



High-efficiency atmospheric gas boilers with reduced NOx emission

Outputs: Gas 360 54 - 117 kW  
 Gas 460 119 - 380 kW



# Gas 360/460

Atmospheric Range



# Introduction

The Remeha Atmospheric Range of boilers are high efficiency atmospheric gas boilers.

The burner bed consists of stainless steel atmospheric burners which guarantee low noise operating levels.



## Boiler description

The Remeha Atmospheric Range is a series of floor standing, cast iron, sectional boilers with a powder coated enamel steel casing complete with glass fibre insulation. The Gas 360/460 both come with high/low atmospheric gas burners, suitable for natural gas and LPG.

The boilers are pre-wired with site wiring connections and are fitted to the instrument panel in the front casing.

All boilers are supplied with electronic ignition control via the pilot burner for hot water central heating and are supplied with safety equipment with ionisation flame detection.

The Remeha Atmospheric Range are designed to be connected to most flue systems. All boilers have built in draught diverters.

The Gas 360 and Gas 460 boilers are delivered with a high/low control panel.

## Certifications

The Gas 360 and 460 boilers are in compliance with the EC directives:

- 90/396/EEC Gas Appliance Directive
- EN 297; EN656 Ref Standard
- 73/23/EEC Low Voltage Directive

Reference Standard: EN 60.335.1

- 89/336/EEC Electromagnetic Compatibility Directive

Reference Standard: EN 50.081.1 ; EN 50.082.1 ; EN 55.014

- 92/42/EEC Efficiency Directive \*\* C€

The Gas 360 is CE approved, No: 0085AU0115

The Gas 460 is CE approved, No: 0085BL0187

## Contents

	page
Introduction	2
Boiler description	2
Certifications	2
Technical data Gas 360/Gas 460	3
Typical boiler construction Gas 360	4
Typical boiler construction Gas 460	5
Dimensions Gas 360	6
Dimensions Gas 460	7
Typical boiler installation Gas 360	8
Typical boiler installation Gas 460	9
Instrument panels	10
External connections	10
Water treatment	11

## Technical data

Remeha Gas 360			8	10	12	14
Number of sections						
Nominal heat output	kW		36-63	45-81	54-99	54-117
Nominal heat input	kW		39.4-68.9	49.1-88.4	58.8-107.8	58.8-127.2
Mass flue gas flow rate <sup>(1) (2)</sup>	Kg/h		138	177	216	255
E.F.G.T Flue gas temperature Tf <sup>(1) (2)</sup>	°C		135			
Minimum flow temperature	°C		30			
Maximum flow temperature	°C		90			
Maximum operating pressure	bar		6			
Electrical supply	V/Hz		230/50			
Power consumption <sup>(3)</sup>	W		25			
Gas connection	BSP		1"			
Flow & return connection	BSP		1 1/2"			
Internal diameter flue gas outlet	mm		180	200	200	220
Water resistance <sup>(1)</sup>	Δ T = 10°C	mbar	56	120	216	320
	Δ T = 15°C	mbar	25	53	96	142
	Δ T = 20°C	mbar	14	30	54	80
Water capacity	litre		32.6	39.8	47	54.2
Dry weight	kg		257	305	357	408

<sup>(1)</sup> At nominal output (2nd stage)

<sup>(2)</sup> Boiler temperature 80°C

<sup>(3)</sup> Power consumption of the boiler only with no accessories

Conditions of use - Maximum safety temperature: 110°C

- Maximum operating pressure: 6 bar

- Thermostat adjustable from 30 to 90°C

- Safety thermostat: 110°C

Remeha Gas 460			8	10	12	14	16	18	20
Number of sections									
Nominal heat output	kW		83-140	107-180	131-220	155-260	179-300	202-340	226-380
Nominal heat input	kW		93.1-153	119.4-196.3	145.6-239.4	171.9-282.6	197.9-325.4	224-368.4	250.1-411.3
Mass flue gas flow rate <sup>(1)</sup>	Kg per sec		0.097	0.127	0.144	0.177	0.191	0.203	0.258
E.F.G.T Flue gas temperature Tf <sup>(2)</sup>	°C		125	123	130	126	133	140	126
Minimum flow outlet temperature	°C		40						
Maximum flow outlet temperature	°C		90						
Maximum operating pressure	bar		6						
Electrical supply	V/Hz		230/50						
Power consumption	W		108/114 maximum						
Gas connection	BSP		1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"
Flow & return connection	inch		2						
Internal diameter flue gas outlet	mm		250	300	300	350	350	350	400
Water resistance <sup>(1)</sup>	Δ T = 10°C	mbar	80	133	198	277	369	484	592
	Δ T = 15°C	mbar	36	59	88	123	164	211	263
	Δ T = 20°C	mbar	20	33	50	69	92	118	148
Water capacity	litre		61	76	91	106	122	137	154
Dry weight	kg		668	807	934	1096	1227	1354	1476

