

BWA 50-70

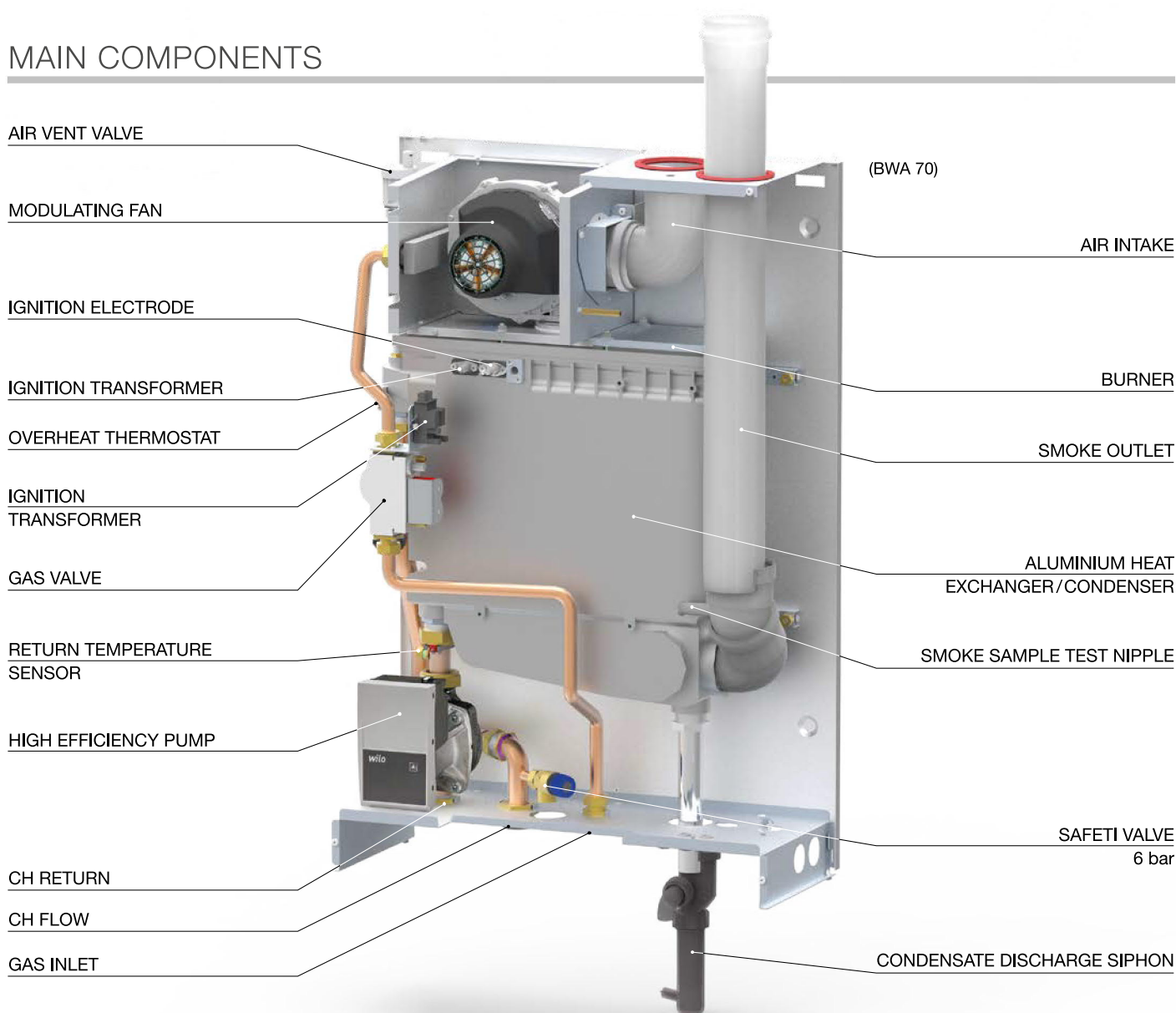


WALL HUNG GAS BOILER FOR C.H. LOW NO_x AND PREDISPOSITION FOR INSTANTANEOUS D.H.W. PRODUCTION (with optional kit)

OUTPUT RANGE	from 50 to 560 kW (in battery)	
WORKING TEMPERATURE	no limit on return temperature	
SUPPLY	natural gas / LPG	
MODELS	50	70
SEASONAL EFFICIENCY	 A	 A

Heat exchanger in Aluminium / Silicium / Magnesium
Wall hung installation also in battery (up to 2 batteries of 4 boilers each)
 can be combined both with **MIXING HEADER** and with **PLATE HEAT EXCHANGERS**

MAIN COMPONENTS



DESCRIPTION

- Aluminium Heat exchanger / Condenser
- Total premixing burner with constant CO₂
- Electronic ignition
- Safety limit thermostat
- Flow temperature sensor
- Return temperature sensor
- Automatic air vent
- Condensate discharge siphon
- Panel board with IPX4D electrical protection degree
- Possibility of e-BUS connection
- C.H. temperature adjustment range 30 to 85°C
- Flame modulation according to the absorbed output
- Pump over-run function
- Additional functions: diagnostic of working parameters and errors, anti-frost, technical service and digital error indication
- Minimum water pressure switch at 0.5 bar
- Constant combustion ratio
- Self adapting output according to the flue length

- High efficiency modulating pump (standard supplied only for BWA 70)

Optional kits:

- Manifold kit for additional safety devices
- Additional safety devices kit
- Thermoregulation and Control Manager HSCP (boiler cascade manager complete with BCM 2.0)
- High efficiency modulating pump kit (optional for BWA 50)
- mixing header / plate heat exchanger kit
- Single chimney / battery
- Supporting frames
- D.H.W. priority kit
- Hydraulic manifolds and blind flanges kit
- Harness kit for external D.H.W. producer
- Instantaneous D.H.W. production kit
 - 28,5 l/min for BWA 50
 - 37,4 l/min for BWA 70

PRODUCT PLUS VALUES



Ultra compact aluminium heat exchanger-condenser (Al/Si/Mg)



Combustion always under control, Low NOx - Class 6 (premix burner and modulating fan)



Ultra flat: only 26.6 cm in depth



Thermoregulation HSCP (optional)

- **EFFICIENCY CLASS A**
- **CLASS 6 Low NOx**
thanks to the pre-mix burner with gas-air ratio control which offers a constant CO₂ content for the whole modulation range
- **CERTIFICATION IN OUTPUT RANGE**
- **EXCHANGER/CONDENSER**
aluminium (Al/Si/Mg)
- **CONTAINED DIMENSIONS**
height 93 cm, width 61.5 and only 26.6 in depth.
- **PREMIX COMBUSTION GROUP WITH CONSTANT CO₂ in Al/Si/Mg alloy**
- **MICROPROCESSOR PCB**
for boiler control
- **VERY HIGH MODULATION RATIO**
• 1:7 for BWA 70 • 1:5 for BWA 50
- **INTEGRAL STANDARD INTERFACE**
for modulating heating controllers with protocol communication (bus-data).
- **COUPLING WITH A MODULATING PUMP HIGH EFFICIENCY**
supplied as standard for BWA 70
- **Optional manifold with additional safety devices kit**
- **INSTANTANEOUS D.H.W. PRODUCTION KIT (optional)**
It allows a large D.H.W. production without having recourse to voluminous cylinders
- **PREDISPOSITION FOR IN BATTERY INSTALLATIONS (optional)**



Up to 4 units batteries



Boiler operation assured even with low gas pressures (13 mbar)

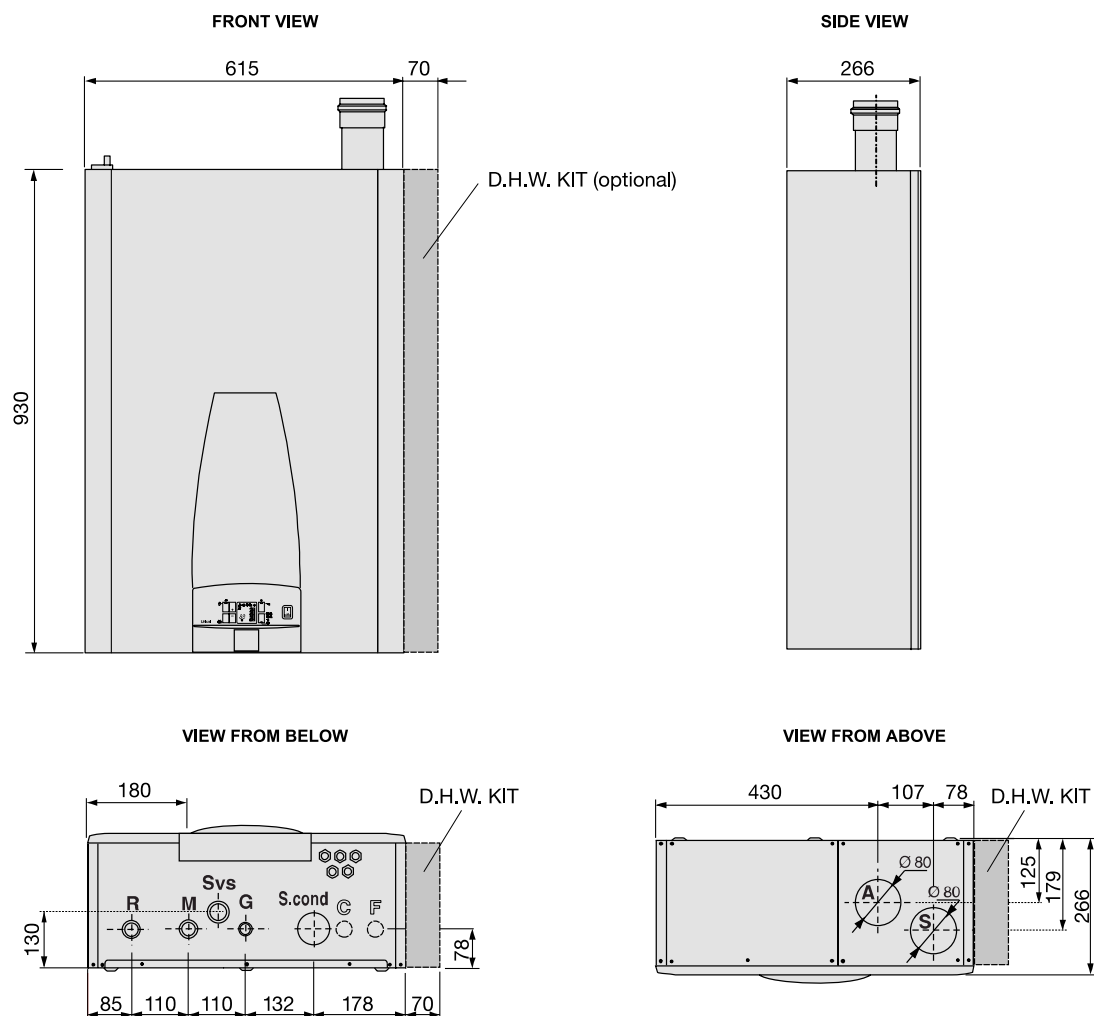


Quick and easy to service



D.H.W. production kit

DIMENSIONS



Key:

- R** - Heating system return
(G1" for mod. 50, G1 1/4" for mod. 70)
- M** - Heating system flow
(G1" for mod. 50, G1 1/4" for mod. 70)
- G** - Gas inlet (G 3/4")

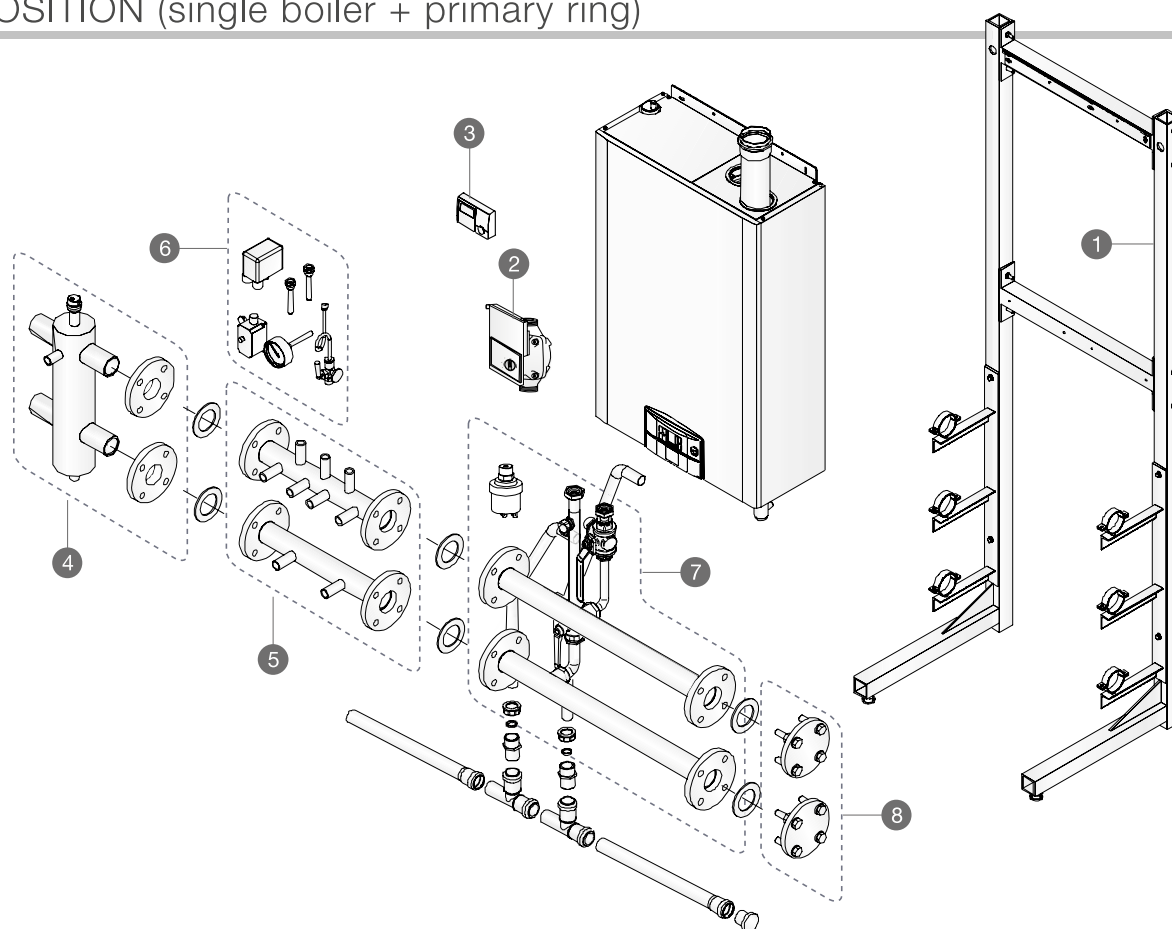
- Scond** - Condensation drain
- A** - Air Suction
- S** - Exhaust Smoke

BWA	Net Weight kg	Gross Weight (with packaging) kg
50	50	55
70	58,4	64

Kit for preparation of an external D.H.W. cylinder (optional), made by: electrical harness and temperature sensor for the control of a 3 way diverting valve (common – D.H.W. – C.H.). Valve electrical supply: 230 V.

For further information consult the manual on the site www.schusterboilers.com in the section of the product.

