

Quinta Ace

30-160kW

Technical Specification Guide

2

Two BREEAM credits
when the boiler is configured
at commissioning



Contents

Remeha by Baxi,
the expert choice.

03	Remeha by Baxi Quinta Ace range
04	Boiler construction
07	Operating principle
08	Technical information
11	Suggested engineering specification
13	Dimensions and connections
15	Boiler controls - electrical installation
25	Flue options
47	Fluecade system
56	Cascade options
64	Bespoke rig systems
65	Packaged plant rooms
66	Technical support and declaration of compliance



Note: content provided in this document is correct as of publication, subject to change without notice. Please refer to the Installation and User Manual which can be found at baxi.co.uk/quinta-ace

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 by Baxi, the expert choice.

Complete commercial solutions from the experts in sustainable heating and hot water. Choose Remeha by Baxi Quinta Ace 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.

Quinta Ace range

The new Quinta Ace 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 160 models.

With their extremely compact design, the new 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.

Features and benefits

High efficiency boiler up to 97.6% GCV

Small dimensions and lightweight design

Low NO_x Annual Emission levels of ≤ 24mg/kWh (dry, 0% O₂) (Class 6) BREEAM EN15502*

Pre-mix down-firing gas burner and one-piece cast aluminium heat exchanger

LED illuminated casing air box, removable front panel, digital display, data file for storing information and remote signalling options

Built-in advanced boiler control and calorifier control:

- Fully modulating 18-100% (5:1)
- 0-10V operation
- On/off (volt free enable)

Extremely compact cascade packages

Quiet operation <52 dB(A)

For use with natural gas including blends containing up to 20% Hydrogen gas (H₂) and LPG

Front cover manufactured from ABS plastic (30-115kW)

Packaging and manuals made from recycled paper/board

Higher than average energy savings

Easy to install in smaller spaces; highly suitable for cascade operation

BREEAM Credits = 2*

Low pollutant emissions that meet ErP regulations and London plan targets (SPG 2014)

Improved ease of maintenance

Built-in flexibility for easy installation

Effective space-saving solution for greater design flexibility

Improved comfort

Flexible solution to energy-saving heating

To reduce carbon

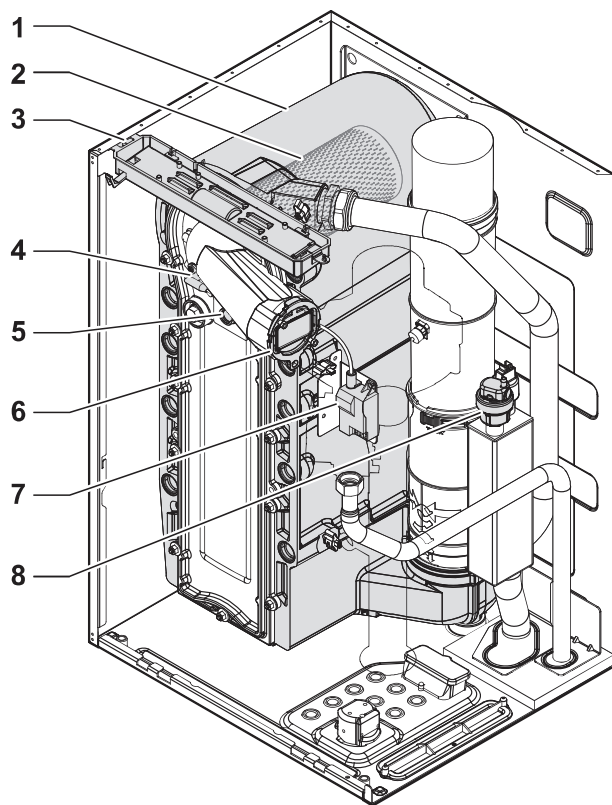
To reduce carbon

*As per commissioning instructions

2 Two BREEAM credits when the boiler is configured at commissioning

Quinta Ace 30 - 115

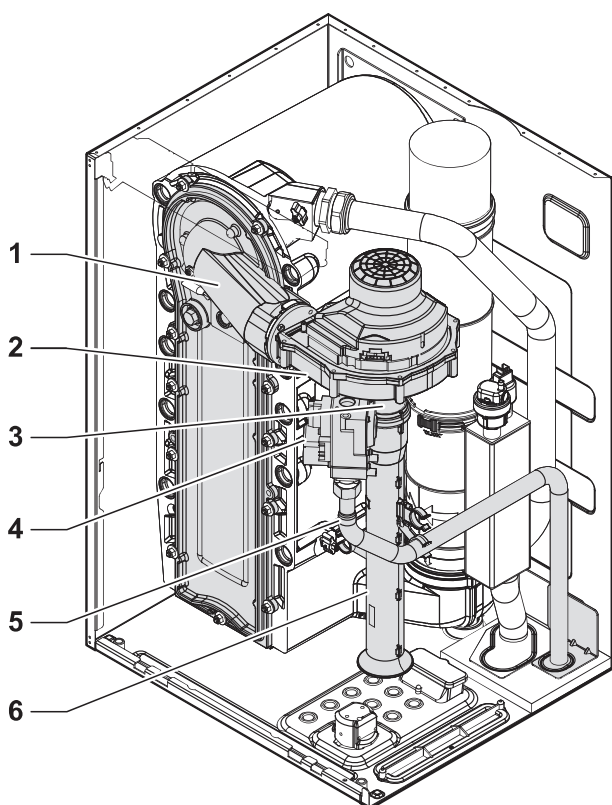
Boiler construction



Internal

Key

1	Heat exchanger
2	Burner
3	Interior light
4	Ignition / ionisation electrode
5	Flame inspection glass
6	Non-return valve
7	Ignition / ionisation transformer
8	Air vent



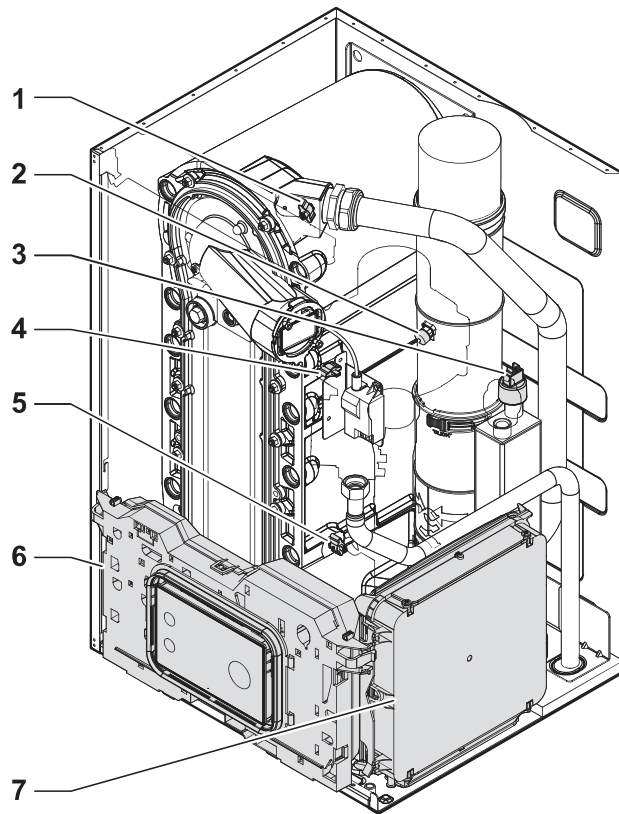
Gas - air unit

Key

1	Front plate with mixing tube
2	Fan
3	Venturi
4	Gas control valve
5	Gas supply tube
6	Air inlet silencer

Quinta Ace 30 - 115

Boiler construction - Main components



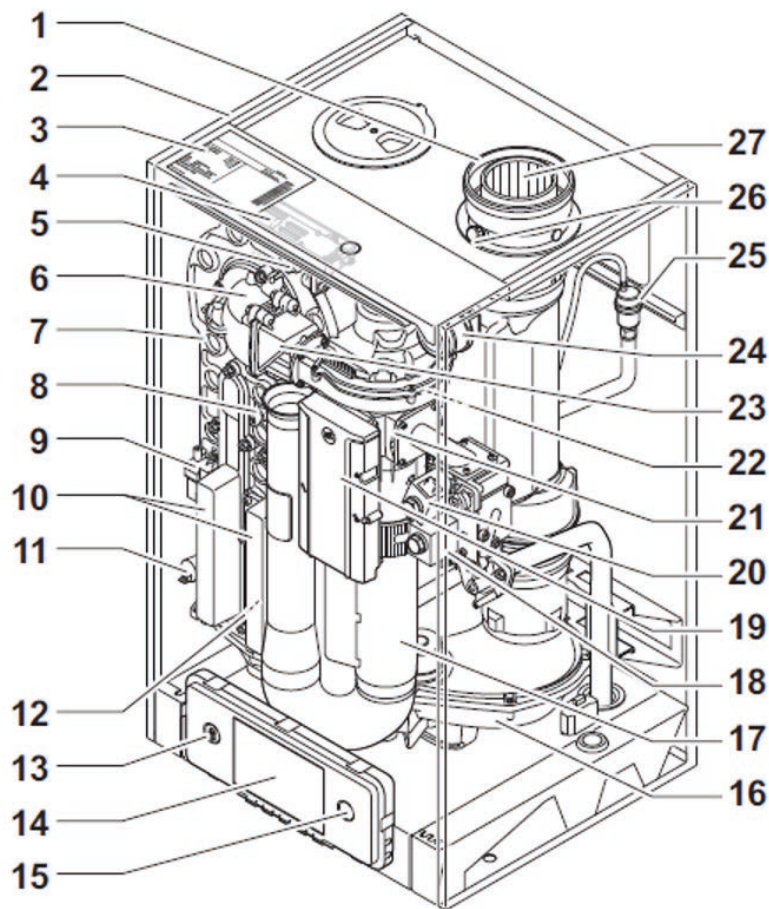
Sensors and boxes

Key

1	Flow temperature sensor
2	Flue gas temperature sensor
3	Water pressure sensor
4	Heat exchanger temperature sensor
5	Return temperature sensor
6	Control box
7	Expansion box

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

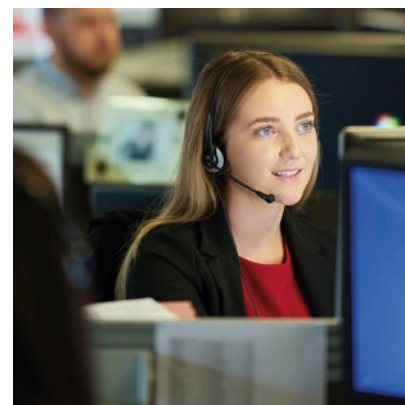
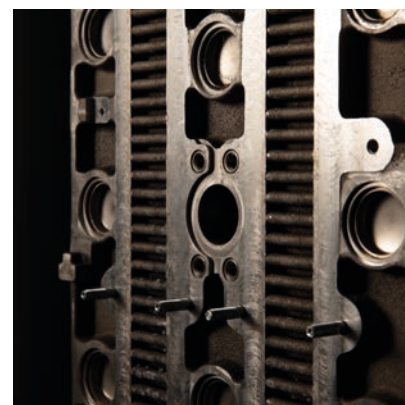
Operating principle

The products of combustion in the form of hot flue gases are forced through the heat exchanger, transferring their heat to the system water. The flue gas temperature 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 atmosphere.

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 (55°C), 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	45	55	65	90	115	135	160
Performance								
Nominal heat output central heating operation @ 80/60°C kW (min-max)*	8.0 - 29.8	8.0 - 40.8	12.0 - 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	13.5 - 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) kW	8.2 - 30.0	8.2 - 41.2	12.2 - 56.5	12.2 - 62.0	14.6 - 86.0	19.6 - 107.0	32.0 - 131.0	32.0 - 156.0
Efficiency								
SBEM seasonal efficiency GCV %	97.5	97.6	96.0	97.5	95.6	95.4	96.1	95.9
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	108.0	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)
Min / Max Gas consumption NG m³/h	0.8 - 3.1	0.8 - 4.3	1.3 - 5.9	1.3 - 6.5	1.5 - 9.0	2.0 - 11.1	3.4 - 13.9	3.4 - 16.5
Min / Max Gas consumption LPG m³/h	0.3 - 1.2	0.3 - 1.6	0.5 - 2.2	0.5 - 2.4	0.6 - 3.4	0.8 - 4.2	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	3/4" male thread (22mm)	3/4" male thread (22mm)	3/4" male thread (22mm)	3/4" male thread (22mm)	3/4" male thread (22mm)	3/4" male thread (22mm)	1" male thread (28mm)	1" male thread (28mm)

Quinta Ace

Technical information

Quinta Ace	30	45	55	65	90	115	135	160
Flue								
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	21 - 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
Hydraulics								
Water content litres	4.3	4.3	6.4	6.4	9.4	9.4	17	17
Hydraulic 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	0.98	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 (mm) dia	22.5	22.5	22.5	22.5	22.5	22.5	32	32
Connection size (mm) dia	22.5	22.5	22.5	22.5	22.5	22.5	1 ¼" male thread (32mm)	1 ¼" 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	0.3 o/v	N/A	N/A

Quinta Ace

Technical information

Quinta Ace	30	45	55	65	90	115	135	160W
General								
Total weight (including packaging) kg	61	61	67	67	76	77	147	147
Min mounting weight without front panel kg	52	52	58	58	67	68	123	123
Dimension mm (WxHxD)	500 x 750 x 476	500 x 750 x 476	500 x 750 x 476	500 x 750 x 476	500 x 750 x 476	500 x 750 x 476	600 x 1045 x 602	600 x 1045 x 602
NOx Annual Emissions BREEAM EN15502 – NG mg/kWh (dry, 0% O2) 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	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz	230v x 1ph x 50hz
Min / Max Power consumption w	18 - 36	18 - 71	22 - 69	23 - 83	23 - 111	19 - 169	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 (Potential free Contact)	0 Volts	0 Volts	0 Volts	0 Volts	0 Volts	0 Volts	0 Volts	0 Volts
Electrical protection index VAC (1)	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/m³.

**Open-vented option maximum operating temperature 75°C.

***Two BREEAM credits when the boiler is configured at commissioning, as per commissioning instructions

(1) For a room-sealed flue system.

Suggested engineering specification

30-115

Construction

The boiler will be a wall-hung type condensing boiler which may also be installed free-standing on a suitable frame. The 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 and 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+H₂ (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
- 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 15502-2-1 :2022+A1 :2023 and EN 15502-1 :2021+A1 :2023

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 Baxi Quinta Ace 30/45/55/65/90/115 PIN: 0063DP3280

***As per commissioning instructions

Suggested engineering specification

135-160

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+H₂(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 <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

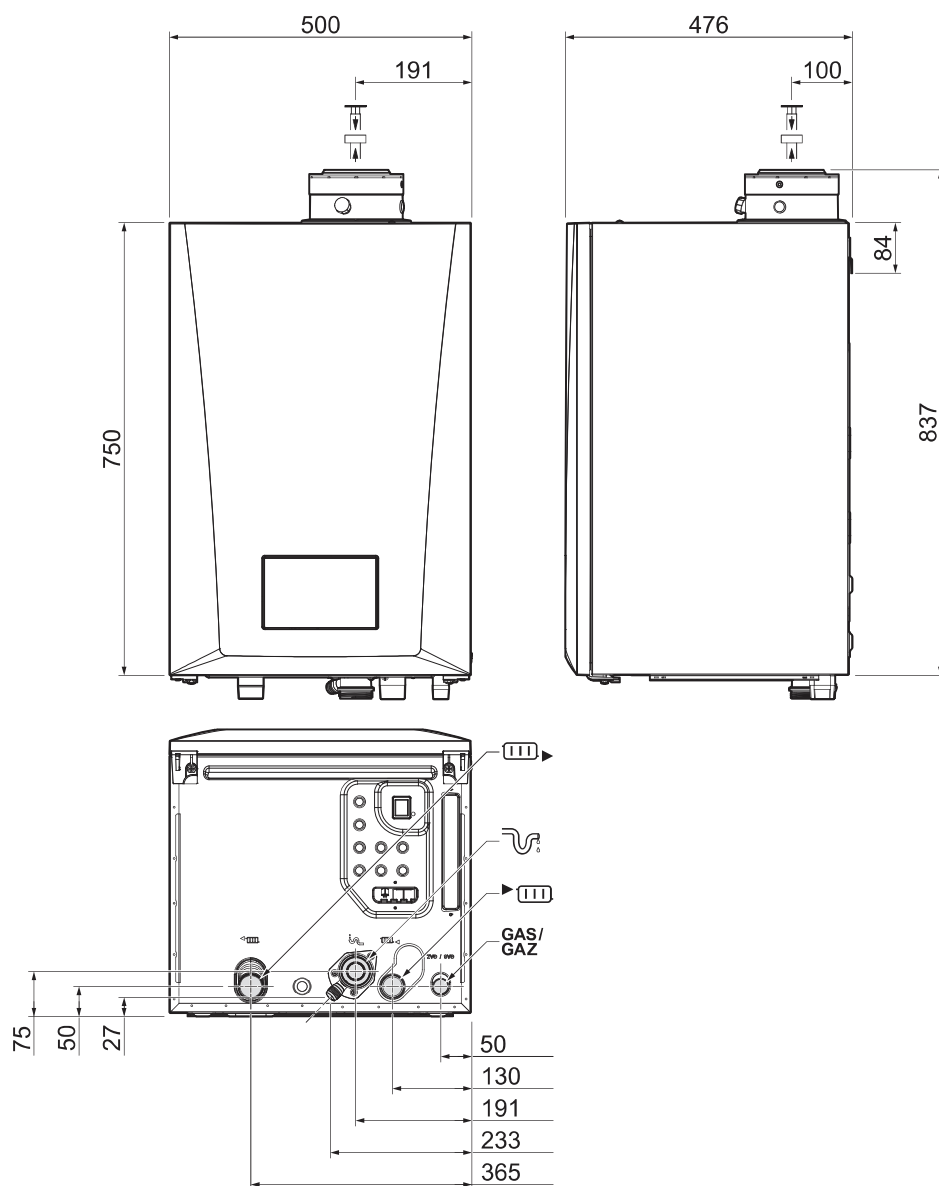
CE Certification Quinta Ace 135 and 160







PIN: 0063CQ378

***As per commissioning instructions

Quinta Ace 30-115

Dimensions and connections

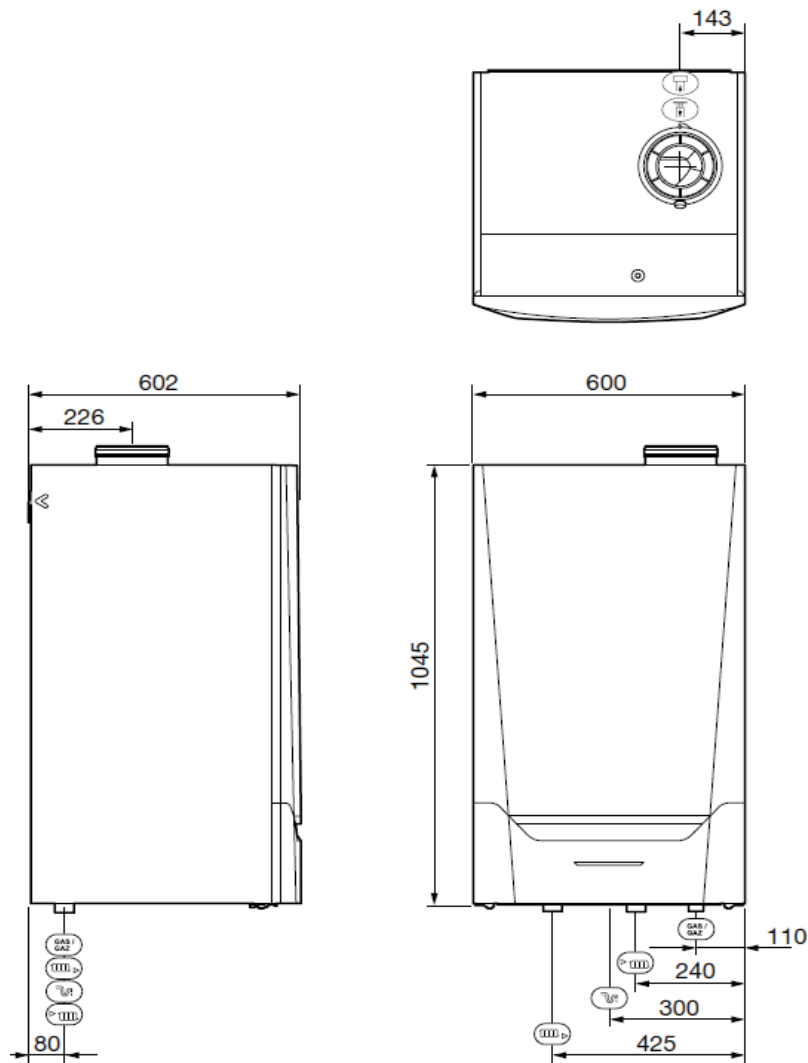


Key	Quinta Ace	30, 45	55, 65, 90, 115
	Flue gas outlet connection	Ø 80 mm	Ø 100 mm
	Air inlet connection	Ø 125 mm	Ø 150 mm
	Condensate connection	22.5 mm	22.5 mm
	Flow connection	1 ¼" male thread	1 ¼" male thread
	Return connection	1 ¼" male thread	1 ¼" male thread
	Gas connection	¾" male thread	¾" male thread







The complete range of Quinta Ace 30, 45, 55, 65, 90 and 115 boilers have a compact design of h750 x w500 x d476mm.