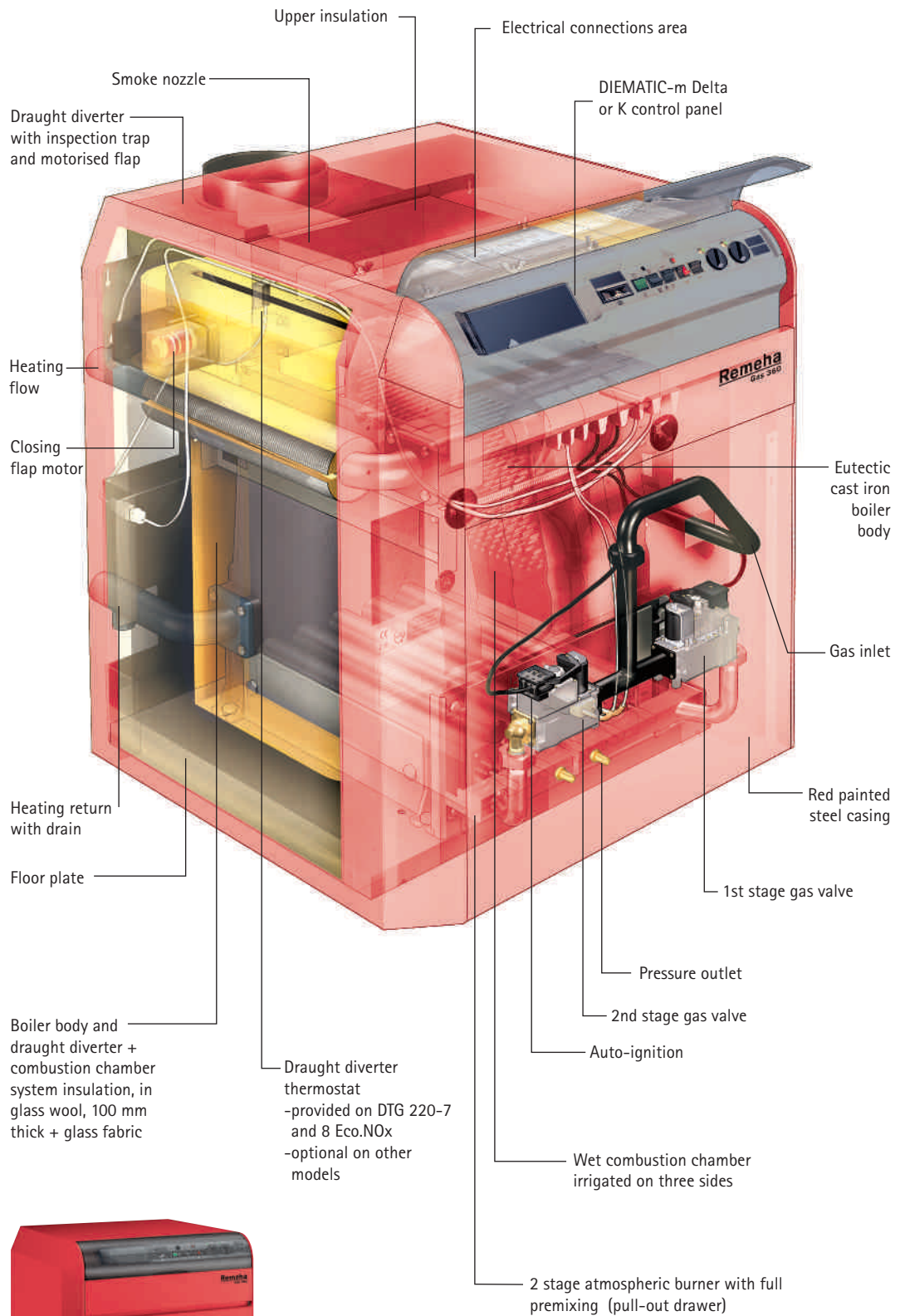
<sup>(1)</sup> At 2nd stage

<sup>(2)</sup> Boiler temperature 80°C

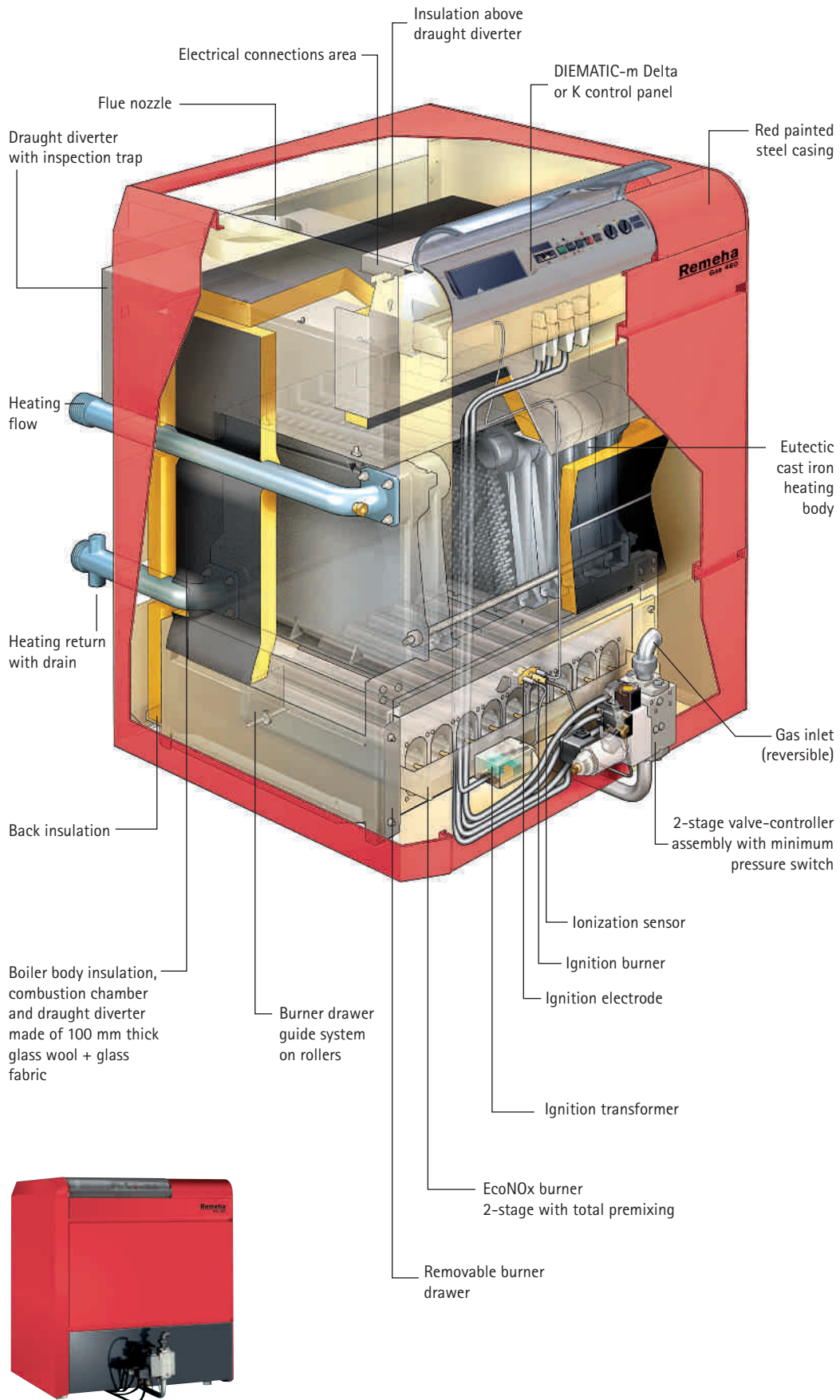
1 mbar = 10 mmCE = 10 daPa = 100 Pa

