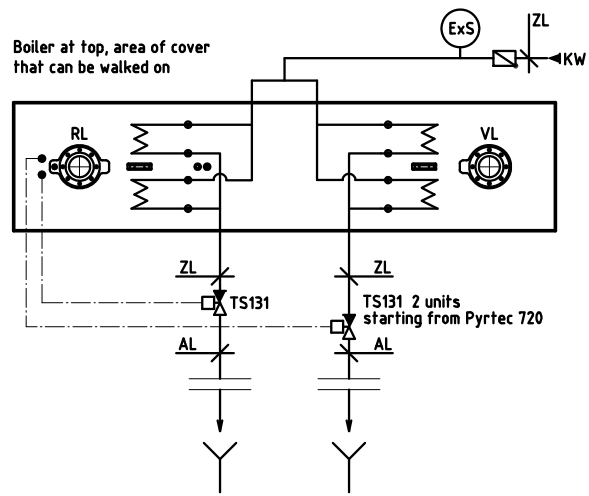
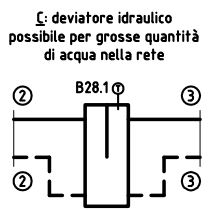
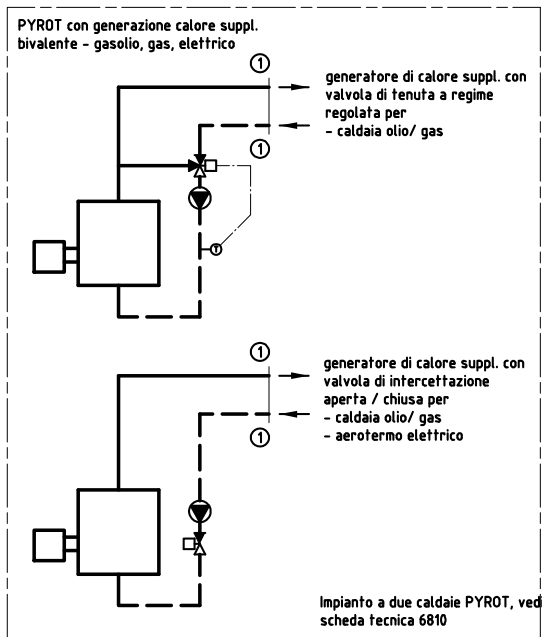
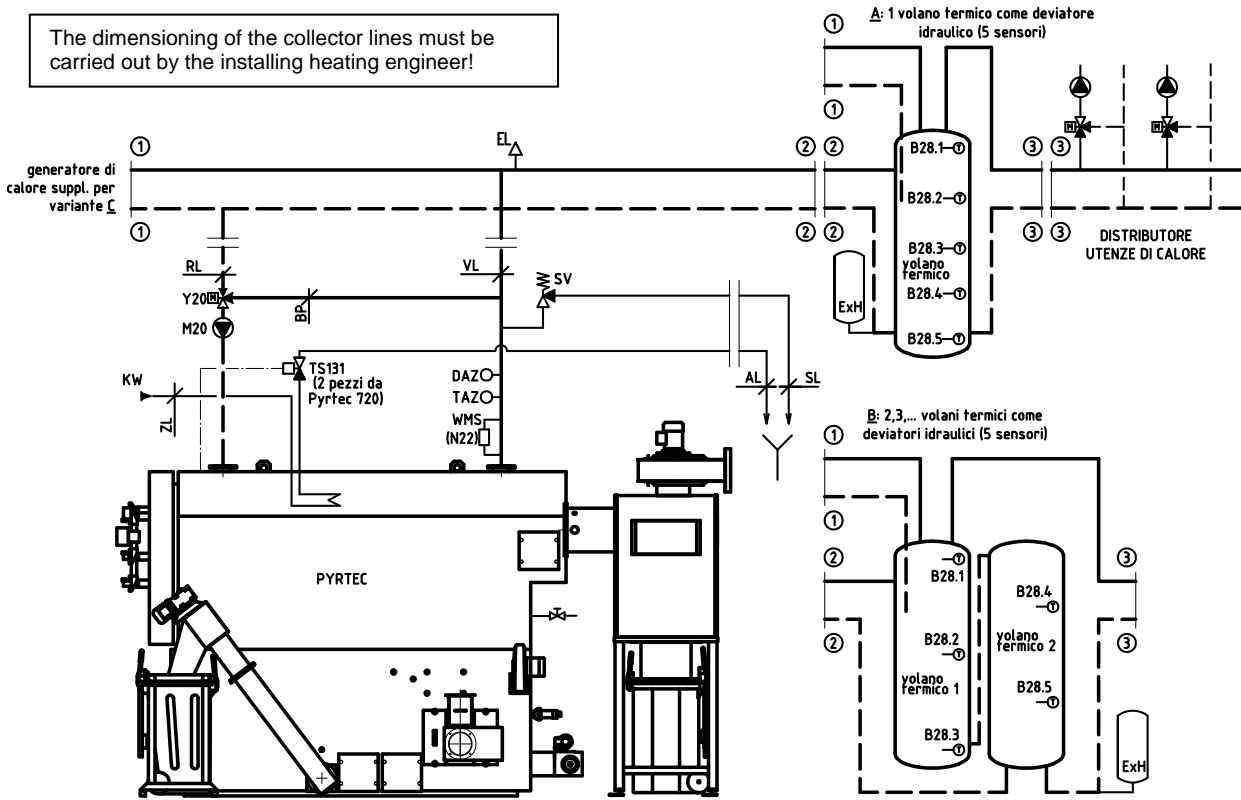


