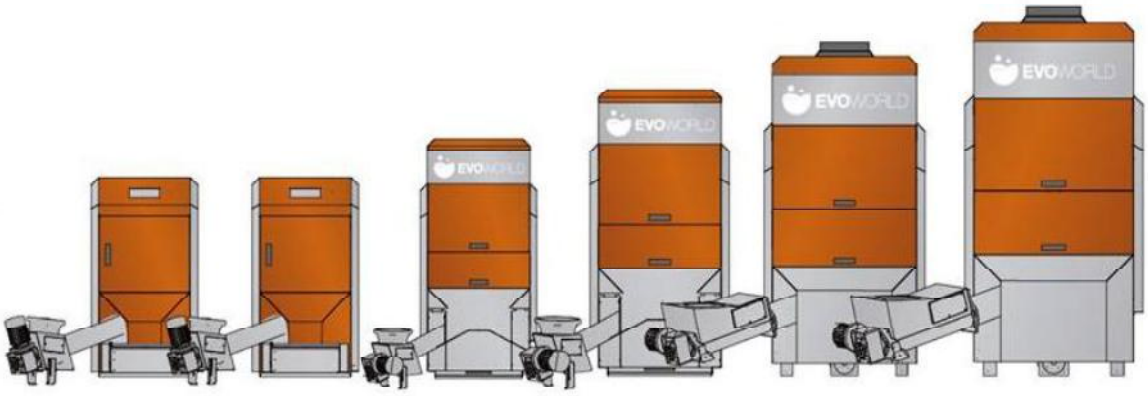
PRODUCT RANGE

Wood chip range:



HS25/35 HS50 HS75 HS100/120 HS150/170/200 HS500

	performance range **kW**	max. load **kW**	cons. at max. ** **kg/h**	part load **kW**	cons. at part ** **kg/h**	efficiency **%**
Wood chip units:						
HS15 ECO	4-15	18	6,92	4	1,54	**94,0**
HS25 ECO	7-25	30	11,54	7	2,69	**93,9**
HS35 ECO	11-35	37	14,23	11	4,23	**95,3**
HS50	13-55	65	25,00	13	5,00	**92,4**
HS75 ECO	23-75	85	32,69	23	8,85	**93,4**
HS100 ECO	30-100	105	40,38	30	11,54	**95,0**
HS120 ECO	36-120	125	48,08	36	13,85	**94,8**
HS150 ECO	45-150	155	59,62	45	17,31	**94,4**
HS200 ECO	50-190	205	78,85	50	19,23	**93,8**
HS500 ECO	150-490	510	196,15	150	57,69	**93,3**

PRODUCT RANGE

WOOD CHIP - TECHNICAL DATA:

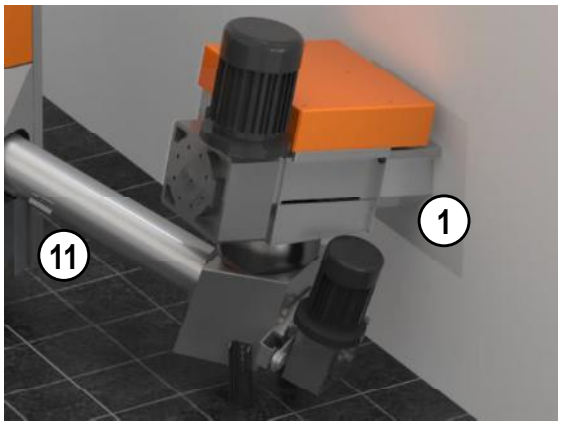
TYPE	HS25	HS35	HS50
Max. adjustable boiler temperature (°C)	85	85	85
Permitted operating pressure (bar)	3	3	3
CE labeling acc. To low-voltage directive	CE	CE	CE
Total weight (kg)	320	450	450
DIMENSIONS			
Boiler width (mm)	650	650	650
Boiler depth (mm)	823	910 [1]	910 [1]
Total depth (mm)	1023	990	990
Boiler height (mm)	1160 [2]	1310 [2]	1310 [2]
Boiler tube connection height (mm)	800	840	840
Flow height (mm)	1007	1160	1160
Return height (mm)	327	360	360
Ventialtion height (mm)	965	1160	1160
Boiler tube connection diameter (mm)	150	180	200
WATER			
Water content (ltr.)	39	55	55
FUEL			
Ash box volume (ltr.)	40	45	45
Max. wood chip size	G 30 - G 50	G 30 - G 50	G 30 - G 50
Max. wood chip water content	w 35	w 35	w 35
ASH REMOVAL			
Ash removal	auto	auto	auto
CONNECTIONS			
Flow (inch)	1 ¼	1 ¼	1 ¼
Return (inch)	1 ¼	1 ¼	1 ¼
EMMISION DATA			
Required negative pressure at full load (mbar/Pa)	0,1 - 0,3 / 10 - 30	0,1 - 0,3 / 10 - 30	0,1 - 0,3 / 10 - 30
Required negative pressure at part load (mbar/Pa)	0,0 - 0,1 / 0 - 10	0,0 - 0,1 / 0 - 10	0,0 - 0,1 / 0 - 10
Combustion chamber temperature (°C)	ca. 1000	ca. 1000	ca. 1000
CO at full load (mg/m³)	24 [3]	63 [3]	11 [3]
CO at part load (mg/m³)	31 [3]	33 [3]	35 [3]
NOx at full load (mg/m³)	144 [3]	159 [3]	103 [3]
NOx at part load (mg/m³)	105 [3]	136 [3]	n.B.
HC at full load (mg/m³)	1 [3]	2 [3]	1 [3]
HC at part load (mg/m³)	1 [3]	1 [3]	1 [3]
Dust at full load (mg/m³)	12 [3]	14 [3]	21 [3]
Dust at part load (mg/m³)	10 [3]	10 [3]	n/a
ELECTRIC POWER CONSUMPTION			
Supply needed	400 V, AC	400 V, AC	400 V, AC
Standby (W)	5	5	5
Power consumption at full load in % of full load	0,5	0,5	0,4
Power consumption at part load in % of part load	0,2	0,2	0,3

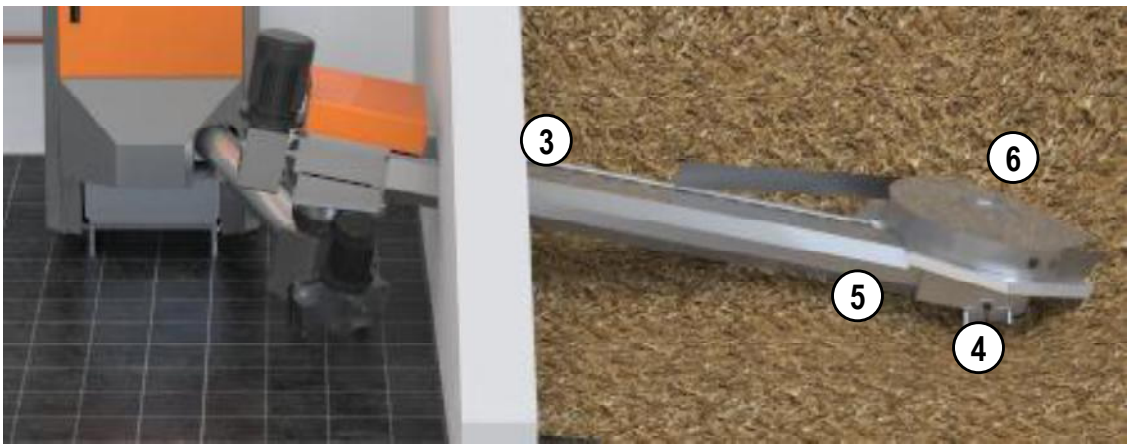
1) exkl. exhaust fan / stoker 2) exkl. chimney box 3) emissions data based on 13 % O2 dry