Quinta Ace 135-160

Dimensions and connections



Key

	Flue gas outlet connection: Ø 100mm
	Air supply connection: Ø 150mm
	Siphon connection 32mm
	Flow connection: 1 1/4" male thread (32mm)
	Return connection: 1 1/4" male thread (32mm)
	Gas connection: 1" male thread (28mm)

Quinta Ace 30, 45, 55, 65, 90, 115

Boiler controls - Electrical installation

General

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

Specifications

Electrical supply

The Remeha by Baxi Quinta Ace 30, 45, 55, 65, 90 and 115 boilers must have a permanent 230V/50Hz single phase supply rated at 1.6 amps. The control unit is not phase/neutral sensitive.

Control box

- Manufacture: SIT
- Model: CU-GH22
- Supply voltage: 230V/50Hz
- Pump run on (HTG): 1-99 minutes

Fuse specification

The boiler is protected by fuses:

- Main Fuse F1 (230 VAC) 1.6 amps
- Fan 230V

Boiler temperature control

The Remeha by Baxi Quinta Ace 30, 45, 55, 65, 90 and 115 boilers have 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 (low and content)

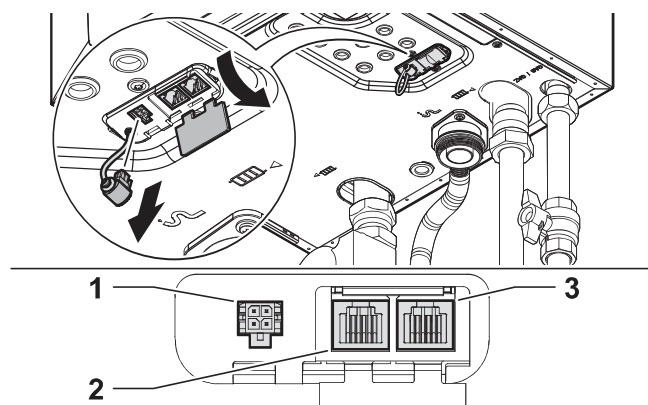
The Remeha by Baxi Quinta Ace 30, 45, 55, 65, 90 and 115 boilers are supplied with low water protection via a low water pressure switch and also by a temperature measurement. By modulating down when the water flow threatens to fall too low, the boiler is kept operating for as long as possible.

External connections

All external connections are made to the connection board supplied as standard and depending on the type of control required optional PCB's are also available.

The boiler is also supplied with Quick Connect sockets located on the outer casing to the underside of the appliance.

The Quick Connect location



The Quick Connect has L-Bus and S-Bus sockets for external connections.

You can easily connect external devices and other appliances without opening the boiler:

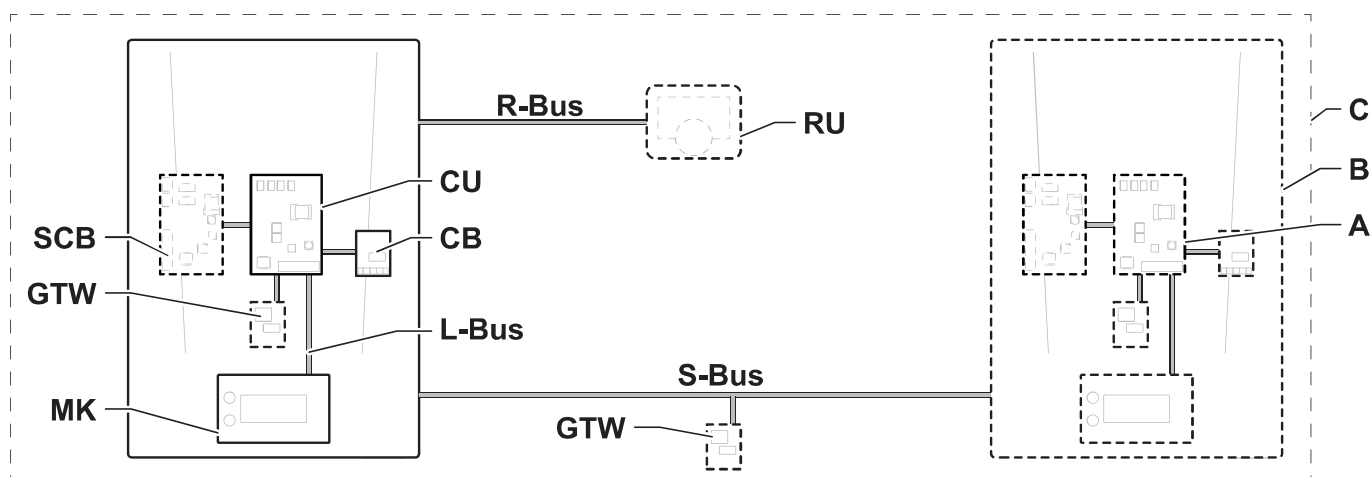
1. L-Bus socket for a 4 pin Molex Micro-Fit plug
2. S-Bus socket for a RJ12 plug
3. S-Bus socket for a RJ12 plug

Quinta Ace 30, 45, 55, 65, 90, 115

Boiler controls - Electrical installation

Introduction to the BDR new controls platform

The Quinta Ace boiler is equipped with the BDR CBI controls platform. This is a modular system, and offers compatibility and connectivity between all products that make use of the same platform.



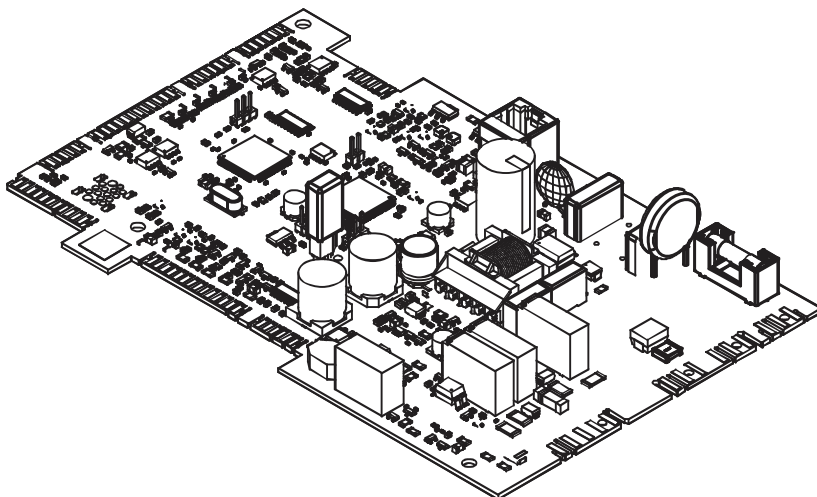
Components within the example above

Item	Description	Function
CU	Control Unit: Control unit	The control unit handles all basic functionality of the appliance.
CB	Connection Board: Connection PCB	The connection PCB provides easy access to all connectors of the control unit.
SCB	Smart Control Board: Expansion PCB	An expansion PCB provides extra functionality, like an internal calorifier or multiple zones.
GTW	Gateway: Conversion PCB	A gateway can be fitted to an appliance or system, to provide one of the following: <ul style="list-style-type: none">• Extra (wireless) connectivity• Service connections• Communication with other platforms
MK	Control panel: Control panel and display	The control panel is the user interface to the appliance.
RU	Room Unit: Room unit (for example, a thermostat)	A room unit measures the temperature in a reference room.
L-bus	Local Bus: Connection between devices	The local bus provides communication between devices.
S-bus	System Bus: Connection between appliances	The system bus provides communication between appliances.
R-bus	Room unit Bus: Connection to a room unit	The room unit bus provides communication to a room unit.
A	Device	A device is a PCB, control panel or a room unit.
B	Appliance	An appliance is a set of devices connected via the same L-bus.
C	System	A system is a set of appliances connected via the same S-bus.

Quinta Ace 30, 45, 55, 65, 90, 115

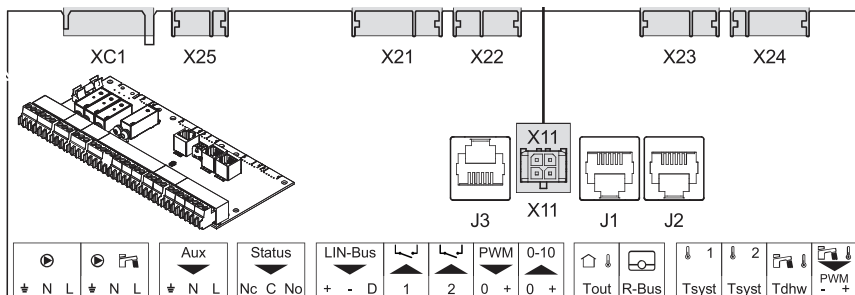
Boiler controls - Electrical installation

Main Control Unit CU-GH22 PCB is included as standard



Connection Board CB-25

The Connection Board CB-25 is also included as standard, providing multiple inputs & outputs (some configurable), to provide status, pump control on/off, OpenTherm or 0-10v control based on either analogue temperature or percentage output control.



Quinta Ace 30, 45, 55, 65, 90, 115

Boiler controls - Electrical installation

Boiler controls

The Quinta Ace range can be controlled using a number of methods – some examples are given below. Scheduling uses the integral Mk3 controller in conjunction with the recommended outside/room/DHW sensor when connected to the CB-25 connection board. Please contact our sales or technical departments for further options.

Modulating (two-wire control)

When using the optional Remeha by Baxi 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

This 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 by Baxi MC4

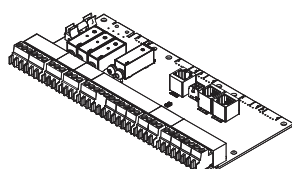
In conjunction with the iSense controller, the Remeha by Baxi MC4, can provide step control for multi-boiler installation of up to four boilers.

Connecting a third party control unit to a standard board

On/off or OpenTherm [volt free control from a third party controller]

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

On/off or OpenTherm Control [0 Volts]



On / Off Control

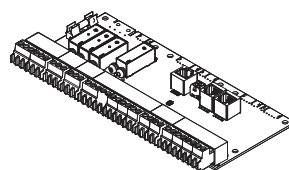


Located -
CB-25 Connection
PCB

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.

0-10V control to provide either temperature or capacity based analogue output



Analogue Temperature
/ Percentage Output



Located -
CB-25 Connection
PCB

Analogue output - temperature control

The 0-10V signal controls the boiler flow temperature between 0°C and 90°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.

Input signal (V)	Temperature(° C)	Description
0 - 1.5	0 - 15	Appliance off
1.5 - 1.8	15 - 18	Hysteresis
1.8 - 10	8 - 100	Targeted temperature

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 boilers modulation depth. The output varies between the minimum and maximum value on the basis of the value determined by the controller.

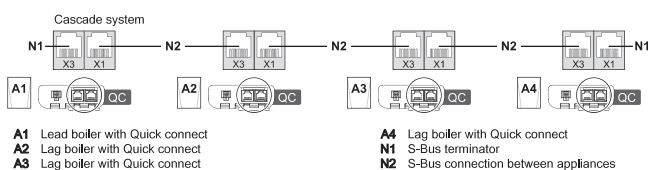
Input signal (V)	Heat output (%)	Description
0 - 2.0	0	Appliance off
2.0 - 2.2	0	Heat demand
2.0 - 10	0 - 100	Targeted heat output

Quinta Ace 30, 45, 55, 65, 90, 115

Boiler controls - Electrical installation

Cascade system

This option makes it possible to link up to four boilers in a cascade system. You can link the boilers without the need for an external cascade manager or expansion boards. The S-Bus connections can be made externally on the Quick Connect. For more than four boilers in a cascade system, you will need to use an external cascade manager or expansion PCB's. Multiple zones are only possible with an expansion PCB, eg. SCB-10.



Configurable input and output

This option makes it possible to configure the input and output connectors. Depending on the desired system, you can select and combine the available configurations. You can change the behaviour of the connectors with a parameter setting.

LIN-Bus

This option makes it possible to connect a LIN pump. The LIN-Bus protocol gives you more insight about the performance, diagnostics and failure detection of the pump.

Domestic Hot Water

This option makes it possible to connect a DHW cylinder. Depending on the desired DHW system, you can connect different types of pumps and sensors. The combination of the extended connections and software features gives you more options as standard.

Optional gateways

ModBus - Communications

The GTW-08 gateway is designed to operate as a communication interface between a heating and/or cooling appliance and the building management system (BMS) based on communication protocol ModBus®. This kit offers an easy solution to connect or monitor our appliances in the following ways:

- To connect BDR appliances to BMS
- To control the appliances (set heat demand)
- To monitor the appliances (data reading)

BACNet - Communications

The GTW-21 gateway is designed to operate as a communication interface between a heating and/or cooling appliance and the building management system (BMS) based on communication protocol BACNet®. This kit offers an easy solution to connect or monitor our appliances in the following ways:

- To connect BDR appliances to BMS
- To control the appliances (set heat demand)
- To monitor the appliances (data reading)

Quinta Ace 30, 45, 55, 65, 90, 115

Boiler controls – Electrical installation

Priority DHW control

Temperature control

With a Remeha by Baxi temperature sensor or with a standard (voltage 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 QA90/115)
- With a DHW pump
- DHW time program (available 24 hours a day)

System/shunt pump

A shunt pump can be connected to the boiler (maximum power consumption 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 status connector on the CB-25 connection board.

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, "Baxi Water Quality Regulations" is available from baxi.co.uk/quinta-ace. 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/shunt pump is switched on if connected to the boiler. Below 4°C – boiler is switched on; when the flow temp reaches 10°C the burner / boiler shuts down and the pump continues to run for a short period then stops.

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 CB-25 connection board. This has two potential-free contacts, Status/Aux Connectors, 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 and release digital inputs via the configurable DI.1 and DI.2 connectors on the CB-25 connection board.

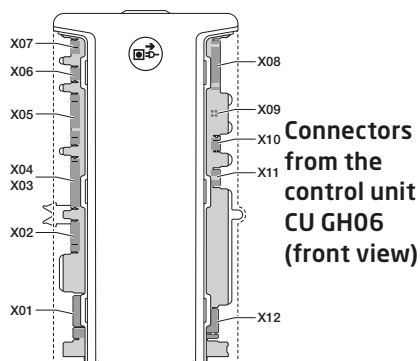
Quinta Ace 135 and 160

Controls and specifications

Priority DHW control

Specifications

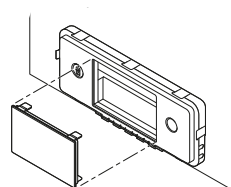
The boiler has a three-wire mains lead (lead length 1.5m) and is suitable for a 230VAC/50Hz power supply with a phase/neutral/earth system. The boiler is not phase sensitive and the boiler is completely pre-wired.



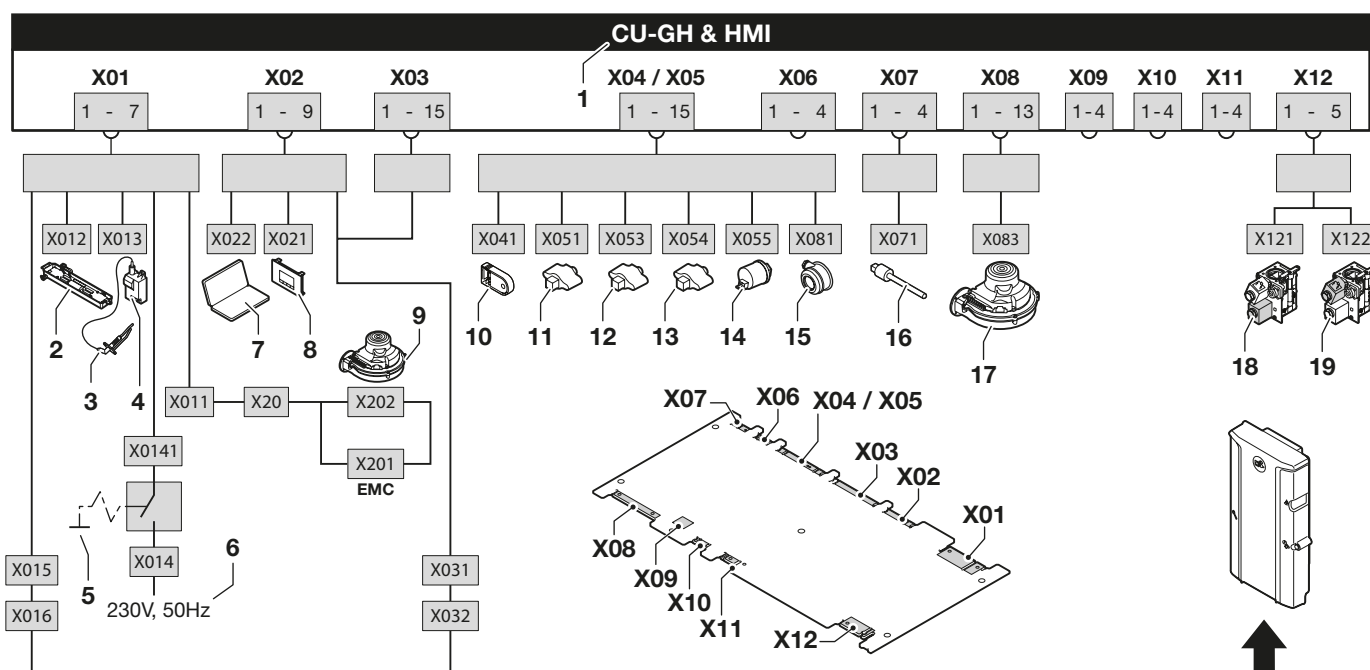
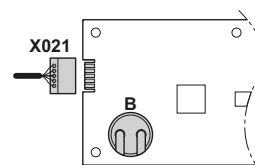
Assembly of the control panel

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.

