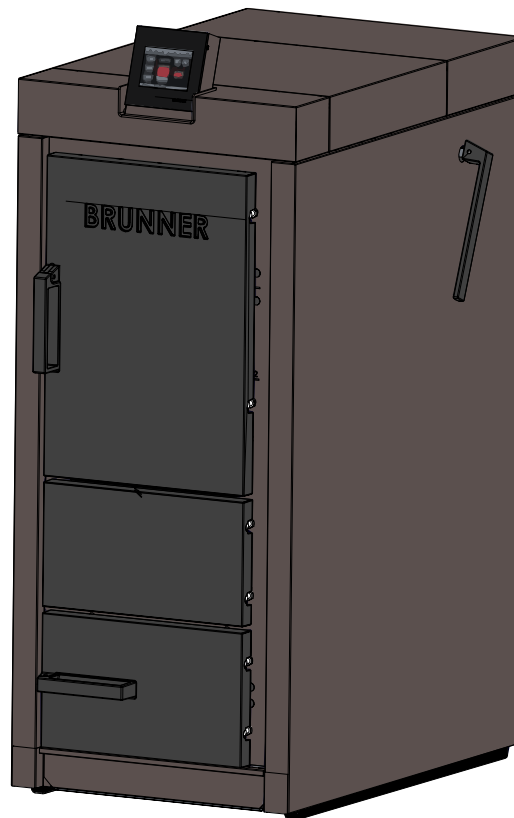


Data sheet

BRUNNER Log gasification boiler BSV 20 and BSV 30



Product performance description

- variable, adaptable power range from 20 kW to 30 kW for optimal adaptation to the required heat demand;
 - large cast iron filling door with door contact switch for safe operation;
 - minimal power consumption and lowest standby losses;
 - device design easy to operate and clean;
- and much more

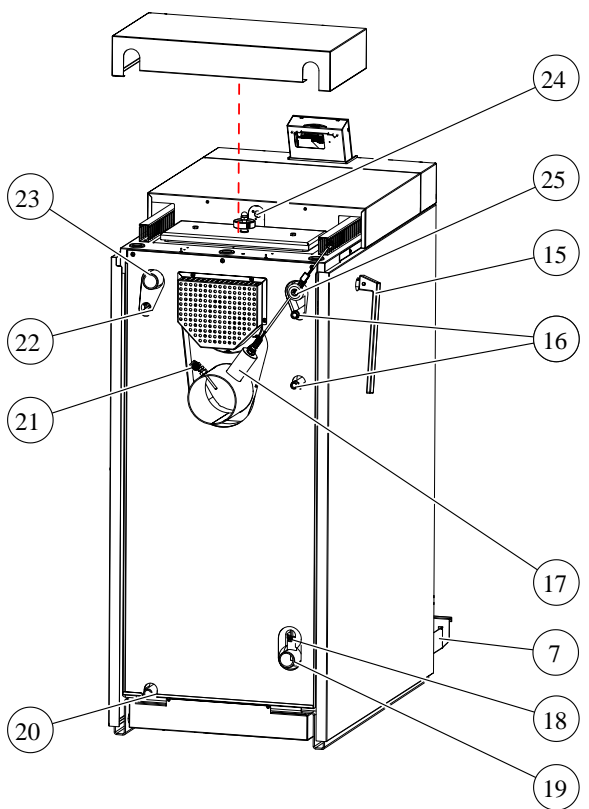
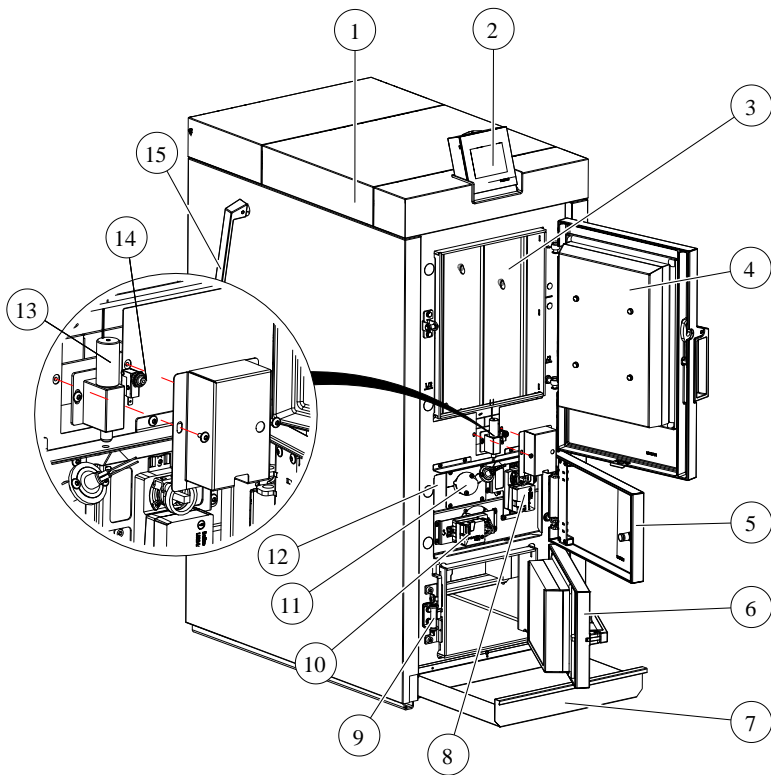
Highest operational safety

