

GESTRA Steam Systems

Product Range C4

Steam-Powered Condensate-Return Unit KH

KH

Description

The condensate flows into the upright cylindrical tank, displacing the air through a solenoid valve.

The tank is equipped with the compact level system type NRG5 11-1 / NRG5 16-1. As soon as the water level reaches the upper electrode tip the solenoid valve in the vent line is closed and simultaneously the solenoid valve in the booster-steam line (introduced from above into the tank) is opened. The flowing steam pushes the condensate via the condensate main into the condensate tank. The condensate level sinks and when the lower electrode tip emerges, the solenoid valve in the booster-steam line is closed and the solenoid valve in the vent line opened. The cycle repeats itself.

Before entering the condensate-return unit the condensate is collected in a condensate header to be provided on site. This condensate header should be equipped with a vent.

Condensate inlet and outlet are provided with GESTRA DISCO non-return valves type RK. The condensate-return unit is equipped with a pressure-gauge and the booster-steam line with a stop valve with characterized valve cone which permits the adjustment of the booster-steam pressure in accordance with the length of the condensate discharge line and the prevailing back pressure.

As the condensate-return unit operates without a float it is unaffected by waterhammer.

Continuous drainage of the booster-steam line upstream of the solenoid valve is ensured by a GESTRA steam trap.

The steam traps, non-return valves and compact systems are described in separate data sheets.

Pressure / Temperature Rating

Max. service pressure	13 barg (185 psig)
Max. temperature	200 °C
Discharge head	Booster-steam pressure in bar x 0.7
Mains supply	230 V, 50 Hz
Protection*)	IP 65

*) Explosion-proof design on request.

Materials

Steel DIN reference: St 37-2
(ASTM equivalent: A 283 Grade C),
steel DIN reference: H II
(ASTM equivalent: A 414 Grade C).
Austenitic stainless steel on request.

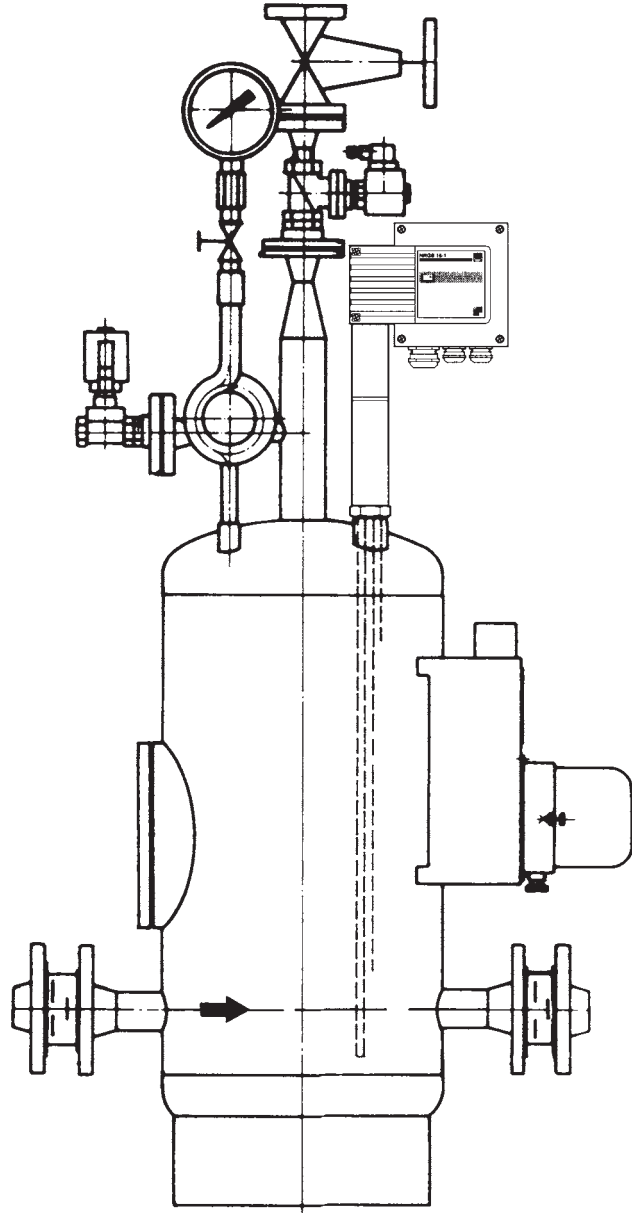
Capacity Range

Standard design for hot condensate flowrates up to 10 t/h.

For higher flowrates we recommend GESTRA condensate recovery and return systems.