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.

Specifications

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 specification

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 (flow 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.

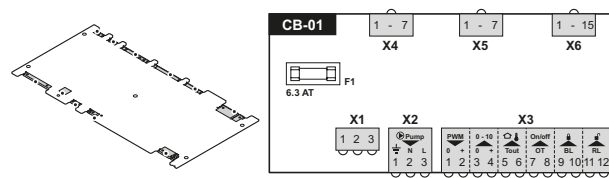
External connections

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

CB-01

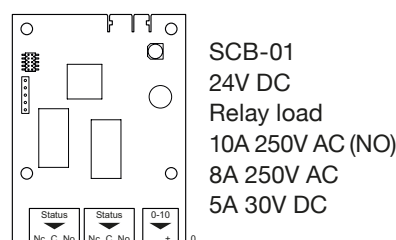
Connection Board (CB-01) is included as standard.



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

SCB-01

Smart Control Board (SCB-01) is included as standard.



Quinta Ace 135 and 160

Electrical installation and boiler controls

Boiler controls

The Quinta Ace range can be controlled using a number of methods. 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 by Baxi 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 by Baxi MC4

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

On/off volt free control from a third party installer

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)

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 below) 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%).

Quinta Ace 135 and 160

Electrical installation and boiler controls

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 22, 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 please visit baxi.co.uk/quinta-ace and refer to "Baxi Water Quality Regulations". 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.

Quinta Ace

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 fitting 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 1.8M (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

Quinta Ace

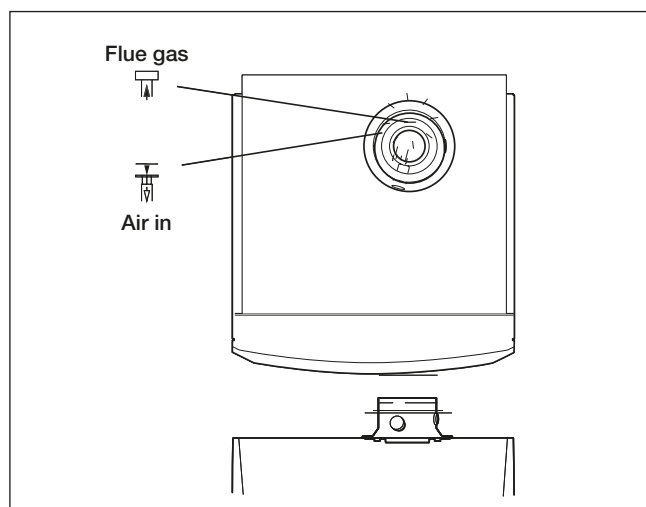
Flue outlet/air inlet details

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).

Details of inlet connection

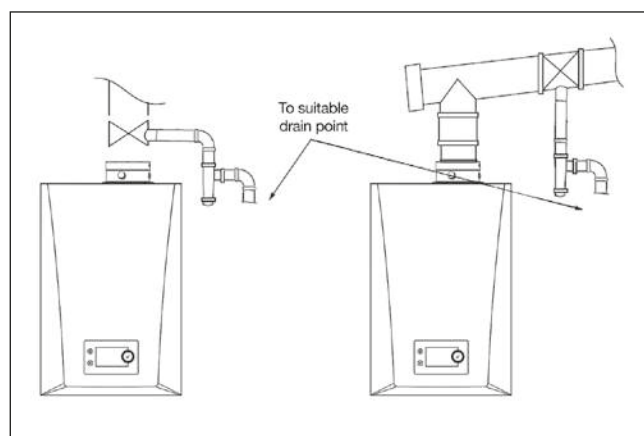
This shows the concentric flue connection used for room-sealed operation and an option using single skin is available.



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 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

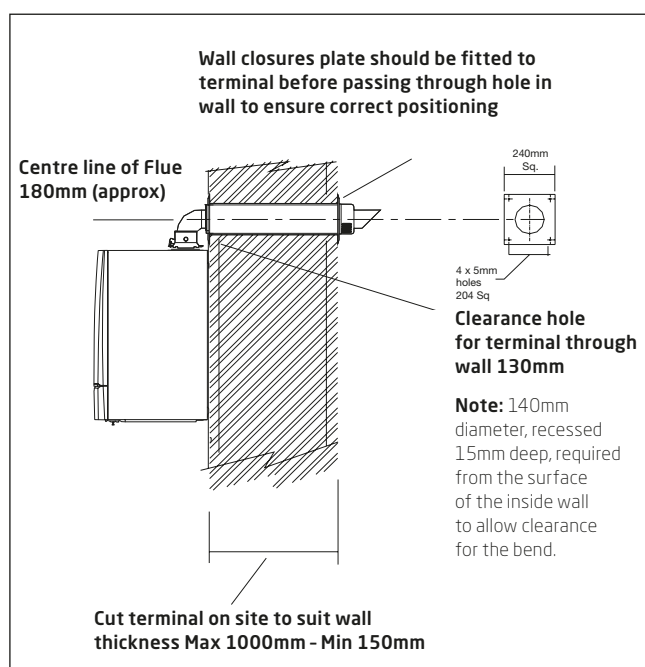
For use when the boiler/s are mounted on and flued through a rear outside wall, and for a typical single boiler installation. It can also be used for multiple boilers but each must have its own flue system and terminals positioned at a minimum of 530mm centres and never installed immediately above another. 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.

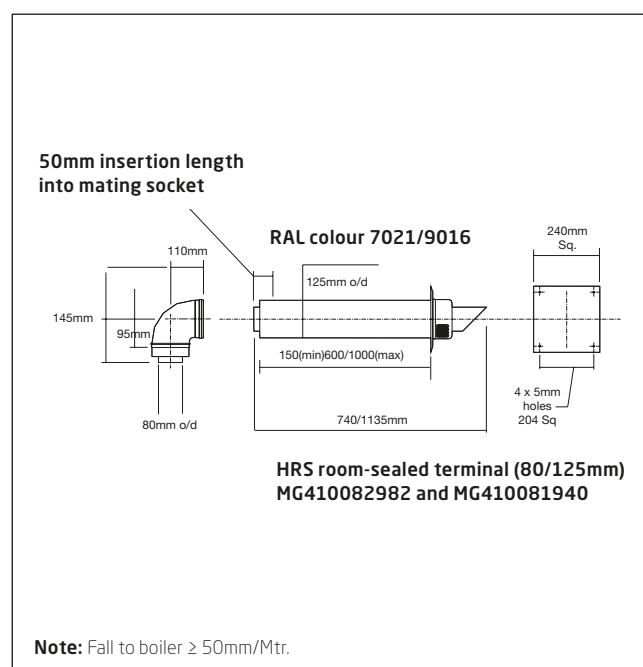


Extended horizontal flue kit 80/125mm

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

- 1 x horizontal terminal

Note: Boiler bend and wall plate are included.



Quinta Ace 30 and 45

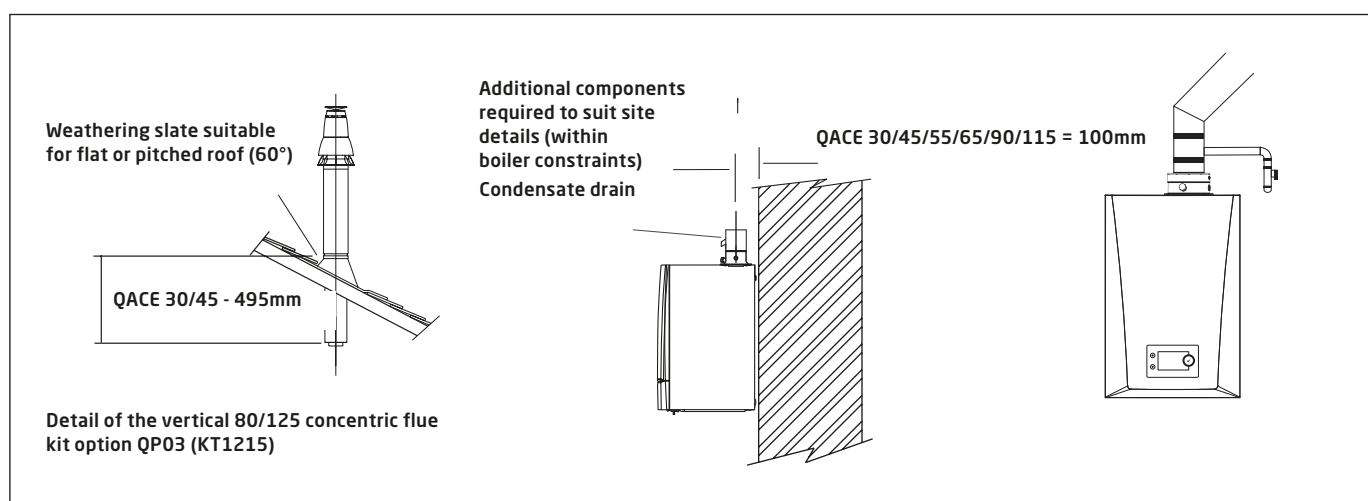
Room sealed 80/125mm horizontal concentric flue kit option QP03

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.

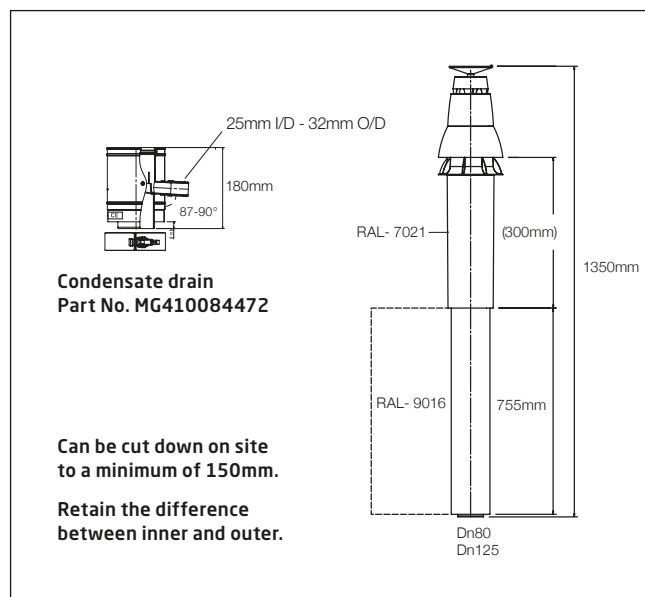
Concentric vertical flue kit 80/125mm Vertical flashing detail

Kit parts - KT125 (max wall thickness 500mm)

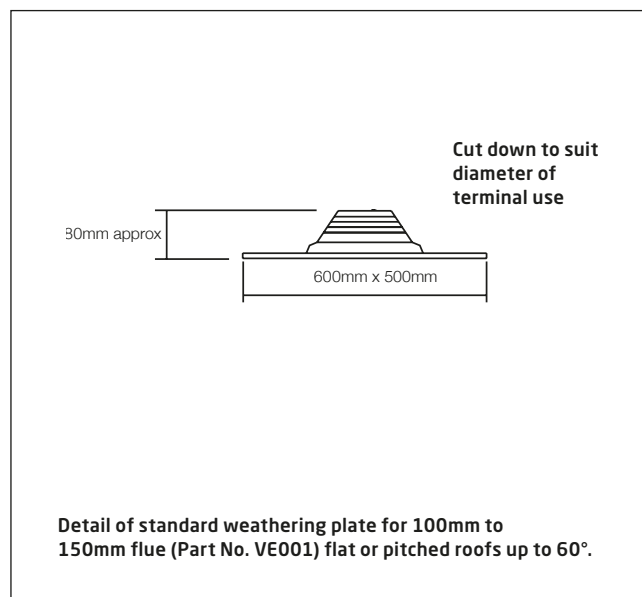
- 1 x vertical terminal – MG10086864
- 1 x universal roof seal pack – VE001



Concentric vertical flue kit 80/125mm



Vertical flashing detail



Quinta Ace 30 and 45

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

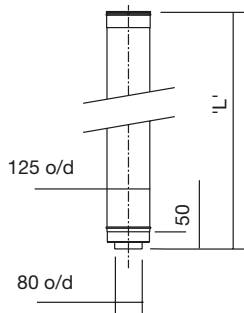
Calculation data based on flue products supplied by Remeha by Baxi.

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

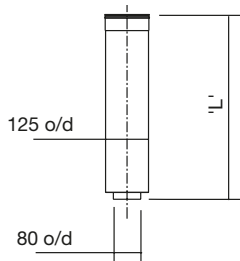
Note 1: Minimum fall back is 2° or 50mm per metre.

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

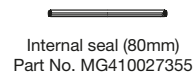
Note 2: The components listed below are not for external use.



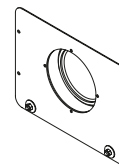
Standard length (cannot be cut)
'L' = 1000mm Part No. MG410084486
'L' = 500mm Part No. MG410084485



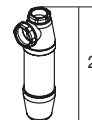
Standard length (cuttable length)
'L' = 1000mm Part No. MG410082314
'L' = 500mm Part No. MG410082313



Internal seal (80mm)
Part No. MG410027355



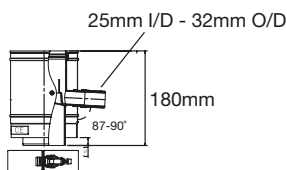
Internal wall plate
Part No. MG410081302



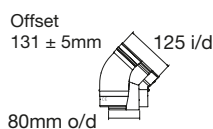
Siphon
Part No. MG410081165



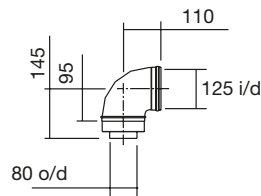
Siphon adaptor kit
Part No. MG410087491



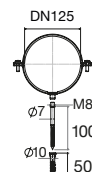
Condensate drain Part No. MG410084472



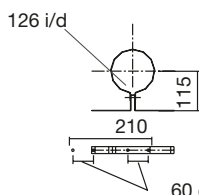
45° Bend
Part No. MG410084461



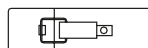
90° Bend Part No. MG410084460
90° Boiler short bend Part No. MG410084810



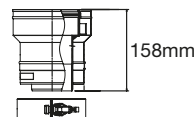
Extended wall bracket
Part No. MG410084481



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 different 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.

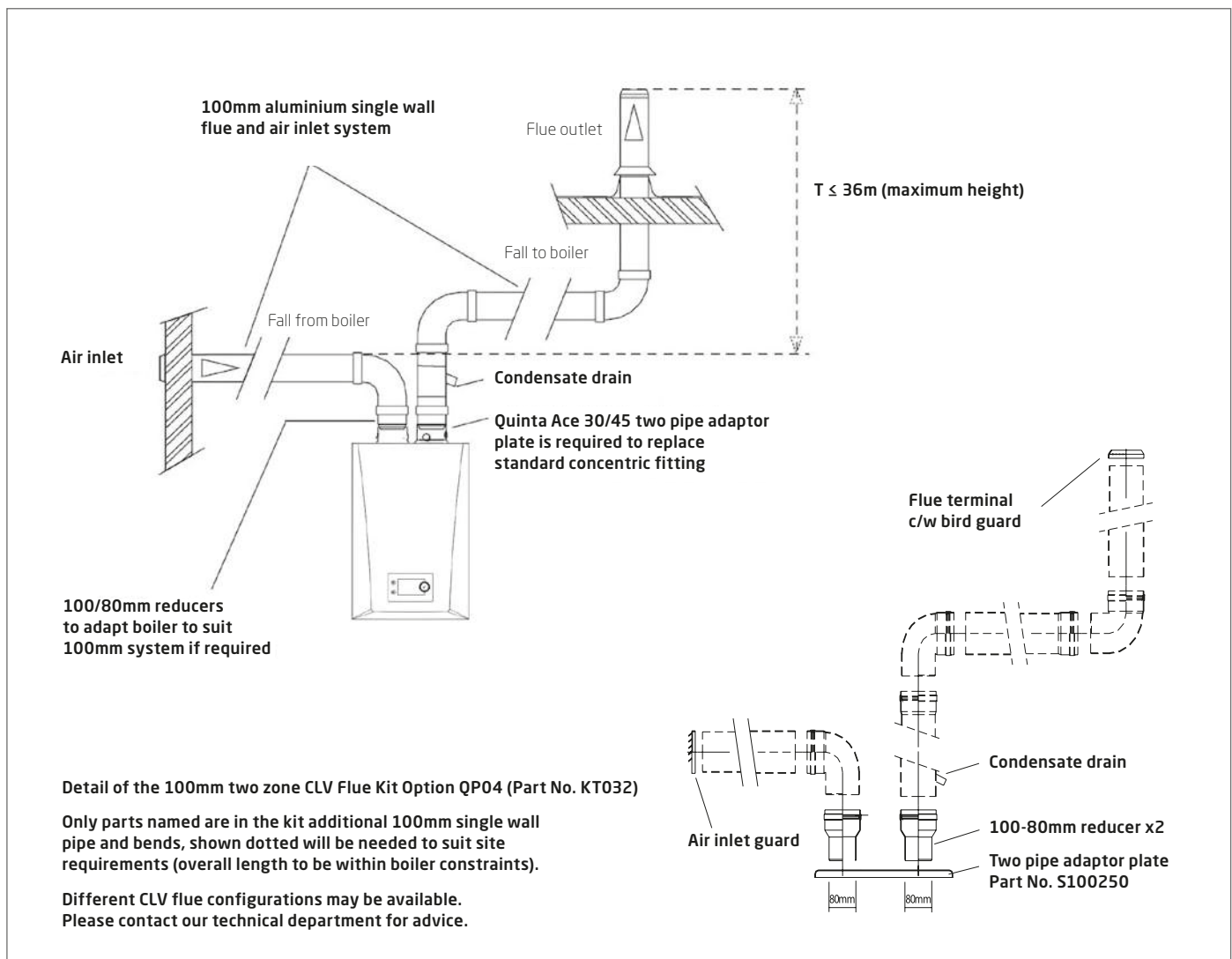
Kit parts - K1032

- 1 x flue connection – S100250
- 2 x flue adaptor 80/100 – MG87127
- 1 x flue terminal – MG015084012

CLV flue kit 100/100mm

- 1 x air inlet – MG410081754
- 1 x condensate drain – MG410085130
- 1 x siphon – MG410081165
- 1 x condense adaptor kit – MG410087491