- detailed safety concept through the boiler control; continuous monitoring and control of all operating states, their notice on the display, as well as automatic archiving of both operating data and all messages;
 - electromechanical locking of the filling door;
 - continuous monitoring of the current residual oxygen content by the lambda probe for environmentally friendly operation;
 - simple control with the modern touch display, which can be installed not only in the boiler room, but also in the living room;
- and much more

Special product features

- residual heat utilisation: for using the residual heat from the boiler after it has burnt down;
 - automatic ignition: only occurs when there is an actual heat request;
 - simple execution of the exhaust gas test by the chimney sweep;
 - in combination with the BRUNNER heating center: perfect coordination of all heat generators, heat consumers and storage, as well as mobile control via smartphone, tablet, PC at www.my-brunner.com;
- and much more

1 Boiler overview

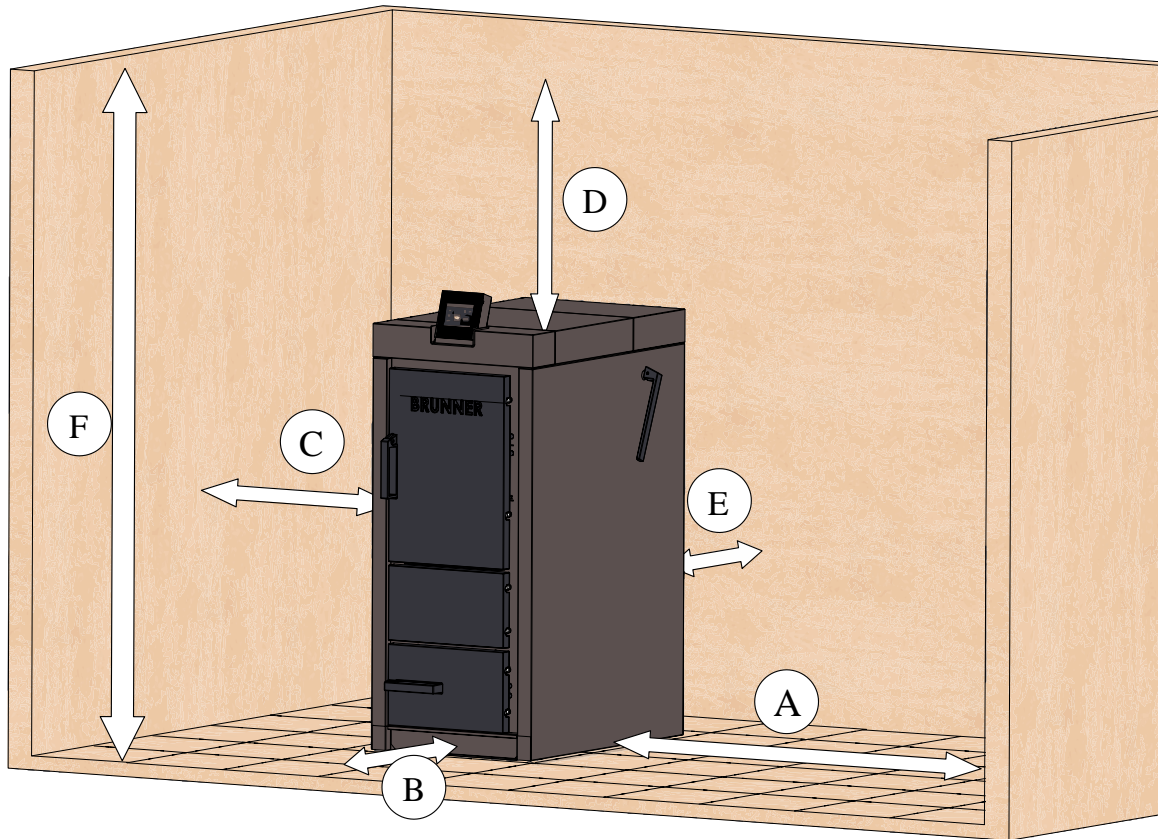


1	Boiler cladding
2	User interface (touch display)
3	Filling chamber
4	Filling chamber door
5	Center front panel
6	Combustion chamber door
7	Ash pan
8	Primary air actuator
9	Unlocking the combustion chamber door
10	Secondary air actuator
11	Inspection hole
12	Type plate
13	Door lock
14	Door switch
15	Lever for cleaning
16	Safety heat exchanger connection
17	Lambda probe
18	Return temperature sensor
19	Boiler return flow
20	Drainage
21	Flue gas temperature sensor
22	STB sensor, boiler temperature sensor
23	Boiler flow
24	Release button for safety temperature limiter (STB)
25	Connection for thermal run-off protection (TAS)

2 Minimum clearances

It is necessary to adhere to the minimum clearances when setting up the boiler in order to ensure accessibility for maintenance and service work on the boiler.

Exhaust systems must be easily accessible for the chimney sweep for measuring, checking and cleaning work. A suitable stand area should therefore be planned.



A	500 mm	Operation Cleaning alternatively on the left side: 100 mm (dimension C)
B	700 mm	Operating side
C	100 mm	Minimum wall clearance, alternatively operation cleaning: then 500mm (dimension A)
D	400 mm	Maintenance (removal of heat exchanger-cleaning)
E	500 mm	Connection exhaust pipe, installation of further connections;
F	1950 mm	Resulting room height

Distances to fuel stores

The Model Firing Ordinance (MFeuV) is decisive for the minimum distances between fireplaces and flue systems to combustible components or fuel stores.

Distances to fuel stores conform §12 (3):

If fireplaces are set up in the rooms in accordance with Paragraph 2 No. 2 to 4, these must:

- be outside the required collecting areas for leaking fuel and
- have a distance of at least 1 m from containers for heating oil or diesel fuel.

A distance of 0.1 m is sufficient if it has been proven that the surface temperature of the fireplace does not exceed 40 ° C.

