



Boiler systems Epsilon

Efficiency 109.1% according EN 677 (36/30°C part load, Hi) • Premix burner technology • Modulating burner technology • Very low gas consumption • Concentric and parallel flue options • Standard fitted with a stainless steel heat exchanger • Internal Energy Management System • Nox class 5 • Modulating pump • Inox water filter

Technical specifications

		EB 40	EB 50
Gas data natural gas G20			
Input (gross value)	kW	38	51
Inlet pressure	mbar	20	20
Gas consumption	m ³ /h	3.62	4.86
Modulation range CH (capacity 80/60°C)	kW	6.8 - 33.3	8.8 - 44.7
Modulation range CH (capacity 50/30°C)	kW	6.0 - 36.3	9.8 - 48.7
Gas data propane gas G31			
Input (gross value)	kW	37.2	49.9
Inlet pressure	mbar	37	37
Gas consumption	kg/h	2.2	2.9
Modulation range CH (capacity 80/60°C)	kW	15.5 - 33.3	19.6 - 44.7
Modulation range CH (capacity 50/30°C)	kW	17.5 - 36.3	21.3 - 44.7
General data			
Nox class		5	5
Efficiency class according BED		****	****
Efficiency according to EN 677 (36/30°C part load, Hi)	%	109.1	109.3
Efficiency according to EN 677 (80/60°C full load, Hi)	%	97.4	97.3
Efficiency according to EN 677 (36/30°C part load, Hs)	%	98.3	98.5
Efficiency according to EN 677 (80/60°C full load, Hs)	%	87.8	87.7
Weight empty	kg	53	64
Maximum working pressure	kPa (bar)	300 (3)	300 (3)
Flue gas discharge temperature (36/30°C, part load, Hi)	°C	31	31
Flue gas discharge temperature (80/60°C, full load, Hi)	°C	69	70
Electrical data			
Power consumption maximum	W	165	150
Power consumption stand-by	W	10	10
Power supply	VAC/Hz	230 (-15% +10%)/50 (±1)	
Degree of protection acc. EN 60529		IPX0D	
Shipping data			
Weight (incl. packaging)	kg	61	72
Width	mm	470	470
Height	mm	985	985
Depth	mm	590	590

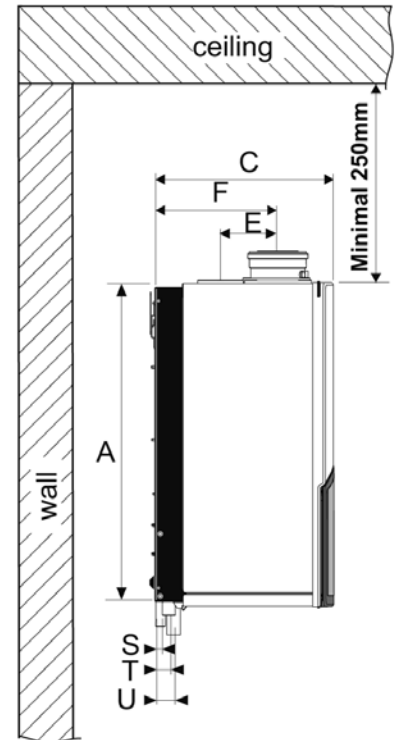
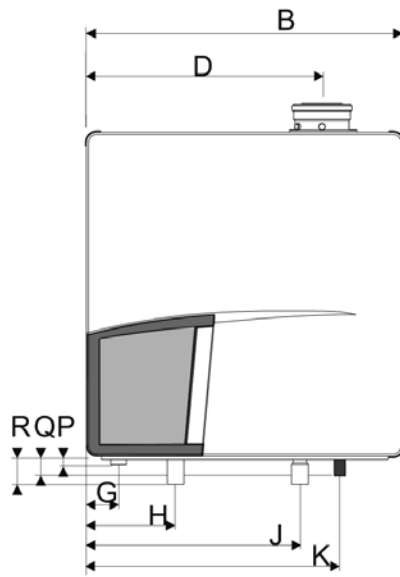
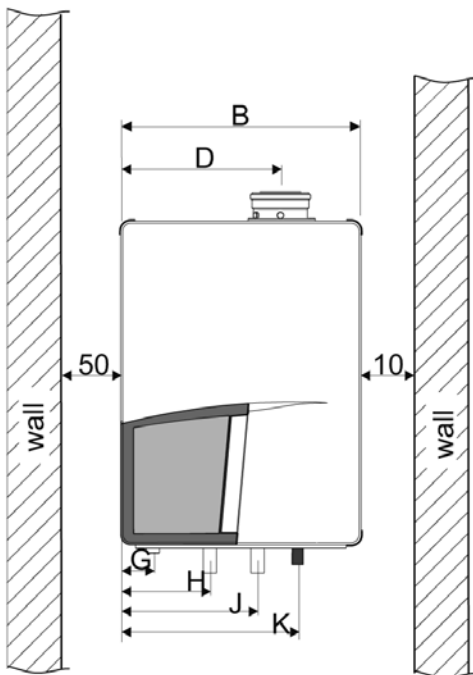
* Gas data on gross value

