Quinta Ace.

Technical specification guide

2 **Two BREEAM credits** when the boiler is configured at commissioning

remeha

What's inside.

In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications and details provided within this document.

Remeha, the expert choice.

Complete commercial solutions from the experts in sustainable heating and hot water.

Choose Remeha's advanced commercial boilers for your next commercial project. We invest heavily in research and development which enables our specialist teams to design high-performance products at every level.

From using the latest materials and manufacturing techniques to meticulously designing and engineering each boiler, we ensure they're efficient to specify, install, run and maintain. All our boilers share the same simple design – so they're expandable, adaptable and future-proofed.

We're the experts in heating and hot water solutions, built with sustainable technology. Our teams will guide you through the right choices for your commercial heating and hot water project. So from specification to design, through to supply and installation, our customer service and product support are second to none.

Remeha Quinta Ace Range.

The Quinta Ace range is a market-leading series of versatile, wall-hung condensing boilers designed for space heating and indirect hot water production. The Quinta Ace range is available in 30, 45, 55, 65, 90, 115, 135 and 160kW models.

With their extremely compact design, the Quinta Ace range can be installed individually or as part of a multi-boiler cascade or rig system, for flexible design and reliable, high-quality performance. The Quinta Ace range is suitable for use on sealed systems and open-vented (except the Quinta Ace 135 and 160) installations.

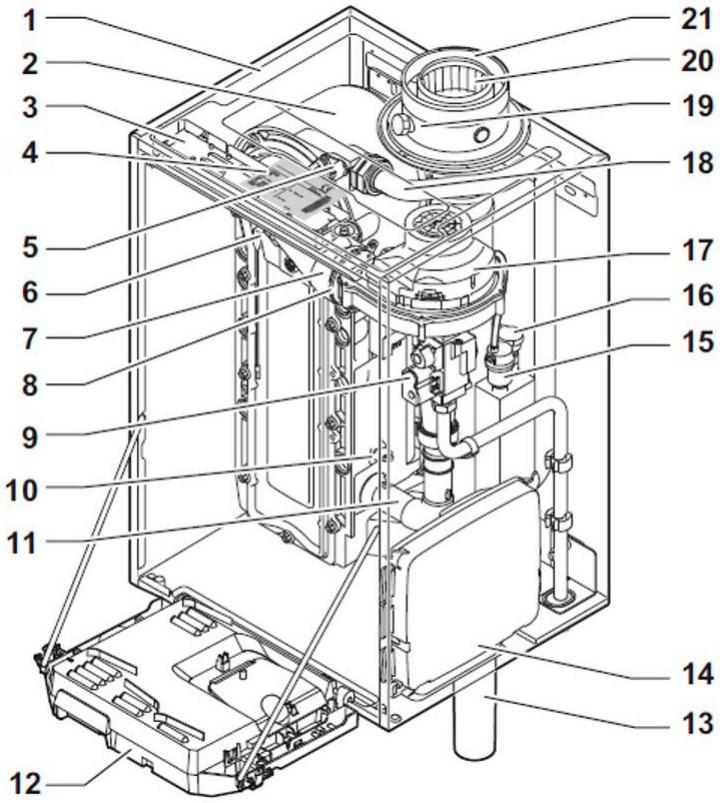
Features and benefits

High efficiency boiler up to 97.6% GCV	Higher than average energy savings
Small dimensions and lightweight design	Easy to install in smaller spaces; highly suitable for cascade operation
Low NO_x Annual Emission levels of ≤ 24mg/kWh (dry, 0% O_2) (Class 6) BREEAM EN15502***	BREEAM Credits = 2 ***
Pre-mix down-firing gas burner and one-piece cast aluminium heat exchanger	Low pollutant emissions that meet ErP regulations and London plan targets (SPG 2014)
LED illuminated casing air box, removable front panel, digital display, data file for storing information and remote signalling options	Clean, trouble-free operation
Built-in advanced boiler control and calorifier control: › Fully modulating 18–100% (5:1) › 0–10V operation › On/off (volt free enable)	Improved ease of maintenance
Extremely compact cascade packages	Built-in flexibility for easy installation
Quiet operation <52 dB(A)	Effective space-saving solution for greater design flexibility
For use with natural gas and LPG	Improved comfort
	Flexible solution to energy-saving heating

2 **Two BREEAM credits** when the boiler is configured at commissioning

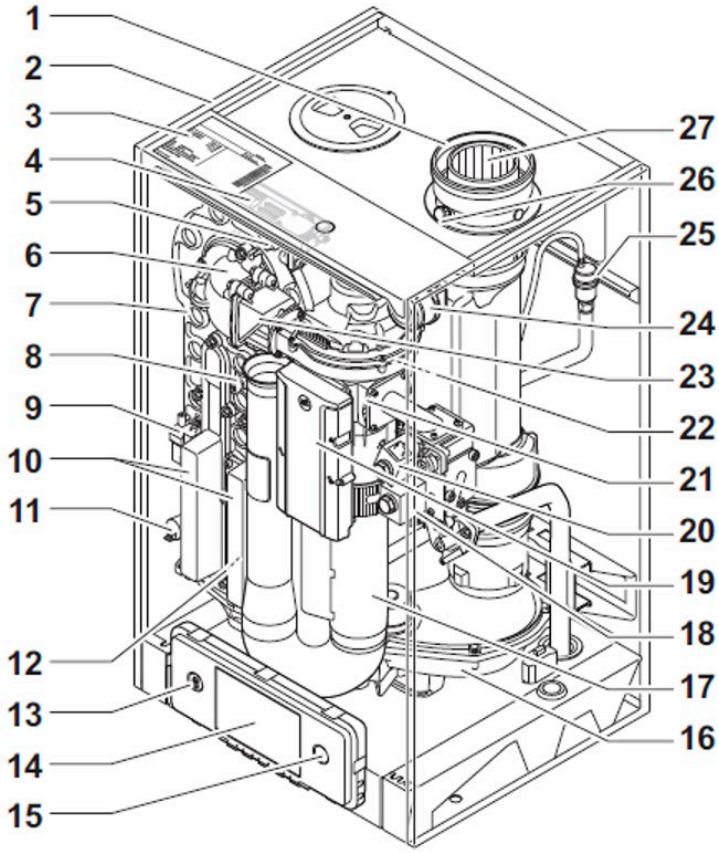
***As per commissioning instructions

Quinta Ace 30 – 115
boiler construction.



Key	
1	Casing/air box
2	Heat exchanger (CH)
3	Interior light
4	Type plate
5	Flow sensor
6	Ionisation/ignition electrode
7	Mixing tube
8	Non-return valve
9	Combined gas valve unit
10	Return sensor
11	Air intake silencer
12	Instrument box
13	Siphon
14	Expansion box for the control PCBs (= accessory)
15	Automatic air vent
16	Hydraulic pressure sensor
17	Fan
18	Supply line
19	Flue gas measuring point
20	Flue gas discharge
21	Air supply

Quinta Ace 135 – 160
boiler construction.



Key	
1	Air inlet connection
2	Casing/air box
3	Type plate
4	LED interior light
5	Flow temperature sensor
6	Adapter
7	Heat exchanger
8	Temperature sensor for heat exchanger
9	Ignition transformer
10	Heat exchanger inspection cover
11	Water pressure sensor
12	Return temperature sensor
13	Service connector (PC connection)
14	Control panel
15	On/off switch
16	Condensate collector
17	Air inlet silencer
18	Gas pressure measuring point
19	Main PCB (CU-GH)
20	Gas control valve
21	Venturi
22	Fan
23	Non-return valve
24	Air pressure differential switch
25	Automatic air vent
26	Flue gas measuring point
27	Flue gas connection

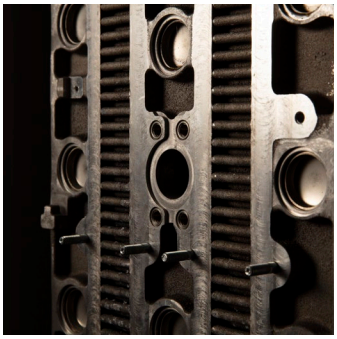
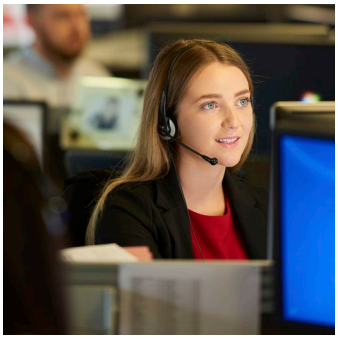
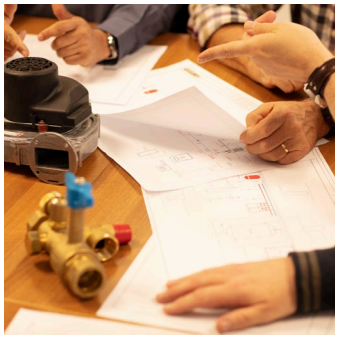
Quinta Ace Range
operating principle.

The products of combustion in the form of hot flue gase are forced through the heat exchanger, transferring their heat to the system water. The flue gas temperatu e is reduced to approximately 5°C above the temperature of the system return water, then discharged vertically via the condensate collector, through the 80/125mm (Quinta Ace 30/45) or 100/150mm (Quinta Ace 55/65/90/115, 135 and 160) combined flue/air connection to atmosphe e.

Because of the low flue gas exit temperature, there will be a vapour cloud formed at the flue gas terminal. If the controls allow the flow and therefore return temperature to fall below dew point (55ºC), this water vapour will begin to condense out in the boiler, transferring its latent heat into the system water, increasing the output of the boiler without increasing gas consumption. Any condensate which is able to flow back into the boiler, from flue lengths greater than one metre, must be discharged via a condensate collector and drain system fitted within one metre of the boiler flue connection.

Combustion air is drawn into the closed air box by a variable speed fan, through the air inlet connection from the plant room (open-flued) or from outside via the concentric flue system (room-sealed). On the inlet side of the fan is a specially designed Venturi which is connected to the outlet side of the gas combi-block.

Depending on the demand (under the dictates of flow/ return sensor and other external/internal control inputs), the electronic control unit directly monitors the volume of gas and air being delivered to the pre-mix burner. This mixture is initially ignited by the combined ignition/ionisation probe, which then monitors the state of the flame. Should the flame not ignite or be unstable within the pre-set safety time cycle, the controls will shut the boiler down (after five attempts), requiring manual intervention to reset the boiler. The digital display will also indicate a flashing fault code, confirming the reason for the failure.


Quinta Ace
technical information.

	Quinta Ace 30	Quinta Ace 45	Quinta Ace 55	Quinta Ace 65	Quinta Ace 90	Quinta Ace 115	Quinta Ace 135	Quinta Ace 160
Performance								
Nominal heat output central heating operation @ 80/60°C kW (min–max)*	8.0–29.8	8.0–40.8	11.1–55.3	12.0–61.5	14.1–84.2	18.9–103.9	31.5–128.1	31.5–152.1
Nominal heat output central heating operation @ 50/30°C kW (min–max)*	9.1–30.9	9.1–42.4	12.3–58.6	13.5–65.0	15.8–89.5	21.2–109.7	34.7–136.1	34.7–161.6
Nominal input (Hi) (min–max)	8.2–30	8.2–41.2	11.3–56.5	12.2–62.0	14.6–86.0	19.6–107.0	32–131	32–156
Efficiency								
SBEM seasonal efficiency GCV	97.62%	97.64%	96.04%	97.58%	95.65%	95.44%	96.12%	95.90%
Efficiency – full load 100% NCV	99.4%	99.1%	97.8%	99.2%	97.9%	97.1%	97.8%	97.5%
Efficiency – part load 30% NCV	110.4%	110.6%	108.7%	110.4%	108.1%	108%	108.8%	108.5%
Eco design useful efficiency @ 80/60°C (100% full load) GCV	89.6%	89.3%	88.1%	89.4%	88.2%	87.5%	88.1%	87.8%
Eco design useful efficiency @ 50/30°C (30% part load) GCV	99.5%	99.6%	97.9%	99.5%	97.4%	97.3%	98.0%	97.8%
Energy labelling seasonal space efficiency GCV	94%	94%	92%	94%	N/a	N/a	N/a	N/a
ErP efficiency rating	A	A	A	A	N/a	N/a	N/a	N/a
Annual energy consumption Gj	91	125	173	188	N/a	N/a	N/a	N/a
Gas								
Standard fuel	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
Optional fuel adjustment – see installation and service manual	LPG (propane)	LPG (propane)	LPG (propane)	LPG (propane)	LPG (propane)	LPG (propane)	LPG (propane)	LPG (propane)
Gas consumption NG m^3/h	0.9–3.2	0.9–4.4	1.2–6.0	1.3–6.6	1.5–9.1	2.1–11.3	3.4–13.9	3.4–16.5
Gas consumption LPG m^3/h	0.4–1.2	0.4–1.7	0.5–2.3	0.5–2.5	0.9–3.5	0.9–4.4	1.4–5.3	1.4–6.3
Min/max gas inlet pressure NG mbar	17–25	17–25	17–25	17–25	17–25	17–25	17–25	17–25
Min/max gas pressure LPG mbar	37–50	37–50	37–50	37–50	37–50	37–50	37–50	37–50
Gas connection size BSP inches	¾" male thread (22mm)	¾" male thread (22mm)	¾" male thread (22mm)	¾" male thread (22mm)	¾" male thread (22mm)	¾" male thread (22mm)	1" male thread (28mm)	1" male thread (28mm)
Gas								
Flue diameter mm I/D	80	80	100	100	100	100	100	100
Air inlet diameter mm I/D	125	125	150	150	150	150	150	150
Min/max flue gas mass flow rate kg/h	14–50	14–69	19–93	21–104	28–138	36–178	57–233	57–277
Min/max flue gas temperature °C	30–65	30–67	30–68	30–68	30–68	30–72	32–63	32–66
Max counter pressure Pa	70	150	120	100	160	220	200	200

Quinta Ace
technical information.

	Quinta Ace 30	Quinta Ace 45	Quinta Ace 55	Quinta Ace 65	Quinta Ace 90	Quinta Ace 115	Quinta Ace 135	Quinta Ace 160
Hydraulics								
Water content litres	4.3	4.3	6.4	6.4	9.4	9.4	17.0	17.0
Resistance @ 15°C ΔT mbar	124	203	231	290	272	444	224	302
Hydraulic resistance @ 20°C ΔT mbar	70	114	130	163	153	250	126	170
Nominal flow rate @ 15°C ΔT l/s	0.48	0.65	0.88	0.97	1.34	1.66	2.04	2.43
Nominal flow rate @ 20°C ΔT l/s	0.36	0.49	0.66	0.74	1.01	1.24	1.53	1.82
Condensate connection	32mm	32mm	32mm	32mm	32mm	32mm	32mm	32mm
Connection size BSP (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)	1¼" male thread (32mm)
Standard operating temperature** °C	20–90	20–90	20–90	20–90	20–90	20–90	20–90	20–90
Max operating temperature °C	90	90	90	90	90	90	90	90
High limit temperature °C	110	110	110	110	110	110	110	110
Max water operating pressure bar	4	4	4	4	4	4	4	4
Min water operating pressure bar	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Min operating pressure bar (OV)**	0.3 o/v	0.3 o/v	0.3 o/v	0.3 o/v	0.3 o/v	0.5 o/v	N/a	N/a
General								
Total weight (including packaging) kg	60.5	60.5	66.5	66.5	76.5	76.5	147	147
Min mounting weight without front panel kg	50	50	56	56	65.2	65.2	123	123
Dimension mm (WxHxD)	500x750 x500	500x750 x500	500x750 x500	500x750 x500	500x750 x500	500x750 x500	600x1045 x602	600x1045 x602
NO_x Annual Emissions BREEAM EN15502 – NG mg/kWh (dry, 0% O_2) Class 6***	24	24	23	23	23	23	24	22
BREEAM Credits ***	2	2	2	2	2	2	2	2
Noise levels dB(A) at 1 metre	38.3	45.1	46.7	46.7	51.6	51.1	59.5	59.5
Eco design sound power levels LWA indoors dB	46	53	55	55	60	59	68	68
Standby heat loss kW	0.101	0.101	0.110	0.110	0.123	0.123	0.191	0.191
Electrical								
Nominal power supply	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz	230vx1ph x50hz
Power consumption w	19–40	20–75	26–81	26–89	26–114	32–182	47–199	47–275
Modulating input v dc	0–10	0–10	0–10	0–10	0–10	0–10	0–10	0–10
Controls voltage	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)
Electrical protection index VAC	X4D	X4D	X4D	X4D	X4D	X4D	X1B	X1B

*Gas consumption based on lower heating value under standard heating conditions: T = 288.15K, p = 1013.25mbar. Gag 30.33, G25 29.25, G31 88.00 MJ/m^3. **Open-vented option maximum operating temperature 75°C.
***Two BREEAM credits when the boiler is configured at commissioning, as per commissioning instructions

Suggested engineering specification.

Construction

The boiler will be a wall-hung type condensing boiler which may also be installed free-standing on a suitable frame. The single piece, cast aluminium heat exchanger and other major components are contained within a sealed air box. The boiler casing will be complete with a removable front section for maintenance purposes. Electrical and electronic controls will be contained within the instrument panel mounted in the drop-down lower front panel and also the electrical housing mounted on the inside right-hand panel.

Hydraulic, gas and flue connections

The combined flue gas outlet and combustion air inlet will be mounted on the top of the boiler, with the flow, return, gas and condensate connections located at the bottom. The boiler will be suitable for room-sealed or open-flue applications. The boiler will be designed for central heating and indirect hot water production up to four bar. The boiler will be suitable for use on sealed systems and open-vented installations.

Operation

The boiler will be complete with a modulating control system that limits the maximum difference in temperature between the heating flow and return and the maximum speed at which the flow temperature increases. The boiler will be complete with a pre-mix burner (NG, NG+H_2(20%) or LPG) with the gas/air ratio control system controlled internally. An intelligent, advanced boiler control will continuously monitor the boiler conditions, varying the heat output to suit the system load. The control will be able to react to external negative influences in the rest of the system (flow rates and air/gas supply problems), maintaining boiler output for as long as possible without resorting to a lockout condition. Should a negative effect happen in the system, the boiler will reduce its output and/or shut down (shut-off mode), awaiting the negative conditions to return to normal before restarting. The control cannot override the standard flame safety controls. Standard frost protection will activate below 7°C with stage one activating system/shunt pump. Stage two will activate below 3°C with boiler switching on to 10°C flow.

Controls

The boiler will include an “e-Smart” control platform offering improved connectivity using the integral Mk3 controller. The controls package will allow the actual and set values to be read and adjusted on the built-in digital display, which also provides normal operating and fault code indication. The controls will come as standard with the following inputs/outputs:

- 0–10V input (flow temperature or output percentage control)
- DHW temperature input
- High-limit lock out
- Safety/shutdown/release input (blocking)
- Low water protection
- Outside sensor (optional)
- External shunt pump control
- Service report output
- External system pump control
- Fault alarm output
- DHW 3-port valve control or pump
- OpenTherm, R-Bus and volt free enable connection

Features

- Low NO_x ≤ 24 mg/kWh (BREEAM EN15502)***
- BREEAM Credits = 2 ***
- Fully modulating
- Quiet operation <52dB(A)
- LED illuminated interior (integral battery)
- Data file for storing fault/run info
- Automatic maintenance warning
- PC connection
- ErP compliant
- Relay kit (optional)
- Pre-mix burner
- In-build passive flue gas non-return valve

The Quinta Ace 30/45/55/65/90/115 boilers conform with the following EC directives:

GAR (EU) 2016/426 to EN 15502-1:2012 +A1:2015 and EN 15502-2-1:2012 +A1:2016
BED 92/42/EEC to EN 15502-1:2012 +A1:2015 and EN 15502-2-1:2012 +A1: 2016
EMC 2014/30/EU to EN 55014-1:2017, EN 61000-3-2:2014 and EN 61000-3-3:2013
LVD 2014/35/EU to EN60335-2-102:2016, EN60335-1:2012
ErP 2009/125/EC
CE Certification Remeha Quinta Ace 30/45/55/65/90/115 PIN: 0063CS3928

***As per commissioning instructions

Quinta Ace
135 and 160.

Construction

The boiler will be a wall-hung type condensing boiler which may also be installed free-standing on a suitable frame. The single piece, cast aluminium heat exchanger and other major components are contained within a sealed air box. The boiler casing shall be complete with a removable front section for maintenance purposes. Electrical and electronic controls will be contained within the instrument panel mounted in the drop-down lower front panel. This control panel will be able to be removed and wall-mounted if required.

Hydraulic, gas and flue connections

The combined flue gas outlet and combustion air inlet will be mounted on the top of the boiler, with the flow, return, gas and condensate connections located at the bottom. The boiler will be suitable for room-sealed or open-flue applications. The boiler will be designed for central heating and indirect hot water production up to four bar. The boiler will only be suitable for use on sealed hydraulic systems.

Operation

The boiler will be complete with a modulating control system that limits the maximum difference in temperature between the heating flow and return and the maximum speed at which the flow temperature increases. The boiler will be complete with a pre-mix burner (NG, NG+H_2(20%) or LPG) with the gas/air ratio control system controlled internally. An intelligent, advanced boiler control will continuously monitor the boiler conditions, varying the heat output to suit the system load. The control will be able to react to external negative influences in the rest of the system (flow rates and air/gas supply problems), maintaining boiler output for as long as possible without resorting to a lockout condition. Should a negative effect happen in the system the boiler will reduce its output and/or shut down (shut-off mode), awaiting the negative conditions to return to normal before restarting. The control cannot override the standard flame safety controls. Standard frost protection will activate below 7°C with stage one activating system/shunt pump. Stage two will activate below 3°C with boiler switching on to 10°C flow.

Controls

The boiler will include an “e-Smart” control platform offering improved connectivity using the integral Mk3 controller. The controls package will allow the actual and set values to be read and adjusted on the built-in digital display which also provides normal operating and fault code indication. The controls will come as standard with the following inputs/outputs:

- 0–10V input (flow temperature or output percentage control)
- DHW temperature input
- High-limit lock out
- Safety/shutdown/release input (blocking)
- Low water protection
- Outside sensor (optional)
- External shunt pump control
- Service report output
- External system pump control
- Fault alarm output
- DHW 3-port valve control or pump
- OpenTherm and volt free enable

Features

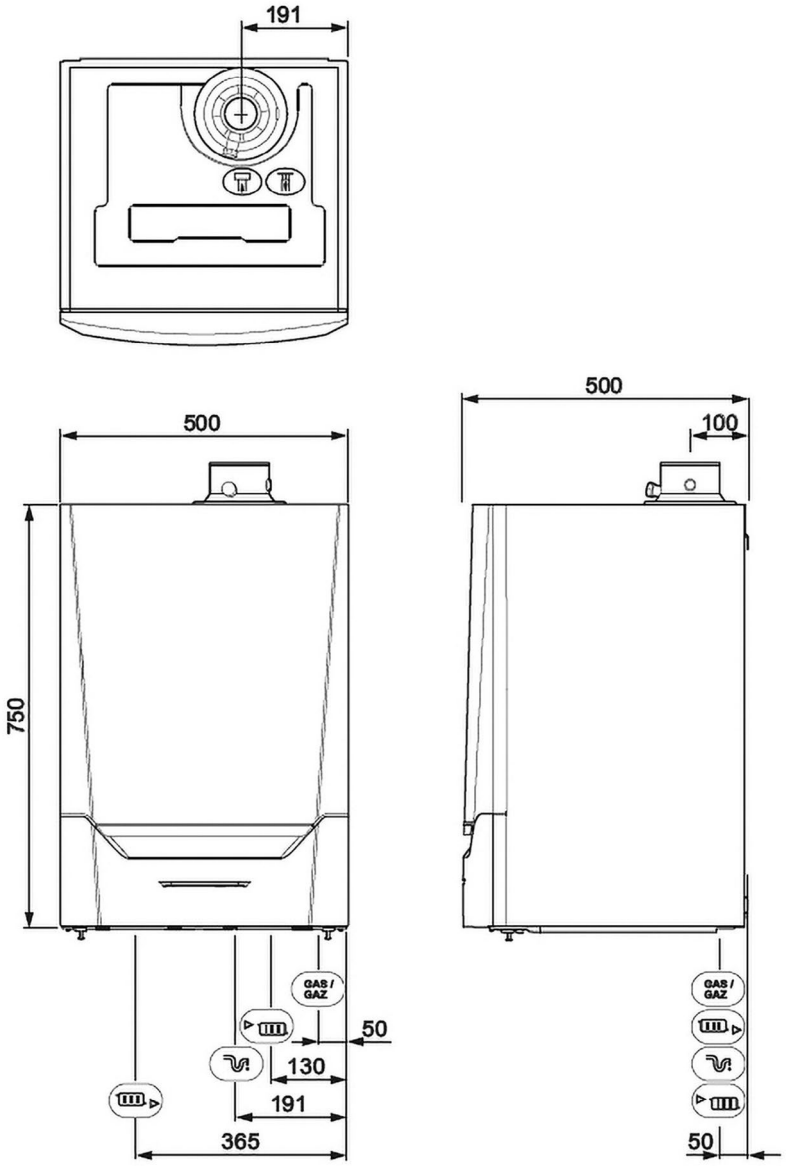
- Low NO_x ≤ 24 mg/kWh (BREEAM EN15502)***
- BREEAM Credits = 2 ***
- Fully modulating
- Quiet operation <60dB(A)
- LED illuminated interior (integral battery)
- Data file for storing fault/run info
- Automatic maintenance warning
- PC connection
- ErP compliant
- Relay kit (optional)
- Pre-mix burner
- In-build passive flue gas non-return valve

The Quinta Ace 135 and 160 boilers conform with the following EC directives:

GAR (EU) 2016/426 to EN 15502-1:2012 + A1:2015 and EN 15502-2-1:2012 +A1:2016
BED 92/42/EEC to EN 15502-1:2012 + A1:2015 and EN 15502-2-1:2012 +A1:2016
EMC 2014/30/EU to EN 55014-1:2007 + A1:2009 + A2:2011, EN 55014-2: 2015, EN 61000-3-2:2014 and EN 61000-3-3:2013
LVD 2014/35/EU to EN 60335-2-102:2016
ErP 2009/125/EC
CE Certification Remeha Quinta Ace 135 and 160 PIN: 0063CQ378

***As per commissioning instructions

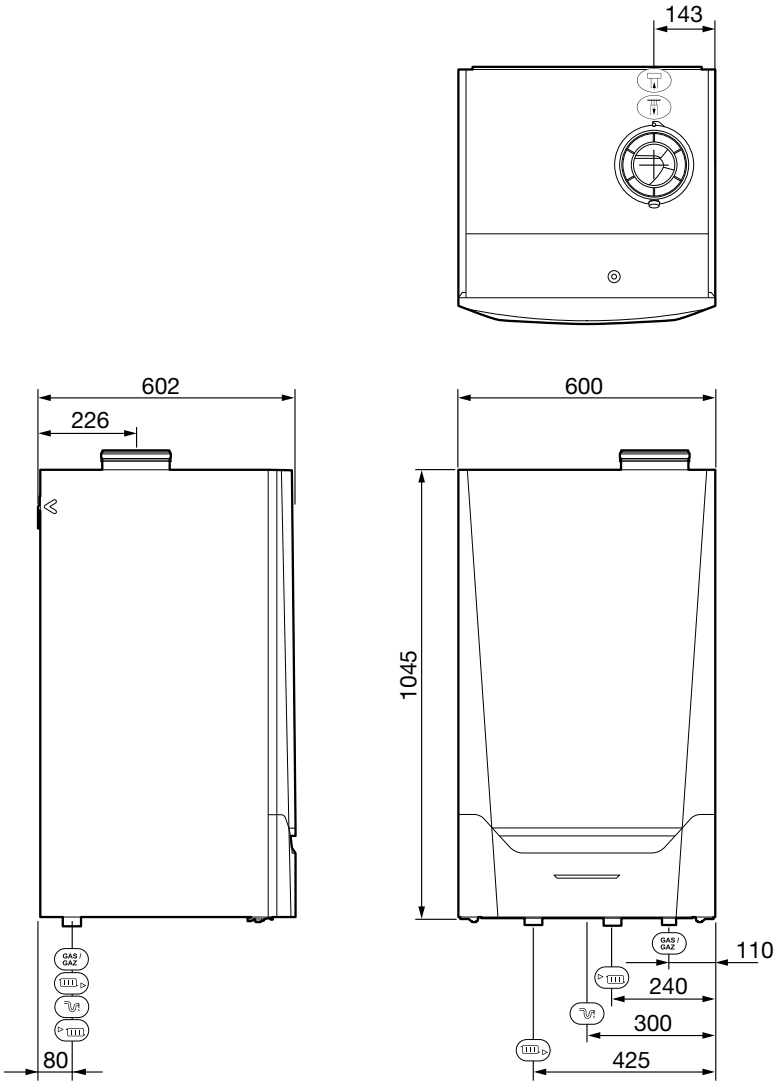
Quinta Ace 30 – 115
dimensions and connections.



Key	
	Connection of the combustion gas exhaust pipe: - Ø 80mm (≤ 45kW) - Ø 100mm (≥ 55kW)
	Connection of the air intake pipe: - Ø 125mm (≤ 45kW) - Ø 150mm (≥ 55kW)
	Siphon connection bush
	Heating circuit return: 1¼" male thread (32mm)
GAS / GAZ	Gas connection; ¾" male thread (22mm)
	Heating circuit flow; 1¼" male thread (32mm)

The complete range of Quinta Ace 30, 45, 55, 65, 90 and 115 boilers have a compact design of h750 x w500 x d500mm.

Quinta Ace 135 – 160
dimensions and connections.

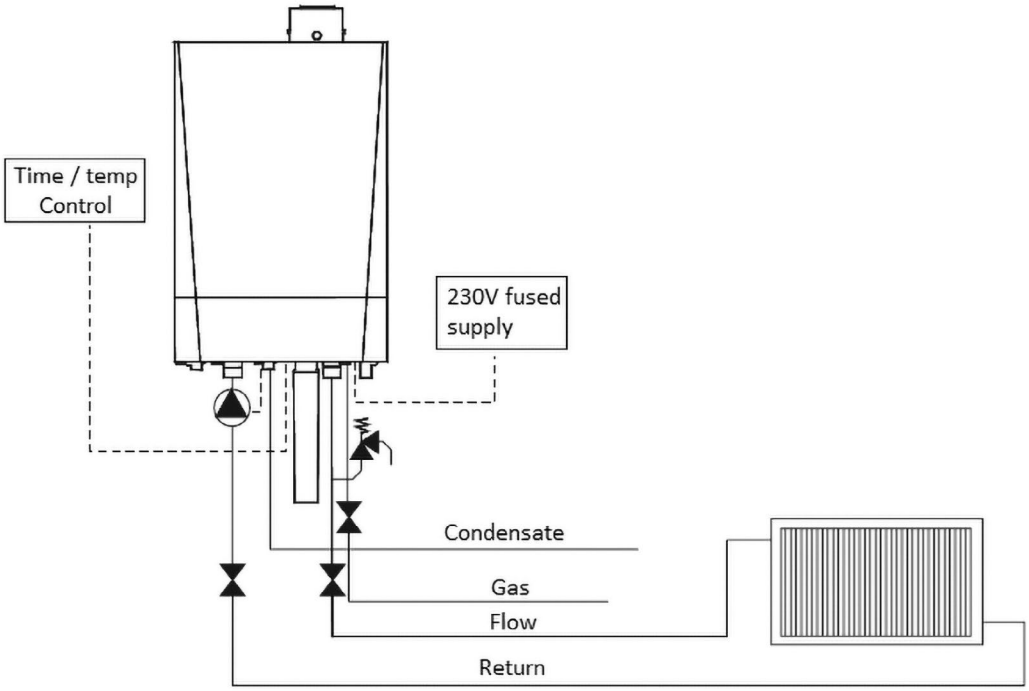


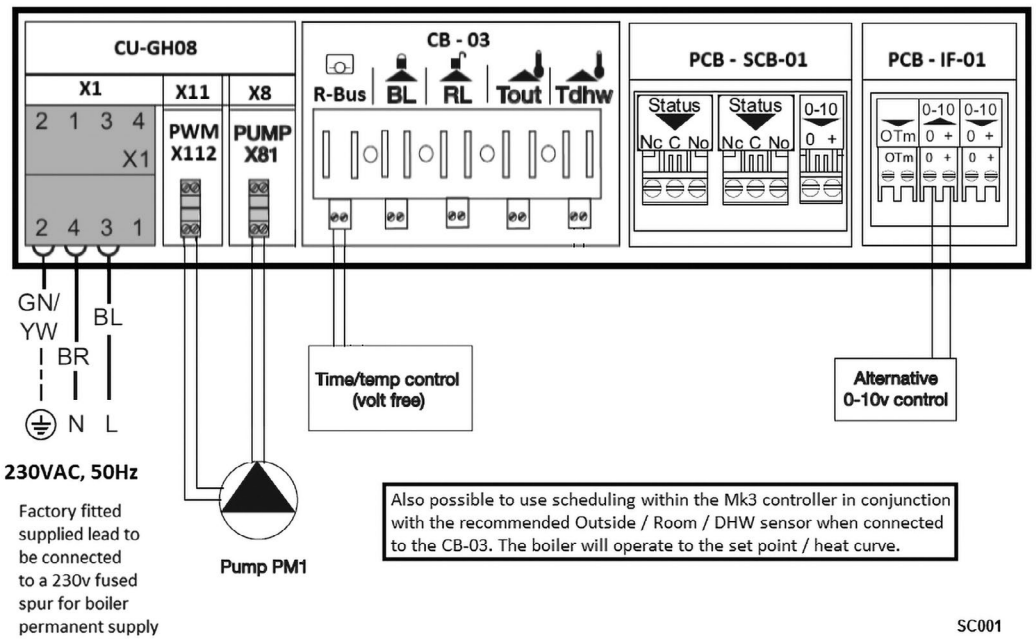
Key	
	Flue gas outlet connection: Ø 100mm
	Air supply connection: Ø 150mm
	Siphon connection 32mm
	Flow connection: 1¼" male thread (32mm)
	Return connection: 1¼" male thread (32mm)
GAS / GAZ	Gas connection: 1" male thread (28mm)

Quinta Ace
typical installation.