CLV flue kit 100/100mm



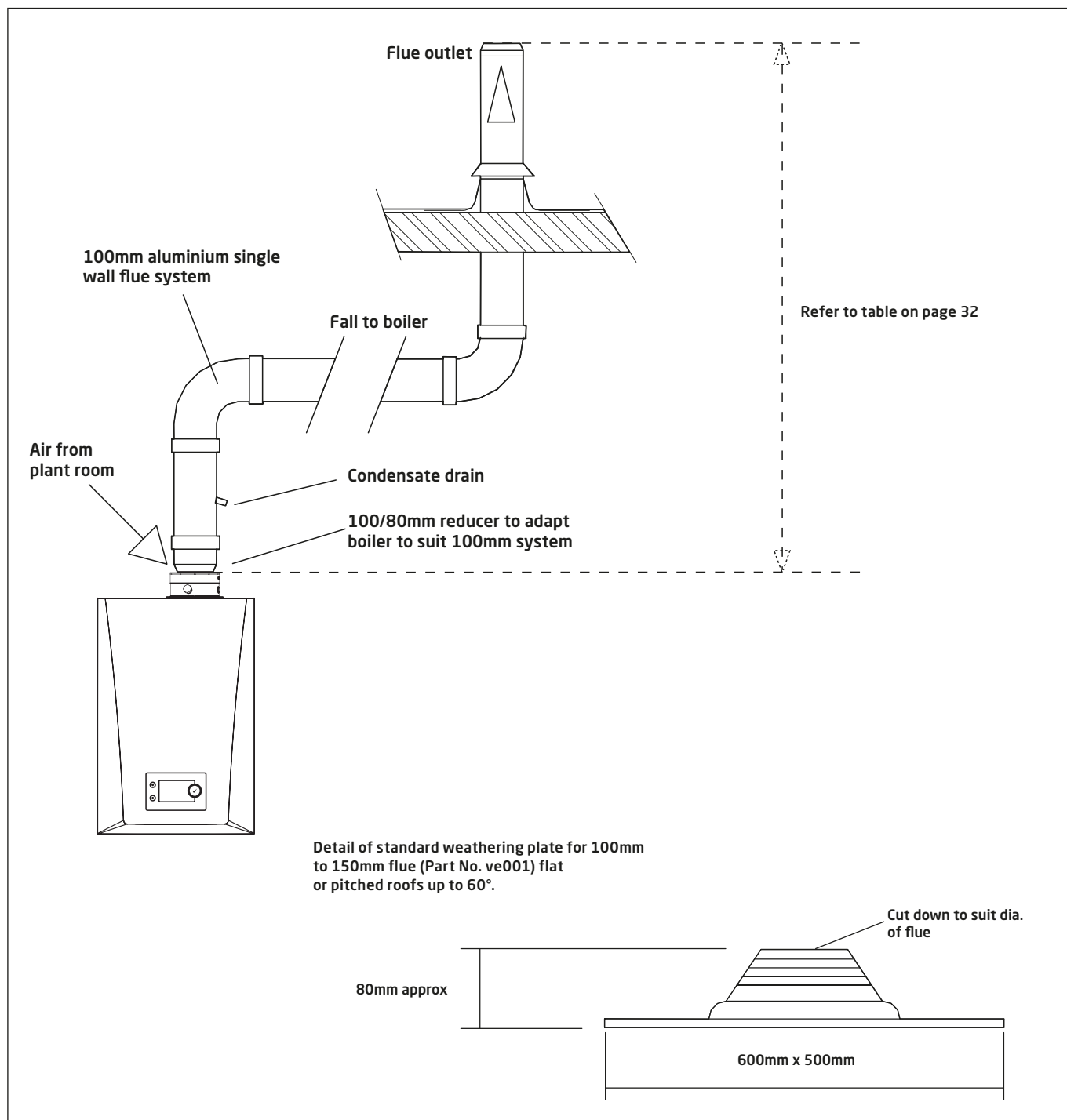
Note 1: Maximum combined length of air intake and flue is 40m.

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 32.



Note: Fall to boiler $\geq 50\text{mm/Mtr.}$

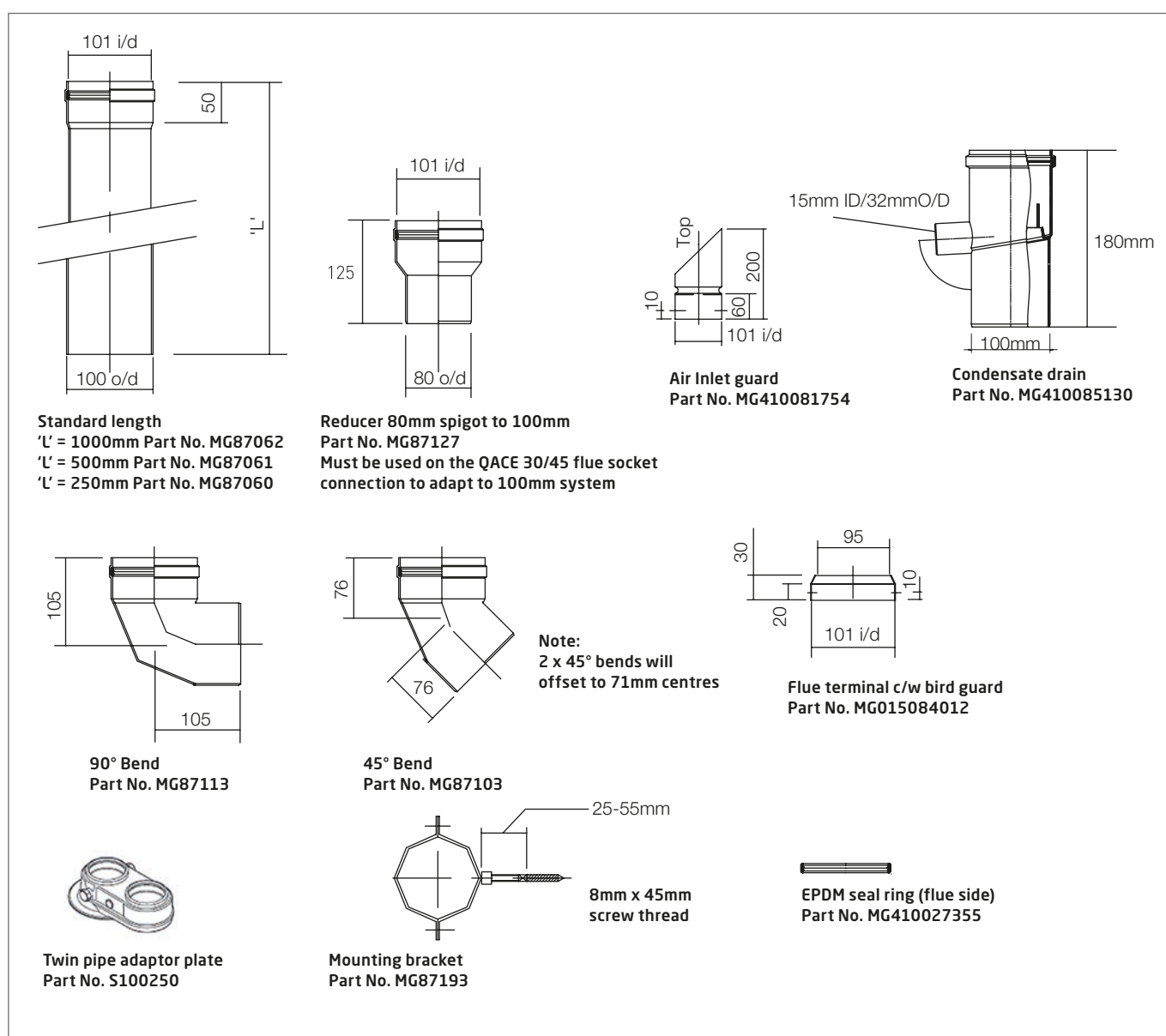
Quinta Ace 30 and 45

100mm conventional or open-flue systems

The components listed below are only suitable for internal use. 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 based on flue products supplied by Remeha by Baxi. Other distances available at 110mm (see manual) are achievable with increased flue sizes.



Note 1: All dimensions are in mm.

Note 2: Fall to boiler $\geq 50\text{mm/Mtr}$.

Quinta Ace 30 and 45 plume kits

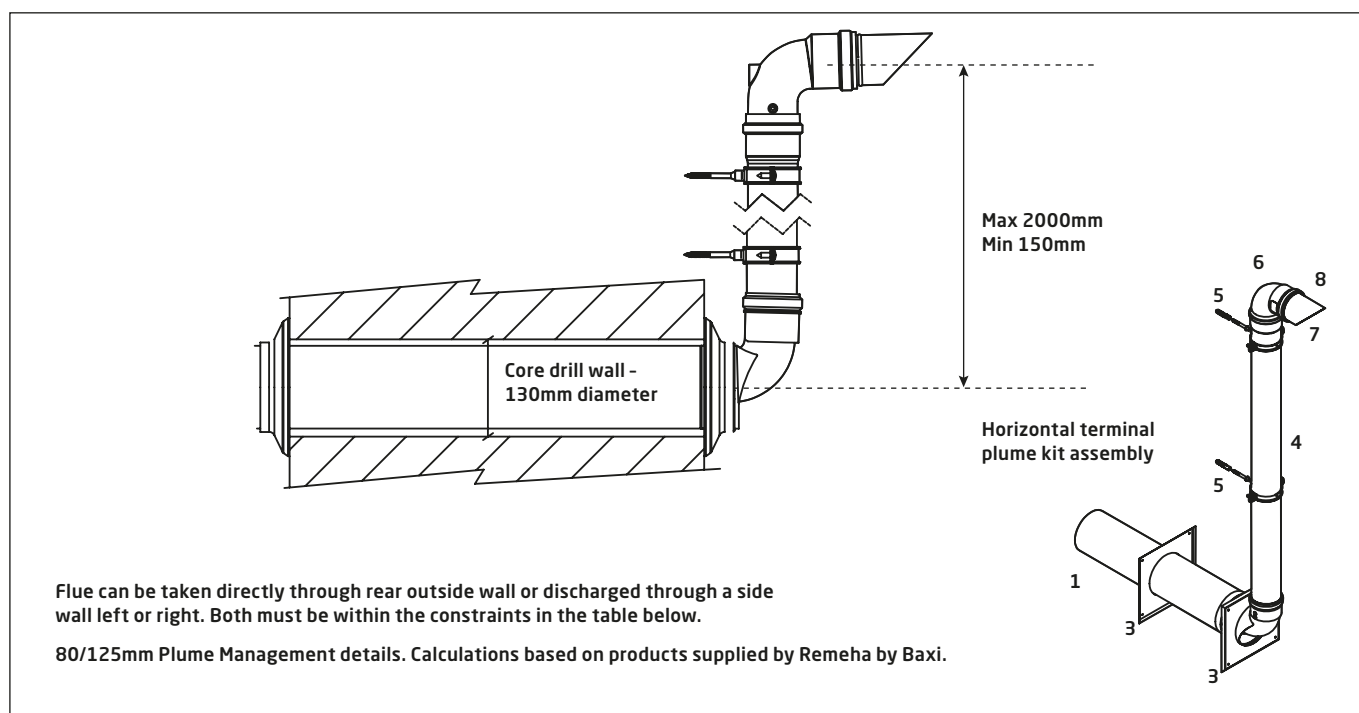
80/125mm flue kit option QP05

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

Horizontal flue kit 80/125mm



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 $\geq 50\text{mm/Mtr.}$

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

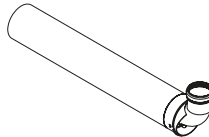
80/125mm plume management components part detail

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



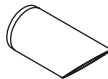
MG410082343

PMK – 90° bend (80mm)



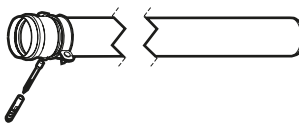
MG410082344

PMK – horizontal outlet (80mm)



MG410082341

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



MG410082342

PMK – 45° bend (80mm)



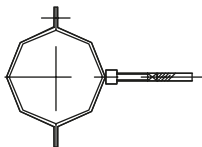
MG410082345

Bird mesh (80mm)



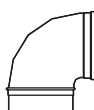
MG410087191

PMK – wall bracket (80mm)



MG410084810

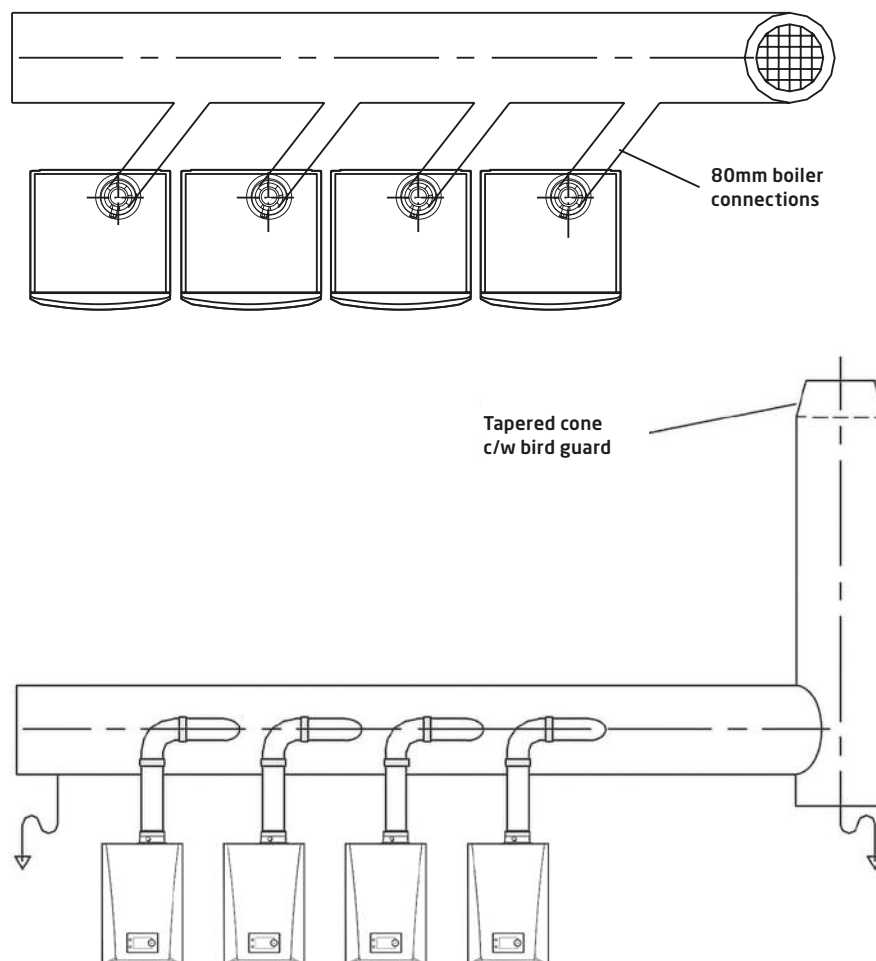
Boiler bend (80mm)



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.

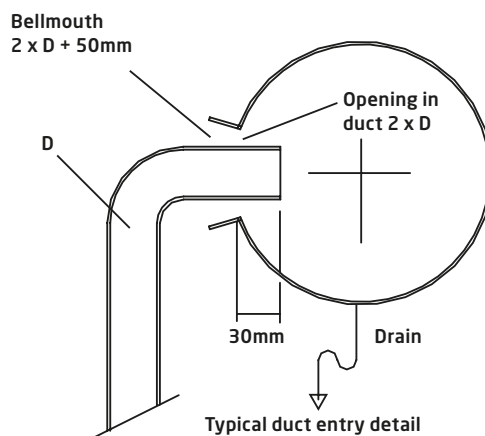
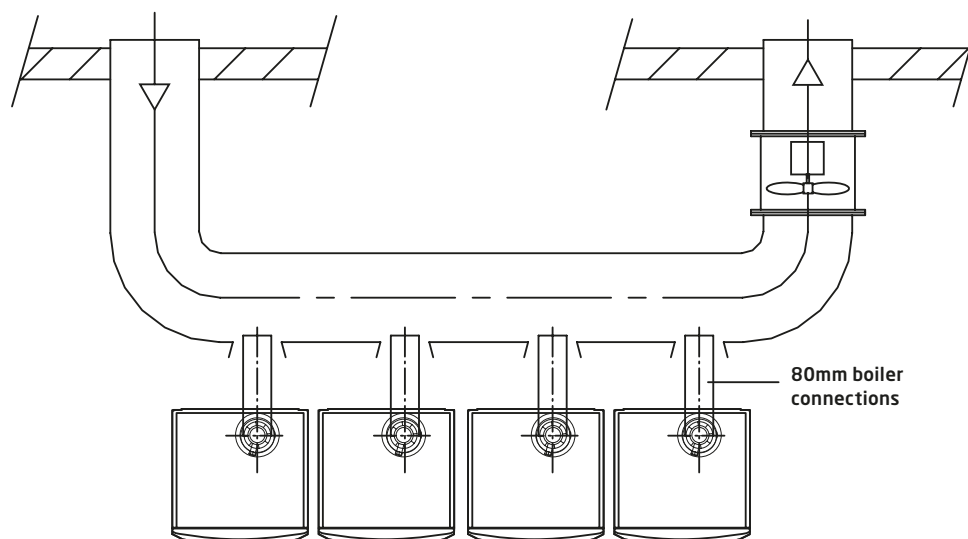


For illustration purposes only (we recommend installation of condensate collectors with drainage system and water sealed siphon to the spigot of each boiler).

Quinta Ace 30 and 45

Multi-boiler or single-boiler installation on a flue dilation system

Remeha by Baxi 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.



