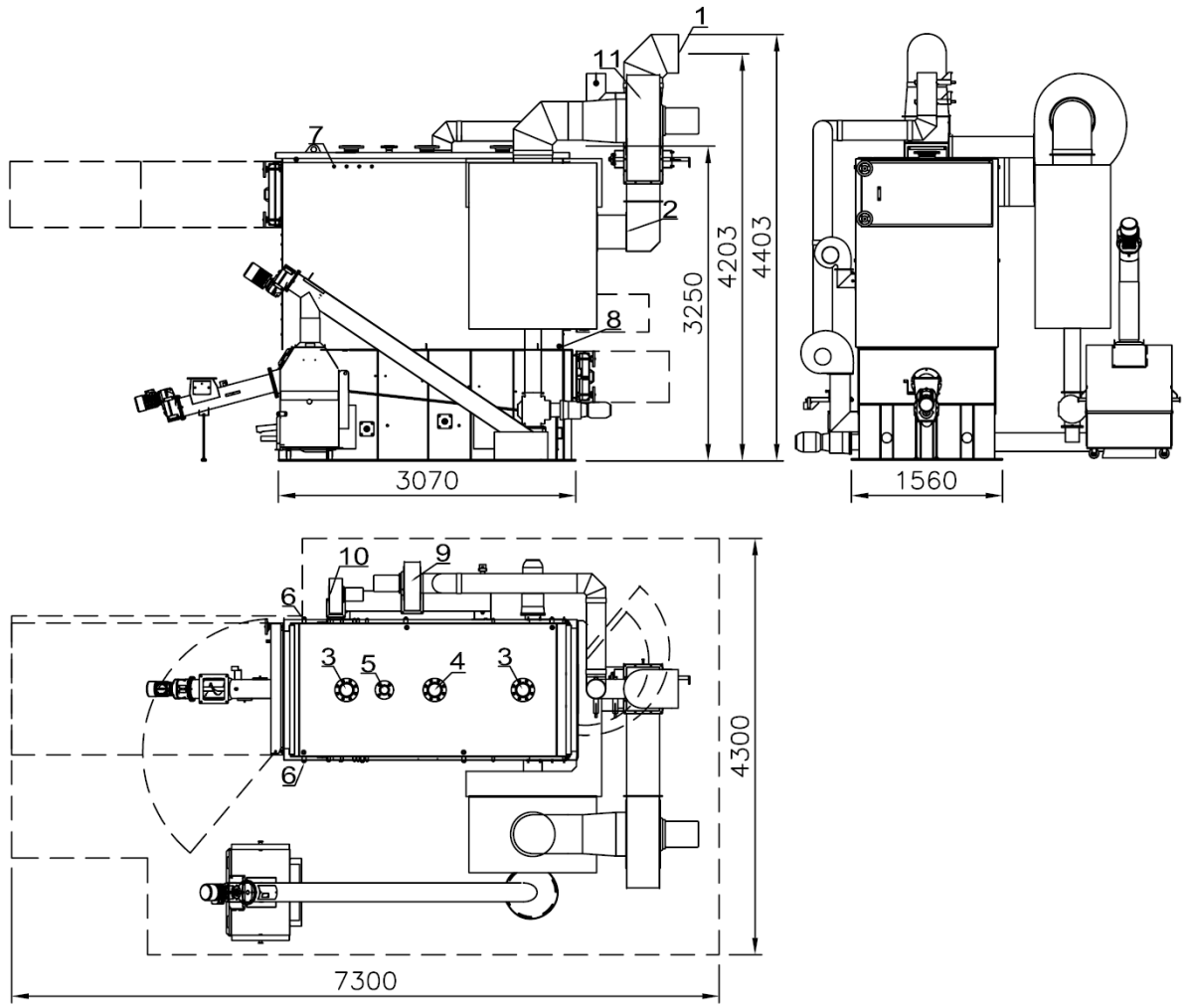
www.binder-gmbh.at
Energy from biomass

Technical data sheet for RRK 640-850

Combustion unit SRF

- minimum hole for transfer into boiler room:
  - for the boiler in one (LxBxH): 3700mm x 2000mm x 3500mm
  - for transfer in parts (LxBxH): 3700mm x 2000mm x 2300mm
- special questions concerning transfer into the boiler room have to be discussed with our technical department
- schematic drawing



