



**Remeha**  
AVANTA PLUS



HIGH EFFICIENCY CONDENSING  
COMBINATION & SYSTEM BOILERS

SEDBUK BAND  
CONDENSING BOILER

A

# EXCEPTIONAL ENERGY EFFICIENCY, RELIABILITY & PERFORMANCE

## INTRODUCING THE NEW AVANTA PLUS PERFORMANCE BOILERS FROM BROAG-REMEHA

Welcome to the Remeha Avanta Plus SEDBUK 'A' high efficiency gas condensing combination and system boiler range – representing Remeha's new seventh generation in domestic condensing boiler development. The new Remeha range of Avanta Plus combination and system boilers makes use of the latest domestic boiler technology to create one of the most compact boilers available on the market, with an output ranging from 6kW to 39kW.

Our vast experience in condensing technology has culminated in the new Avanta Plus range which is built on a single design concept and is easy to install, easy to maintain and easy to use.



## ENVIRONMENTALLY SOUND

The Avanta Plus boiler range is specifically designed to be as highly efficient and environmentally friendly as possible. The range provides optimum hot water and heating for the home, yet substantially reduces carbon dioxide emissions, one of the key contributors to climate change.

Avanta Plus conforms with the following approval schemes:

**SEDBUK 'A'**  
Energy Efficiency Band



Energy Efficiency Recommended



European standard of engineering and production quality



Communication standard for modulating heating controls





## SPACE SAVING DIMENSIONS

The Avanta Plus will fit into almost any available space, proving that small is flexible

**670mm**  
(Height is inclusive of isolating valves)

All stated dimensions are applicable for the whole range.



## MEETING ALL NEEDS & EXPECTATIONS

### COMFORT MODE

The Avanta Plus Combi range has a comfort mode (keep hot facility) for instantaneous hot water of constant temperature and an Eco mode for energy saving, top efficiency and environmentally friendly operation.

### PROVIDING AMPLE HEATING & IMPRESSIVE HIGH FLOW RATE

AVANTA PLUS	TYPE	HEATING (IN KW)	DOMESTIC HOT WATER (AT 35°C ΔT)
24s	SYSTEM	6-24 KW	-
28c	COMBI	6-24 KW	11.5 L/M
35c	COMBI	6-30 KW	14 L/M
39c	COMBI	6-34 KW	16 L/M

### LOW WATER PRESSURE

The Avanta Plus operates at low water pressure - a minimum of 0.5 bar to achieve maximum flow rate, and therefore is the perfect solution for low pressure areas and multi-storey flats.

# INSIDE REMEHA AVANTA PLUS: OPTIMUM PERFORMANCE, VALUE FOR MONEY

## QUALITY, RELIABILITY & VALUE

As leaders in the world of condensing boiler technology, Remeha continues to raise performance standards to an ever-higher level within the condensing boiler market.

The Avanta Plus boiler range has been developed to deliver value for money over its whole life and each boiler is supplied fully live tested and pre-set.