3 Dimension sheet

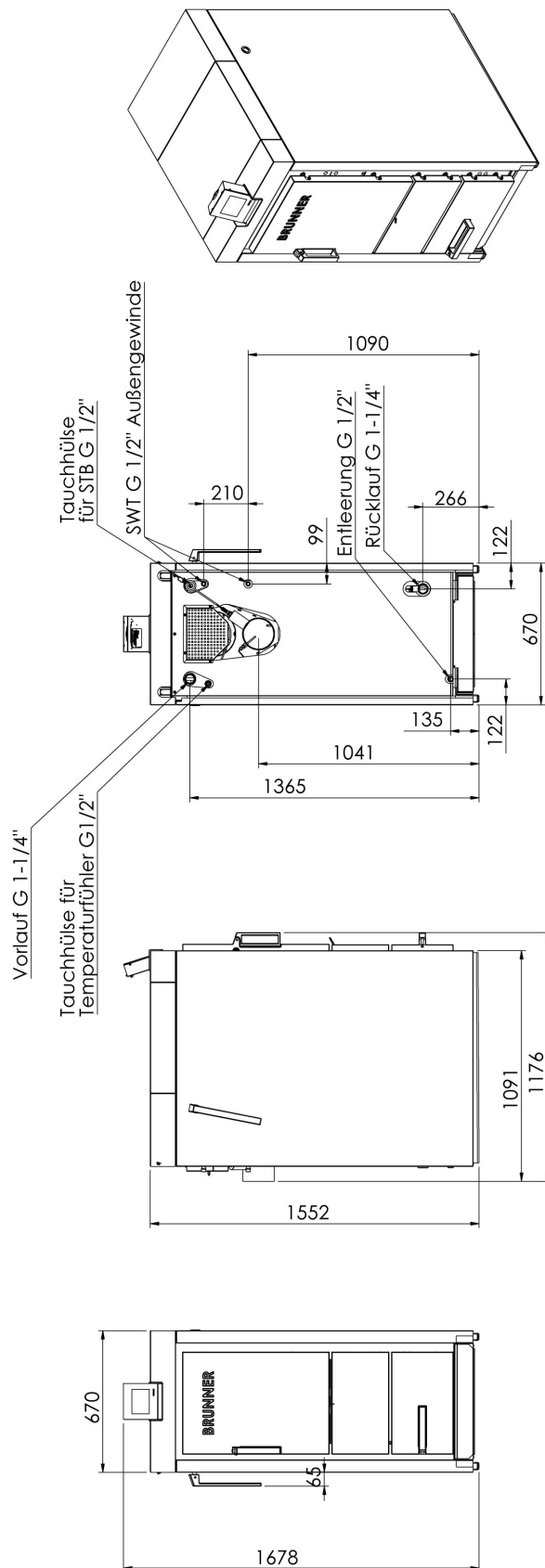
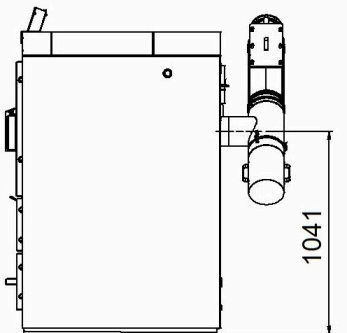
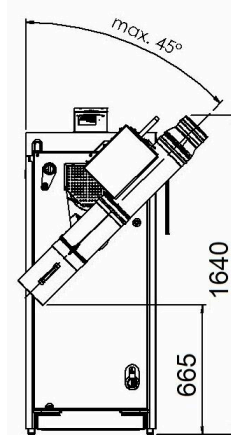