Boiler Range			640-850	1000
Output (M20; W20)		max. nominal output PN [kW]	650 / 840	1.200
		max. output PF [kW]	730 / 943	1348
Weights	SRF-S / SRF-H	gross boiler [kg]	17.430	25.000
		water [kg]	1.950	2.720
		boiler block extra (without fireclay)	4.150	5.400
Dimensions	combustion unit [l x b x h]		3.480 x 1.500 x 1.145	3.650 x 1.760 x 1.450
	Boiler block [l x b x h] with doors *1		3.200 x 1.670 x 2.180	3.410 x 1.870 x 2.220
	complete [l x b x h] *2		3.480 x 1.670 x 3.185	3.650 x 1.900 x 3.670
	grate surface		1,9	2,46
	combustion chamber *3		1,77 (3,12)	2,69 (4,99)
	heat exchanger surface		46,0 / 52,5	76
Hydr. Connections		flow *4 (3) [Zoll,DN]	2x125	2x125
		return (4) [Zoll,DN]	125	125
		safety flow (5) [Zoll,DN]	50	50
		fresh water connection (6) [Zoll,DN]	2 x 1" *7	2 x 1" *7
		socket for thermostat (7) [Zoll,DN]	14 x 1/2"	6 x 1/2"
		drain (8) [Zoll,DN]	2 x 1"	2 x 11/2"
		water content [Liter]	1950	2650
		max. operating pressure [bar]	3	3
		resistance @ Δt 10° [mbar]	26	26
		resistance @ Δt 20° [mbar]	8,5	8,5
Electric Connections		primary fan (10) [kW]	2,2	2,2
		secundary fan (9) [kW]	1,1	1,1
		echaust fan (no HVA) [kW]	4	5,5
		exhaust fan (with HVA) (11) [kW]	7,5	7,5
Exhaust Data		exhaust @ heat exchanger (2)[mm]	1.260x350	1.350x340
		exhaust area @ heat exchanger [m²]	0,441000	0,459000
		flue diameter *10 (1)[mm]	400	450
		flue area [m²]	0,1256	0,1589625
		draft acc. DIN 4701 *11 [mbar]	0,7	0,7
		average exhaust gas temp. [C°]	180	180
	Exhaust gas, λ 1,6 (8% rest 0_2) 180°C exhaust temperature	M20 / W20 [Bm³/h]	2.170 / 2.804	4.006
		M30 / W30 [Bm³/h]	2.284 / 2.952	4.217
		M50 / W50 [Bm³/h]	2.697 / 3.485	4.979

*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 securitiy 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 t he 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 SRF-S / SRF-H:

Fuels

BINDER boilers are suitable for fuels with the following specification:
Fuels according to CEN/TS 14961:2005:

- briketts
- pellets
- wood chips
- shredder chips
- sawdust
- bark

Representative values of ingredients from attachment C are valid.

	main part	small parts < 5 %	coarse part
	>80% of mass		
„P120“ („G120“) – BKKF / QFE	3,15 mm ≤ P ≤ 120mm	< 1mm	max 1%[a] > 250mm
„P150“ („G150“) – BKKF / QFE	3,15 mm ≤ P ≤ 150mm	< 1mm	max 1%[a] > 300mm

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"
- 60% of nominal capacity on semi-dry fuels M40 or "W50"

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
- 31-50 % m.c. wet basis M40 or "W50": 2,1 kWh/kg

Nominal capacity

Reduced nominal capacity dependent on moisture content:

- ca. 90% of nominal capacity on semi-dry fuels M30 or "W30"
- ca. 80% of nominal capacity on semi-dry fuels M40 or "W40"
- ca. 70% of nominal capacity on semi-dry fuels "W50"

When running the boiler with fuels with moisture content more than “W50”, a nominal capacity can’t be guaranteed.

Operating conditions for TSRF:

Fuels

BINDER boilers are suitable for fuels with the following specification:
Fuels according to CEN/TS 14961:2005:

- briketts
- pellets
- wood chips
- shredder chips
- sawdust
- 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 “W30”, a nominal capacity can’t be guaranteed.