

Compact SDR system with equipment

Condensate Recovery and Return System

SDR

Description

SDR condensate recovery and return systems collect the condensate coming directly from steam users or via flash vessels. From the condensate recovery and return system, the condensate is pumped into the feedwater tank by a level-controlled pump, in most cases via a deaerator. The size of the tank depends on the condensate flowrate. The SDR is suitable for installations ranging from small to those with max. condensate flowrates of 10 t/h. Special tanks are available for larger flowrates. The tank can be fitted with a heating or cooling coil, if required. A stainless steel version is available on request.

We tailor the size and thermodynamic characteristics of our condensate recovery and return systems in line with our customers' wishes.

Function

Condensate runs into the tank at a maximum temperature of 90°C. Special versions for condensate at 100°C are available on request. A conductive level electrode measures the level of condensate at the upper switchpoint, and sends the start signal for the condensate pumps mounted on the steel frame. The condensate is pumped out of the tank until it reaches the lower switchpoint of the level electrode. In the standard version, two condensate pumps each with a delivery rate of 100 % are fitted. If a pump fails, the second pump ensures the continued pumping of condensate. The pumps have alternating duty cycles and are monitored jointly. The electrical equipment (motor switch, pump control, master switch) are housed in a separate control cabinet NRSP 1-11, NRSP 1-12. The level of condensate can be visually checked using a sight glass on the tank.

If the system is used as a feedwater tank for low-pressure steam generating units, make-up water can be fed to the tank via a float valve or solenoid valve.

Design

Condensate recovery and return system SDR:

Made of steel S235JRG2 (RSt-37-2),
anti-rust coating outside, untreated inside,
rectangular, upright tank
with inspection hole,
tank stands on a steel frame, no equipment.

Equipment (valves, pumps, sensors and control units)
available for an extra charge.

Condensate recovery and return system SDR:

Made of stainless steel 1.4571, untreated outside and
inside,
rectangular, upright tank
with inspection hole,
tank stands on a steel frame, no equipment.

Equipment (valves, pumps, sensors and control units)
available for an extra charge.

Alternative or special versions available on request.

Technical data

Service pressure

0.1 bar g

Service temperature

100°C

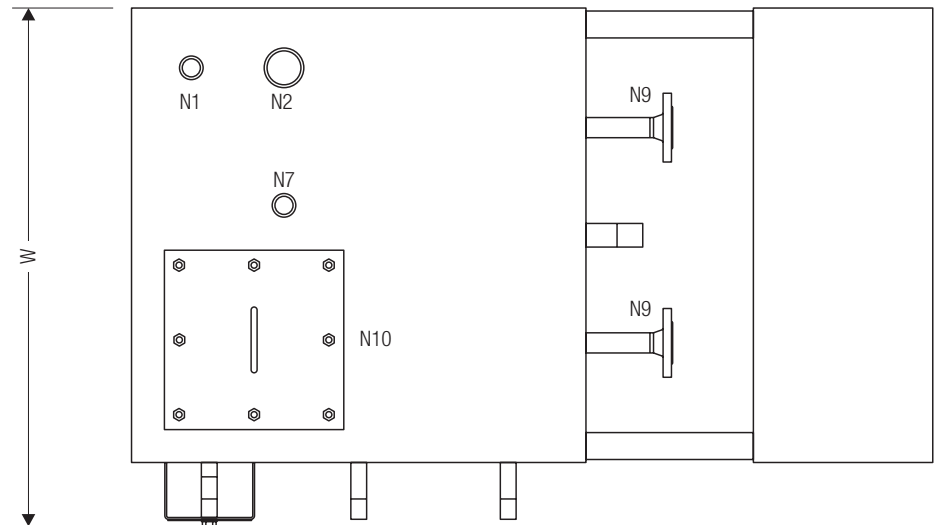
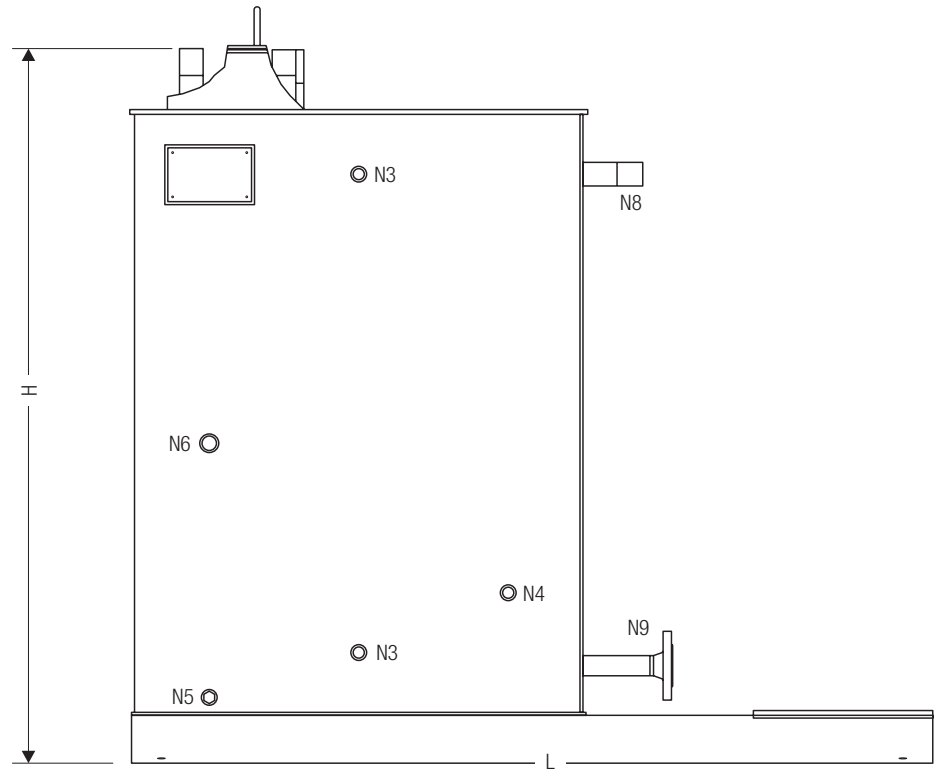
Flowrate