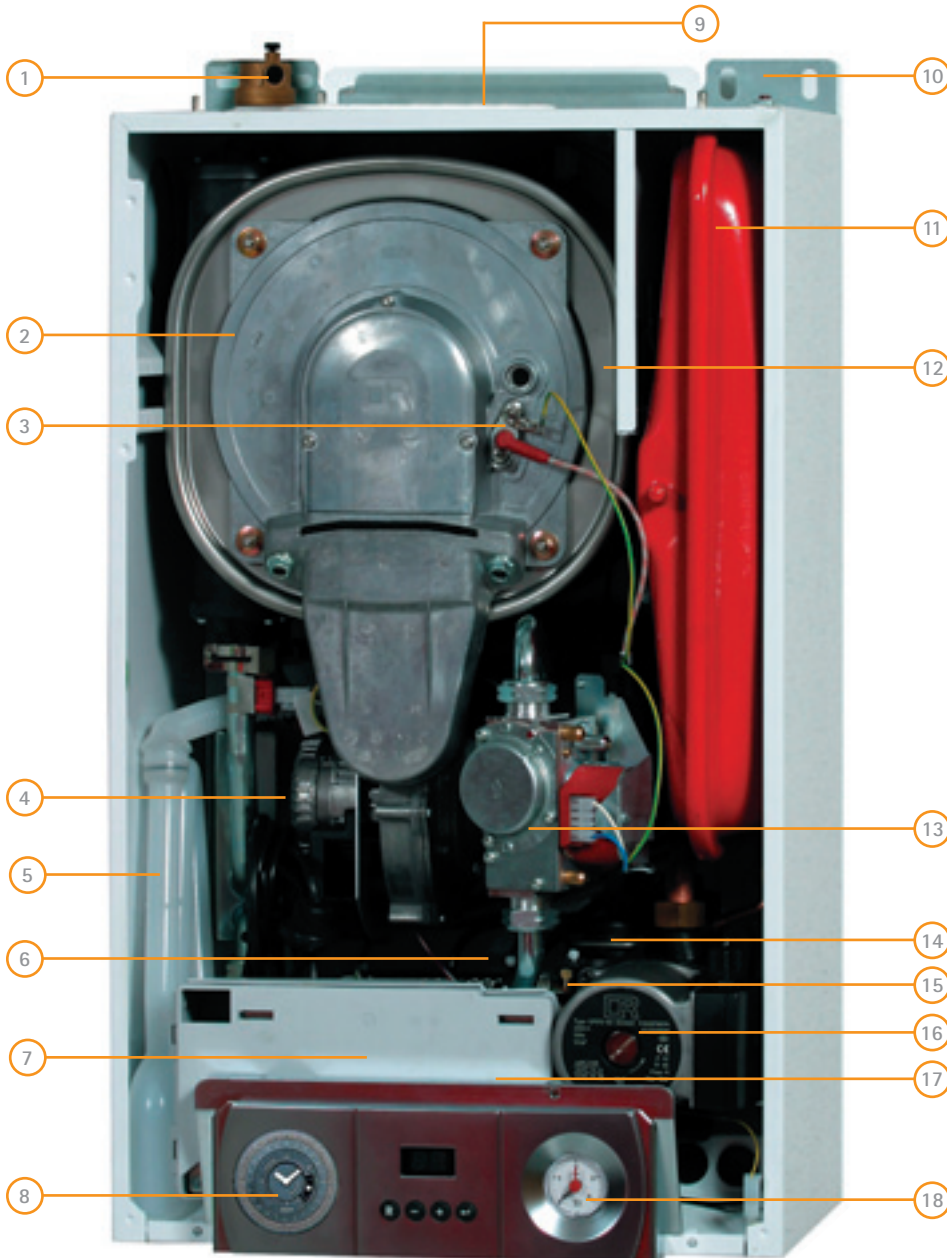


## GUARANTEE OF EXCELLENCE

The Avanta Plus has as standard a five year warranty on the heat exchanger and two year warranty on all other parts with the exception of the ignition/ionisation electrode.



2 year warranty covers against manufacturing defects and provides for the replacement of defective parts with new parts and related labour, providing that such works are carried out by a Broag-Remeha engineer or approved contractor. For the warranty to be valid an annual inspection/service must be carried out by a CORGI registered installer and in accordance with the Broag-Remeha service manual. The cost of inspection/service including any service parts required is not included in the warranty.



## SPECIAL FEATURES

- Wall mounting plate complete with isolating valves for easy and time saving installation
- Fully modulating gas/air ratio control anti-cycling high efficiency, low NOx environmentally friendly
- Comfort mode (keep hot facility) for instantaneous hot water of constant temperature
- Eco-mode for energy saving and environmentally friendly operation
- Automatic adjustable bypass
- Boiler frost protection thermostat
- Low water protection
- External interlock function
- "abc" advanced boiler control for reliable operation
- Room sealed operation no compartment ventilation required
- User friendly digital display for easy commissioning and servicing with self diagnostic codes, user, service engineer and factory access level
- Data file storage for easy servicing
- Filter in heating return
- Filter in DHW cold feed
- Boiler supplied with 1.2 metres flying lead for easy installation
- For use with natural gas only
- Single design concept for the whole range



- 1 AUTOMATIC AIR VENT
- 2 FULLY MODULATING PREMIX BURNER PLATE
- 3 IGNITION ELECTRODE
- 4 MODULATING FAN FOR LOW NOx CLASS 5 CLEAN COMBUSTION
- 5 SLIM LINE SYPHON
- 6 (COMBI ONLY) STAINLESS STEEL PLATE HEAT EXCHANGER, WITH LARGE SURFACE, LESS SENSITIVE TO SCALING
- 7 SAFETY VALVE (BEHIND PANEL)
- 8 ONE CHANNEL MECHANICAL TIME CLOCK FOR COMBI BOILER
- 9 CONCENTRIC 60/100 MM FLUE CONNECTION PLUS A FULL RANGE OF FLUE ACCESSORIES
- 10 WALL MOUNTING PLATE COMPLETE WITH ISOLATING VALVES FOR EASY TIME SAVING INSTALLATION
- 11 EXPANSION VESSEL, 8 LTR.
- 12 HIGH GRADE SOLID HELICOIL STAINLESS STEEL HEAT EXCHANGER
- 13 GAS VALVE (DUNGS)
- 14 (COMBI ONLY) MOTORISED THREE WAY VALVE WITH BUILT IN AUTOMATIC ADJUSTABLE BYPASS
- 15 HYDRO BLOCK WITH INTEGRATED WATER CONNECTIONS
- 16 AUTOMATIC 2-SPEED PUMP (GRUNDFOS) FOR ENERGY SAVING AND SILENT OPERATION
- 17 SINGLE PC-BOARD WITH PC-PDA CONNECTION FOR DIAGNOSTICS AND MANAGEMENT (INSIDE PANEL)
- 18 EASY READ PRESSURE GAUGE