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

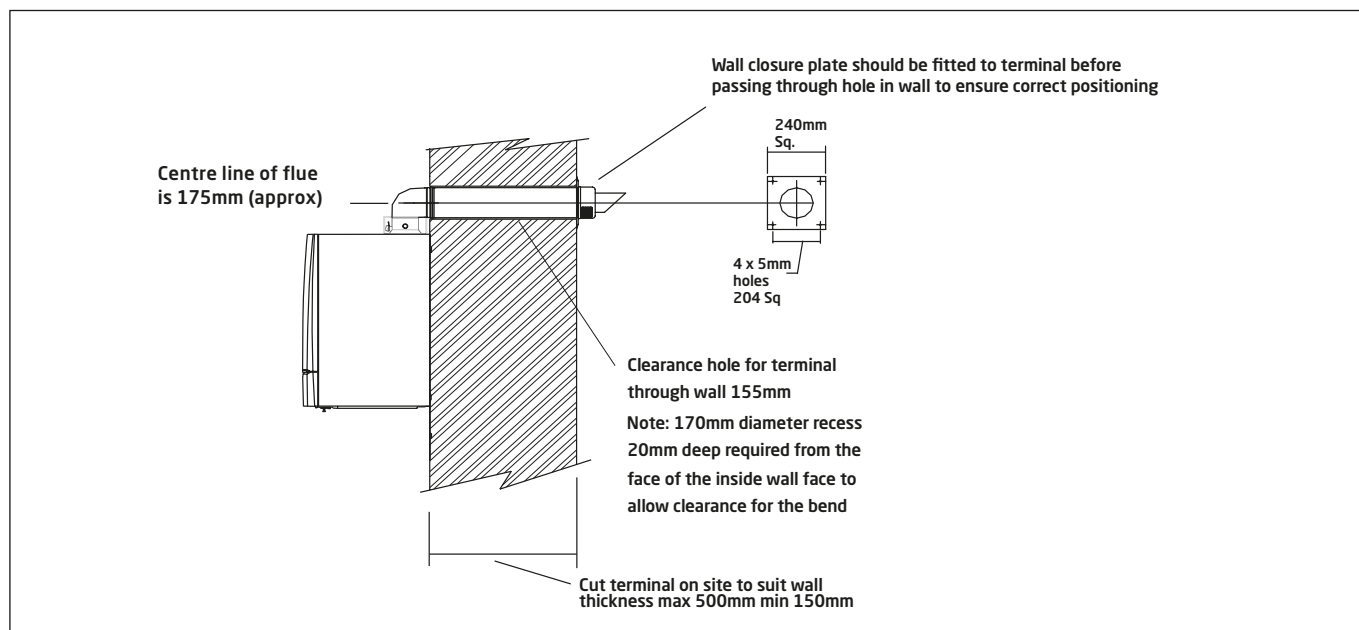
Room-sealed, 100/150mm horizontal concentric flue kit

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



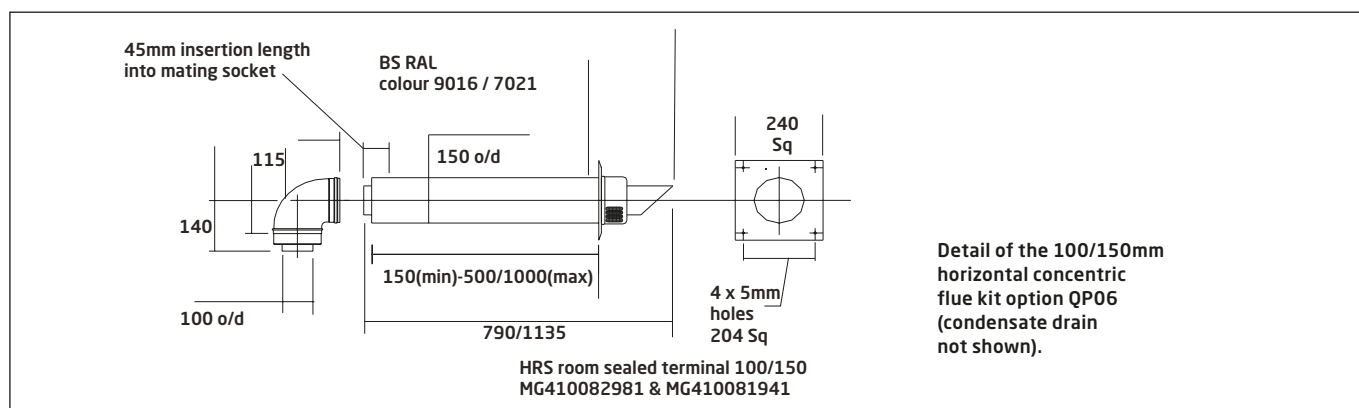
Note 1: Fall to boiler $\geq 50\text{mm/Mtr}$.

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



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.

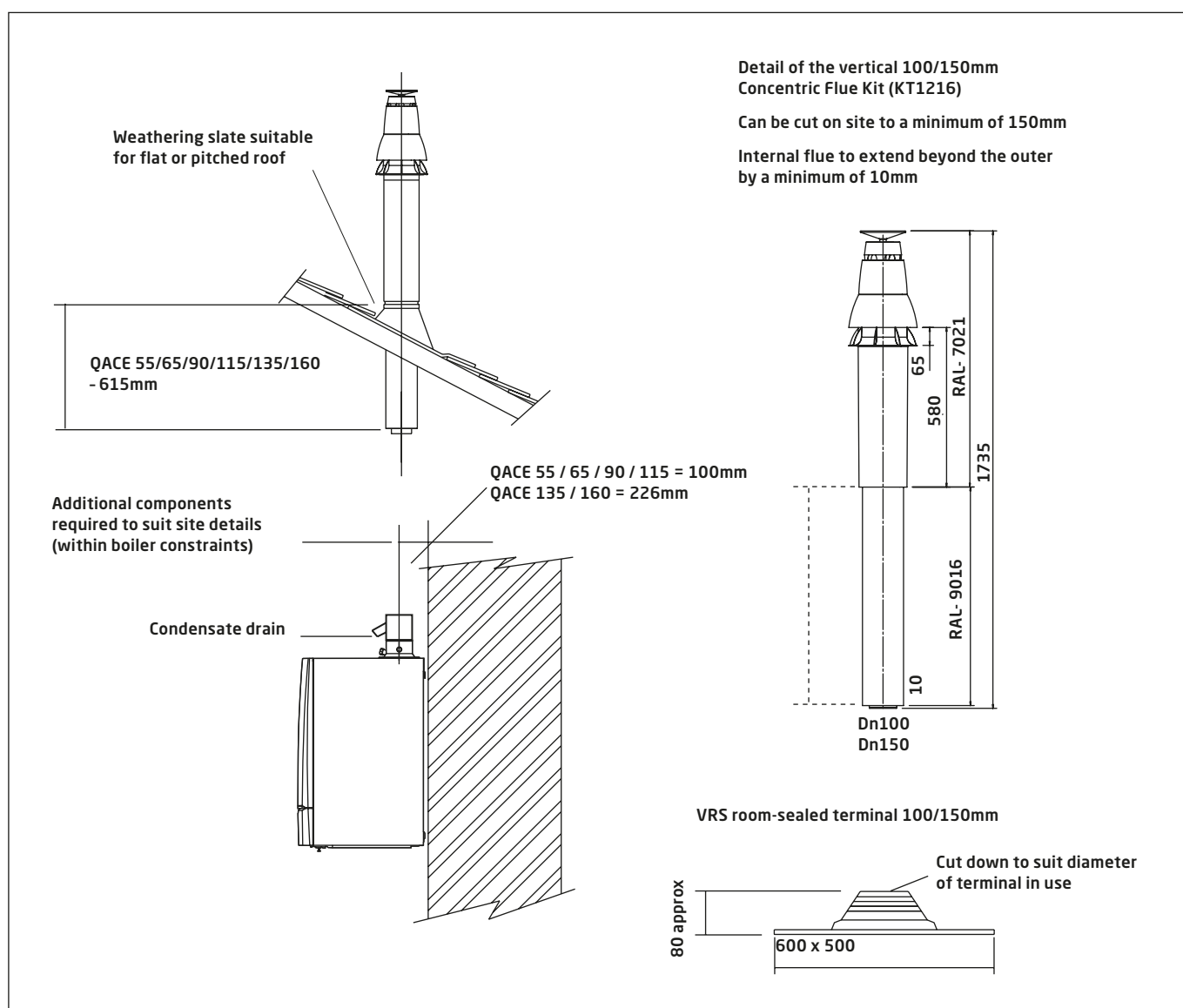
Kit parts - KT216

- 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

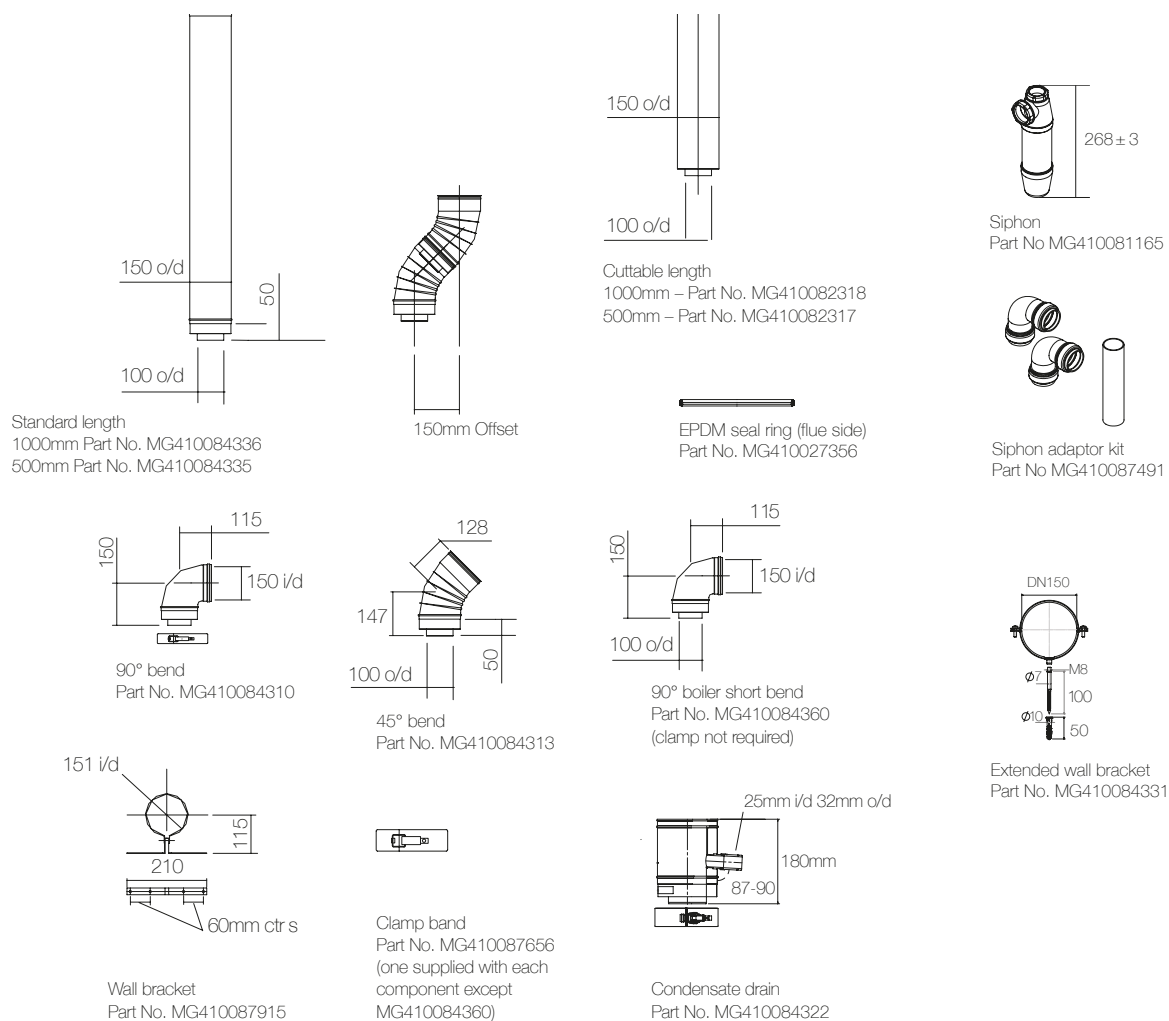
Calculation data based on rigid pipe flue products supplied by Remeha by Baxi.

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.



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.

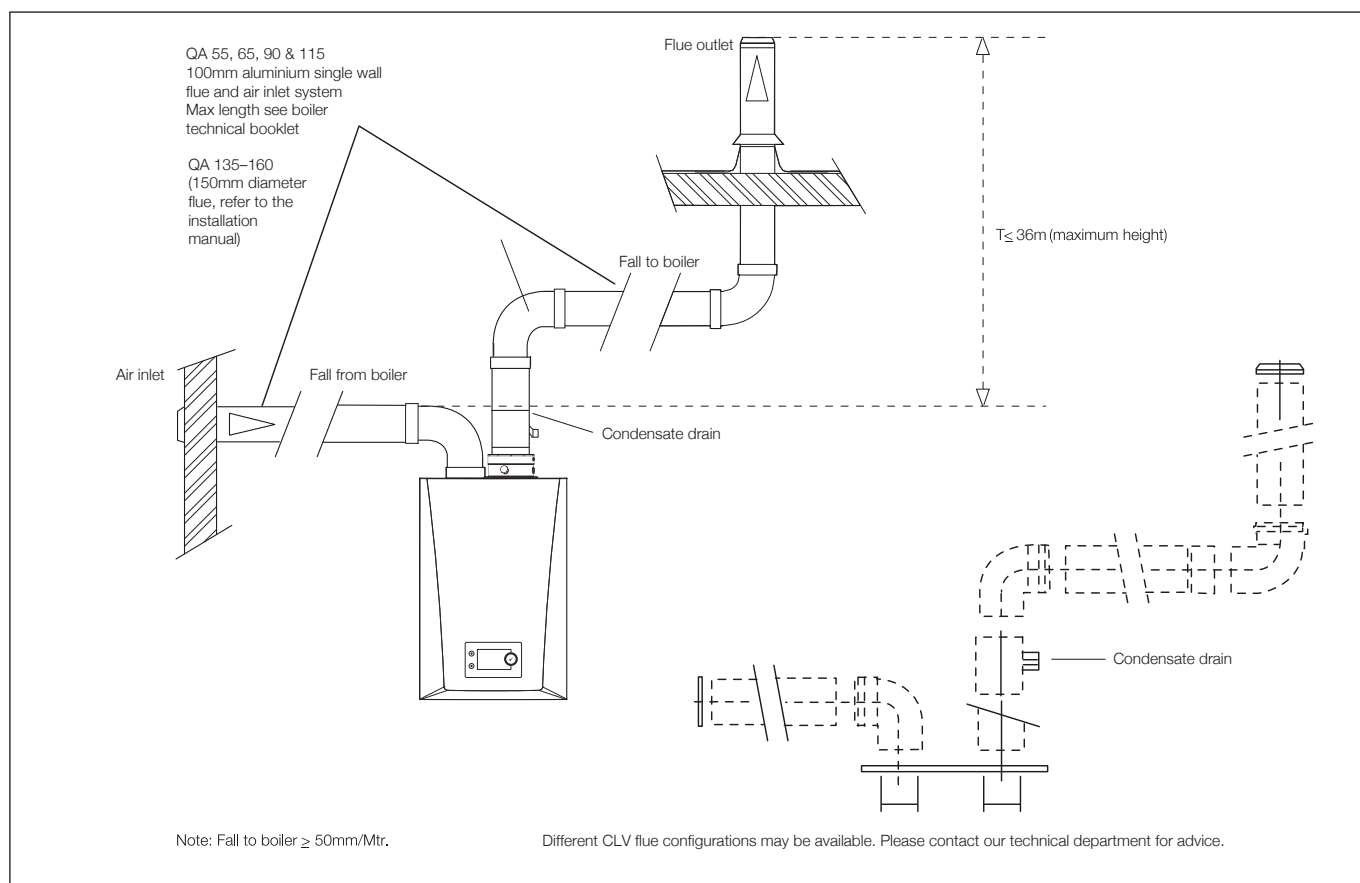
Kit parts - KT030 (QA 55, 65, 90, 115)

- 1 x flue connection – S101626
- 1 x flue terminal – MG015084012
- 1 x air inlet – MG410081754
- 1 x condensate drain – MG410085130 x siphon – MG410081165 x condensate adaptor kit – MG410087491

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 condensate adaptor 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 $\geq 50\text{mm/Mtr.}$

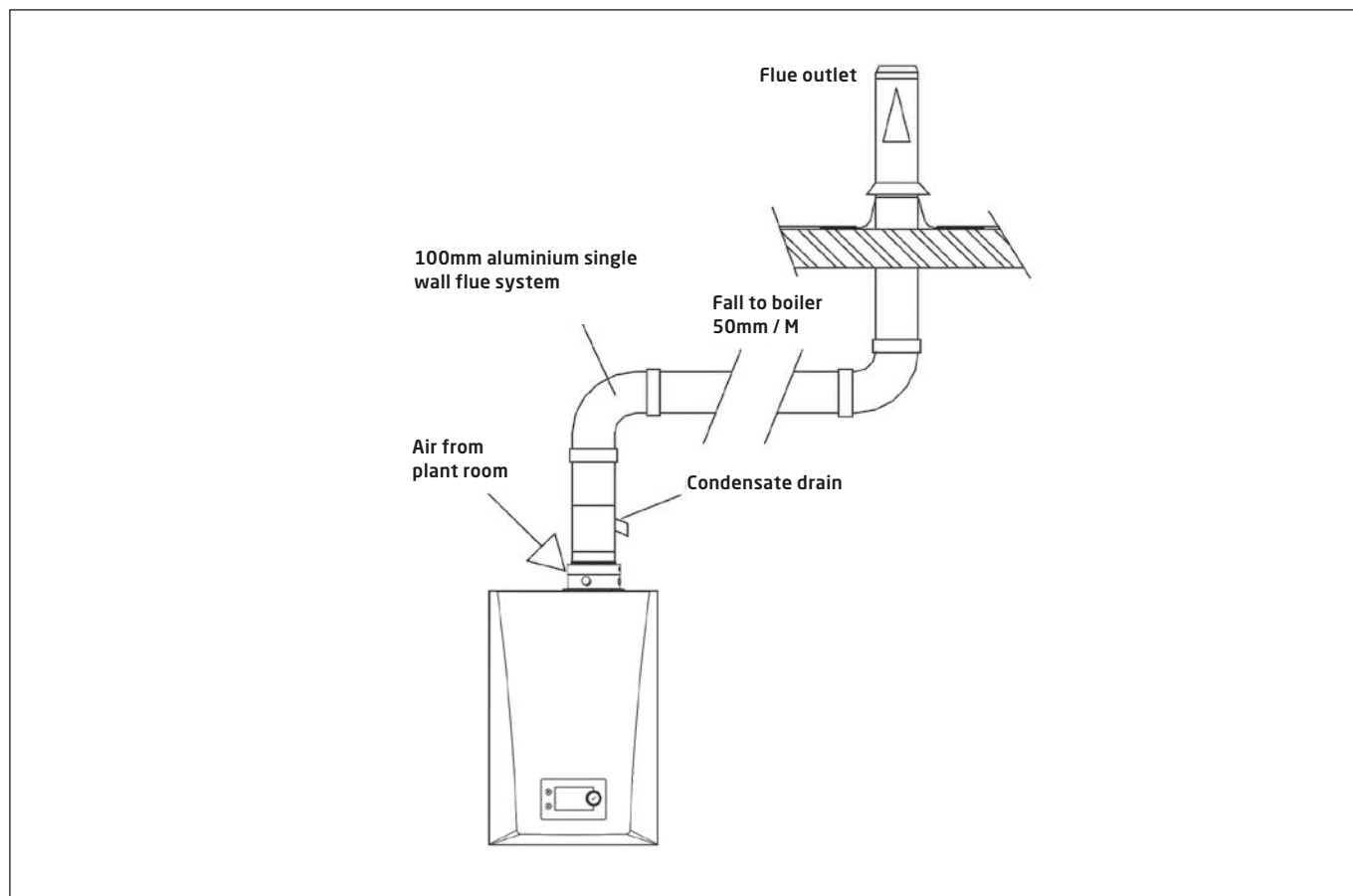
Room-Sealed Flue Data		Quinta Ace 55 100mm Ø	Quinta Ace 65 100mm Ø	Quinta Ace 90 100mm Ø	Quinta Ace 115 100mm Ø	Quinta Ace 135 150mm Ø	Quinta Ace 160 150mm Ø
Maximum length	Metres	27	16	17	14	40	40
Equivalent length of 45° elbow	Metres	1.4	1.4	1.4	1.4	1.2	1.2
Equivalent length of 90° elbow	Metres	4.9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

