the system. Faulty pump or pump speed too fast.
F25	Central Heating Flow temperature rise too high during operation. Central Heating Return temperature rise or temperature difference (Between Flow and Return) too high during operation.	Check thermistors are connected to pipes correctly. Air in the system. System is too restrictive.
F43	Generic error.	Check all electrical connections - internal & external.
F70	Software incompatible.	Telephone Group Service.
F77	Condensate Pump error (option).	Trapped, faulty wiring, blockage in Condensing Pump.
NO DISPLAY - Check connection from display PCB to main PCB connector X51		

Ultracom$_2$ 35 store fault finding codes

Fault code	Fault Description	Possible cause
F00	Temperature sensor fault (NTC1, NTC2,NTC3, NTC5).	Flow sensor (NTC2) disconnected.
F01		Return sensor (NTC5) disconnected.
F02		DHW management sensor (NTC1) disconnected.
F03		Storage tank sensor (NTC3) disconnected.
F10		Flow sensor short-circuit (NTC2).
F11		Return sensor short-circuit (NTC5).
F12		DHW management sensor short-circuit (NTC1).
F13		Storage tank temperature sensor (NTC3) short-circuit.
F20	Overheating fault (97°C measured by the Heating flow sensor).	No water flow.
F22	No water in the installation (< 0.3 bar).	Leak in the installation. Leak in the Pressure relief valve. Expansion tank defective.
F23	Maximum difference in temperature between heating flow and return reached (35K).	Water circulation problem.
F24	Water circulation fault (temperature rise greater than 10 K/s).	Bad pump operation or low water.
F27	Wrong flame detection.	Flame detection in spite of switched off gas valve.
F28	Ignition failure.	No or insufficient gas. Bad gas valve setting. Gas valve defective Igniter or flame electrode defective. Bad earth connection.
F29	Flame failure during burner operation.	
F32	Air intake or flue outlet fault.	Fan rotation speed incorrect.
F49	eBus voltage error.	eBus line fault. Short circuit in eBus connector.
F61	Main circuit board fault.	Gas valve control fault.
F62		Gas valve closure fault.
F63		Main circuit board memory fault.
F64		Rapid fluctuation of heating flow or return sensors.
F65		Main circuit board temperature too high.
F67		Flame signal fault on the main circuit board.

Fault code	Fault Description	Possible cause
F68	Fluctuation of flame signal.	See fault F28.
F70	User interface incompatible with main circuit board.	Bad product code.
F71	Heating flow temperature sensor fault.	Heating flow sensor disconnected or defective (no temperature change).
F72	Permanent temperature difference between heater flow and return sensors.	Discrepancy between heating flow and return temperatures (permanent difference).
F73	Heating circuit pressure sensor fault.	Pressure sensor short-circuited or disconnected.
F74		Pressure sensor electrical fault.
F76	Thermal fuse failure.	Thermal fuse disconnected. Thermal fuse defective.
F77	External accessory faults.	External gas valve Condensate pump.
F81	Fault on DHW circuit.	Over heat on the circuit.
F83	No water in the installation: no temperature increase with burner lit.	Circuit not properly bled.
F84	Permanent temperature difference between heater flow and return sensors.	Flow and return temperature sensors inverted or disconnected. Temperature sensors faulty.
F85	Heater flow and return sensors fault.	Flow and return temperature sensors connected to the same pipe.
F86	Overheat from under-floor safety device.	The under-floor safety device stopped the heating or the link is missing on the FLOOR connector.
-	User interface fault (no display).	Interface card defective or bad connections.

Ultracom$_2$ cxi range specifications

Ultracom$_2$ cxi - Combi

Ultracom$_2$	24cxi	30cxi	35cxi
Size			
Casing dimensions (h w d) (mm)	740 x 418 x 346	740 x 418 x 346	740 x 418 x 346
Weight (lift) (kg)	37.1	37.7	38.3
Performance			
CH output (kW) Min/Max	4.9/18.2	5.9/24.6	8.4/30.0
DHW output (kW)	25.5	30.6	35.7
DHW flow rate (l/min, 35°C rise)	10.4	12.5	14.6
DHW response	5 seconds[1]	5 seconds[1]	5 seconds[1]
SEDBUK SAP 2009 rating (%)	89.0	89.3	89.3
SEDBUK SAP 2005 rating (%)	90.3	90.3	90.4
NOx class 5 (natural gas)	Yes	Yes	Yes
Adjustable to LPG	Yes	Yes	Yes
Construction			
Main heat exchanger type	Coiled tube	Coiled tube	Coiled tube
Heat exchanger material	Stainless steel isothermic	Stainless steel isothermic	Stainless steel isothermic
Burner type	Pre-mixed	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes	Yes
DHW plate heat exchanger	Yes	Yes	Yes
Integrated hydrobloc	Yes	Yes	Yes
Installation			
Suitable for sealed systems	Yes	Yes	Yes
Suitable for open-vent systems	No	No	No
Filling loop	Inbuilt	Inbuilt	Inbuilt
Flow restrictor	Yes 8l/min	Yes 10l/min	Yes 12l/min
Inbuilt system bypass	Yes	Yes	Yes
Inbuilt condensate trap/siphon	Yes	Yes	Yes
Inbuilt frost protection	2 stage	2 stage	2 stage
Zero compartment ventilation	Yes	Yes	Yes
Clearances			
Top (mm)	150	150	150
Side (mm)	0	0	0
Bottom (mm)	200	200	200
Front (mm)	600[2]	600[2]	600[2]
User Interface			
User display	Digital/plain text	Digital/plain text	Digital/plain text
Diagnostics	Advanced/Intuitive	Advanced/intuitive	Advanced/intuitive
User adjustable CH temp control	Yes	Yes	Yes
User adjustable DHW temp control	Yes	Yes	Yes
'Eco' setting on DHW	Yes	Yes	Yes
Optional plug in digital timer kit	Yes	Yes	Yes
Optional plug in analogue timer kit	Yes	Yes	Yes
Pipes			
Optional pre-fixing jig	Yes[3]	Yes[3]	Yes[3]
Optional spacing frame	Yes	Yes	Yes
Water connections	2 x 22mm 2 x 15mm	2 x 22mm / 2 x 15mm	2 x 22mm / 2 x 15mm
Flues			
Max horizontal Ø60/100	10m	10m	10m
Max vertical Ø60/100	10m	10m	10m
Max horizontal Ø80/125	25m	25m	25m
Max Vertical Ø80/125	25m	25m	25m
Optional plume management kit Ø60/100	Yes	Yes	Yes

Notes:

1 1 metre from the tap
2 This can be reduced to 5mm for removable panel
3 Upward and downward piping

Ultracom$_2$ sxi range specifications

Ultracom$_2$ sxi - Sealed System

Ultracom$_2$	12sxi	18sxi	30sxi
Size			
Casing dimensions (h w d) (mm)	740 x 418 x 346	740 x 418 x 346	740 x 418 x 346
Weight (lift) (kg)	37.1	37.1	38.3
Performance			
CH output (kW) Min/Max	3.9/12	4.9/18.2	8.5/30
DHW output (kW)	N/A	N/A	N/A
DHW flow rate (l/min, 35°C rise)	N/A	N/A	N/A
DHW response	N/A	N/A	N/A
SEDBUK SAP 2009 rating (%)	89.5	89.1	89.4
SEDBUK SAP 2005 rating (%)	90.4	90.4	90.5
NOx class 5 (natural gas)	Yes	Yes	Yes
Adjustable to LPG	No	Yes	Yes
Construction			
Main heat exchanger type	Coiled tube	Coiled tube	Coiled tube
Heat exchanger material	Stainless steel isothermic	Stainless steel isothermic	Stainless steel isothermic
Burner type	Pre-mixed	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes	Yes
DHW plate heat exchanger	N/A	N/A	N/A
Integrated hydrobloc	Yes	Yes	Yes
Installation			
Suitable for sealed systems	Yes	Yes	Yes
Suitable for open-vent systems	No	No	No
Filling loop	N/A	N/A	N/A
Flow restrictor	N/A	N/A	N/A
Inbuilt system bypass	Yes	Yes	Yes
Inbuilt condensate trap/siphon	Yes	Yes	Yes
Inbuilt frost protection	2 stage	2 stage	2 stage
Zero compartment ventilation	Yes	Yes	Yes
Clearances			
Top (mm) (from top of boiler)	150	150	150
Side (mm)	0	0	0
Bottom (mm)	200	200	200
Front (mm)	600[1]	600[1]	600[1]
User Interface			
User display	Digital/plain text	Digital/plain text	Digital/plain text
Diagnostics	Advanced/intuitive	Advanced/intuitive	Advanced/intuitive
User adjustable CH temp control	Yes	Yes	Yes
User adjustable DHW temp control	Yes	Yes	Yes
'Eco' setting on DHW	N/A	N/A	N/A
Optional plug in digital timer kit	Yes	Yes	Yes
Optional plug in analogue timer kit	No	No	No
Pipes			
Optional pre-fixing jig	Yes[2]	Yes[2]	Yes[2]
Optional spacing frame	Yes	Yes	Yes
Water connections	2 x 22mm	2 x 22mm	3 x 22mm
Flues			
Max horizontal Ø60/100	10m	10m	10m
Max vertical Ø60/100	10m	10m	10m
Max horizontal Ø80/125	20m	25m	25m
Max Vertical Ø80/125	20m	25m	25m
Optional plume management kit Ø60/100	Yes	Yes	Yes