## QUICK TO INSTALL, EASY TO MAINTAIN

The Avanta Plus range is designed for easy and time saving installation. The installation can be pressurised and tested before boiler installation.

### BOILER WEIGHTS

The space-saving dimensions make it the most compact, light-weight Remeha boiler to date.

- Avanta Plus 24s - 29 kg
- Avanta Plus 28c - 30.5 kg
- Avanta Plus 35c - 32.5 kg
- Avanta Plus 39c - 34.5 kg



WALL MOUNTING PLATE STANDARD  
SUPPLIED WITH BOILER



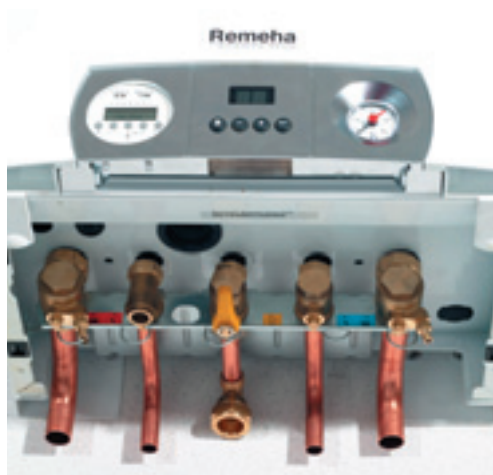
STAND OFF FRAME (OPTIONAL)



VERTICAL PIPEWORK KIT  
(OPTIONAL)



AVANTA PLUS WITH  
HORIZONTAL FLUE KIT (OPTIONAL)



AVANTA PLUS RANGE SUPPLIED WITH ALL  
WATER AND GAS ISOLATION VALVES  
COMPLETE WITH COPPER TAILS

### WALL MOUNTING PLATE

The wall mounting plate is supplied as standard complete with gas/water isolating valves and pre-formed copper tails.

### STAND OFF FRAME

The stand off frame as an option combines with the wall plate to allow the supplied copper tails to be reversed to run up behind the boiler if required.

### PIPE WORK KIT

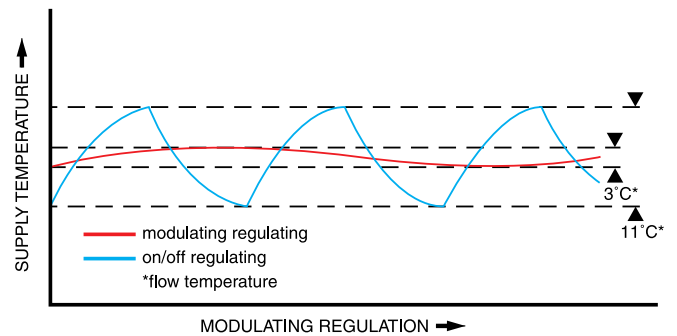
To make life for the installer even easier a complete pre-formed pipework kit is available, as an option combined with the stand off frame, to bring all the connections to the top of the boiler.

## INCREASED COMFORT

### MODULATING CONTROLS

The Remeha Avanta Plus, when controlled using outside or room sensors, will fully modulate over the whole range for maximum efficiency.

### COMPARISON OF ON-OFF/MODULATING REGULATING



### THE MAIN ADVANTAGES OF MODULATION

Financial, comfort and environmental benefits:

- Gas saving, less energy consumption due to higher efficiency
- Additional energy savings because in general the set point of the room thermostat can be set a degree lower without sacrificing comfort.
- Modulation prevents cycling reducing wear and maintenance costs
- Less emissions of unburned gas due to reduced number of burner starts, environmentally friendly
- Increased comfort due to lower fluctuations in water and air temperatures
- Reduced emissions of gases such as NOx and CO<sub>2</sub>





## OPERATION & CONTROLS

### OPERATION 'ABC' ADVANCED BOILER CONTROL

The Remeha Avanta Plus is equipped with an electronic control and safety unit, incorporating ionisation flame protection. At the heart of the boiler control is a microprocessor. This intelligent advanced boiler control ('abc') continuously monitors the boiler output and ensures a very reliable supply of heat. The control system is adept at dealing with negative influences from the system such as flow reduction, or airflow problems.