Supply

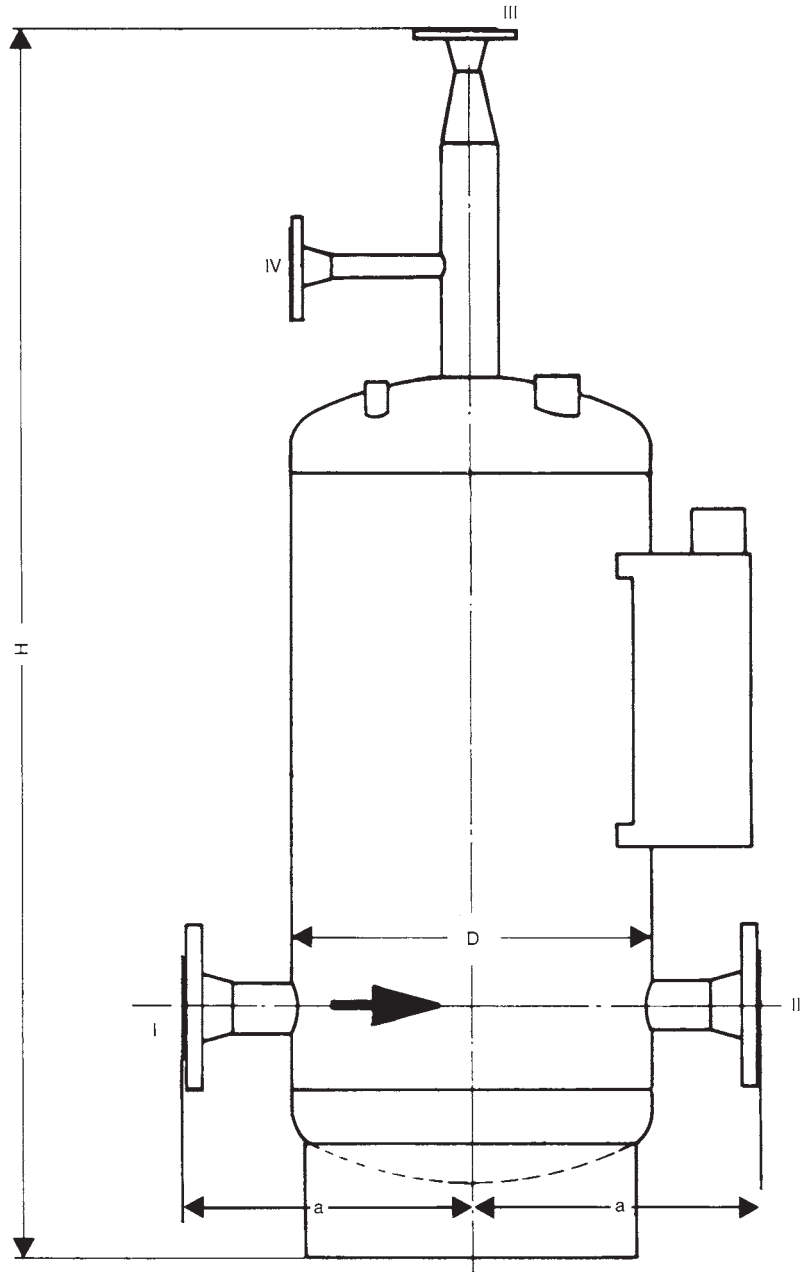
Vessel with equipment completely mounted and interconnected, inclusive of counterflanges, bolts and gaskets.



Design

Vessel of steel plate in welded construction. Inside untreated, outside provided with an antirust paint. The equipment is supplied with all necessary connections on a round support.