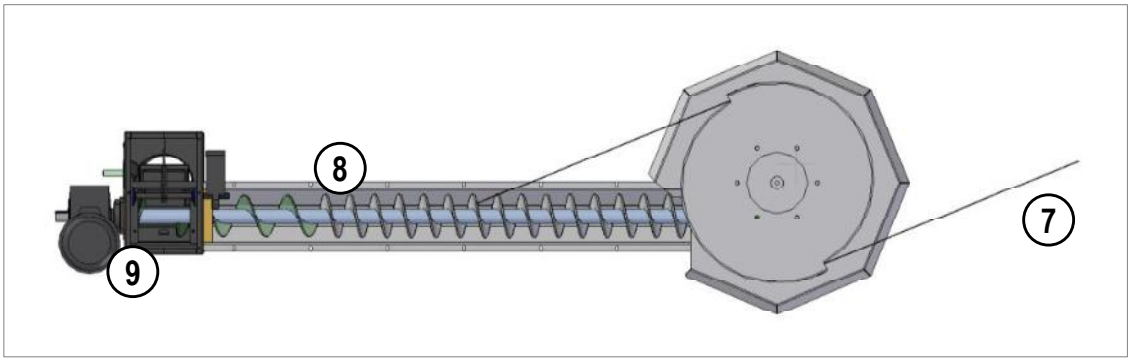
TYPE	HS100/120/150	HS150/200	HS500 [4]
Max. adjustable boiler temperature (°C)	85	85	90,00
Permitted operating pressure (bar)	3	3	4,00
CE labeling acc. To low-voltage directive	CE	CE	CE
Total weight (kg)	1050	1350	3900
DIMENSIONS			
Boiler width (mm)	760	890	1220
Boiler depth (mm)	1350 [1]	1510 [1]	2830 [1]
Total depth (mm)	1650	1820	4560
Boiler height (mm)	1770 [2]	1960 [2]	2350 [2]
Boiler tube connection height (mm)	1301	1810	2050
Flow height (mm)	1560	1780	2126
Return height (mm)	410	440	565
Ventialtion height (mm)	1560	1780	2070
Boiler tube connection diameter (mm)	200	250 / 300	350 / 400
WATER			
Water content (ltr.)	150	225	610
FUEL			
Ash box volume (ltr.)	60	200	200
Max. wood chip size	G 30 - G 50	G 30 - G 50	G 30 - G 50
Max. wood chip water content	w 35	w 35	w 35
ASH REMOVAL			
Ash removal	auto	auto	auto
CONNECTIONS			
Flow (inch)	1 ½	2	4
Return (inch)	1 ½	2	4
EMMISION DATA			
Required negative pressure at full load (mbar/Pa)	0,1 - 0,3 / 10 - 30	0,1 - 0,3 / 10 - 30	0,1 - 0,3 / 10 - 30
Required negative pressure at part load (mbar/Pa)	0,0 - 0,1 / 0 - 10	0,0 - 0,1 / 0 - 10	0,0 - 0,1 / 0 - 10
Combustion chamber temperature (°C)	ca. 1000	ca. 1000	ca. 1000
CO at full load (mg/m³)	212 [3]	53 [3]	42 [3]
CO at part load (mg/m³)	48 [3]	73 [3]	
NOx at full load (mg/m³)	110 [3]	127 [3]	162 [3]
NOx at part load (mg/m³)	108 [3]	107 [3]	
HC at full load (mg/m³)	4 [3]	1 [3]	<2 [3]
HC at part load (mg/m³)	1 [3]	1 [3]	
Dust at full load (mg/m³)	20 [3]	39 [3]	57 [3]
Dust at part load (mg/m³)	10 [3]	5 [3]	
ELECTRIC POWER CONSUMPTION			
Supply needed	400 V, AC	400 V, AC	400 V, AC
Standby (W)	5	6	6
Power consumption at full load in % of full load	0,4	0,3	0,3
Power consumption at part load in % of part load	0,2	0,1	0,2