1 t/h to 10 t/h

Larger condensate flowrates on request

Technical data

Condensate recovery and return system SDR



SDR			340	550	750	1000	1500	2000	2500
Contents	[l]		340	550	750	1000	1500	2000	2500
Flowrate	[t/h]		1	2	3	4	6	8	10
L	[mm]		1100	1350	1450	1550	1800	2000	2200
W	[mm]		610	760	900	1000	1250	1450	1600
H	[mm]		1500	1500	1600	1600	1600	1600	1600
Condensate inlet N1	G		1	1¼	1½	2	3	3	3
Air venting N2	G		2	3	4	4	4	4	4
Water level N3	G		½	½	½	½	½	½	½
Thermometer N4	G		½	½	½	½	½	½	½
Drainage N5	G		½	½	½	½	½	½	½
Make-up water N6	G		½	½	½	½	½	½	½
Level electrode N7	G		1	1	1	1	1	1	1
Overflow N8	G		1	1¼	1½	2	3	3	3
Condensate pump N9									
Inspection hole N10									
Weight	[kg]		175	225	255	305	395	510	580

Connections are sized to suit the specified operating data.

Technical data
System equipment

Standard condensate pumps

Version for hot water up to 110°C, cast iron housing, CrNi steel inner parts, mechanical seal.
Speed 2900 rpm, 3x 220-240 / 380-415 V, 50 Hz, protection IP 55, connections in a line, flanges to DIN 2635 PN 25.

Type	CR 1-3 F		CR 1-5 F		CR 1-7 F		CR 1-10 F	
Motor power [kW]	0.37		0.37		0.37		0.55	
Output [m³/h]	1	2	1	2	1	2	1	2
Delivery head [m]	18	14	28	20	40	30	57	42
Connections DN	25		25		25		25	
Stock code	4941501		4941503		4941505		4941508	

Type	CR 3-3 F		CR 3-5 F		CR 3-7 F		CR 3-10 F	
Motor power [kW]	0.37		0.37		0.55		0.75	
Output [m³/h]	3	4	3	4	3	4	3	4
Delivery head [m]	17	11	23	15	31	22	46	32
Connections DN	32		32		32		32	
Stock code	4941601		4941603		4941605		4941608	

Type	CR 10-3 F			CR 10-5 F			CR 10-7 F			CR 10-10 F		
Motor power [kW]	1.1			2.2			3			4		
Output [m³/h]	6	8	10	6	8	10	6	8	10	6	8	10
Delivery head [m]	29	26	23	50	40	40	68	65	57	100	91	81
Connections DN	40			40			40			40		
Stock code	4941722			4941725			4941727			4941728		

Stainless steel condensate pumps

Version for hot water up to 110°C, stainless steel housing, CrNi steel inner parts, mechanical seal.
Speed 2900 rpm, 3x 220-240 / 380-415 V, 50 Hz, protection IP 55, connections in a line, flanges to DIN 2635 PN 25.