# Typical boiler construction

## Remeha Gas 360

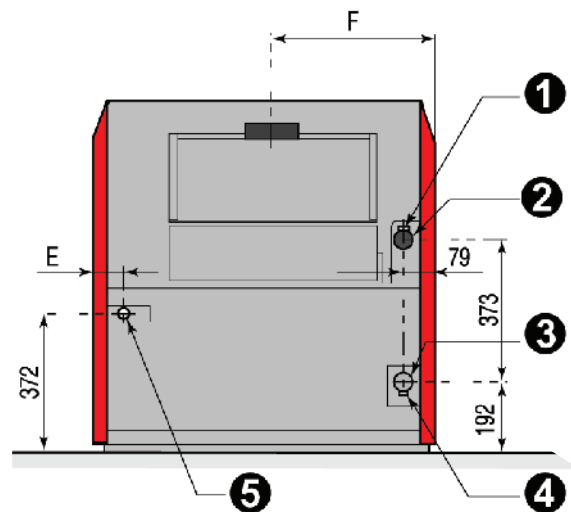
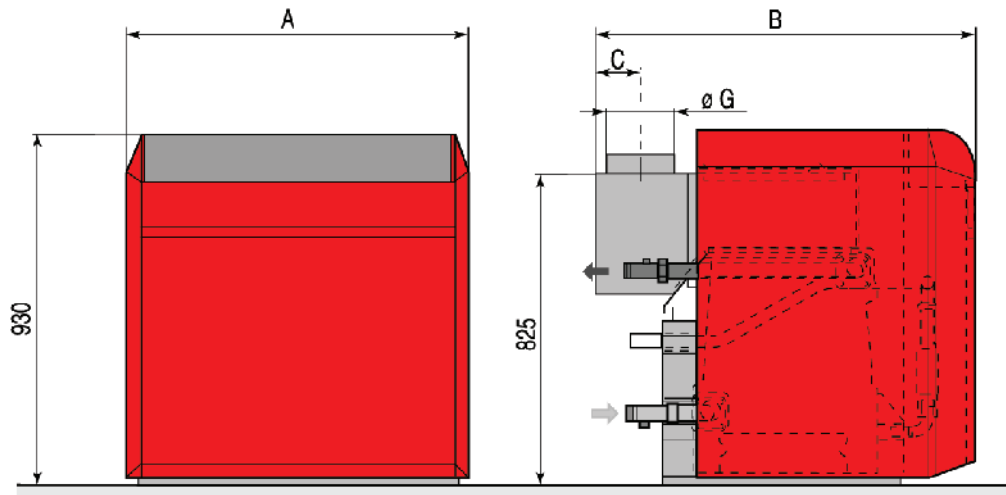


## Remeha Gas 460



# Dimensions

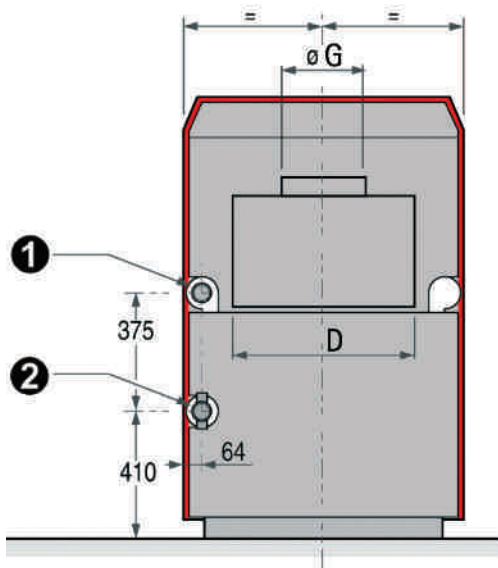