COMPOSITION (single boiler + primary ring)



COMPONENTS (optional)

- ① - SUPPORTING FRAME FOR ONE MODULE
- ② - MODULATING PUMP high efficiency (optional for. BWA 50: to be ordered separately)
- ③ - THERMOREGULATION HSCP
- ④ - MIXING HEADER KIT (maximum flow rate 6 m³/h)
- ⑤ - ADDITIONAL SAFETY DEVICES COLLECTOR KIT
- ⑥ - ADDITIONAL SAFETY DEVICES KIT
composed of:
3-way cock 1/2", pressure gauge R 3/8, R 1/2 bulb holders (2x),
100°C H.L. thermostat, 5 bar safety max pressure switch, thermometer,
shock absorber for pressure gauge.
- ⑦ - COLLECTORS KIT
composed of: Ballstop valves, 3 way valve, Flow collector, Return collector,
Return pipe connection, Differential pressure switch, Flow pipe connection
- ⑧ - BLIND FLANGES KIT

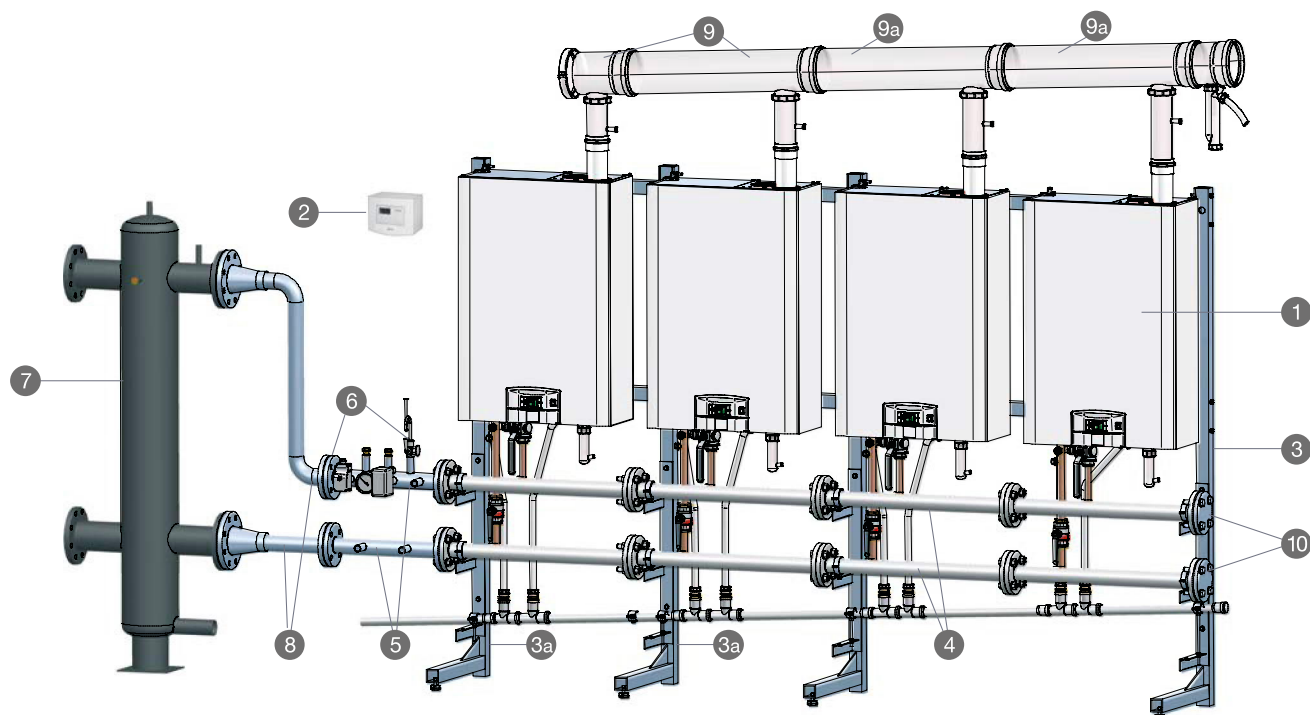
NOTE: the gas feeding pipes are not supplied.

REGULATION ACCESSORIES (optional)

- HSCP + BCM 2.0
Can be used for cascade management up to 8 modules
- Probe PT 1000 for management of solar collectors
- SHC MULTIFUNCTION MODULE (for zones management)
+ 3 control probes
(it is possible to drive up to a maximum of 4 SHC cards)
- NTC sensor for SHC Module

Available in combination with PLATE HEAT EXCHANGERS

CASCADE (composition of the battery + primary ring)*



	NUMBER OF BWA 50/70 UNITS IN BATTERY					
	2 BWA 50/70		3 BWA 50/70		4 BWA 50/70	
	BWA 50 quantity	BWA 70 quantity	BWA 50 quantity	BWA 70 quantity	BWA 50 quantity	BWA 70 quantity
1 - BWA 50	2		3		4	
- BWA 70		2		3		4
2 - HSCP HEATING CONTROLLER	1	1	1	1	1	1
3 - SUPPORTING FRAME FOR 2 UNITS	1	1	1	1	1	1
3a - EXPANSION FRAME FOR 1 UNIT			1	1	2	2
4 - BWA COLLECTORS KIT	2	2	3	3	4	4
5 - ADDITIONAL SAFETY DEVICES KIT STUB PIPE 50-200 KW	1	1	1	1	1	1
6 - ADDITIONAL SAFETY DEVICES KIT	1	1	1	1	1	1
7 - HYDRAULIC SEPARATOR KIT UP TO 180 KW (PER MOD. BWA 50)	1	1	1			
- HYDRAULIC SEPARATOR KIT UP TO 450 KW (PER MOD. BWA 70)				1	1	1
8 - SEPARATOR CONNECTION KIT UP TO 180 KW (PER MOD. BWA 50)	1	1	1			
- SEPARATOR CONNECTION KIT UP TO 450 KW (PER MOD. BWA 70)				1	1	1
9 - FLUE OUTLET KIT 2 BWA UNITS	1	1	1	1	1	1
9a - EXPANSION FLUE OUTLET KIT 1 BWA UNIT			1	1	2	2
- SMOKE THERMOSTAT KIT	2	2	3	3	4	4
10 - BLIND FLANGE KIT	1	1	1	1	1	1
- MODULATING PUMP (optional for BWA 50)	2		3		4	

Note: all the assembly of evacuation system and the additional accessories are in certified translucent Polypropylene.

The gas supply pipes are not supplied. If supplies with power exceeding 200 kW are foreseen, contact the Technical Office / Presale.

Available in combination with PLATE HEAT EXCHANGERS

*For the configurations refer to the Technical Manual for Use and Maintenance on the web site www.schusterboilers.com

Notes:

TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

		BWA 50	BWA 70
Appliance category		II _{2H3P}	II _{2H3P}
Modulation Ratio		1:5	1:7
Nominal Heat Input on P.C.I. Q _n	kW	48.5	67.5
Minimum Heat Input on P.C.I. Q _{min}	kW	9.6	9.6
Nominal Output (Tr 60 / Tm 80 °C) P _n	kW	47.2	65.7
Minimum Output (Tr 60 / Tm 80 °C) P _{n min}	kW	9.1	9.1
Nominal Output (Tr 30 / Tm 50 °C) P _{cond}	kW	49.4	68.7
Minimum Output (Tr 30 / Tm 50 °C) P _{cond min}	kW	10.04	10.33
Efficiency at max. output (Tr 60 / Tm 80°C)	%	97.29	97.29
Efficiency at min. output (Tr 60 / Tm 80°C)	%	94.9	94.9
Efficiency at max. output (Tr 30 / Tm 50°C)	%	101.82	101.72
Efficiency at min. output (Tr 30 / Tm 50°C)	%	104.55	107.58
Efficiency at 30% output (Tr 30°C)	%	107.33	107.33
Combustion efficiency with nominal load	%	97.82	97.38
Combustion efficiency with minimum load	%	98.51	98.34
Heat loss at casing with burner in operation (Q _{min})	%	3.60	3.44
Heat loss at casing with burner in operation (Q _n)	%	0.52	0.09
Flue gas temperature tf-ta (min)(*)	°C	30.6	34
Flue gas temperature tf-ta (max)(*)	°C	43.6	51.3
Maximum allowable temperature	°C	100	100
Maximum operating temperature	°C	85	85
Flue gas mass flow rate (min)	kg/h	15.9	15.9
Flue gas mass flow rate (max)	kg/h	80.0	111.4
Excess λ air	%	25.53	28.17
Flue losses with burner in operation (min)	%	1.49	1.66
Flue losses with burner in operation (max)	%	2.18	2.62
Minimum heating circuit pressure	bar	0.5	0.5
Maximum heating circuit pressure	bar	6	6
Water content	l	3.9	3.9
Gas Consumption Natural (20 mbar) gas G 20 a Q _n	m³/h	5.13	7.14
Gas Consumption Natural gas (20 mbar) G 20 a Q _{min}	m³/h	1.02	1.02
Gas Consumption G25 (supply pressure 25 mbar) Q _n	m³/h	5.96	8.30
Gas Consumption G25 (supply pressure 25 mbar) Q _{min}	m³/h	1.18	1.18
Gas Consumption G31 (supply pressure 37/50 mbar) Q _n	kg/h	3.76	5.24
Gas Consumption G31 (supply pressure 37/50 mbar) Q _{min}	kg/h	0.75	0.75
Max. available pressure at the chimney base	Pa	40	40
Condensate production max	kg/h	7.8	10.87
Emissions			
CO at Minimum Heat Input with 0% of O ₂	mg/kWh	71.3	82
NO _x at Nominal Heat Input with 0% of O ₂	mg/kWh	56	59
NO _x Class		6	6
Electrical Data			
Voltage/Frequency electric power supply	V/Hz	230/50	230/50
Fuse on main supply	A (R)	6	6
Insulation degree	IP	X4D	X4D

Room Temperature = 20°C.

(*) Temperatures detected with the unit in operation (Tr 60 / Tm 80°C)

Seasonal Efficiency η_s according to Directive 2009/125/EC for Outputs < = 400 kW. See Erp Table

Standstill heat losses at Δt 30K – P_{stby} – See Erp Table

Standstill electrical consumption – P_{sb} – See Erp Table

DATA ACCORDING TO ErP DIRECTIVE

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

			BWA 50	BWA 70
NOMINAL HEAT OUTPUT	P_n	kW	47	66
SEASONAL SPACE HEATING ENERGY EFFICIENCY	η_s	%	93	93
SEASONAL EFFICIENCY CLASS IN HEATING MODE			A	A
FOR CH ONLY AND COMBINATION BOILERS: USEFUL HEAT OUTPUT				
USEFUL HEAT OUTPUT in high temperature regime (Tr 60 °C / Tm 80 °C)	P_4	kW	47	66
USEFUL EFFICIENCY AT NOM. HEAT OUTPUT in high-temperature regime (Tr 60°C / Tm 80°C)	η_4	%	93	93
USEFUL HEAT OUTPUT AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30°C)	P_1	kW	A	A
USEFUL EFFICIENCY AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30 °C)	η_1	%	97.1	97.3
RANGE-RATED BOILER: YES / NO			NO	NO
AUXILIARY ELECTRICITY CONSUMPTION				
AT FULL LOAD	$e_{l_{max}}$	kW	0.203	0.267
AT PART LOAD	$e_{l_{min}}$	kW	0.162	0.172
IN STAND-BY MODE	P_{SB}	kW	0.005	0.005
OTHER ITEMS				
STAND-BY HEAT LOSS	P_{stby}	kW	0.151	0.151
EMISSIONS OF NITROGEN OXIDES referred to NCV & (GCV)	NO_x	mg/kWh	45 (41)	46 (42)
CONSUMPTION OF ANNUAL ELECTRICITY	Q_{HE}	GJ	92	120
FOR CH & DHW PRODUCTION BOILERS				
DECLARED LOAD PROFILE			-	-
ENERGY EFFICIENCY IN DHW PRODUCTION MODE	η_{WH}	%	-	-
DAILY ELECTRICITY CONSUMPTION	Q_{elec}	kWh	-	-
DAILY FUEL CONSUMPTION	Q_{fuel}	kWh	-	-
INSIDE SOUND POWER LEVEL	L_{wa}	dB(A)	60	63
SEASONAL EFFICIENCY CLASS IN DHW PRODUCTION MODE			-	-

BWAf 100-115

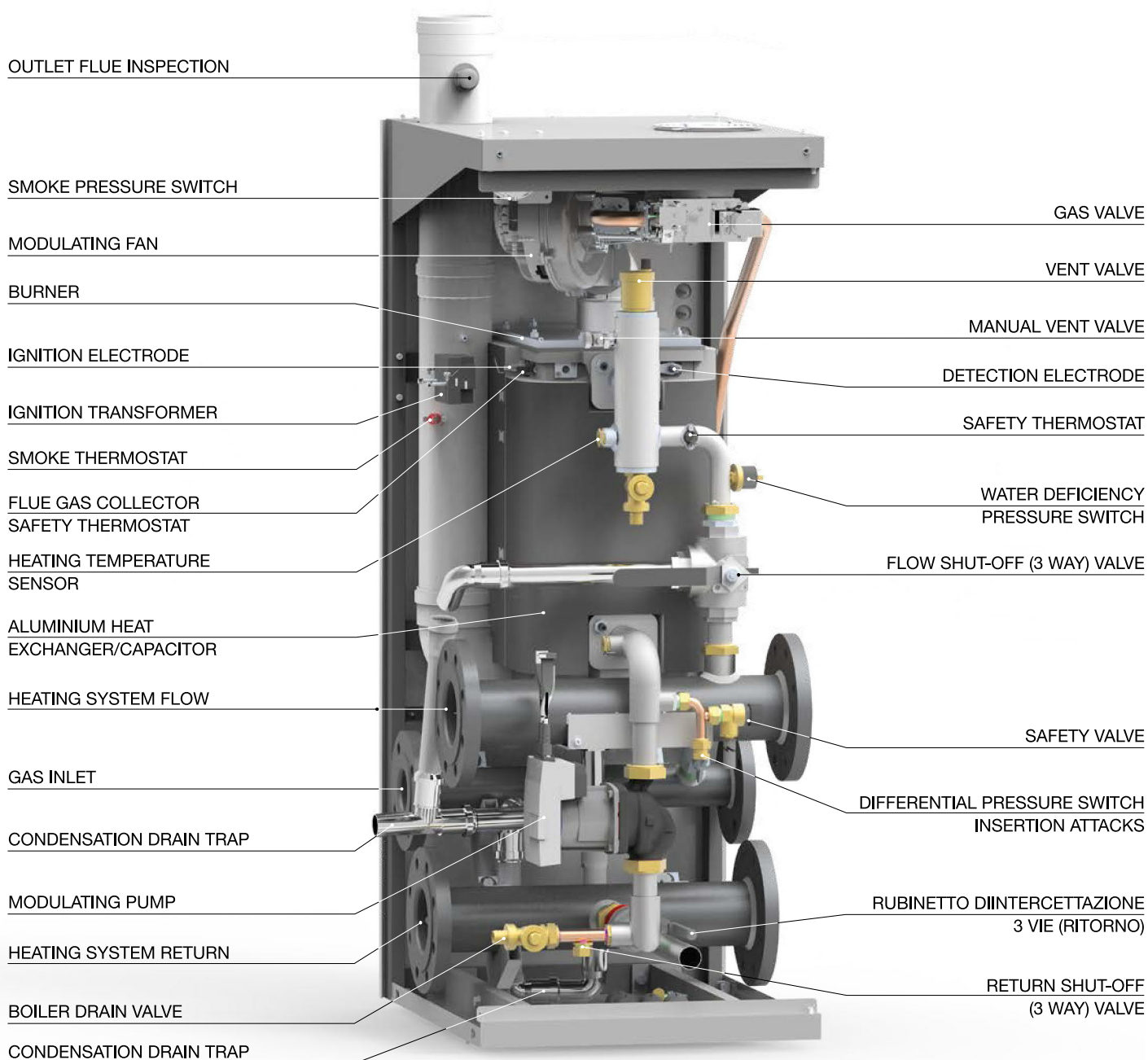


FLOOR STANDING, MODULATING CONDENSING BOILER
WITH LOW NO_x PREMIX BURNER - FOR INDOOR & OUTDOOR INSTALLATION

OUTPUT RANGE	from 99.5 to 920 kW in battery (115 kW x 8)	
WORKING TEMPERATURE	no limit on the return temperature	
SUPPLY	Natural Gas or LPG	
MODELS	BWAf 100	BWAf 115
SEASONAL EFFICIENCY	 A	

Heat exchanger in Al/Si/Mg alloy – floor standing installation – IPX5D (for Outdoor installation)
Battery (up to batteries of 4 boilers each)
can be combined both with MIXING HEADER and with PLATE HEAT EXCHANGERS

MAIN COMPONENTS



DESCRIPTION

The BWAf is a low water content (ca. 9 litres) gas boiler, with integral totally premix burner, FOR HEATING ONLY.