Notes:

1 This can be reduced to 5mm for renewable panel

2 Upward + downward piping

Ultracom hxi range specifications

Ultracom hxi - Regular Heat Only

Ultracom	12hxi	15hxi	18hxi	24hxi	30hxi	38hxi
Size						
Casing dimensions (h w d)(mm)	610 x 375 x 334	610 x 375 x 334	610 x 375 x 334	610 x 375 x 334	610 x 375 x 334	610 x 375 x 334
Weight (packed)	28kg	28kg	28kg	31kg	31kg	31kg
Performance						
CH output (kW) Min/Max	5.0/12.0	5.0/15.0	5.0/18.6	5.3/24.0	5.3/28.2	6.3/38.0
CH condensing Max output (kW)	12.9	16.2	20.2	25.0	30.6	41.0
SEDBUK SAP 2009 rating (%)	88.7	88.7	88.6	88.9	88.7	89.2
SEDBUK SAP 2005 rating (%)	90.5	90.5	90.4	90.5	90.6	90.8
NOx class 5 (natural gas)	Yes	Yes	Yes	Yes	Yes	Yes
Adjustable to LPG	Yes	Yes	Yes	Yes	Yes	Yes
Construction						
Main heat exchanger type	Coiled tube	Coiled tube	Coiled tube	Coiled tube	Coiled tube	Coiled tube
Heat exchanger material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Burner type	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes	Yes	Yes	Yes	Yes
Installation						
Suitable for sealed systems	Yes	Yes	Yes	Yes	Yes	Yes
Suitable for open vent systems	Yes	Yes	Yes	Yes	Yes	Yes
Inbuilt condensate trap/siphon	Yes	Yes	Yes	Yes	Yes	Yes
Inbuilt boiler frost protection	2 stage	2 stage	2 stage	2 stage	2 stage	2 stage
Continua electronics	Yes	Yes	Yes	Yes	Yes	Yes
Zero compartment ventilation	Yes	Yes	Yes	Yes	Yes	Yes
Clearances						
Top (mm) (from top of boiler)	150	150	150	150	150	150
Side (mm)	20	20	20	20	20	20
Bottom (mm)	200	200	200	200	200	200
Front (mm)	600[1]	600[1]	600[1]	600[1]	600[1]	600[1]
User Interface						
User display	Digital	Digital	Digital	Digital	Digital	Digital
Diagnostics	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
User adjustable CH temp control	Yes	Yes	Yes	Yes	Yes	Yes
Inbuilt digital programmer[2]	Yes[2]	Yes[2]	Yes[2]	Yes[2]	Yes[2]	Yes[2]
Pipes						
Water connections	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm
Flues						
Max horizontal Ø60/100	10m	10m	10m	10m	10m	10m
Max vertical Ø60/100	10m	10m	10m	10m	10m	10m
Max horizontal Ø80/125	25m	25m	25m	25m	25m	25m
Max vertical Ø80/125	25m	25m	25m	25m	25m	25m
Optional Plume Management Kit Ø60/100	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

1 This can be reduced to 5mm for removable panel

2 Activated with addition of Options Board or Smart Wiring Centre and Glow-worm intelligent controls

Ultracom$_2$ 35 Store specifications

Ultracom$_2$ 35 Store - Storage Combi

Ultracom$_2$	35 Store
Size	
Casing dimensions (h w d)(mm)	890 x 470 x 561
Weight (lift)	67kg
Performance	
CH output (kW) Min/Max	8.5/30.0
CH condensing Max output (kW)	30.0
DHW output (kW)	8.7/35.7
DHW flow rate (l/min, 35°C rise)	19.7
DHW response	5 seconds[1]
SEDBUK SAP 2009 rating (%)	89.4%
SEDBUK SAP 2005 rating (%)	90.6%
NOx class 5 (natural gas)	Yes
Adjustable to LPG	Yes
Construction	
Main heat exchanger type	Coiled tube
Heat exchanger material	Stainless steel
Burner type	Pre-mixed
Fully modulating	Yes
DHW plate heat exchanger	Yes
Integrated hydrobloc	Yes
Installation	
Suitable for sealed systems	Yes
Suitable for open vent systems	No
Inbuilt condensate trap	Yes
Inbuilt boiler frost protection	2 stage
Zero compartment ventilation	Yes
Clearances	
Top (mm) (from top of boiler)	300
Side (mm)	50 Left/150 Right
Bottom (mm)	300
Front (mm)	600[2]
User Interface	
User display	Digital/plain text
Diagnostics	Advanced/intuitive
User adjustable CH temp control	Yes
Inbuilt digital programmer	No
User adjustable DHW temp control	Yes
'Eco' setting on DHW	Yes
Optional programmable room thermostat	Yes
Pipes	
Optional DIN conversion kit	Yes
Optional rear piping kit	No
Water connections	4 x 22mm
Flues	
Max horizontal Ø60/100	10m
Max vertical Ø60/100	10m
Max horizontal Ø80/125	12m
Max vertical Ø80/125	13m
Optional plume management kit Ø60/100	Yes

Notes:
1 1 metre from the tap
2 This can be reduced to 5mm for removable panel

The Ultrapower sxi range specifications

Ultrapower sxi - System Store

Ultrapower sxi	100sxi	170sxi
Size		
Casing dimensions (h w d)(mm)	1260 x 575 x 600	1520 x 575 x 600
Weight (boiler module lift)	50.5kg	50.5kg
Weight (tank module lift)	39.0kg	48.0kg
Performance		
CH output (kW) Min/Max	8.7/24.3	8.7/24.3
DHW output (kW) Min/Max	8.7/31.0	8.7/31.0
Max DHW flow rate (l/min@2bar)	36	36
DHW flow rate storage/combi (l/min. 35°C rise)	24/12.5	25/12.5
Volume of DHW produced (l)	100	170
DHW response	5 seconds[1]	5 seconds[1]
SEDBUK SAP 2009 rating (%)	89.2	89.3
SEDBUK SAP 2005 rating (%)	91.5	91.5
NOx class 5 (natural gas)	Yes	Yes
Adjustable to LPG	Yes	Yes
Construction		
Main heat exchanger type	Coiled tube	Coiled tube
Heat exchanger material	Stainless steel	Stainless steel
Burner type	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes
DHW plate heat exchanger	Yes	Yes
Integrated hydrobloc	Yes	Yes
Installation		
Suitable for sealed systems	Yes	Yes
Suitable for open-vent systems	No	No
Filling loop	Yes	Yes
Flow restrictor	No	No
Inbuilt system bypass	Yes	Yes
Inbuilt condensate trap/siphon	Yes	Yes
Inbuilt boiler frost protection	Yes	Yes
Continua electronics	Yes	Yes
Zero compartment ventilation	Yes	Yes
Clearances		
Top (mm) (from top of boiler)	150	150
Side (mm)	5	5
Front (mm)	600[2]	600[2]
User Interface		
User display	Digital	Digital
Diagnostics	Advanced	Advanced
User adjustable CH temp control	Yes	Yes
User adjustable DHW temp control	Yes	Yes
Optional programmer	Built-in 7 day two channel	Built-in 7 day two channel
Pipes		
Pre-fixing jig	Yes	Yes
Water connections	4 x 22mm	4 x 22mm
Flues		
Max horizontal ØØ60/100	8m	8m
Max vertical Ø60/100	12m	12m
Max horizontal Ø80/125	25m	25m
Max vertical Ø80/125	25m	25m
Optional Plume Management Kit Ø60/100	Yes	Yes