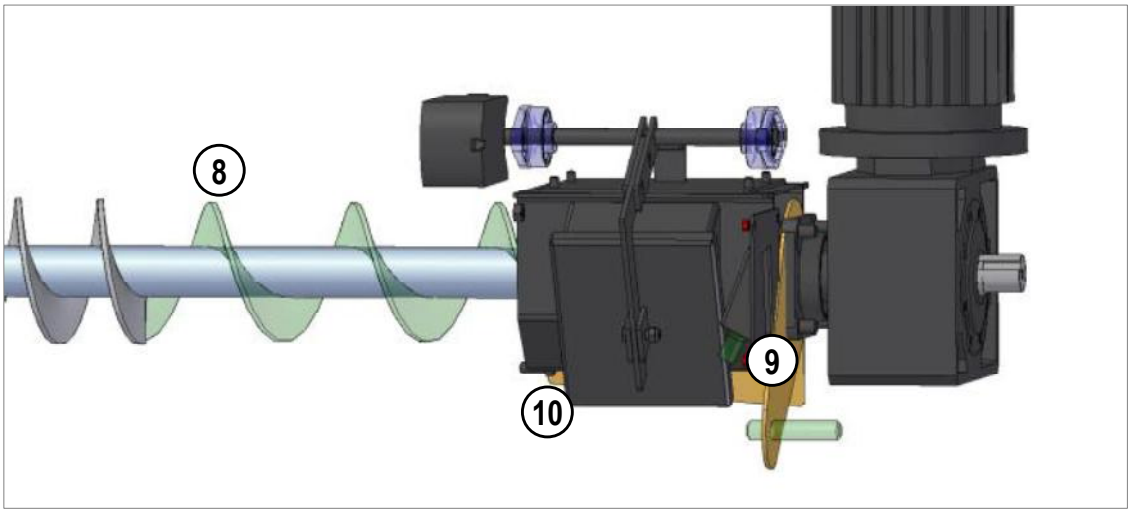
1) exkl. exhaust fan / stoker 2) exkl. chimney box 3) emissions data based on 13 % O2 dry
4) tested with exhaust cleaner (cyclone)

WOOD CHIP FEEDING SYSTEM









WOOD CHIP FEEDING SYSTEM IN GENERAL

1 • maximum utilization of the storage room due to compact construction of the combustion feeder and feeding system (bottom edge: 55 cm)

2 • required space for biomass unit is being reduced to a minimum due to the unique concept of the feeding system

3 • the auger feeding and filling system enables individual solution also to fill up the storage room

DETAILS OF WOOD CHIP FEEDING SYSTEM

Agitators:

4 • heavy duty angular gear (3000 Nm)

5 • depressurizing through dog clutch

6 • massive cover panel of the gear box protects against collision with agitating arms

7 • to guarantee sufficient fuel two or four agitating arms are needed based on the size of the unit

• maximum rigidity of the agitating arms due to transverse construction

Screw conveyor:

8 • obviation of overfilling by progressive pitch of the screw conveyer with the closed area inside the boiler room (80 mm / 140 mm)

9 • to redirect the fuel to the combustion feeder a left-hand double helix sits on the end of the screw conveyor