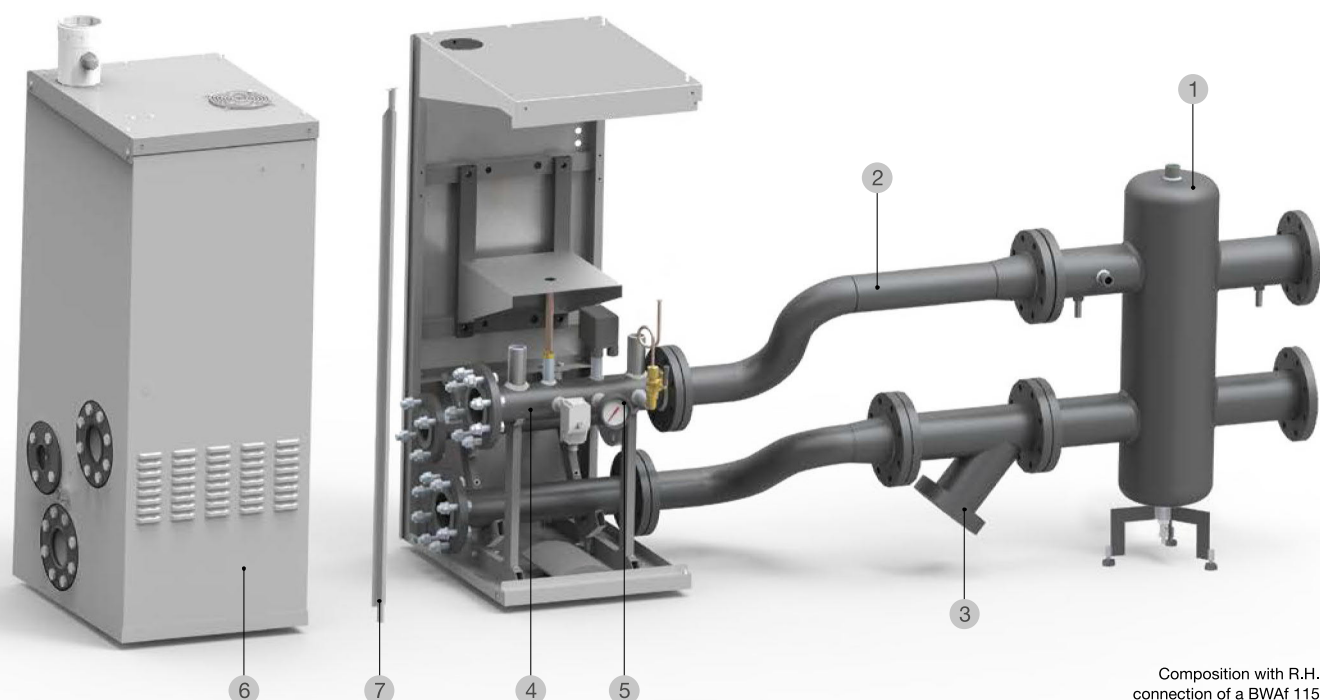
PECULIAR FEATURES:

- 1) High integration modular structure
- 2) Specially for Outdoor installation (Protection degree IPX5D)
- 3) Predisposition for quick installation "Plug & Play", also in cascade up to 8 units
- 4) Modulating pump controlled by the on board electronics for the maximum efficiency in condensing mode

- 5) Optional controller for the management of each individual unit or the complete cascade and of the thermal charges (possible from remote)
- 6) High modulation ratio for each individual unit (up to 1:5,75)
- 7) Control panel on board of each unit, with display and diagnostics
- 8) Smoke evacuation: elbow in polypropylene PPP and terminal in stainless steel.

Each unit develops an Output of 100/115 kW and belongs to the category II2H/3P, then can operated with Natural Gas or LPG.

COMPONENTS FOR THE CONNECTION TO THE C.H. SYSTEM (optional)



Composition with R.H. side connection of a BWAf 115 with primary ring, casing and top cover

1 - MIXING HEADER Ø 220 mm FOR C.H. SYSTEM UP 350 kW, DN 100

2 - RH SIDE CONNECTION KIT FOR MIXING HEADER DN 100

3 - Y SHAPED FILTER DN 100

4 - ADDITIONAL SAFETY DEVICES MANIFOLD + GAS, FLOW AND RETURN MANIFOLDS

5 - ADDITIONAL SAFETY KIT

made of: - ½" 3 way valve – N, 2 bulb holders ½" for calibration purposes - Thermometer Ø 100 mm with bulb holder
- Safety pressure switch 5 bar - Thermostat 100°C – Shock absorber for manometer.
Note: Some of the additional devices aren't supplied because their setting depends on the C.H. system features.

6 - KIT OF OUTDOOR CASING COMPLETE WITH SUPPORTS FOR SAFETY DEVICES *

- KIT OF EMPTY CASING (to be used as container for accessories) *

- KIT OF SUPPORTS FOR SAFETY DEVICES (suggested for indoor installation)

7 - UNION KIT FOR INDOOR INSTALLATIONS for 2 elements

- DIFFERENTIAL PRESSURE SWITCH

^(*) In case the kit of outdoor casing, complete with supports for safety devices, or the kit of empty casing is installed (pos. 6), ask also for the top cover (equipped with the closing cap on the not used evacuation hole), considering an additional element. If both, the a.m. kits are installed, ask for a top cover two elements longer. (E.g.: for N,1 BWAf 115 + Kit of outdoor casing complete with supports for safety devices + Kit of empty casing, ask for a top cover for 3 elements)

In case of combination with PLATE HEAT EXCHANGERS do not supply the items 2 - 3 - 5 - 6

PRODUCT PLUS VALUES

- **HIGHT EFFICENCY CLASS**
- **CLASS 6 Low NO_x (UNI EN 15502-1)**
thanks to the pre-mix burner with gas-air ratio control
which offers a constant CO₂
- **UP TO 109% EFFICIENCY**
- **CERTIFICATION IN OUTPUT RANGE**
- **EXCHANGER/CONDENSER**
aluminium (Al/Si/Mg)
- **CONTAINED DIMENSIONS**
Height 130 cm, Width 51 cm, Depth 60 cm
- **PREMIX COMBUSTION GROUP WORKING
AT CONSTANT CO₂**
- **MICROPROCESSOR BOARD**
of boiler control
- **THERMOREGULATION HSCP (optional)**
- **CASCADE** formation for a bank
of up to 4 boilers (2x)
- **MODULATING PUMP (std supplied)**
for the maximum condensate production
- **ELEVATED MODULATING RATIO: 1:5.75**
- **BCM (Burner Cascade Manager)**
interface for remote control (optional)
- **PANEL BOARD CAN BE OPEN**
for an easy servicing
- **EASY TO INSTALL**
compact and simple connections
- **CERTIFICATION OF THE ADDITIONAL
SAFETY DEVICES**
- **IPX5D PROTECTION GRADE**
for outdoor installation
- **PLATE HEAT EXCHANGERS**
available on request
up to batteries of 4 modules



Pre-mixed combustion system with constant CO₂ emission
(modulating gas valve, modulating fan and stainless steel burner)



heat module complete with primary ring, composed of additional
safety devices kit and mixing header



Thermoregulation HSCP (optional) for complex heating plants and
battery applications



The control panel can
be opened to facilitate
maintenance



BCM 2.0 board for remote
control (optional accessory)

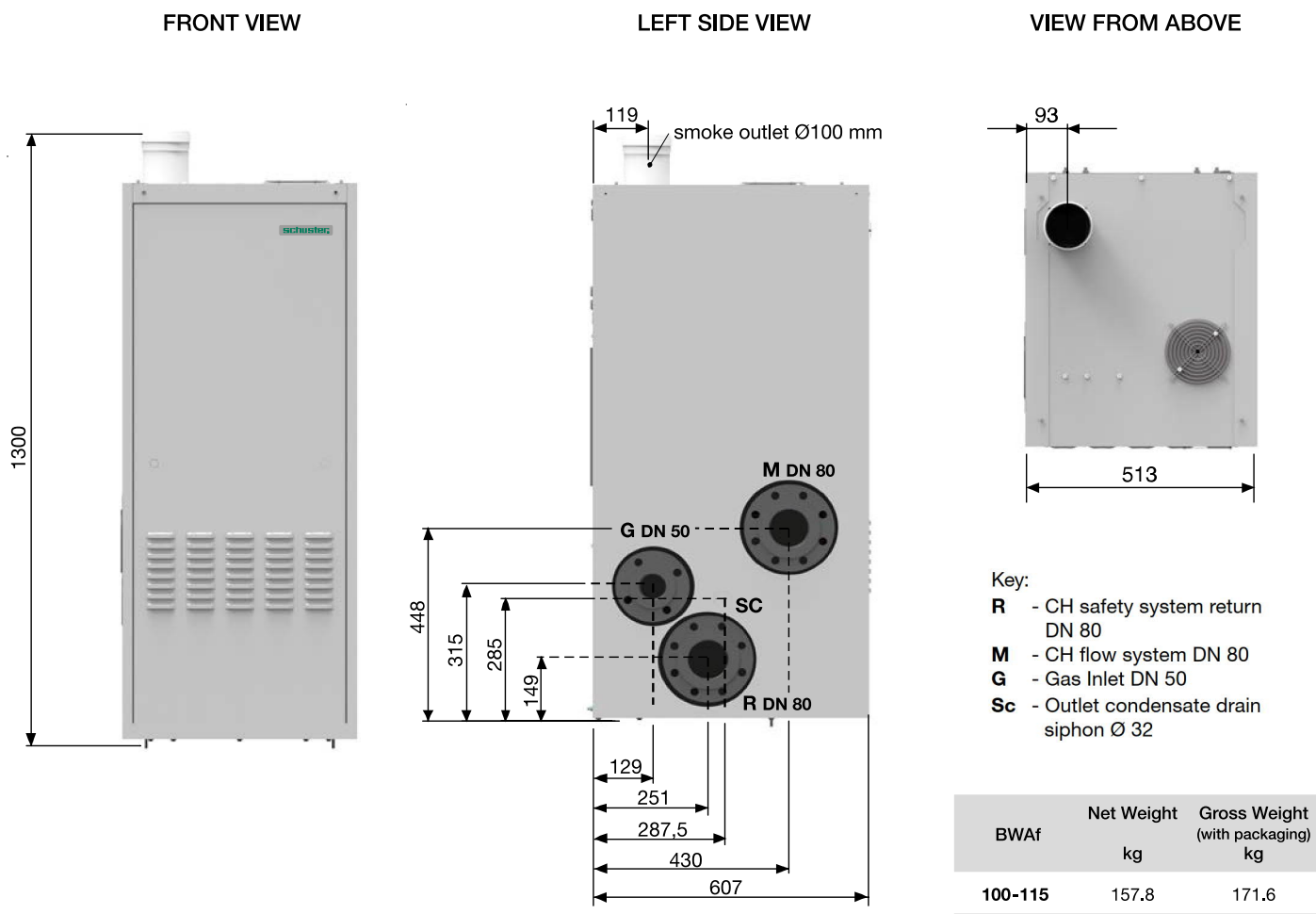


Aluminium (AlSiMg) heat
exchanger/condenser (a detail of
the combustion chamber)



Modulating pump for
maximum condensate
production

DIMENSIONS OF SINGLE BOILER

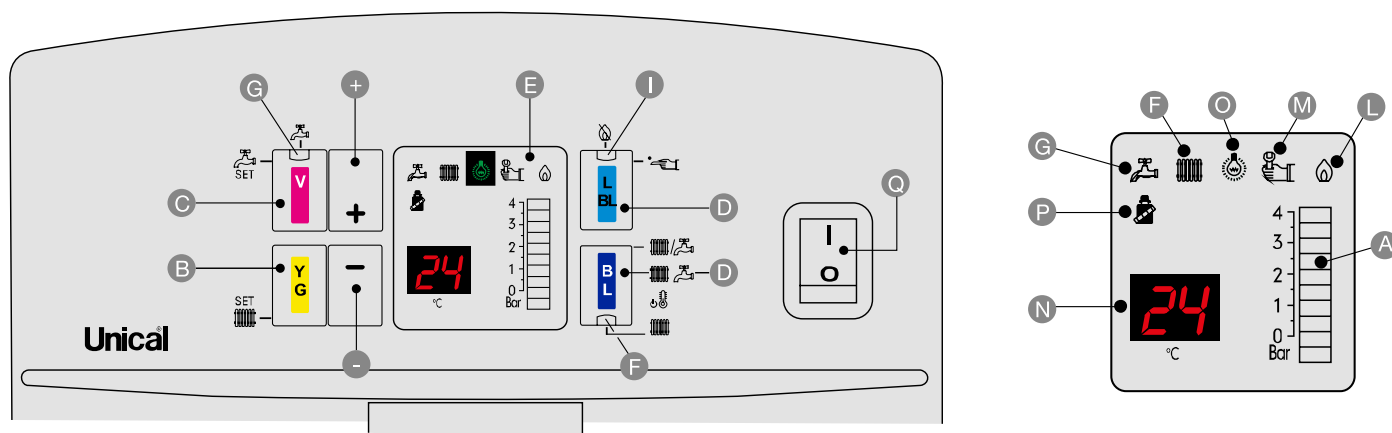


BWAf IN BATTERY



CONTROL PANEL (std. supplied)

The panel board equipping the boiler allows the management of an heating circuit with fixed set-point



+/- Increase/decrease key

A Digital system pressure gauge (only for boilers equipped with pressure encoder)

B Central Heating adjustment key

C Domestic hot water adjustment key

D Reset /chimney-sweeper key

E Information display

F Led/Simbol Heating function active

G Led/Simbol Domestic hot water function active

I Block symbol

L Burner in operation symbol

M Fault symbol

N Temperature or fault code indication

O Power On indicator led

P Activation sweeper mode

Q Power supply

S Function key: Stand-by / Heating / Domestic hot water
+ Heating / Antifreeze protection

SHC - MULTI-FUNCTION MODULE - HEATING CIRCUITS MANAGEMENT (optional)

The board is designed as a multi-function support for heating systems. It should be considered part of a modular system joined by an **eBUS** or **Modbus** communication system.

It is possible to control up to a maximum of 4 SHC printed circuit boards.

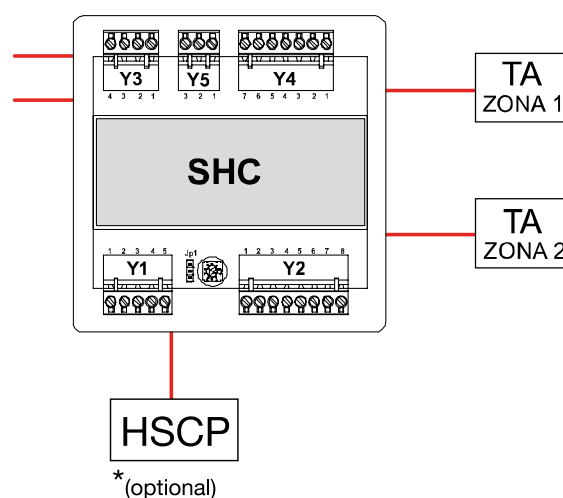
Its input and output resources make it suitable for a variety of applications:

1. Direct or mixed heating circuits
2. Domestic hot water with storage tank.
3. Domestic hot water with plate heat exchanger.
4. Domestic hot water with plate heat exchanger and mixing valve
5. Solar collector with tank.