Notes:
1 1 metre from the tap
2 This can be reduced to 5mm for removable panel

Flexicom cx range specifications

Flexicom cx - Combi

Flexicom	24cx	30cx	35cx
Size			
Casing dimensions (h w d)(mm)	700 x 390 x 280	700 x 390 x 280	700 x 390 x 280
Weight (lift)	36kg	36kg	36kg
Performance			
CH output (kW) Min/Max	9.3/18.0	9.3/24.0	9.3/30.0
DHW output (kW) Min/Max	9.3/25.1	9.3/30.0	9.3/35.0
CH condensing Max output (kW)	18.8	24.9	31.0
DHW flow rate l/min. 35°C rise	9.85	12.3	14.4
DHW response	3 seconds[1]	3 seconds[1]	3 seconds[1]
SEDBUK SAP 2009 rating (%)	88.4	88.3	89.1
SEDBUK SAP 2005 rating (%)	90.3	90.0	90.2
NOx class 5 (natural gas)	Yes	Yes	Yes
Adjustable to LPG	No	No	No
Construction			
Main heat exchanger type	Cast	Cast	Cast
Heat exchanger material	Aluminium	Aluminium	Aluminium
Burner type	Pre-mixed	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes	Yes
DHW plate heat exchanger	Yes	Yes	Yes
Integrated hydrobloc	Yes	Yes	Yes
Installation			
Suitable for sealed systems	Yes	Yes	Yes
Suitable for open vent systems	No	No	No
Filling loop	Integral	Integral	Integral
Flow restrictor	Yes 9.4 l/min	Yes 11.7 l/min	Yes 13 l/min
Inbuilt system bypass	Yes automatic	Yes automatic	Yes automatic
Inbuilt condensate trap/siphon	Yes	Yes	Yes
Inbuilt boiler frost protection	Two stage	Two stage	Two stage
Continua electronics	Yes	Yes	Yes
Zero compartment ventilation	Yes	Yes	Yes
Clearances			
Top (mm) (from top of boiler)	150	150	150
Side (mm)	5	5	5
Bottom (mm)	150	150	150
Front (mm)	600[2]	600[2]	600[2]
User Interface			
User display	2 Digit LCD	2 Digit LCD	2 Digit LCD
Diagnostics	Advanced	Advanced	Advanced
User adjustable CH temp control	Yes	Yes	Yes
User adjustable DHW temp control	Yes	Yes	Yes
Optional glide down analogue timer	Yes	Yes	Yes
Pipes			
Prefixing jig with DIN layout	Yes	Yes	Yes
Optional spacing frame	Yes	Yes	Yes
Water connections	2 x 22mm / 2 x 15mm	2 x 22mm / 2 x 15mm	2 x 22mm / 2 x 15mm
Flues			
Max horizontal Ø60/100	8m	8m	8m
Max vertical Ø60/100	8m	8m	8m
Max horizontal Ø80/125	20m	20m	20m
Max vertical Ø80/125	20m	20m	20m
Max direct rear flue	0.55m	0.55m	0.55m
Optional Plume Management Kit Ø60/100	Yes	Yes	Yes

Notes:

1 1 metre from the tap

2 This can be reduced to 5mm for removable panel

Flexicom hx range specifications

Flexicom hx - Regular Heat Only

Flexicom	12hx	15hx	18hx	24hx	30hx	35hx
Size						
Casing dimensions (h w d)(mm)	600 x 375 x 280	600 x 375 x 280	600 x 375 x 280	600 x 375 x 280	600 x 375 x 280	600 x 375 x 280
Weight (lift)	25kg	25kg	25kg	25kg	25kg	25kg
Performance						
CH output (kW) Min/Max	9.3/12.0	9.3/15.0	9.3/18.0	9.3/24.0	9.3/30.0	9.3/35.0
CH condensing Max output (kW)	12.8	15.8	18.8	24.8	31.0	36.0
SEDBUK SAP 2009 rating (%)	88.5	88.5	88.4	88.4	88.7	89.2
SEDBUK SAP 2005 rating (%)	90.7	90.5	90.4	90.3	90.0	90.3
NOx class 5 (natural gas)	Yes	Yes	Yes	Yes	Yes	Yes
Adjustable to LPG	No	No	No	No	No	No
Construction						
Main heat exchanger type	Cast	Cast	Cast	Cast	Cast	Cast
Heat exchanger material	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Burner type	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes	Yes	Yes	Yes	Yes
Installation						
Suitable for sealed systems	Yes	Yes	Yes	Yes	Yes	Yes
Suitable for open vent systems	Yes	Yes	Yes	Yes	Yes	Yes
Inbuilt condensate trap/siphon	Yes	Yes	Yes	Yes	Yes	Yes
Inbuilt boiler frost protection	Two stage	Two stage	Two stage	Two stage	Two stage	Two stage
Continua electronics	Yes	Yes	Yes	Yes	Yes	Yes
Zero compartment ventilation	Yes	Yes	Yes	Yes	Yes	Yes
Clearances						
Top (mm) (from top of boiler)	150	150	150	150	150	150
Side (mm)	5	5	5	5	5	5
Bottom (mm)	150	150	150	150	150	150
Front (mm)	600[1]	600[1]	600[1]	600[1]	600[1]	600[1]
User Interface						
User display	2 Digit LCD	2 Digit LCD	2 Digit LCD	2 Digit LCD	2 Digit LCD	2 Digit LCD
Diagnostics	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
User adjustable CH temp control	Yes	Yes	Yes	Yes	Yes	Yes
Optional inbuilt timer	No	No	No	No	No	No
Pipes						
Prefixing jig with DIN layout	Yes	Yes	Yes	Yes	Yes	Yes
Upward piping kit	Yes	Yes	Yes	Yes	Yes	Yes
Water connections	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm	2 x 22mm
Flues						
Max horizontal Ø60/100	8m	8m	8m	8m	8m	8m
Max vertical Ø60/100	8m	8m	8m	8m	8m	8m
Max horizontal Ø80/125	20m	20m	20m	20m	20m	20m
Max vertical Ø80/125	20m	20m	20m	20m	20m	20m
Max direct rear flue	0.55m	0.55m	0.55m	0.55m	0.55m	0.55m
Optional Plume Management Kit Ø60/100	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

1 This can be reduced to 5mm for removable panel

Flexicom sx range specifications

Flexicom sx - Sealed System

Flexicom	18sx	30sx
Size		
Casing dimensions (h w d)(mm)	700 x 390 x 280	700 x 390 x 280
Weight (lift)	36kg	36kg
Performance		
CH output (kW) Min/Max	9.3/18.0	9.3/30.0
CH condensing Max output (kW)	18.8	31.0
SEDBUK SAP 2009 rating (%)	88.4	88.9
SEDBUK SAP 2005 rating (%)	90.3	90.1
NOx class 5 (natural gas)	Yes	Yes
Adjustable to LPG	No	No
Construction		
Main heat exchanger type	Cast	Cast
Heat exchanger material	Aluminium	Aluminium
Burner type	Pre-mixed	Pre-mixed
Fully modulating	Yes	Yes
Installation		
Suitable for sealed systems	Yes	Yes
Suitable for open-vent systems	No	No
Inbuilt system bypass	Yes automatic	Yes automatic
Inbuilt condensate trap/siphon	Yes	Yes
Inbuilt boiler frost protection	Two stage	Two stage
Continua electronics	Yes	Yes
Zero compartment ventilation	Yes	Yes
Clearances		
Top (mm) (from top of boiler)	150	150
Side (mm)	5	5
Bottom (mm)	150	150
Front (mm)	600[1]	600[1]
User Interface		
User display	2 Digit LCD	2 Digit LCD
Diagnostics	Advanced	Advanced
User adjustable CH temp control	Yes	Yes
Optional inbuilt timer	No	No
Pipes		
Prefixing jig with DIN layout	Yes	Yes
Optional spacing frame	Yes	Yes
Water connections	2 x 22mm	2 x 22mm
Flues		
Max horizontal Ø60/100	8m	8m
Max vertical Ø60/100	8m	8m
Max horizontal Ø80/125	20m	20m
Max vertical Ø80/125	20m	20m
Max direct rear flue	0.55m	0.55m
Optional Plume Management Kit Ø60/100	Yes	Yes

Notes: 1 This can be reduced to 5mm for removable panel

Cylinder ranges specifications

Hydracyl unvented hot water cylinders

Hydracyl	150	205	250	300
Size				
Total capacity (l)	150	205	250	300
Actual capacity (l)	149.1	211.2	250.3	299.1
Hot water capacity	136.7	203.9	247.5	270.5
Height (mm)	1191	1593	1843	2153
Height with hot water draw off (mm)	1223	1625	1875	2185
Diameter (mm)	554.5	554.5	554.5	554.5
Depth (mm)	633	633	633	633
Net weight (kg)	29	36	41	46
Weight full (kg)	177.8	248	291	345
Construction				
Cylinder body material	Stainless steel (1.4521)			
Cylinder jacket material	Polypropylene			
Insulation material	EPS with infrared absorber			
Insulation thickness (mm)	50.0			
Corrosion protection	Stainless steel			
Blowing agent for insulation material	Pentane (GWP < 5)			
ODP	0			
Performance				
Standing heat loss (kW/24 h)	1.61	1.98	2.17	2.37
Heating up time according to EN 12897 (mins)	24	30	37	42
Recovery time (70% capacity) (mins)	19	21	26	31
Primary heat exchanger performance (kW)	18	21.4	21	20
Flow rate for primary heat exchanger performance (l/min)	23.3	23.3	23.3	23.3
Primary heat exchanger pressure drop (mbar)	97	116	116	115
Primary heat exchanger volume (l)	2.94	3.56	3.56	3.56
Primary heat exchanger surface area (m^2)	0.62	0.75	0.75	0.75

Cont.