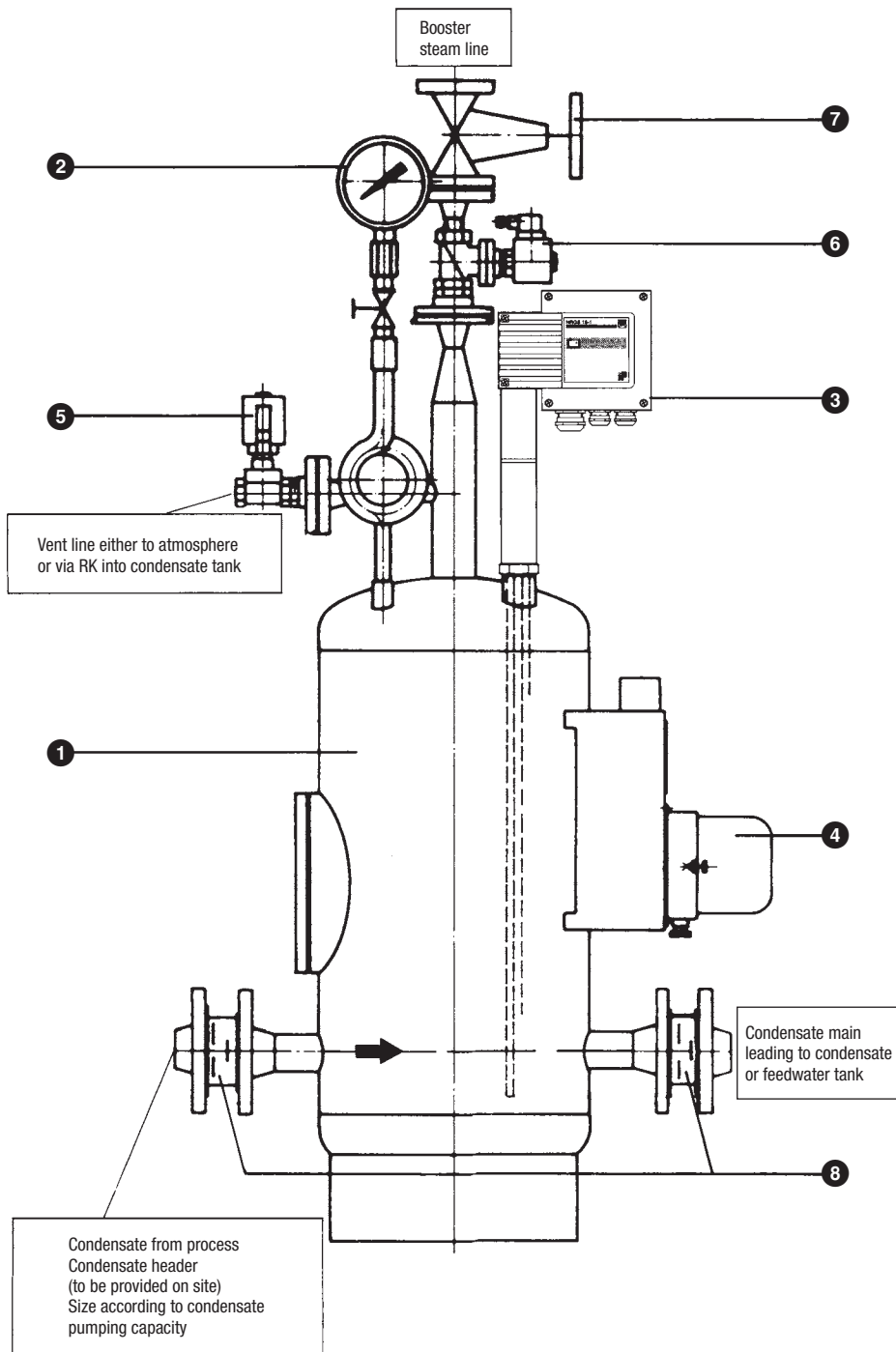
Steam-Powered Condensate-Return Unit KH



Type		KH 4-2	KH 13-2*)	KH 4-3	KH 13-3*)	KH 4-5	KH 13-5*)	KH 4-10	KH 13-10*)
Capacity	t/h	2	2	3	3	5	5	10	10
Volume	l	50	50	75	75	100	100	390	390
Dimensions [mm]	D	324	324	324	324	400	400	600	600
	H	1100	1100	1400	1400	1190	1190	2240	2240
	H ₁ **)	1540	1540	1750	1750	1570	1570	2580	2580
	a	260	260	260	260	300	300	450	450
Connections									
I Condensate inlet	DN	40	40	40	40	50	50	80	80
II Condensate outlet	DN	40	40	40	40	50	50	80	80
III Booster-steam inlet	[mm]	15	15	20	20	20	20	25	25
IV Vent		15	15	20	20	20	20	25	25
Material		St 37-2	H II	St 37-2	H II	St 37-2	H II	St 37-2	H II
Max. service pressure	barg	4	13	2	13	2	13	1	13
	psig	58	185	29	185	29	185	14.5	185
Max. temperature	[°C]	151	200	150	200	150	200	120	200
Approx. weight	[kg]	250	250	265	265	300	300	450	450

*) TÜV inspection required in Germany

***) H₁ Total height inclusive of valves



Key

- 1 Condensate tank
- 2 Pressure gauge
- 3 Multiple level control electrode
- 4 Terminal box KH-NRGS
- 5 Solenoid valve in vent line
- 6 Solenoid valve in booster-steam line
- 7 Stop valve
- 8 DISCO non-return valves RK 66

Steam-Powered Condensate-Return Unit KH

Equipment for Steam-Powered Condensate-Return Unit KH

Pressure gauge assembly ½" BSP consisting of
pressure gauge ½" BSP,
(case diameter 100 mm, indicating range 0 – 16 bar),
pressure-gauge isolating valve ½" BSP,
syphon ½" BSP, T-type
Compact system NRG5 11-1/16-1, connection ½" BSP

GESTRA Terminal box KH NRG5

Solenoid valve for booster-steam line and solenoid valve
for vent line, positions "OPEN" / "CLOSED".

Solenoid valve type 85020,
screwed connections ½" BSP,
body material: brass,
normally closed, 0 – 16 bar, max. 200 °C, 230 V, 50 Hz,
sealing material: Teflon

Isolating valve type GAV 803F.
PN 16, material: cast iron, maintenance-free,
with regulating cone.

GESTRA DISCO non-return valve type RK 66,
wafer-type valve, body material: steel,
valve disc material: stainless steel.

When ordering please state:

Steam pressure, back pressure, quantity of condensate,
connections.

All inspection requirements have to be stated with the
order. After supply of the equipment certification cannot
be established. For tests and inspection charges please
consult us.

Prices on request.

Supply in accordance with our general terms
of business.

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