

BUBBLER-COOLER

Acceptance at the workshop:
according to the European Pressure Equipment Directive PED (2014/68/EU)

CE-Marking on the Pressure Vessel:
according to the European Pressure Equipment Directive PED (2014/68/EU)

Design code: EN 12953

Designation of the bubbler-cooler

Bubbler-coolers are designed to cool recyclable water down to rated temperature values before discharging it into the wastewater system.

The bubbler-cooler is basically a vertical welded vessel with a cylindrical body. Lower and upper bottoms are flat. The upper bottom is attached to the body with a flange connection making possible internal maintenance of the bubbler-cooler. Lifting eyes are provided on the shell of the body.

In the lower part of the body there are supporting elements for cooler mounting on foundation are provided in the lower part of the body. The following elements are located inside the bubbler-cooler:

- cooled water inlet nozzle;
- cooling water inlet and barbotage device;
- cooled water outlet device;
- drain pipeline;
- vent riser;
- union fittings for instruments.



General view of the bubbler

Bubbler operation

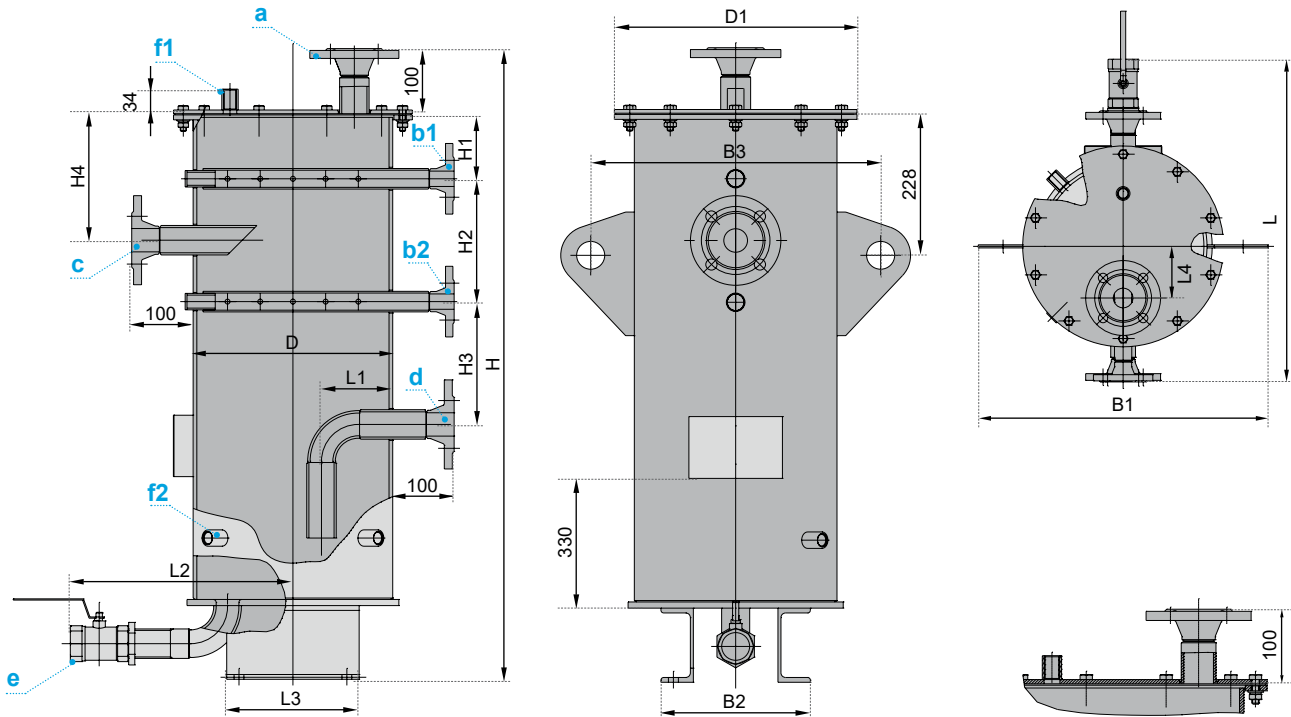
Hot water is supplied into the mixing chamber of the bubbler-cooler via nozzle **c**. Cold water is supplied into the mixing chamber via nozzle **b2**. Cooling is performed by mixing of source and cooling water. Cooled water is discharged via nozzle **d**. Where required to cool down steam vented via riser **a**, top cooling line **b1** shall be connected.