The Remeha "abc" control prevents lock out conditions due to external negative influences. In the event of such influences, the boiler will not go into "lock-out" failure mode, but will in the first instance modulate down. If necessary, depending on the nature of the circumstances, it will temporarily switch off (shutdown or control stop) and then after a short while simply try again without manual intervention and keeps the boiler running as long as possible. Provided that the situation is not actually hazardous, the Remeha Avanta Plus will always try to supply heat. In this way the "abc" control minimises unnecessary engineer call outs.

### SELECTING THE BEST CONTROL SOLUTION

Literature on "selecting the best control solution for your specific heating installation" complete with suggested schematics and wiring details is available on request or you can download the literature from our website: [www.avantaplus.com](http://www.avantaplus.com)

### OPENTHERM STANDARD



The Avanta Plus range comes with the Open Therm communication as standard for modulating heating installations.

The Open Therm communication protocol means freedom of choice for interchangeable modulating controls of different kinds and brands.

### READY FOR THE FUTURE

With the Avanta Plus you can easily change your simple on/off controlled heating installation into a more advanced fuel-efficient, full modulating room or weather compensated installation at a later stage.



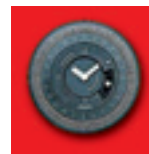
### CONTROLS

For freedom of choice the Avanta Plus can be controlled by use of 230 Volt Internal/External time clocks, room thermostats or volt-free systems including wireless control solutions. Moreover the Avanta Plus supports modulating controls using the Open Therm® communication standard.

### OPTIONAL TIME CLOCK



INTERNAL DIGITAL TIME CLOCK 24hour / 7 day programmer twin channel for independent heating and DHW time control simple push fit in control panel.



ONE CHANNEL MECHANICAL TIME CLOCK FOR COMBI BOILER

### OPTIONAL ON/OFF ROOM TEMPERATURE CONTROLS

Fixed flow temperature where the boiler modulates it's output to match a fixed flow set point using simple 230V controls.



CELZIA 10 Analog on/off room thermostat, easy to use.

### MODULATING CONTROLS - with outside weather or room temperature adjustment

Flow temperature is directly controlled by an outside weather or inside room compensator to provide ultimate comfort conditions at all times using the Open Therm® communication standard.



THEBEN Analog time / modulating weather compensator.



CELZIA 15 Digital modulating room compensator.



CELZIA 20 Digital time / modulating weather / room compensator.

## IT LOOKS AFTER ITSELF

### LOOKING AFTER THE AVANTA PLUS IS SIMPLICITY ITSELF

The whole Avanta Plus boiler range uses a single design concept; the range is fitted with a minimum number of standard components, is simple to understand and requires minimal maintenance and servicing. Although the Avanta Plus range is compact, it has been designed so that all parts are easily accessible and exchangeable from the front side.



RECOM® SELF DIAGNOSTIC SERVICE SOFTWARE

### RECOM® SERVICE SOFTWARE FEATURES

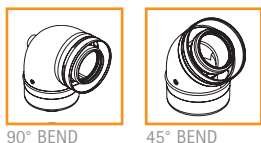
- Direct communication with boiler
- Self-diagnostic read out
- Change of boiler settings
- Boiler monitoring functionality (e.g. fan speed, flow and return temperature)
- Log of lock out and shut down history
- Boiler fault indication – last 5 faults logged
- Recom® software downloadable from:

[www.uk.remeha.com](http://www.uk.remeha.com)

### COMMISSIONING & SERVICING MADE EASY

For easy commissioning, servicing and maintenance, Remeha has developed simple-to-use plug and play boiler self-diagnostic software. With the optional Recom service kit c/w monitoring software it is possible to log, read out or change the boiler operating parameters dynamically by using a PDA or notebook computer. (Optional hardware connection cable available.)

# HORIZONTAL & VERTICAL FLUE SYSTEMS



90° BEND      45° BEND

## AVANTA PLUS FLUE OPTIONS & ACCESSORIES

The Avanta Plus is designed for room sealed operation and no compartment ventilation is required. The Avanta Plus boiler range must be installed in combination with the Broag Remeha approved flue accessories.

BOILER TYPE	24s	28c	39c
FLUE DIAMETER IN MM	60/100	60/100	60/100
MAXIMUM FLUE LENGTH 'L'	6	6	5

For each 90° bend deduct 1.4m from the maximum flue length.  
For each 45° bend deduct 0.65m from the maximum flue length.