Hydracyl	150	205	250	300
Installation				
Cold water inlet	22mm unprofiled pipe (compression joints)			
Hot water draw off	22mm unprofiled pipe (compression joints)			
Balanced pressure cold water outlet	22mm unprofiled pipe (compression joints)			
Secondary return	22mm unprofiled pipe (compression joints)			
Primary heater flow	22mm unprofiled pipe (compression joints)			
Primary heater return	22mm unprofiled pipe (compression joints)			
Primary heating circuit immersion sleeve size (mm)	8			
Immersion heater (according to BS EN 60335)	2.7kW, 230 V, 50 Hz			
Length of electric immersion heater (inch)	14			
Two port motorised valve	2.7kW, 230 V, 50 Hz			
Cylinder thermostat	2.7kW, 230 V, 50 Hz			
Safety				
Maximum supply pressure to pressure reducing valve (bar)	12			
Maximum operating pressure of cylinder (bar)	7			
Maximum operating pressure of heating coil (bar)	3.5			
Operating pressure (bar)	3.5			
Pressure limiting valve (bar)	3.5			
Expansion relief valve (bar)	6			
Temperature and pressure relief valve °C/bar	90/7.0			
Charge pressure of hot water expansion vessel	4			
Maximum temperature of heating circuit °C	85			
Maximum temperature of potable hot water °C	85			

Cylinder ranges specifications

Flurocyl$_2$ solar hot water cylinders

Flurocyl$_2$	200	250	300
Size			
Total capacity (l)	200	250	300
Actual capacity (l)	209.4	254.4	297.2
Hot water capacity (upper coil) (l)	104.8	142	144.2
Hot water capacity (solar coil) (l)	203.3	246.1	271.1
Dedicated solar volume (l)	104.6	112.4	153
Height (mm)	1593	1843	2153
Height with hot water draw off (mm)	1625	1875	2185
Diameter (mm)	554.5	554.5	554.5
Depth (mm)	633	633	633
Net weight (kg)	40	43	50
Weight full (kg)	249	298	347
Construction			
Cylinder body material	Stainless steel (1.4521)		
Cylinder jacket material	Polypropylene		
Insulation material	EPS with infrared absorber		
Insulation thickness (mm)	50.0		
Corrosion protection	Stainless steel		
Blowing agent for insulation material	Pentane (GWP < 5)		
ODP	0		
Performance			
Standing heat loss (kW/24 h)	2.05	2.2	2.4
Heating up time according to EN 12897 (mins)	22	29	30
Recovery time (70% capacity) (mins)	16	21	22
Primary heat exchanger performance (kW)	14.9	15.3	15
Flow rate for primary heat exchanger performance (l/min)	23.3	23.3	23.3
Primary heat exchanger pressure drop (mbar)	79	78	79
Primary heat exchanger volume (l)	2.37	2.37	2.37
Primary heat exchanger surface area (m^2)	0.5	0.5	0.5
Solar heat exchanger performance (kW)	18.7	18.5	16.5
Flow rate for solar heat exchanger performance (l/min)	23.3	23.3	23.3
Solar heat exchanger pressure drop (mbar)	97	95	98
Solar heat exchanger volume (l)	2.94	2.94	2.94
Solar heat exchanger surface area (m^2)	0.62	0.62	0.62
Heating up time according to EN 12897 (solar)	22	29	30

Cont.

Flurocyl$_2$	200	250	300
Installation			
Cold water inlet	22mm unprofiled pipe (compression joints)		
Hot water draw off	22mm unprofiled pipe (compression joints)		
Balanced pressure cold water outlet	22mm unprofiled pipe (compression joints)		
Secondary return	22mm unprofiled pipe (compression joints)		
Primary heater flow	22mm unprofiled pipe (compression joints)		
Primary heater return	22mm unprofiled pipe (compression joints)		
Solar heater flow	22mm unprofiled pipe (compression joints)		
Solar heater return	22mm unprofiled pipe (compression joints)		
Primary heating circuit immersion sleeve size (mm)	8		
Solar heating circuit immersion sleeve size (mm)	8		
Immersion heater (according to BS EN 60335)	2.7kW, 230 V, 50 Hz		
Length of electric immersion heater (inch)	14		
Two port motorised valve	2.7kW, 230 V, 50 Hz		
Cylinder thermostat	2.7kW, 230 V, 50 Hz		
Safety			
Maximum supply pressure to pressure reducing valve (bar)	12		
Maximum operating pressure of cylinder (bar)	7		
Maximum operating pressure of heating coil (bar)	3.5		
Maximum operating pressure of solar coil (bar)	6		
Operating pressure (bar)	3.5		
Pressure limiting valve (bar)	3.5		
Expansion relief valve (bar)	6		
Temperature and pressure relief valve (bar)	7		
Charge pressure of hot water expansion vessel	4		
Maximum temperature of heating circuit °C	85		
Maximum temperature of solar fluid °C	85		

Controls

Appliance	Climastat	Wired Climapro	Wireless Climapro$_2$ RF	Wired Outdoor Sensor	Wireless Outdoor Sensor	Glide down analogue timer	Plug in analogue timer	Plug in digital timer	Smart Wiring Centre
Ultracom$_2$ cxi	✓	✓	✓	✓	✓	✗	✓	✓	✗
Ultracom$_2$ sxi	✓	✓	✓	✓	✓	✗	✗	✓	✓
Ultracom$_2$ 35 store	✗	✓	✓	✓	✓	✗	✗	✗	✗
Ultracom hxi	✓	✓	✓	✓	✓	✗	✗	✗	✓
Flexicom cx	✓	✓	✓	✓	✓	✓	✗	✗	✗
Flexicom hx	✓	✓	✓	✓	✓	✗	✗	✗	✓
Flexicom sx	✓	✓	✓	✓	✓	✗	✗	✗	✓
Ultrapower sxi	✓	✓	✓	✓	✓	✗	✗	✗	✗

Climastat

Thermostat (Temperature only)

Key Features

- Easy to use
- Extra low voltage
- Simple & discreet 2 wire connection
- Polarity not important

Climapro

Programmable room thermostat time and temperature

Key Features

- Simple 2 channel controller for central heating and hot water control
- Provides 24 hour or 7 day timed programme options
- Extra low voltage
- Simple & discrete 2 wire connection
- Polarity not important

Wireless Outdoor Sensor

NEW Wireless weather compensation sensor using inbuilt PV cells

Key Features

- Enables weather compensation when paired with Climapro$_2$ RF
- Works on indirect sunlight which re-charges the small PV cells
- Simple and quick to install
- Only works with Climapro$_2$ RF

Smart Wiring Centre

Intelligent wiring centre

Key Features

- For use with Ultracom and Flexicom regular heat only and system boilers
- eBus connection included for Glow-worm intelligent control
- Controls one DHW zone and one CH zone
- Simple colour coded connectors

Outdoor Sensor

Weather compensation sensor (wired)

Key Features

- Enables weather compensation
- Wired sensor

Systempro

This innovative controller is a weather compensated wiring centre which will accommodate up to three heating zones and one DHW zone.

Key Features

- Can be used to control a multi-zone system with multiple Climapro$_2$ RF controls.
- System management suitable for boiler, cylinder, heat pump and hybrid systems
- Uses advanced technology to coordinate entire system
- Acts as a central installer interface where maintenance menus, fault history, system parameters, etc. can be accessed
- No need for end user interaction
- Use of outdoor sensor is mandatory

Climapro$_2$ RF

Our new innovative wireless programmable room thermostat for advanced heating and hot water control any time of the week.

Key Features

- Two channel wireless programmable room thermostat with time and temperature control of central heating and hot water
- Backlit display provides advanced user control and functionality
- Simple to use handheld unit can be wall mounted or portable within the living area
- Unique easy to install RF receiver which can be fitted inside the Ultracom$_2$ cxi and sxi models
- Capable of room and weather compensation (with outdoor sensor)

Controls

	Units	Climastat	Climapro	Climapro$_2$	RF Receiver
Max room temperature	˚C	30	30	30	N/A
Height	mm	96	100	100	47
Width	mm	96	152	152	170
Depth	mm	30	31	31	25
Supply voltage	v	24	24	2x1.5v 'AAA' battery	24
Electrical rating	mA	17	17	N/A	N/A
Min. diameter of connection cable	mm^2	2x1.5	2x1.5	N/A	2x0.75
Max connection cable length	m	300	300	N/A	300
Electrical protection		IP20	IP20	IP20	IP20
Transmission /reception frequency	MHz	N/A	N/A	868	868
Average range open air[1]	m	N/A	N/A	100	100
Average range within the home[1]	m	N/A	N/A	25	25

Notes:

1 Dependant on the installation conditions and electromagnetic environment.

Smart Wiring Centre

The Smart Wiring Centre allows compatibility of Glow-worm controls with Flexicom hx and sx and Ultracom$_2$ sxi and Ultracom hxi, to create an intelligent heating system, capable of load or weather compensation.