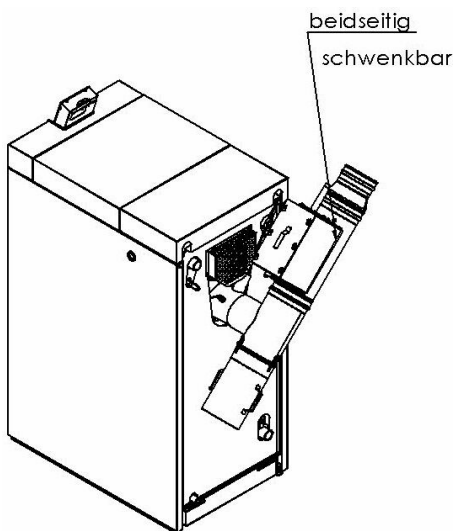
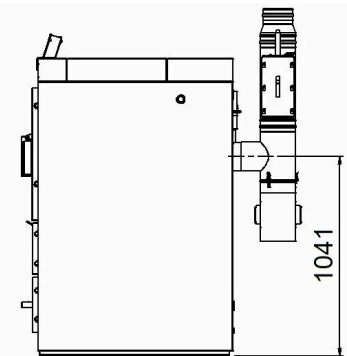
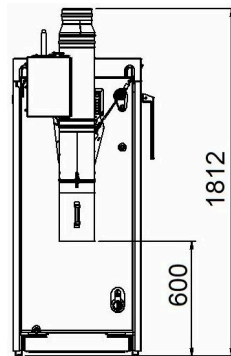
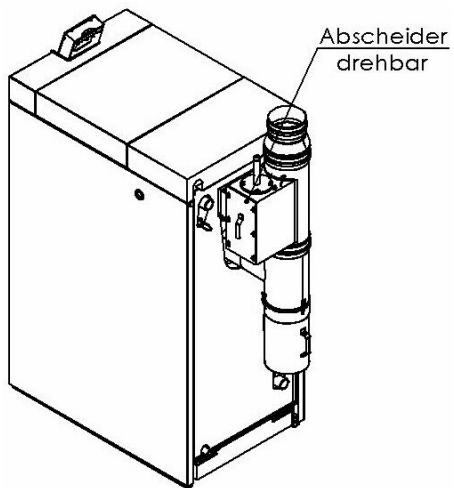