The multi-function module interacts with the system like a user, whose demands must be met by a manager controller HSCP, which is responsible for the running of the heat generator.

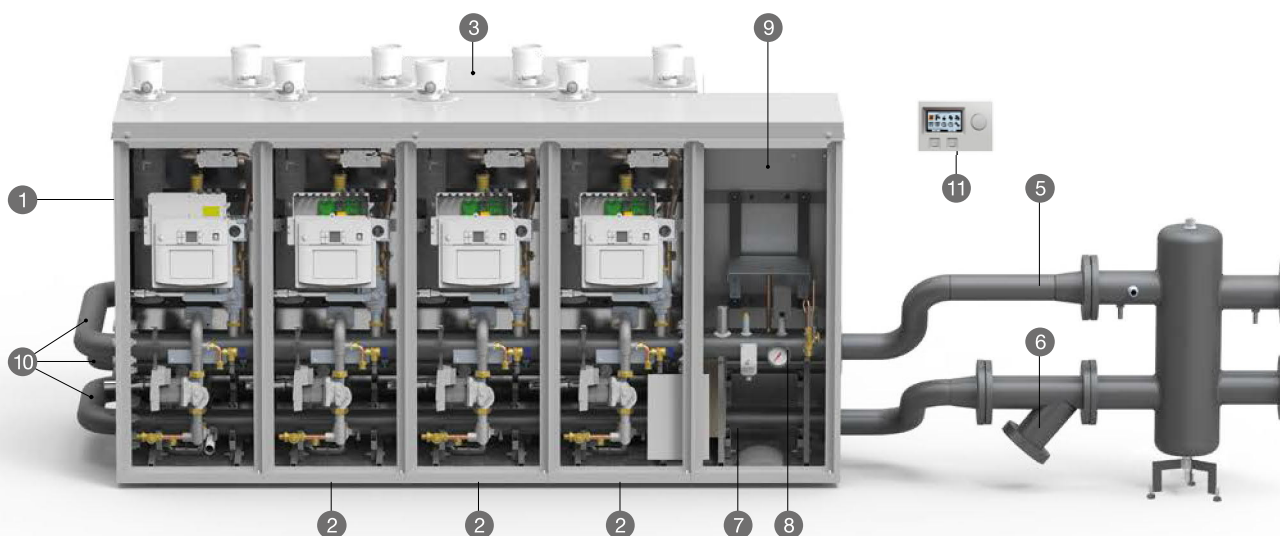
The multi-function module kit consists of:

- Panel
- NTC temperature sensor (3 pcs.)
- Technical assembly instructions



For further information consult the site www.schusterboilers.com in the section Accessories of the product.

BATTERY COMPOSITION + PRIMARY RING



COMPOSITION WITH R.H. SIDE CONNECTION		Nr of BWaf UNITS IN BATTERY						
		2	3	4	5	6	7	8
1	- BWaf 100-115 “MASTER”	1	1	1	2	2	2	2
	- BWaf 100-115 in combination with “MASTER” Does not include : Side panels – Black flanges with bolts and nuts – Casing cover of one unit	1	2	3	3	4	5	6
3	- Top casing for 1 units	1	2	3	4	5	6	7
	- ASS.Y KIT FOR INDOOR INSTALLATIONS for 2 units	1	2	7	4	5	6	7
4	- MIXING HEADER UP TO 350 kW DN 100 ø220	1	1	1				
	- MIXING HEADER UP 360 kW DN 100 ø320				1	1	1	1
5	- R.H. SIDE CONNECTION KIT FOR MIXING HEADER DN 100	1	1	1	1	1	1	1
6	- Y SHAPE FILTER DN 100	1	1	1	1	1	1	1
7	- ADDITIONAL SAFETY DEVICES KIT + HYDRAULIC AND GAS MANIFOLDS	1	1	1	1	1	1	1
8	- PROTECTION AND CONTROL KIT for hydraulic manifold for additional safety devices	1	1	1	1	1	1	1
9	- OUTDOOR CASING KIT, complete with supports for additional safety devices*	1	1	1	1	1	1	1
	- EMPTY CASING KIT * (it can be used as container for accessories)	1	1	1	1	1	1	1
	- KIT OF SUPPORTS for ADDITIONAL SAFETY DEVICES (suggested for indoor installation)	1	1	1	1	1	1	1
10	- KIT OF MANIFOLDS FOR WATER & GAS				1	1	1	1
11	- REGULATION ACCESSORIES	1	1	1	1	1	1	1
	- DIFFERENTIAL PRESSURE SWITCH KIT (in combination with each unit)	2	3	4	5	6	7	8

(*) If a casing kit for outdoor installation, complete with supports for safety kit (pos. 9), or the kit of empty casing is installed, place the order for the top casing (complete with plug to close the unused hole) considering one additional unit. In case both of the casing kits are installed place the order for the top casing considering two additional units. Example: for 2 x BWaf + complete kit for outdoor installation + empty casing kit, place the order for 4 unit top casing)

ACCESSORIES FOR SMOKE EVACUATION IN BATTERY in PPS (optional)

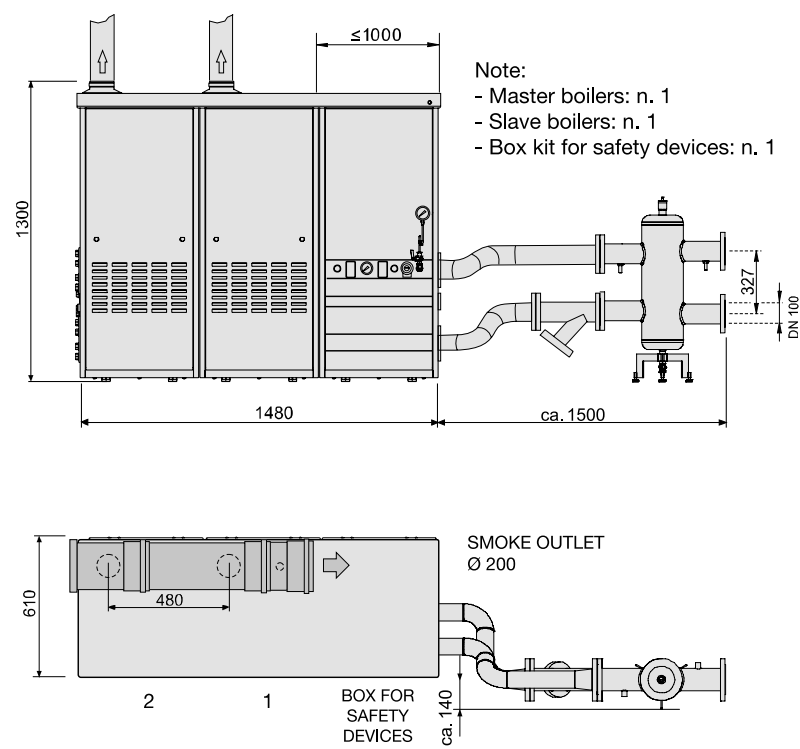
- SMOKE EVACUATION EXPANSION KIT		1	2	3	3	4	5	6
- SIPHON		1	1	1	2	2	2	2
- SINGLE SMOKE MANIFOLD		1	1	1	2	2	2	2
- SMOKE DUCT EXTENSION Ø200					3	2	1	

NOTE. There are 2 flue exhaust manifolds that flow in a single flue.

If you want to connect the 2 smoke manifolds together, it is necessary to have a thermo-technician that calculates them with a special union collector not supplied. For information, refer to the "Battery Mounting Instruction" document at www.schusterboilers.com

DIMENSIONS BWaf 100-115 IN BATTERY (n.2 boilers)

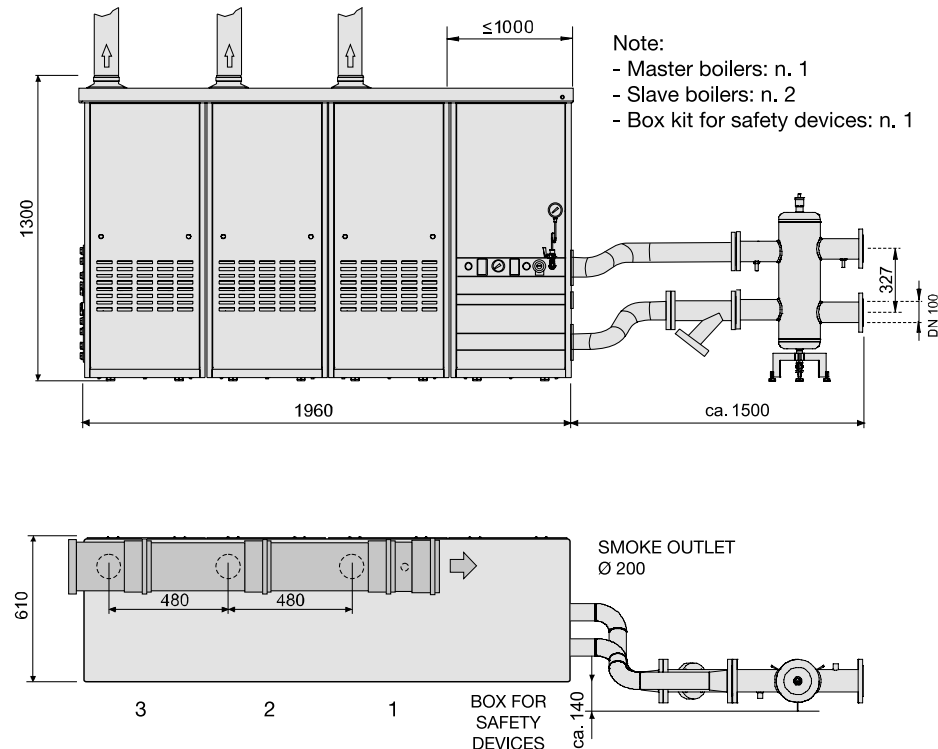
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER +Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	199	230
Nominal Output (60/80°C) Pn	kW	197.6	223
Nominal Output (30/50°C) Pcond	kW	210	240.6

DIMENSIONS BWaf 100-115 IN BATTERY (n.3 boilers)

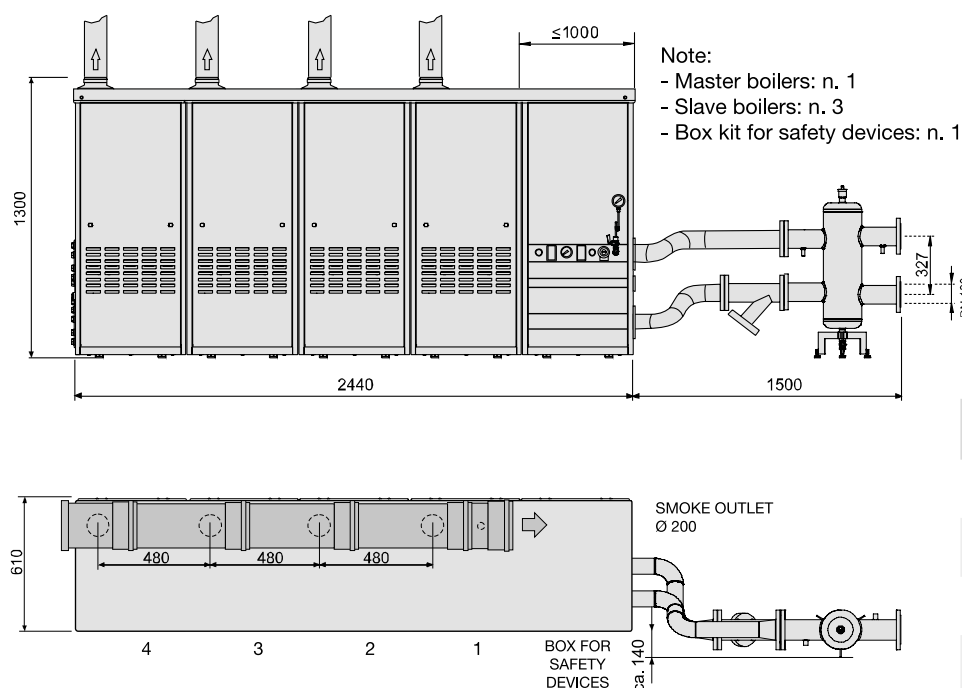
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER +Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	298.5	345
Nominal Output (60/80°C) Pn	kW	296.4	334.5
Nominal Output (30/50°C) Pcond	kW	315	360.9

DIMENSIONS BWaf 100-115 IN BATTERY (n.4 boilers)

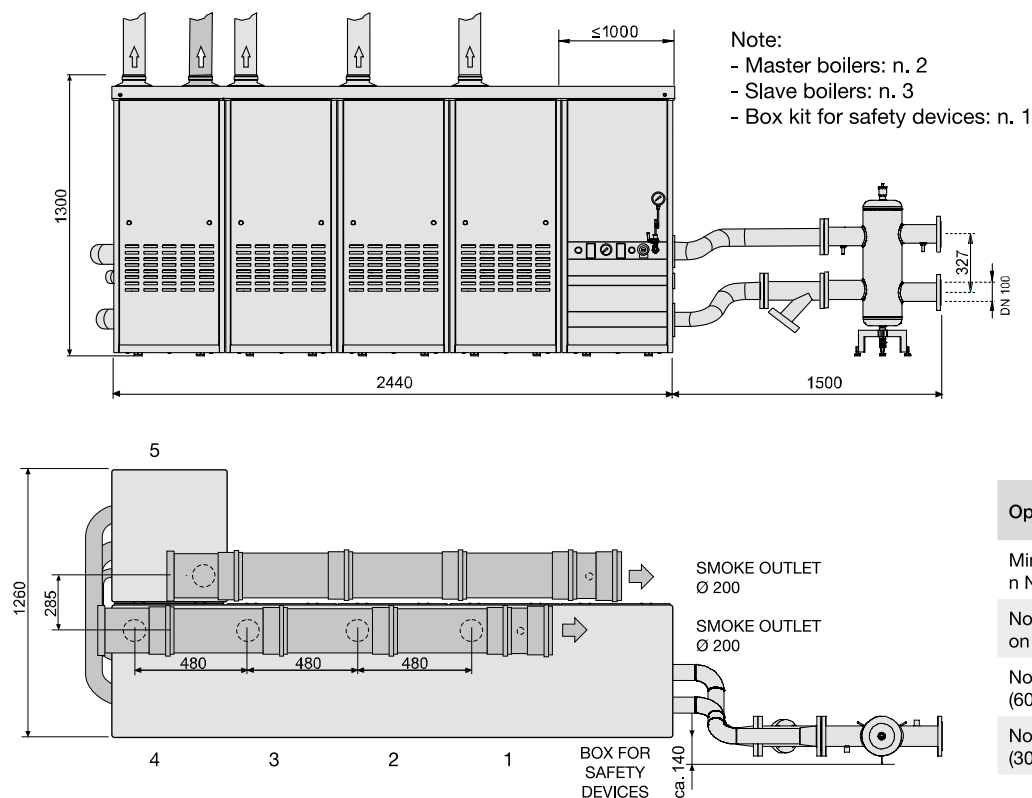
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER + Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	398	460
Nominal Output (60/80°C) Pn	kW	395.2	446
Nominal Output (30/50°C) Pcond	kW	420	481.2

DIMENSIONS BWaf 100-115 IN BATTERY (n.5 boilers 4+1 ON THE OPPOSITE SIDE)