** Gas consumption at 15°C and 1013.25 mbar

*** Based on natural gas

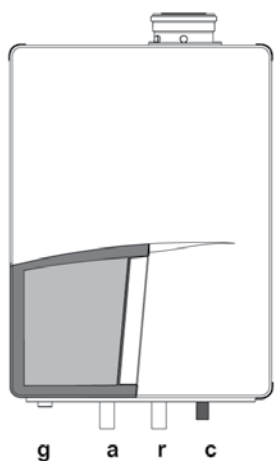
Dimensions

			EB 40	EB 50
A	Height	mm	680	680
B	Width	mm	500	660
C	Depth	mm	385	385
D	Left side / flue gas connection	mm	335	495
E	Centre to centre flue gas and air supply	mm	120	120
F	Back / flue gas connection	mm	270	270
G	Left side / gas connection	mm	65	65
H	Left side / flow pipe	mm	185	185
J	Left side / return pipe	mm	285	445
K	Left side / condensate drain	mm	370	530
P	Length of gas connection	mm	18	18
Q	Length of condensate drain	mm	40	40
R	Length of flow pipe	mm	60	60
S	Back / centre of condensate drain	mm	25	25
T	Back / centre of gas connection	mm	40	40
U	Back / centre of flow pipe & return pipe	mm	50	50
a	Connection flow pipe (external)	mm	28	35
c	Connection condensate drain (external)	mm	24	24
g	Connection gas control (internal)	-	Rp 1/2"	Rp 3/4"
r	Connection return pipe (internal)	mm	28	35

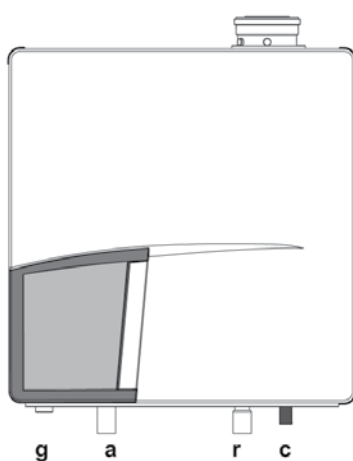


Dimensions connections

		EB 40	EB 50
Concentric flue system	mm/mm	80/125	80/125
Parallel flue system	mm	2x 80	2x 80
g Gas pipe		1/2"Rp	3/4"Rp
a Flow pipe	mm	28	35
r Return pipe	mm	28	35
c Condensate pipe	mm	24	24



EB 40



EB 50



Flue gas discharge materials

The Epsilon boilers can be installed in 'open' or 'closed' configuration.