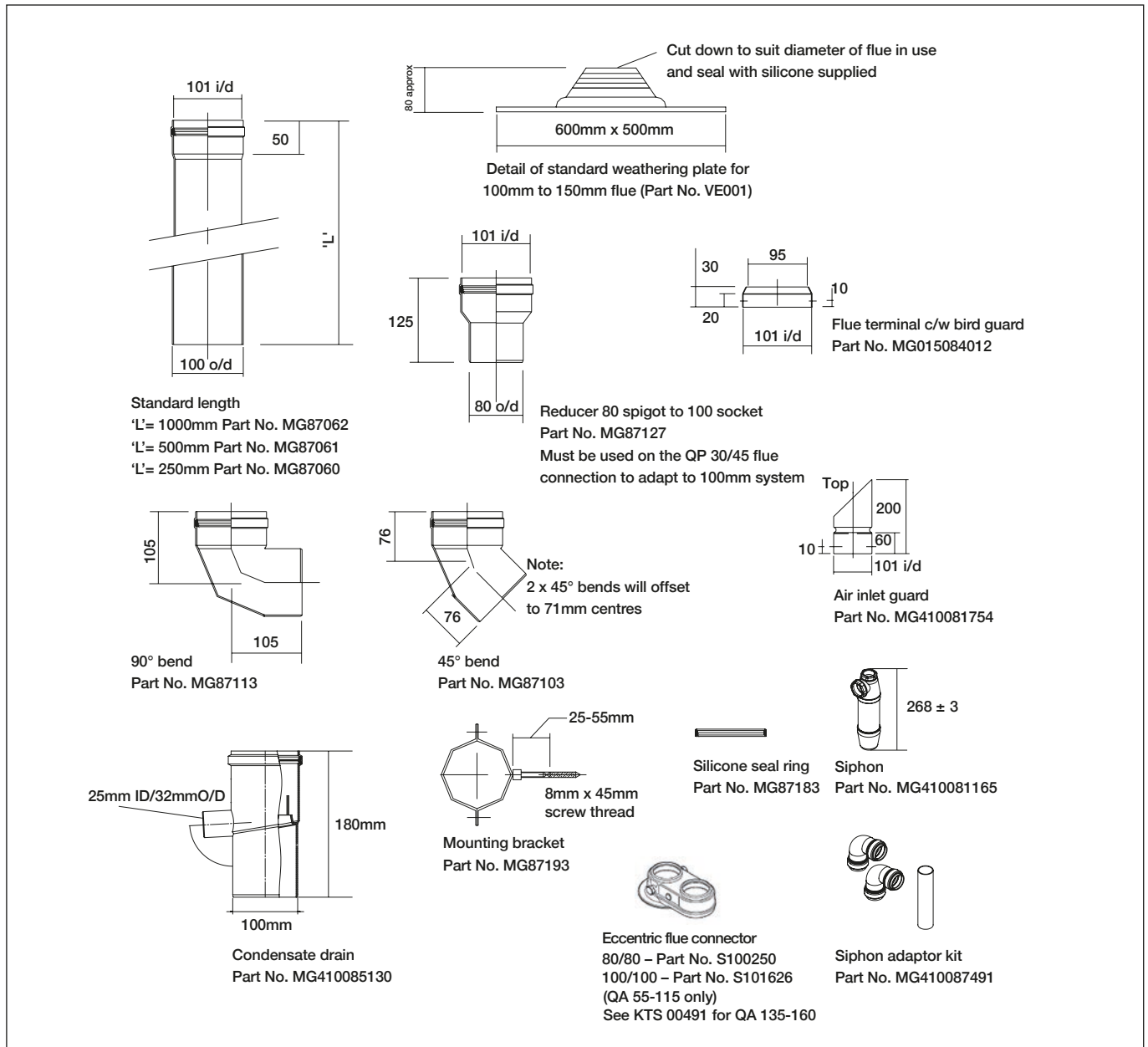


Open Flue Data (100mm)		Quinta Ace 55 100mm Ø	Quinta Ace 65 100mm Ø	Quinta Ace 90 100mm Ø	Quinta Ace 115 100mm Ø	Quinta Ace 135 100mm Ø	Quinta Ace 135 150mm Ø	Quinta Ace 160 100mm Ø	Quinta Ace 160 150mm* Ø
Maximum overall flue run	Metres	39	26	24	19	12	40	8	40
Reduction length for each 45° bend	Metres	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 Baxi commercial technical support for further details. *Not supplied by Remeha by Baxi.

Quinta Ace 55, 65, 90, 115, 135 and 160

100mm single wall aluminium flue components



Note 1: All dimensions are in mm.

Note 2: The only parts that are suitable for external use are VE001, MG015084012 and MG410081754.

Quinta Ace 55, 65, 90, 115, 135 and 160

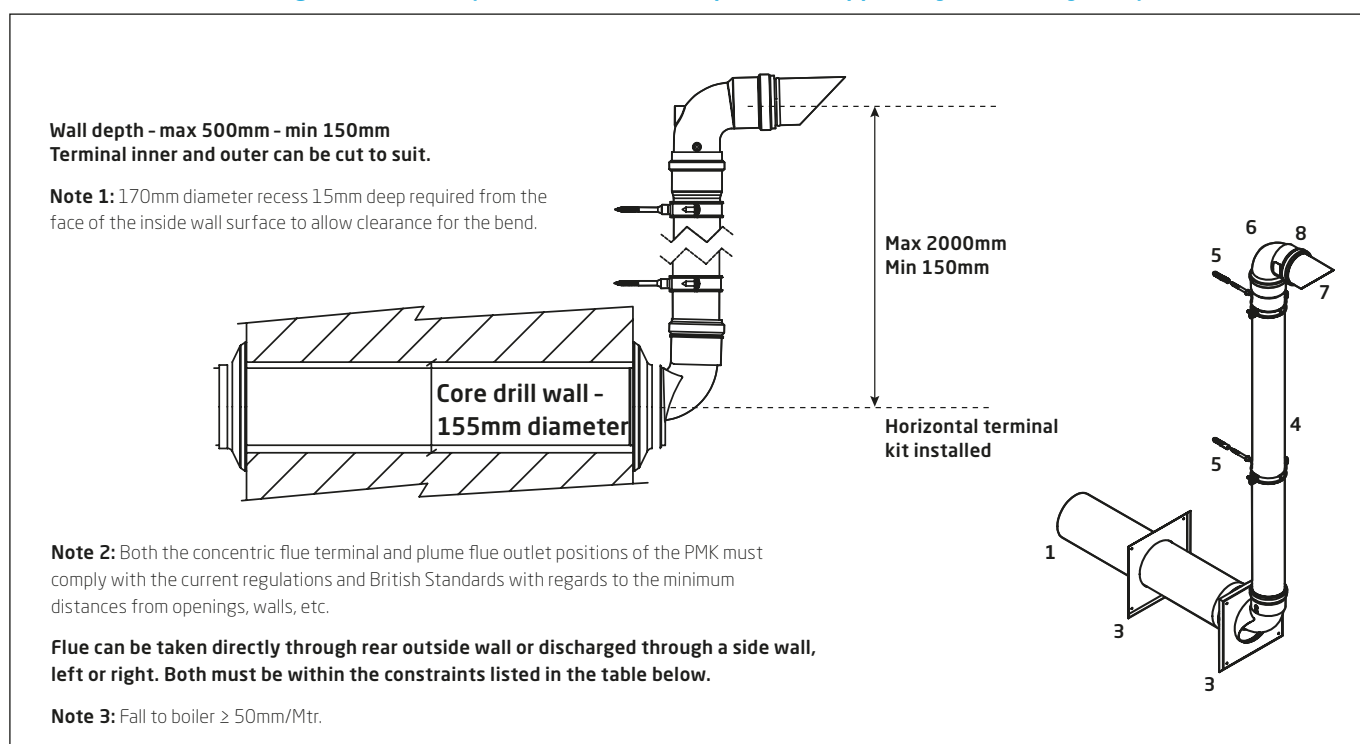
100/150mm flue option QP11

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 | 6 90° bend (100mm) |
| 2 Boiler bend – not illustrated | 7 Flue outlet (100mm) |
| 3 Wall plates | 8 Bird guard |
| 4 Plume extension | • 1 x siphon – MG410081165 (not illustrated) |
| 5 Support bracket (100mm) | • 1 x condensate adaptor kit – MG410087491 (not illustrated) |

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



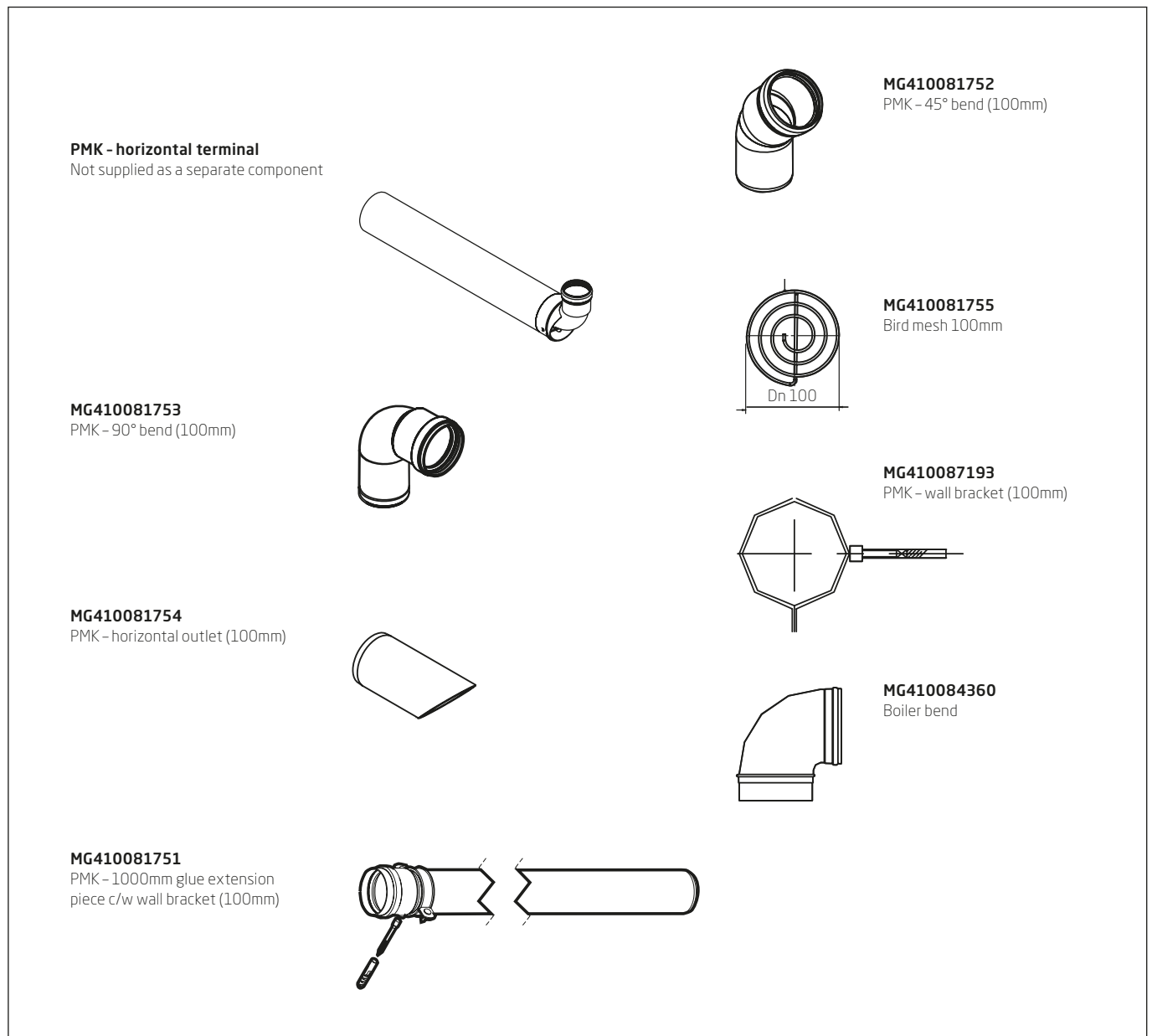
Room-Sealed (PMK) Flue Data		Quinta Ace 55 100mm/ 150mm	Quinta Ace 65 100mm/ 150mm	Quinta Ace 90 100mm/ 150mm	Quinta Ace 115 100mm/ 150mm	Quinta Ace 135 100mm/ 150mm	Quinta Ace 160 100mm/ 150mm
Maximum horizontal run	Metres	6	6	6	6	6	6
Reduction length for each 45° bend	Metres	1.2	1.2	1.2	1.2	1.2	1.2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

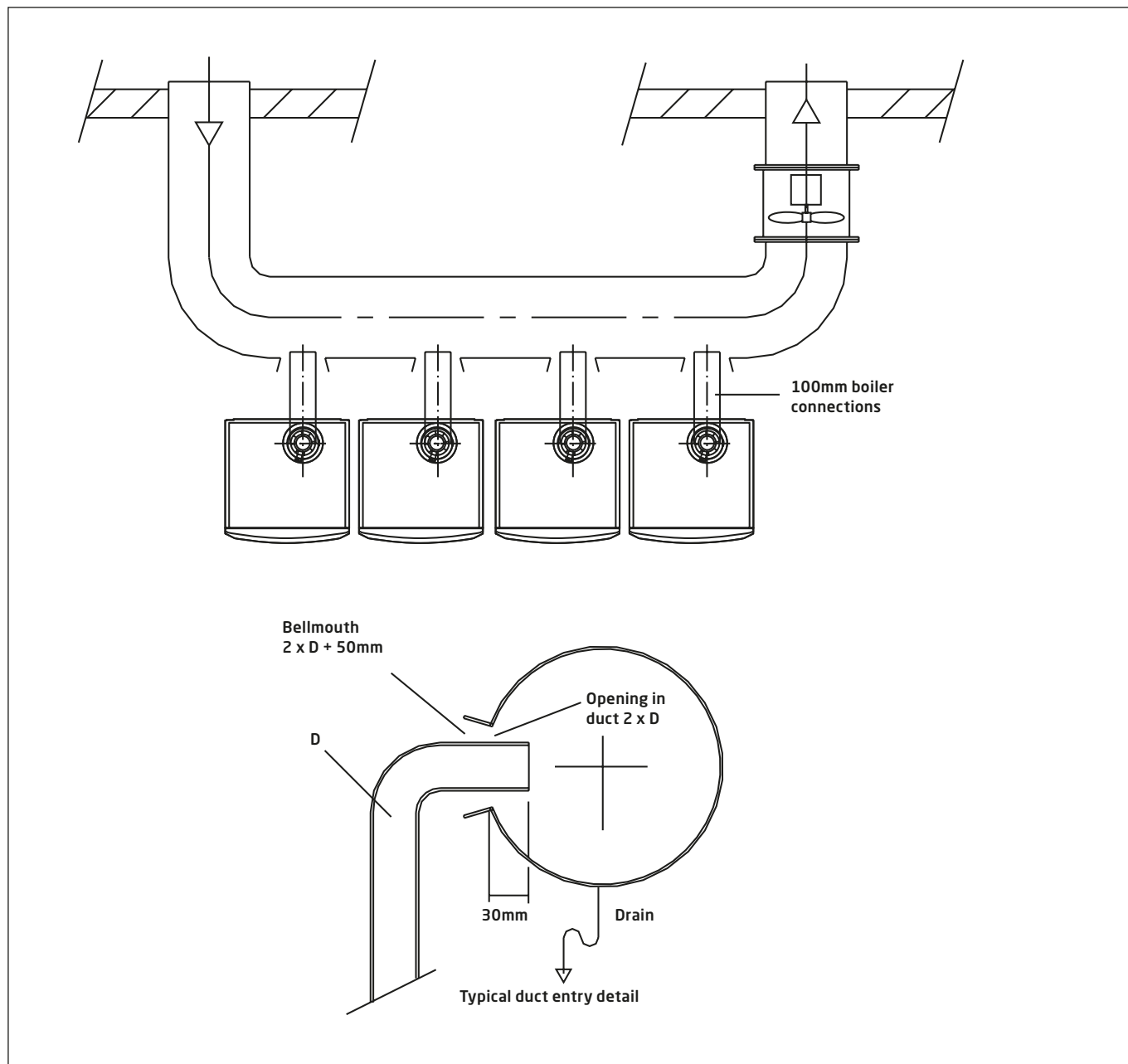


Note: The components listed above must only be used as part of the Plume Management Kit.

Quinta Ace 55, 65, 90, 115, 135 and 160

Multi or single-boiler installations on a flue dilution system

Remeha by Baxi 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.

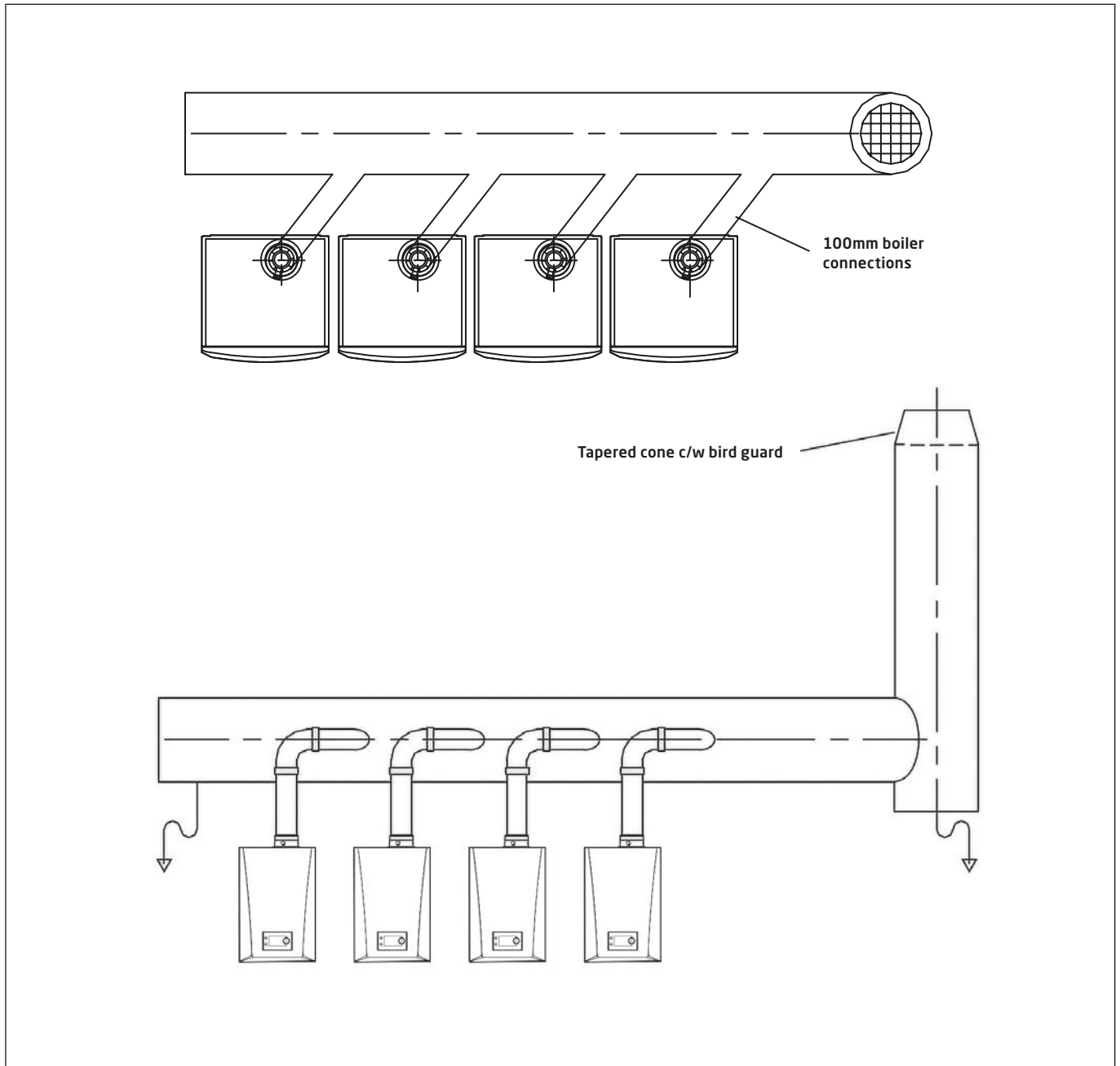


For illustration purposes only (we recommend installation of condensate collectors with drainage system and water sealed siphon to the spigot of each boiler).