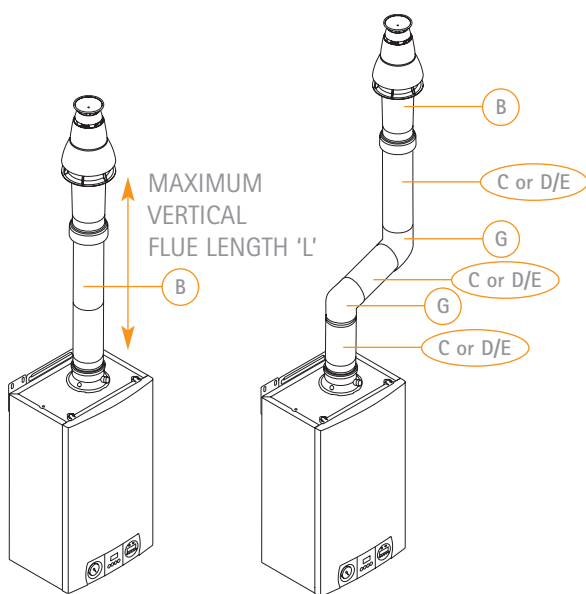
NOTE: For flue lengths in excess of details in above table larger flue systems are available (80/125) – please contact Broag for further details.

### MAXIMUM FLUE LENGTH

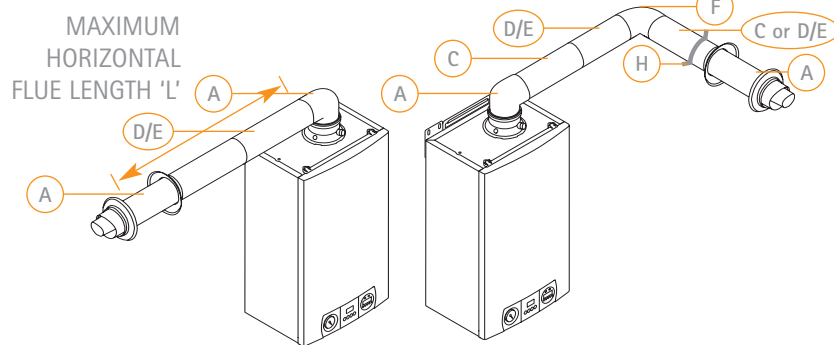
The 90° Bend supplied with the horizontal flue kit is not included in any equivalent length calculations.

For flue calculations and advice for multistorey flats with a single rise please contact the Broag support department.

POSITION NO	DESCRIPTION	DIAMETER	LENGTH/ANGLE
A	Horizontal Concentric Flue Kit	60/100 mm	600 mm
B	Vertical Concentric Flue Kit	60/100 mm	600 mm
C	Cuttable Concentric Flue Extension	60/100 mm	500 mm
D	Non Cuttable Concentric Flue Extension	60/100 mm	500 mm
E	Non Cuttable Concentric Flue Extension	60/100 mm	1000 mm
F	Concentric Flue Bend	60/100 mm	90°
G	Concentric Flue Bend	60/100 mm	45°
H	Wall Bracket	100 mm	N/A
I	Pitched roof weather slate for 60/100 mm Flue	100 mm	Flexible
J	Flat roof weather slate for 60/100 mm Flue	100 mm	400x600 Sq
PLUME MANAGEMENT			
K	Horizontal Discharge		
L	Vertical Discharge		

