



GESTRA®
Condensate Dampening Pot ED

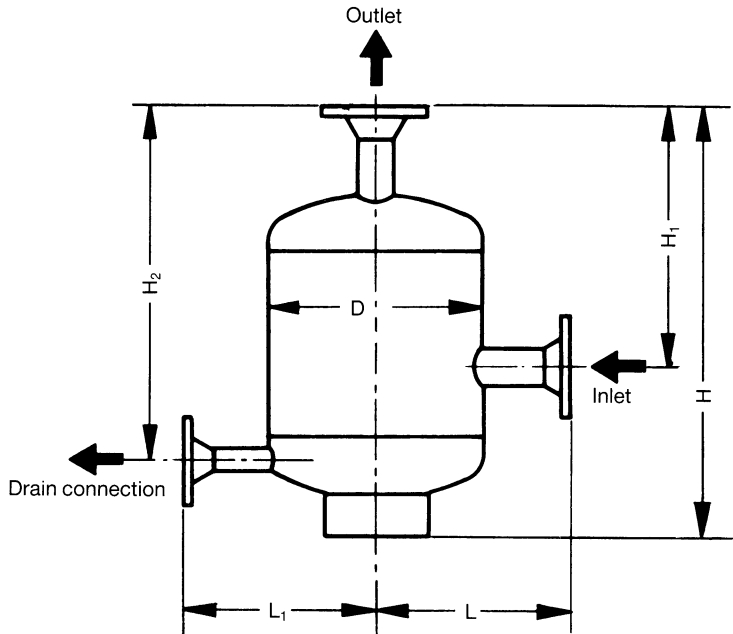


Issue Date: 1/98

PN 25
DN 15-100 mm
(1/2" - 4")

C4

ED



Description

The condensate dampening pot provides a cushioning effect to neutralize waterhammer. The condensate is discharged without noise.

Pressure/Temperature Rating

Service pressure	18 barg
Related temperature	260 psig
	250 °C

Design

Vessel with inlet, outlet and drain connection. Drain connection turned through 180° in relation to inlet.

Connections

Flanged to DIN PN 25/40.

Materials

Welded steel plate

Volume	Litre	4			9			25*)		50*)		
Sizes inlet and outlet	mm	15	20	25	32	40	50	65	80	65	80	100
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	2 1/2	3	4
Dimensions in mm	H	384	384	384	450	450	450	630	630	690	690	690
	H ₁	240	240	240	275	275	275	430	430	430	430	430
	H ₂	325	325	325	370	370	370	540	540	575	575	575
	L	180	180	180	210	210	210	240	240	350	350	350
	L ₁	180	180	180	210	210	210	240	240	350	350	350
	D	168	168	168	219	219	219	273	273	400	400	400
Sizes drain connection	mm	15	15	15	20	20	20	20	20	20	20	20
	in	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Approx. weight	kg	10	10	10	21	21	21	50	50	70	70	70

*) TÜV acceptance required (Germany).

Description

In steam and condensate systems it is quite often inevitable that heat exchangers are installed at a lower level than the condensate main so that the condensate has to be lifted. This is always the case if the condensate main is fitted in an elevated position or if the condensate line has to bridge a door or a street. In these cases the differential pressure* (pressure upstream minus pressure downstream of steam trap) is reduced by approx. 1 bar for 7 m (or 2 psi for 3 feet) in lift. Figure 1 gives a typical example. The pressure drop across the heat exchanger is not considered.

Without the condensate dampening pot waterhammer would occur in rising condensate lines. Waterhammer is caused if steam bubbles formed by steam carried over or by flashing of a proportion of the condensate into steam come into contact with condensate at a much lower temperature. The steam bubble implodes and considerably reduces its volume in passing into the liquid state. A sudden vacuum is formed and filled rapidly by inflowing condensate. The impact of the water plugs causes shocks and waterhammer.

The remedy is to fit a condensate dampening pot flash-steam cushion formed in the pot. The condensate dampening pot is always installed at the lowest point of the pipeline. The inlet and outlet connections are arranged so that, in the upper part of the pot, during start-up of the plant, a dampening cushion is formed by the air and steam bubbles carried over; while in the lower part of the pot, condensate will stay and act as sealing liquid. All condensate flowing in is pushed into the elevated condensate main, i.e. the differential pressure must be high enough to surmount the pressure head and the pipeline resistance.

The condensate dampening pot ensures noiseless condensate discharge even in elevated pipelines. Pipelines and valves are not subjected to additional stress by waterhammer. Simultaneously, the condensate dampening pot ensures more steady conditions downstream of the steam trap resulting in improved condensate discharge from the heat exchanger.

* For further details concerning the capacity of the steam traps as a function of the differential pressure see corresponding data sheets.

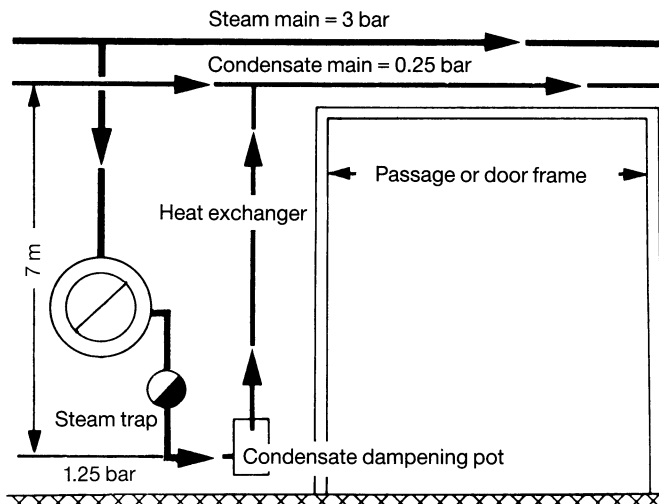


Fig. 1

Pressure in steam line upstream of steam trap	3 bar
less pressure downstream of steam trap, consisting of	
pressure in condensate main	= 0.25 bar
plus 7 m of lift corresponding to	1 bar
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= differential pressure (working pressure)	1.75 bar

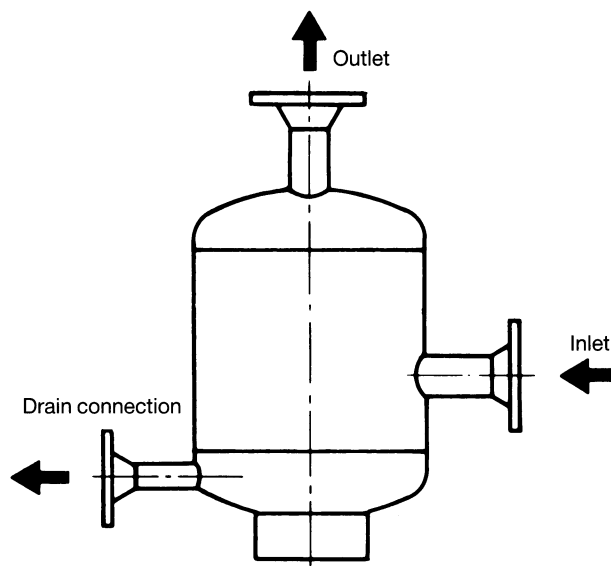


Fig. 2: GESTRA condensate dampening pot type ED

Supply in accordance with our general terms of business.

Technical modifications reserved.