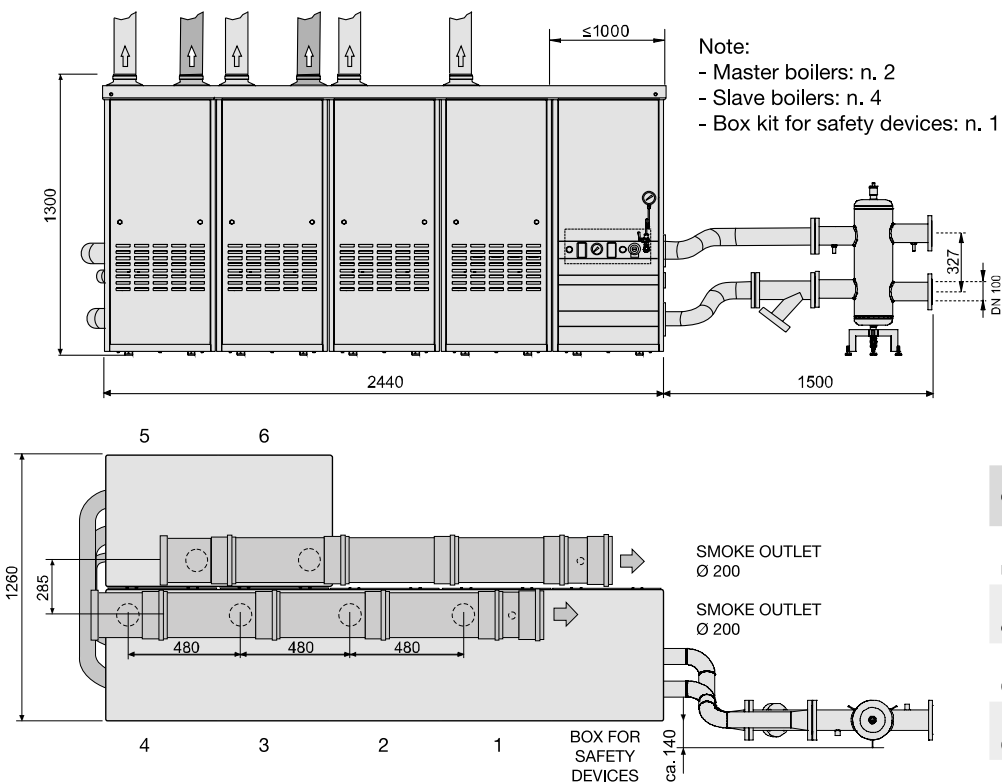
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER + Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	497.5	575
Nominal Output (60/80°C) Pn	kW	494	557.5
Nominal Output (30/50°C) Pcond	kW	525	601.5

DIMENSIONS BWaf 100-115 IN BATTERY (n.6 boilers 4+2 ON THE OPPOSITE SIDE)

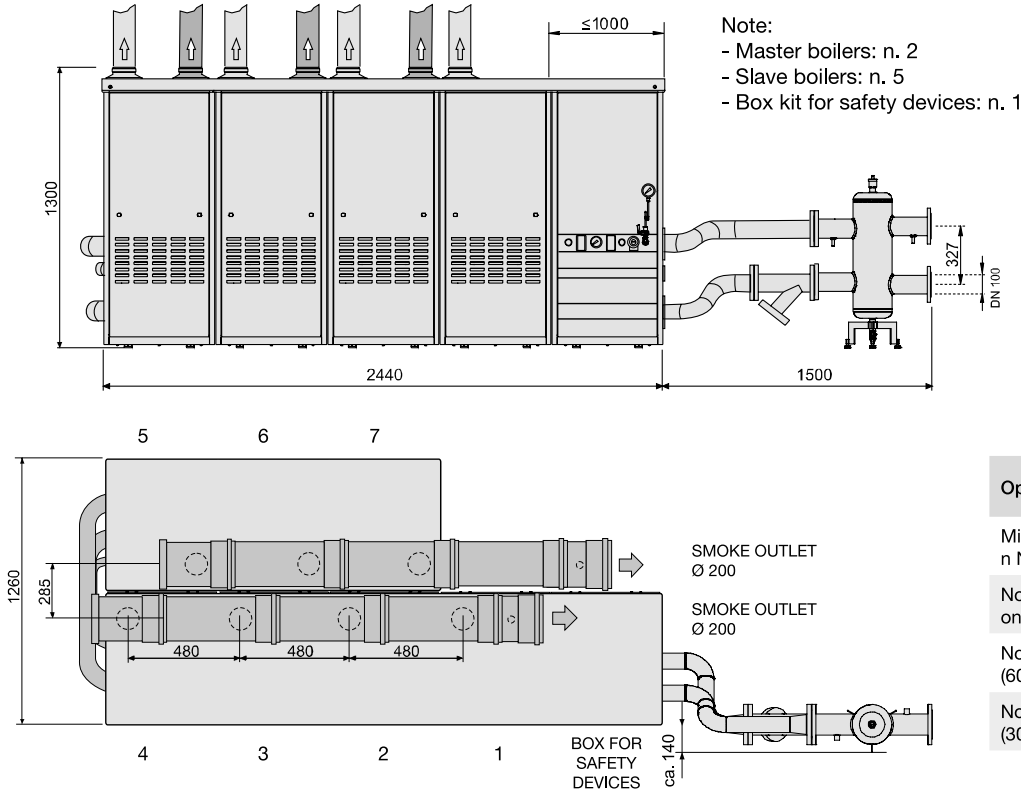
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER + Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	597	690
Nominal Output (60/80°C) Pn	kW	592.8	669
Nominal Output (30/50°C) Pcond	kW	630	721.8

DIMENSIONS BWaf 100-115 IN BATTERY (n.7 boilers 4+3 ON THE OPPOSITE SIDE)

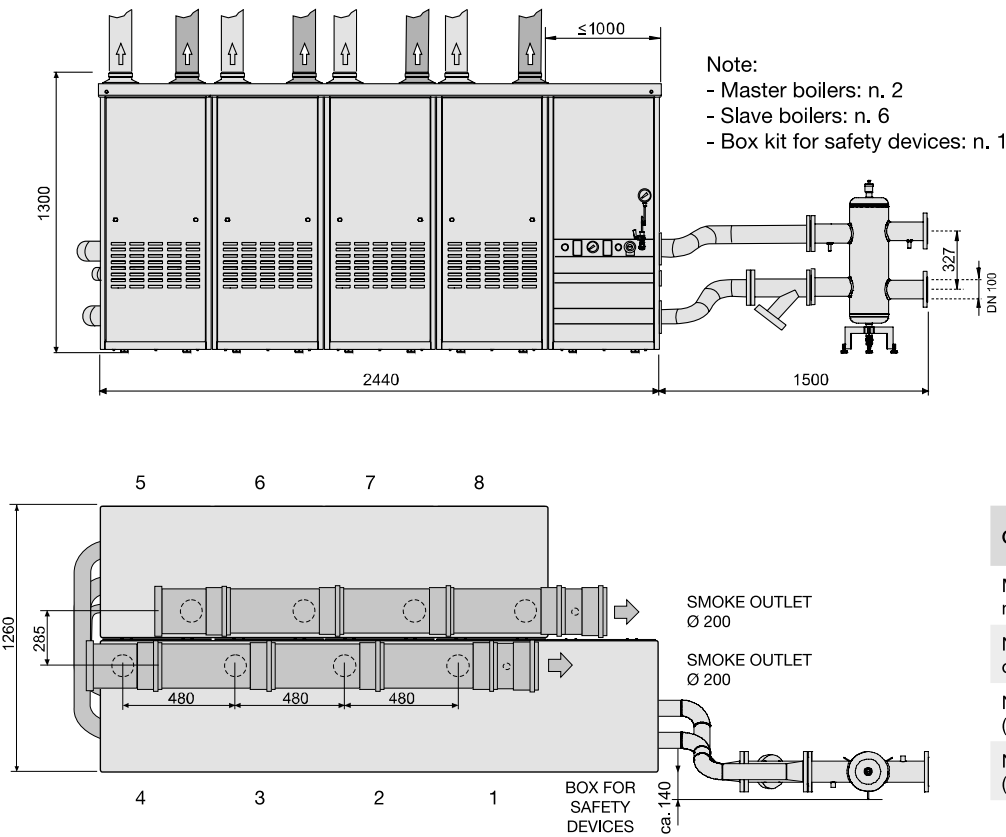
BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER + Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	696.5	805
Nominal Output (60/80°C) Pn	kW	691.6	780.5
Nominal Output (30/50°C) Pcond	kW	735	842.1

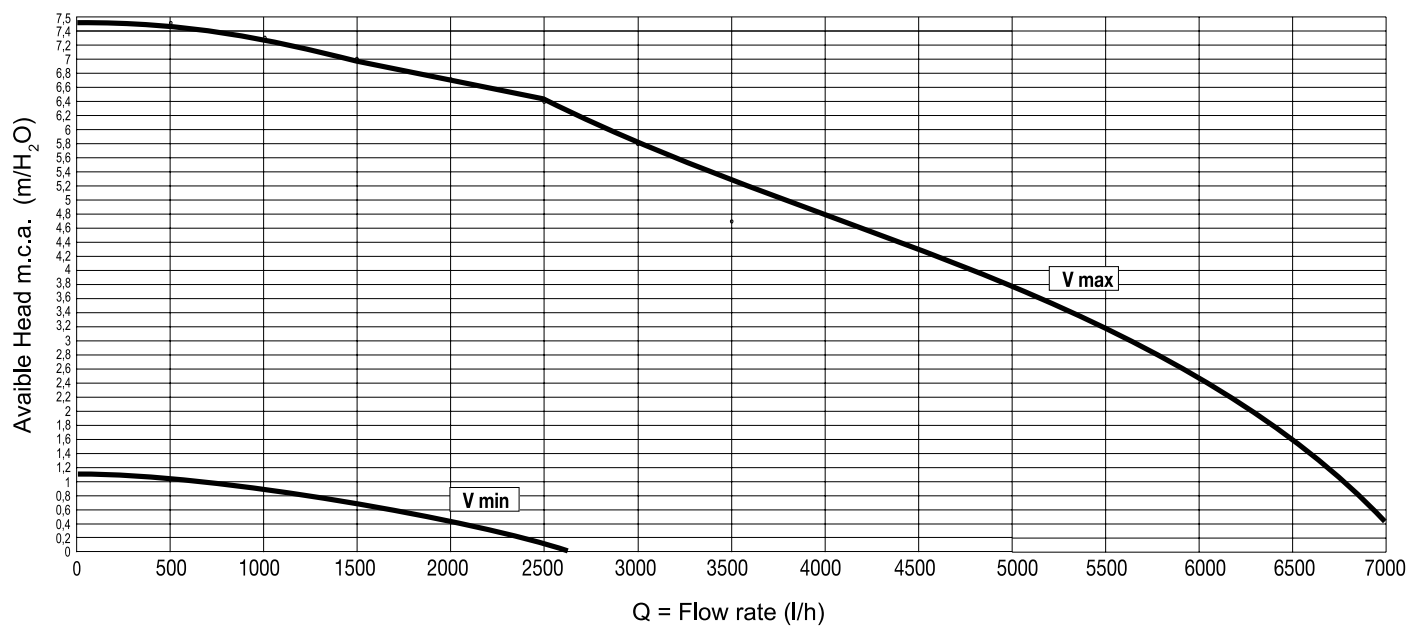
DIMENSIONS BWaf 100-115 IN BATTERY (n.8 boilers 4+4 ON THE OPPOSITE SIDE)

BATTERY + KIT SAFETY DEVICES + HYDRAULIC HEADER + Y FILTER KIT



Operational data		BWaf 100	BWaf 115
Minimum Input n N.C.V. Qmin	kW	20	20
Nominal Input on N.C.V. Qn	kW	796	920
Nominal Output (60/80°C) Pn	kW	790.4	892
Nominal Output (30/50°C) Pcond	kW	840	962.4

DIAGRAM OF FLOW RATE/PRESSURE AVAILABLE FOR INSTALLATION



		BWAf 100	BWAf 115
Power supply	kW	99,5	115
Max flow rate demanded l/h (Δt 15 K)	l/h	5700	6600
Nominal flow rate request (Δt 20 K)	l/h	4280	4950
Power supply in condensation (50/30)	kW	105	120,3
Max flow rate demanded l/h (Δt 15 K)	l/h	6020	6897
Nominal flow rate request (Δt 20 K)	l/h	4520	5173

approximate data

The Δt between supply and return boiler must never be less than 15 °K.

NOTE:

The use of a mixing header fitted between the boiler circuit and the system circuit is always advisable.
It becomes INDISPENSABLE if the system requires flow rates superior to the maximum permitted boiler flow rates, which is to say lower than 15K.

TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

		BWaf 100	BWaf 115
Appliance category		II _{2H3P}	II _{2H3P}
Modulation Ratio		1:5.0	1:5.75
Nominal Heat Input on P.C.I. Q _n	kW	99,5	115
Minimum Heat Input on P.C.I. Q _{min}	kW	20	20
Nominal Output (Tr 60 / Tm 80 °C) P _n	kW	98.8	111.5
Minimum Output (Tr 60 / Tm 80 °C) P _n min	kW	19.2	19.2
Nominal Output (Tr 30 / Tm 50 °C) P _{cond}	kW	105	120.3
Minimum Output (Tr 30 / Tm 50 °C) P _{cond} min	kW	21.75	21.75
Efficiency at max. output (Tr 60 / Tm 80°C)	%	98.81	97.1
Efficiency at min. output (Tr 60 / Tm 80°C)	%	95.90	95.90
Efficiency at max. output (Tr 30 / Tm 50°C)	%	105.03	104.6
Efficiency at min. output (Tr 30 / Tm 50°C)	%	108.77	108.77
Efficiency at 30% output (Tr 30°C)	%	109.3	107.27
Combustion efficiency with nominal load	%	98.05	97.7
Combustion efficiency with minimum load	%	98.28	98.28
Heat loss at casing with burner in operation (Q _{min})	%	2.30	2.69
Heat loss at casing with burner in operation (Q _n)	%	0.1	0.7
Flue gas temperature tf-ta (min)(*)	°C	35.0	36.0
Flue gas temperature tf-ta (max)(*)	°C	39.4	46.6
Maximum allowable temperature	°C	100	100
Maximum operating temperature	°C	85	85
Flue gas mass flow rate (min)	kg/h	37.71	34.31
Flue gas mass flow rate (max)	kg/h	163.59	184.6
Excess λ air	%	25.53	23
Flue losses with burner in operation (min)	%	1.72	1.87
Flue losses with burner in operation (max)	%	1.95	2.29
Minimum heating circuit pressure	bar	0.5	0.5
Maximum heating circuit pressure	bar	6	6
Water content	l	9	9
Gas Consumption Natural (20 mbar) gas G 20 a Q _n	m³/h	10.57	12.08
Gas Consumption Natural gas (20 mbar) G 20 a Q _{min}	m³/h	2.11	2.11
Gas Consumption G25 (supply pressure 25 mbar) Q _n	m³/h	12.3	14.0
Gas Consumption G25 (supply pressure 25 mbar) Q _{min}	m³/h	2.46	2.46
Gas Consumption G31 (supply pressure 37/50 mbar) Q _n	kg/h	7.76	8.92
Gas Consumption G31 (supply pressure 37/50 mbar) Q _{min}	kg/h	1.55	1.55
Max. available pressure at the chimney base	Pa	150	150
Condensate production max	kg/h	8.46	8.46
Emissions			
CO at Minimum Heat Input with 0% of O ₂	mg/kWh	140	147
NO _x at Nominal Heat Input with 0% of O ₂	mg/kWh	31	34
NO _x Class		6	6
Electrical Data			
Voltage/Frequency electric power supply	V/Hz	230/50	230/50
Fuse on main supply	A (R)	4	4
Insulation degree	IP	X5D	X5D

Room Temperature = 20°C.