The schematics presented within this document are generic and therefore are not representative of a design for a specific site application. It is the responsibility of the specifier and the installer to ensure that all system components are appropriately sized for the specific application.

Single Quinta Ace 30, 45, 55, 65, 90 and 115 boilers, heating only.

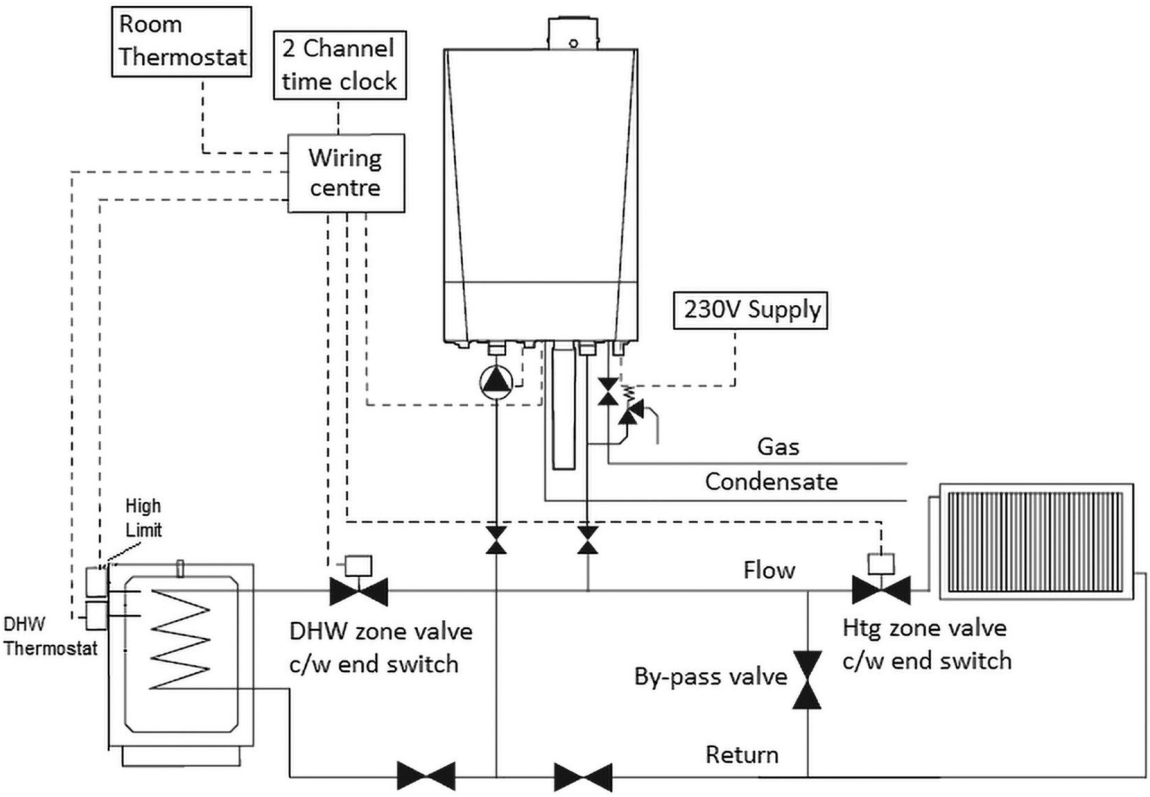


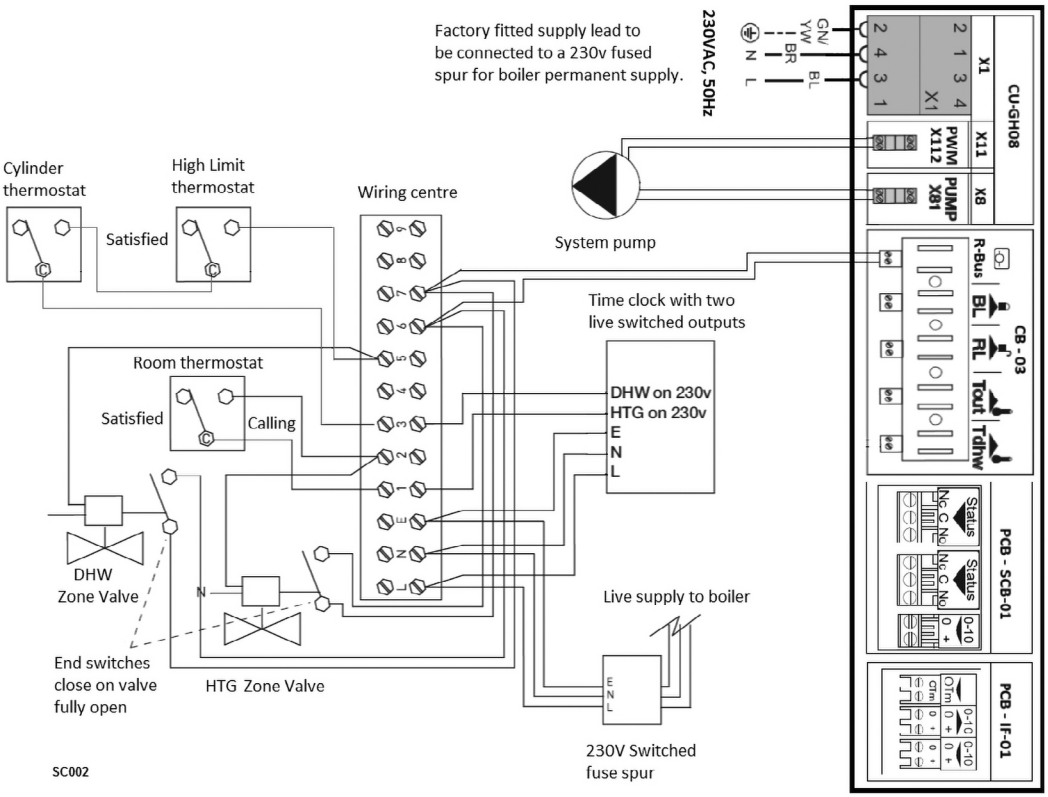


Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace 30, 45, 55, 65, 90 and 115 boilers, heating and domestic hot water, using a simple ‘S’ plan.

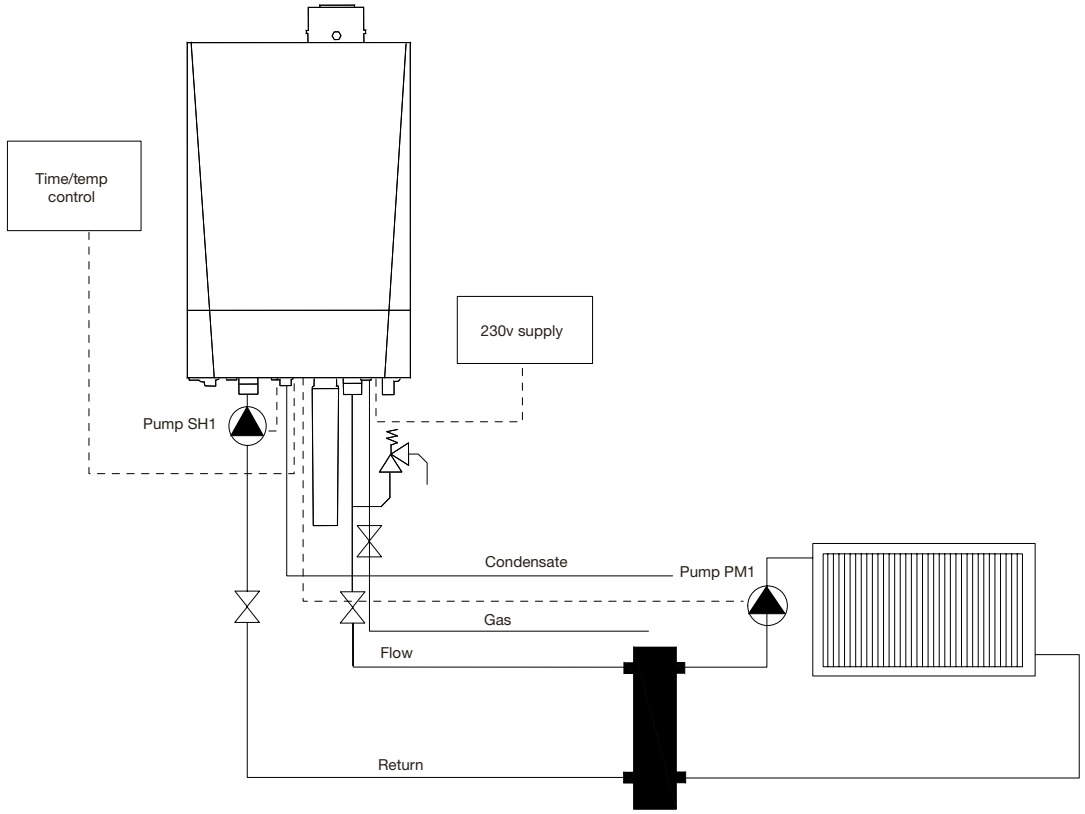


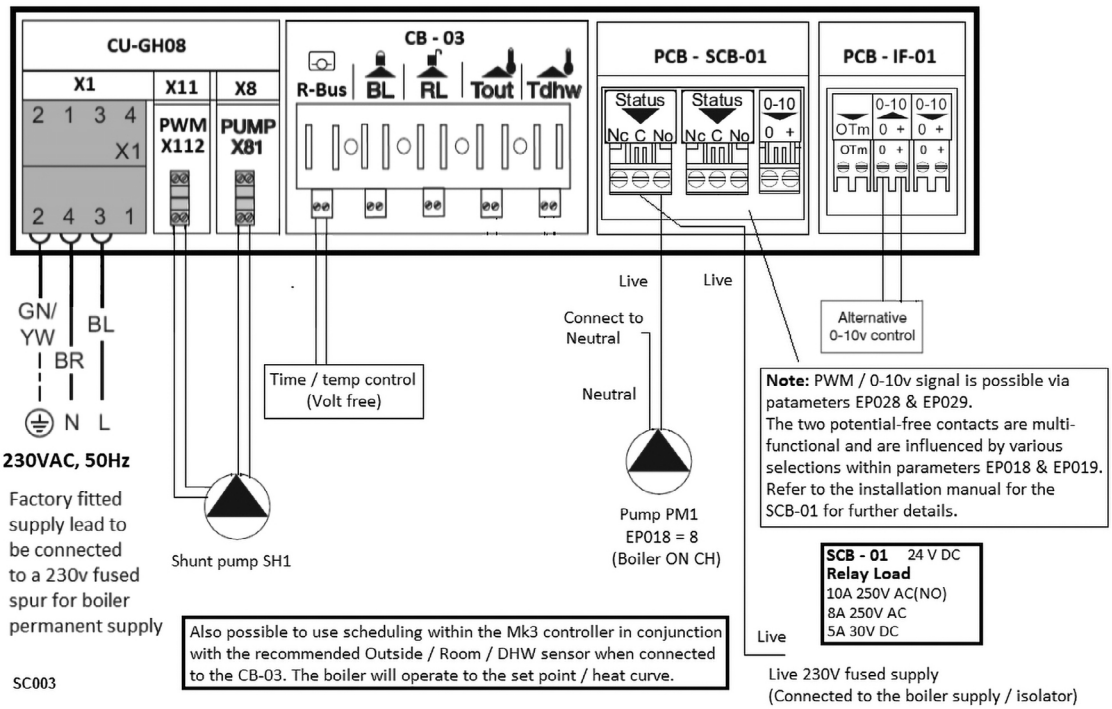


Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace 30, 45, 55, 65, 90 and 115 boilers, heating only with low loss header.

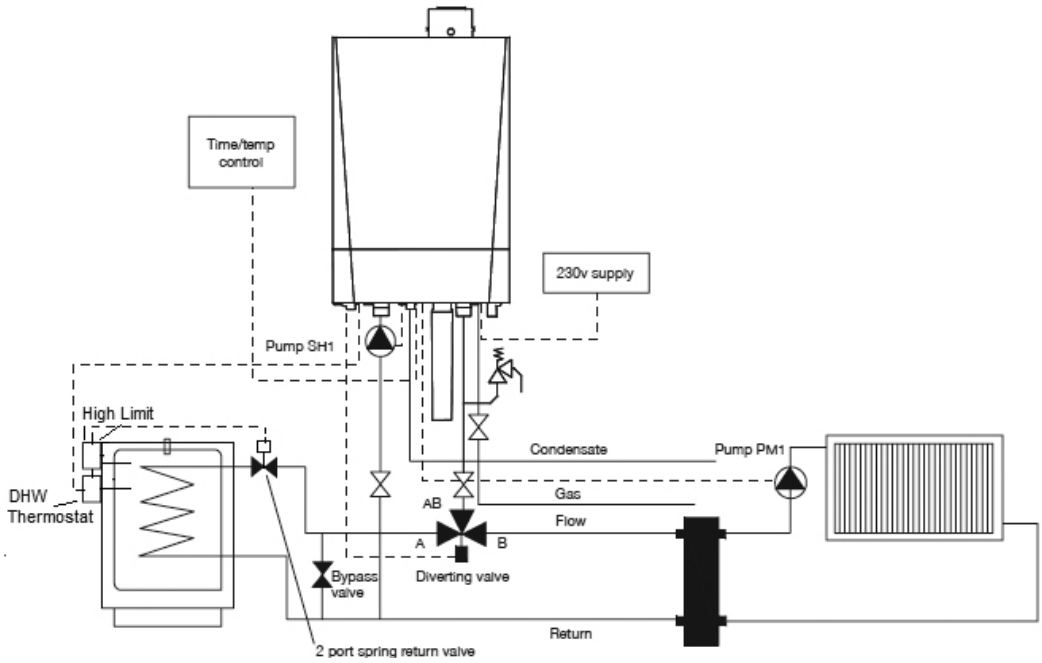


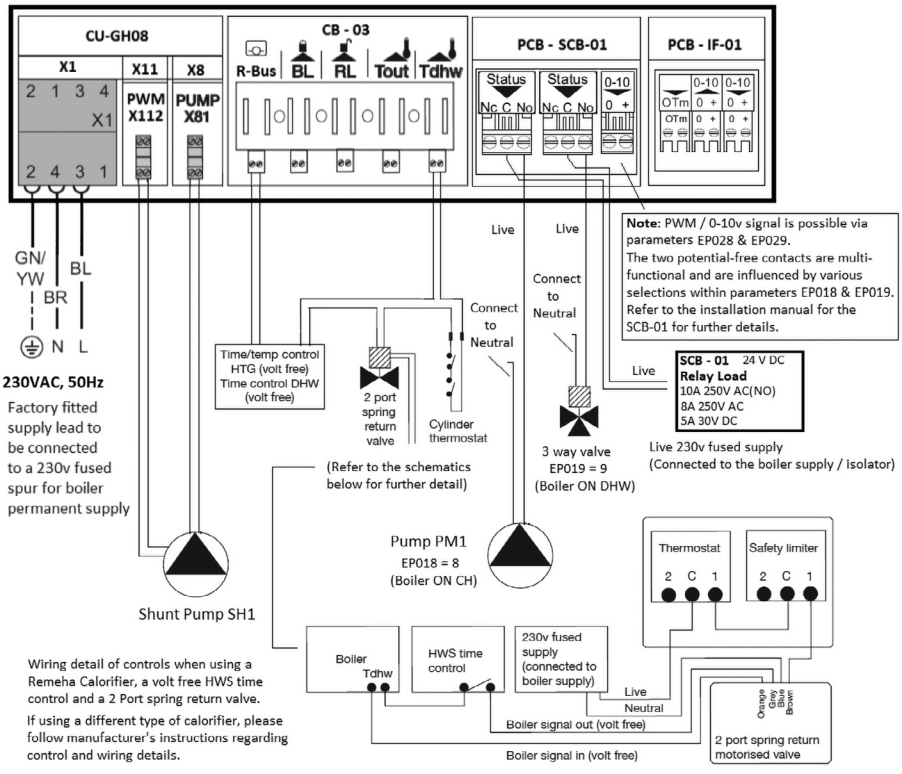


Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace boiler, heating with priority hot water using a low loss header. Three-way valve DHW priority Quinta Ace 30/45/55/65 only.



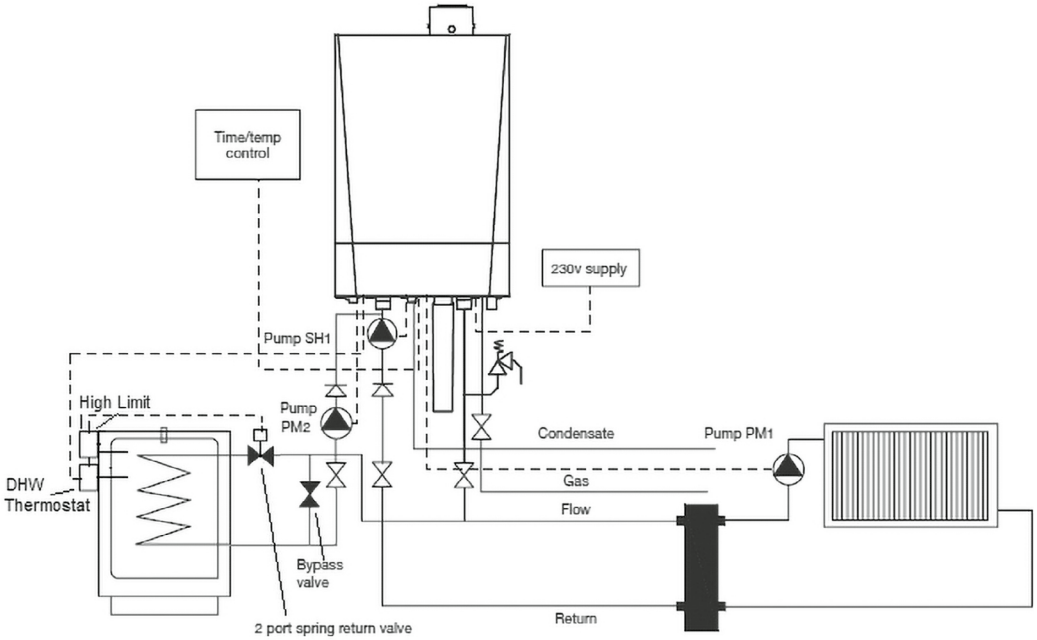


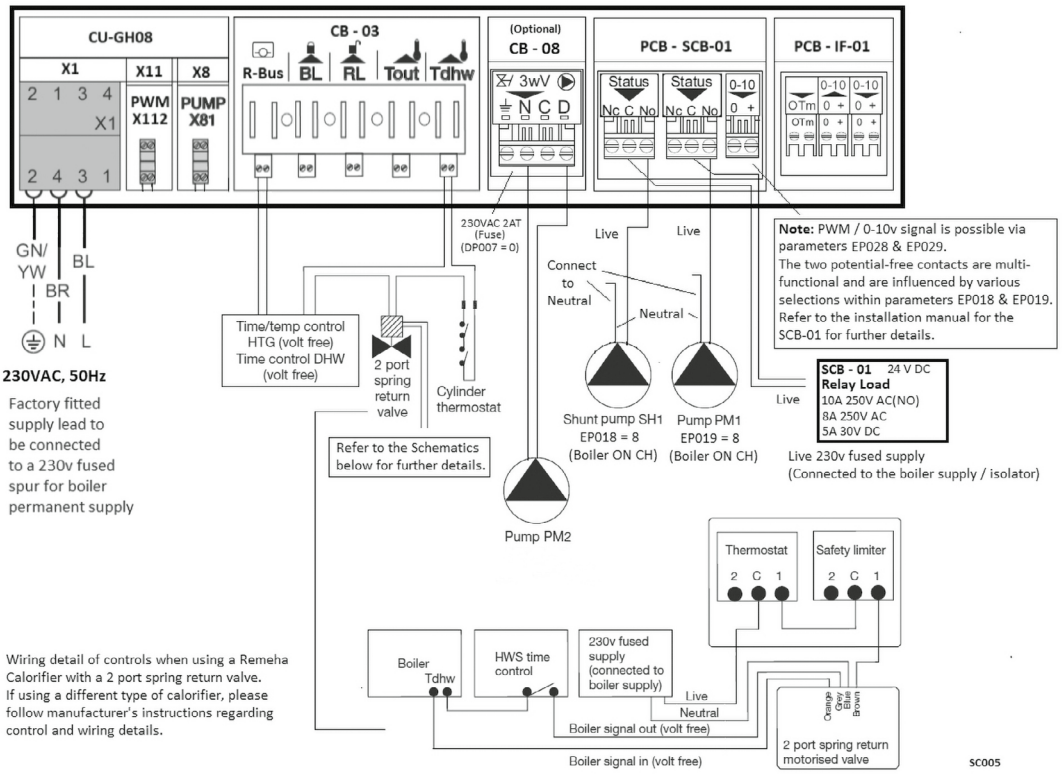
SC004

Note: When using the Remeha supplied low loss header and pump kit and the DHW diverting valve or primary pump kit, the calorifier must be sited within 3m of the boiler. In both cases, the DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler used. Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace boiler, heating with priority hot water using a low loss header. Pumped option, DHW priority can be used on all Quinta Ace 30, 45, 55, 65, 90 and 115 (see page 21).



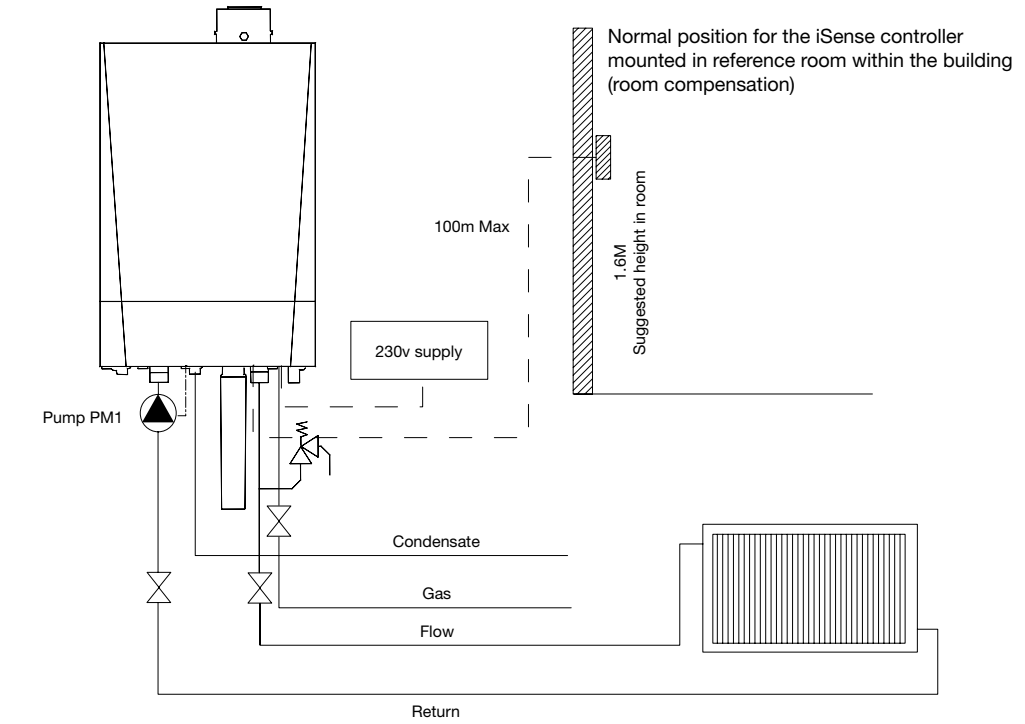


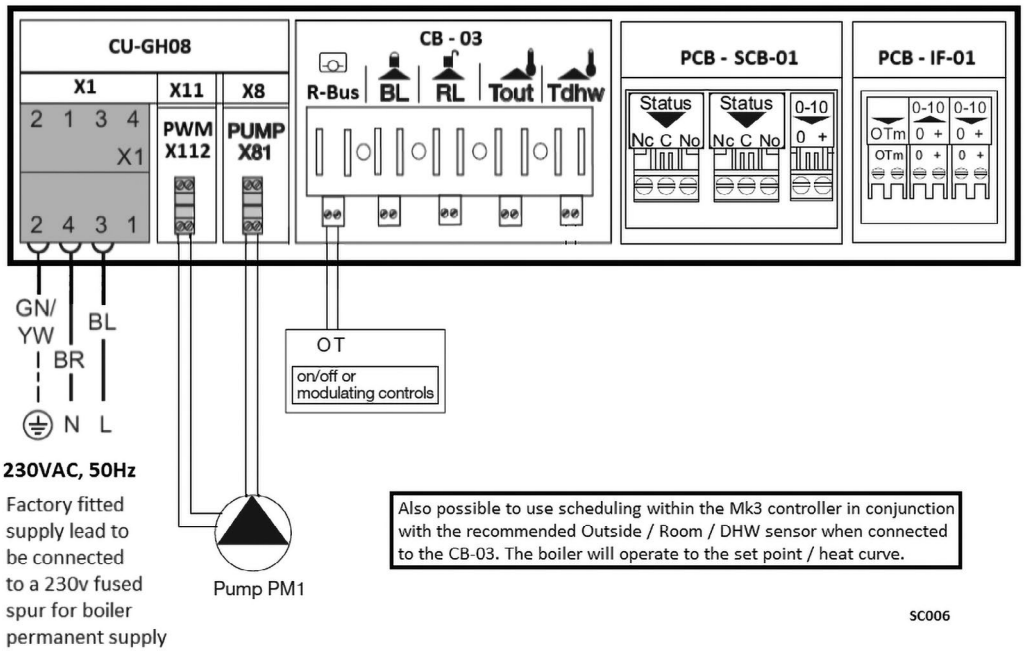
Wiring detail of controls when using a Remeha Calorifier with a 2 port spring return valve. If using a different type of calorifier, please follow manufacturer's instructions regarding control and wiring details.

Note: When using the Remeha supplied low loss header and pump kit and the DHW diverting valve or primary pump kit, the calorifier must be sited within 3m of the boiler. In both cases, the DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler used. Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace 30, 45, 55, 65, 90 and 115 boilers, heating only, room compensation using iSense controls.

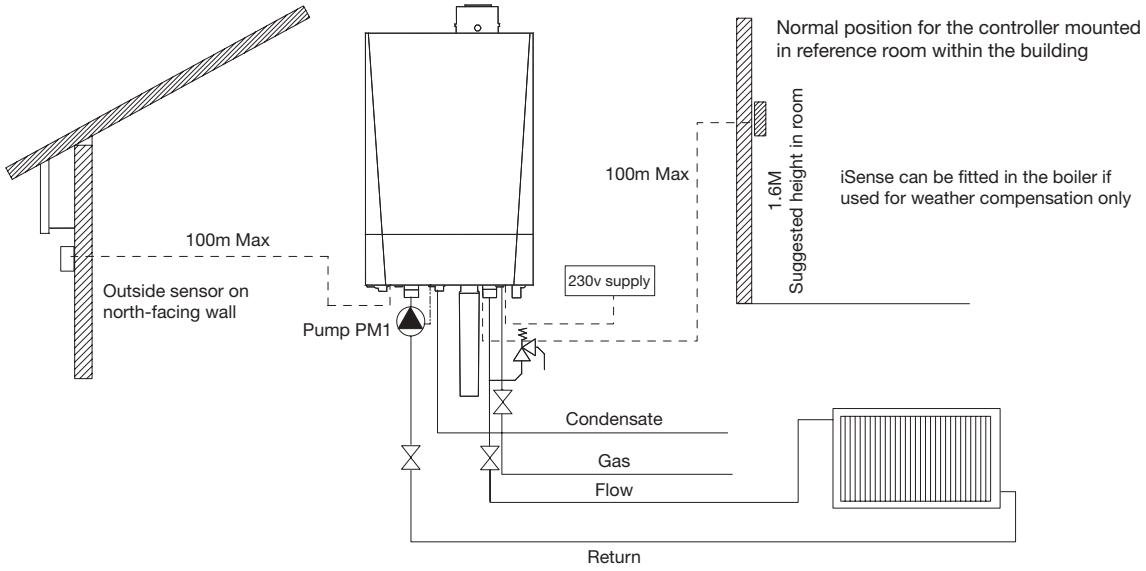


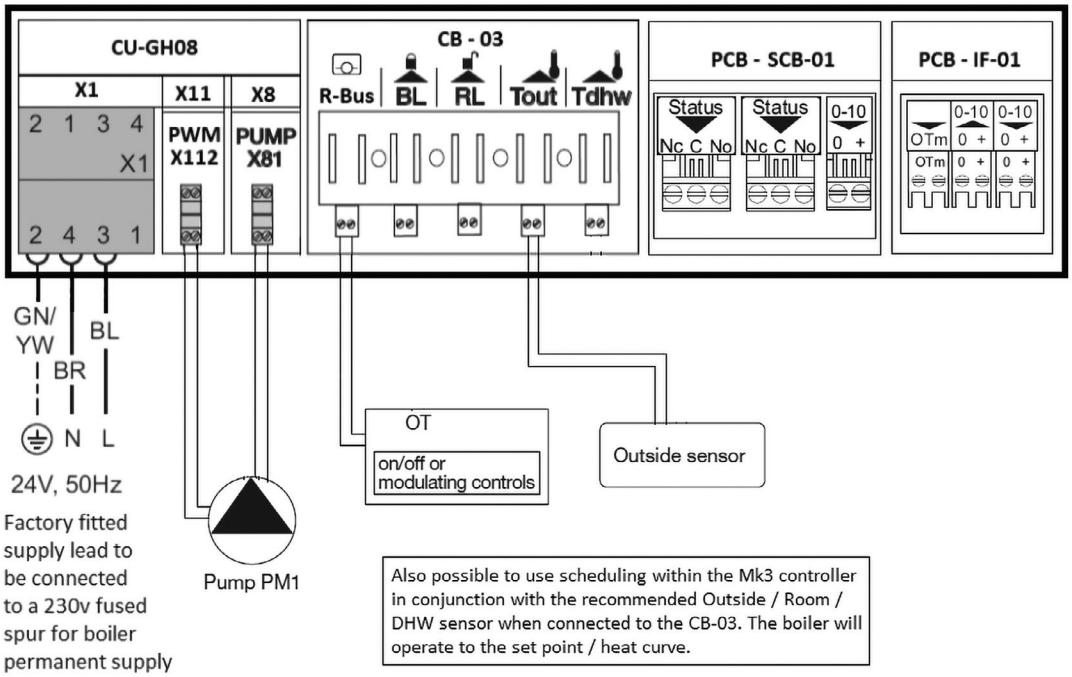


Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace 30, 45, 55, 65, 90 and 115 boilers, heating only, weather compensation using the iSense controls.