Illustration 1: BSV 20/ BSV 30

4 Separator

The BSV separator set (OTI) is available as an accessory for operating the boiler with an electrostatic separator.



5 Technical data

BSV 20 and BSV 30

Parameter	UM	BSV 20	BSV 30
Nominal heat output	kW	21,1	30
Heat output part load	kW		22,5
Boiler efficiency Nominal heat output	%	92,6	92,0
Boiler class (EN 303-5/2012)		5	5
Operating pressure max.	bar	3	3
Dimensions			
Dimension boiler with sheeting (w x d x h)	mm	670 x 1177 x 1678	670 x 1177 x 1678
Mounting dimension boiler-body (w x d x h)	mm	650 x 1091 x 1552	650 x 1091 x 1552
Mounting weight boiler-body	kg	430	430
Total weight	kg	700	700
Feeder chute volume	liter	170	170
Duration of burning (at nominal load spruce/beeceh)	h	6 / 10	4,5 / 7
Feeder chute content (aprox. spruce/beeceh)	kg	40 / 60	40 / 60
Log length / feeder chute depth	cm	50 / 55	50 / 55
Data on water connections			
Boiler water content	liter	150	150
Connector flow/return Ø	DN (Zoll)	IG 32 (1-1/4")	IG 32 (1-1/4")
Line dimension up to BHZ / buffer tank	DN (Zoll)	32/ 5/4"	32/ 5/4"
Buffer volume hardwood	liter	3000	3000
Buffer volume softwood	liter	2000	2000
Drain sleeve Ø	DN (Zoll)	IG 15 (1/2")	IG 15 (1/2")
Height drain	mm	135	135
Boiler flow temperature, max.	°C	95	95
Boiler return temperature, min.	°C	60	60
Height flow	mm	1365	1365
Height return	mm	265	265
Water-side resistance $\Delta T=10K$	mbar	14,3	19,8
Connection of thermal safety device	DN (Zoll)	AG 15 (1/2")	AG 15 (1/2")
Connection temperature sensor	DN (Zoll)	IG 15 (1/2")	IG 15 (1/2")
Data for chimney calculation (DIN EN 13884-1)			