(*) Temperatures detected with the unit in operation (Tr 60 / Tm 80°C)

Seasonal Efficiency η_s according to Directive 2009/125/EC for Outputs <= 400 kW. See Erp Table

Standstill heat losses at Δt 30K – P_{stby} – See Erp Table

Standstill electrical consumption – P_{sb} – See Erp Table

DATA ACCORDING TO ErP DIRECTIVE

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

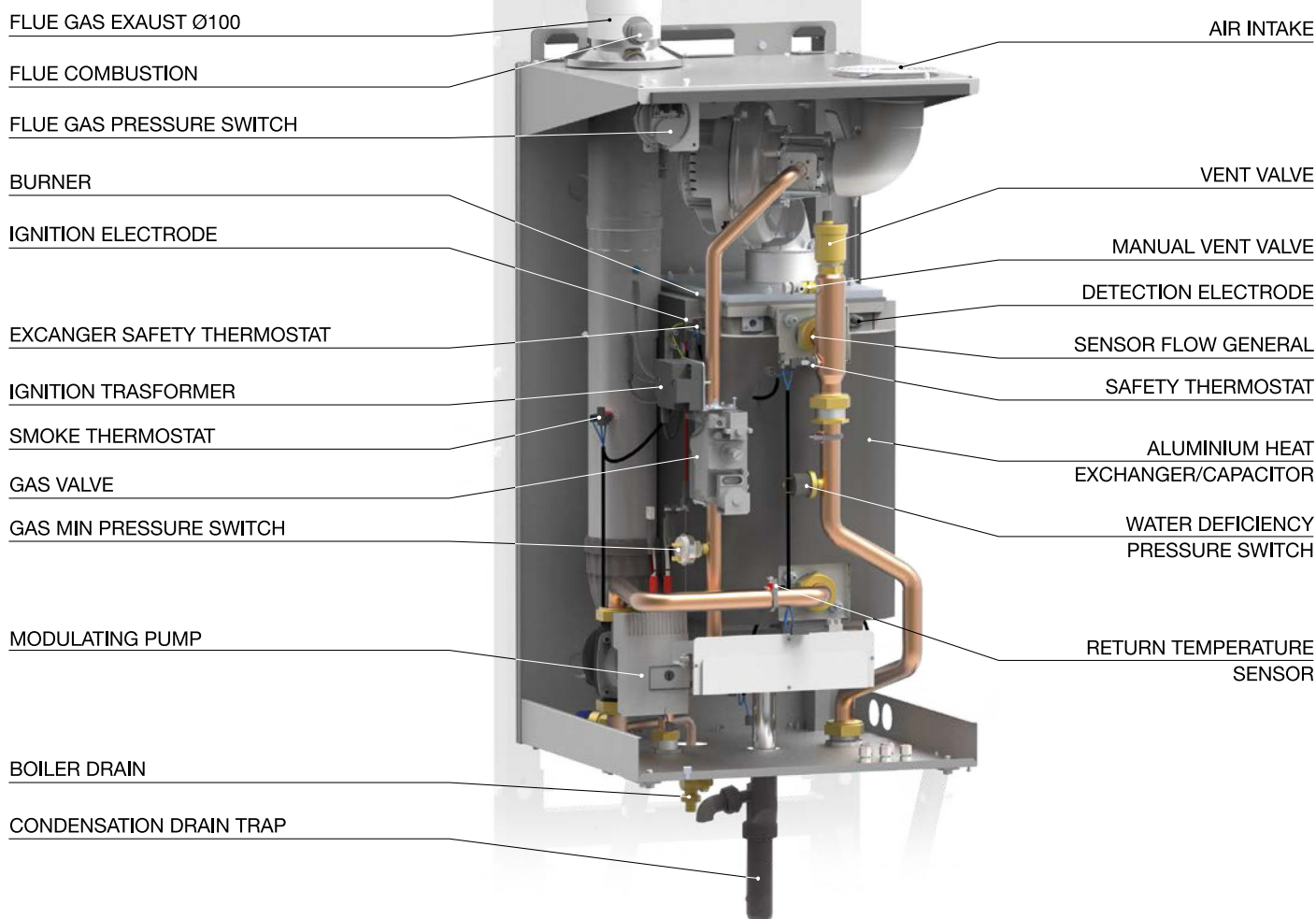
			BWAf 100	BWAf 115
NOMINAL HEAT OUTPUT	P_n	kW	99	112
SEASONAL SPACE HEATING ENERGY EFFICIENCY	η_s	%	94	92
SEASONAL EFFICIENCY CLASS IN HEATING MODE			A	A
FOR CH ONLY AND COMBINATION BOILERS: USEFUL HEAT OUTPUT				
USEFUL HEAT OUTPUT in high temperature regime (Tr 60 °C / Tm 80 °C)	P_4	kW	98,8	111,5
USEFUL EFFICIENCY AT NOM. HEAT OUTPUT in high-temperature regime (Tr 60°C / Tm 80°C)	η_4	%	89,0	87,4
USEFUL HEAT OUTPUT AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30°C)	P_1	kW	32,2	36,9
USEFUL EFFICIENCY AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30 °C)	η_1	%	98,5	96,5
RANGE-RATED BOILER: YES / NO			NO	NO
AUXILIARY ELECTRICITY CONSUMPTION				
AT FULL LOAD	el_{max}	kW	0,289	0,314
AT PART LOAD	el_{min}	kW	0,156	0,160
IN STAND-BY MODE	P_{SB}	kW	0,018	0,028
OTHER ITEMS				
STAND-BY HEAT LOSS	P_{stby}	kW	0,641	0,642
EMISSIONS OF NITROGEN OXIDES referred to NCV & (GCV)	NO_x	mg/kWh	43 (39)	47 (42)
CONSUMPTION OF ANNUAL ELECTRICITY	Q_{HE}	GJ	301	349
FOR CH & DHW PRODUCTION BOILERS				
DECLARED LOAD PROFILE			-	-
ENERGY EFFICIENCY IN DHW PRODUCTION MODE	η_{WH}	%	-	-
DAILY ELECTRICITY CONSUMPTION	Q_{elec}	kWh	-	-
DAILY FUEL CONSUMPTION	Q_{fuel}	kWh	-	-
INSIDE SOUND POWER LEVEL	L_{wa}	dB(A)	-	-
SEASONAL EFFICIENCY CLASS IN DHW PRODUCTION MODE			-	-

BWAm 100-115



MODULATING CONDENSING BOILER WITH LOW NOx PREMIX BURNER FOR OUTDOOR INSTALLATION (IPX5D)		
OUTPUT RANGE	from 99.5 to 920 kW in battery (115kW x8)	
WORKING TEMPERATURE	No temperature limit on the return (max. Δt 20K) For outdoor installation in partially protected places: - 15C (with dedicated kits and protections)	
SUPPLY	Natural Gas or LPG	
MODELS	BWAm 100	BWAm 115
SEASONAL EFFICIENCY	 A	 A
Wall hung with optional dedicated supporting kit - available in battery (up to 8 for a total of 920 kW) can be combined both with MIXING HEADER and with PLATE HEAT EXCHANGERS		

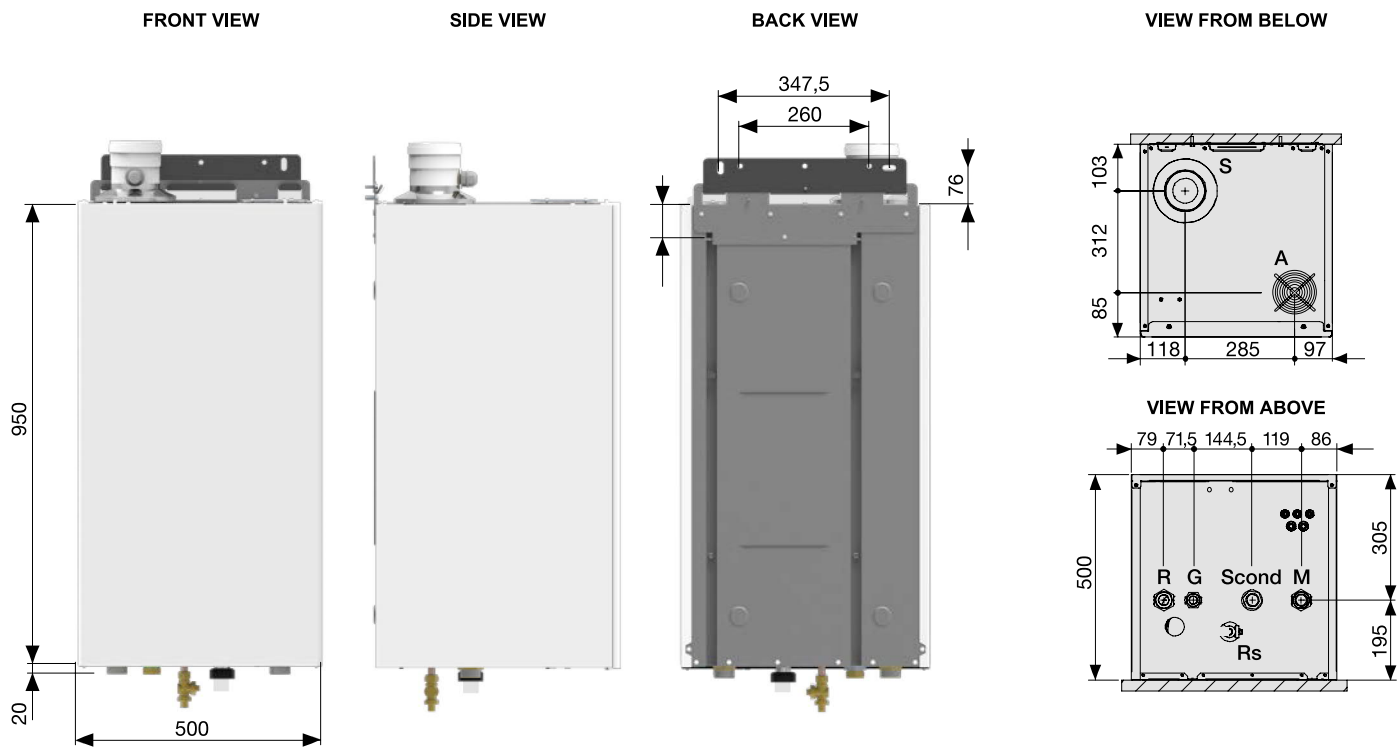
MAIN COMPONENTS



PRODUCT PLUS VALUES

- **CERTIFICATION IN OUTPUT RANGE**
it is possible to have the customization of the input
- **WALL HUNG** with metallic load bearing structure (optional)
- **COMPACTNESS:** dimensions (WxHxD): 50x95x48 cm
- **PERFORMANCES** ErP class A
- **EFFICIENCY**
up to 108,8% (ex Directive 92/42)
 $\eta_s=94\%$ according to ErP Directive
- **EMISSIONS:** Low NOx Class 6
- **ISOLATION DEGREE IPX5D** can be installed outdoor in partially protected place (with antifreeze kit)
- **BODY STRUCTURE** with double furnace
- **BOILER BODY in Al/Si/Mg**
low water content - 100% wet surfaces
- **EXCELLENT THERMAL EXCHANGE**
Sophisticated cooling circuit with triple water circulation on 3 vertical columns
- **SIMPLE CONSTRUCTION**
for a quick and economic servicing
- **RELIABILITY**
thanks to the optimized circulation that avoids thermal overcharges; heat exchanger carefully designed, high efficiency modulating pump, NTC control sensors
- **EFFICIENCY GUARANTEED FOR LONG TIME**
thanks to the absence of scaling
- **ACCESSORIES (optional)**
 - PRIMARY RING, with MIXING HEADER / PLATE HEAT EXCHANGER
 - ADDITIONAL SAFETY DEVICES KIT
 - DIFFERENTIAL PRESSURE SWITCH with fittings
 - CONTROL PANEL BOARD HSCP
 - MULTI-FUNCTION MODULE SHC (for zones control)
 - NTC SENSOR FOR SHC MODUL
 - MULTI-FUNCTION MODULES FEEDER
 - PT1000 SENSOR for management of solar collectors
 - SIPHON HEATING KIT
 - KIT OF RESISTANCES FOR LOW TEMPERATURES
 - ACIDIC CONDENSATE INHIBITORS
- **EXPANDABLE IN CASCADE (up to 8 modules)**
- **GAS FEEDING PIPES** available (optional)
- Available, on request, **PLATE HEAT EXCHANGERS** up to 4 modules in battery

DIMENSIONS

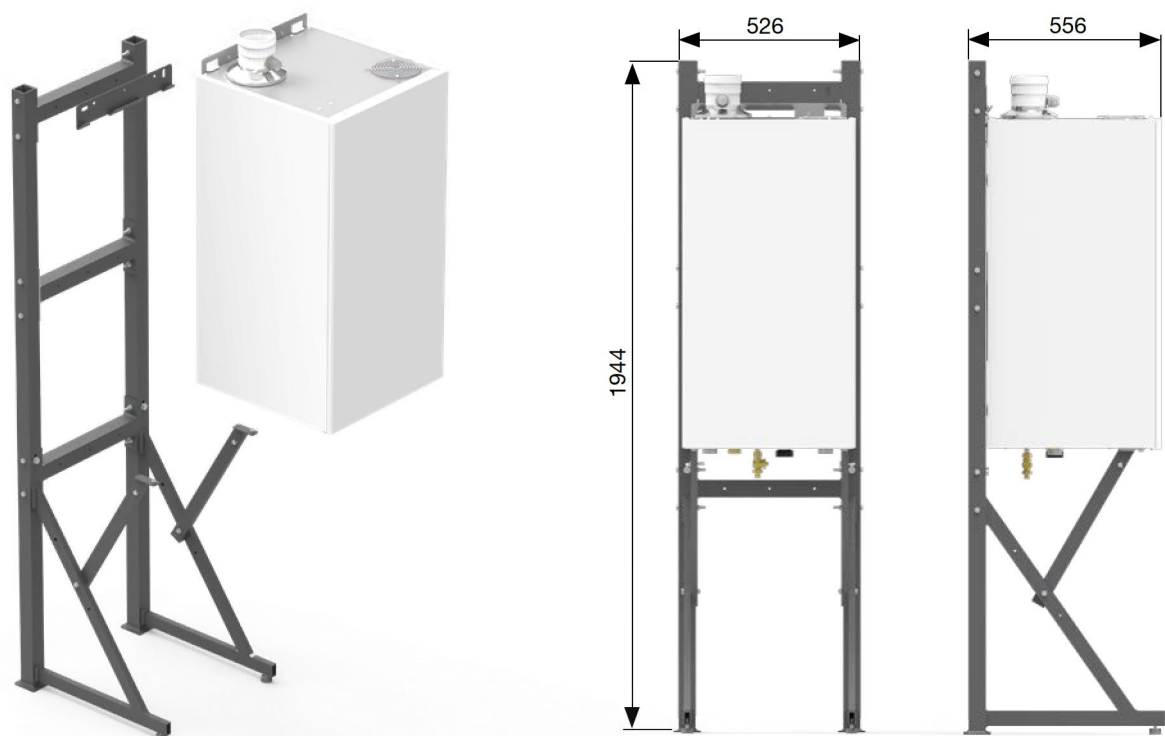


- Key:
- G** - Gas inlet G1"
 - M** - Mandata impianto riscaldamento G1 ¼"
 - R** - Heating system return G1 ¼"
 - Rs** - Boiler drain

- Scond** - Condensation drain Ø 32
- S** - Flue gas exaust Ø 100
- A** - Air intake Ø 80-100

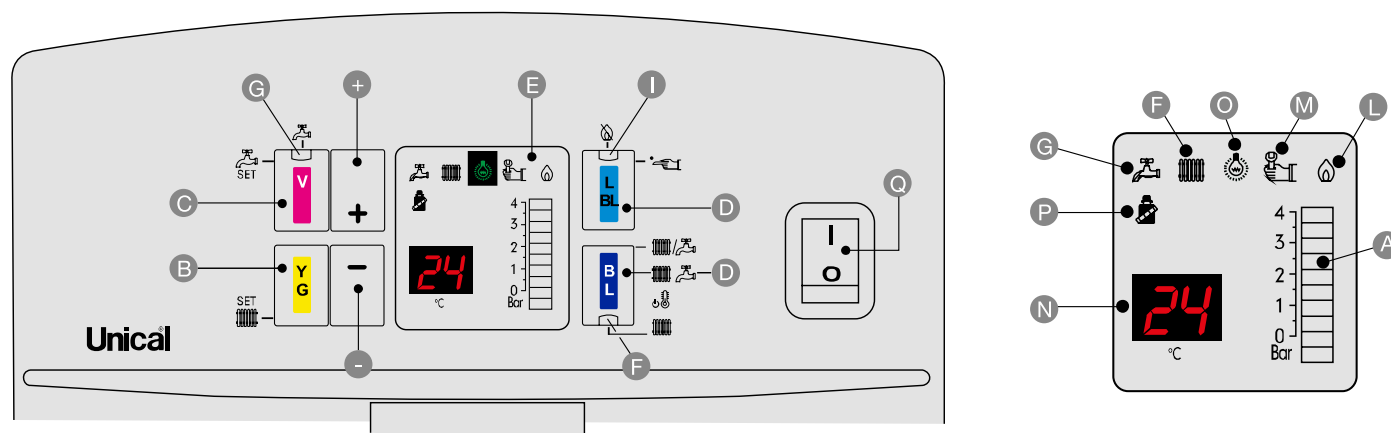
BWAm	Net Weight kg	Gross Weight (with packaging) kg
100-115	96	120

DIMENSIONS WITH SUPPORTING FRAME (optional)



CONTROL PANEL (std. supplied)

The panel board equipping the boiler allows the management of an heating circuit with fixed set-point



+/- Increase/decrease key

A Digital system pressure gauge (only for boilers equipped with pressure encoder)

B Central Heating adjustment key

C Domestic hot water adjustment key

D Reset /chimney-sweeper key

E Information display

F Led/Simbol Heating function active

G Led/Simbol Domestic hot water function active

I Block symbol

L Burner in operation symbol

M Fault symbol

N Temperature or fault code indication

O Power On indicator led

P Activation sweeper mode

Q Power supply

S Function key: Stand-by / Heating / Domestic hot water
+ Heating / Antifreeze protection

SHC - MULTI-FUNCTION MODULE - HEATING CIRCUITS MANAGEMENT (optional)

The board is designed as a multi-function support for heating systems. It should be considered part of a modular system joined by an **eBUS** or **Modbus** communication system.