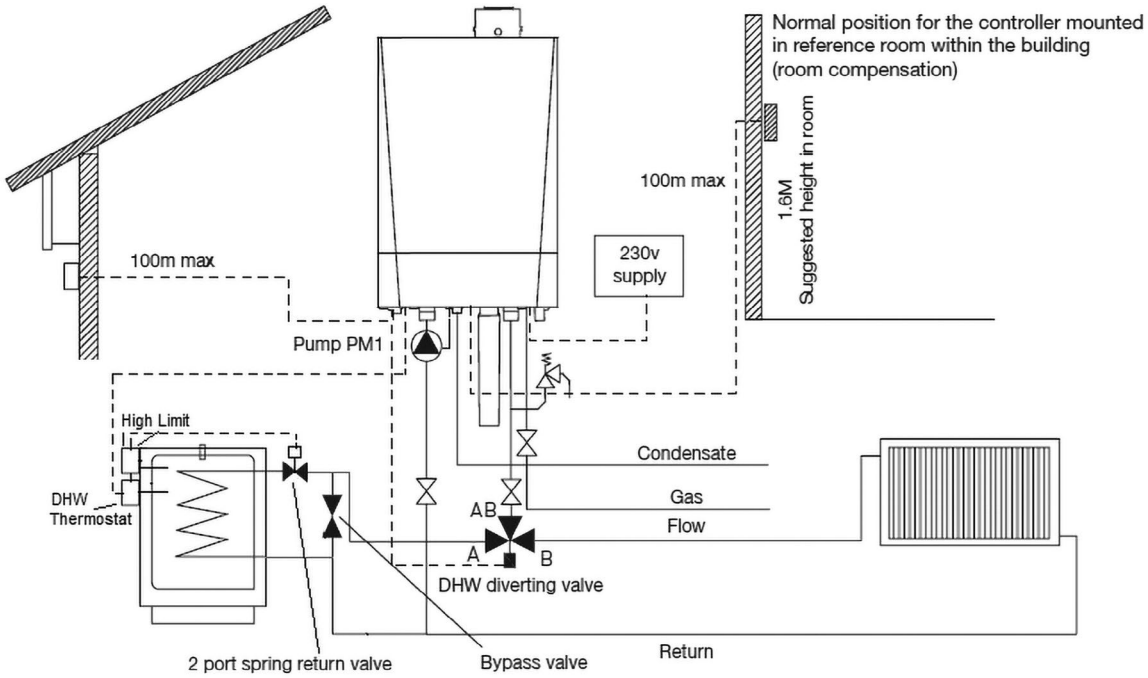


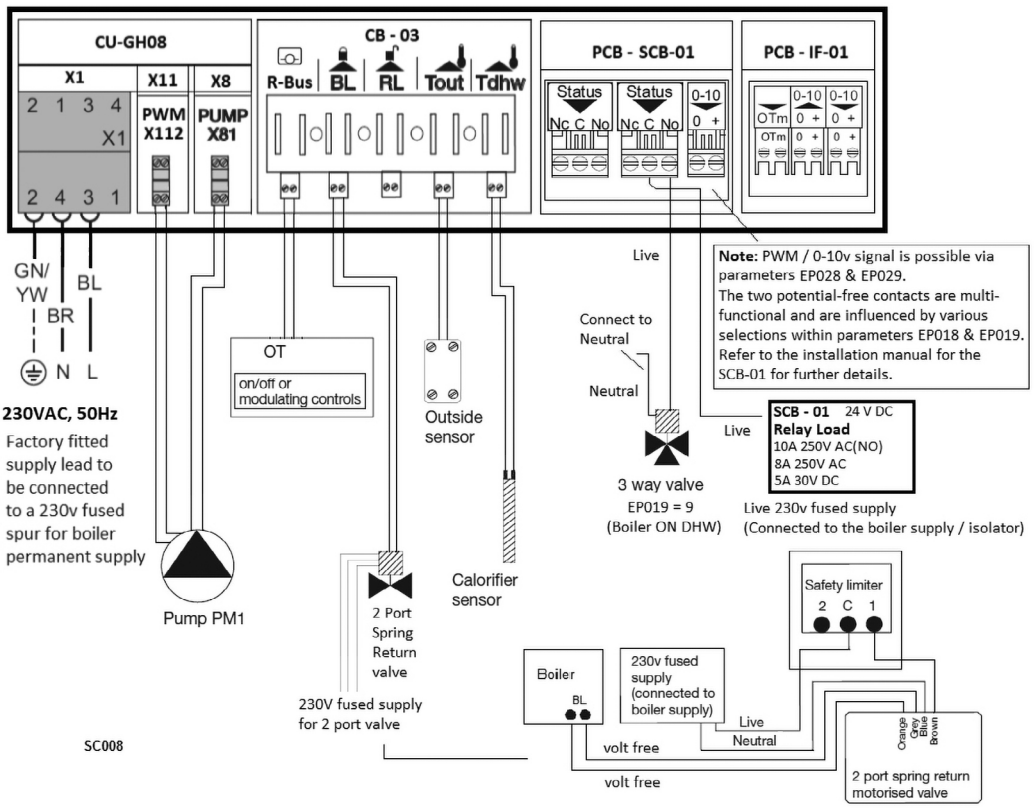


Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace boiler, heating and hot water priority. Heating room or outside weather compensated with iSense controls. Three-way valve hot water priority Quinta Ace 30/45/55/65 only.

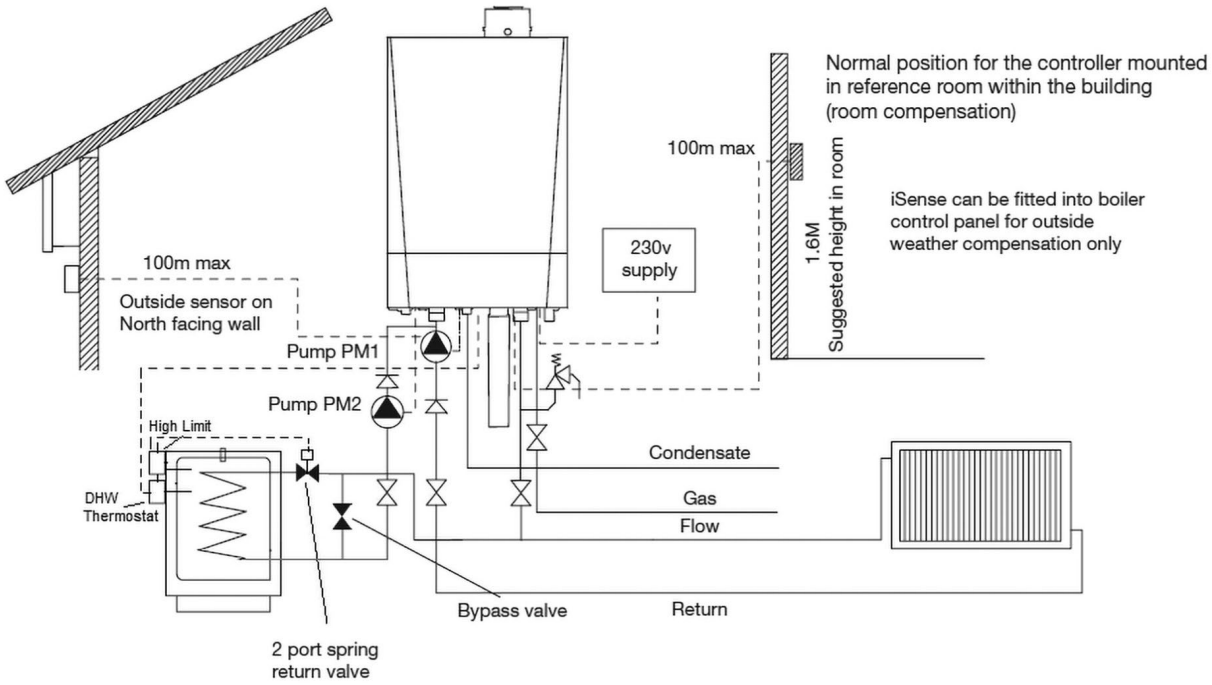


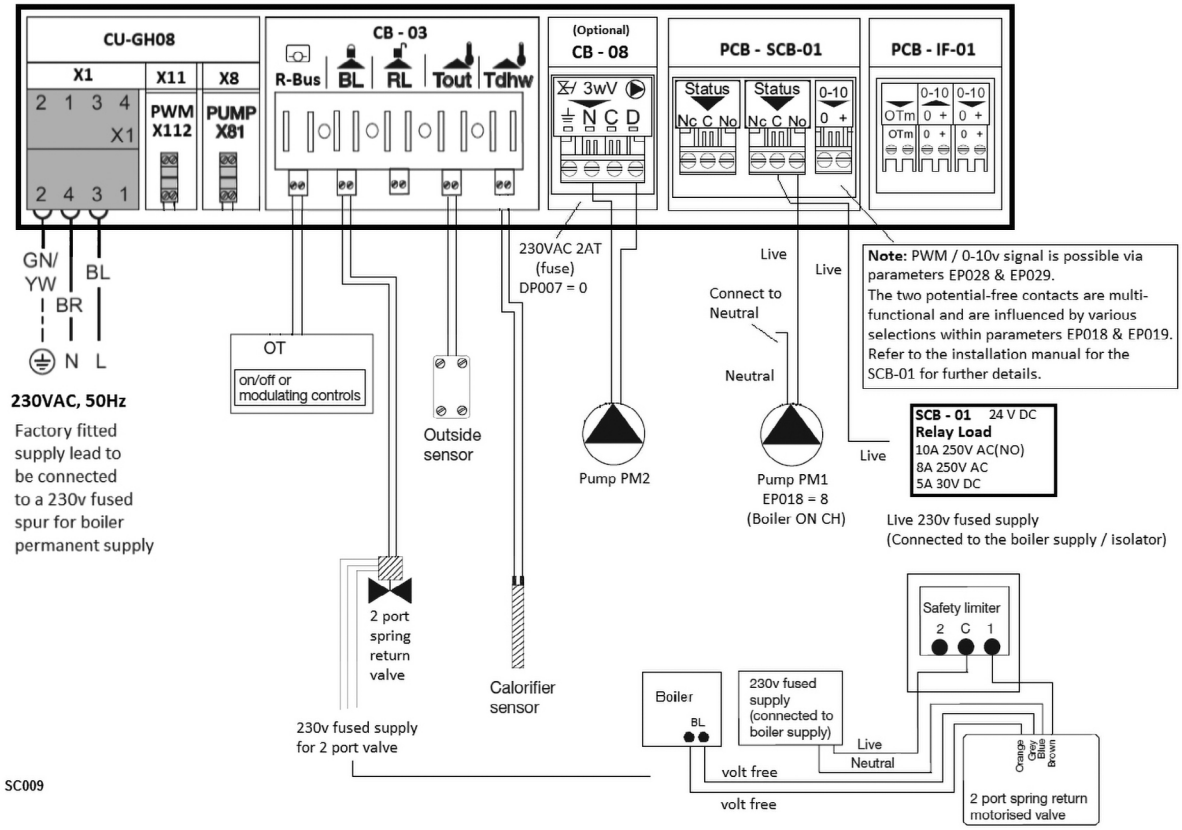


Note: When using the Remeha supplied low loss header and pump kit and the DHW diverting valve or primary pump kit, the calorifier must be sited within 3m of the boiler. In both cases, the DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler used. Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Single Quinta Ace boiler, heating and hot water priority. Heating room or outside weather compensated with iSense controls. Pump option hot water priority can be used on all Quinta Ace 30, 45, 55, 65, 90 and 115.

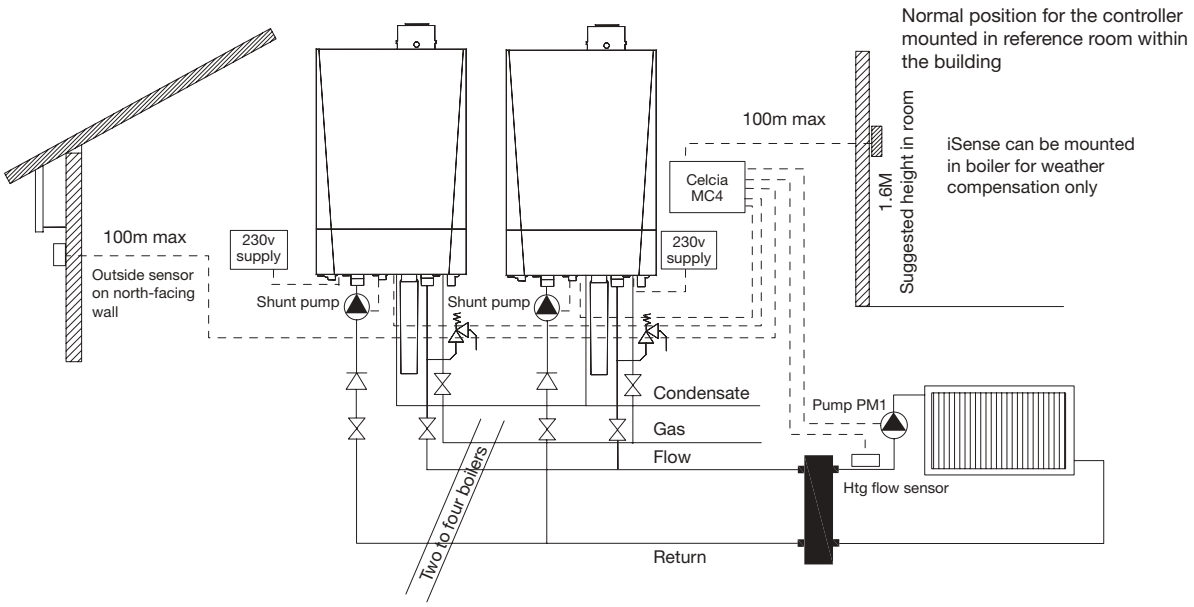


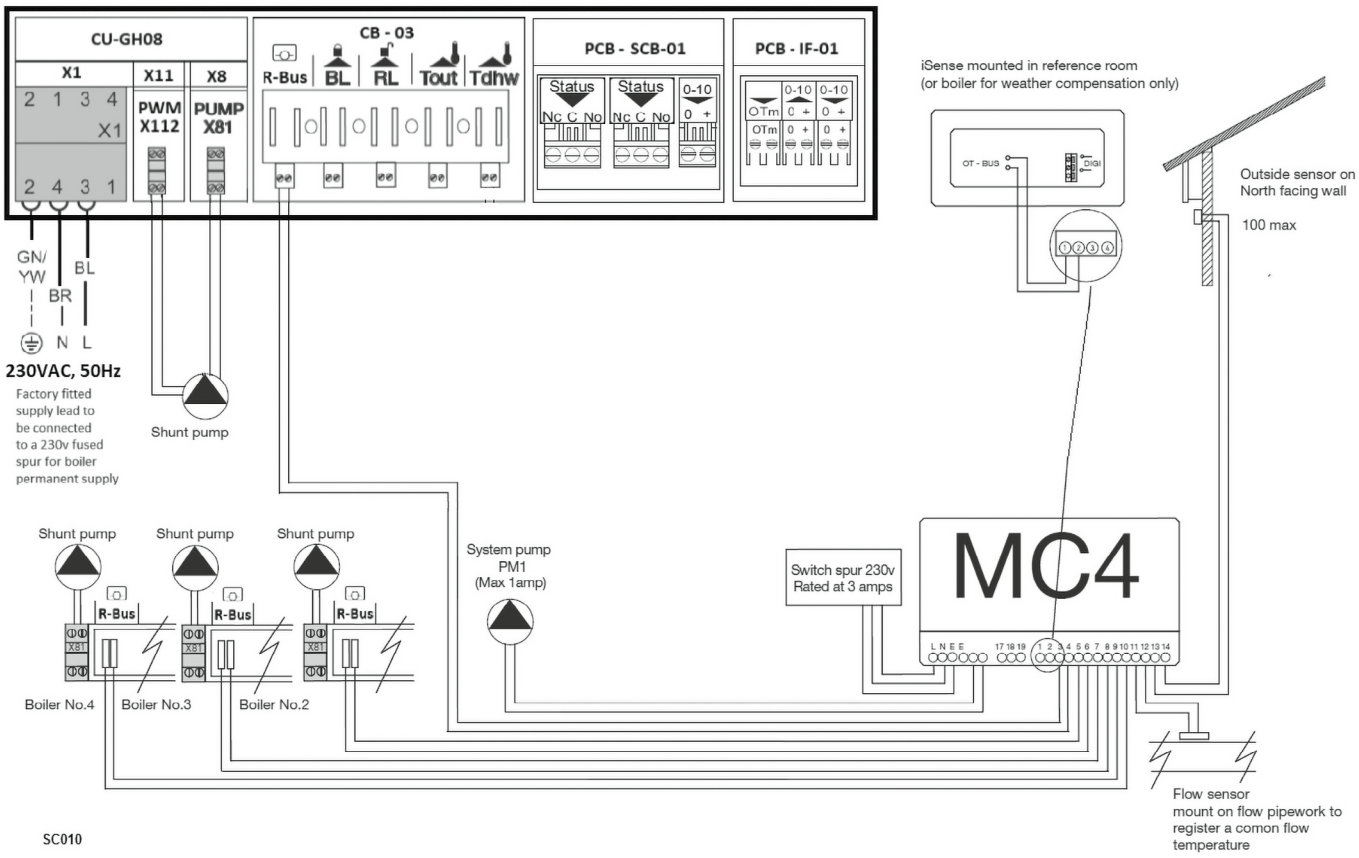


Note: When using the Remeha supplied low loss header and pump kit and the DHW diverting valve or primary pump kit, the calorifier must be sited within 3m of the boiler. In both cases, the DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler used. Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace
typical installation.

Multiple Quinta Ace 30, 45, 55, 65, 90 or 115, heating only, outside weather or room compensation with the Celcia MC4 and iSense controls with a low loss header (optimising/weather compensated).

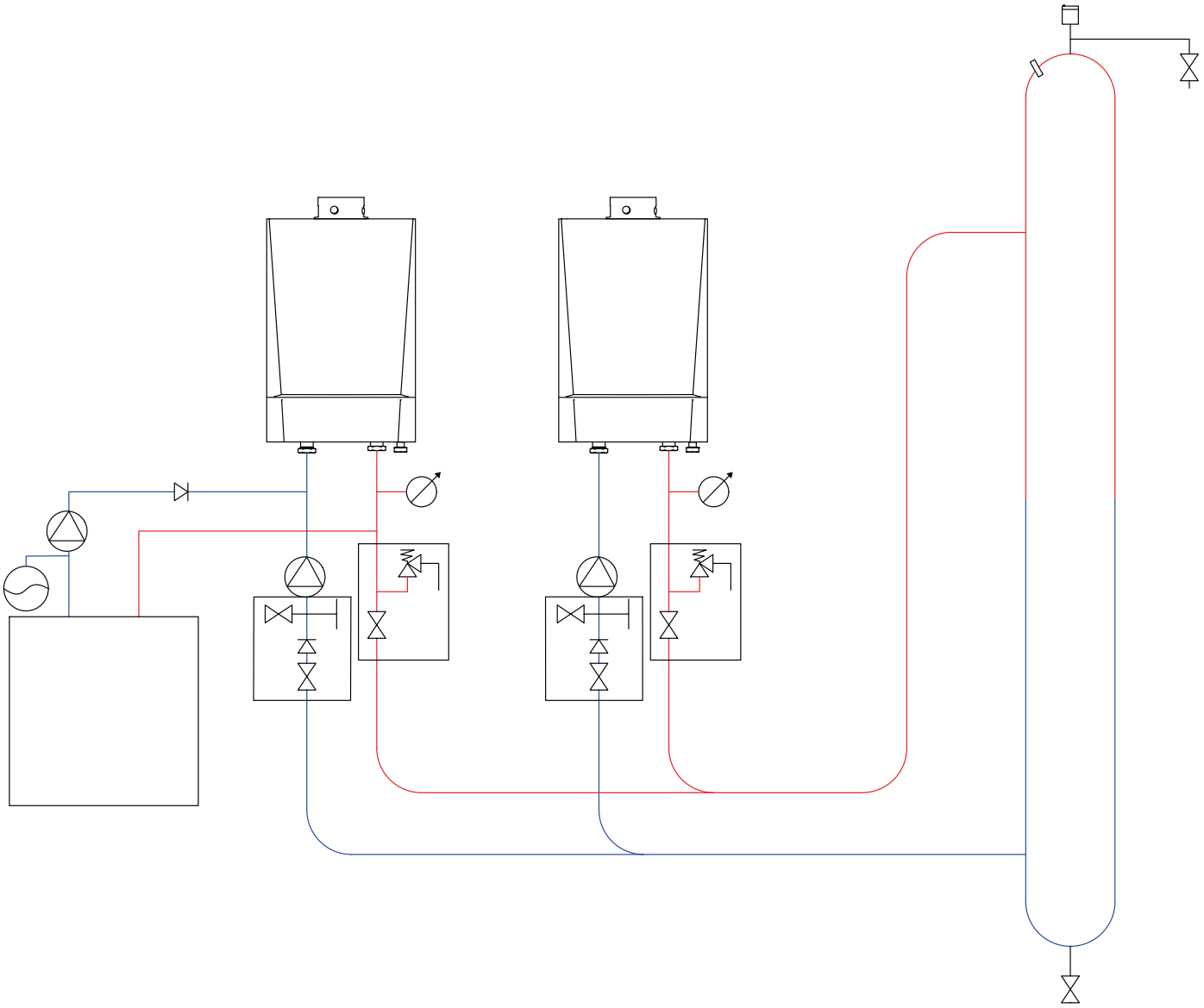




Note: Control PCBs are shown diagrammatically. Earths are omitted for clarity.

Quinta Ace 135 and 160
typical installation.

Suggested hydraulic circuit diagram.



Note: This information is indicative.

Quinta Ace 30, 45, 45, 55, 65, 90 and 115
electrical installation and controls.

General

The Quinta Ace 30, 45, 55, 65, 90 and 115 are supplied as standard with electronic control and flame ionisation safety controls, with a specially designed microprocessor at the heart of the control system.

Specifi ations

Electrical supply

The Quinta Ace 30, 45, 55, 65, 90 and 115 must have a permanent 230V/50Hz single phase supply rated at 2.5 amps. The control unit is not phase/neutral sensitive.

Control box

- Manufacture: SIT
- Model: CU-GH08
- Supply voltage: 230V/50Hz
- Pump run on (HTG): 1–99 minutes

Fuse speci ation

The boiler is protected by fuses:

- Main Fuse F1 (230 VAC) 2.5 amps
- Fan 230V

Boiler temperature control

The Quinta Ace range has electronic temperature control with flow and return temperature sensors. The flow temperature can be adjusted between 20 and 90°C.

High limit temperature control

The high limit temperature protection device switches off and locks out the boiler when the flow temperature exceeds the high limit set point (set by boiler type). When the fault is corrected the boiler can be restarted by using the reset key on the control panel.

Low water protection (ow and content)

The Quinta Ace range is supplied with a low water protection on the basis of a low water pressure switch and also by temperature measurement. By modulating down at the moment that the water flow threatens to fall too low, the boiler is kept operating for as long as possible.

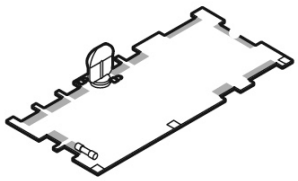
External connections

All external connections are made to any one of the standard supplied PCBs depending on the type of control and external components fitted.

Connecting a third party control unit to a standard board

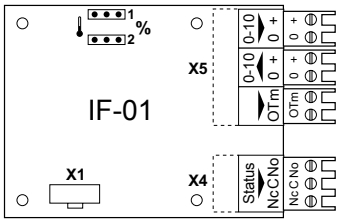
PCB (CU-GH08)

Main PCB control is included as standard.



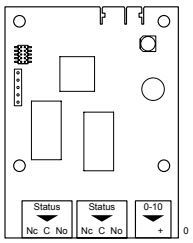
PCB (IF-01)

0–10V control to provide either analogue output (temperature) or analogue output (capacity).



PCB (SCB-01)

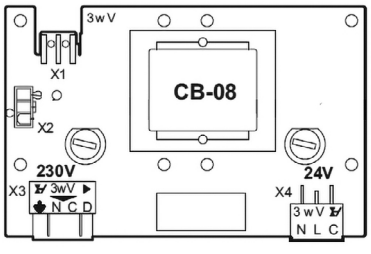
This has two potential-free contacts status/functions that can be configured as required. Depending on the setting, a particular status/function can be transmitted by the boiler: alarm, run, boiler on CH, pump control, etc.



SCB-01
24V DC
Relay load
10A 250V AC (NO)
8A 250V AC
5A 30V DC

PCB (CB-08) Optional

For control of external DHW three-way valve or DHW pump.



Boiler controls
electrical installation.

Boiler controls

The Quinta Ace range can be controlled using a number of methods – other examples are given below. Scheduling uses the integral Mk3 controller in conjunction with the recommended Outside/Room/DHW sensor when connected to the CB-03 control board. Other examples are given below. Please contact our sales or technical departments for further options.

Modulating (two-wire control)

When using the optional Remeha compensating controllers, the heat output modulates between the minimum and maximum value on the basis of the boiler flow temperature sensor. This applies to both single and multiple boiler installations, under the dictates of a room and/or outside temperature sensor.

iSense Pro: multi-boiler multi-zone optimising/compensating controller can control up to ten boilers, two heating zones either VT or CT and one domestic hot water circuit. Information on the iSense Pro controller can be obtained from the installation manual and the suggested wiring and controls schematics for the controller.

Also, it can be used as a boiler sequencer with a 0–10V dc analogue input signal from a remote BMS controller, managing a primary or secondary heating circuit with up to ten boilers. The control is temperature dependent only, i.e. 5V = 50°C flow temperature providing lead/lag control, subject to the settings within the controller.

iSense controller: single-boiler (option for multiple-boiler) single-zone optimising/compensating controller.

Remeha MC4: in conjunction with the iSense controller can provide step control for multi-boiler installation of up to four boilers.

On/off volt free control from a third party installer

Connect a two-wire cable to terminal R-Bus which must be a volt free connection from the third party controller.

Analogue control (0–10V dc)

The heat output modulates between the minimum and the maximum values on the basis of the voltage supplied by an external analogue (0–10V) input.

Analogue output – temperature control

The 0–10V signal controls the boiler flow temperature between 0°C and 100°C. This control modulates on the basis of the flow temperature, whereby the heat output varies between the minimum and maximum values according to the flow temperature set point calculated by the controller sent by the BMS, e.g. 6.4V = 64°C.

A jumper 2 (see table opposite) on the interface is used to select either temperature control or heat output control (%).

Analogue output – capacity control (%)

The 0–10V signal controls the boiler output between 0% and 100% of its total capacity (kW).

The minimum and maximum values are limited. The minimum output is linked to the boiler's modulation depth. The output varies between the minimum and maximum value on the basis of the value determined by the controller.

Jumper 2	Input signal (v)	Temperature A	Description
	0–1.5	0–15	Boiler off
	1.5–1.8	15–18	Hysteresis
	1.8–10	18–100	Temp required

Jumper 2	Input signal (v)	Heat Output (%)	Description
%	0–2.0 (1)	0–20	Boiler off
	2.0–2.2 (1)	20–22	Hysteresis
	2.0–10 (1)	20–100	Heat output requested

(1) Dependent on the minimum modulation depth (set speeds, standard 20%).

Priority DHW control

Temperature control

With a Remeha temperature sensor or with a standard (volt free) DHW thermostat.

Note: It will only provide a setting and read-out facility when the sensor option is used.

Primary flow control

- With a three-way diverting valve (not Q90/115)
- With a DHW pump
- Untimed (available 24 hours a day

System/shunt pump

A shunt pump can be connected to the boiler (maximum input 200w). If the pump requires more than this, terminals can only be used to switch a pump relay. The pump should be fitted on the heating return connection and be as close to the boiler as possible. A system pump can also be connected to the boiler via SCB-01 (refer to page 24, SCB-01 Relay Load data for maximum load).

System water

Before operation, the system should be cleaned and flushed (according to BS 7593 2006), and filled with mains cold water. Suitable chemicals and their use should be discussed with specialist water treatment companies in respect to aluminium heat exchangers. For further information, “Remeha Water Quality Regulations” is available from **remeha.co.uk**
The recommendations in the document must be followed.

Frost protection

Install the boiler in a frost-free room. The built-in frost protection system is activated as follows: below 7°C – system pump is switched on if connected to the boiler. Below 3°C – boiler is switched on; when the flow temp reaches 10°C the boiler and pump switch off.

Note: This control is designed to protect the boiler – for full system protection use a frost thermostat or a weather compensator.

Remote alarm and boiler run indication

As standard, the boiler is supplied with the integral smart control board SCB-01. This has two potential-free contacts, Status/Function, which can be configured as required. Depending on the setting, a common alarm and boiler run signal can be transmitted by the boiler.

Safety interlocks

As standard, the boiler is supplied with shutdown (BL) and release (RL) inputs via the main standard connections board CB 03.

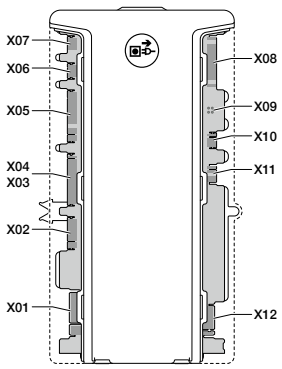
Quinta Ace 135 and 160
controls and specifications.

Specifi ations

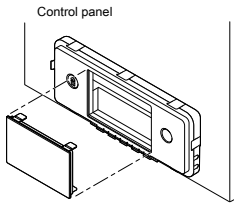
The boiler has a three-wire mains lead (lead length 1.5m) and is suitable for a 230VAC/50Hz power supply with a phase/neutral/earth system. The boiler is not phase sensitive and the boiler is completely pre-wired.

Assembly of the control panel

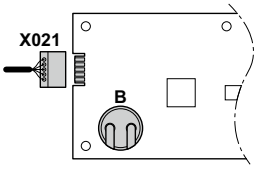
The Human Machine Interface (HMI) and the connection box need to be fitted. The connection box contains standard control PCB CB-01 and expansion board SCB-01 for external connections. The optional PCBs are also placed in the connection box. For further information, please refer to the Installation and Service Manual for the boiler and the control panel.



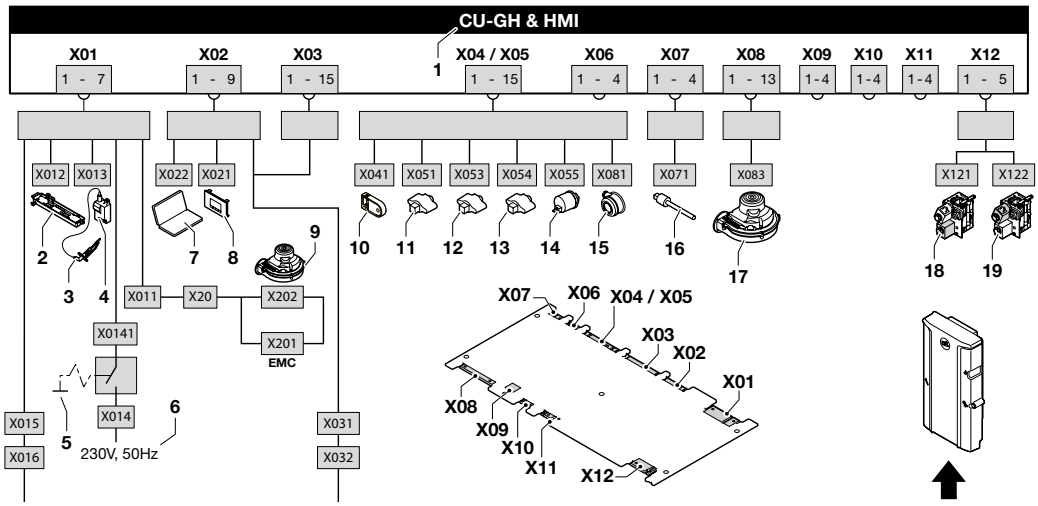
Connectors from the control unit CU GH06 (front view)



Control panel



HMI PCB



Key					
1	Boiler control unit	2	Lighting	3	Ignition probe
4	Ignition transformer	5	Power supply	6	N/a
7	Service connector/ computer connection	8	Control fascia panel	9	Fan supply
10	Programmable storage unit	11	Flow sensor	12	Heat exchanger sensor
13	Return sensor	14	Hydraulic pressure sensor	15	Air pressure differential switch
16	Flue gas sensor	17	Fan control (PWM)	18	Gas valve 2
		19	Gas valve 2		

Quinta Ace 135 and 160
electrical installation and controls.

