



**Note:**

- Installing a hydraulic switcher at A-A close the distributor at B\_B for advance and return flow separately. Without hydraulic switcher install according to B1-B1 or B2-B2.  
To prevent exhaust gas condensation from causing corrosion in the boiler, the return circuit temperature may not fall below 70°C. A return circuit pump with a return circuit valve has to be built into the relevant boiler series according to their layout. The boiler circuit has to be designed to assure that the temperature difference between in and outflow is equal to or less than 15°C.  
The following layout meets this requirement as long as no further blockages are built into the boiler / feed circuit. The installation of a blocking valve or a heat counter in the boiler / feed circuit requires that the heating systems technician designs a new layout of the boiler pump and return circuit.
- To connect heat consumers refer to data sheets 9700.
- The expansion tank has to be connected to the boiler via the boiler advance circuit without a closing valve.

**a) Safety equipment available through the installing furnace manufacturer**

SV...	Set safety valve to max. 3,0 bar, type certified according to DIN 3440 NW of the valve, the connecting pipe and the exhaust pipe according to DIN 4751 part 2
TS...	Thermic run-off safety valve R ¾", type certified, opening temperature 95-100 °C, (safety heat exchanger built into boiler), with Pyrot-400 and Pyrot-540 2 safety heat exchangers are parallel! Only one run-off safety valve is required.
KW...	Cold water inlet DN 15 R ½" in metal permanently piped, min. 2,5 bar, max. 3,5 bar,
TSL...	Run-off thermic run-off safety valve R ¾" (NW 20)
WMS...	Low water safety valve type certified. Required in Germany as of Pyrot-400.
EL...	Air valve (recommendation: absorption degasser)
ExG...	Closed expansion tank type certified; (Recommendation: connect cold back flow circuit without closing valve via the advance circuit to the boiler)
DAZ...	Manometer
TAZ...	Thermometer

**b) Boiler installation water with CKG-KRT-... layout (recommendation)**

Pyrot	[art.-no.]	Boiler circuit pump M20 Fabr. Grundfos Type 1)	Pressure valve Y20 Fabr. Siemens Type	Safety valve type SV 68M 2)	WMS Type SYR	Advance(VL) Back flow(RL) Bypass (BP)	Safety pipe SVL 3)
100	CKG-KRT-100	UP(S) 32-80 230 V	VXG 48.40/SQS 35.00	R 1"	-	NW 40	NW 32
150	CKG-KRT-150	UP(S) 32-80 230 V	VBF 21.50/SQK 33	R 1"	-	NW 50	NW 40
220	CKG-KRT-220	UPS 40-60 4F 400V	VBF 21.50/SQK 33	R 1"	-	NW 50	NW 40
300	CKG-KRT-300	UPS 50-60 4F 400V	VBF 21.65/SQK 33	R 1 ¼"	-	NW 65	NW 50
400	CKG-KRT-400	UPS 50-60 4F 400V	VBF 21.80/SQL 33	R 1 ¼"	•	NW 80	NW 50
540	CKG-KRT-540	UPS 65-60 4F 400V	VBF 21.80/SQL 33	R 1 ½"	•	NW 80	NW 65

- 1) For 400 V a contactor / motor protection combination required in the switch box (option) or externally
- 2) Connecting thread pipe
- 3) Length of exhaust pipe up to 4,0 m (for longer pipes refer to DIN 4751 part 2)

**c) Description of the motors, sensors and safety switches**

**Motors:**

M1	Exhaust gas blower
M2	Loader module
M11	Advance grating
M12	Primary air duct
M13	Rotating blower
M13.2	Secondary air duct
M16	Ignition device
M17	Oil burner
M20	Boiler circuit pump
Y20	Pressure valve

**Electrical emitters and sensors:**

B1G.1	Light barrier emitter 1 ember
B1G.2	Light barrier sensor 1 ember
B2G.1	Light barrier emitter 2 ember
B2G.2	Light barrier sensor 2 ember
B1	Exhaust gas sensor PT-100
B02	Temperature sensor loader module PT-100
B2.1	Emitter light barrier loader module
B2.2	Sensor light barrier loader module
B13	Temperature sensor rotation blower QAZ 21.5220
B20	Boiler sensor KTY 10/66
B20.1	Return circuit sensor QAZ 21.5220
B26	Lambda-sensor
U26	Measuring transducer Lambda-sensor

**Safety switches:**

N21	Temperature limiter
N22	Low water safety valve
S2	Ultimate final switch Maint. cover loader module
S17	Ultimate final switch Switch box Maint. cover loader module

**Storage with storage management:**

Y28	Storage valve
B28.1	Storage sensor below
B28.2	Storage sensor middle
B28.3	Storage sensor above

**Requesting additional heat generators**

N37	Control thermostat of hydraulic switcher
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