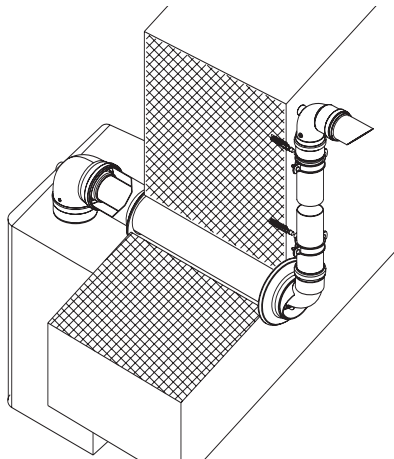


VERTICAL FLUE SYSTEMS

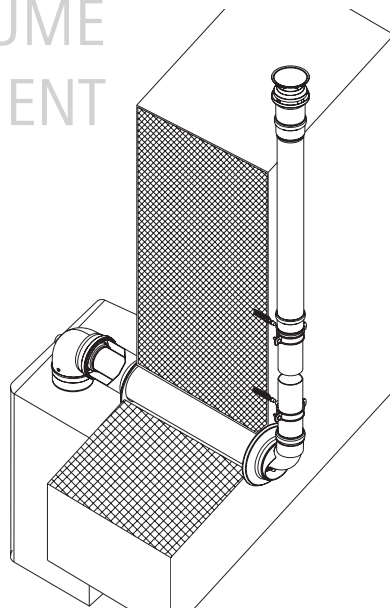


HORIZONTAL FLUE SYSTEMS

## PLUME MANAGEMENT

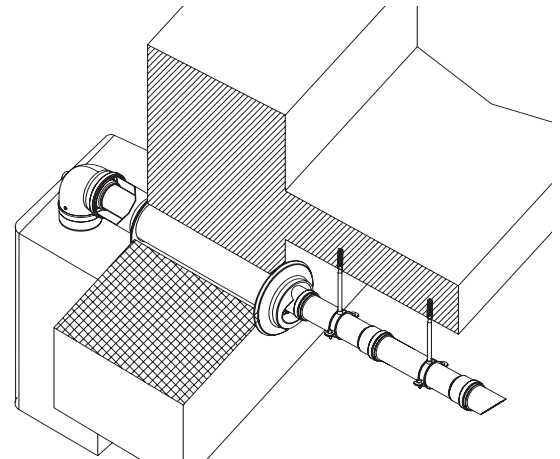


HORIZONTAL TERMINAL KIT INSTALLED WITH 1M EXTENSION



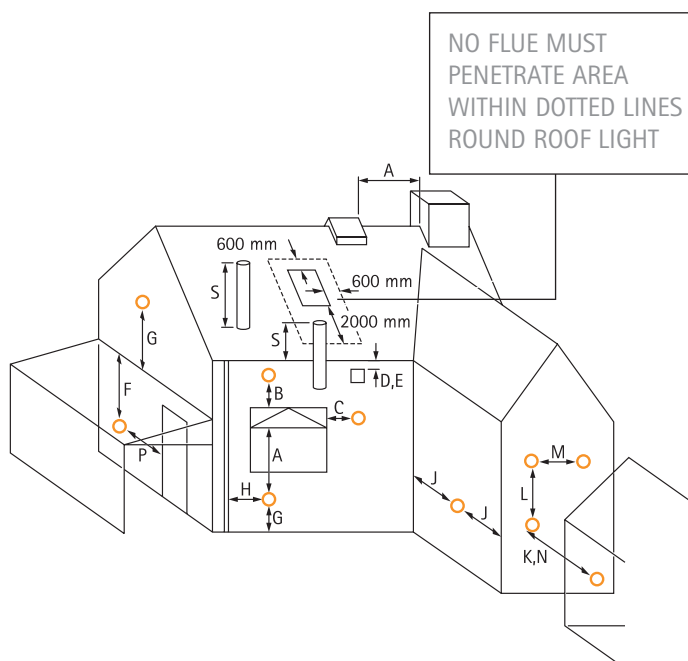
HORIZONTAL TERMINAL KIT WITH A VERTICAL OUTLET

## BALCONY TERMINAL



HORIZONTAL BALCONY KIT SUITABLE FOR A 2M BALCONY OR OVERHANG

## MINIMUM DISTANCES TO TERMINAL



DIMENSIONS	TERMINAL LOCATION	MINIMUM DISTANCE (in mm) TO TERMINAL (room sealed)
A	Directly below an opening, air brick, opening window, etc.	300
B	Above an opening, air brick, opening window, etc.	300
C	Horizontally to an opening, air brick, opening window, etc.	300
D	Below a gutter or sanitary pipe work	40 <sup>1)</sup>
E	Below the eaves	40 <sup>1)</sup>
F	Below a balcony or carport roof	40 <sup>1)</sup>
G	Above ground, roof or balcony level	300
H	From vertical drain / soil pipe work	40 <sup>1)</sup>
J	From an internal or external corner	40 <sup>1)</sup>
K	From a surface or boundary facing the terminal	600 <sup>2)</sup>
L	Vertically from a terminal on same wall	1500
M	Horizontally from a terminal on same wall	300
N	From a terminal facing the terminal	1200
P	From an opening in a carport (e.g. door, window) into the building	1200
R	From a vertical structure on the roof	n/a
S	Above an intersection with the roof	n/a

1) We advise to use deflectors in case of these small distances.

2) Where the terminal is positioned directly opposite an opening in the facing wall the min will be 2m.

## CUSTOMER SUPPORT SERVICES

### TECHNICAL SERVICE TRAINING

Broag offers training across the entire product range. For installation and service/maintenance contractors we hold one-day technical training courses at our fully equipped and modern training centre in Wokingham. The Avanta Plus range is designed on a single design concept, so training on just one product covers the whole range. The one-day technical training consists of theoretical training in the morning and practical training (installation, commissioning & fault finding) in the afternoon.



## SPARE PARTS KIT

In close co-operation with contractors, Broag has developed an extensive spare parts/emergency kit which enables authorised service engineers to provide prompt attention in an emergency situation and fix the boiler on first visit.