General

The Quinta Ace 135 and 160 are supplied as standard with electronic and flame ionisation safety controls, with a specially designed microprocessor at the heart of the control system.

Specifi ations

Electrical supply

The Quinta Ace 135 and 160 must have a permanent 230V/50Hz single phase supply rated at 6.3 amps. The boiler is not phase/neutral sensitive and is completely wired.

Control box

- Manufacture: SIT
- Model: CU-GH06
- Supply voltage: 230V/50Hz
- Pump run on (HTG): 1–99 minutes

Fuse speci ation

The boiler is protected by fuses:

- Main fuse F1 (230 VAC) 6.3 amps
- Fan 230V
- PCU: 1.6 amps

Boiler temperature control

The Quinta Ace range has electronic temperature control with flow and return temperature sensors. The flow temperature can be adjusted between 20 and 90°C.

High limit temperature control

The high limit temperature protection device switches off and locks out the boiler when the flow temperature exceeds the high limit set point (set by boiler type). When the fault is corrected the boiler can be restarted by using the reset key on the control panel.

Low water protection (ow and content)

The Quinta Ace range is supplied with a low water protection on the basis of a low water pressure switch and also by temperature measurement. By modulating down at the moment that the water flow threatens to fall too low, the boiler is kept operating for as long as possible.

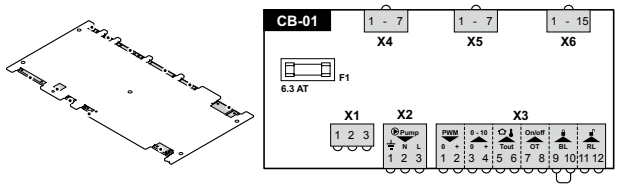
External connections

All external connections are made to any one of the standard supplied PCBs depending on the type of control and external components fitted.

Connecting a third party control unit to a standard board CU-GH06

PCB (CU-GH06)

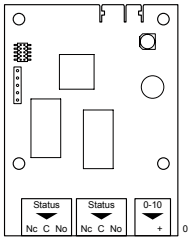
Main PCB (CB01) is included as standard.



Also supplied as standard is the SCB-01 (part of the new e-Smart platform)

PCB (SCB-01)

This has two potential-free contacts, status/functions that can be configured as required. Depending on the setting, a particular status/function can be transmitted by the boiler: alarm, run, boiler on CH, pump control, etc.



SCB-01
24V DC
Relay load
10A 250V AC (NO)
8A 250V AC
5A 30V DC

Quinta Ace 135 and 160
electrical installation and boiler controls.

Boiler controls

The Quinta Ace range can be controlled using a number of methods – other examples are given below. Scheduling uses the integral Mk3 controller in conjunction with the recommended Outside/Room sensor when connected to the CB-01 control board. Other examples are given below. Please contact our sales or technical departments for further options.

Modulating (two-wire control)

When using the optional Remeha compensating controllers the heat output modulates between the minimum and maximum value on the basis of the boiler flow temperature sensor. This applies to both single and multiple boiler installations, under the dictates of a room and/or outside temperature sensor.

iSense Pro - multi-boiler multi-zone optimising/compensating controller can control up to ten boilers, two heating zones either VT or CT and one domestic hot water circuit. Information on the iSense Pro controller can be obtained from the installation manual and the suggested wiring and controls schematics for the controller.

Also, it can be used as a boiler sequencer with a 0–10V dc analogue input signal from a remote BMS controller, managing a primary or secondary heating circuit with up to ten boilers. The control is temperature dependent only, i.e. 5V = 50°C flow temperature providing lead/lag control, subject to the settings within the controller.

iSense controller: single-boiler (option for multiple-boiler) single-zone optimising/compensating controller.

Remeha MC4: In conjunction with the iSense controller can provide step control for multi-boiler installation of up to four boilers.

On/off volt free control from a third party installer

Connect a two-wire cable to terminal R-Bus which must be a volt free connection from the third party controller.

Analogue control (0–10V dc)
The heat output modulates between the minimum and the maximum values on the basis of the voltage supplied by an external analogue (0–10V) input.

Analogue output – temperature control

The 0-10V signal controls the boiler flow temperature between 0°C and 100°C. This control modulates on the basis of the flow temperature, whereby the heat output varies between the minimum and maximum values based on the flow temperature set point calculated by the controller sent by the BMS e.g: 6.4V = 64°C.

A jumper 2 (see table opposite) on the interface is used to select either temperature control or heat output control (%).

Analogue output – capacity control (%)

The 0–10V signal controls the boiler output between 0% and 100% of its total capacity (kW).

The minimum and maximum values are limited. The minimum output is linked to the boiler's modulation depth. The output varies between the minimum and maximum value according to the value determined by the controller. The output varies between the minimum and maximum value on the basis of the value determined by the controller.

Jumper 2	Input signal (v)	Temperature A	Description
	0–1.5	0–15	Boiler off
	1.5–1.8	15–18	Hysteresis
	1.8–10	18–100	Temp required

Jumper 2	Input signal (v)	Heat Output (%)	Description
%	0–2.0 (1)	0–20	Boiler off
	2.0–2.2 (1)	20–22	Hysteresis
	2.0–10 (1)	20–100	Heat output requested

(1) Dependent on the minimum modulation depth (set speeds, standard 20%).

System/shunt Pump

A shunt pump can be connected to the boiler via the integral CB–01 PCB (maximum input 300VA). If the pump requires more than this, terminals can only be used to switch a pump relay. The pump should be fitted on the heating return connection and be as close to the boiler as possible. A system pump can also be connected to the boiler via the integral SCB-01 (refer to page 24, SCB-01 Relay Load data for maximum load).

System water

Before operation, the system should be cleaned and flushed (according to BS 7593 2006) and filled with mains cold water. Suitable chemicals and their use should be discussed with specialist water treatment companies in respect to aluminium heat exchangers. For further information **"Remeha Water Quality Regulations"** is available from **remeha.co.uk** The recommendations in the document must be followed.

Frost protection

Install the boiler in a frost-free room. The built-in frost protection system is activated as follows: below 7°C – system pump is switched on if connected to the boiler. Below 3°C – boiler is switched on; when the flow temp reaches 10°C the boiler and pump switch off.

Note: This control is designed to protect the boiler – for full system protection use a frost thermostat or a weather compensator.

Remote alarm and boiler run indication

As standard, the boiler is supplied with the integral smart control board SCB-01. This has two potential-free contacts, Status/Function, which can be configured as required. Depending on the setting, a common alarm and boiler run signal can be transmitted by the boiler.

Safety interlocks

As standard, the boiler is supplied with shutdown (BL) and release (RL) inputs via the main standard connections board CB-01.

Flue
options.

The Quinta Ace range of condensing boilers has fan-assisted flues. They are supplied as standard with a concentric flue outlet/air inlet connection which is used for room-sealed operation or for open-flue (room ventilated) applications. An optional twin pipe fi ting is available for the room-sealed CLV system.

The concentric system can be supplied for individual boilers for horizontal or vertical installation. Because of the excess fan capacity of the boiler, most flue lengths can be accommodated (depending on the boiler model and actual route taken), which enables the installer to position the boiler almost anywhere in the building.

Open-flue, or room ventilated systems can be installed as individual or combined flues and should discharge vertically with the flue terminating in an optional tapered cone complete with bird guard.

Care should be taken when siting the actual discharge point as a vapour plume will be visible when the boiler is operating (maximum flue gas exit temperature will be less than 75°C) and it is possible for water to drip to the ground from the terminal on horizontal installations, which could turn to ice in freezing conditions.

Guidelines

Refer to latest relevant British Standards:

- Ref BS 5440 – 2: Specification for installation and maintenance of ventilation for gas appliances not exceeding 70kW (1st, 2nd and 3rd family gases)
- Ref BS 5440 – 1: Specification for installation of gas appliances to chimneys and for maintenance of chimneys not exceeding 70kW (1st, 2nd and 3rd family gases)
- Ref BS 6644: Specification for installation of gas-fired hot water boilers of rated inputs between 70kW to 1.8MW (net) (2nd and 3rd family gases)
- Ref IGE/UP/10: Installation of flued gas appliances in industrial and commercial premises

It is the responsibility of the installer to install the flues and fluecades to comply with the current regulations and standards.

Important Note

All flue terminals and CLV kits can be supplied with a condensate drain/siphon, this must be connected within one metre of the boiler flue connection. Any condensate which is able to flow back into the boiler from flue lengths greater than one metre must be discharged via a condensate collector and drain system fitted within one metre of the boiler flue connection. Make sure that any flue gas outlet pipe towards the boiler has a sufficient gradient (at least 50mm per metre) and that there is a sufficient condensate collector. Where boilers have been installed on a common open-flue system, condensate collectors and drain systems must be fitted on each individual boiler directly above the boiler flue connection. Condensate siphons must be deep seal water type with discharge taken to a suitable drain point.

Further information regarding flue with dissimilar metals can be found in BS6644 – 2011 Section 6.10.4.

- Concentric room-sealed flue components should not be mixed with single wall flue components
- Flue components are constructed from a white painted metal outer and plastic inner
- Flue terminals are painted as detailed in the terminal diagrams
- Plume kit external components are aluminium or plastic and are painted black
- All flue components are CE approved

Note: The flue system for Quinta Ace 160 is currently under review.

Quinta Ace range flue outlet/air inlet details.

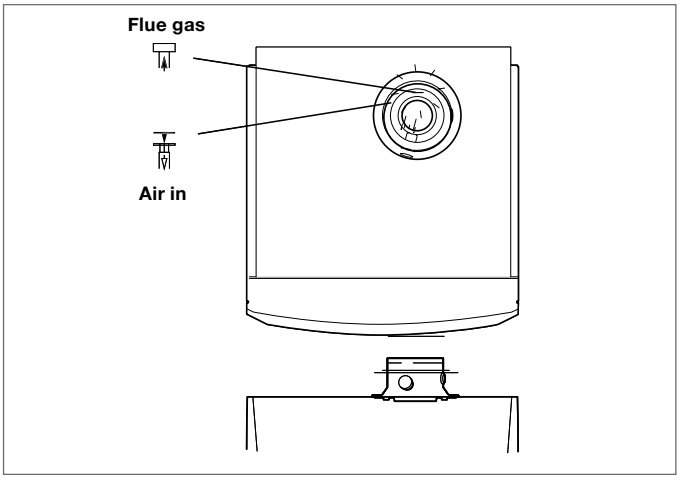
The Quinta Ace range of boilers are supplied as standard with a concentric flue outlet/air inlet connection which can be used for:

1. Room-sealed operation using the concentric flue system (flue within air duct).

2. Conventional/open-flue operation using single skin flue system connected to the inner concentric connection with the air supply taken from the boiler house via the outer concentric connection.

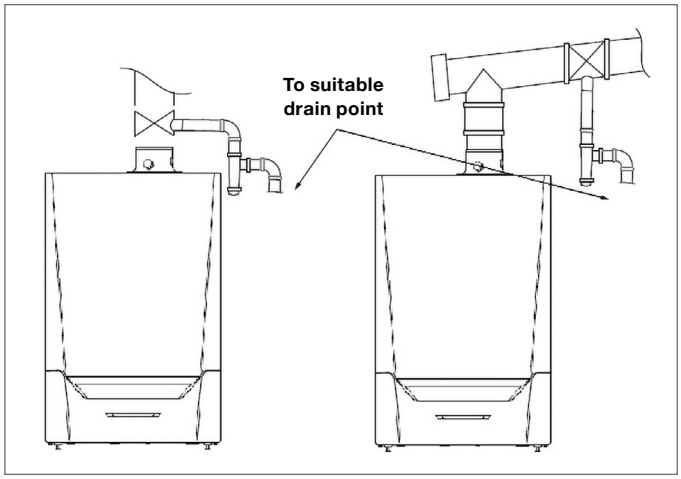
Details of inlet connection

This shows the concentric flue connection used for room-sealed operation and an option using single skin is available.



Details of condensate drain

In order to prevent the spilling of combustion products a condensate trap (not supplied) must be fitted on the plastic drain connection on the condensate drain, which is available as an option with horizontal and vertical flue terminals.



Note: The condensate trap should be as close as practical to the condensate outlet and the trap and pipework should be adequately supported.

Quinta Ace 30 and 45
room sealed, 80/125mm horizontal concentric flue kit option QP01.

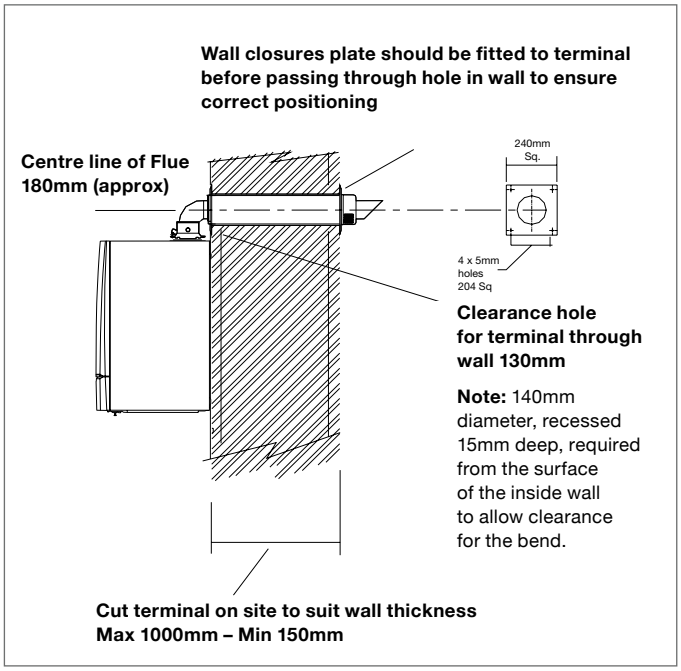
For use when the boiler/s are mounted on and flued through a rear outside wall, and for a typical single-boiler installation. It can also be used for multiple boilers but each must have its own flue system and terminals positioned at a minimum of 530mm centres and never installed immediately above another. For two boilers only, it is also possible to install the external terminal wall plates touching each other.

Horizontal flue kit 80/125mm

Kit parts – MG410082982
(max wall thickness 500mm)

- 1 x horizontal terminal

Note: Boiler bend and wall plate are included.

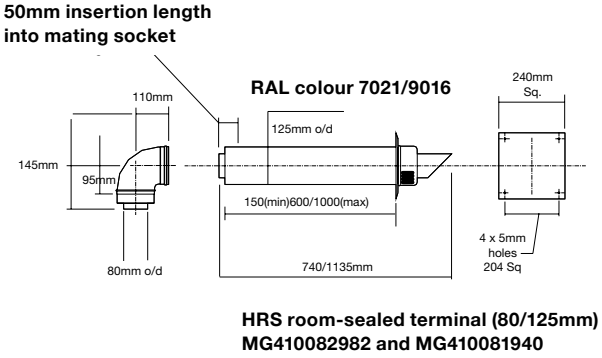


Extended horizontal flue kit 80/125mm

Kit parts – MG410081940
(extended version max wall thickness 1000mm)

- 1 x horizontal terminal

Note: Boiler bend and wall plate are included.



HRS room-sealed terminal (80/125mm)
MG410082982 and MG410081940

Note: Fall to boiler ≥ 50mm/Mtr.

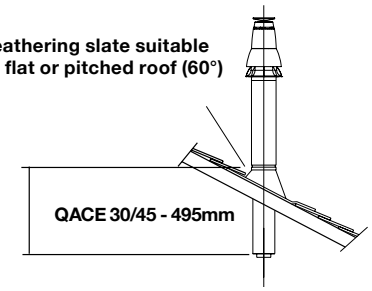
Quinta Ace 30 and 45
room sealed, 80/125mm vertical concentric flue kit option QP03.

For use when the flue is discharged vertically through the roof, and for a typical single-boiler installation. It can also be used for multiple boilers, but each must have its own flue system and terminals separated by a minimum of 300mm if it is at the same height. Refer to the relevant British Standard if this is not the case.

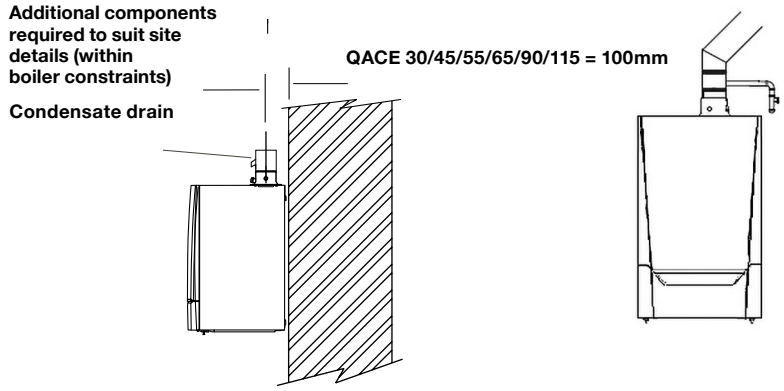
Concentric vertical flue kit 80/125mm

Kit parts – KT125
(max wall thickness 500mm)

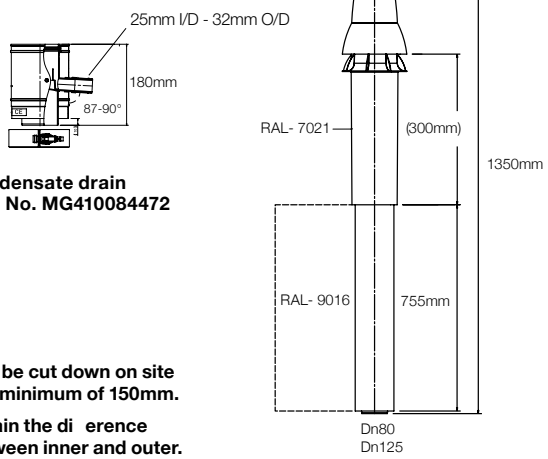
- 1 x vertical terminal – MG10086864
- 1 x universal roof seal pack – VE001



Detail of the vertical 80/125 concentric flue kit option QP03 (KT1215)



Concentric vertical flue kit 80/125mm

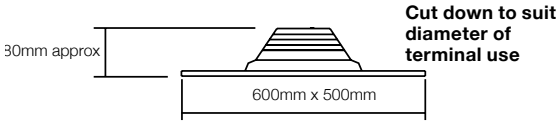


Condensate drain
Part No. MG410084472

Can be cut down on site to a minimum of 150mm.

Retain the di erence between inner and outer.

Vertical flashing detail



Detail of standard weathering plate for 100mm to 150mm flue (Part No. VE001) flat or pitched roofs up to 60°.

Quinta Ace 30 and 45

80/125mm room sealed calculated data to determine maximum flue runs.

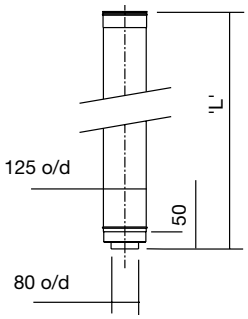
Calculation data based on flue products supplied by Remeha.

Room Sealed Calculation Data		Quinta Ace 30 – 80/125mm	Quinta Ace 45 – 80/125mm
Maximum overall flue run	Metres	20	20
Reduction length for each 45° bend	Metres	1	1
Reduction length for each 90° bend	Metres	2	2
Maximum horizontal flue run	Metres	6	6

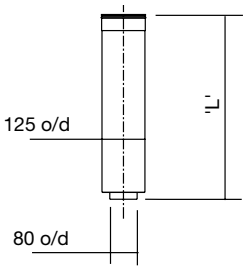
Note 1: Minimum fall back is 2° or 50mm per metre.

80/125mm concentric flue system components for room-sealed operation

Note 2: The components listed below are not for external use.

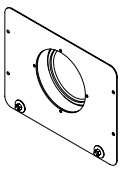


Standard length (cannot be cut)
'L' = 1000mm Part No. MG410084486
'L' = 500mm Part No. MG410084485

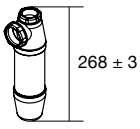


Standard length (cuttable length)
'L' = 1000mm Part No. MG410082314
'L' = 500mm Part No. MG410082313

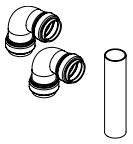
Internal seal (80mm)
Part No. MG410027355



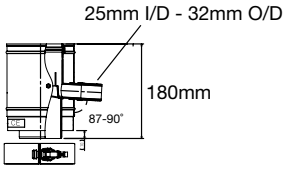
Internal wall plate
Part No. MG410081302



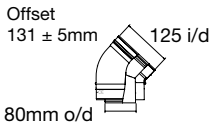
Siphon
Part No. MG410081165



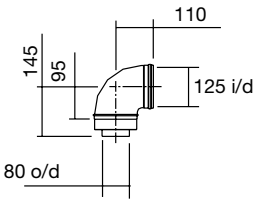
Siphon adaptor kit
Part No. MG410087491



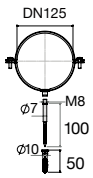
Condensate drain Part No. MG410084472



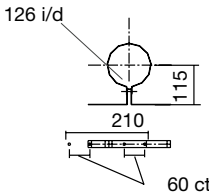
45° Bend
Part No. MG410084461



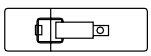
90° Boiler short bend Part No. MG410084810
90° Bend Part No. MG410084460



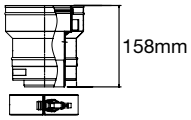
Extended wall bracket
Part No. MG410084481



Wall bracket
Part No. MG410087863



Clamp band
Part No. MG410087654
(one supplied with each component except MG410084810)



80/125mm - 100/150mm
Concentric adaptor
Part No. MG410084475

Note 3: All dimensions are in mm.

Quinta Ace 30 and 45
room sealed, 100mm two zone CLV flue kit option QP04.

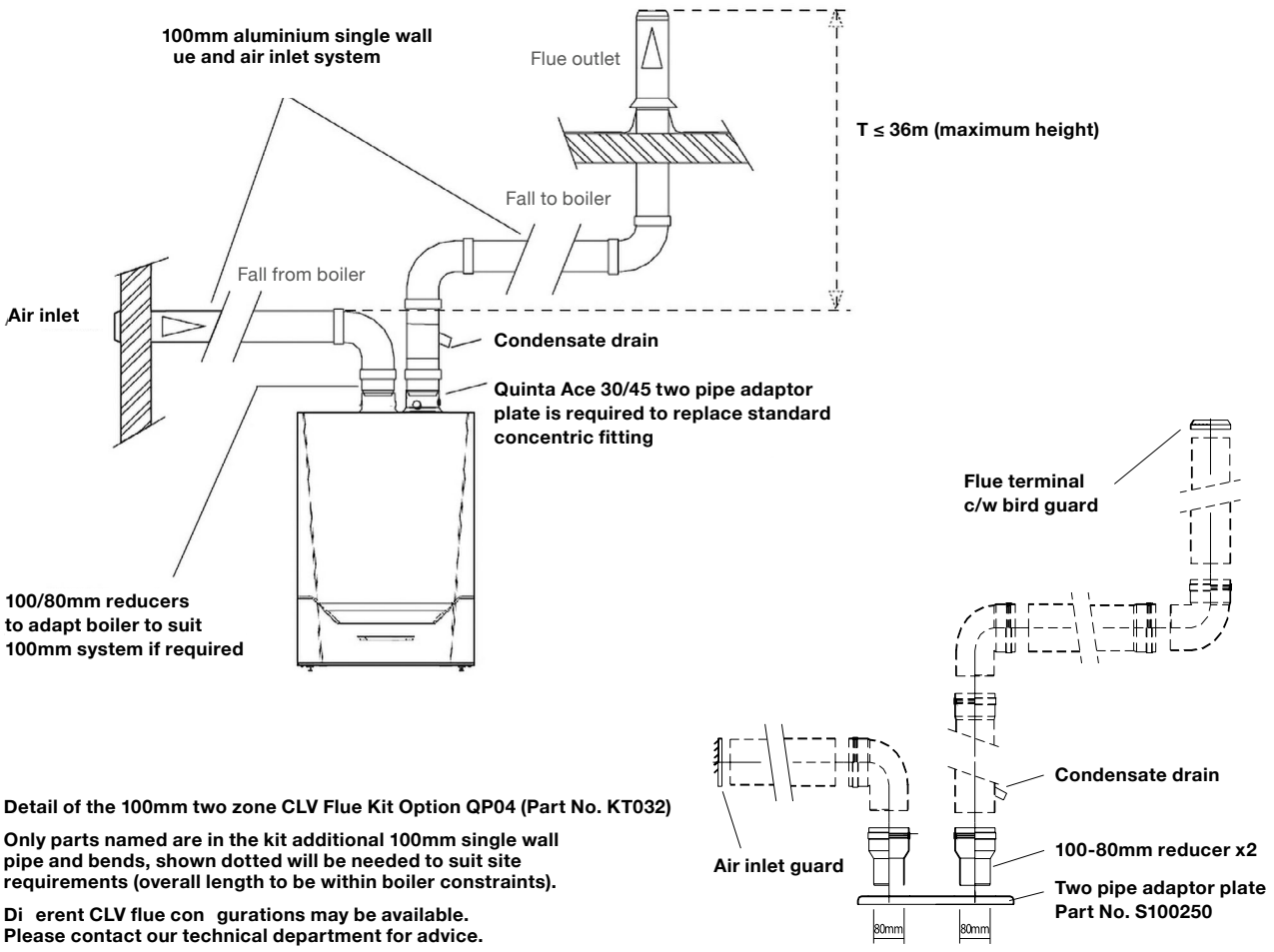
Connections in areas of di erent pressure (C53)

Combustion air supply and combustion gas discharge are possible in various pressure zones, semi-CLV system, with the exception of coastal areas. The maximum permissible difference in height between the combustion air supply and the combustion gas discharge is 36m.

Kit parts – K1032

- 1 x flue connection – S100250
- 2 x flue adaptor 80/100 – MG87127
- 1 x flue terminal – PU001
- 1 x air inlet – PU002
- 1 x condensate drain – MG410085130
- 1 x siphon – MG410081165
- 1 x condense adaptor kit – MG410087491

CLV flue kit 100/100mm



Detail of the 100mm two zone CLV Flue Kit Option QP04 (Part No. KT032)

Only parts named are in the kit additional 100mm single wall pipe and bends, shown dotted will be needed to suit site requirements (overall length to be within boiler constraints).

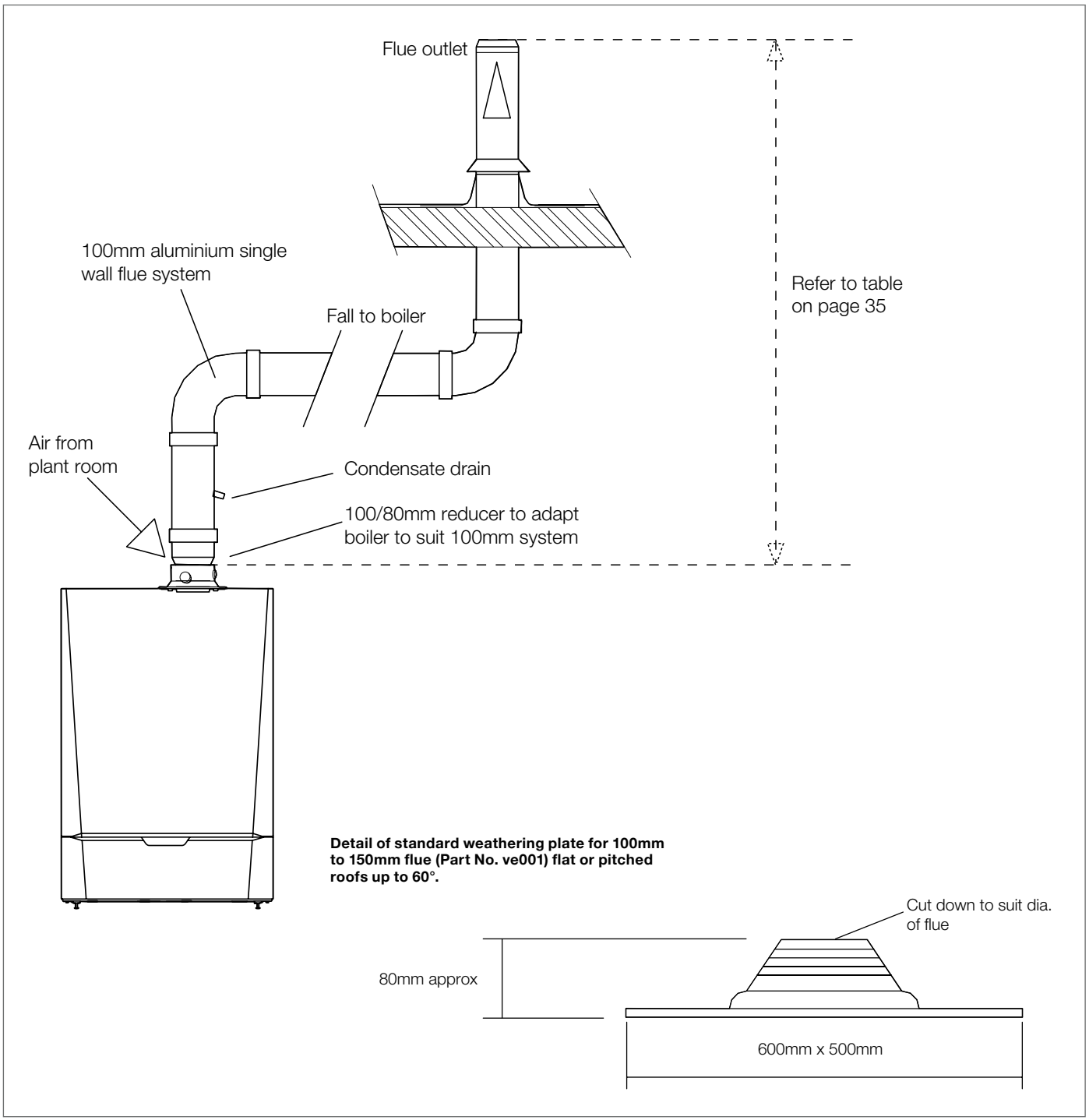
Di erent CLV flue con gurations may be available. Please contact our technical department for advice.

Note 1: Maximum combined length of air intake and flue is 40m.
Note 2: Fall to boiler ≥ 50mm/Mtr.

Quinta Ace 30 and 45
100mm conventional or open-flue systems.

Typical single-boiler installation. Ensure that the overall route does not exceed the maximum values in the table on page 37.

Conventional or open flue systems



Detail of standard weathering plate for 100mm to 150mm flue (Part No. ve001) flat or pitched roofs up to 60°.

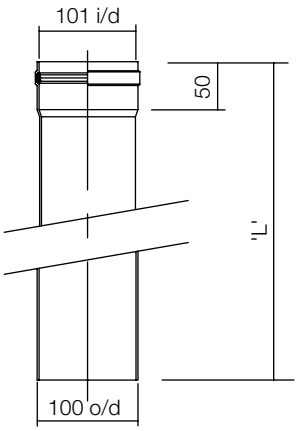
Note: Fall to boiler ≥ 50mm/Mtr.

Quinta Ace 30 and 45
100mm conventional or open-flue systems.

