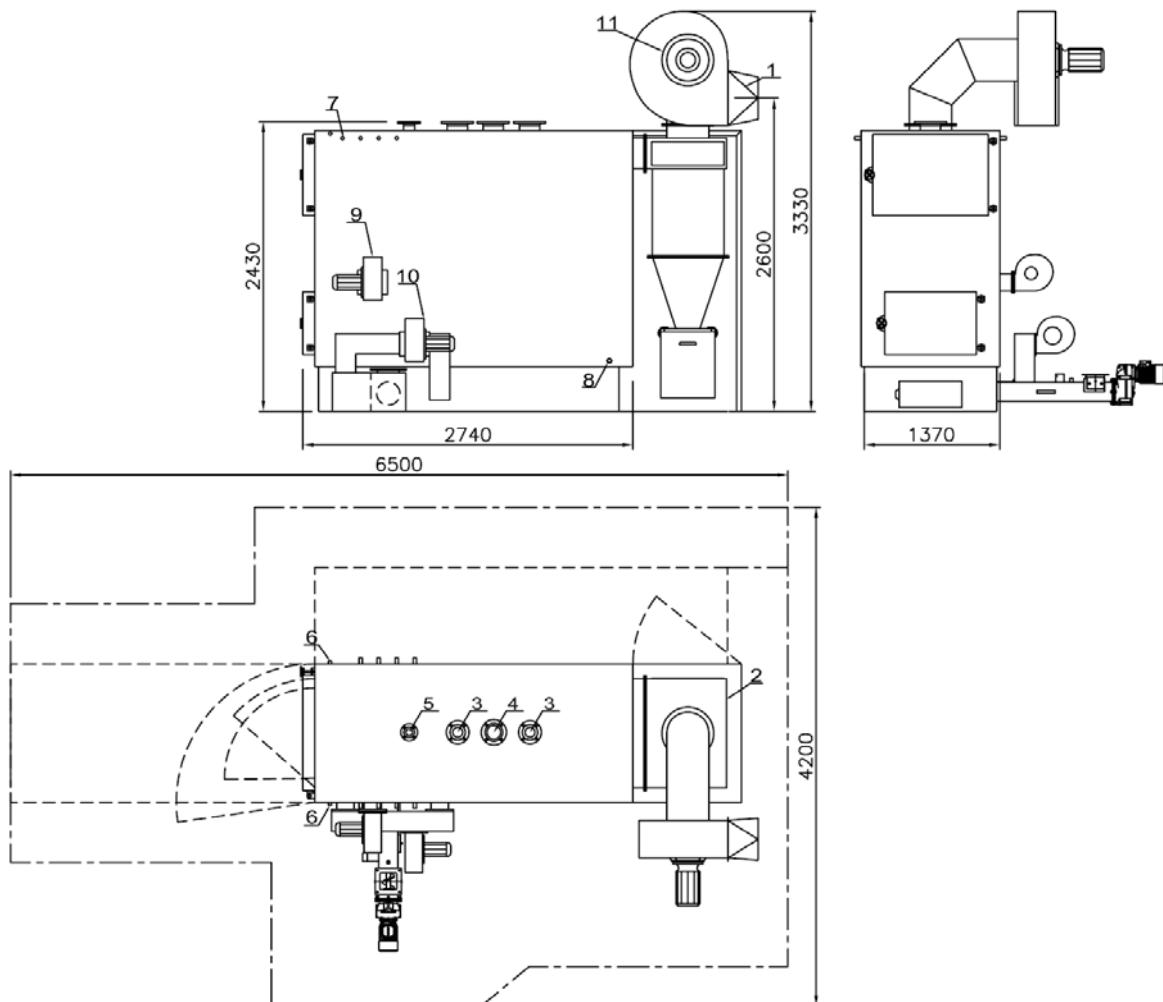


## Technical data sheet for RRK 400-600

### Combustion unit RRF

- minimum hole for the boiler (LxBxH):3000mm x 1500mm x 2700mm
- special questions concerning transfer into the boiler room have to be discussed with our technical department
- schematic drawing