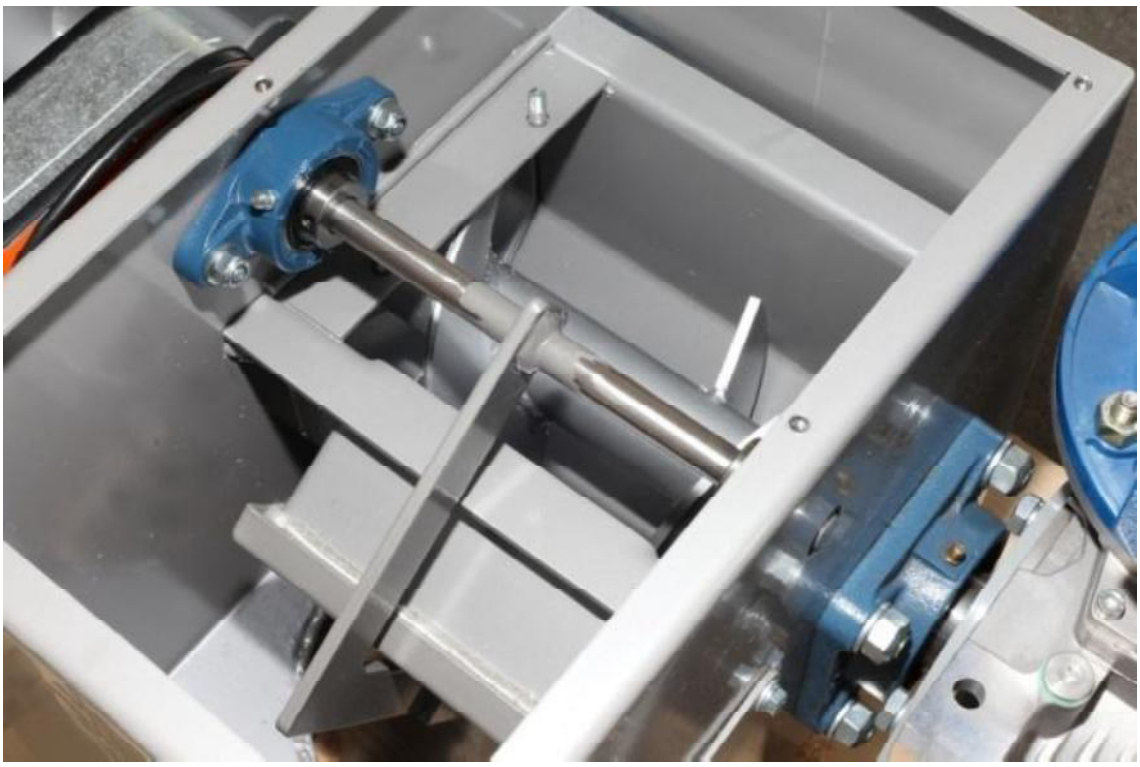
Back burn prevention:

10 • the back burn prevention flap avoids that gases or sparks can hit the screw conveyer by closing

11 • back burn prevention also by checking the temperature of the combustion feeder

• **PREVENTION BY USING A NEGATIVE PRESSURE SENSOR**

WOOD CHIP FEEDING SYSTEM



DETAILS OF SCREW CONVEYOR SYSTEM

Feeding channel:

• 4 mm wall thickness, 170 mm width up to 200 kW (500 kW: 240 mm)

• a rise of the screw conveyer is avoided by the special, hexagonal profile of the channel and the part-coverage

• progressive pitch of the screw conveyer with the closed area inside the boiler room (80 mm / 140 mm)

• the coupling connection of the feeding channel and the combustion feeder enables a turn around by 360°. Therefore all situations can be solved.

Combustion feeder:

• less space needed for the whole system due to the special construction of the combustion feeder (60° angled) in combination with two twistable flanges

• by turning the flanges it is possible to choose for having the combustion feeder on the left or on the right hand side

• the combustion feeder screw is mounted on both sides with bearings

• the drive end is protected against dust by a labyrinth seal

Construction:

HS25/35/50/100/120
Channel diameter: 130 mm Screw diameter: 100 mm

HS150/170/200
Channel diameter: 160 mm Screw diameter : 135 mm

HS500
Channel diameter: 195 mm Screw diameter : 160 mm