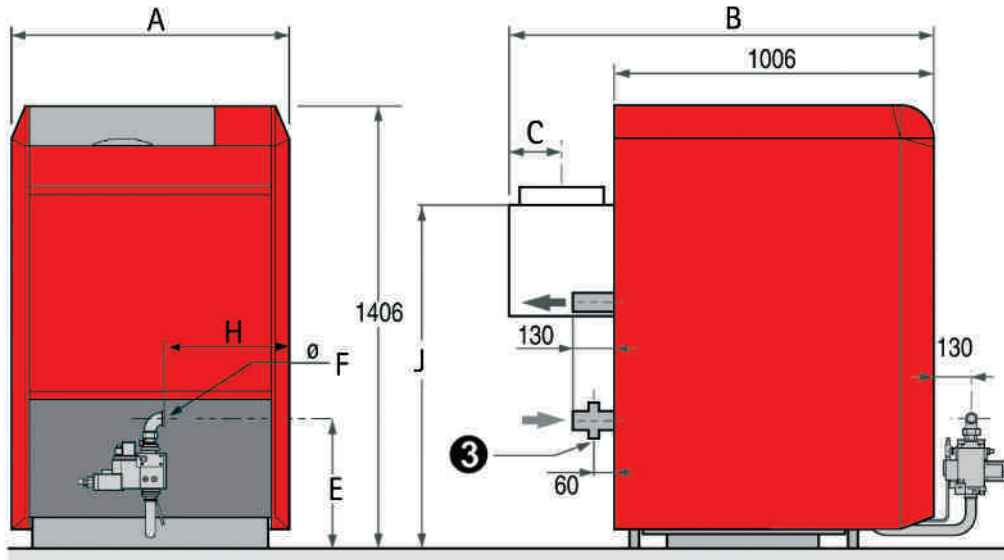
## Remeha Gas 360



- ① Connecting the safety valves 1" BSP
- ② Heating outlet 1 1/2" BSP
- ③ Heating return 1 1/2" BSP
- ④ Drain off 3/4" BSP
- ⑤ Gas inlet 1" BSP