Electrical motor operated valve shall be mounted on the lower line **b2** and, where required, on upper line **b1** to control the flow of cooling water supplied into the bubbler-cooler. Valve opening and closing is performed on a signal from a thermostat installed on a specially provided union fitting: for upper cooling line **f1**, for lower cooling line **f2**.

Technical specifications

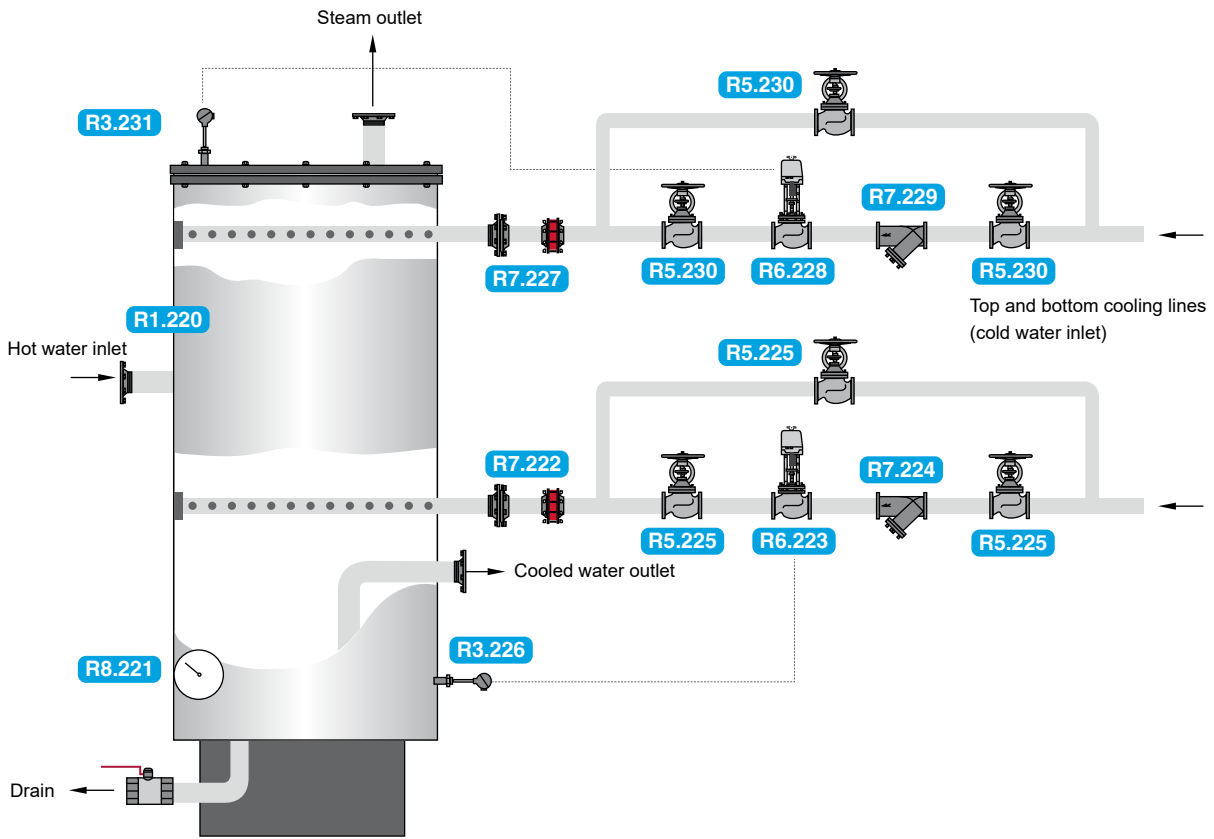
Type	Name						
	EBR 300	EBR 600	EBR 1500	EBR 3000	EBR 5000	EBR 8500	EBR 15000
Capacity, t/h	0.3	0.6	1.5	3.0	5.0	8.5	15
Maximum pressure, MPa	0.07						
Coolant temperature, °C	5						