The Smart Wiring Centre allows the system to differentiate between a call for heating and a call for hot water. The system then adjusts the boiler flow temperature accordingly and opens the appropriate zone-valve. This means that the lower flow temperature is circulated around the central heating system, or the higher flow temperature is directed to the hot water cylinder. If there is a demand for both central heating and hot water, the system runs in hot water priority mode as default.

Wiring Connections

The Smart Wiring Centre is designed to be used in a standard `S-plan system (2-port motorised valves) or `Y-plan' system (3-port motorise valve) with simple. push fit colour coded connectors for error free wiring. Cables can be clamped in place once wiring is complete.

The following connections are provided in the Smart Wiring Centre:

- 230V power supply
- Cylinder thermostat relay connection
- eBus to connect to Glow-worm controls and to the eBus terminals in the boiler
- Zone valve connections for one hot water zone and one heating zone
- 2x 2-port valves, OR
- 1x 3-port valve

Key Features

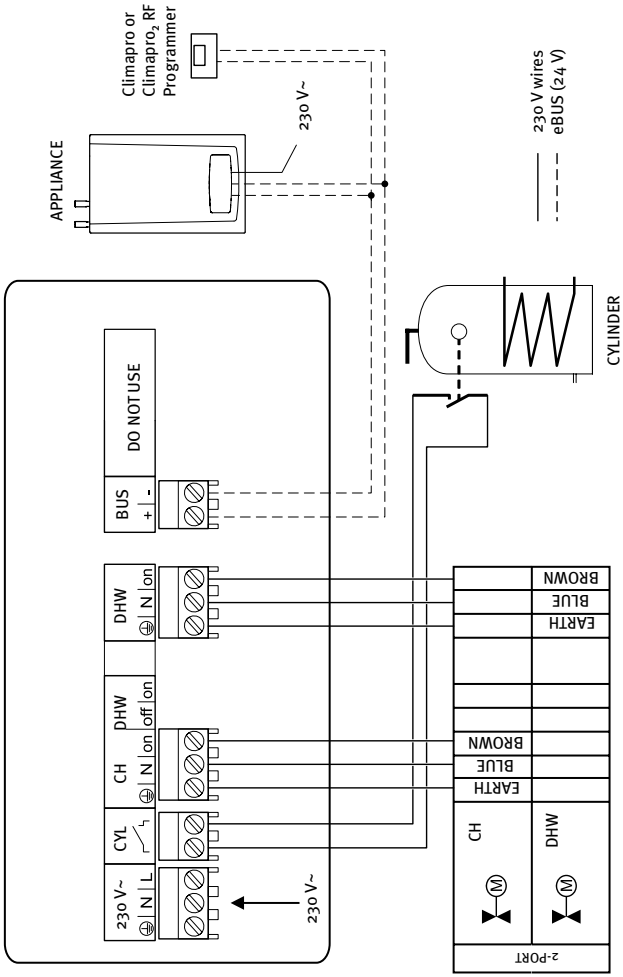
- Room or weather compensation available with Ultracom and Flexicom system and regular heating only boilers using Glow-worm Climapro$_2$ RF or Climstat controls
- Lower central heating flow temperatures associated with intelligent control achieved
- Reduction in energy costs and efficient boiler operation with lower flow temperatures
- Improved home comfort levels with room or weather compensation
- Simple, push-fit colour-coded connectors for simple and error-free wiring

NB

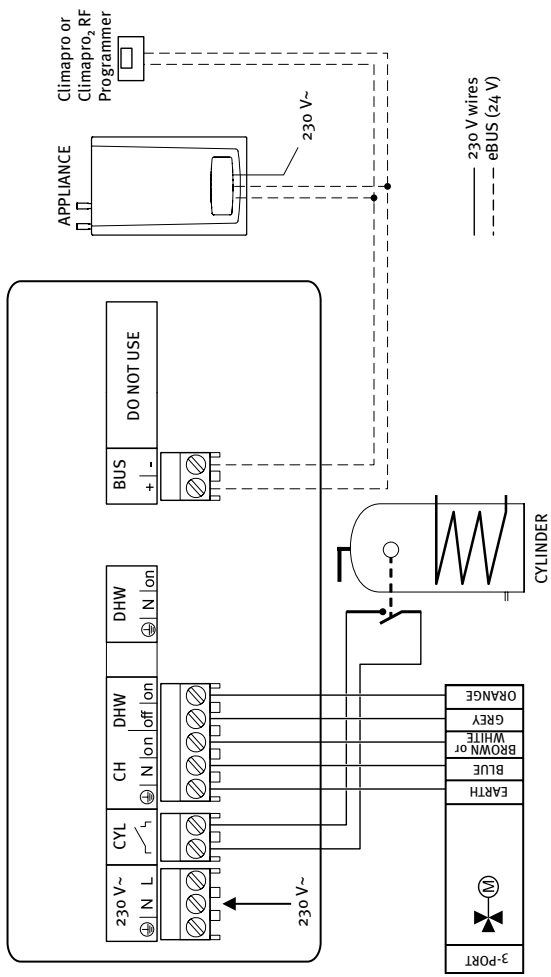
- Options Board and Smart Wiring Centre cannot be used together
- Smart Wiring Centre does not need to be used with combination boilers
- Accommodates single zone only

Smart Wiring Centre Connections

2 Port Connections

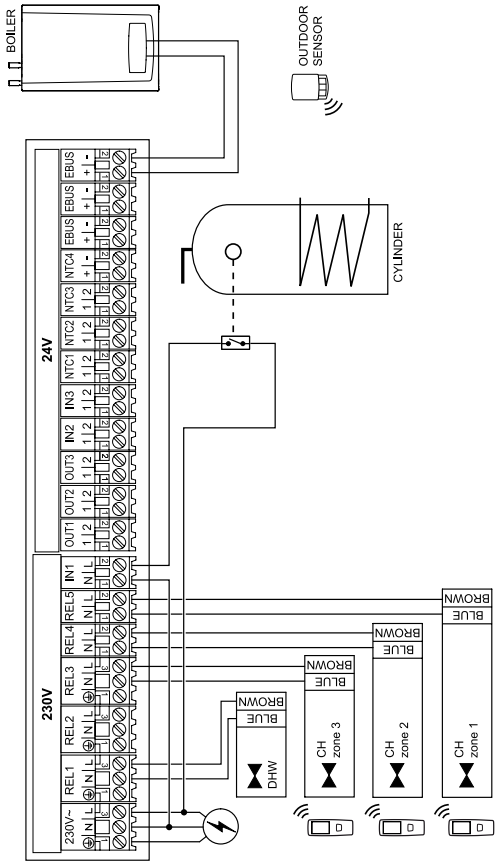


3 Port Connections



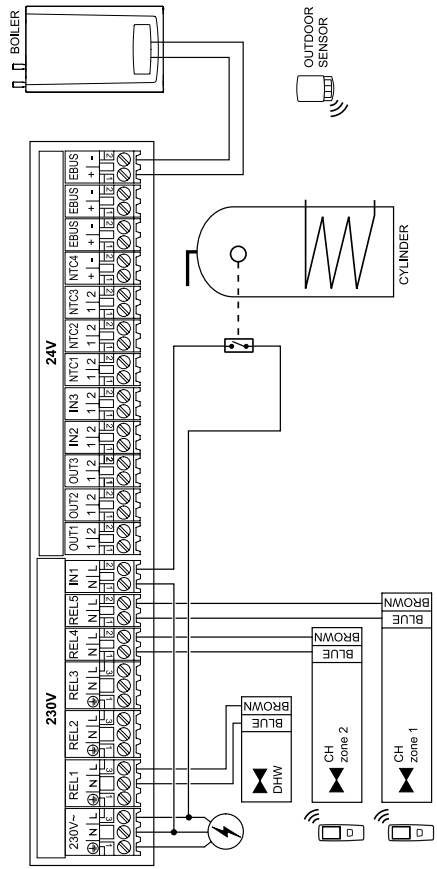
Systempro Connections

2 heating zones, 1 DHW zone with cylinder + tank thermostat



* Note: Ultracom hxi not compatible with systempro

3 heating zones, 1 DHW zone with cylinder + tank thermostat



* Note: Ultracom hxi not compatible with systempro

Ultracom$_2$ cxi control options

	Ultracom$_2$ cxi		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Plug in analogue or digital timer		Smart Wiring Centre
To achieve room compensation you will need:															
Using plug in controls	✓	+	✓	+	✗		✗		✗		✗		✓		✗
or															
Using external controls	✓	+	✗		✓	or	✓		✗		✗		✗		✗
To achieve weather compensation you will need:															
Using plug in controls	✓	+	✓	+	✗		✗		✓	+	✗		✓		✗
or															
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓		✗		✗		✗
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓		✗		✗

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Ultracom$_2$ sxi control options