It is possible to control up to a maximum of 4 SHC printed circuit boards.

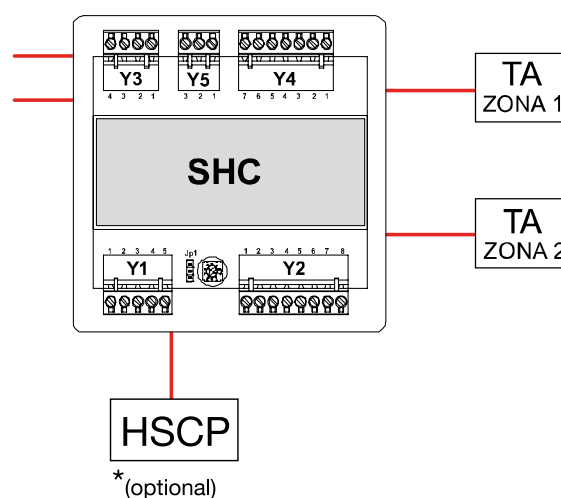
Its input and output resources make it suitable for a variety of applications:

1. Direct or mixed heating circuits
2. Domestic hot water with storage tank.
3. Domestic hot water with plate heat exchanger.
4. Domestic hot water with plate heat exchanger and mixing valve
5. Solar collector with tank.

The multi-function module interacts with the system like a user, whose demands must be met by a manager controller HSCP, which is responsible for the running of the heat generator.

The multi-function module kit consists of:

- Panel
- NTC temperature sensor (3 pcs.)
- Technical assembly instructions



For further information consult the site www.schusterboilers.com in the section Accessories of the product.

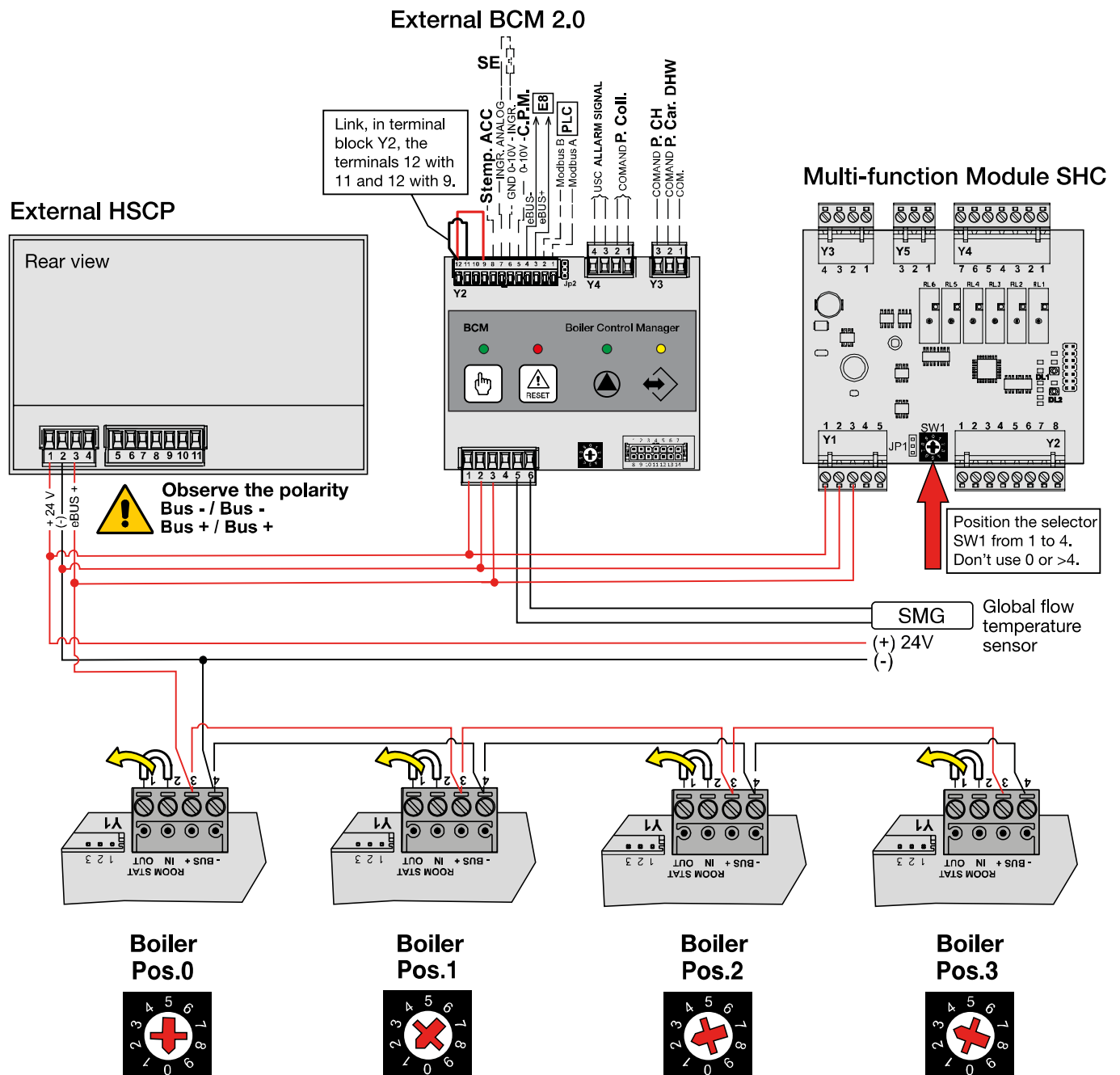
THERMAL MODULE IN CASCADE

The thermal Module BWAm 115 is foreseen, thanks to a convenient and dedicated series of accessories, to be assembled in cascade. The combinations can be from 2 to 8 modules for a maximum of 800 kW.

For the management of the battery it is necessary to use the **HSCP + BCM 2.0** (supplied as an option). Here below the diagram showing the electrical connections for the battery.

For further information consult the manual on the site www.schusterboilers.com in the section of the product.

EXTERNAL CONTROL HSCP + BCM 2.0



BWAm 115 IN BATTERY



Note: the boiler has a degree of electric isolation IPX5D and is certified also for outdoor installation in partially protected place, up to -15°C without need of additional protections; it is opportune, however, to insulate the external pipelines and protect from the atmospheric agents the kit according to its electric protection degree in outdoor installations; the same precautions are recommended for the condensate drains.

COMPOSITION OF BATTERY + PRIMARY RING	Q.TY of BWAm 100-115 IN BATTERY						
	2	3	4	5	6	7	8
KIT OF HYDRAULIC MANIFOLD FOR 2 MODULES	1						
KIT OF HYDRAULIC MANIFOLD FOR 3 MODULES		1					
KIT OF HYDRAULIC MANIFOLD FOR 4 MODULES			1				
KIT OF HYDRAULIC MANIFOLD FOR 5 MODULES				1			
KIT OF HYDRAULIC MANIFOLD FOR 6 MODULES					1		
KIT OF HYDRAULIC MANIFOLD FOR 7 MODULES						1	
KIT OF HYDRAULIC MANIFOLD FOR 8 MODULES							1
KIT OF ADDITIONAL SAFETY DEVICES	1	1	1	1	1	1	1
MIXING HEADER FOR 2 MODULES	1						
MIXING HEADER FOR 3 TO 8 MODULES		1	1	1	1	1	1
DIFFERENTIAL PRESSURE SWITCH	2	3	4	5	6	7	8
BOILER SUPPORT	2	3	4	5	6	7	8
KIT CONTROL MANAGER CM A 140 made of: - cascade manager PCB - programmer HSCP - adapter 24V	1	1	1	1	1	1	1
KIT OF GAS MANIFOLD for connection of a single boiler	1	1	1	1	1	1	1
KIT OF GAS MANIFOLD for connection of a cascade	1	2	3	4	5	6	7
U SHAPED GAS MANIFOLD				1	1	1	1

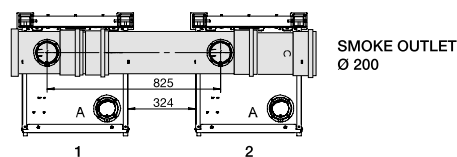
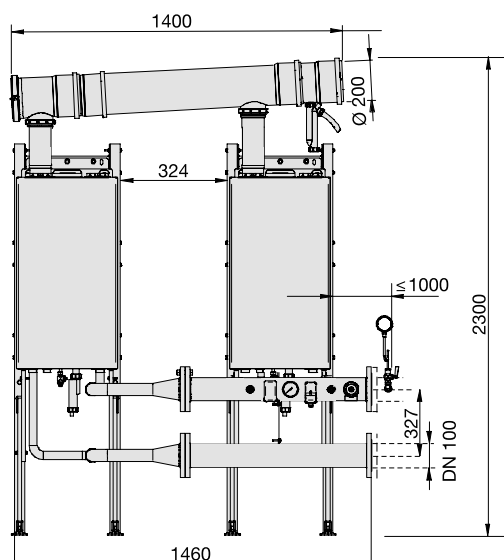
Smoke evacuation

BASE KIT		1	1	1	1	1	1	1
SIPHON			1	2	2	3	6	5
OUTLET SIPHON		1	1	1	2	2	2	2
SINGLE SMOKE MANIFOLD					1	1	1	1
SMOKE PIPE EXTENSION Ø200 mm					3	2	1	

NOTE. There are 2 flue exhaust channels that flow with 2 separate couplings in a single flue. If you want to connect the 2 smoke channels together, it is necessary to have a thermo-technician that calculates them with a special union collector not supplied. For information, refer to the "Battery Mounting Instruction" document at www.schusterboilers.com.

Available in combination with **PLATE EXCHANGERS**

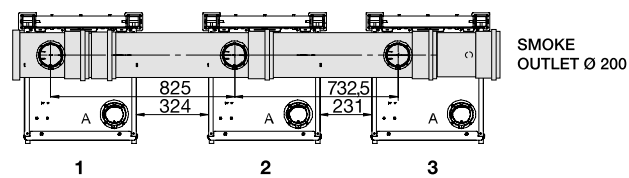
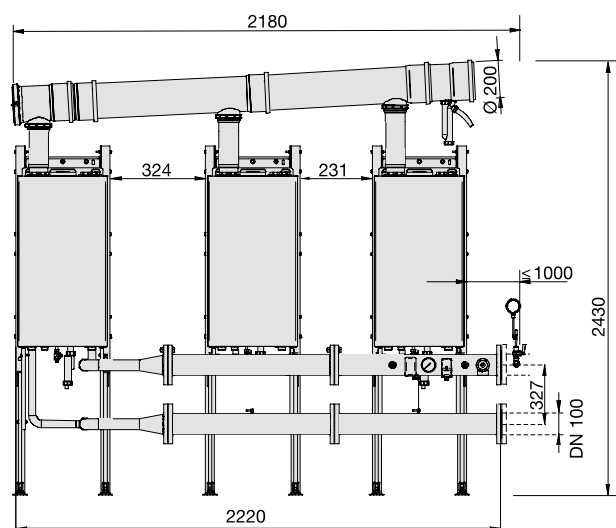
DIMENSIONS OF A BATTERY OF 2 BWAm 100-115



Operational data		BWAm 100	BWAm 115
Minimum Input on N.C.V. Q _{min}	kW	20	20
Nominal Input on N.C.V. Q _n	kW	199	230
Nominal Output (60/80°C) P _n	kW	197.6	223
Nominal Output (30/50°C) P _{cond}	kW	210	240.6

Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.

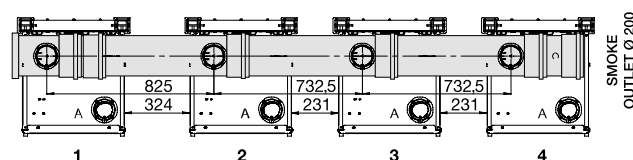
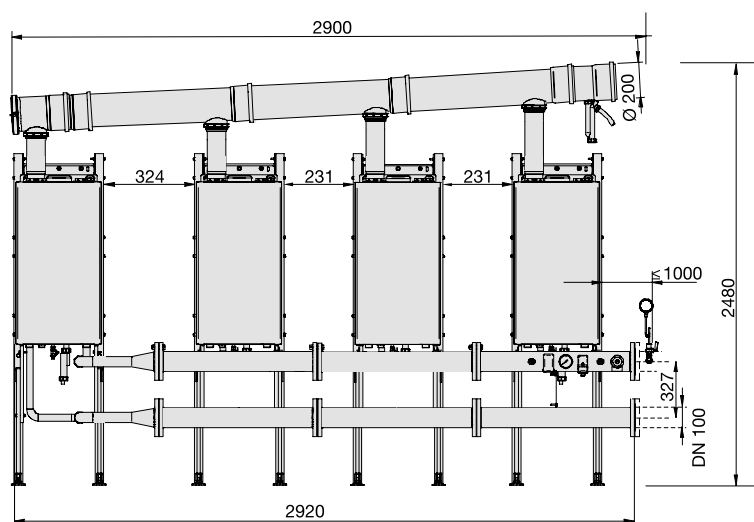
DIMENSIONS OF A BATTERY OF 3 BWAm 100-115



Operational data		BWAm 100	BWAm 115
Minimum Input on N.C.V. Q _{min}	kW	20	20
Nominal Input on N.C.V. Q _n	kW	298.5	345
Nominal Output (60/80°C) P _n	kW	296.4	334.5
Nominal Output (30/50°C) P _{cond}	kW	315	360.9

Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.