Boiler Range			400-600
Output (M20; W20)		max. nominal output PN [kW]	350 / 400 / 500
		max. output PF [kW]	393 / 449 / 561
Weights	RRF / PRF	gross boiler [kg]	7.225
		water [kg]	1.520
		boiler block extra (without fireclay)	2.870
Dimensions	combustion unit [l x b x h]	RRF / PRF [mm]	2.560 x 1.200 x 380
	Boiler block [l x b x h] with door	RRK *1 [mm]	2.740 x 1.370 x 2050
	complete [l x b x h]	RRF / PRF + RRK *2 [mm]	2.740 x 1.370 x 2.430
	grate surface	RRF / PRF [m <sup>2</sup> ]	0,47 / 0,36
	combustion chamber	RRF / PRF [m <sup>3</sup> ]	0,72 / 0,82
	heat exchanger surface	RRK [m <sup>2</sup> ]	28,0 / 31,5 / 36,0
Hydr. Connections		flow *4 (3) [Zoll,DN]	2x80
		return (4) [Zoll,DN]	125
		safety flow (5) [Zoll,DN]	50
		fresh water connection (6) [Zoll,DN]	2 x 1" *7
		socket for thermostat (7) [Zoll,DN]	14 x 1/2"
		drain (8) [Zoll,DN]	2 x 1"
		water content [Liter]	1.520
		max. operating pressure [bar]	3
		resistance @ Δt 10° [mbar]	12
	resistance @ Δt 20° [mbar]	3,5	
Electric Connections		primary fan (10) [kW]	0,75
		secondary fan (9) [kW]	0,75
		exhaust fan ( no HVA ) [kW]	2,2
		exhaust fan ( with HVA ) (11) [kW]	5,5
Exhaust Data		exhaust @ heat exchanger (2)[mm]	900x250
		exhaust area @ heat exchanger [m <sup>2</sup> ]	0,225000
		flue diameter *10 (1)[mm]	350
		flue area [m <sup>2</sup> ]	0,0961625
		draft acc. DIN 4701 *11 [mbar]	0,7
		average exhaust gas temp. [C°]	180
	Exhaust gas, λ 1,6 (8% rest O <sub>2</sub> ) 180°C exhaust temperature	M20 / W20 [Bm <sup>3</sup> /h]	1.168 / 1.335 / 1.669
	M30 / W30 [Bm <sup>3</sup> /h]	1.230 / 1.406 / 1.757	
	M50 / W50 [Bm <sup>3</sup> /h]	1.452 / 1.660 / 2.075	

\*1) Block will be in 2 pieces, starting from boiler range 1800-2300

\*2) Overall demensions including constructed doors.

\*3) The first value is the combustion chamber volume below the oblique arch the value in parentheses is the total volume including the turbolationzone on the vault.

\*4) All existing flew flanges must be connected

\*5) Just one return flanges has to be connected

\*6) All existing return flanges must be connected

\*7) The water line connection at the boiler is used to connect a fresh water line at the security integrated heat exchanger into the boiler (SWT) The thermal safety valve ( safety temperature ) is supported by client.

\*9) Safety heat exchangers are available only up to a Binder boiler 1000 series The installation of the thermal safety valve and pressure safety valve to be as part of the safety device of the heating system must be guaranteed by the originator

\*10) = Recommended chimney diameter

\*11) Info: Plants are equipped with induced draft fan

(1)-(11) Position of the single parts in the schematic drawing

Subject to change without notice. (27.08.2010)

## Operating conditions for RRF:

### Fuels

BINDER boilers are suitable for fuels with the following specification:

Fuels according to CEN/TS 14961:2005:

- briquettes
- wood chips
- bark

Representative values of ingredients from attachment C are valid.

There are no parts of impurities like metal parts, stones, parts of walls, plastics, etc, allowed.

For fuels that do not confirm to this specification, the operation of the boiler is just possible with restrictions in warranty (point 10 of delivery conditions), meeting emission values, maintenance, operational safety.

### Permanent minimum heat demand

Permanent minimum heat demand (24 h) to keep the boiler running:

- 20 % of nominal capacity on dry fuels M20 or "W20"
- 40 % of nominal capacity on semi-dry fuels M30 or "W30"

### Minimal net calorific value

Minimal net calorific value of fuels, depending on moisture content:

- 6-20 % m.c. wet basis M20 or "W20": 4,0 kWh/kg
- 21-30 % m.c. wet basis M30 or "W30": 2,9 kWh/kg

### Nominal capacity

Reduced nominal capacity dependent on moisture content:

- ca. 90% of nominal capacity on semi-dry fuels M30 or "W30"

When running the boiler with fuels with moisture content more than M40, "W30", a nominal capacity can't be guaranteed.

## Operating conditions for PRF:

### Fuels

BINDER boilers are suitable for fuels with the following specification:

Fuels according to CEN/TS 14961:2005:

- pellets

Representative values of ingredients from attachment C are valid.

There are no parts of impurities like metal parts, stones, parts of walls, plastics, etc, allowed.

For fuels that do not confirm to this specification, the operation of the boiler is just possible with restrictions in warranty (point 10 of delivery conditions), meeting emission values, maintenance, operational safety.

### Permanent minimum heat demand

Permanent minimum heat demand (24 h) to keep the boiler running:

- 20 % of nominal capacity on dry fuels M20 or "W20"

### Minimal net calorific value

Minimal net calorific value of fuels, depending on moisture content:

- 6-20 % m.c. wet basis M20 or "W20": 4,0 kWh/kg