	Ultracom$_2$ sxi		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Plug in digital timer		Smart Wiring Centre
To achieve room compensation you will need:															
Using plug in controls	✓	+	✓	+	✗		✗		✗		✗		✓	+	✓
or															
Using external controls	✓	+	✗		✓	or	✓	+	✗		✗		✗		✓
To achieve weather compensation you will need:															
Using plug in controls	✓	+	✓	+	✗		✗		✓	+	✗		✓	+	✓
or															
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓	+	✗		✗		✓
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓	+	✗		✓

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Ultracom hxi control options

	Ultracom hxi		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Options Board	Smart Wiring Centre
To achieve room compensation you will need:														
Using inbuilt programmer	✓	+	✓	+	✗		✗		✗		✗		✗	✓
or														
Using external controls	✓	+	✗		✓	or	✓	+	✗		✗		✗	✓
To achieve weather compensation you will need:														
Using inbuilt programmer	✓	+	✓	+	✗		✗		✓	+	✗		✗	✓
or														
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓	+	✗		✗	✓
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓	+	✗	✓
To achieve on/off control you will need:														
Using inbuilt programmer	✓	+	✓	+	✗		✗		✗		✗		✓	✗

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Ultracom$_2$ 35 store control options

	Ultracom$_2$ 35 store		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Plug in digital timer	Smart Wiring Centre
To achieve room compensation you will need:														
Using external controls	✓	+	✗		✓	or	✓	+	✗		✗		✗	✗
To achieve weather compensation you will need:														
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓		✗		✗	✗
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓		✗	✗

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Flexicom cx control options

	Flexicom cx		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor	Glide down analogue timer	Smart Wiring Centre
To achieve room compensation you will need:													
Using glide down analogue timer	✓	+	✓	+	✗		✗		✗		✗	✓	✗
or													
Using external controls	✓	+	✗		✓	or	✓		✗		✗	✗	✗
To achieve weather compensation you will need:													
Using glide down analogue timer	✓	+	✓	+	✗		✗		✓	+	✗	✓	✗
or													
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓		✗	✗	✗
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓	✗	✗

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Flexicom hx control options

	Flexicom hx		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Smart Wiring Centre
To achieve room compensation you will need:													
Using external controls	✓	+	✗		✓	or	✓	+	✗		✗		✓
To achieve weather compensation you will need:													
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓	+	✗		✓
or													
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓	+	✓

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

Flexicom sx control options

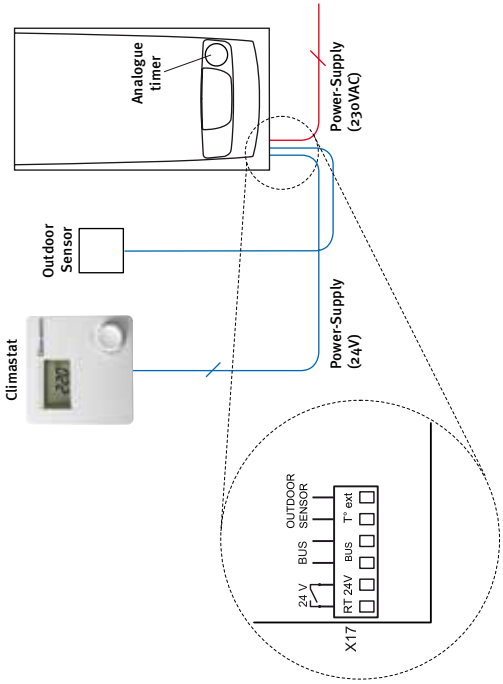
	Flexicom sx		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor		Smart Wiring Centre
To achieve room compensation you will need:													
Using external controls	✓	+	✗		✓	or	✓	+	✗		✗		✓
To achieve weather compensation you will need:													
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓	+	✗		✓
or													
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓	+	✓

Ultrapower sxi control options

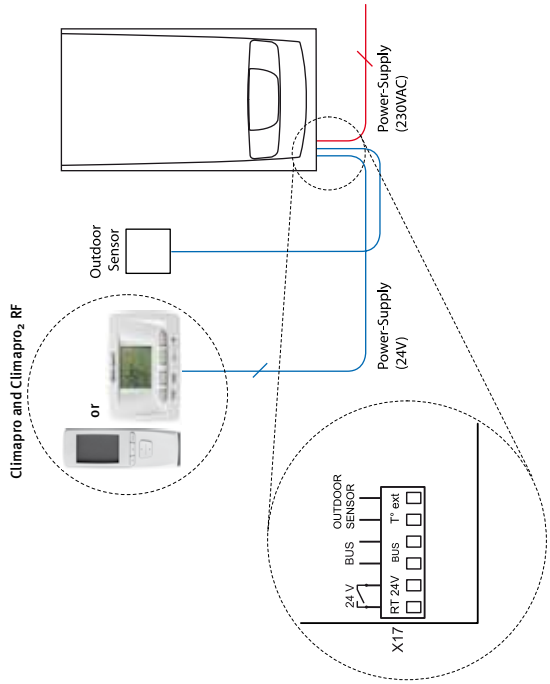
	Ultrapower sxi		Climastat		Wired Climapro		Wireless Climapro$_2$ RF		Wired Outdoor Sensor		Wireless Outdoor Sensor
To achieve room compensation you will need:											
Using inbuilt programmer	✓	+	✓		✗		✗		✗		✗
or											
Using external controls	✓	+	✗		✓	or	✓		✗		✗
To achieve weather compensation you will need:											
Using external controls (Wired)	✓	+	✗		✓	+	✗		✓		✗
or											
Using external controls (Wireless)	✓	+	✗		✗		✓	+	✗		✓

Note: Satisfies Part L requirements for time and temperature control when used in the above configurations

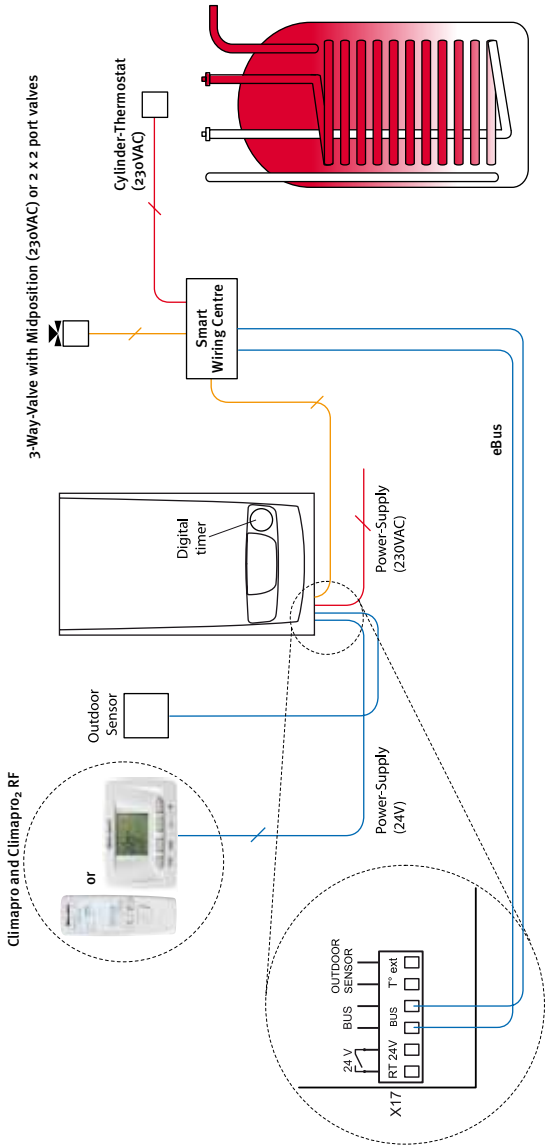
Ultracom$_2$ cxi range
Climastat & Outdoor Sensor



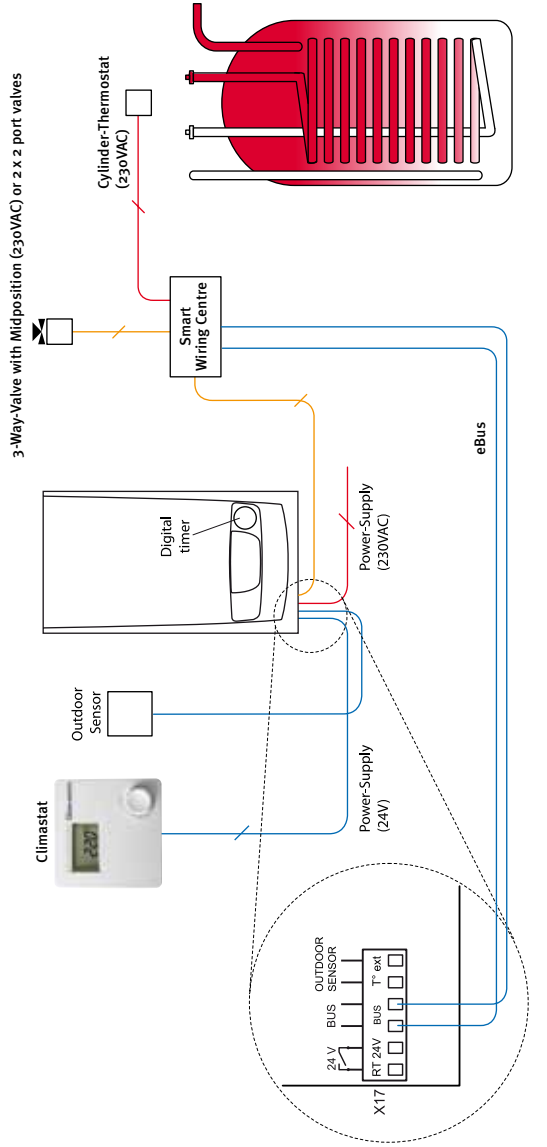
Ultracom$_2$ cxi range
Climapro/Climapro$_2$ RF & Outdoor Sensor