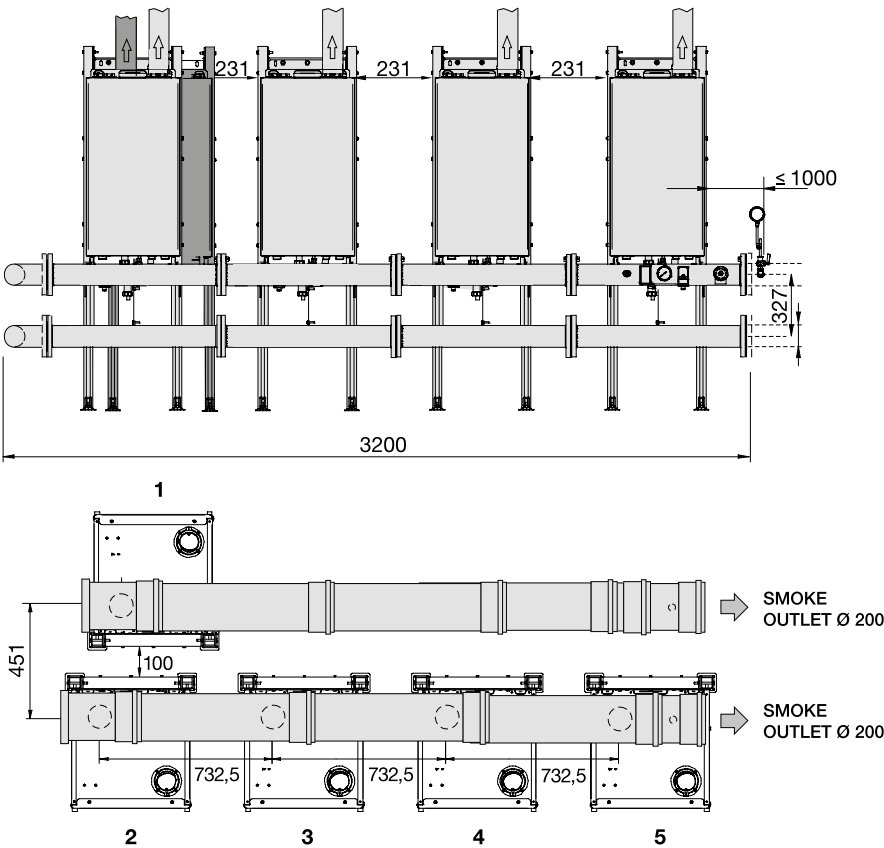
DIMENSIONS OF A BATTERY OF 4 BWAm 100-115



Operational data		BWAm 100	BWAm 115
Minimum Input on N.C.V. Q _{min}	kW	20	20
Nominal Input on N.C.V. Q _n	kW	398	460
Nominal Output (60/80°C) P _n	kW	395.2	446
Nominal Output (30/50°C) P _{cond}	kW	420	481.2

Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.

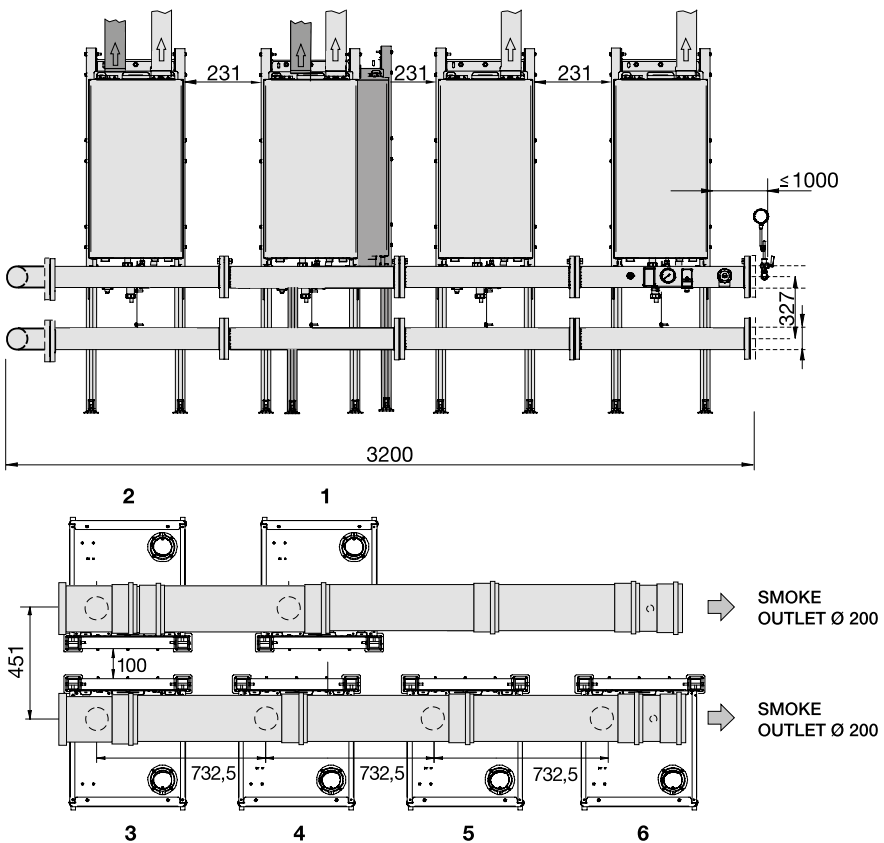
DIMENSIONS OF A BATTERY OF 5 BWAm 100-115 (4+1 ON THE OPPOSITE SIDE)



Operational data		BWAm 100	BWAm 115
Minimum Input on N.C.V. Q _{min}	kW	20	20
Nominal Input on N.C.V. Q _n	kW	497.5	575
Nominal Output (60/80°C) P _n	kW	494.0	557.5
Nominal Output (30/50°C) P _{cond}	kW	525.0	601.5

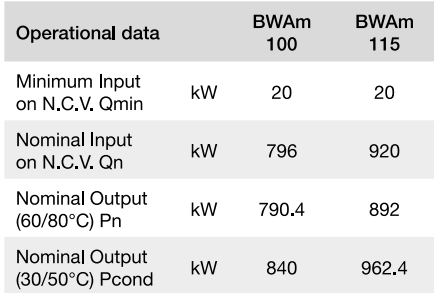
Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.

DIMENSIONS OF A BATTERY OF 6 BWAm 100-115 (4+2 ON THE OPPOSITE SIDE)



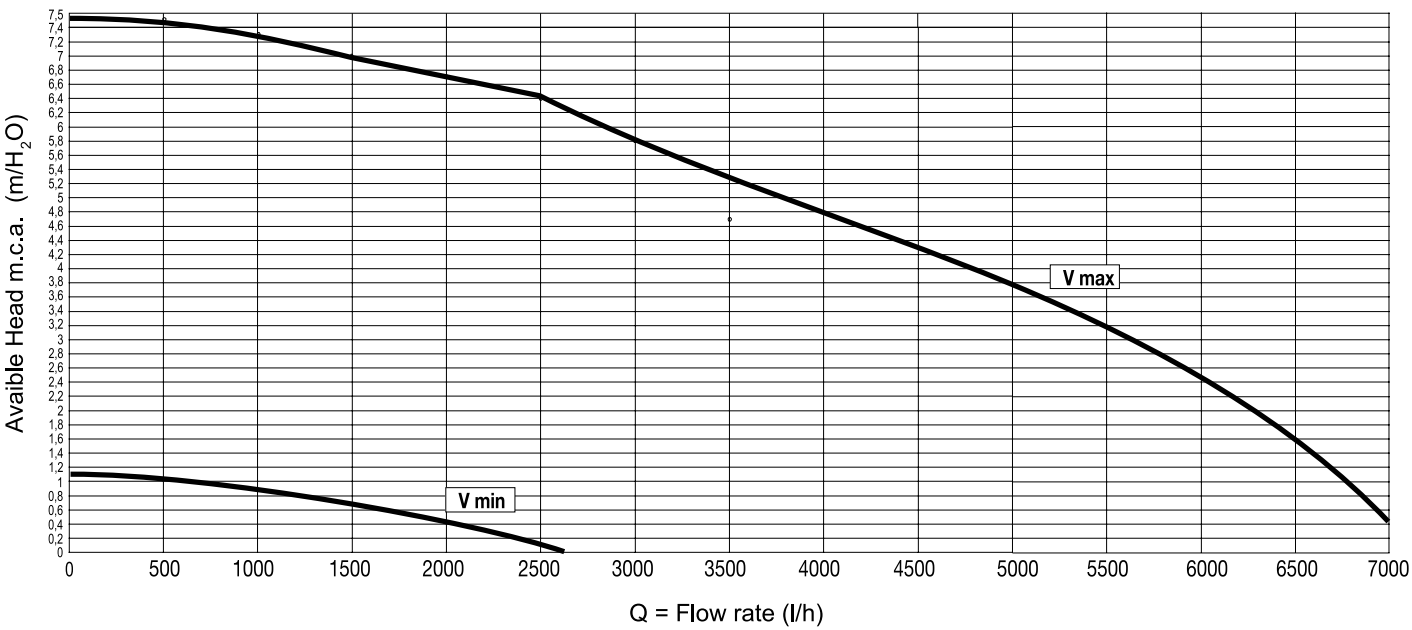
Operational data		BWAm 100	BWAm 115
Minimum Input on N.C.V. Q _{min}	kW	20	20
Nominal Input on N.C.V. Q _n	kW	597	690
Nominal Output (60/80°C) P _n	kW	592.8	669
Nominal Output (30/50°C) P _{cond}	kW	630.0	721.8

Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.



Warning: The flue ducts in plastic material (PPS) are suitable only for Indoor installations.

DIAGRAM OF FLOW RATE/PRESSURE AVAILABLE FOR INSTALLATION



		BWAm 100	BWAm 115
Power supply	kW	99,5	115
Max flow rate demanded (Δt 15 K)	l/h	5700	6600
Nominal flow rate request (Δt 20 K)	l/h	4280	4950
Power supply in condensation (50/30)	kW	105	120,3
Max flow rate demanded (Δt 15 K)	l/h	6020	6897
Nominal flow rate request (Δt 20 K)	l/h	4520	5173

Approximate data

The Δt between supply and return boiler must never be less than 15 ° K.

Note:

The use of a mixing header fitted between the boiler circuit and the system circuit is always advisable. It becomes INDISPENSABLE if the system requires flow rates superior to the maximum permitted boiler flow rates, which is to say lower than 20 K.

TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

		BWAm 100	BWAm 115
Appliance category		II _{2H3P}	II _{2H3P}
Modulation Ratio		1:5.0	1:5.75
Nominal Heat Input on P.C.I. Q _n	kW	99.5	115
Minimum Heat Input on P.C.I. Q _{min}	kW	20	20
Nominal Output (Tr 60 / Tm 80 °C) P _n	kW	98.8	111.5
Minimum Output (Tr 60 / Tm 80 °C) P _n min	kW	19.2	19.2
Nominal Output (Tr 30 / Tm 50 °C) P _{cond}	kW	105	120.3
Minimum Output (Tr 30 / Tm 50 °C) P _{cond} min	kW	21.75	21.75
Efficiency at max. output (Tr 60 / Tm 80°C)	%	98.81	97.1
Efficiency at min. output (Tr 60 / Tm 80°C)	%	95.90	95.90
Efficiency at max. output (Tr 30 / Tm 50°C)	%	105.03	104.6
Efficiency at min. output (Tr 30 / Tm 50°C)	%	108.77	108.77
Efficiency at 30% output (Tr 30°C)	%	109.3	107.27
Combustion efficiency with nominal load	%	98.05	97.7
Combustion efficiency with minimum load	%	98.28	98.28
Heat loss at casing with burner in operation (Q _{min})	%	2.30	2.69
Heat loss at casing with burner in operation (Q _n)	%	0.1	0.7
Flue gas temperature tf-ta (min)(*)	°C	35.0	36.0
Flue gas temperature tf-ta (max)(*)	°C	39.4	46.6
Maximum allowable temperature	°C	100	100
Maximum operating temperature	°C	85	85
Flue gas mass flow rate (min)	kg/h	37.71	34.31
Flue gas mass flow rate (max)	kg/h	163.59	184.6
Excess λ air	%	25.53	23
Flue losses with burner in operation (min)	%	1.72	1.87
Flue losses with burner in operation (max)	%	1.95	2.29
Minimum heating circuit pressure	bar	0.5	0.5
Maximum heating circuit pressure	bar	6	6
Water content	l	9	9
Gas Consumption Natural (20 mbar) gas G 20 a Q _n	m³/h	10.57	12.08
Gas Consumption Natural gas (20 mbar) G 20 a Q _{min}	m³/h	2.11	2.11
Gas Consumption G25 (supply pressure 25 mbar) Q _n	m³/h	12.3	14.0
Gas Consumption G25 (supply pressure 25 mbar) Q _{min}	m³/h	2.46	2.46
Gas Consumption G31 (supply pressure 37/50 mbar) Q _n	kg/h	7.76	8.92
Gas Consumption G31 (supply pressure 37/50 mbar) Q _{min}	kg/h	1.55	1.55
Max. available pressure at the chimney base	Pa	150	150
Condensate production max	kg/h	8.46	8.46
Emissions			
CO at Minimum Heat Input with 0% of O ₂	mg/kWh	140	147
NO _x at Nominal Heat Input with 0% of O ₂	mg/kWh	31	34
NO _x Class		6	6
Electrical Data			
Voltage/Frequency electric power supply	V/Hz	230/50	230/50
Fuse on main supply	A (R)	4	4
Insulation degree	IP	X5D	X5D

Room Temperature = 20°C.

(*) Temperatures detected with the unit in operation (Tr 60 / Tm 80°C)

Seasonal Efficiency η_{s} according to Directive 2009/125/EC for Outputs < = 400 kW. See Erp Table

Standstill heat losses at Δt 30K – P_{stby} – See Erp Table

Standstill electrical consumption – P_{sb} – See Erp Table

DATA ACCORDING TO ErP DIRECTIVE

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded
from the web site www.schusterboilers.com at the page of the product

			BWAm 100	BWAm 115
NOMINAL HEAT OUTPUT	P_n	kW	99	112
SEASONAL SPACE HEATING ENERGY EFFICIENCY	η_s	%	94	92
SEASONAL EFFICIENCY CLASS IN HEATING MODE			A	A
FOR CH ONLY AND COMBINATION BOILERS: USEFUL HEAT OUTPUT				
USEFUL HEAT OUTPUT in high temperature regime (Tr 60 °C / Tm 80 °C)	P_4	kW	98.8	111.5
USEFUL EFFICIENCY AT NOM. HEAT OUTPUT in high-temperature regime (Tr 60°C / Tm 80°C)	η_4	%	89.0	87.4
USEFUL HEAT OUTPUT AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30°C)	P_1	kW	32.2	37
USEFUL EFFICIENCY AT 30% OF NOM. HEAT OUTPUT in low-temperature regime (Tr 30 °C)	η_1	%	98.5	96.7
RANGE-RATED BOILER: YES / NO			NO	NO
AUXILIARY ELECTRICITY CONSUMPTION				
AT FULL LOAD	el_{max}	kW	0.289	0.314
AT PART LOAD	el_{min}	kW	0.156	0.160
IN STAND-BY MODE	P_{SB}	kW	0.018	0.028
OTHER ITEMS				
STAND-BY HEAT LOSS	P_{stby}	kW	0.641	0.642
EMISSIONS OF NITROGEN OXIDES referred to NCV & (GCV)	NO_x	mg/kWh	43 (39)	47 (42)
CONSUMPTION OF ANNUAL ELECTRICITY	Q_{HE}	GJ	301	349
FOR CH & DHW PRODUCTION BOILERS				
DECLARED LOAD PROFILE			-	-
ENERGY EFFICIENCY IN DHW PRODUCTION MODE	η_{WH}	%	-	-
DAILY ELECTRICITY CONSUMPTION	Q_{elec}	kWh	-	-
DAILY FUEL CONSUMPTION	Q_{fuel}	kWh	-	-
INSIDE SOUND POWER LEVEL	L_{wa}	dB(A)	-	-
SEASONAL EFFICIENCY CLASS IN DHW PRODUCTION MODE			-	-