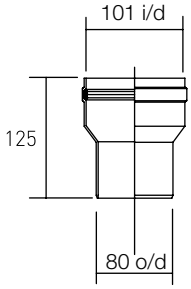
The components listed below are only suitable for internal use as illustrated on pages 33 and 34.
As the boiler is fan assisted it makes no difference if the run is horizontal or vertical but the flue should terminate vertically.

Open Flue Data		Quinta Ace 30 100mm	Quinta Ace 45 100mm
Maximum overall flue run	Metres	40	40
Reduction length for each 45° bend	Metres	1.4	1.4
Reduction length for each 90° bend	Metres	4.9	4.9

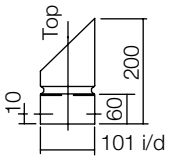
Calculation data based on flue products supplied by Remeha. Other distances available at 110mm (see manual) are achievable with increased flue sizes.



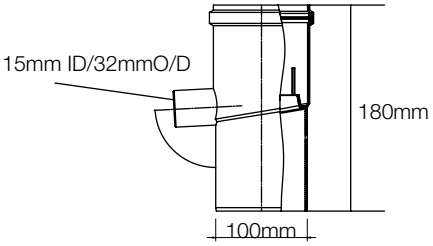
Standard length
'L' = 1000mm Part No. MG87062
'L' = 500mm Part No. MG87061
'L' = 250mm Part No. MG87060



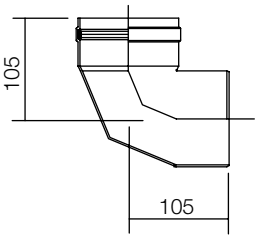
Reducer 80mm spigot to 100mm
Part No. MG87127
Must be used on the QACE 30/45 ue socket connection to adapt to 100mm system



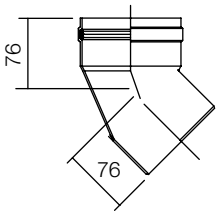
Air Inlet guard
Part No. PU002



Condensate drain
Part No. MG410085130

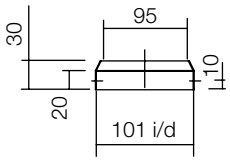


90° Bend
Part No. MG87113



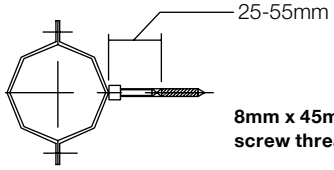
45° Bend
Part No. MG87103

Note:
2 x 45° bends will o set to 71mm centres



Flue terminal c/w bird guard
Part No. PU001

Twin pipe adaptor plate
Part No. S100250



8mm x 45mm screw thread

Mounting bracket
Part No. MG87193

Silicon seal ring
Part No. MG87183

Note 1: All dimensions are in mm.
Note 2: Fall to boiler ≥ 50mm/Mtr.

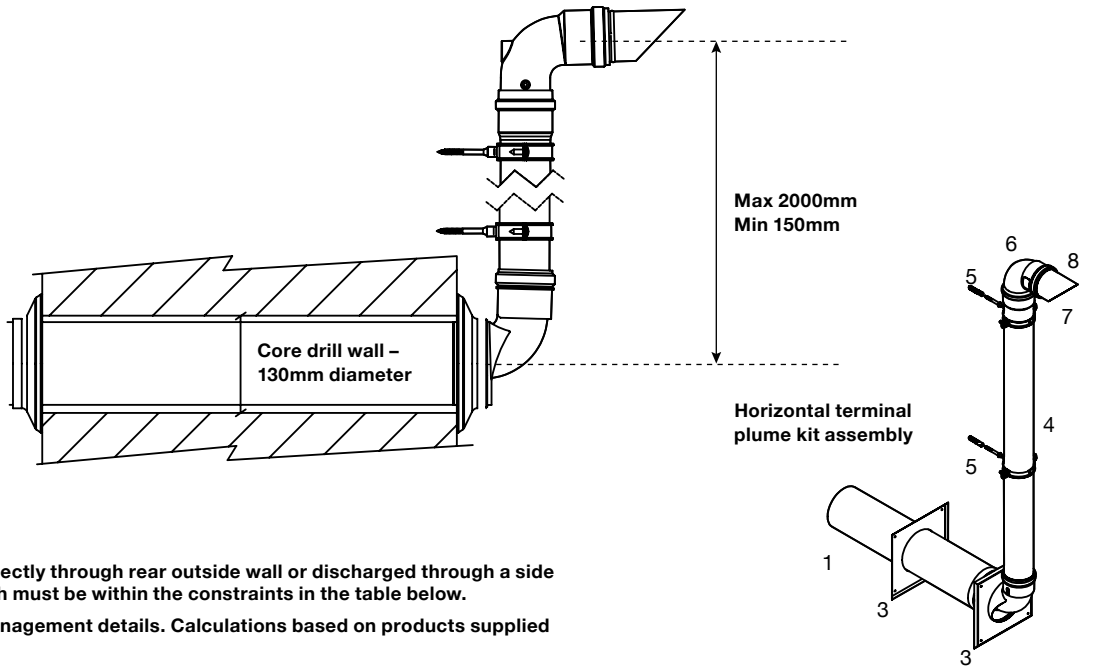
Quinta Ace 30 and 45 plume kits
80/125mm flue kit option QP05.

Plume kit termination positions must not be used to circumvent current standards and regulations, the point of exit determines the flue outlet position. The 80mm plastic discharge components can then be utilised to position the flue gases/plume to a suitable discharge point in line with current regulations.

Kit parts – PMK-horizontal terminal kit KT00335

1 PMK wall terminal
2 Boiler bend – not illustrated
3 Wall plates
4 Plume extension
5 Support bracket (80mm)
6 90° bend (80mm)
7 Flue outlet (80mm)
8 Bird guard
› 1 x siphon – MG410081165 (not illustrated)
› 1 x condensate adaptor kit – MG410087491 (not illustrated)

Horizontal flue kit 80/125mm



Flue can be taken directly through rear outside wall or discharged through a side wall left or right. Both must be within the constraints in the table below.

80/125mm Plume Management details. Calculations based on products supplied by Remeha.

Note 1: Both the concentric flue terminal and plume flue outlet positions of the Plume Management Kit (PMK) must comply with the current regulations and British Standards with regards to the minimum distances from openings, walls, etc.

Note 2: Fall to boiler ≥ 50mm/Mtr.

Room-Sealed (PMK) Data		Quinta Ace 30 – 80/125mm	Quinta Ace 45 – 80/125mm
Maximum horizontal run	Metres	6	6
Reduction length for each 45° bend	Metres	1.0	1.0
Reduction length for each 90° bend	Metres	2.0	2.0

Note 3: The table shows the maximum lengths allowed. Both the boiler bend (90° @ 80/25mm concentric) at the spigot and the PMK terminal bend (90° @ 80mm single skin) are included. Any further fittings must be subtracted from the maximum overall flue run by applying the respective reduction in lengths. **The maximum horizontal flue run is six metres.** The external components for this PMK are constructed of black aluminium.

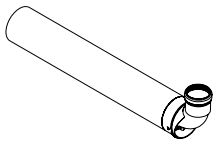
Note 4: The combination of internal concentric and external PMK must not exceed the overall concentric maximum.

Quinta Ace 30 and 45 plume kits
80/125mm plume management components part detail.

Plume kits

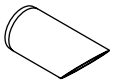
Note: The components listed below must only be used as part of the Plume Management Kit.

PMK-horizontal
Terminal – not supplied as a separate component

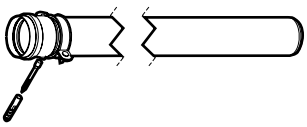


MG410082343
PMK – 90° bend (80mm)

MG410082344
PMK – horizontal outlet (80mm)

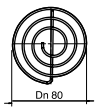


MG410082341
PMK – 1000mm flue extension piece c/w wall bracket (80mm)

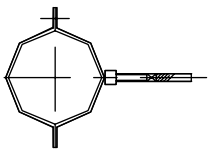


MG410082342
PMK – 45° bend (80mm)

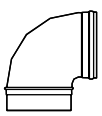
MG410082345
Bird mesh (80mm)



MG410087191
PMK – wall bracket (80mm)



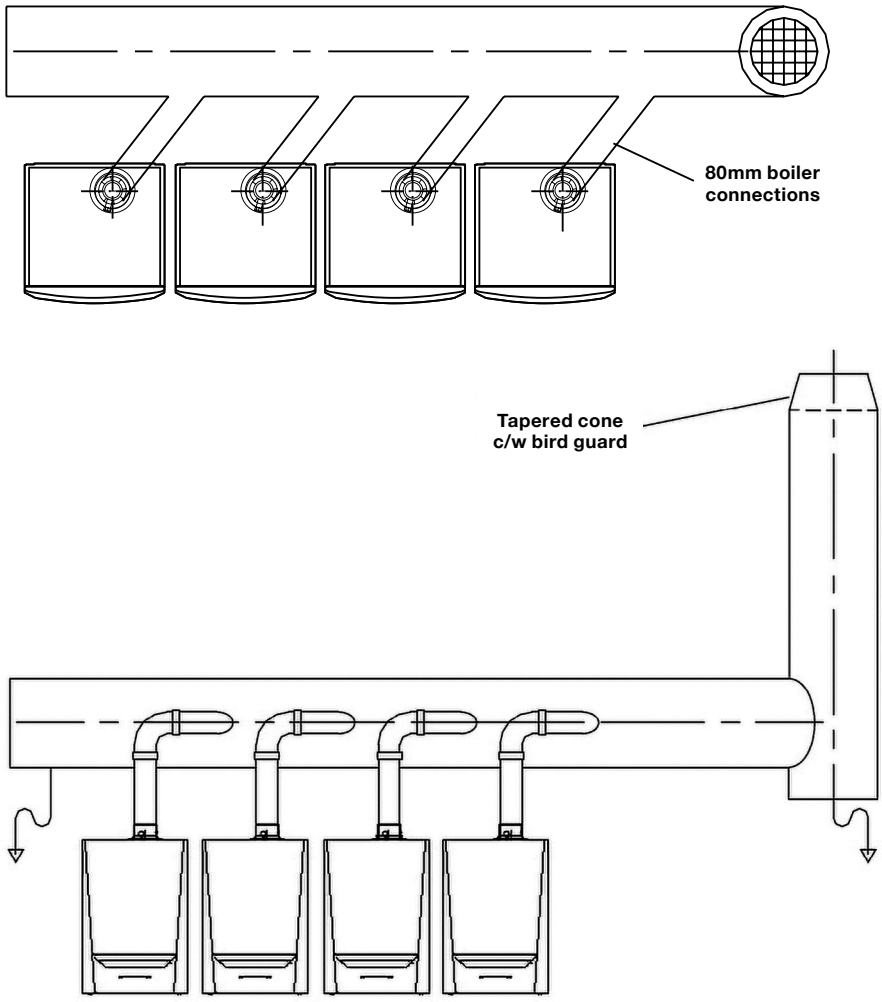
MG410084810
Boiler bend (80mm)



Quinta Ace 30 and 45 – multi-boiler installation on a combined header.

It is recommended you consult a flue specialist for the design, manufacture and installation of the flue system. For conventional or open-flue systems, on a typical multi-boiler installation with the flue combined into a single header and riser.

Installation on a combined header



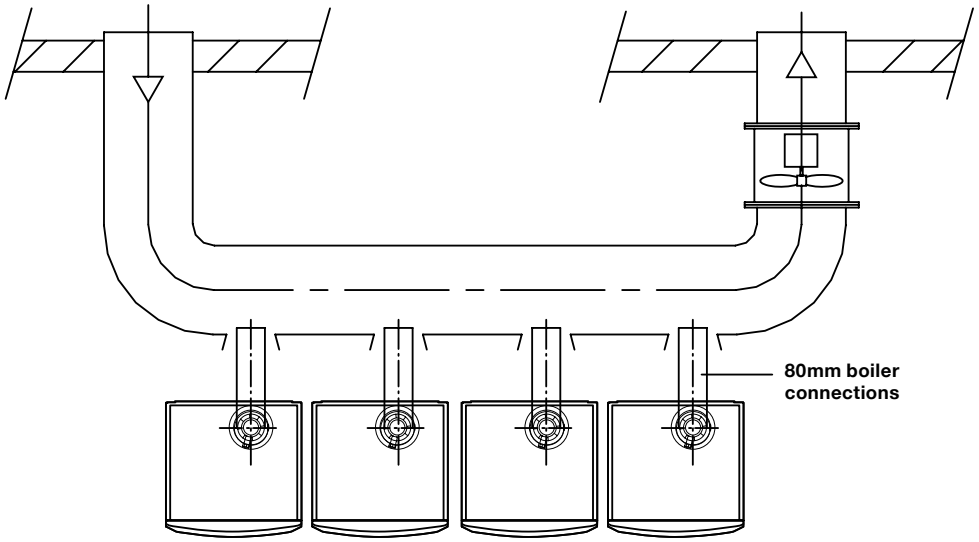
For illustration purposes only (we recommend installation of condensate collectors with drainage system and water sealed siphon to the spigot of each boiler).

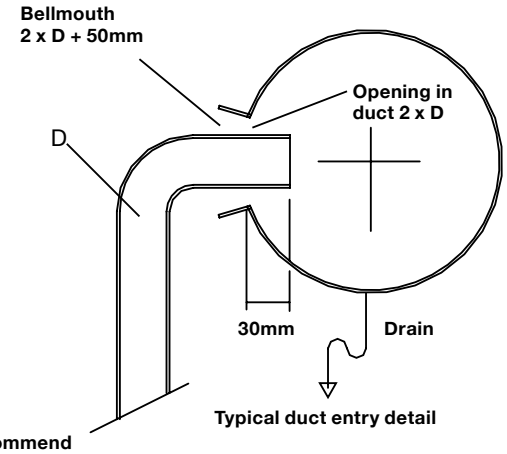
Quinta Ace 30 and 45 multi-boiler or single-boiler installation on a flue dilution system.

Remeha is unable to offer a flue dilution system and recommends the installer contacts a flue specialist to design and manufacture the system in accordance with the requirements of the British Standards.

A typical installation for a flue dilution system showing the flue break necessary for all pre-mix boilers to prevent the dilution fan affecting the gas/air ratio control system in the boiler.

Installation on a flue dilution system





Typical duct entry detail

For illustration purposes only (we recommend installation of condensate collectors, drainage system and water sealed siphon to the spigot of each boiler).

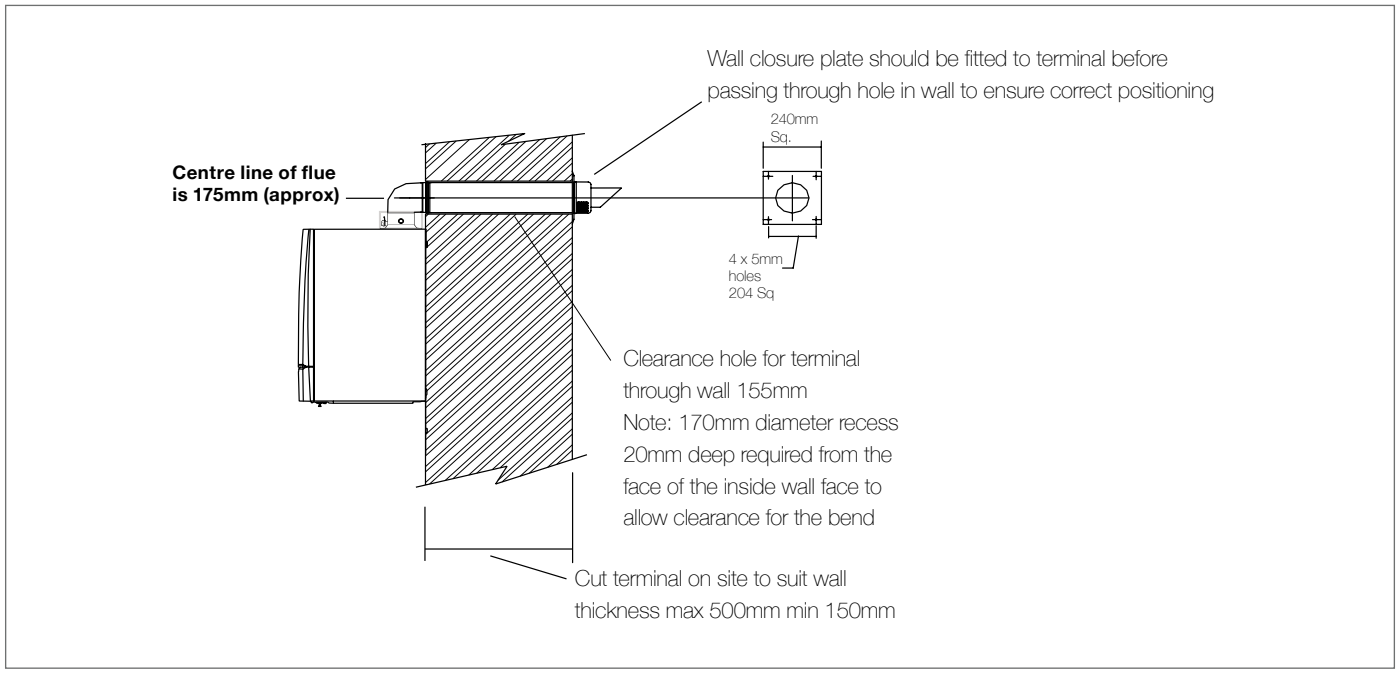
Quinta Ace 55, 65, 90, 115, 135 and 160
room-sealed, 100/150mm horizontal concentric flue kit.

For use when the boiler/s are mounted on and flued through the outside wall and on a typical single-boiler installation – can also be used for multiple boilers but each must have its own flue system. At a minimum of 530mm centres and never immediately above another. When installing two boilers only, it is also possible to install the external terminal wall plates touching each other.

Kit parts – MG410082981
(max wall thickness 500mm)

› 1 x horizontal terminal

Horizontal flue kit 100/150mm

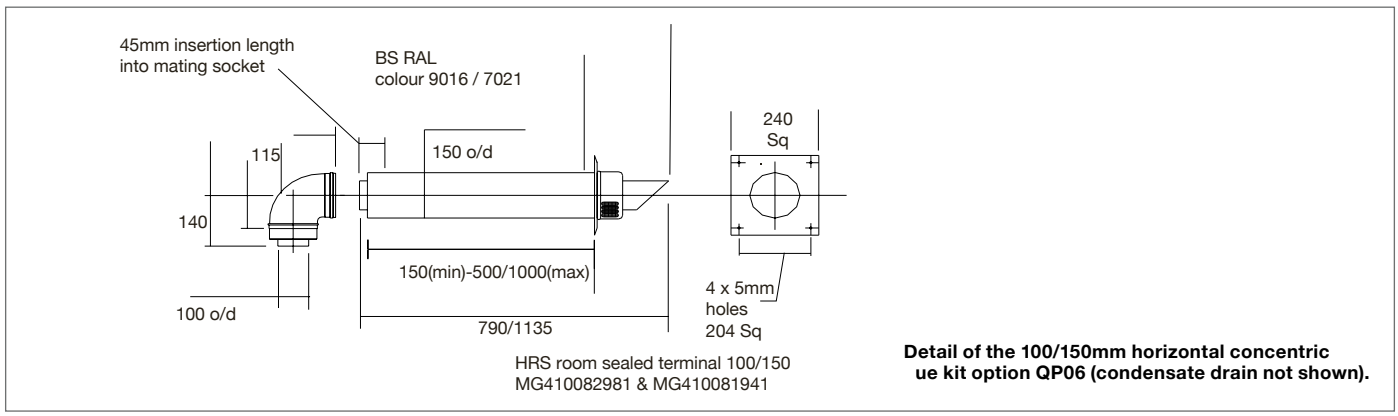


Note 1: Fall to boiler ≥ 50mm/Mtr. **Note 2:** Boiler bend and wall plate are included.

Kit parts – MG410081941
(extended version max wall thickness 1000mm)

› 1 x horizontal terminal

Horizontal flue kit 100/150mm



Detail of the 100/150mm horizontal concentric ue kit option QP06 (condensate drain not shown).

Note 3: All dimensions are in mm. **Note 4:** Boiler bend and wall plate are included.

Quinta Ace 55, 65, 90, 115, 135 and 160
room-sealed, 100/150mm vertical concentric flue kit.

For use when the flue is discharged vertically through the roof and on a typical single-boiler installation. It can also be used for multiple boilers but each must have its own flue system and be separated by a minimum of 300mm if at the same height. Refer to the relevant British Standard if this is not the case.

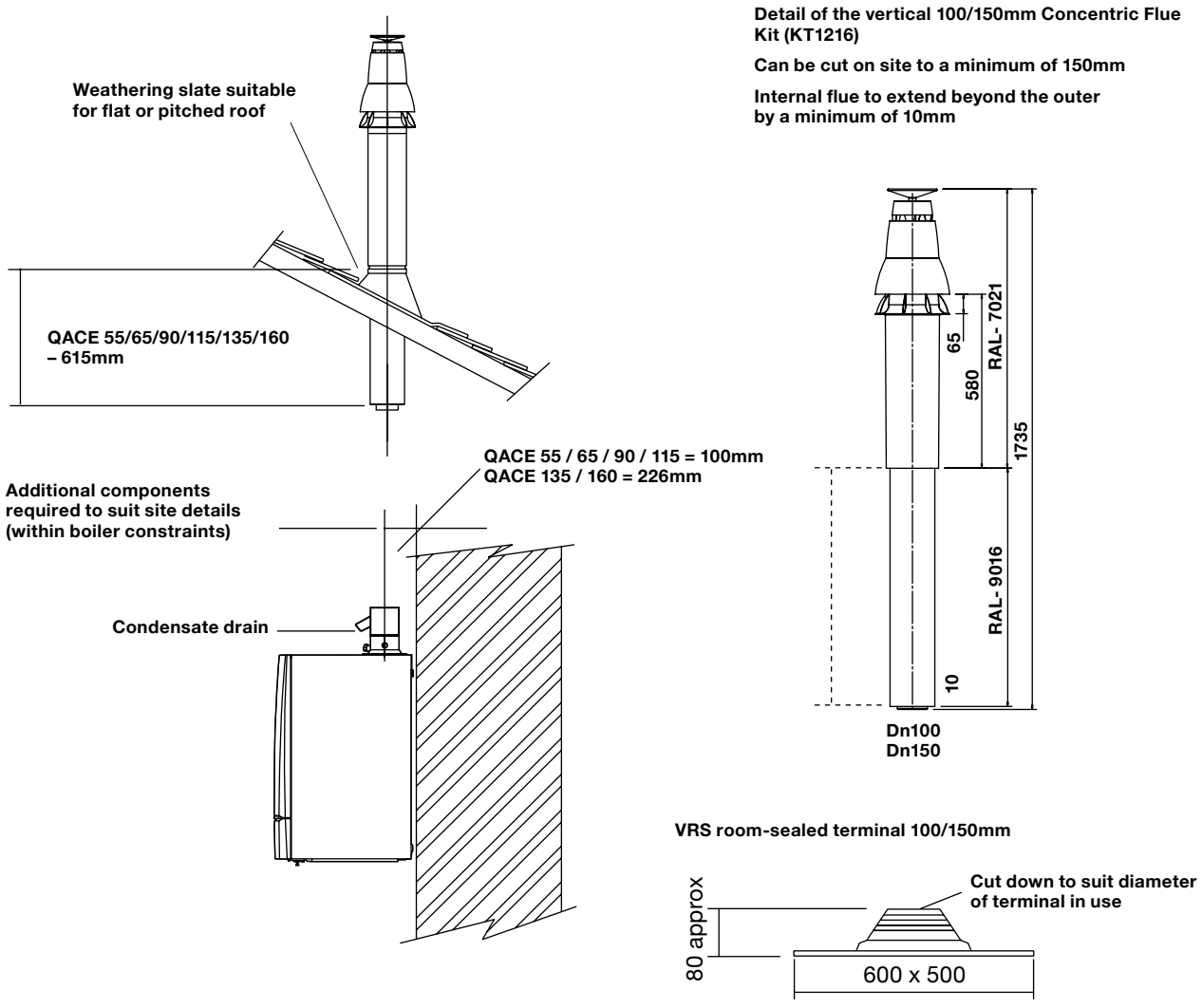
Kit parts – KT216

- 1 x vertical terminal – MG410084862
- 1 x universal roof seal pack – VE001

Kit parts – KT00310

- Contains optional condensate drain

Vertical flue kit 100/150mm



Note: It is recommended a condensate drain is used for vertical flue lengths above 1.5m.

Quinta Ace 55, 65, 90, 115, 135 and 160
100/150mm room-sealed calculation data to determine maximum flue runs.

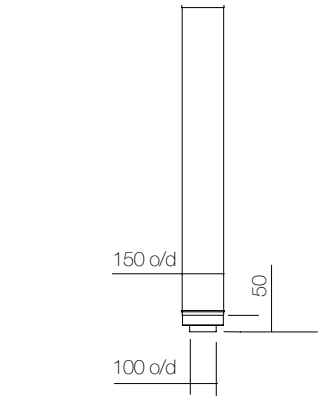
Calculation data based on rigid pipe flue products supplied by Remeha.

Room Sealed Flue Data		Quinta Ace 55 100/150mm	Quinta Ace 65 100/150mm	Quinta Ace 90 100/150mm	Quinta Ace 115 100/150mm	Quinta Ace 135 100/150mm	Quinta Ace 160 100/150mm
Maximum overall flue run	Metres	20	18	17	13	5	6
Reduction length for each 45° bend	Metres	1.0	1.0	1.0	1.0	1.0	1.0
Reduction length for each 90° bend	Metres	2.0	2.0	2.0	2.0	2.0	2.0

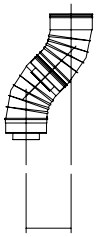
Note 1: Maximum horizontal flue run is six metres. Minimum fall back is 2° or 50mm per metre.

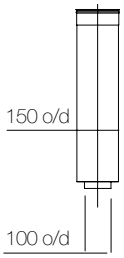
100/150mm concentric flue system components for room-sealed operation

Note 2: The components listed below are not for external use.

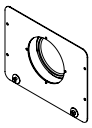


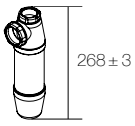
Standard length
1000mm Part No. MG410084336
500mm Part No. MG410084335


150mm Offset



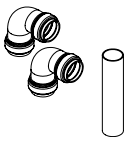
Cuttable length
1000mm – Part No. MG410082318
500mm – Part No. MG410082317

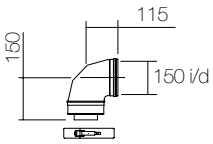

Internal wall plate
Part No. MG410081303



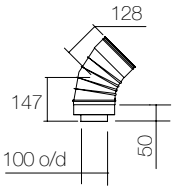
Siphon
Part No MG410081165

Silicon seal ring (flue side)
Part No. MG410027356

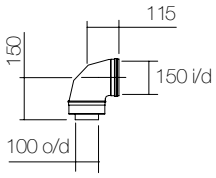

Siphon adaptor kit
Part No MG410087491



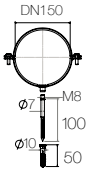
90° bend
Part No. MG410084310



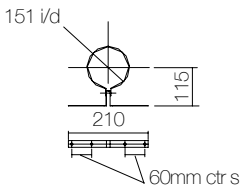
45° bend
Part No. MG410084313



90° boiler short bend
Part No. MG410084360
(clamp not required)

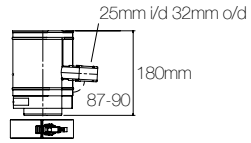


Extended wall bracket
Part No. MG410084331



Wall bracket
Part No. MG410087915


Clamp band
Part No. MG410087656
(one supplied with each component except MG410084360)



Condensate drain
Part No. MG410084322

Note 3: All dimensions are in mm.

Quinta Ace 55, 65, 90, 115, 135 and 160
room-sealed two zone CLV flue kit.

The Quinta Ace boiler can be installed in areas with different pressure zones if connected to a C53 flue system. An integral non-return valve is fitted as standard.

Combustion air supply and combustion gas discharge are possible in various pressure zones, semi-CLV systems. With the exception of coastal areas, the maximum permissible difference in height between the combustion air supply and the combustion gas discharge is 36m.

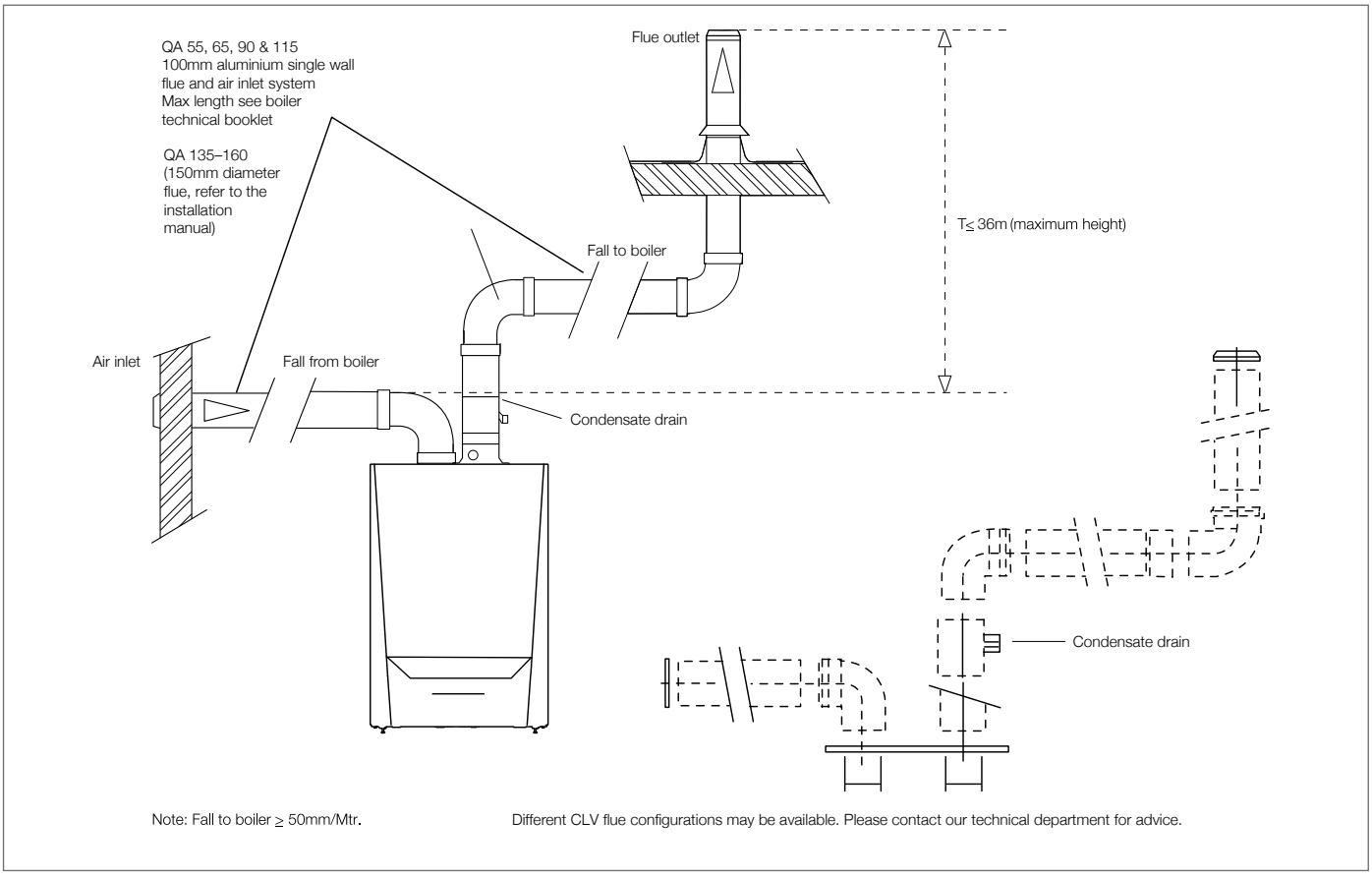
Kit parts – KT030 (QA 55, 65, 90, 115)

- 1 x flue connection – S101626
- 1 x flue terminal – PU001
- 1 x air inlet – PU002
- 1 x condensate drain – MG410085130 x siphon – MG410081165 x condense adaptor kit – MG41008749

Kit parts – KTS00491 (QA135–160)

- 1 x adapter air inlet 150mm – 7639307
- 1 x adapter flue gas outlet 150mm – 7637751
- 1 x condensate trap PP 150mm – MG410070327
- 1 x siphon PP h = 150mm – MG410081165
- 1 x condense adapter kit – MG410087491

Quinta Ace 55, 65, 90 and 115 two-zone flue kit 100/100mm (Quinta Ace 135–160 kit 150/150mm)



Note 1: Fall to boiler ≥ 50mm/Mtr.