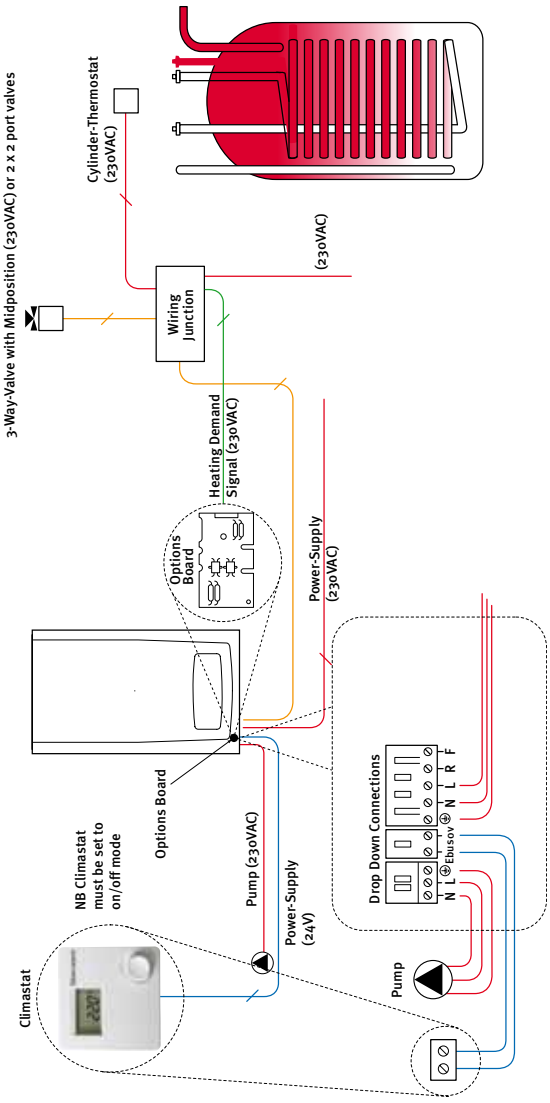
Ultracom$_2$ sxi range
Climapro/Climapro$_2$ RF & Smart Wiring Centre



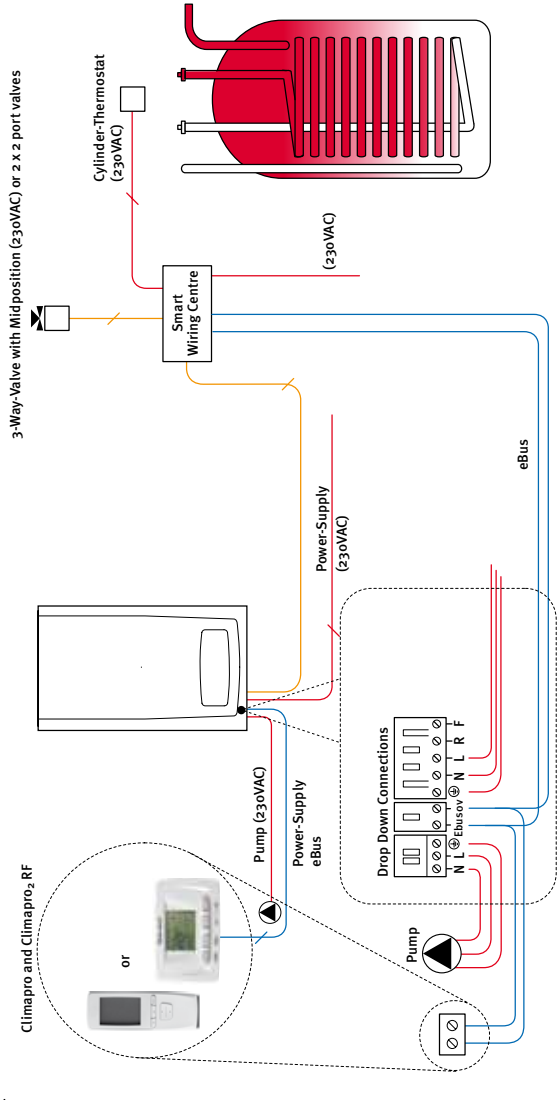
Ultracom$_2$ sxi range
with plug-in digital timer & Climastat



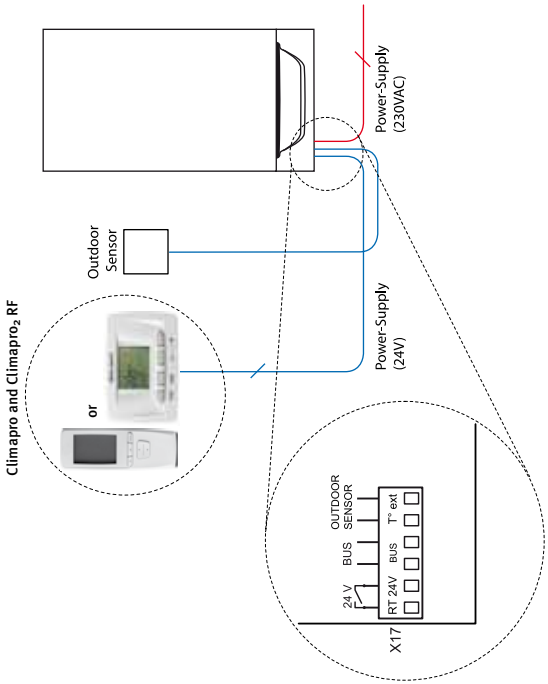
Ultracom hxi range
Climastat & Options Board



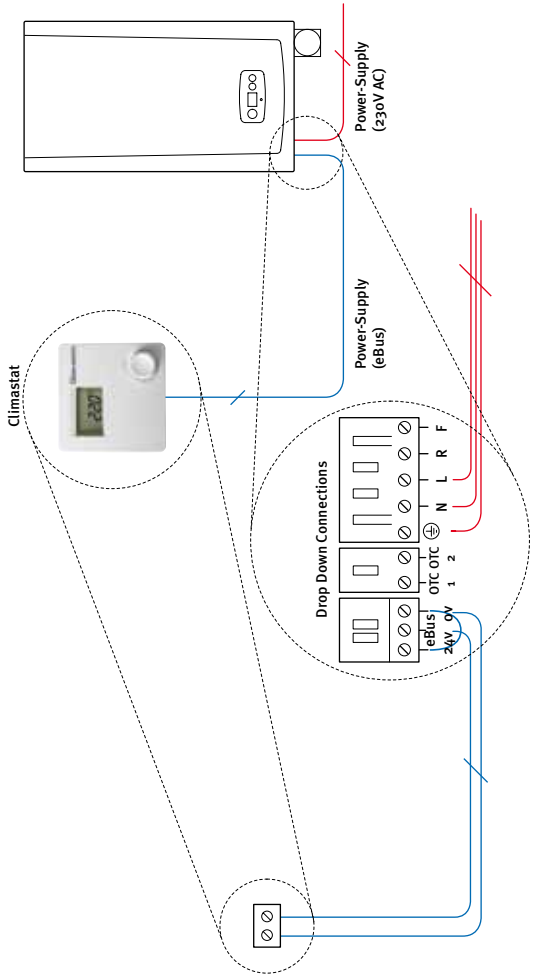
Ultracom hxi range
Climastat & Smart Wiring Centre



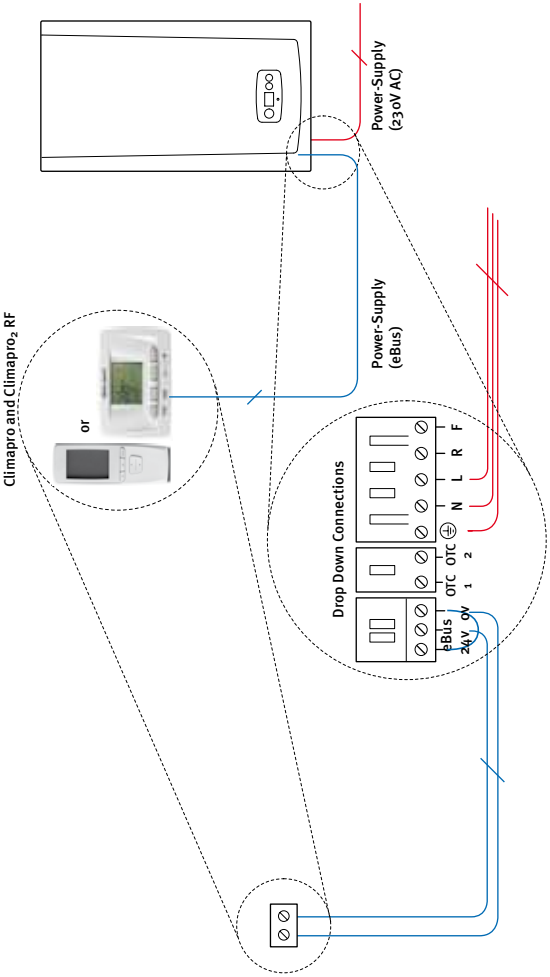
Ultracom$_2$ 35 store
Climapro/Climapro$_2$ RF & Outdoor Sensor