Type	CRN 1-3 F		CRN 1-5 F		CRN 1-7 F		CRN 1-9 F	
Motor power [kW]	0.37		0.37		0.37		0.55	
Output [m³/h]	1	2	1	2	1	2	1	2
Delivery head [m]	18	14	28	20	40	30	52	38
Connections DN	25		25		25		25	
Stock code	4951601		4951603		4951605		4951606	

Type	CRN 3-3 F		CRN 3-5 F		CRN 3-7 F		CRN 3-9 F	
Motor power [kW]	0.37		0.37		0.55		0.75	
Output [m³/h]	3	4	3	4	3	4	3	4
Delivery head [m]	17	11	23	15	31	22	42	29
Connections DN	32		32		32		32	
Stock code	4951631		4951633		4951635		4951637	

Type	CRN 10-3 F			CRN 10-5 F			CRN 10-7 F			CRN 10-8 F		
Motor power [kW]	1.1			2.2			3			4		
Output [m³/h]	6	8	10	6	8	10	6	8	10	6	8	10
Delivery head [m]	29	26	23	50	46	40	68	65	57	80	73	65
Connections DN	40			40			40			40		
Stock code	4951822			4951824			4951826			4951827		

Condensate recovery and return system SDR

Planning note

Condensate temperature at inlet fitting $\leq 90^{\circ}\text{C}$. Condensate recovery and return system in stainless steel: The chloride content of the make-up water or return condensate must not exceed 50 mg/L (conductivity 250 $\mu\text{S/cm}$).

Order and specification text

GESTRA Condensate Recovery and Return System SDR
System: Compact system

Condensate flowrate
Condensate temperature
Condensate pump delivery head
Pump
Pump control

Make-up water supply via solenoid valve/
float valve

Tank material	steel/stainless steel
Fitted with all equipment	yes/no
Compact system on base frame	yes/no
Partially fitted
Special version required	yes/no

Please enter values, strike through if not applicable.

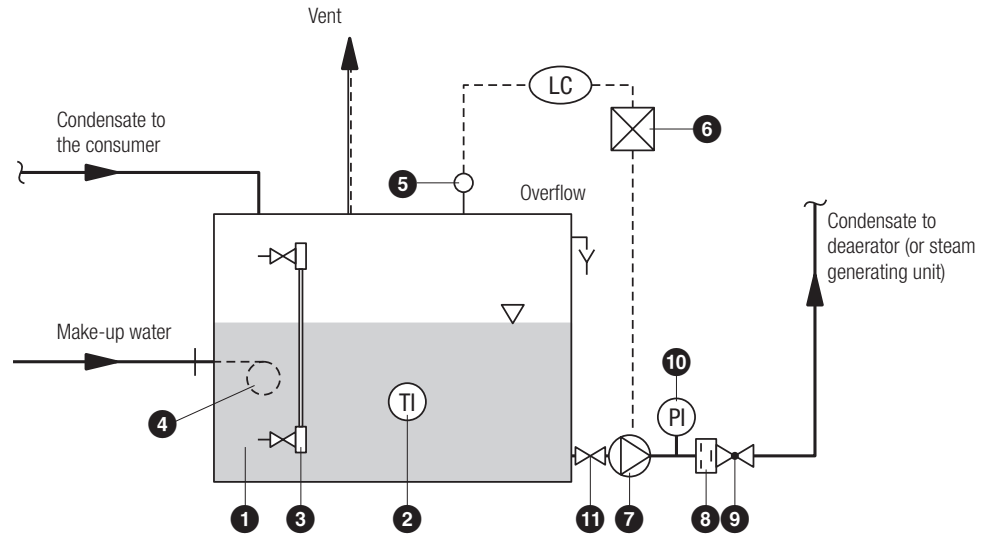
Detailed specification texts can be found in the folder entitled "GESTRA Specification Texts".

PED (Pressure Equipment Directive)

The equipment conforms to the requirements of Pressure Equipment Directive 97/23/EC and the AD 2000 Code of Practice, in compliance with the Declaration of Conformity. For use in fluid groups 1 and 2. CE marking present, with the exception of vessels as per item 3.3. See our PED Declaration of Conformity for further information.

Please note our terms of sale and delivery.

Circuit diagram



Key

- 1 Condensate recovery and return system SDR
- 2 Bimetal dial thermometer
- 3 Water level indicator
- 4 Solenoid valve/float valve
- 5 Level electrode NRG..., NRG...
- 6 Pump control NRSP 1-...
- 7 Condensate pump
- 8 DISCO non-return valve RK...
- 9 Shut-off valve GAV...
- 10 Pressure gauge assembly
- 11 Shut-off valve GAV...

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