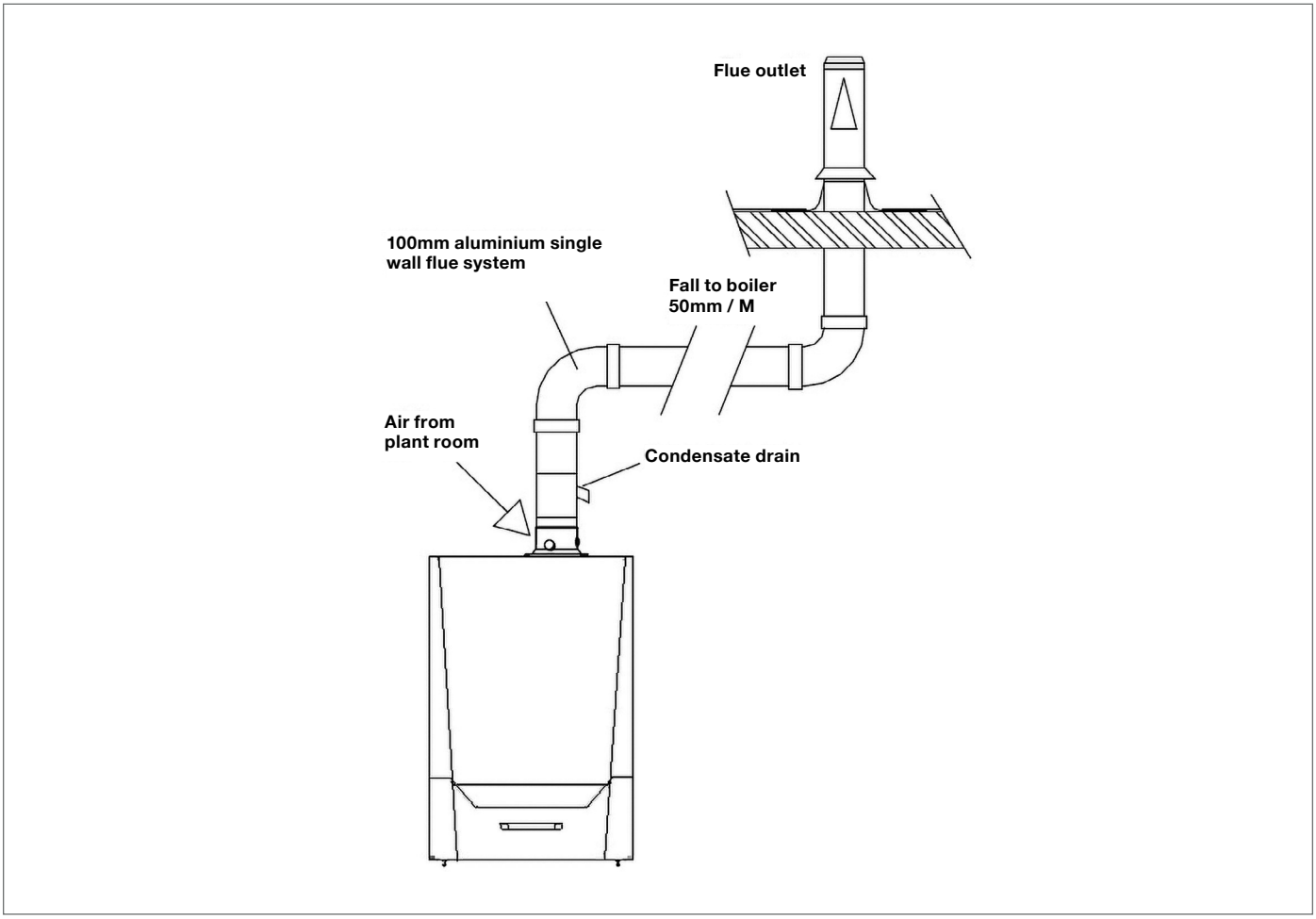
Room-Sealed Flue Data		Quinta Ace 55 100mm Ø	Quinta Ace 65 100mm Ø	Quinta Ace 90 100mm Ø	Quinta Ace 115 100mm Ø	Quinta Ace 135 150mm Ø	Quinta Ace 160 150mm Ø
Maximum length	Metres	27	16	17	14	40	40
Equivalent length of 45° elbow	Metres	1.4	1.4	1.4	1.4	1.2	1.2
Equivalent length of 90° elbow	Metres	4.9	4.9	4.9	4.9	2.1	2.1

Note 2: Maximum permitted height difference between combustion air supply and flue gas outlet is 36m.

Quinta Ace 55, 65, 90, 115, 135 and 160
conventional or open-flue systems.

Typical single-boiler installation. It can also be used for multiple boilers with each boiler having its own flue system.

Conventional or open flue systems

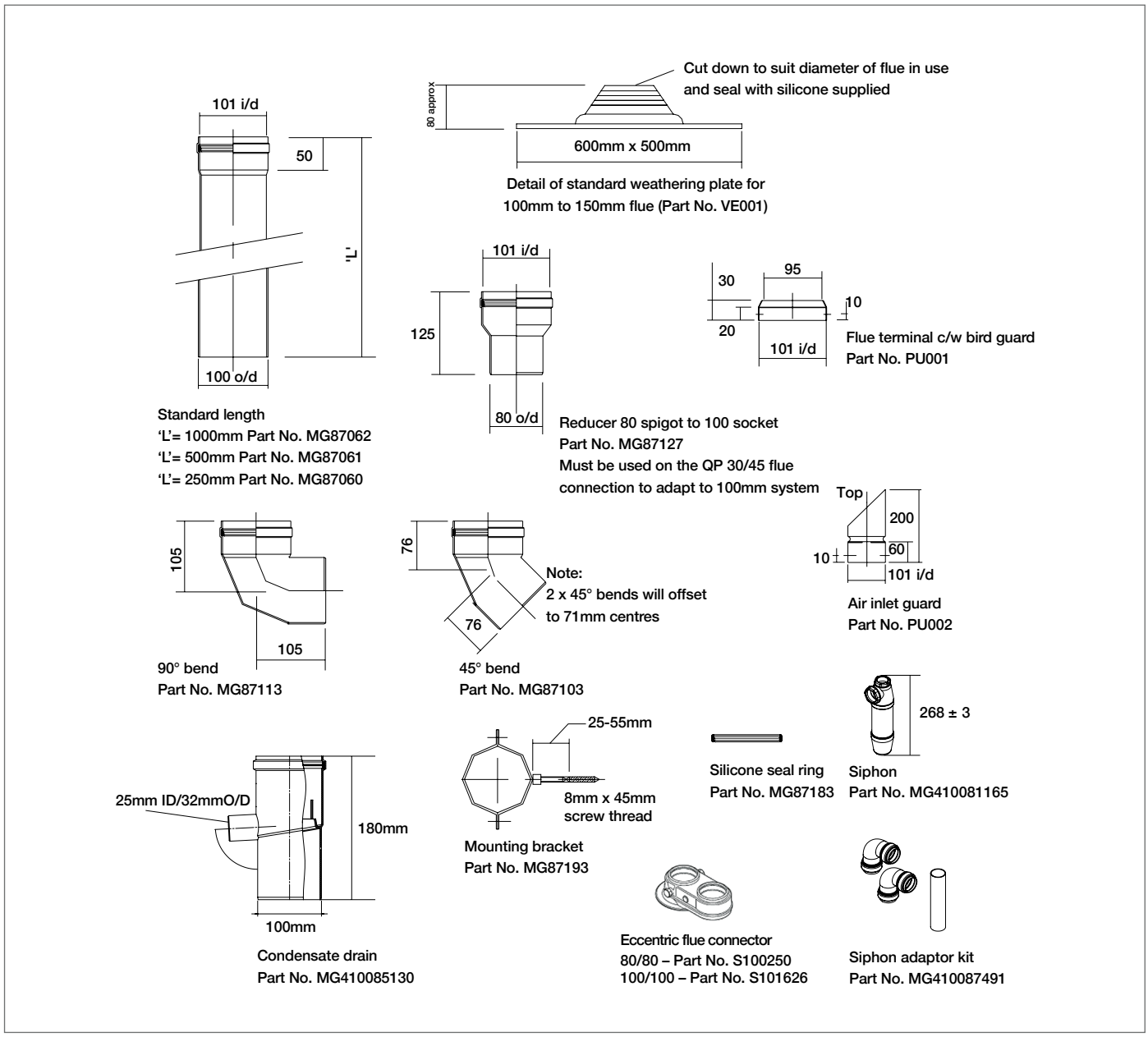


Open Flue Data (100mm)		Quinta Ace 55 100mm Ø	Quinta Ace 65 100mm Ø	Quinta Ace 90 100mm Ø	Quinta Ace 115 100mm Ø	Quinta Ace 135 100mm Ø	Quinta Ace 135 150mm Ø	Quinta Ace 160 100mm Ø	Quinta Ace 160 150mm* Ø
Maximum overall flue run	Metres	39	26	24	19	12	40	8	40
Reduction length for each 45° bend	Metres	1.4	1.4	1.4	1.4	1.4	1.2	1.4	1.2
Reduction length for each 90° bend	Metres	4.9	4.9	4.9	4.9	4.9	2.1	4.9	2.1

Note: Table shows max length of flue. Greater distances can be achieved by using larger diameter flue. Please refer to Remeha technical department for further details. *Not supplied by Remeha.

Quinta Ace 55, 65, 90, 115, 135 and 160
100mm single wall aluminium flue components.

Aluminium flue components



Note 1: All dimensions are in mm.

Note 2: The only parts that are suitable for external use are VE001, PU001 and PU002.

Quinta Ace 55, 65, 90, 115, 135 and 160
100/150mm flue kit option QP11.

Plume kit termination positions must not be used to circumvent current standards and regulations. The point of exit determines the flue outlet position. The 100mm aluminium discharge components can then be used to position the flue gases/plumes to a suitable discharge point, again in line with current regulations.

100/150mm plume management kits QP11 Kit part – KT00336
PMK-horizontal terminal kit

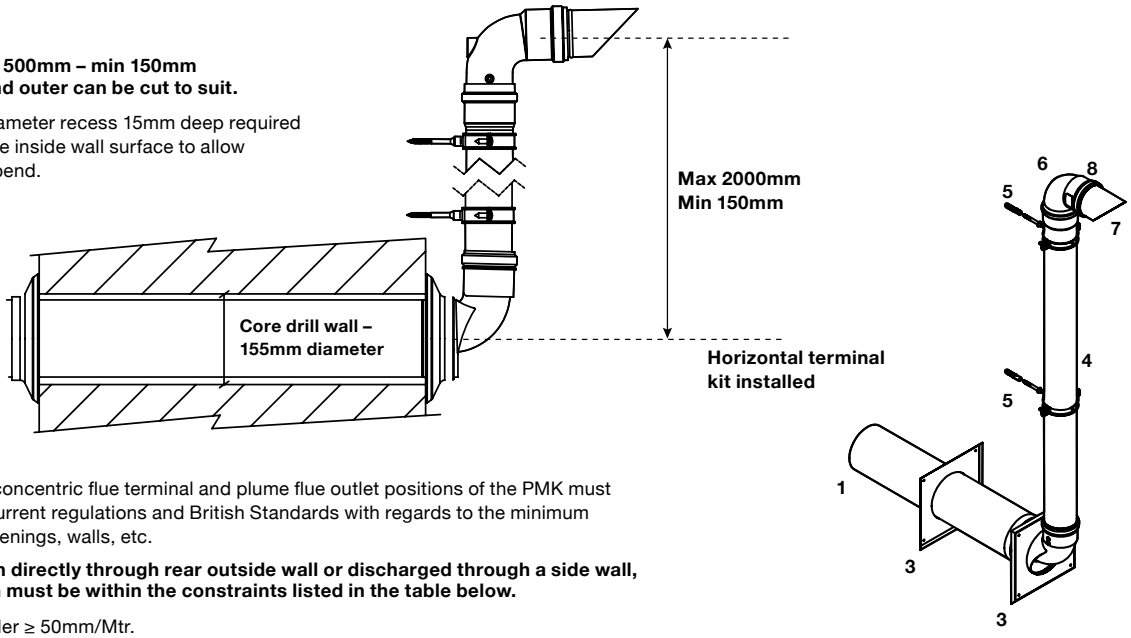
1 PMK wall terminal
2 Boiler bend – not illustrated
3 Wall plates
4 Plume extension
5 Support bracket (100mm)
6 90° bend (100mm)
7 Flue outlet (100mm)
8 Bird guard

› 1 x siphon – MG410081165 (not illustrated)
› 1 x condensate adaptor kit – MG410087491 (not illustrated)

100/150mm Plume Management details (calculation based on products supplied by Remeha)

Wall depth – max 500mm – min 150mm
Terminal inner and outer can be cut to suit.

Note 1: 170mm diameter recess 15mm deep required from the face of the inside wall surface to allow clearance for the bend.



Note 2: Both the concentric flue terminal and plume flue outlet positions of the PMK must comply with the current regulations and British Standards with regards to the minimum distances from openings, walls, etc.

Flue can be taken directly through rear outside wall or discharged through a side wall, left or right. Both must be within the constraints listed in the table below.

Note 3: Fall to boiler ≥ 50mm/Mtr.

Room-Sealed (PMK) Flue Data		Quinta Ace 55 100mm/ 150mm	Quinta Ace 65 100mm/ 150mm	Quinta Ace 90 100mm/ 150mm	Quinta Ace 115 100mm/ 150mm	Quinta Ace 135 100mm/ 150mm	Quinta Ace 160 100mm/ 150mm
Maximum horizontal run	Metres	6	6	6	6	6	6
Reduction length for each 45° bend	Metres	1.2	1.2	1.2	1.2	1.2	1.2
Equivalent length of 90° bend	Metres	2.8	2.8	2.8	2.8	2.8	2.8

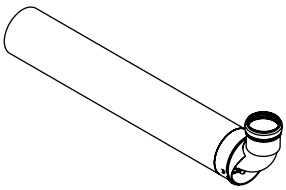
Note 4: The table shows the maximum lengths allowed. Both the boiler bend (90° @ 100/150mm concentric) at the spigot and the PMK terminal bend (90° @ 100mm single skin) are included. Any further fittings must be subtracted from the maximum overall flue run by applying the respective reduction in lengths. **The maximum horizontal flue run is six metres.** The external components for this PMK are constructed of black aluminium. If the flue is greater than one metre, then provision of a condense drain is required.

Note 5: The combination of internal concentric and external PMK must not exceed the overall concentric maximum.

Quinta Ace 55, 65, 90, 115, 135 and 160
100/150mm plume management components part detail.

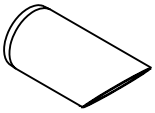
Components part detail

PMK – horizontal terminal
Not supplied as a separate component

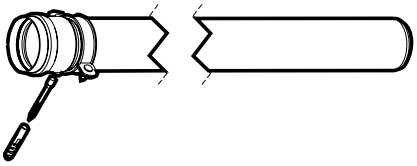


MG410081753
PMK – 90° bend (100mm)

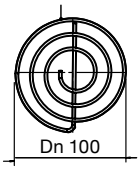
MG410081754
PMK – horizontal outlet (100mm)



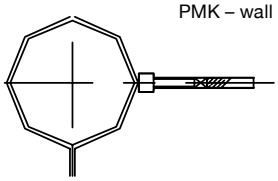
MG410081751
PMK – 1000mm glue extension piece c/w wall bracket (100mm)



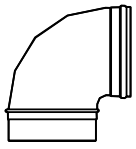
MG410081752
PMK – 45° bend (100mm)



MG410081755
Bird mesh 100mm



MG410087193
PMK – wall bracket (100mm)



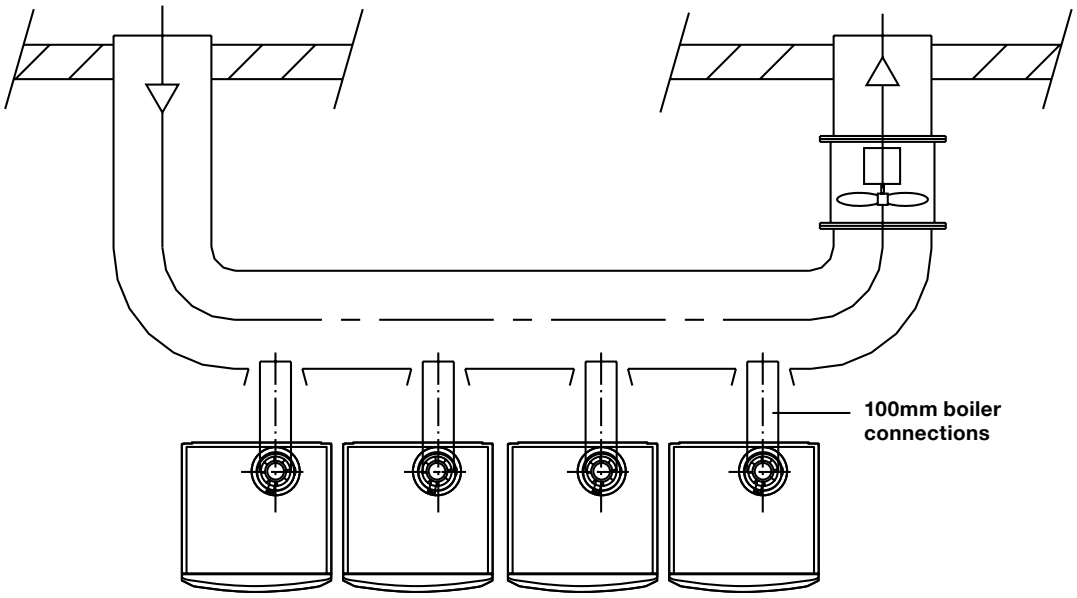
MG410084360
Boiler bend

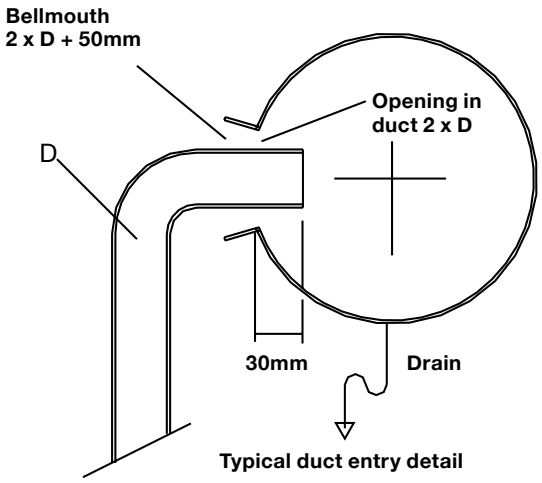
Note: The components listed above must only be used as part of the Plume Management Kit.

Quinta Ace 55, 65, 90, 115, 135 and 160
multi or single-boiler installation on a flue dilution system.

Remeha is unable to offer a flue dilution system and recommends that the installer contacts a flue specialist to design and manufacture the system in accordance with the requirements of the British Standards. Typical multi-boiler installation for a flue dilution system showing the flue break necessary for all pre-mix boilers to prevent the dilution fan affecting the gas/air ratio control system in the boiler.

Flue dilution system





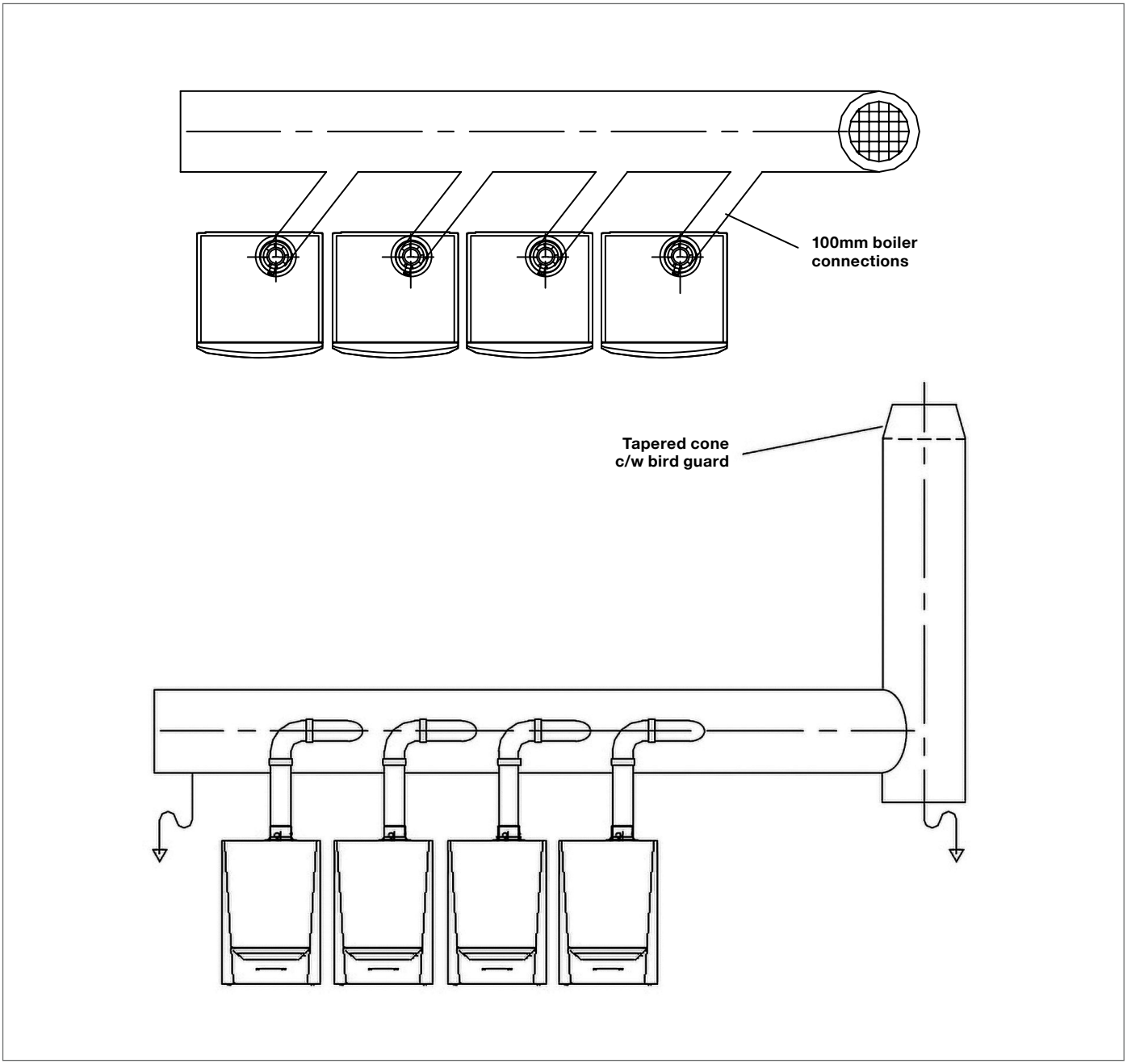
Typical duct entry detail

For illustration purposes only (we recommend installation of condensate collectors with drainage system and water sealed siphon to the spigot of each boiler).

Quinta Ace 55, 65, 90 and 115
multi-boiler installation on a combined header.

It is recommended you consult a flue specialist for the design, manufacture and installation of the flue system. For conventional or open-flue systems in a typical multi-boiler installation with the flue combined into a single header and riser.

Multi-boiler installation



For illustration purposes only (we recommend installation of condensate collectors with drainage system and water sealed siphon to the spigot of each boiler).

Note: Using 90° boiler connections into the header may result in larger headers and risers being required.

Fluecade system.

The Fluecade system can only be used on the Quinta Ace 30, 45, 55, 65, 90 and 115 boilers from two boilers up to a maximum of six in-line and back-to-back.

The flue is designed for internal use in a plant room and not for external use. The system comes complete with all associated components. Optional adaptors are available which can be connected to the last boiler connection. Refer to table on page 60.

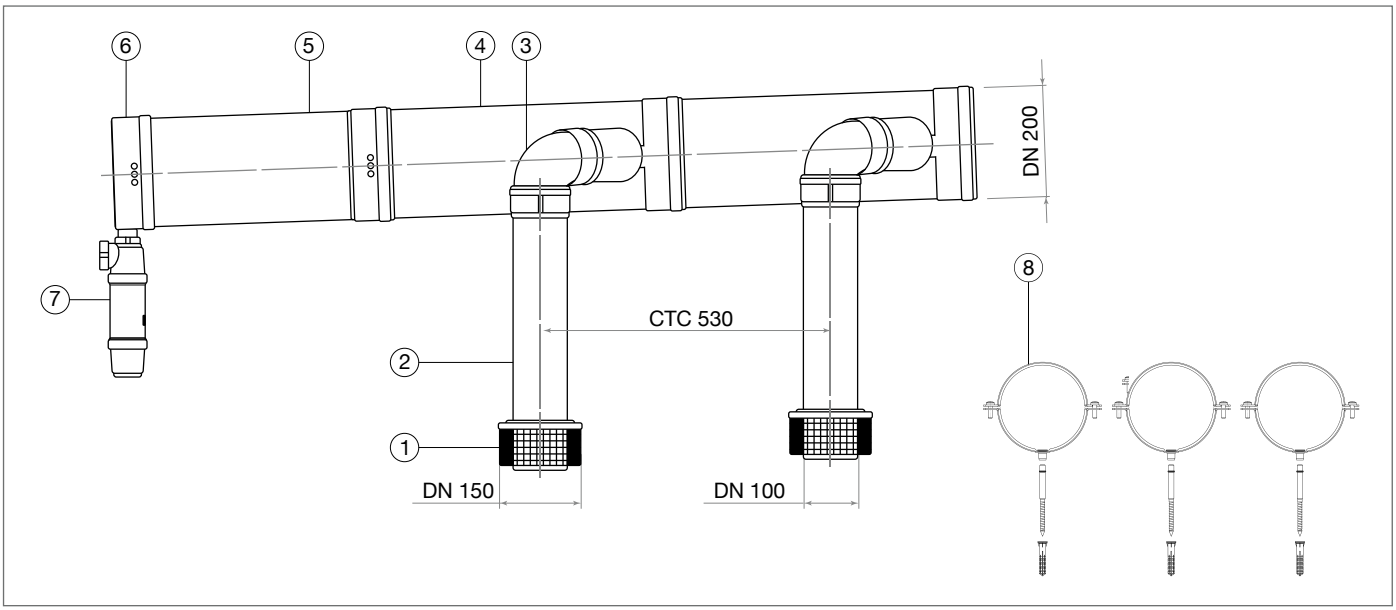
The flue can then continue to the external exit point and termination using suitable flue products/components. The flue header is supplied in 200mm only, and is CE approved. Only the components and accessories listed on pages 55 to 59 can be fitted as within the fluecade system.

The basic PP 200mm fluecade header kit is suitable for the connection of two Quinta Ace boilers in an in-line configuration.

Please refer to table on page 60 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts – MG410121372

In-line confi uration



Key					
1	Air inlet grill 100-150 Part No. MG410075435 x 2	2	Extension PP 100 L = 500 Part No. MG410085481 x 2	3	Elbow short PP 100-90° Part No. MG410085141 x 2
4	Collector PP 200 1 x 100 45° L = 585 Part No. MG410076748 x 1	5	Extension PP 200 L = 500 Part No. MG410 0704 01 x 1	6	Cover PP 200 and Condensate Part No. MG410071526 x 1
7	Syphon PP h = 150, Part No. MG410081165 x 1	8	Wall bracket 150 Part No. MG410087198 x 3	9	

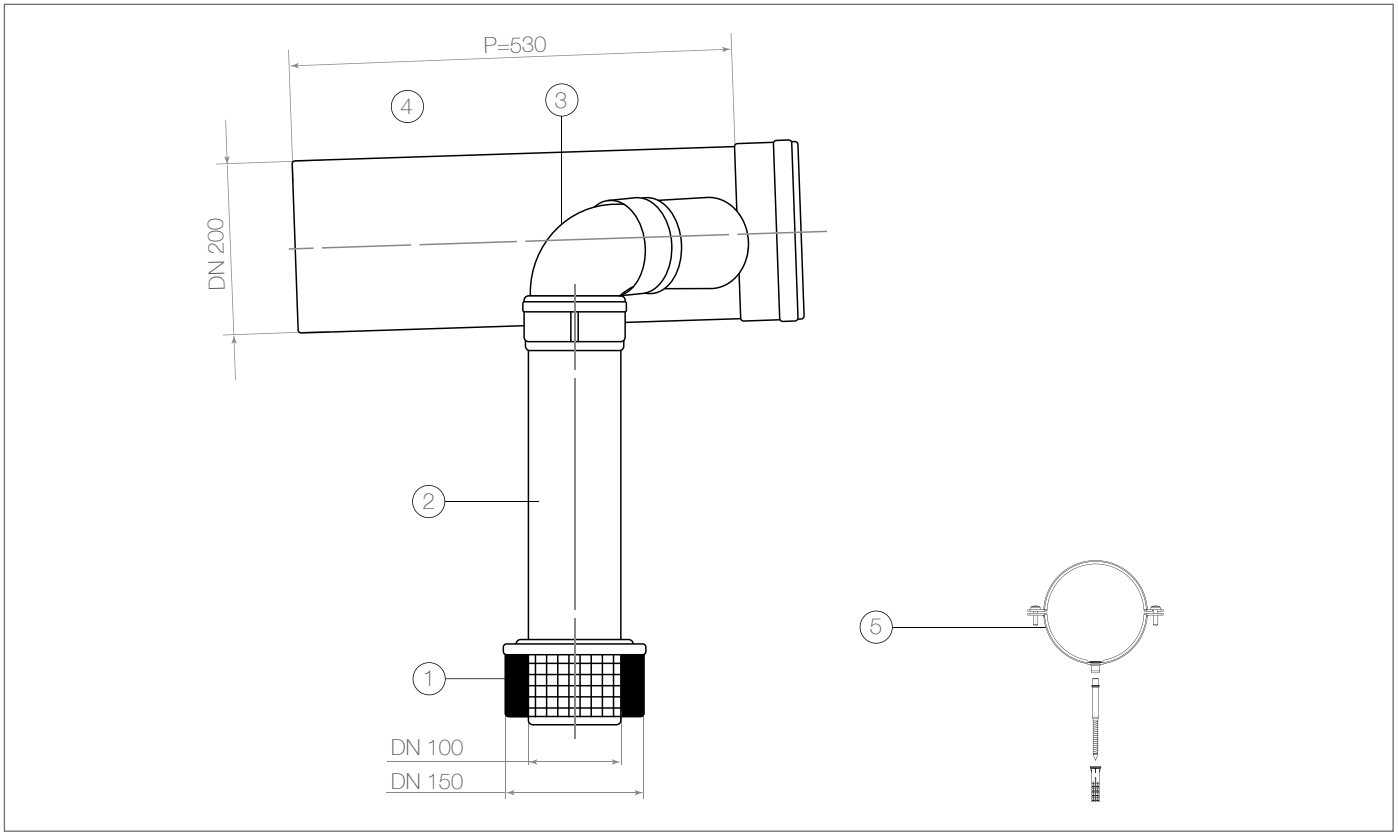
Note 1: The Quinta Ace 30 and Quinta Ace 45 boilers also require the 80/125 boiler connection kit MG410076724.
Note 2: Fall ≥ 50mm/Mtr.

This basic PP 200mm fluecade extension kit is suitable for the connection of an extra Quinta Ace boiler – in an in-line configuration.