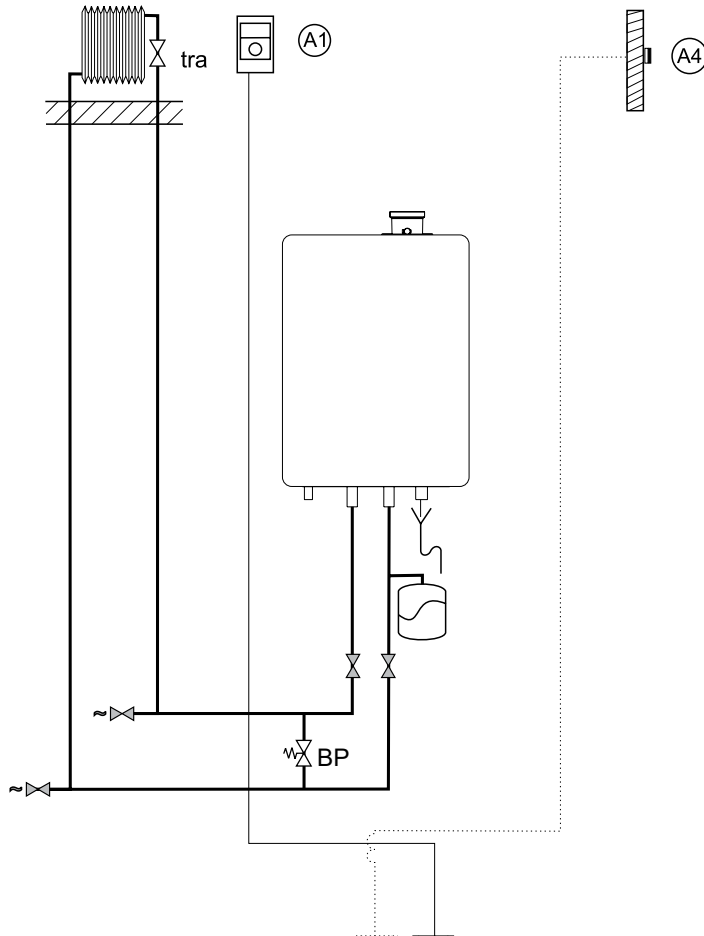
The flue gas discharge categories for EB are; B23, B33, C13, C33, C43, C53, C63, C83 and C93.

	EB 40	EB 50
Concentric		
Diameter (mm)	80/125	80/125
Max. length (m)	13	6
87° bend resistance length (m)	-2.8	-2.8
45° bend resistance length (m)	-1.1	-1.1
Parallel		
Diameter (mm)	80	80
Max. length (m)	18	6
87° bend resistance length (m)	-1.5	-1.5
45° bend resistance length (m)	-0.8	-0.8
Concentric		
Diameter (mm)	100/150	100/150
Max. length (m)	34	10
87° bend resistance length (m)	-2.6	-2.6
45° bend resistance length (m)	-1.1	-1.1
Parallel		
Diameter (mm)	100	100
Max. length (m)	39	18
87° bend resistance length (m)	-1.8	-1.8
45° bend resistance length (m)	-0.9	-0.9

Installation diagram

Central heating system only

This installation drawing is based on an EB40. When installing an EB50 in this configuration always use a low loss header (art. nr. 0310372).