The spare parts kit includes all major parts that may be required for a breakdown.

## PARTNERING: THE WAY FORWARD

### PARTNERING

Our experienced team works alongside local authorities, housing associations, specifiers, contractors, builders, merchants and end users to ensure the best partnering solutions within the supply chain. We ensure that the right application is chosen for single, multiple new builds, refurbishment projects and responsive repair projects. Our partnership approach and our extensive boiler range make the Remeha Avanta Plus the boiler of choice.



### PRE & AFTER SALES SERVICE

Our dedicated pre- and after-sales teams are ready to give you the support you need. It's an integral part of the quality package that Broag offers as standard with all products. For all your queries just call:

**0118 978 3434**

Email: [boilers@broag-remeha.com](mailto:boilers@broag-remeha.com)

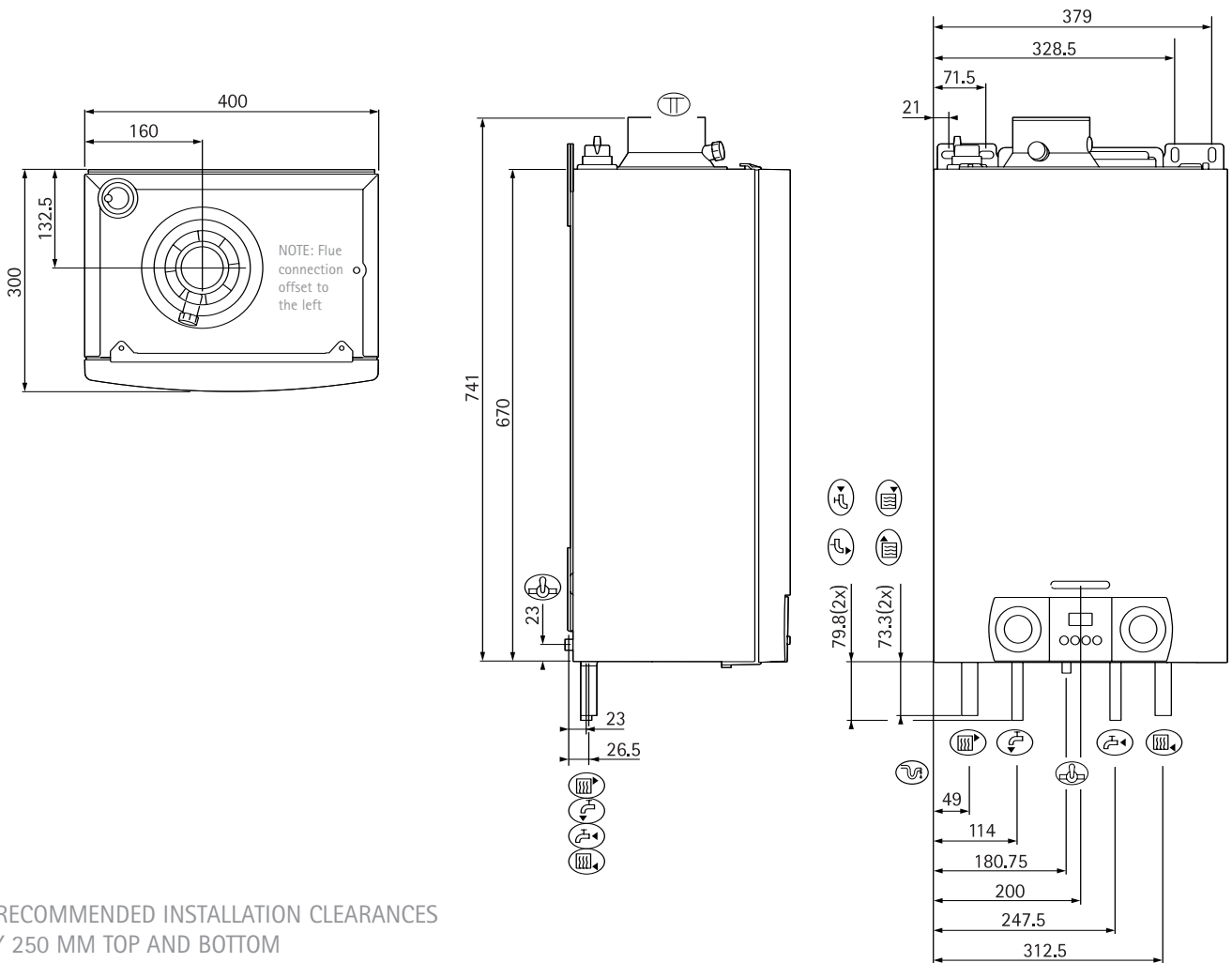
Website: [www.avantaplus.com](http://www.avantaplus.com)  
[www.uk.remeha.com](http://www.uk.remeha.com)