Please refer to table on page 60 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts – MG410121373

In-line confi uration



Key					
1	Air inlet grill 100-150 Part No. MG410075435 x 1	2	Extension PP 100 L = 500 Part No. MG410085481 x 1	3	Elbow short PP 100-90° Part No. MG410085141 x 1
4	Collector PP 200 1 x 100 45° L = 570 Part No. MG41076748 x 1	5	Wall bracket 200 Part No. MG410087198 x 1		

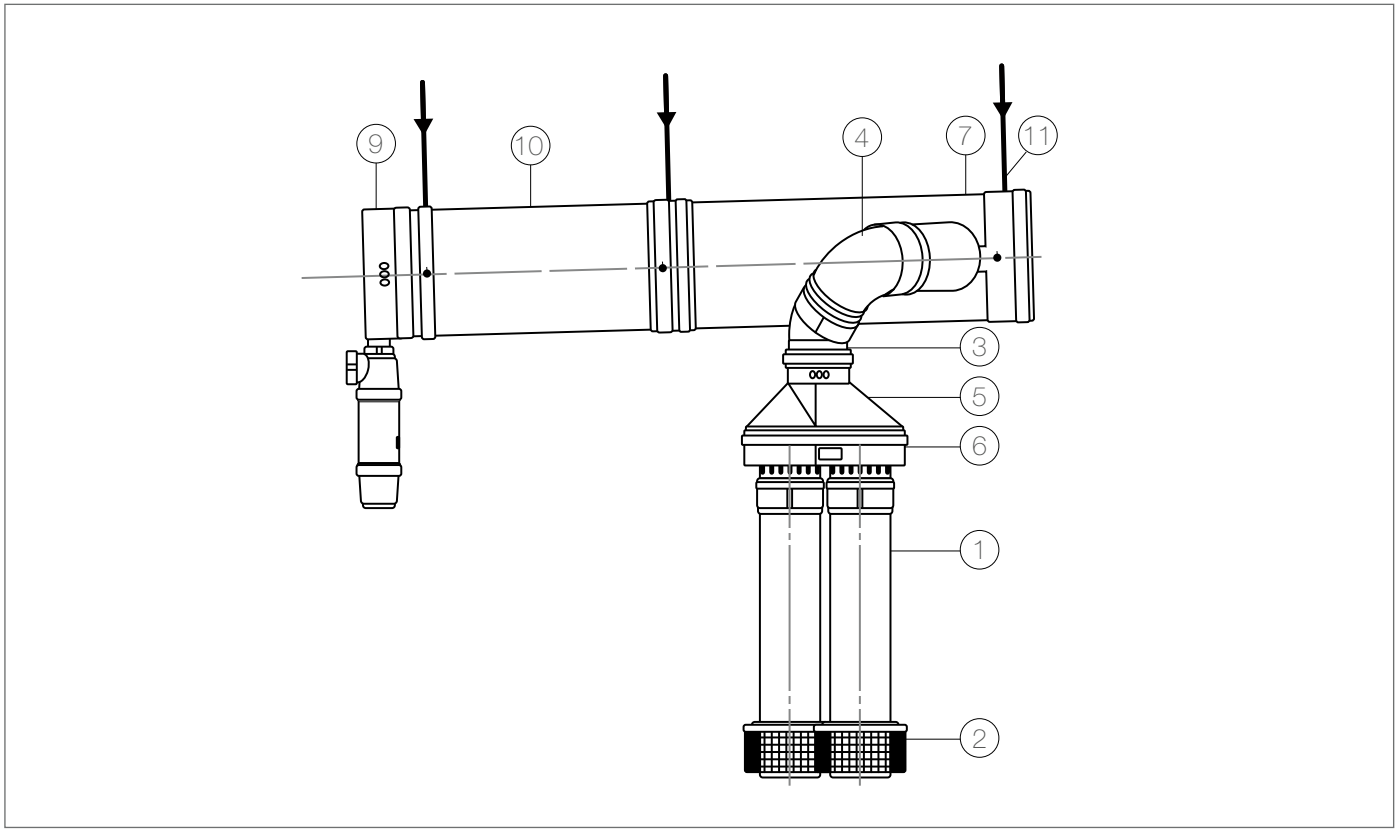
Note 1: The Quinta Ace 30 and Quinta Ace 45 boilers also require the 80/125 boiler connection kit MG410076724.
Note 2: Fall ≥ 50mm/Mtr.

This basic PP 200mm fluecade header kit is suitable for two Quinta Ace boilers – in a back-to-back configuration.

Please refer to table on page 60 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts – MG410076746

Back-to-back con guration



Key					
1	Extension PP 100 L = 500 Part No. MG410085481 x 1	2	Air inlet grill 100-150 Part No. MG410075435 x 2	3	Elbow short PP 100-45° Part No. MG410085142 x 2
4	Elbow short PP 100-90° Part No. MG410085141 x 2	5	Reducer PP 150-100 Part No. MG410071518 x 2	6	Expander PP 100-150 Part No. MG410085635 x 2
7	Collector PP 200, 2 x 100 45° L = 585 Part No. MG410081949 x 1	8	Syphon PP h = 150 Part No. MG410081165 x 1	9	Cover PP 200 and Condensate Part No. MG410071526 x 1
10	Extension PP 200 L = 500 Part No. MG410070401 x 1	11	Wall bracket 200 Part No. MG410087198 x 3		

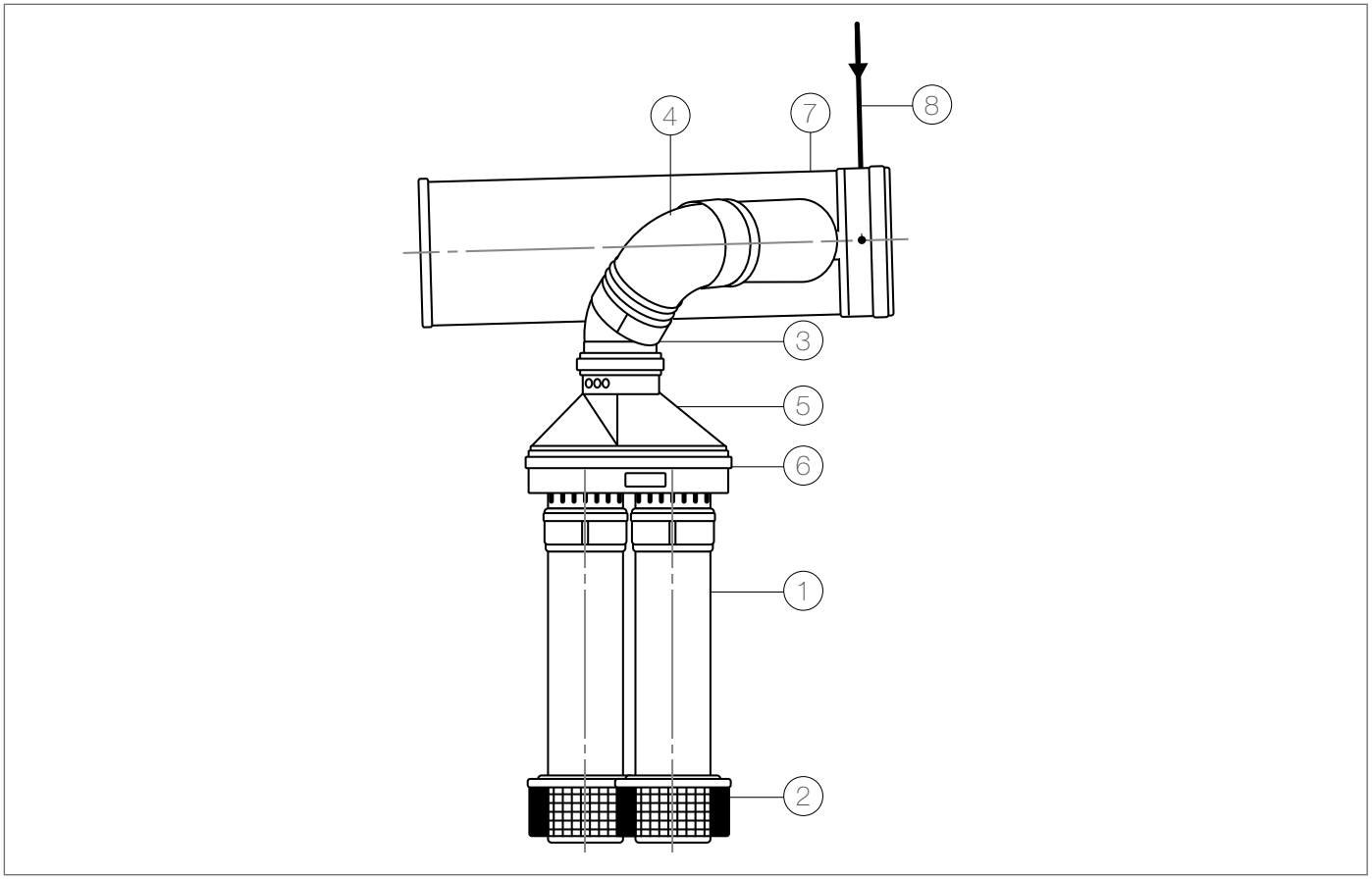
Note 1: The Quinta Ace 30 and Quinta Ace 45 boilers also require the 80/125 boiler connection kit (1 x MG410076724 per boiler).
Note 2: Fall ≥ 50mm/Mtr.

This basic PP 200mm fluecade extension kit is suitable for two Quinta Ace boilers – in a back-to-back configuration.

Please refer to table on page 60 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts – MG410076747

Back-to-back con guration



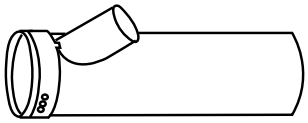
Key					
1	Extension PP 100 L = 500 Part No. MG410085481 x 2	2	Air inlet grill 100-150 Part No. MG410075435 x 2	3	Elbow short PP 100-45° Part No. MG410085142 x 2
4	Elbow short PP 100-90° Part No. MG410085141 x 2	5	Reducer PP 150-100 Part No. MG410071518 x 2	6	Expander PP 100-150 Part No. MG410085635 x 2
7	Collector PP 200, 2 x 100 45° L = 585 Part No. MG410081949 x 1	8	Wall bracket 200 Part No. MG410087196 x 1		

Note 1: Quinta Ace 30 and Quinta Ace 45 boilers also require 80/125 boiler connection kit (1 x MG410076724 per boiler).
Note 2: Fall ≥ 50mm/Mtr.

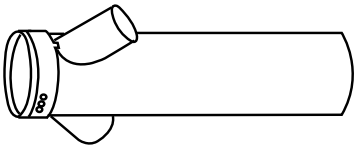
Fluecade components.

Fluecade components

Flue header 200mm Part No. MG410076748



Flue header 200mm Part No. MG410081949

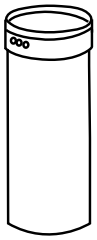


Quinta Pro 30/45 80mm x 125mm boiler connection Part No. MG410076724

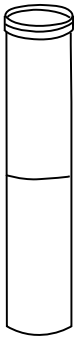
Air intake grill (parallel) 80mm Part No. MG410076039
Air intake grill (parallel) 100mm Part No. MG410079314

Air intake grill (concentric) 80/125mm Part No. MG410075434
Air intake grill (concentric) 100/150mm Part No. MG410075435

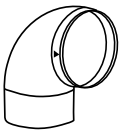
Straight flue 200mm x 500mm Part No. MG410070401



Straight flue 200mm x 770mm Part No. MG410070420



200mm 90° elbow Part No. MG410070411



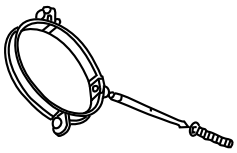
200mm 45° elbow Part No. MG410070412

Note: All PP Fluecade components are designed for internal use only.

Fluecade components.

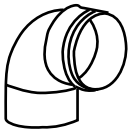
Components part detail

Wall bracket 200mm Part No. MG410087198



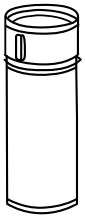
100mm 45° elbow Part No. MG410085142

90° elbow 100mm
Part No. MG410085141

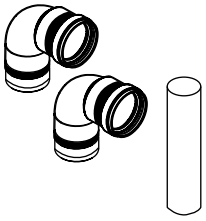


Seal HR – EPDM 200mm Part No. MG410027360
Seal HR – EPDM 150mm Part No. MG410027358
Seal HR – EPDM 100mm Part No. MG410027356

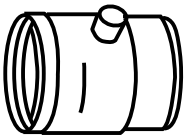
Straight flue 100mm x 500mm
Part No. MG410085481



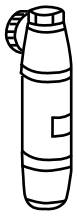
Condense adaptor
Kit parts – MG410087491



Condensate trap with drain point 200mm
Part No. MG410071526



Siphon Part No. MG410087490

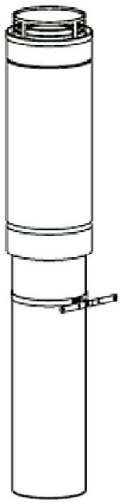


Note: All PP Fluecade components are designed for internal use only.

Fluecade
components.

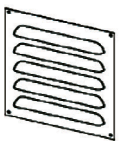
Fluecade

200mm PP roof terminal Part No. MG410070439

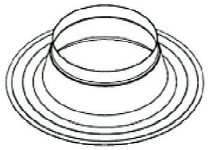


Straight flue 200mm x 2000mm Part No. MG410070404

Ventilation grate 250mm x 300mm (175cm²)
Part No. MG410087433

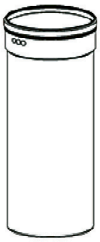


200mm flat roof flashing Part No. MG410079612

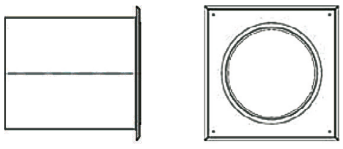


200mm chimney cap Part No. MG410087398

Straight flue 200mm x 1000mm Part No. MG410070402



Cover plate 300mm x 300mm with sleeve
250mm x 300mm Part No. MG410081362



Note: All PP Fluecade components are designed for internal use only.

Data to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

The table below only applies to the Remeha Fluecade (PP) system (for internal installations only)

Boiler	Unit	QAce30	QAce45	QAce55	QAce65	QAce90	QAce115
Heat input net kW	kW	30.0	41.2	56.5	62	86	107.9
Max back pressure at full load	Pa	70	150	120	100	160	220
Max back pressure at ignition	Pa	50	50	50	50	50	50

Heat input kW	Configuration	H=5M	H=9M	H=13M	H=17M
59.6/81.6	2 x QAce 30/45	150	150	150	150
89.4/122.4	3 x QAce 30/45	150	150	150	150
119.2/163.2	4 x QAce 30/45	150	150	150	150
149/204	5 x QAce 30/45	150	150	150	150
178.8/244.8	6 x QAce 30/45	150	150	150	150
110.6	2 x QAce 55	150	150	150	150
165.9	3 x QAce 55	150	150	150	150
221.2	4 x QAce 55	150	150	150	150
276.5	5 x QAce 55	150	150	150	150
331.8	6 x QAce 55	150/200	150/200	150/200	150/200
123	2 x QAce 65	150	150	150	150
184.5	3 x QAce 65	150	150	150	150
246	4 x QAce 65	150/200	150/200	150/200	150/200
307.5	5 x QAce 65	150/200	150/200	150/200	150/200
369	6 x QAce 65	150/200	150/200	150/200	150/200
168.4	2 x QAce 90	150	150	150	150
252.6	3 x QAce 90	150	150	150	150
336.8	4 x QAce 90	150	150	150	150/200
421	5 x QAce 90	150/200	150/200	150/200	150/200
505.2	6 x QAce 90	200	200	200	200
207.8	2 x QAce 115	150	150	150	150
311.7	3 x QAce 115	150	150/200	150/200	150/200
415.6	4 x QAce 115	150/200	150/200	150/200	150/200
519.5	5 x QAce 115	150/200	150/200	150/200	150/200
623.4	6 x QAce 115	200	200	200	200
304.2	2 x QAce 135/160	N/a	N/a	N/a	N/a
456.3	3 x QAce 135/160	N/a	N/a	N/a	N/a
608.4	4 x QAce 135/160	N/a	N/a	N/a	N/a
760.5	5 x QAce 135/160	N/a	N/a	N/a	N/a
912.6	6 x QAce 135/160	N/a	N/a	N/a	N/a

Elbow type	150mm	200mm	250mm
45°	1.1m	1.5m	2m
90°	2.5m	3.3m	4.9m

Note 1: Length between shaft and last boiler = 1m.

Note 2: For calculating other horizontal/vertical lengths between the last boiler and the vertical riser the height must be reduced by the number of lengths added to the horizontal over one metre and for any added bends the details in the table adjacent must be used.

Note 3: The optional flue adaptors can be connected to the PP connection on the last boiler before the horizontal/vertical to increase the flue size as shown in table above, ensure all joints are air and water tight.

Note 4: 150/200mm means; horizontal = 150mm, vertical = 200mm.

Cascade options.

Cascade options

Spreading the total required heat output over several boilers in cascade configuration offers several advantages:

- Greater reliability
- Higher efficiency
- Improved design flexibility
- Quick and easy installation

In order to make it as simple as possible to create a cascade configuration, we have offered complete cascade systems for years. The compact design of the boilers, combined with the smart gas and water connection technology of the cascade system, makes it possible to install a high heat output in a small area.

When installing two to eight boilers, our product range includes systems that are very comprehensive and easy to install. The hydraulic and gas system can be put together entirely without welding, using screw connections, compression connections and flanges. The individual components of the cascade systems are available for independent cascade installation.

Please contact our technical or sales departments for different configurations. We also provide in-depth advice on the choice of flue gas discharge material and control engineering.

Structure of Quinta Ace 30, 45, 55, 65, 90, 115, 135 and 160 cascade systems

The flow, return and gas connections of the individual boilers are connected using the fittings supplied by means of horizontal connections to main pipes for flow, return and gas. These pipes are welded onto a frame that rests on the floor and is fixed to the wall or to a free-standing frame. The low loss header supplied has flange connections. Our optional Plate Heat Exchanger kits are supplied with flanged connections to seamlessly fit onto the cascade system. The blind flanges supplied are then fitted on the other side. The gas main pipe has a flange to which the optional gas filter can also be connected on the left or right as required. The blind flange supplied is then fitted on the other side. When a gas filter is used, a pressure loss of three mbar over the gas filter must be taken into account. The minimum inlet working gas pressure after the gas filter is 17mbar. A common PVC condensed water discharge pipe (not supplied) can be installed in the frame. For this purpose, holes have been made in the frame into which this pipe can be fitted (to the left or right as required) sloping downwards.

Quinta Ace 30, 45, 55, 65, 90 and 115 boilers are particularly suitable for use in cascade systems due to their small footprint and width of only 50cm which allows an exceptionally compact cascade configuration. For example, when using six Quinta Ace 115 boilers in line (including low loss header), approximately only 3.8m wall width is required for 642kW (80/60°C).

The cascade systems can be divided into three main groups:

- Two to seven Quinta Ace boilers in a linear configuration, wall-mounted
- Two to seven Quinta Ace boilers in a linear configuration, mounted on a free-standing frame
- Three to ten (2 x 5) Quinta Ace boilers in a back-to-back configuration, mounted on a free-standing frame. The boiler side of the cascade systems is sized to 20°C. The low loss header or air dirt separator is based on 20/11°C. Plates are sized for a 25 °C delta T on the primary side.

A cascade up to a heat output of 460kW (80/60) has main flow and return pipes of DN65 and the gas pipe is DN50 with corresponding flanged connections. A cascade up to a heat output of 830kW (80/60) has main flow and return pipes of DN100 and the gas pipe is DN65 with corresponding flanged connections.

The Quinta Ace 135 and 160 boilers are particularly suitable for use in cascade systems due to their small footprint and width of only 60cm which allows an exceptionally compact cascade configuration. This combined with the smart gas and water connection technology (no brazing) of the cascade system makes it possible to install a high output system in a small area. For example, eight Quinta Ace 160 boilers can be installed in an area of 4.4m² (including low loss header) to provide close to 1200kW (80/60°C). It is also possible to have a mixed cascade that includes the smaller Quinta Ace boilers into the configuration.

The cascade systems can be divided into two main groups:

- Two to eight Quinta Ace boilers in a linear configuration, mounted on a free-standing frame

or

- Three to eight (2 x 4) Quinta Ace boilers in a back-to-back configuration, mounted on a free-standing frame. The boiler side of the cascade systems is sized to 20°C

The low loss header or air dirt separator is based on 20/11°C. Plates are sized for a 25°C delta T on the primary side.

The cascade is supplied with main flow and return pipes of DN100 and the gas pipe is DN65 with corresponding flanged connections.

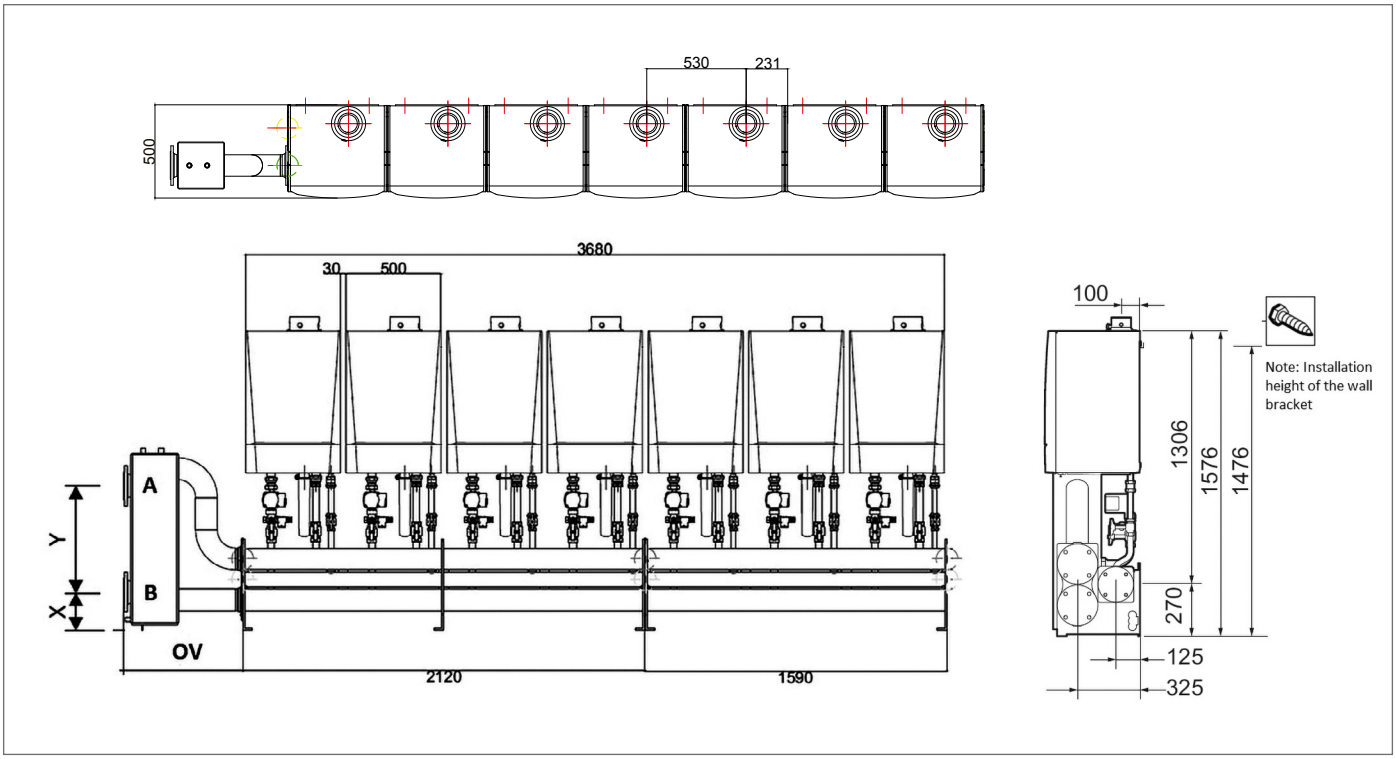
Quinta Ace installation drawings
for wall-mounted cascade systems.

The cascade systems can be divided into three main groups:

- Two to eight boilers in a linear configuration, wall-mounted
- Two to eight boilers in a linear configuration, mounted on a free-standing frame
- Three to ten boilers in a back-to-back configuration, mounted on a free-standing frame

The boiler side of the cascade systems is sized to 20°C. The low loss header is based on 20/11°C.

Wall-mounted configuration for Quinta Ace 30, 45, 55, 65, 90 and 115



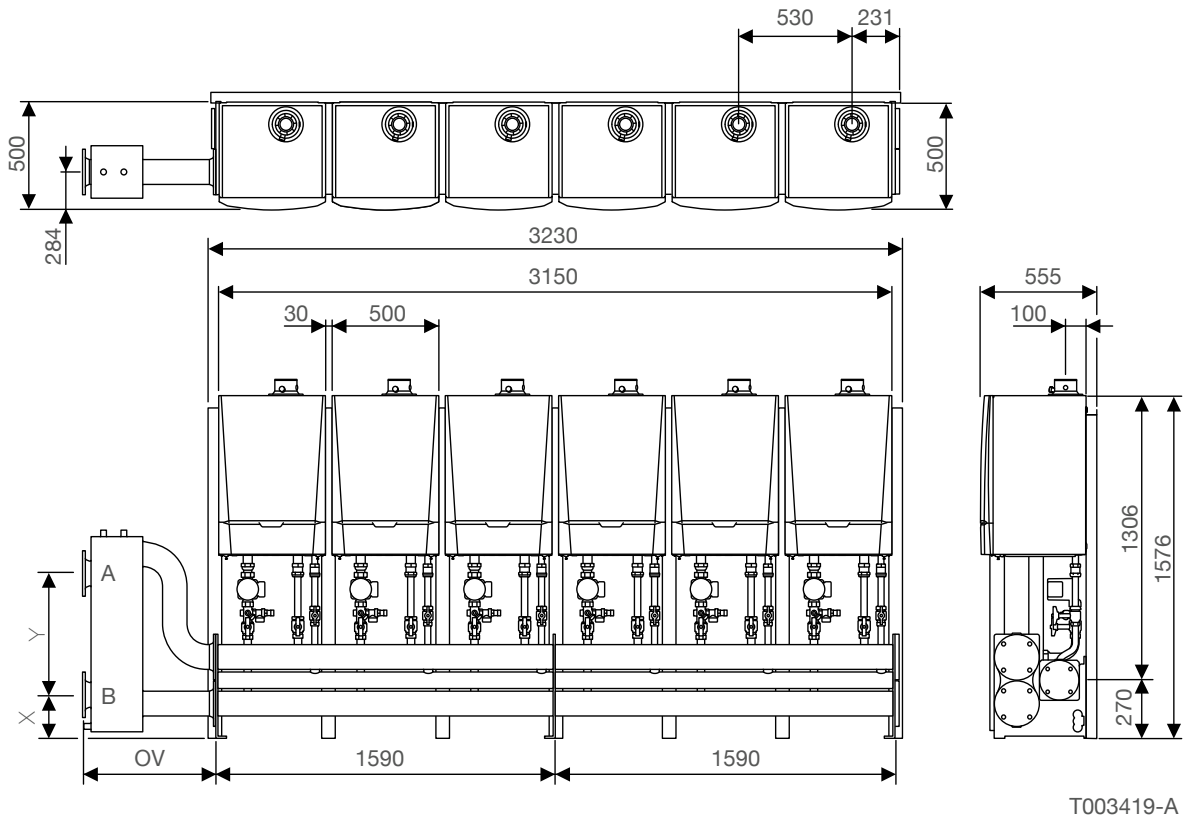
Key				
A	System flow; connection DN 100 or 125/DIN 2631 (8 holes)	OV	Low loss header (DN 65 = 633mm; DN 100 = 643mm)	Gas supply connection DN 50 or 65/DIN 2633 (4 holes)
B	System return; connection DN 100 or 125/DIN 2631 (8 holes)	X	Distance to system return connection = 200mm	Air inlet/flue gas discharge concentric connection
		Y	Distance to system flow connection = 560mm	Quinta Ace 30/45 = 80/125mm, Quinta Ace 55/65/90/115 = 100/150mm

Dimensions (mm) – boilers only							
No. of boilers	2	3	4	5	6	7	8
Width mm	1030	1560	2090	2620	3150	3680	4210

Note: This information is provided as a guide only. Please refer to the Quinta Ace Cascade Installation and Service Manual for specific details. Please consult the technical data sheets for dimensions of our Plate Heat Exchanger kits.

Quinta Ace linear configuration mounted
on a free-standing frame – two to eight boilers.

Free-standing frame con guration for Quinta Ace 30, 45, 55, 65, 90 and 115



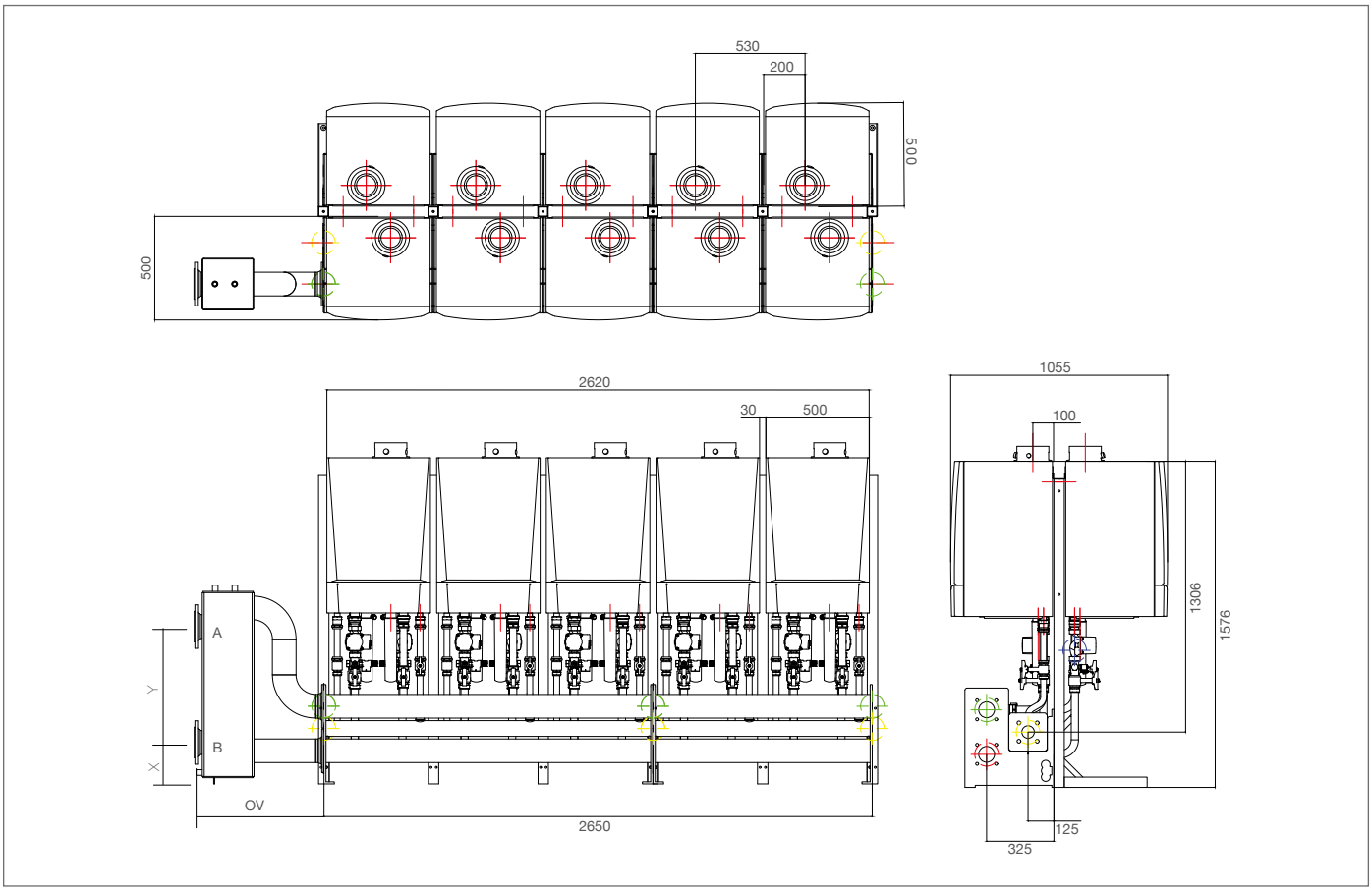
Key				
A	System flow; connection DN 100 or 125/DIN 2631 (8 holes)	OV	Low loss header (DN 65 = 633mm; DN 100 = 643mm)	Gas supply connection DN 50 or 65/DIN 2633 (4 holes)
B	System return; connection DN 100 or 125/DIN 2631 (8 holes)	X	Distance to system return connection = 200mm	Air inlet/flue gas discharge concentric connection
		Y	Distance to system flow connection = 560mm	Quinta Ace 30/45 = 80/125mm, Quinta Ace 55/65/90/115 = 100/150mm

Dimensions (mm) – boilers only							
No. of boilers	2	3	4	5	6	7	8
Width mm	1110	1640	2170	2700	3230	3760	4290

Note: This information is provided as a guide only. Please refer to the Quinta Ace Cascade Installation and Service Manual for specific details. Please consult the technical data sheets for dimensions of our Plate Heat Exchanger kits.