A0

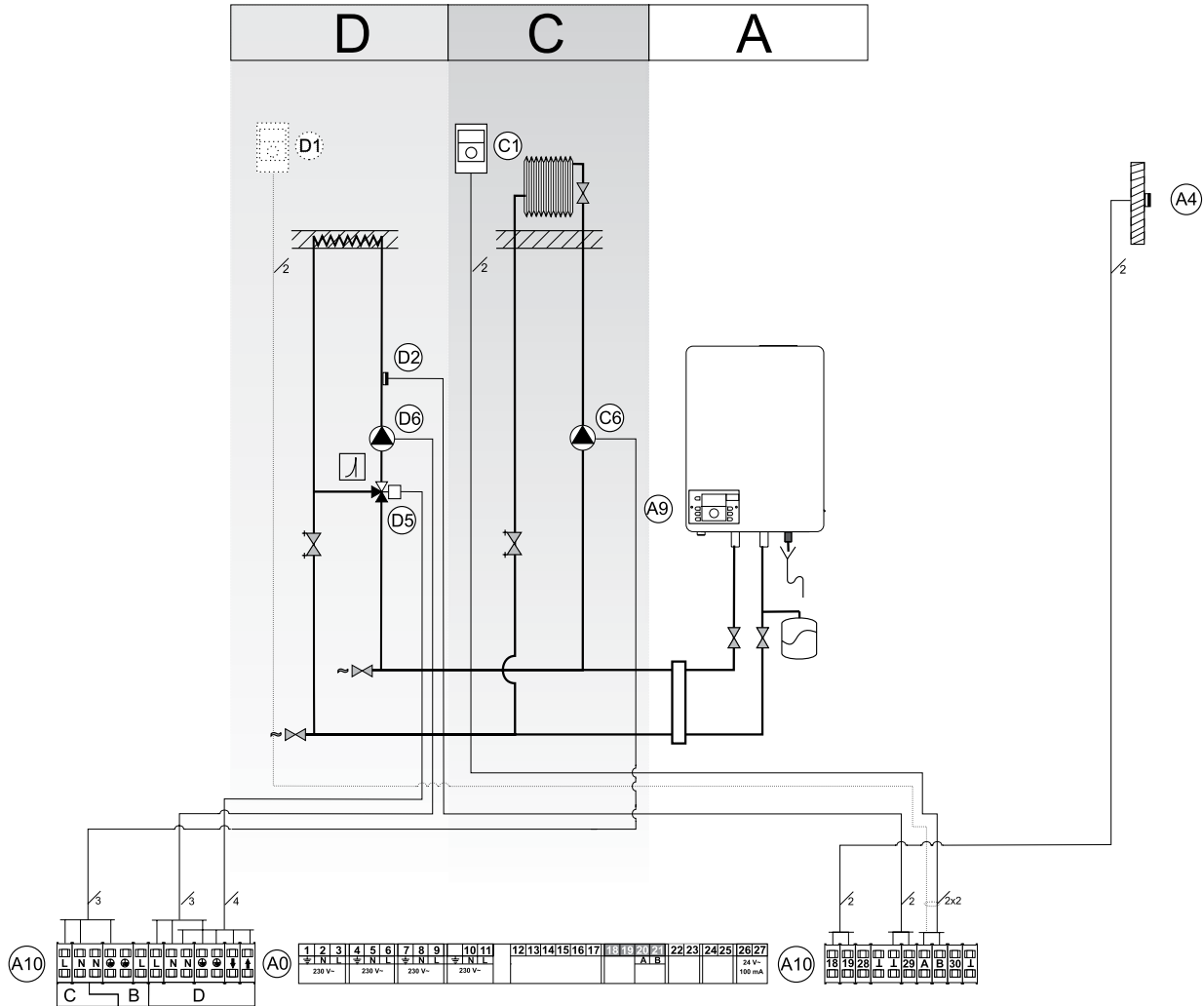
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
⏏	N	L	⏏	N	L	⏏	N	L	⏏	N	L								A	B							
230 V~			230 V~			230 V~			230 V~																		24 V~ 100 mA

A Boiler:	
A0	Connection terminal Epsilon boiler
A1	Room thermostat
A4	Outside sensor
tra	Thermostatic radiator valve
BP	Automatic by-pass
<i>Always use a by-pass in combination with thermostatic radiator valves</i>	

Installation drawing

Central heating and underfloor heating

This installation drawing is based on an EB50, low loss header included. When installing an EB40 in this configuration the low loss header is not mandatory.



A Boiler:	
A0	Connection terminal Epsilon boiler
A4	Outside sensor
A9	Zone controller
A10	Connection terminal zone controller built in
C Direct zone:	
C6	Pump direct zone
D Mixing zone:	
D2	Flow sensor mixing zone
D5	Three way valve mixing zone 230V ~
D6	Pump mixing zone

Contact information

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OFFERING & ADVICE

A.O. Smith Water Heaters can provide you with a tailor made offer for you application. This offer includes; the boiler(s), the cascade parts (if necessary), insulation and the flue gas discharge materials.

For more information, an advice or a detailed offer, please contact A.O. Smith Water Heaters at sales@aosmith.co.uk or 0870 2676484.



For a more detailed map, please refer to www.aosmith.co.uk

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