The dimensioning of the collector lines must be carried out by the installing heating engineer!



**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.
- The expansion tank has to be connected to the boiler above the boiler forward flow and without any shut-offs.

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

M 20	Boiler pump
Y 20	Boiler mixer
SV	Safety valve, pressure set to max. 3.0 bar, homologated component as per DIN 3440
	Nominal width of the valve, of the connection line and of the exhaust pipe as per DIN 4751 Part 2
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 Pyrtec-720 2 safety heat exchangers in parallel are required as well as 2 thermal run-off safety valves
KW	Cold water inlet, min. 2.5 bar, max. 3.5 bar
WMS	Water level control device, homologated component; required in Germany starting from systems over 350 kW, Installation recommendation: WMS with magnetic transmission of the float movement to a switch unit
EL	Air separator (recommendation: absorption-type degasser)
ExH	Expansion tank closed, with design certification; for heating system (Recommendation: connect on cool return flow, connected to the boiler via the forward flow without any blockage units)
ExS	Expansion tank closed; with design certification; for safety heat exchanger, max. 4.0 litres, 10 bar
DAZ	Pressure indication device (pressure gauge)
TAZ	Temperature indication device (thermometer)

**c) 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	Accumulat or volume <sup>3)</sup>	Supply line ZLg	Supply line ZLv	Drain pipe AL <sup>2)</sup>	Safety valve model SV 68M <sup>1)</sup>	Safety line SL <sup>2)</sup>
390	NW 80	1	1637 l/h	3200 l	R ¾"	R ¾"	R 1"	R 1 ¼"	NW 50
530	NW 80	1	2224 l/h	4300 l	R ¾"	R ¾"	R 1"	R 1 ½"	NW 65
720	NW 100	2	3020 l/h	5800 l	R 1"	R ¾"	R 1"	R 1 ½"	NW 80
950	NW 125	2	3986 l/h	7600 l	R 1"	R ¾"	R 1"	2 x R 1 ½"	2 x NW 65
1250	NW 125	2	5246 l/h	10000 l	R 1 ¼"	R ¾"	R 1"	2 x R 1 ½"	2 x NW 80

<sup>1)</sup> Threaded connection for supply line

<sup>2)</sup> Length of the exhaust pipe up to 4.0 m (for longer lines, see DIN 4751 Part 2)

<sup>3)</sup> 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	<b>WD-...</b>	4700
	TS 131	Thermal run-off safety valve, 100°C	<b>K-TS-131</b>	4500
390	M 20	Pump, Grundfos UPS 50-60, 4F 400V <sup>1)</sup>	<b>ZPS-506-4</b>	4600
530	M 20	Grundfos pump UPS 65-60 F, 400 V <sup>1)</sup>	<b>ZPS-656-4</b>	4600
720	M 20	Grundfos pump UPS 80-60 F, 400 V <sup>1)</sup>	<b>ZPS-806-4</b>	4600
950	M 20	Grundfos pump UPS 80-120 F, 400 V <sup>1)</sup>	<b>ZPS-8012-4</b>	4600
1250	M 20	Grundfos pump TP 100-60 F, 400 V <sup>1)</sup>	<b>ZPS-1060-4</b>	4600
390	Y 20	Motor-driven three-way valve, VBF 21.80/SQL33	<b>ZH-3-80</b>	4600
530	Y 20	Motor-three way tap, VBF 21.80/SQL33	<b>ZH-3-80</b>	4600
720	Y 20	Motor-three way tap, VBF 21.100/SQL33	<b>ZH-3-100</b>	4600
950	Y 20	Motor-three way tap, VBF 21.125/SQL33	<b>ZH-3-125</b>	4600
1250	Y 20	Motor-three way tap, VBF 21.125/SQL33	<b>ZH-3-125</b>	4600

<sup>1)</sup> For Δt 15K, as per illustration

Any additional resistors (heat meters, slide valve) require redesigning of the boiler pump!