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.



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 fluecade system is not suitable for use with any other Quinta Ace or Quinta Ace S boiler.

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 55.

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 52 - 54 can be fitted as within the fluecade system.

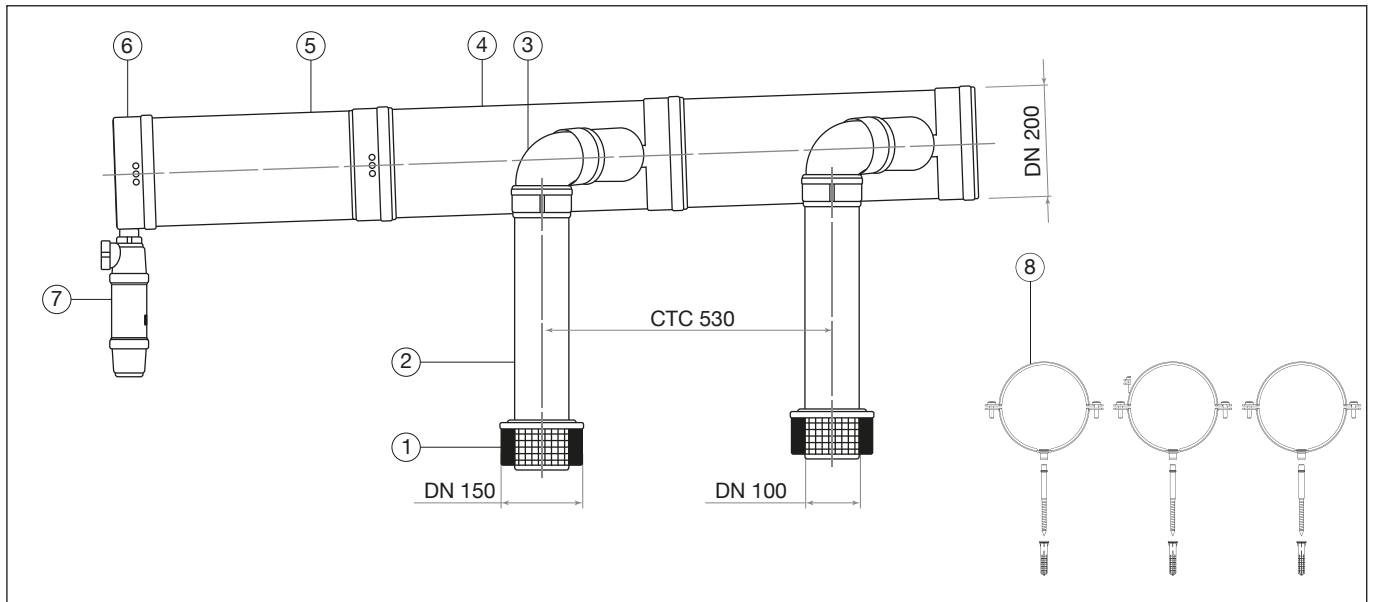
The basic PP 200mm fluecade header kit

is suitable for the connections of two Quinta Ace boilers in an in-line configuration

Please refer to table on page 55 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts - MG410121372

In-line configuration



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.

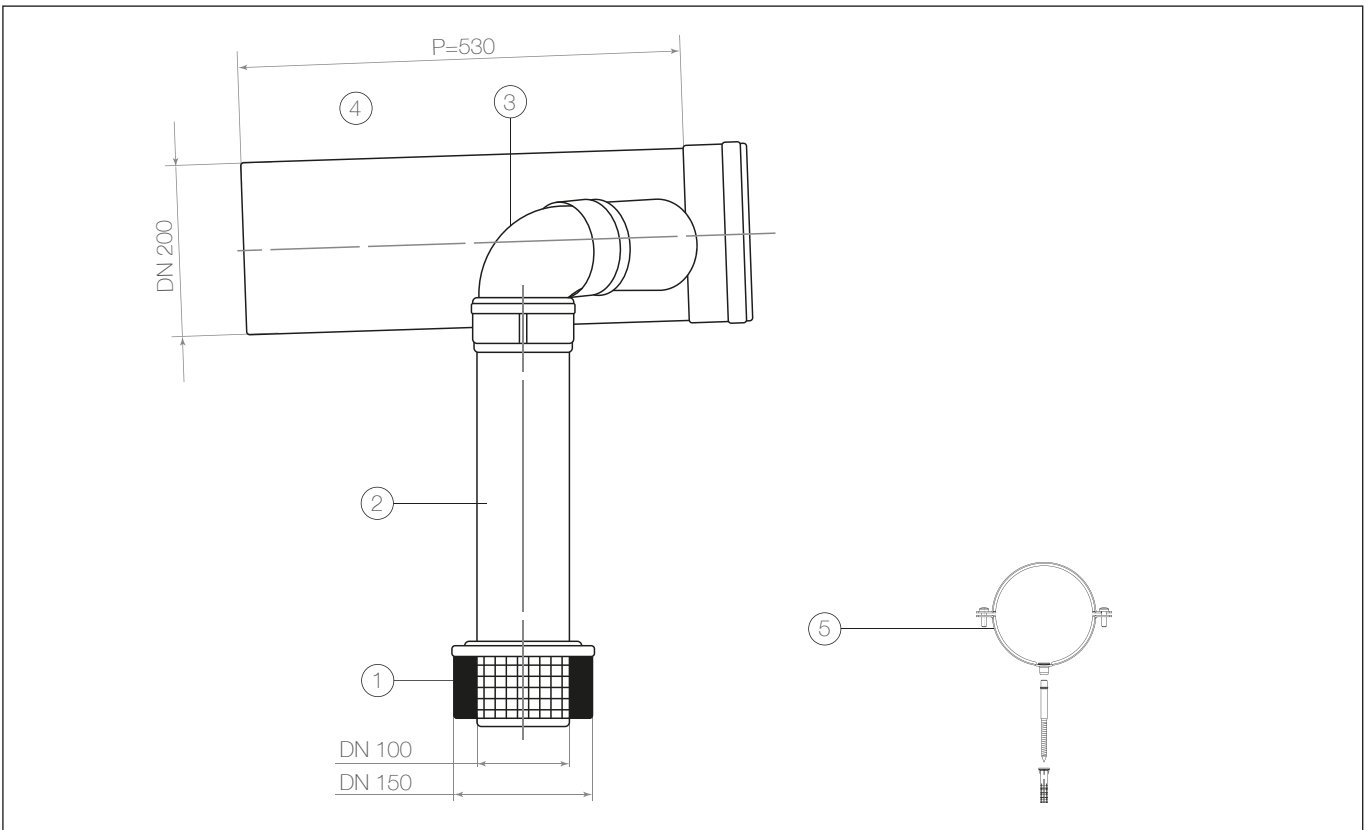
The basic PP 200mm fluecade extension kit

is suitable for the connection of an extra Quinta Ace boiler -
in an in-line configuration

Please refer to table on page 55 to determine the maximum length and diameter
of the fluecade system for the Quinta Ace range of boilers.

Kit parts - MG410121373

In-line configuration



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

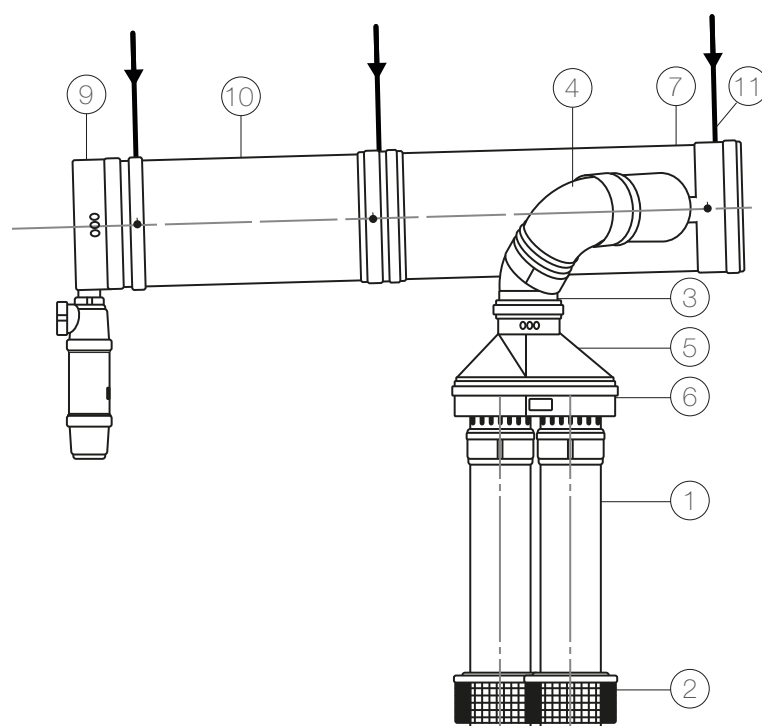
The basic PP 200mm flucade header kit

is suitable for two Quinta Ace boilers - in a back-to-back configuration

Please refer to table on page 55 to determine the maximum length and diameter of the flucade system for the Quinta Ace range of boilers.

Kit parts - MG410076746

Back-to-back configuration



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.

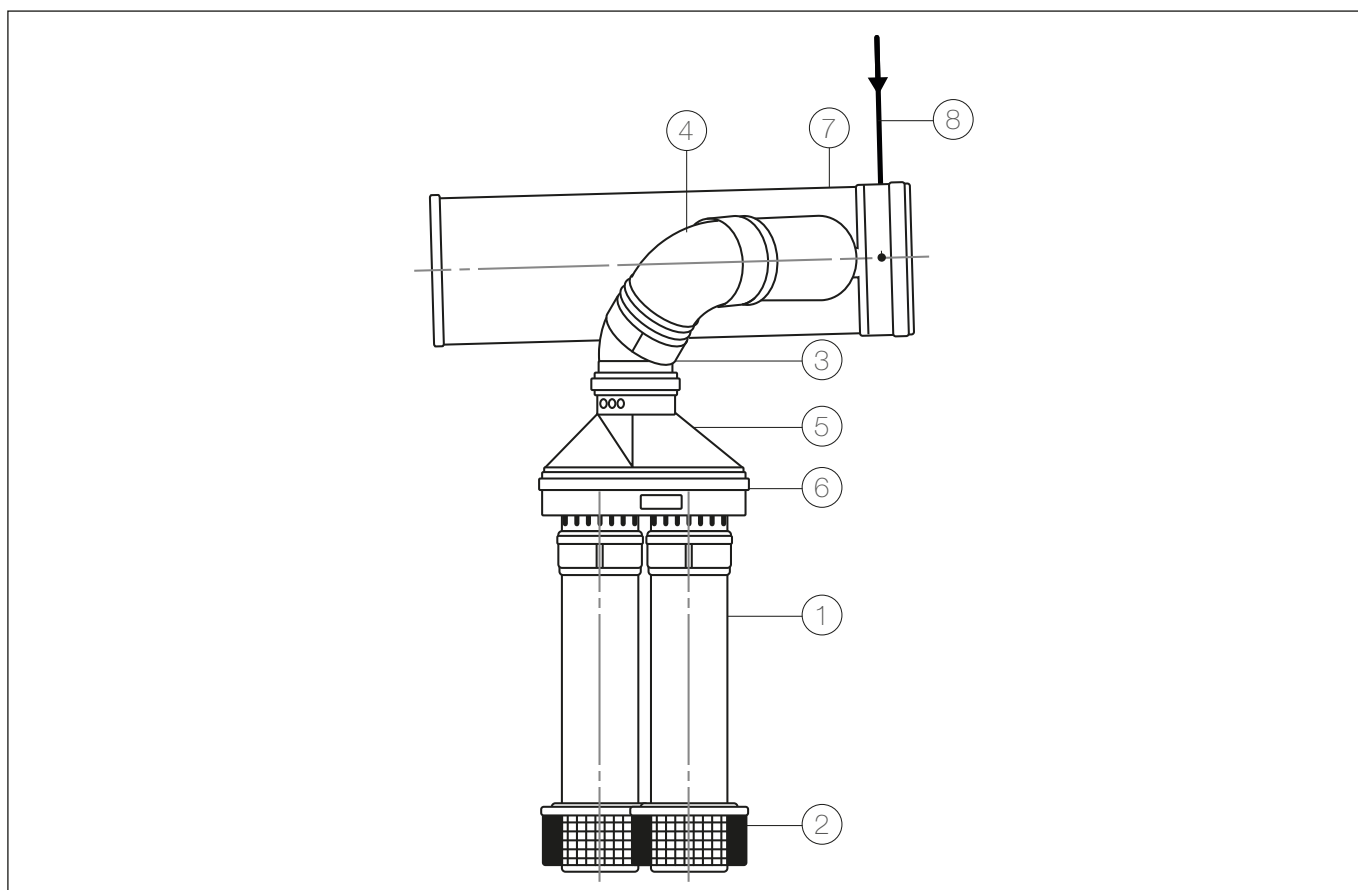
This basic PP 200mm fluecade extension kit

is suitable for two Quinta Ace boilers - in a back-to-back configuration

Please refer to table on page 55 to determine the maximum length and diameter of the fluecade system for the Quinta Ace range of boilers.

Kit parts - MG410076747

Back-to-back configuration



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		

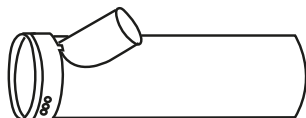
Note 1: Quinta Ace 30 and Quinta Ace 45 boilers also require 80/125 boiler connection kit (1 x MG410076724 per boiler).

Note 2: Fall = 50mm/Mtr.

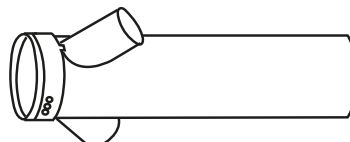
Fluecade components

Components part detail

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 (concentric) 100/150mm Part No. MG410075435



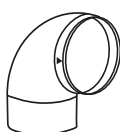
Straight flue 200mm x 500mm Part No. MG410070401



Straight flue 200mm x 770mm Part No. MG410070420



200mm 90° elbow Part No. MG410070411



200mm 45° elbow Part No. MG410070412

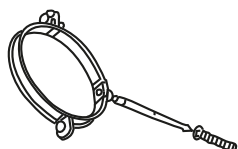


Note: All PP fluecade components are designed for internal use only.

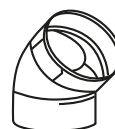
Fluecade components

Components part detail

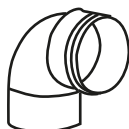
Wall bracket 200mm Part No. MG410087198



100mm 45° elbow Part No. MG410085142



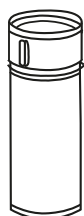
90° elbow 100mm
Part No. MG410085141



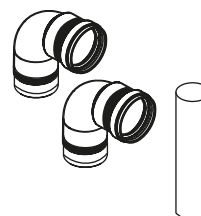
Seal HR - EPDM 200mm Part No. MG410027360
Seal HR - EPDM 150mm Part No. MG410027358
Seal HR - EPDM 100mm Part No. MG410027356



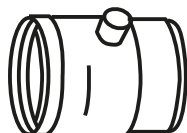
Straight flue 100mm x 500mm
Part No. MG410085481



Condense adaptor
Kit parts - MG410087491



Condensate trap with drain point 200mm
Part No. MG410071526



Siphon Part No. MG410087490

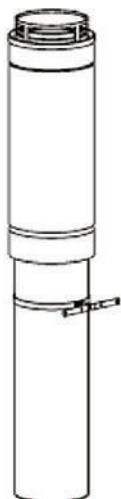


Note: All PP fluecade components are designed for internal use only.

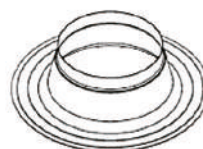
Fluecade

Components part detail

200mm PP roof terminal Part No. MG410070439



200mm flat roof flashing Part No. MG410079612



200mm chimney cap Part No. MG410087398



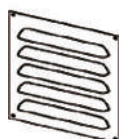
Straight flue 200mm x 2000mm Part No. MG410070404



Straight flue 200mm x 1000mm Part No. MG410070402



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



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 by Baxi 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

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.



Cascade options

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 623kW (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 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, and the brazed plate heat exchanger is based on a 20/20°C, perfectly sized for use with the cascade kits provides additional design solutions.

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 also 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 in a back-to-back configuration, can be installed in an area of 4.4m² (including low loss header) to provide close to 1217kW (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.

As with the smaller Quinta Ace range of boilers the low loss header or air dirt separator is also based on 20/11°C, and the brazed plate heat exchanger is based on a 20/20°C, perfectly sized for use with the cascade kits provides additional design solutions.