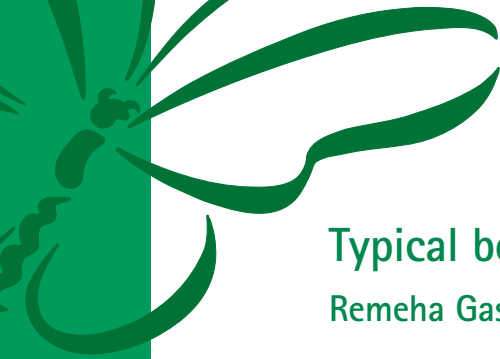
Remeha Gas 360 - Dimensions				
Number of sections	8	10	12	14
A (mm)	946	1113	1280	1447
B (mm)	952	1007	1007	1007
C (mm)	102	124	124	124
E (mm)	75	75	75	75
F (mm)	494	578	661	745
Ø G internal (mm)	180	200	200	225

Remeha Gas 460



- ① Heating outlet 2" BSP
- ② Heating return 2" BSP
- ③ Drain off 3/4" BSP

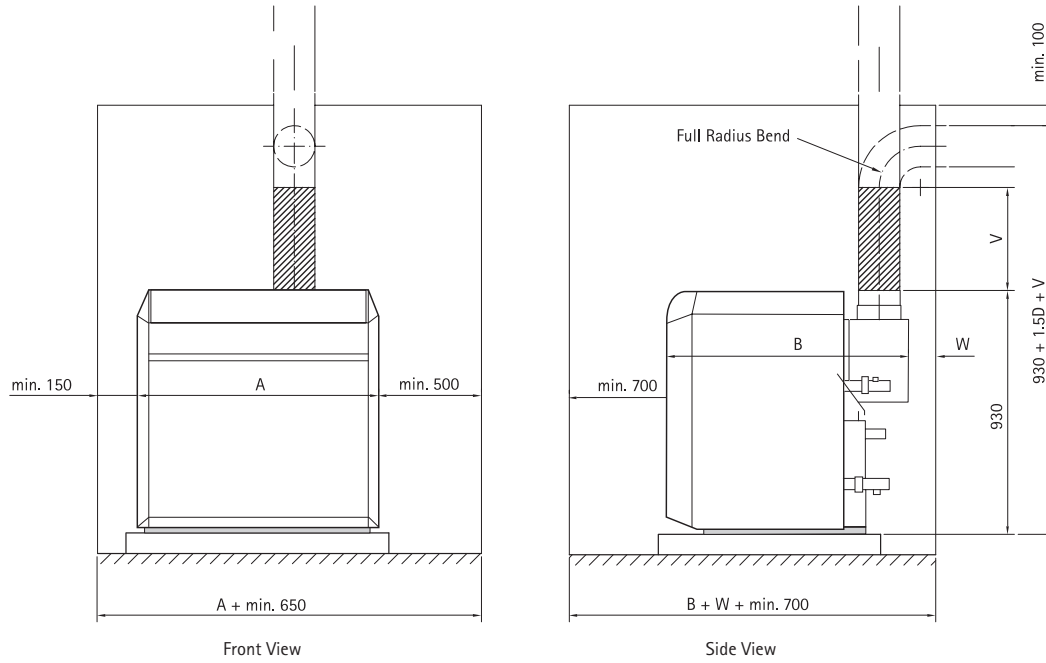
Remeha Gas 460 - Dimensions							
Number of sections	8	10	12	14	16	18	20
A (mm)	970	1146	1322	1498	1674	1850	2026
B (mm)	1362	1362	1362	1412	1412	1412	1462
C (mm)	165	165	165	190	190	190	220
D (mm)	632	808	984	1160	1336	1512	1688
E (mm)	445	445	445	454	454	454	507
Ø F (mm) (20 mbar)	BSP1"	BSP1"	BSP1"	BSP 1 1/4"	BSP 1 1/4"	BSP 1 1/4"	BSP 1 1/2"
Ø G internal (mm)	250	300	300	350	350	350	400
H (mm)	447	535	623	704	792	880	963
J (mm)	1094	1094	1094	1194	1194	1194	1194