Overall and connecting dimensions



		Name						
Type		EBR 300	EBR 600	EBR 1500	EBR 3000	EBR 5000	EBR 8500	EBR 15000
Vented steam, mm	a	40	40	80	100	150	200	300
Cooling water inlet, mm	b	2×25	2×25	2×40	2×50	2×65	2×80	2×100
Hot water inlet, mm	c	40	40	40	65	100	100	150
Mixed water outlet, mm	d	40	40	80	100	150	200	200
Drainage	e	G 1½ — B						
Temperature transducer	f	3 × G ½ — B						
Distance, mm	D	325	426	630	630	820	1020	1220
Distance, mm	D1	389	490	694	694	884	1084	1284
Distance, mm	H	1027	1082	1182	1732	2032	2032	2032
Distance, mm	H1	100	125	125	125	150	200	200
Distance, mm	H2	200	200	250	325	400	500	500
Distance, mm	H3	200	200	225	450	600	400	400
Distance, mm	H4	200	225	225	250	300	400	400
Distance, mm	L	625	726	930	930	1120	1320	1520
Distance, mm	L1	116	116	177	207	283	362	362
Distance, mm	L2	362.5	413	515	515	610	710	810
Distance, mm	L3	216	287	431	431	566	707	849
Distance, mm	L4	100	50	0	0	0	0	0
Distance, mm	B1	561	662	866	866	1056	1256	1456
Distance, mm	B2	216	287	431	431	566	707	849
Distance, mm	B3	465	566	770	770	960	1160	1360
Weight, kg	kg	72.05	98.21	184.66	252.17	433.21	742.01	919.36

Valves and Fittings, Instruments and Safety Relief Devices



R1.220 Bubbler-cooler with drain tap

R8.221 Thermometer

TOP COOLING LINE

R7.227 Check valve

R6.228 Control valve

R7.229 Filter

R5.230 Check valve

R3.231 Temperature transducer

BOTTOM COOLING LINE

R7.222 Check valve

R6.223 Control valve

R7.224 Filter

R5.225 Check valve

R3.226 Temperature transducer

Delivery package

The scope of delivery (complete package) includes:

- bubbler-cooler (with drain device installed);
- accessory equipment and instruments (as per the check list);

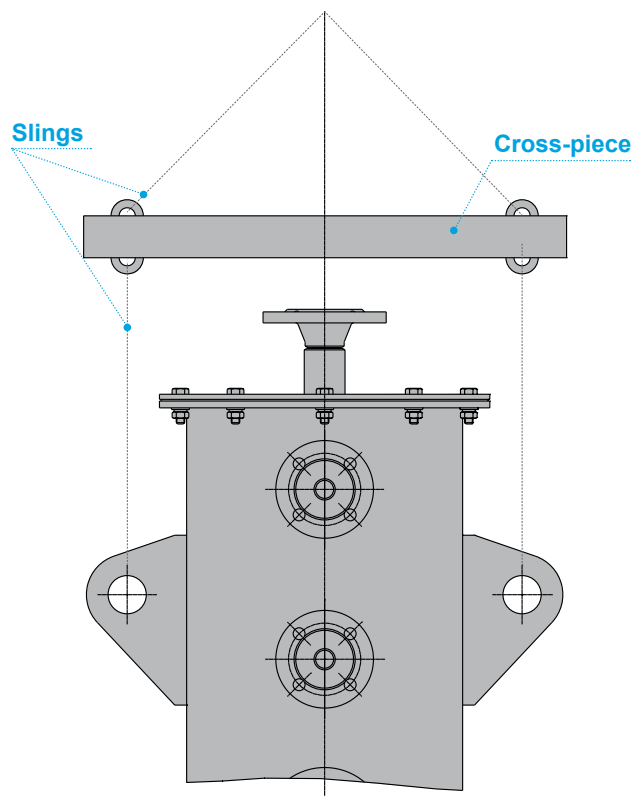
- data sheet;
- operation and installation manual.

Based on Customer requirement the bubbler supply package can vary.

Transportation

The bubbler-cooler is supplied on a pallet packed in a protective film ensuring safekeeping and integrity of the device provided its proper transportation and storage.

All openings shall be protected from moisture and dirt ingress by plugs.



Sliding diagram