### LITERATURE AVAILABLE ONLINE

Browse and explore the Broag-Remeha website and you will find all up to date technical literature and relevant information. For easy access you can download all literature and drawings in Adobe Acrobat Reader (.pdf) format. Adobe Acrobat Reader is downloadable free of charge from [www.adobe.co.uk](http://www.adobe.co.uk)



## SPACE SAVING DIMENSIONS



NB: RECOMMENDED INSTALLATION CLEARANCES  
ONLY 250 MM TOP AND BOTTOM

### DIMENSIONS & CONNECTION POINTS

- Central heating return, compression dia. 22 mm
- Central heating flow, compression dia. 22 mm
- Gas connection compression dia. 22 mm
- Concentric flue/air inlet dia. 60/100 mm
- DHW cold, compression dia. 15 mm (combi only)
- DHW hot, compression dia. 15 mm (combi only)
- Condensate drain dia. 3/4" (overflow)

NOTE: Isolation valves/connections are within the casing height.



## AVANTA PLUS TECHNICAL SPECIFICATION

AVANTA PLUS BOILER	Model Type	28c Combi A	35c Combi A	39c Combi A	24s System A
SEDBUK Rating		A	A	A	A
Gas council number		4767302	4767303	4767304	4128805
<b>GENERAL</b>					
Nom Output 80/60	kW	21.6	27.5	31.2	21.6
Nom Output 50/30	kW	23.5	30	34.0	23.5
Output DHW	kW	28.0	35	38.5	n/a
Nom Input (CH) Gross	kW	24.4	31	35.3	24.4
Nom Input (CH) Nett	kW	22.0	28	31.8	22.0
Nom Input (DHW) Gross	kW	34.5	42.1	45.0	n/a
Nom Input (DHW) Nett	kW	31.0	38	40.5	n/a
Mounting weight Dry	kg	30.5	32.5	34.5	29.0
Max noise level (1M from boiler)	dB(A)	<44	<44	<44	<44
<b>GAS &amp; FLUE DETAILS</b>					
Category		II <sub>2H3P</sub>	II <sub>2H3P</sub>	II <sub>2H3P</sub>	II <sub>2H3P</sub>
Min / Max inlet pressure NG	mbar	17-25	17-25	17-25	17-25
Gas consumption max (CH / DHW)	Cu M/hr	2.2 / 3.1	3.0 / 4.0	3.0 / 4.2	2.2
NOx emissions (n=1)	ppm	< 35	< 35	< 35	< 30
Residual fan duty	Pa	100	100	100	50
NOx class		5	5	5	5
Flue gas rate (max)	kg/h	50	61	65	33
Flue classification		C13 / C33	C13 / C33	C13 / C33	C13 / C33
<b>CH - SIDE</b>					
Water capacity - heat exchanger + piping	ltr	1.8	2	2.2	1.8
High limit temperature	°C	110	110	110	110
Operating temperature (max)	°C	90	90	90	90
Operating pressure (max / min)	bar	0.8 / 3	0.8 / 3	0.8 / 3	0.8 / 3
Resistance at 20°C Δt / 11°C Δt	mbar	250 / 826	250 / 826	250 / 826	250 / 826
Expansion vessel capacity	ltr	8	8	8	8
<b>DHW - SIDE</b>					
Max flow rate at 35°C Δt	ltr/m	11.5	14.0	16.0	n/a
Minimum water flow	ltr/m	1.2	1.2	1.2	n/a
Inlet pressure (min / max)	bar	0.5/8	0.5/8	0.5/8	n/a
Water capacity	ltr	0.5	0.6	0.6	n/a
Resistance without restrictor (nom flow)	mbar	100	100	100	n/a
<b>ELECTRICAL</b>					
Mains supply	Volts/Hz	230V/50 Hz	230V/50 Hz	230V/50 Hz	230V/50 Hz
Power consumption max	W	115	180	180	115
Power consumption standby	W	< 3	< 3	< 3	< 3
Insulation class	IP	X4D	X4D	X4D	X4D
Fuse rating	A	2	2	2	2
1kW = 3412 BTU					

Boiler Control  
Heating Installation

On/Off - Modulating Open Therm® on all boilers  
Sealed system only

Merchant or Contractor details

Broag Ltd.  
Head Office: Remeha House, Molly Millars Lane,  
Wokingham, Berkshire RG41 2QP  
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Fax: 0118 978 6977  
Email: [boilers@broag-remeha.com](mailto:boilers@broag-remeha.com)  
[www.avantaplus.com](http://www.avantaplus.com)  
[www.uk.remeha.com](http://www.uk.remeha.com)