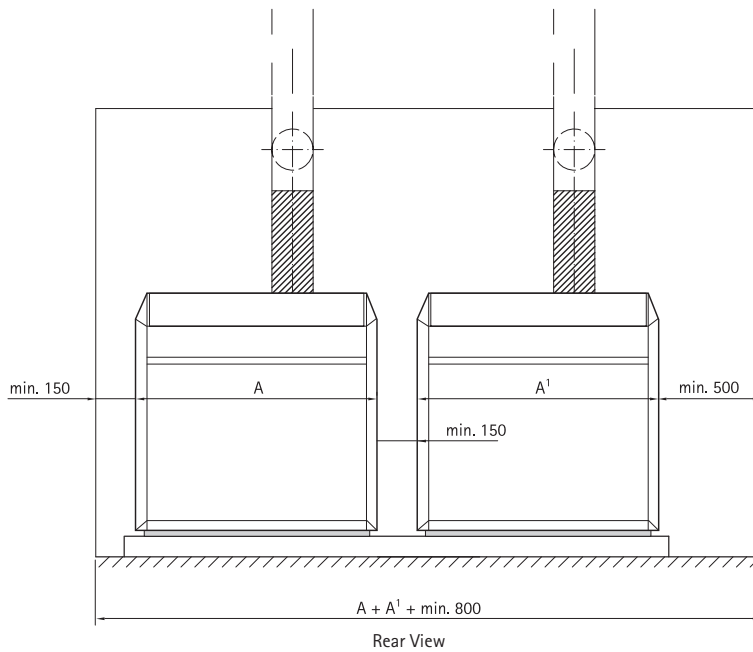
# Typical boiler installation

## Remeha Gas 360

### 1 boiler in boiler room



### 2 boilers in boiler room



#### Remeha Gas 360 - Dimensions

Sections	8	10	12	14
A (mm)	946	1113	1280	1447
B (mm)	952	1007	1007	1007

V = min. length 0.5 m before elbow, thus avoiding draught

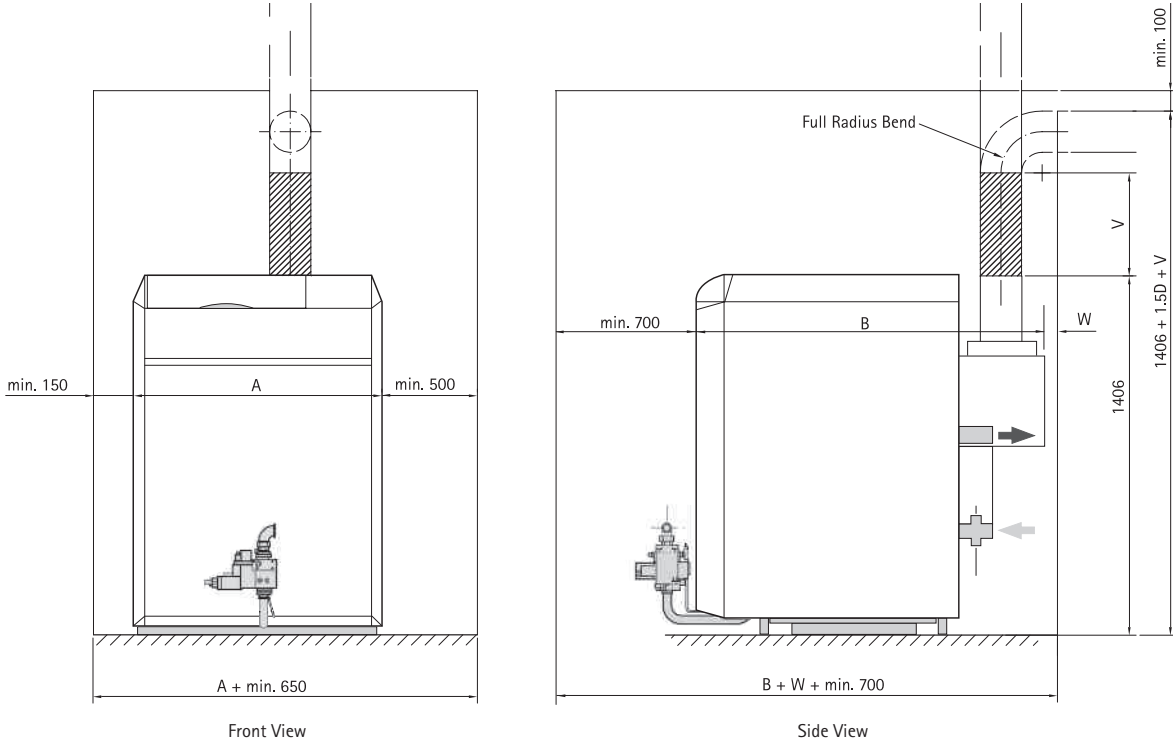
W = min. 150 mm with vertical flue outlet