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

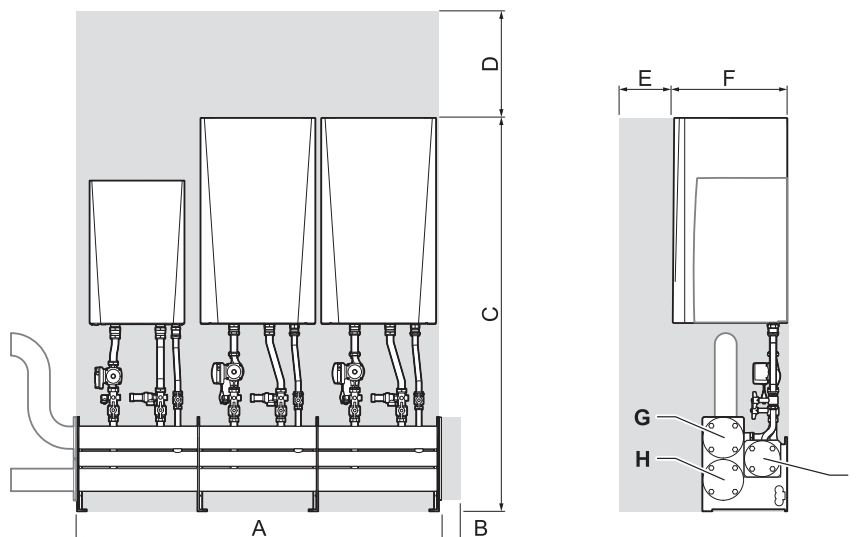
for wall-mounted cascade systems

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, 115, 135 and 160kW



Tab.10 Dimensions in mm with DN65 collector pipes

	Description	2 boilers	3 boilers	4 boilers	5 boilers	6 boilers	7 boilers	8 boilers
A	Total width	1060	1590	2120	2650	3180	3710	4240
B	Free space required for mounting the blanking flanges ⁽¹⁾	50	50	50	50	50	50	50
C	Total height	1576	1576	1576	1576	1576	1576	1576
D	Free space above the boilers (recommended)	500	500	500	500	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000	1000	1000	1000	1000
F	Total depth	520	520	520	520	520	520	520
G	Flow connection	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6
H	Return connection	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6
I	Gas connection	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Tab. 11 Dimensions in mm with DN100 collector pipes

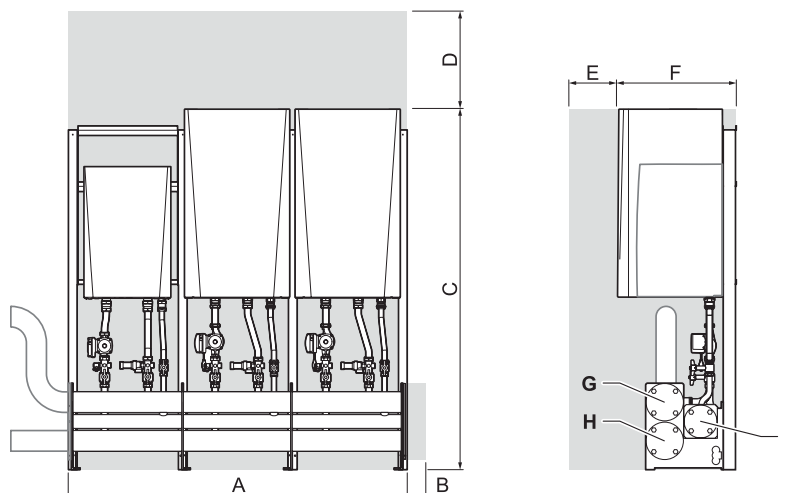
	Description	2 boilers	3 boilers	4 boilers	5 boilers	6 boilers	7 boilers	8 boilers
A	Total width	1260	1890	2520	3150	3780	4410	5040
B	Free space required for mounting the blanking flanges ⁽¹⁾	55	55	55	55	55	55	55
C	Total height	2004	2004	2004	2004	2004	2004	2004
D	Free space above the boilers (recommended)	500	500	500	500	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000	1000	1000	1000	1000
F	Total depth	602	602	602	602	602	602	602
G	Flow connection	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6
H	Return connection	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6
I	Gas connection	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Quinta Ace linear configuration

Mounted on a free-standing frame-two to eight boilers

Free-standing frame configuration for Quinta Ace 30, 45, 55, 65, 90, 115, 135 and 160kW



Tab.12 Dimensions in mm with DN65 collector pipes

	Description	2 boilers	3 boilers	4 boilers	5 boilers	6 boilers	7 boilers	8 boilers
A	Total width	1110	1640	2170	2700	3230	3760	4290
B	Free space required for mounting the blanking flanges (1)	50	50	50	50	50	50	50
C	Total height	1576	1576	1576	1576	1576	1576	1576
D	Free space above the boilers (recommended)	500	500	500	500	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000	1000	1000	1000	1000
F	Total depth	575	575	575	575	575	575	575
G	Flow connection	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6
H	Return connection	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6	DN65 PN6
I	Gas connection	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Tab.13 Dimensions in mm with DN100 collector pipes

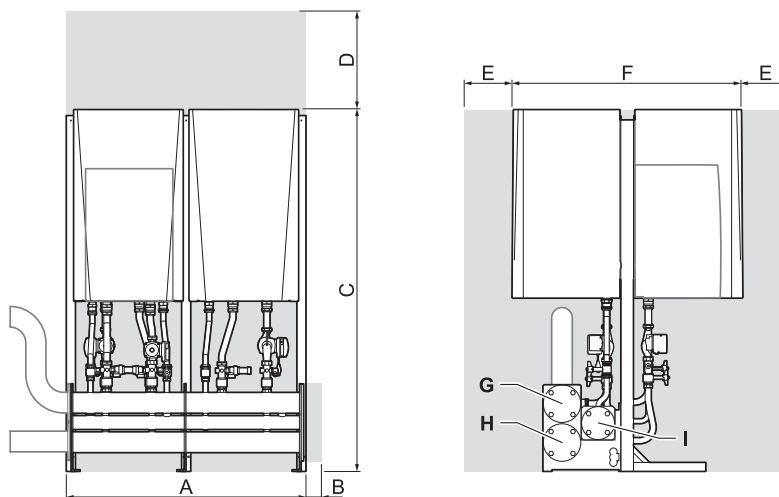
	Description	2 boilers	3 boilers	4 boilers	5 boilers	6 boilers	7 boilers	8 boilers
A	Total width	1310	1940	2570	3200	3830	4460	5090
B	Free space required for mounting the blanking flanges (1)	55	55	55	55	55	55	55
C	Total height	2004	2004	2004	2004	2004	2004	2004
D	Free space above the boilers (recommended)	500	500	500	500	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000	1000	1000	1000	1000
F	Total depth	676	676	676	676	676	676	676
G	Flow connection	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6
H	Return connection	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6	DN100 PN6
I	Gas connection	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Quinta Ace back-to-back configuration

Mounted on a free-standing frame

Back-to-back mounted on a free-standing frame configuration for Quinta Ace 30, 45, 55, 65, 90, 115, 135 and 160kW



Tab.14 Dimensions in mm with DN65 collector pipes

	Description	3-4 boilers	5-6 boilers	7-8 boilers
A	Total width	1110	1640	2170
B	Free space required for mounting the blanking flanges ⁽¹⁾	50	50	50
C	Total height	1576	1576	1576
D	Free space above the boilers (recommended)	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000
F	Total depth	1095	1095	1095
G	Flow connection	DN65 PN6	DN65 PN6	DN65 PN6
H	Return connection	DN65 PN6	DN65 PN6	DN65 PN6
I	Gas connection	DN50 PN16	DN50 PN16	DN50 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Tab.15 Dimensions in mm with DN100 collector pipes

	Description	3-4 boilers	5-6 boilers	7-8 boilers
A	Total width	1310	1940	2570
B	Free space required for mounting the blanking flanges ⁽¹⁾	55	55	55
C	Total height	2004	2004	2004
D	Free space above the boilers (recommended)	500	500	500
E	Free space in front of the boilers (recommended)	1000	1000	1000
F	Total depth	1278	1278	1278
G	Flow connection	DN100 PN6	DN100 PN6	DN100 PN6
H	Return connection	DN100 PN6	DN100 PN6	DN100 PN6
I	Gas connection	DN65 PN16	DN65 PN16	DN65 PN16

(1) When fitting a blanking flange with an expansion vessel connection, make sure there is enough space for fitting the vessel.

Cascade Options

Dimensions and connections - Low loss headers

Low loss header and air dirt separator configuration for cascade kits for the Quinta Ace 30, 45, 55, 65, 90, 115, 135 and 160kW

Fig.45 Low loss header dimensions - DN65 <350 kW

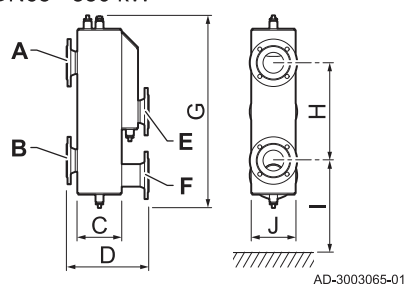


Fig.46 Low loss header dimensions - DN65 <350 kW - DN100

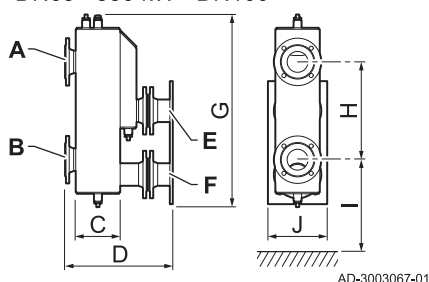


Fig.47 Low loss header dimensions

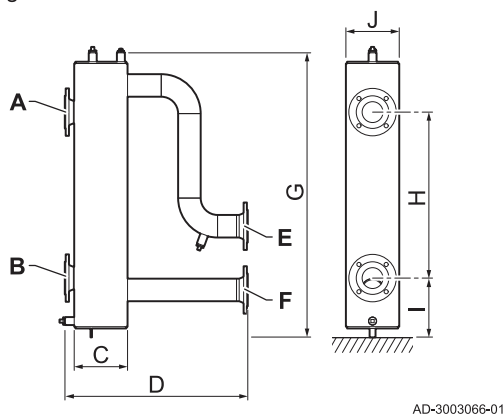
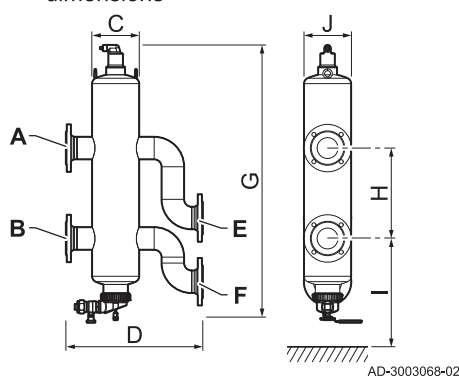


Fig.48 Low loss header with dirt separator dimensions



Tab. 16 Low loss header dimensions - DN65 <350kW

	Description	DN65 <350 kW	DN65 - DN100 ⁽¹⁾
A	Flange size flow, system side	DN65 PN6	DN65 PN6
B	Flange size return, system side	DN65 PN6	DN65 PN6
C	Body depth	143	143
D	Total depth	277	357
E	Flange size flow, boiler side	DN65 PN6	DN100 PN6
F	Flange size return, boiler side	DN65 PN6	DN100 PN6
G	Total height	610	610
H	Flange distance, system side	330	330
I	Flange height, system side	200	200
J	Total width	160	200

(1) Includes an adaptor to connect the DN65 low loss header to an DN100 collector pip set.

Tab. 17 Low loss header dimensions

	Description	DN65	DN100
A	Flange size flow, system side	DN65 PN6	DN100 PN6
B	Flange size return, system side	DN65 PN6	DN100 PN6
C	Body depth	180	250
D	Total depth	617	631
E	Flange size flow, boiler side	DN65 PN6	DN100 PN6
F	Flange size return, boiler side	DN65 PN6	DN100 PN6
G	Total height	960	960
H	Flange distance, system side	560	560
I	Flange height, system side	200	200
J	Total width	180	250

Tab. 18 Low loss header with dirt separator dimensions

	Description	DN65	DN100
A	Flange size flow, system side	DN65 PN6	DN100 PN6
B	Flange size return, system side	DN65 PN6	DN100 PN6
C	Body depth	ø159	ø219
D	Total depth	462	744
E	Flange size flow, boiler side	DN65 PN6	DN100 PN6
F	Flange size return, boiler side	DN65 PN6	DN100 PN6
G	Total height	905	1261
H	Flange distance, system side	305	460
I	Flange height, system side	306	414
J	Total width	ø159	ø219

Cascade Options

Dimensions and connections - Plate heat exchangers

Plate Heat Exchanger Kit configuration for cascade kits for the Quinta Ace 30, 45, 55, 65, 90, 115, 135 and 160kW

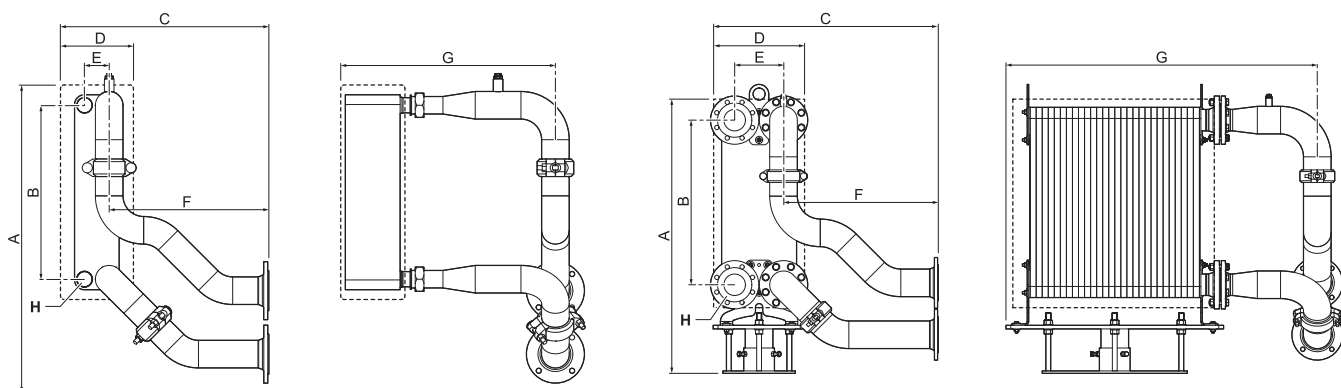
Our new range of PHEX kits offers 22 plates sized for a nominal output of up to 1280kW with bespoke connection sets offering flanged connections that are perfectly matched to our Quinta Ace cascade systems.

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	-	-

Cascade Options

Dimensions and connections - Plate heat exchangers

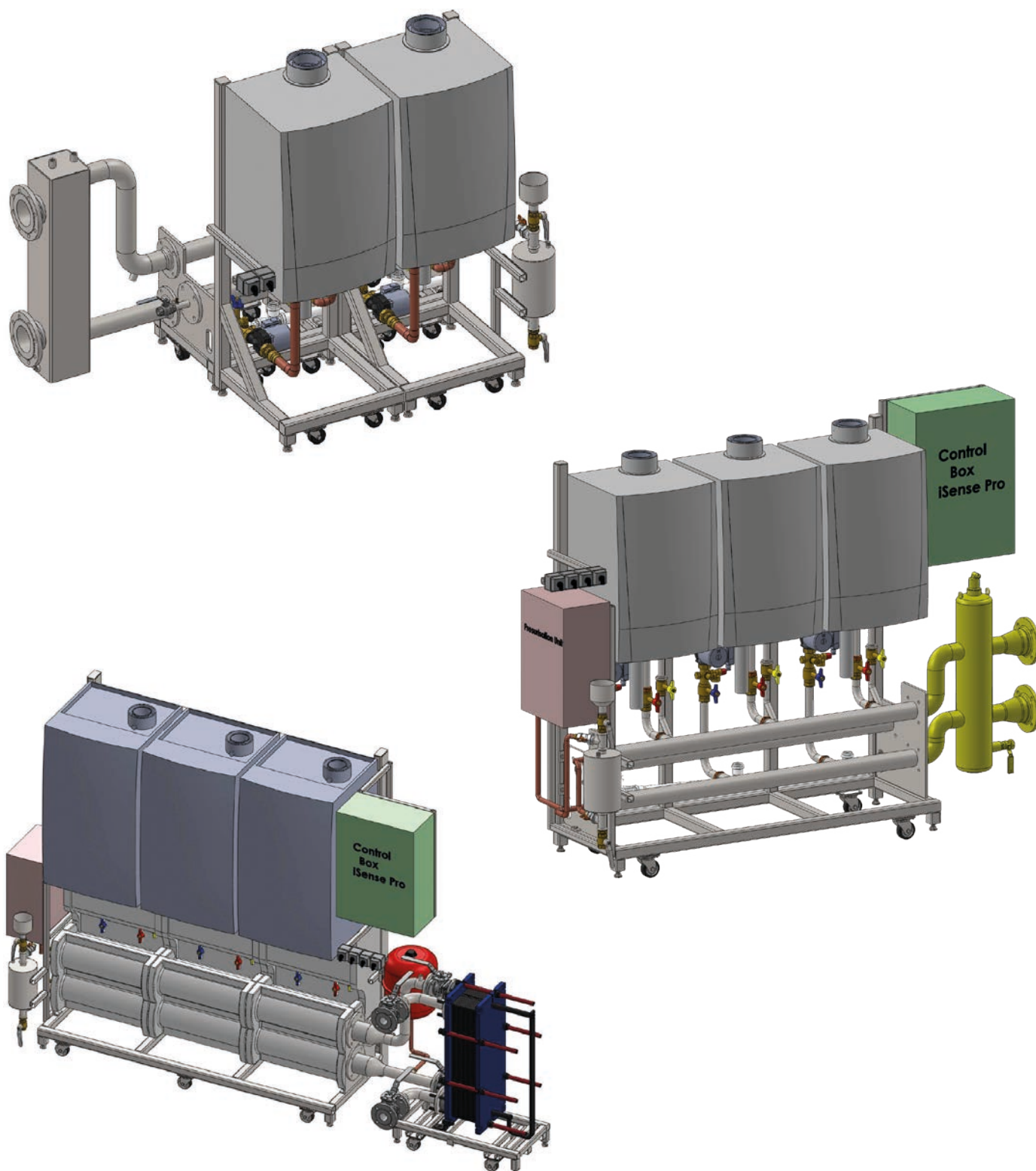


Dimension	A	B	C	D	E	F	G	H
Description	Total height	Flange distance	Total depth	Depth	Flange distance	Connection depth	Total width	Connection size
RHB-60-60	752	480	617	201	68	400	604	1 ¼" outer thread
RHB-60-80	752	480	617	248	68	400	651	1 ¼" outer thread
RHB-60-100	752	480	617	295	68	400	698	1 ¼" outer thread
RHB-60-120	752	480	617	342	68	400	745	1 ¼" outer thread
RHB-60-140	752	480	617	389	68	400	792	1 ¼" 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

Plate heat exchanger dimensions in mm

Bespoke rig systems

We provide a bespoke pre-assembled rig system 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 as the rigs are supplied pre-assembled. For more information, please contact our Sales Team. You can find your local dedicated Remeha by Baxi expert on our website: remeha.co.uk



Packaged plant rooms

We create dedicated heating and hot water spaces for commercial or industrial projects of any size and complexity.

Options include all-in-one or sectional plant rooms in buildings, rooftop schemes, remote self-contained units and modular skids. Each bespoke, turnkey solution is designed and manufactured to optimize the space and deliver the right heating solution for the occupier.

Our plant room solutions incorporate high-performance technologies from across the Baxi range: including our efficient boilers, heat exchangers, heat pumps, controls and pressurisation and dosing equipment. Every unique configuration is designed to provide the best possible time and cost savings and is pressure-tested off-site to ensure the highest quality.



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 baxi.co.uk

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

We're always happy to help.

- 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

Our company declares that these products are marked and in compliance with the essential requirements of the following Directives:

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
- Quinta Ace 30, 45, 55, 65, 90 and 115
- PIN: 0063DP3280
- Quinta Ace 135 and 160 PIN: 0063CQ3781

Or call our sales and technical departments on 0345 070 1055 we're always happy to help.





Brooks House
Coventry Road
Warwick CV34 4LL

T 0345 070 1055
E info@baxi.co.uk
W baxi.co.uk



Unit F5/F6
Calmount Business Park
Dublin D12 Y923

T 00353(0) 1 4590870
E sales@baxi.ie
W baxi.ie

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

BDR Thermea Ireland Limited trading as Baxi. Registered in Ireland as a private company limited by shares under company number 26092. Registered office at Unit F 5&6, Calmount Park, Calmount Road, Ballymount, Dublin 12, Ireland. VAT registered number: IE 9Y33766S Directors: Jan Rijnen (UK) Chris Robottom (UK) Information is correct as at time of publication (January 2025)

Quinta Ace Technical Specification Guide January 2025

BAXI

remeha

ANDREWS
WATER HEATERS

HEATRAESADIA

**Commercial heating
and hot water solutions**