Parameter	UM	BSV 20	BSV 30
Exit gas temperature nominal capacity	°C	125	150
Flue gas mass flow nominal capacity	kg/h (g/s)	50 (14)	72 (20)
Height exhaust pipe connection	mm	1041	1041
Exhaust pipe connection Ø	mm	150	150
Necessary delivery pressure	Pa	5	5
Content CO ₂	%	14,2	14,3
Minimum clearances (to the fairing surface) in the room:			
minimum wall clearance right A	mm	500 (100)	500 (100)
minimum wall clearance front B	mm	700	700
minimum wall clearance left C	mm	100 (500)	100 (500)
minimum wall clearance lid D	mm	400	400
minimum wall clearance back E	mm	500	500
Resulting room height F	mm	1950	1950
Electric connection			
Power supply	VAC, A, Hz	230, 10, 50	230, 10, 50
Power input at nominal load	W	50	60
Standby	W	9	9

Emission parameters

Parameter	UM	BSV 20	BSV 30
Emissions according to the requirements for Germany-1.BImSchV; at 13%O₂			
CO at nominal heat output	mg/m ³	8	29
Dust at nominal heat output	mg/m ³	4	6
Dust at nominal heat output with OekoTube-Inside	mg/m ³	0,05	0,4
OGC at nominal heat output	mg/m ³	1	1
NOx at nominal heat output	mg/m ³	86	99
Emissions according to the requirements for Switzerland -LRV; at 13%O₂			
CO at nominal heat output	mg/m ³	8	29
Dust at nominal heat output	mg/m ³	4	6
OGC at nominal heat output	mg/m ³	1	1
NOx at nominal heat output	mg/m ³	86	99
Emissions according to the requirements for Austria-Art.15a; at 13%O₂			
CO at nominal heat output	mg/MJ	5	19
Dust at nominal heat output	mg/MJ	3	4
OGC at nominal heat output	mg/MJ	1	0
NOx at nominal heat output	mg/MJ	57	66

Specific parameters

Parameter	UM	BSV 20	BSV 30
For calculating the generator expenditure figures according to EnEV or DIN V 4701-10			
Efficiency in static operation		0,93	0,92
Efficiency in the basic cycle GZ		0,84	0,83
Useful heat given off by the heat generator during a basic cycle	kWh	12,9	18,3
Power share heating circuit		1	1
Max. usage performance in operation Q _{nmax}	kW	21,1	30,0
Average usage performance in operation Q _{Nm}	kW	18,4	26,1
Temperature hysteresis	K	20	20
Auxiliary energy demand basic cycle Q _{HE, GZ}	kWh	0,031	0,037
Mean electrical power consumption in stat. operation	W	50	60

Information according to the Delegated Regulation (EU) 2015/1187	UM	BSV 20	BSV 30
Energy efficiency class		A+	A+
Nominal heat output	kW	21	30
energy efficiency index EEI		120	120
Annual use efficiency of space heater	%	81	81
Special precautions		-	-

Angaben gemäß Verordnung (EU) 2015/1189	ME	BSV 20	BSV 30
Anheizmodus		manuell	manuell
empfohlenes Puffervolumen	liter	3000	3000
Brennwertkessel		nein	nein
Festbrennstoffkessel mit Kraft-Wärme-Kopplung		nein	nein
Kombiheizgerät		nein	nein
ausschließlicher Brennstoff		Scheitholz, Feuchtigkeitsgehalt ≤20%	Scheitholz, Feuchtigkeitsgehalt ≤20%
sonstige geeignete Brennstoffe		keine	keine
abgegebene Nutzwärme at nominal heat output (P _n)	kW	21,1	30,0
Brennstoff-Wirkungsgrad (η _n)	%	85,7	85,2
Hilfsstromverbrauch beim Nominal heat output (e _{lmax})	kW	0,050	0,060
Hilfsstromverbrauch im Bereitschaftszustand (P _{SB})	kW	0,009	0,009
Raumheizungs-Jahres-Emissionen (bezug. auf 10% O ₂ , trockenes Abgas, 0°C, 1013 mbar)			
PM	mg/m ³	6	6
OGC	mg/m ³	1	19
CO	mg/m ³	11	19
NO _x	mg/m ³	120	126

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