W = min. 0.5D + 50 mm with horizontal flue outlet

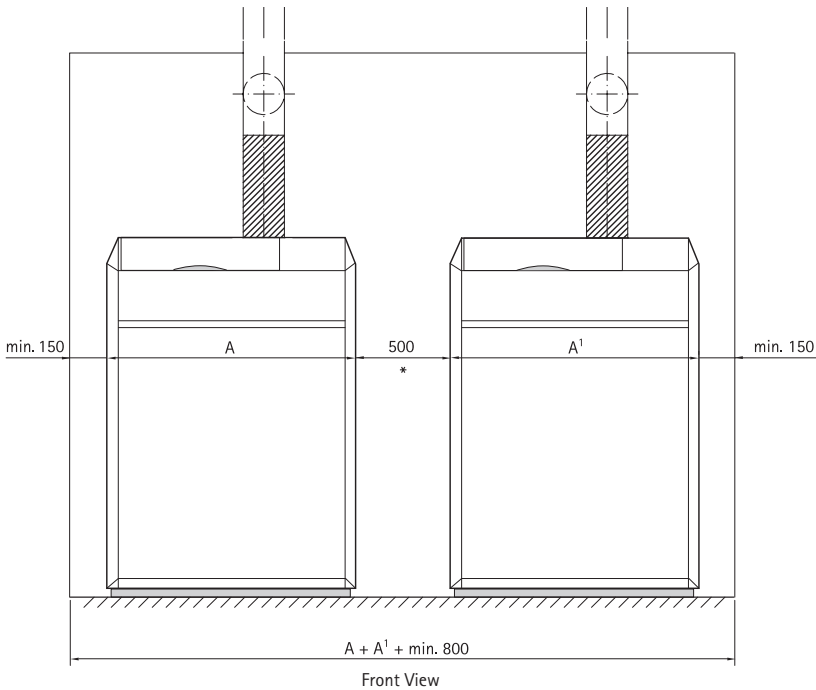


Remeha Gas 460

1 boiler in boiler room



2 boilers in boiler room



Remeha Gas 460 - Dimensions							
Sections	8	10	12	14	16	18	20
A (mm)	970	1146	1322	1498	1674	1850	2026
B (mm)	1362	1362	1362	1412	1412	1412	1462

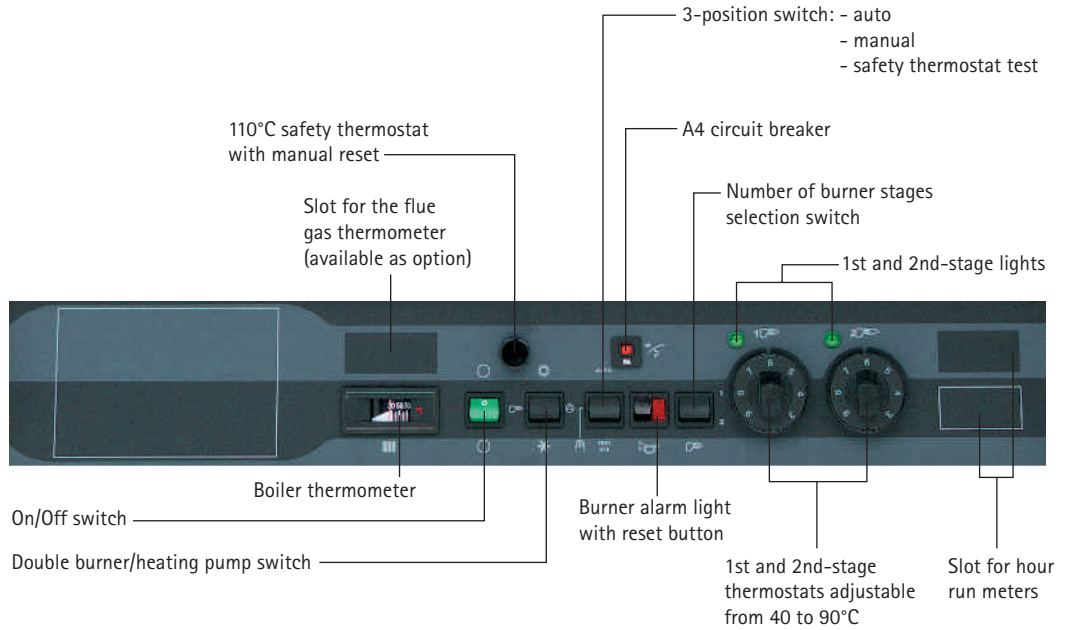
V = min. length 0.5 m before elbow, thus avoiding draught  
 W = min. 150 mm with vertical flue outlet  
 W = min. 1/2 Flue Diameter + 50 mm with horizontal flue outlet  
 \* = free access to rear of boiler