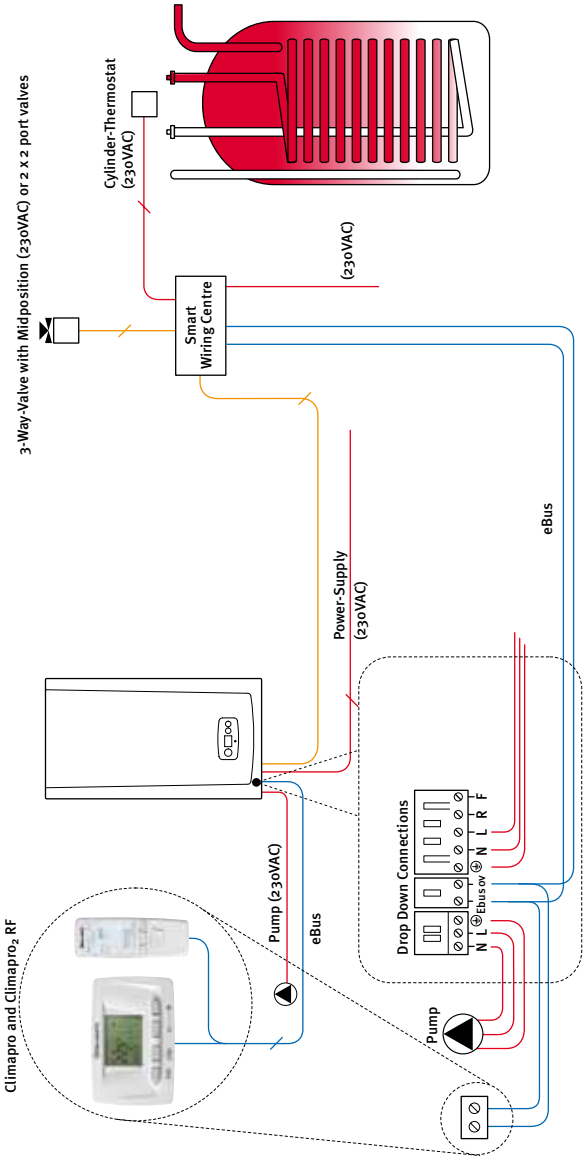
Flexicom cx range
Climastat & glide down plug in timer



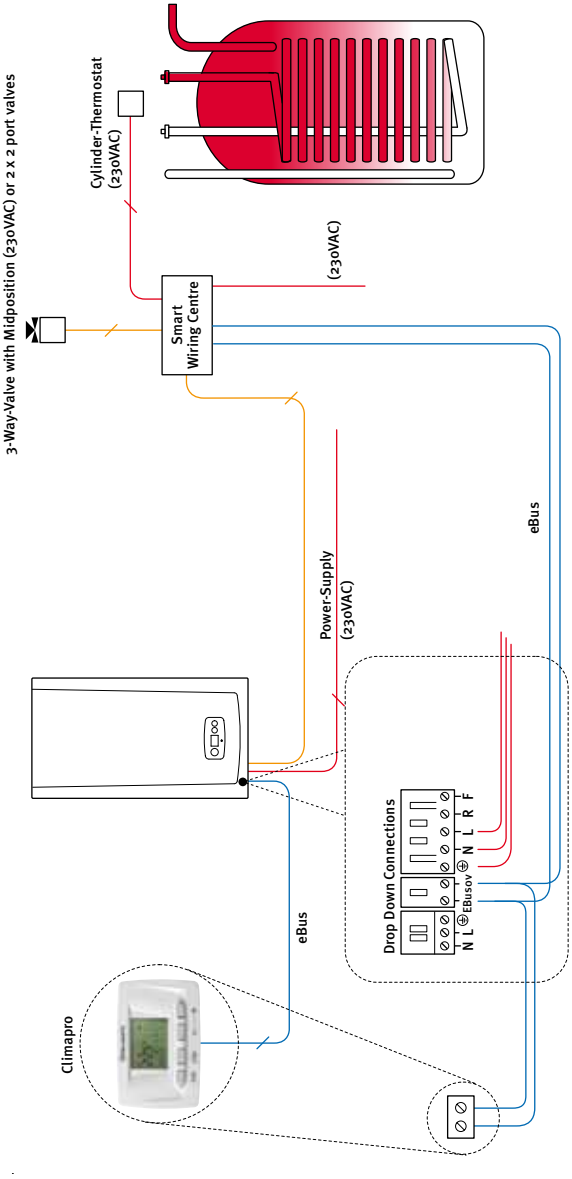
Flexicom cx range
Climapro/Climapro$_2$ RF



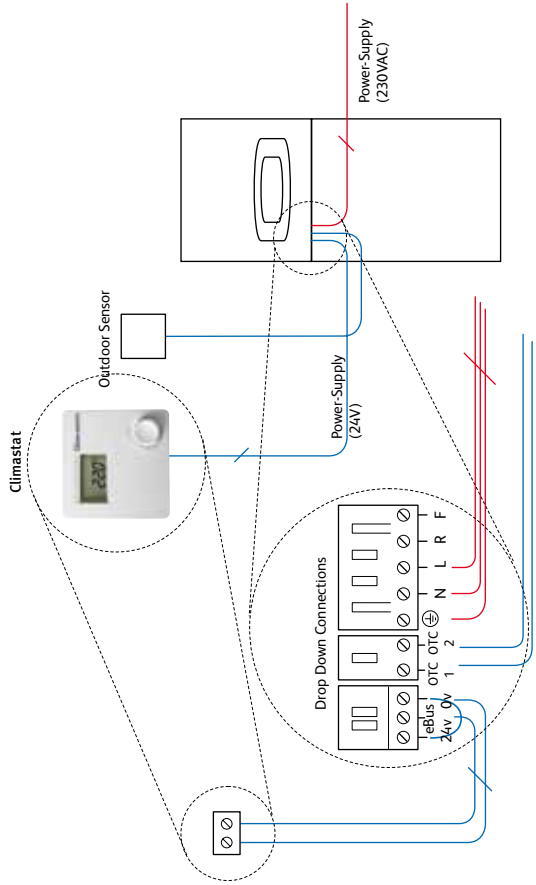
Flexicom hx range
Climapro/Climapro$_2$ RF & Smart Wiring Centre



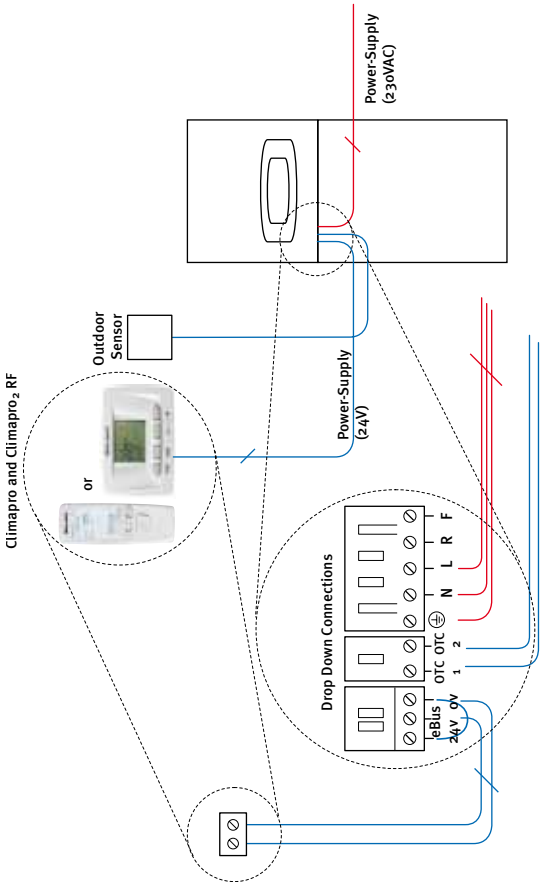
Flexicom sx range
Climapro & Smart Wiring Centre



Ultrapower sxi range
Climastat & Outdoor Sensor



Ultrapower sxi range
Climapro/Climapro$_2$ RF & Outdoor Sensor



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