



a) Note:

To reliably prevent boiler corrosion caused by condensation of exhaust gases, the boiler return flow temperature must not under any circumstances be below 65°C. A boiler circuit pump with a modulating valve should be provided according to the diagram for this purpose. The boiler circuit should be designed such that the temperature difference between the forward flow and the return flow is equal to or less than 15°C.

b) Safety-relevant equipment included in the scope of performance provided by the installing heating engineer

- M 20 Boiler pump
- Y 20 Boiler mixer
- TS131 Thermal run-off safety valve R ¾", homologated component; special-purpose design for opening temperature 100°C, (safety heat exchanger built into boiler), from Pyrttec-720 2 safety heat exchangers in parallel are required as well as 2 thermal run-off safety valves. These are not required for open systems, but we advise installing these.
- KW Cold water inlet, min. 2.5 bar, max. 3.5 bar
- WMS Water level control device, homologated component, required in Germany from systems over 350 KW
- EL Air separator (recommendation: absorption-type degasser)
- ExO Expansion tank, open, at the highest point in the system, thermally insulated
- DAZ Pressure indication device (pressure gauge)
- TAZ Temperature indication device (thermometer)

c) Boiler circuit with open expansion, accumulator circuit if necessary, design recommendation

Model KPT-	Boiler circuit (VL, RL, BP)	Thermal run-off safety valve TS-131 (quantity)	Water through-put required at 2.5 bar	Accumulator volume ²⁾	Supply line ZL	Drain pipe AL ¹⁾	Safety forward flow (SVL)	Safety return flow (SRL) ¹⁾
530	NW 100	1	2224 l/h	4300 l	R ¾"	R 1"	NW 50	NW 40
720	NW 100	2	2 x 1510 l/h	5800 l	R ¾"	R 1"	NW 50	NW 40
950	NW 125	2	2 x 1993 l/h	7600 l	R ¾"	R 1"	NW 65	NW 50
1250	NW 125	2	2 x 2623 l/h	10000 l	R ¾"	R 1"	NW 65	NW 50

¹⁾ Length of the exhaust pipe up to 4.0 m (for longer lines, see DIN 4751 Part 2)
²⁾ On request, we will be glad to provide a project-based offer on the accumulator(s).

d) Equipment recommendation from KÖB's delivery programme

- Note: The equipment below will only be supplied via the installing heating engineer.

Model KPT-	Designation:	Description:	Item no:	See Spec Sheet:
		Accumulator in the form of a hydraulic switcher	WD-...	4700
	TS 131	Thermal run-off safety valve, 100°C	K-TS-131	4500
530	M 20	Boiler pump, Grundfos UPS 65-60 F ¹⁾	ZPS-656-4	4600
720	M 20	Boiler pump, Grundfos UPS 80-60 F ¹⁾	ZPS-806-4	4600
950	M 20	Boiler pump, Grundfos UPS 80-120 F ¹⁾	ZPS-8012-4	4600
1250	M 20	Boiler pump, Grundfos TP 100-60 F ¹⁾	ZPS-1060-4	4600
530	Y 20	Boiler mixer, Siemens VBF 21.100/SQL33	ZH-3-100	4600
720	Y 20	Boiler mixer, Siemens VBF 21.100/SQL33	ZH-3-100	4600
950	Y 20	Boiler mixer, Siemens VBF 21.125/SQL33	ZH-3-125	4600
1250	Y 20	Boiler mixer, Siemens VBF 21.125/SQL33	ZH-3-125	4600

¹⁾ For Δt 15K as per illustration
Any additional resistors (heat meters, slide valve) require redesigning of the boiler pump!