# Instrument panels

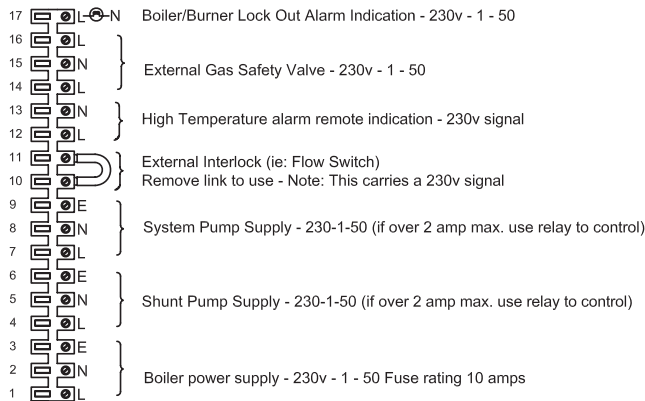
## Equipment contents

The panels contain all the necessary control and measuring instruments required to control the boiler. The connections have to be made on a terminal strip. The capillaries and sensor wires, which come from the control panel, are placed in the instrument pockets that are fitted at the front of the boiler.

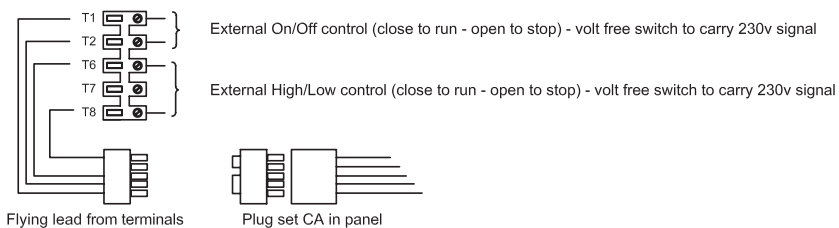


## External connections

### Main Terminal Block



### External control Terminal Block



To use the External On/Off and High Low control connections  
Remove plug from CA set and place flying lead plug in its place

## Water treatment

The system should be filled with mains cold water (pH of between 7 and 8 in the UK).

Pressurised installations with a boiler/system content ratio of 1:10 or less should not require water treatment, provided that the following conditions apply:

1. The system is flushed thoroughly to remove all fluxes and debris and then filled completely once.
2. Make up water is limited to 5% per annum.
3. The hardness of the water does not exceed 360 ppm (20°D).

All scale deposits will reduce the efficiency of the boiler and should be prevented. However provided the above is complied with any scale produced will not be too detrimental to the boiler efficiency and will not reduce the anticipated life expectancy of the boiler.

**Note: Scale deposits in excess of 3 to 5 mm will reduce boiler efficiency and greatly increase the risk of premature casting failure.**

As most systems contain a variety of metals which can react with each other to cause corrosion, it is considered good practice to provide some form of water treatment (especially in open vented systems) in order to prevent or reduce the following:

- Metallic corrosion;
- Formation of scale and sludge;
- Microbiological contamination;
- Chemical changes in the untreated system water.

Suitable chemicals and their use should be discussed with a specialist water treatment company prior to carrying out any work. The specification of the system and manufacturer's recommendations must be taken into account, along with the age and

condition of the system. New systems should be flushed thoroughly to remove all traces of flux, debris, grease and metal swarf generated during installation. Care to be taken with old systems to ensure any black metallic iron oxide sludge and other corrosive residues are removed, again by thoroughly flushing, ensuring that the system is drained completely from all low points.

**Note: Please ensure that the new boiler plant is not in circuit when the flushing takes place, especially if cleansing chemicals are used to assist the process.**

**UNDER NO CIRCUMSTANCES OPERATE THE BOILER WITH CLEANING CHEMICALS IN THE SYSTEM.**

### To Summarise:

- Minimise water loss;
- Prevent pumping over in open vented systems;
- Provide adequate air venting at all high points;
- Keep pH level between 7 - 9 when using additives;
- Maximum chlorine content of 200 mg/l
- Take advice on the suitability of inhibitors.

## Noise level

The noise level measured around the boiler depending on boiler room construction is about 50-55 dBA. (Noise level taken at 1 metre from the boiler).

## Chimneys

The average flue gas temperature is so low that the chimney must be in accordance with the guidelines of British Gas and BS 6644.



# TreadLightly

ON THE PLANET

GAS 360/460  
ATMOSPHERIC



## Broag Ltd. Head Office

Remeha House  
Molly Millars Lane  
Wokingham  
Berkshire RG41 2QP  
T: 0118 978 3434  
F: 0118 978 6977  
E: [boilers@broag-remeha.com](mailto:boilers@broag-remeha.com)

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

The data published in this technical sales leaflet is based on the latest information (at date of publication) and may be subject to revisions. It should be read in conjunction with our full technical brochure (available on request). We reserve the right to continuous development in both design and manufacture, therefore any changes to the technology employed may not be retrospective, nor may we be obliged to adjust earlier supplies accordingly.

Issue 5 date: 01/02/08



Broag UK is committed to carbon offsetting