Quinta Ace back-to-back mounted or free-standing frame configuration (RG) – three to ten boilers.

Back-to-back mounted on a free-standing frame con guration for Quinta Ace 30, 45, 55, 65, 90 and 115



Key				
A	System flow; connection DN 100 or 125/DIN 2631 (8 holes)	X	Distance to system return connection = 200mm	Gas supply connection DN 50 or 65/DIN 2633 (4 holes)
B	System return; connection DN 100 or 125/DIN 2631 (8 holes)	Y	Distance to system flow connection = 560mm	Air inlet/flue gas discharge concentric connection
		OV	Low loss header (DN 65 = 633mm; DN 100 = 643mm)	Quinta Ace 30/45 = 80/125mm, Quinta Ace 55/65/90/115 = 100/150mm

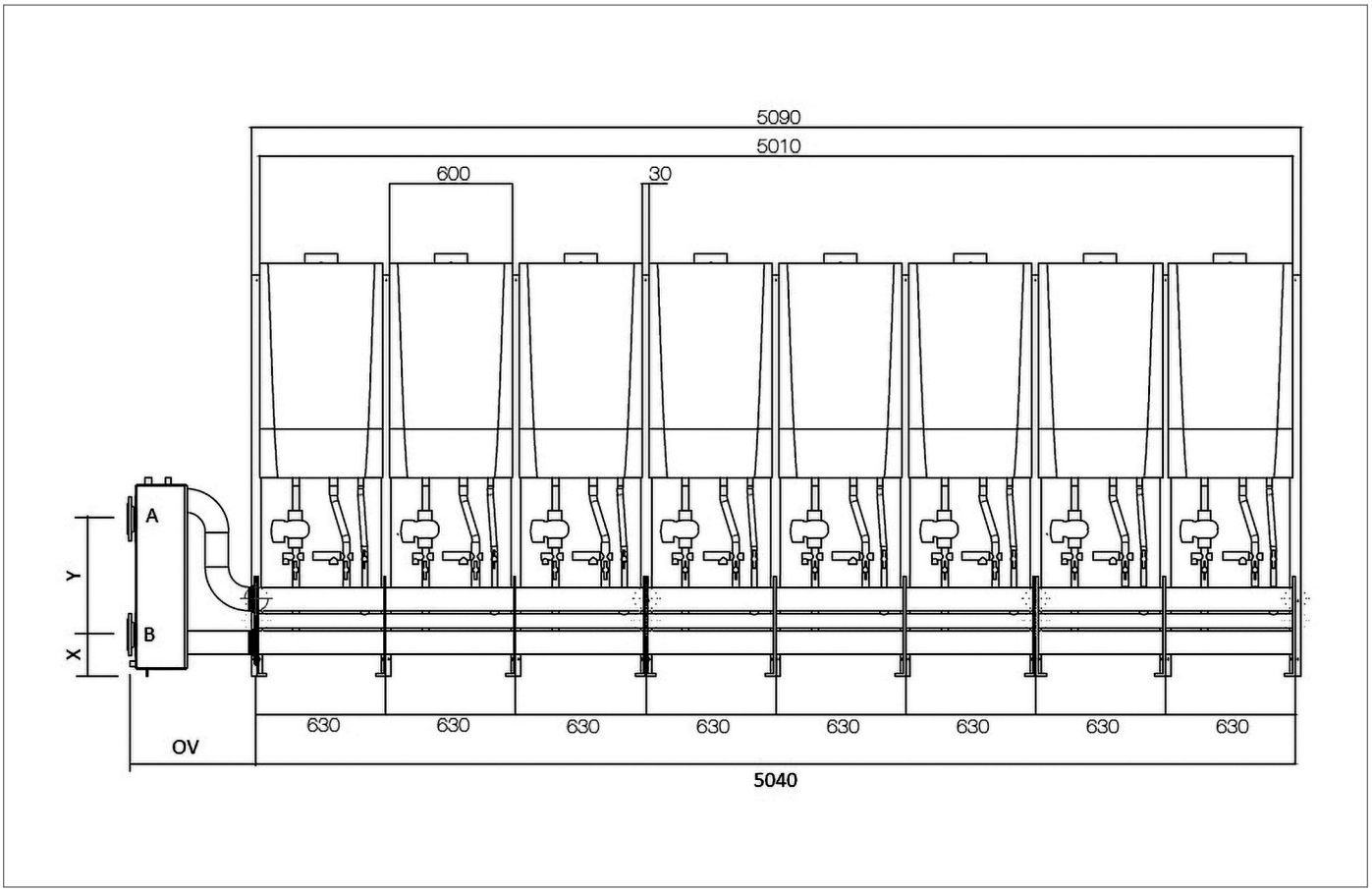
Dimensions (mm) – boilers and frame only									
No. of boilers	2	3	4	5	6	7	8	9	10
Width mm	N/a	1110	1110	1640	1640	2170	2170	2700	2700

Note: This information is provided as a guide only. Please refer to the Quinta Ace Cascade Installation and Service Manual for specific details. Please consult the technical data sheets for dimensions of our Plate Heat Exchanger kits.

Structure of Quinta Ace 135 and 160 cascade systems.

Complete cascade options are available for the Quinta Ace 135 and 160 with both insulated and non-insulated versions.

Two to eight Quinta Ace 135 and 160 boilers in a linear con guration, mounted on a free-standing frame



Note 1: Mixed cascades are also available (eg. QA135 or 160 in conjunction with QA30 – 115).

Key				
A	System flow; Connection DN 125/ DIN 2633 (8 holes)	X	Distance to system return connection = 200mm	Gas supply connection DN65 / DIN 2633 (4 holes) Air inlet/flue gas discharge concentric connection - 100/150mm
B	System return; Connection 125/DIN 2633v (8 holes)	Y	Distance to system flow connection = 560mm	
		OV	Low loss header DN 100 = 633mm	

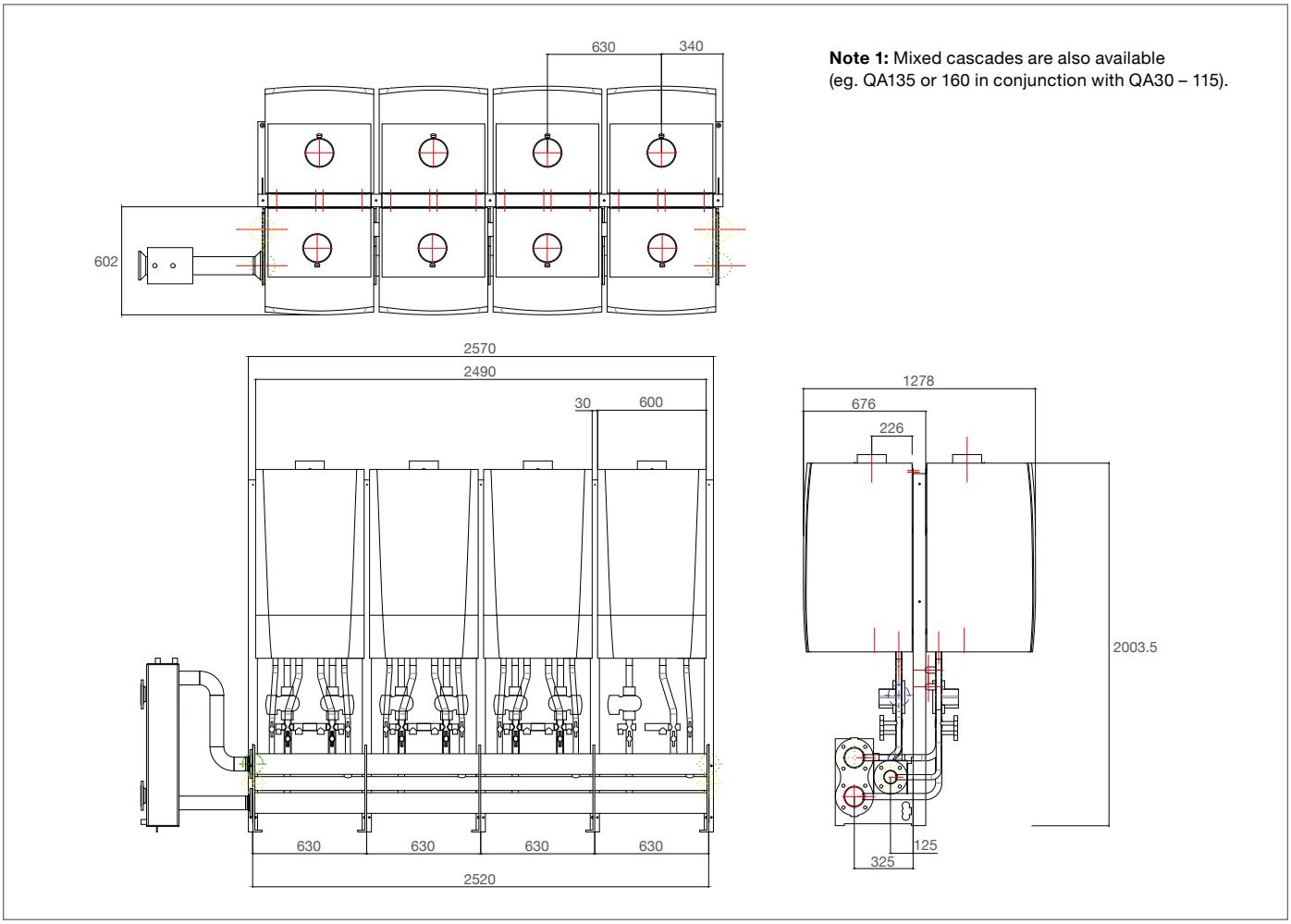
Dimensions (mm) – boilers only							
No. of boilers	2	3	4	5	6	7	8
Width mm	1310	1940	2570	3200	3830	4460	5090

Note 2: This information is provided as a guide only. Please refer to the Quinta Ace Cascade Installation and Service Manual for specific details. Please consult the technical data sheets for dimensions of our Plate Heat Exchanger kits.

Structure of Quinta Ace 135 and 160 cascade systems.

Complete cascade options are available for the Quinta Ace 135 and 160 with both insulated and non-insulated versions.

Three to eight Quinta Ace 135 and 160 boilers in back-to-back con guration, mounted on a free-standing frame.



Note 1: Mixed cascades are also available (eg. QA135 or 160 in conjunction with QA30 – 115).

Key				
A	System flow; Connection DN 125/ DIN 2633 (8 holes)	X	Distance to system return connection = 200mm	Gas supply connection DN65 /DIN 2633 (4 holes)
B	System return; Connection DN 125/DIN 2633 (8 holes)	Y	Distance to system flow connection = 560mm	Air inlet/flue gas discharge concentric connection – 100/150mm
		OV	Low loss header DN 100 = 633mm	

Dimensions (mm) – boilers and frame only							
No. of boilers	2	3	4	5	6	7	8
Width mm	N/a	1310	1310	1940	1940	2570	2570

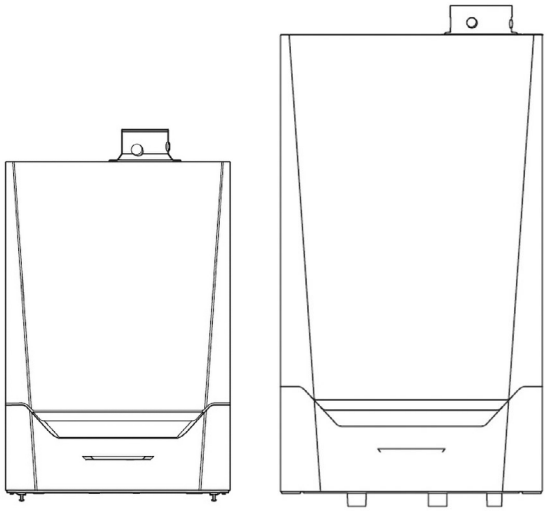
Note 2: This information is provided as a guide only. Please refer to the Quinta Ace Cascade Installation and Service Manual for specific details. Please consult the technical data sheets for dimensions of our Plate Heat Exchanger kits.

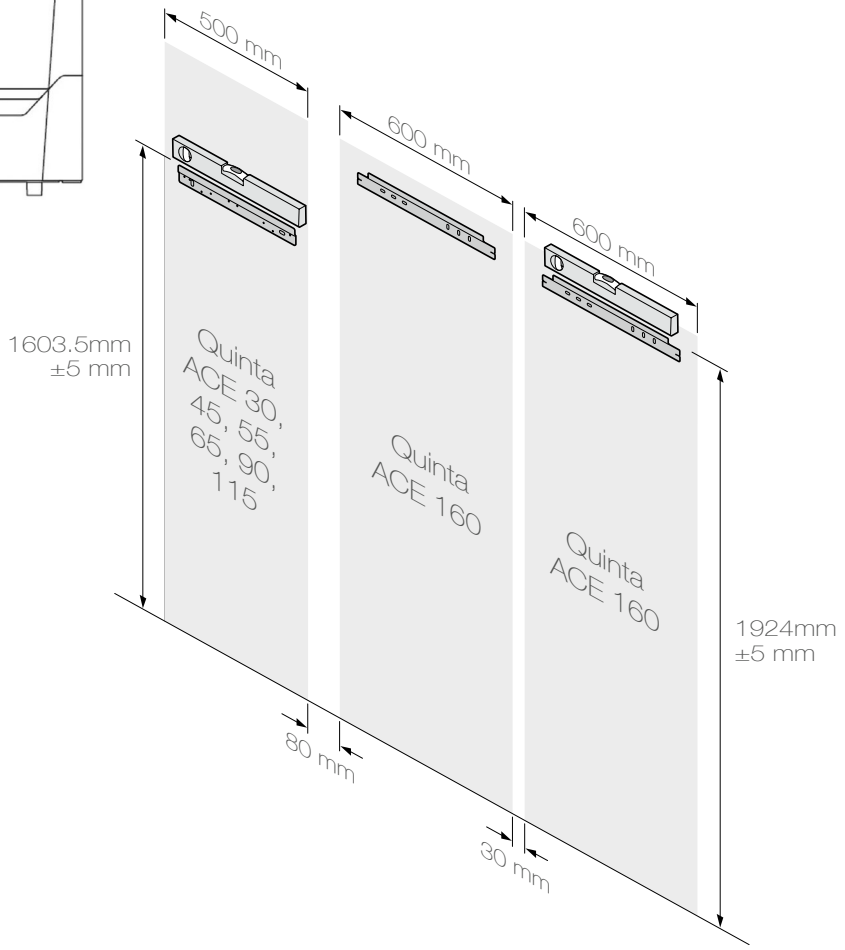
Multiple output
Quinta boiler cascades.

Remeha also offers options for multiple output configurations combining Quinta Ace 30 to 115 with Quinta Ace 135 and 160 boilers.

Quinta boiler, cascades.

Please contact your local Sales Manager for further information.
Contact details are available via the website **remeha.co.uk**





Note: Please take into account boiler and component weights.

Plate Heat Exchanger kits.

Our new range of PHEX kits offers 22 plates sized for a nominal output of up to 1280kW with bespoke connection sets offering flanged connections that are perfectly matched to our Quinta Ace and Gas 120 Ace cascade systems.

A plate heat exchanger can be used as a hydraulic separator when installing new condensing boilers onto an existing system, providing complete primary circuit separation.

Refer to the following table to determine the correct plate heat exchanger type:

Overview of different plate heat exchangers							
Boilers	**Q45**	**Q55**	**Q65**	**Q90**	**Q115**	**Q135**	**Q160**
2	RHB-60-60	RHB-60-60	RHB-60-80	RHB-60-80	RHB-110-100	RHB-110-80	RHB-110-80
3	RHB-60-60	RHB-60-80	RHB-60-120	RHB-60-140	RMB-235-80	RHB-110-100	RHB-110-140
4	RHB-60-80	RHB-110-80	RHB-110-80	RHB-110-80	RMB-235-100	RHB-110-140	RMB-235-80
5	RHB-60-100	RHB-110-80	RHB-110-100	RHB-110-120	RMB-235-120	RMB-235-80	RMB-235-100
6	RHB-60-140	RHB-110-100	RHB-110-120	RHB-110-140	RMB-235-160	RMB-235-100	RMB-235-140
7	RHB-110-80	RHB-110-120	RHB-110-160	RMB-235-80	RMB-235-180	RMB-235-120	RMB-235-160
8	RHB-110-80	RHB-110-160	RMB-235-80	RMB-235-100	RMB-235-220	RMB-235-140	RMB-235-180
9	RHB-110-100	RMB-235-80	RMB-235-80	RMB-235-100	RMB-235-280	-	-
10	RHB-110-120	RMB-235-80	RMB-235-80	RMB-235-120	RMB-235-280	-	-

Plates have been designed for 85/60 primary 75/55 secondary. The 115kW is set up for 80/60 primary side. If you have requirements outside of this scope, please speak to your Technical Sales Manager.

Features and Benefits

A range of 22 copper-brazed stainless steel plate heat exchangers	For efficient heat transfer
Max output of 10 x 115kW or 8 x 160kW	Suitable for installations up to 1280kW at 50/30
Prioprietary flanged connection sets	For quick and simple connection
Full CAD, BIM and STEP files available*	Making it easier to design the system
Future-proofed design	Suitable for all Quinta Ace and Gas 120 Ace boilers
5 year manufacturer warranty	For added piece of mind

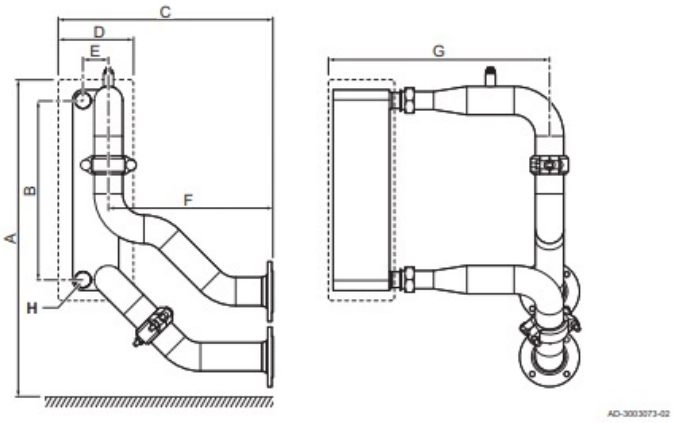
*Please contact your Technical Sales Manager

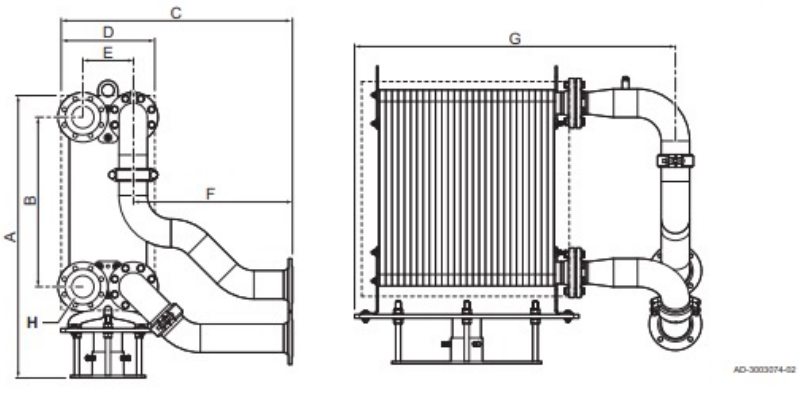
Magnetic and standard low loss headers are also available. Please contact your Technical Sales Manager to determine the correct plate heat exchanger type.

Technical Data – Plate Heat Exchangers

Heat exchanger type	Heat load in kW	Pressure drop in kPa	Flow in m3/h
RHB-60-60	84.4	4.46	2.90
RHB-60-80	179.0	18.48	6.16
RHB-60-100	211.0	18.47	7.26
RHB-60-120	195.0	13.19	6.71
RHB-60-140	268.5	17.47	9.24
RHB-110-80	358.0	22.09	12.32
RHB-110-100	379.8	16.81	13.07
RHB-110-120	447.5	17.99	15.39
RHB-110-140	484.8	16.53	16.68
RHB-110-160	455.0	12.09	15.65
RMB-235-80	650.0	18.93	22.36
RMB-235-100	808.0	19.06	27.80
RMB-235-120	895.0	17.74	30.79
RMB-235-140	969.6	15.90	33.35
RMB-235-160	1131.2	17.17	38.91
RMB-235-180	1292.8	18.51	44.47
RMB-235-220	877.6	10.22	37.74
RMB-235-280	1097.0	11.83	47.17

Plate Heat Exchanger
dimensions and connections.





Dimension	A	B	C	D	E	F	G	H
Description	**total height**	**flange distance**	**total depth**	**depth**	**flange distance**	**connection depth**	**total width**	**connection size**
RHB-60-60	752	480	617	201	68	400	604	1 1/4" outer thread
RHB-60-80	752	480	617	248	68	400	651	1 1/4" outer thread
RHB-60-100	752	480	617	295	68	400	698	1 1/4" outer thread
RHB-60-120	752	480	617	342	68	400	745	1 1/4" outer thread
RHB-60-140	752	480	617	389	68	400	792	1 1/4" outer thread
RHB-110-80	964	520	684	308	91	400	703	2" outer thread
RHB-110-100	964	520	684	360	91	400	755	2" outer thread
RHB-110-120	964	520	684	412	91	400	807	2" outer thread
RHB-110-140	977	520	698	526	91	400	890	2" outer thread
RHB-110-160	964	520	684	516	91	400	911	2" outer thread
RHB-110-180	964	520	684	568	91	400	963	2" outer thread
RMB-235-80	1140	682	1016	333	204	400	757	DN80
RMB-235-100	1140	682	1016	383	204	400	807	DN80
RMB-235-120	1140	682	1016	433	204	400	857	DN80
RMB-235-140	1140	682	1016	483	204	400	907	DN80
RMB-235-160	1140	682	1016	533	204	400	957	DN80
RMB-235-180	1140	682	1016	583	204	400	1007	DN80
RMB-235-200	1140	682	1016	633	204	400	1057	DN80
RMB-235-220	1140	682	1016	683	204	400	1107	DN80
RMB-235-240	1140	682	1016	733	204	400	1157	DN80
RMB-235-260	1140	682	1016	783	204	400	1207	DN80
RMB-235-280	1140	682	1016	833	204	400	1257	DN80

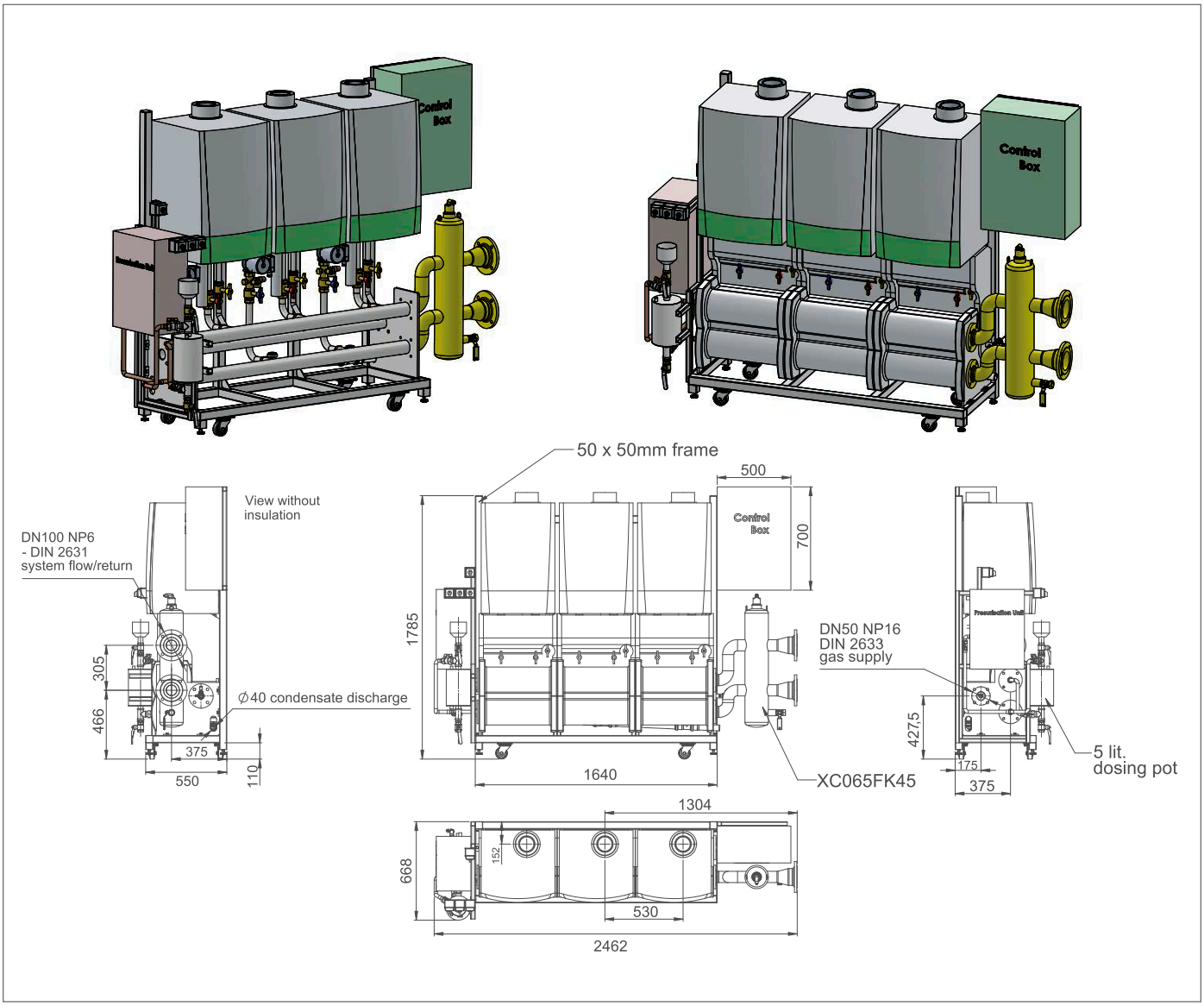
Tab.19 Plate heat exchanger dimensions in mm

Bespoke
rig systems.

We provide bespoke rig system service to support consultants in overcoming plant room limitations and tight deadlines. These rigs are designed and manufactured to meet the exact requirements of each individual project so that they can be installed in a fraction of the time. This solution is particularly beneficial for organisations restricted to a small window of time in which to carry out installation.

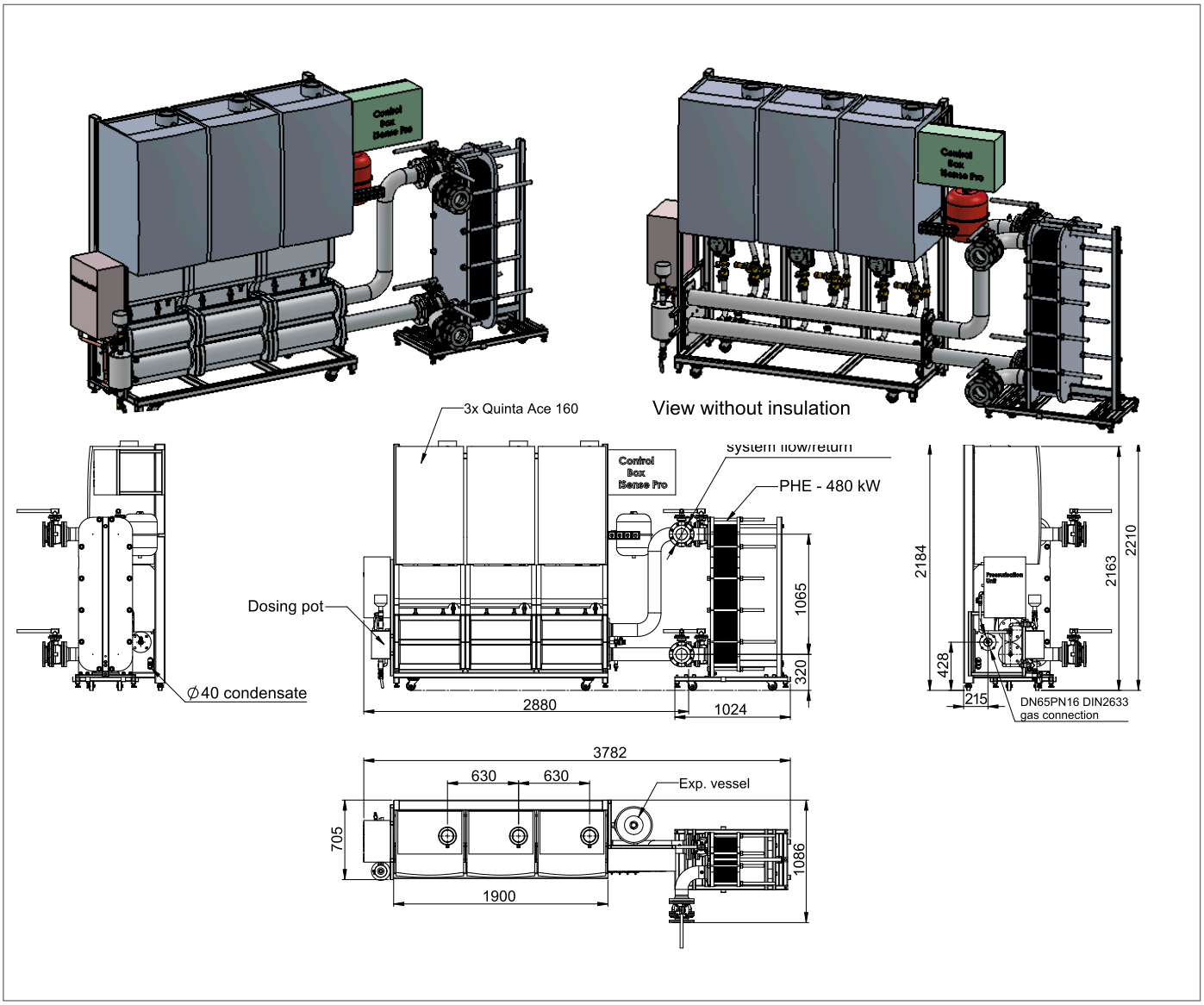
For more information, please contact our Sales Team. You can find your local dedicated Remeha expert on our website: **remeha.co.uk**

Bespoke rig systems



Bespoke
rig systems with PHE.

Bespoke rig systems with PHE



Technical support and declaration of compliance.

Technical support

From brochures to CAD drawings and BIM files, you can access all the information you need at **remeha.co.uk**

Or call our sales or technical departments on **0345 070 1055.**

We're always happy to help.

We can provide you with:

- Brochures
- Technical specification sheets
- Case studies
- Installation manuals
- BIM files
- CAD files
- Energy-related products directive data
- Commissioning
- Technical information
- Spare parts (aftersales)

Declaration of compliance

The boiler meets the requirements of the EC regulations and directives:

- Gas Appliances Regulations (EU) 2016/426
- Boiler Efficiency Directive 92/42/EEC
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- ErP 2009/125/EC
- CE Certification
- Remeha Quinta Ace 30, 45, 55, 65, 90 and 115
  PIN: 0063CS3928
- Remeha Quinta Ace 135 and 160
  PIN: 0063CQ3781

Brooks House
Coventry Road
Warwick CV34 4LL

T 0345 070 1055
E info@baxiheating.co.uk
W remeha.co.uk

Registered address:
Baxi Heating UK Ltd
Brooks House, Coventry Road
Warwick, CV34 4LL

Quinta Ace Technical Specification Guide January 2024

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