

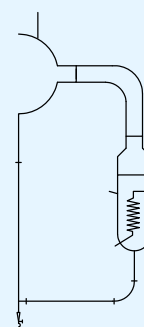
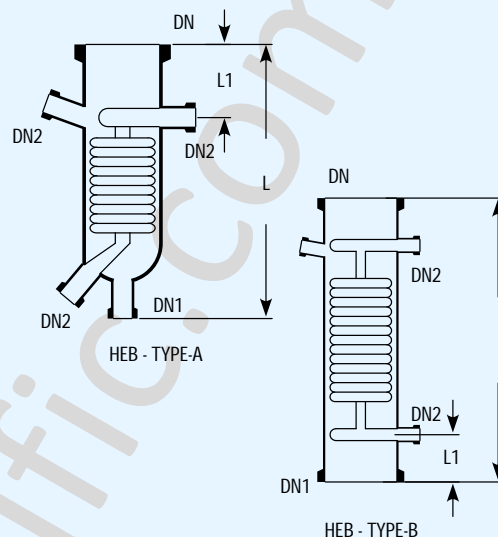
## BOILERS

Boilers are used for vaporization of liquids by passing the steam in the coils. Boilers are made by fusing number of parallel coils in a glass shell. In Boilers, coils are designed to provide bigger cross section in the shell side as compared to condensers. The average heat transfer in Boilers is considered as 350 Kcal/m<sup>2</sup>,hr,°C at a steam pressure of 3.5 bar.

Cat. Ref.	DN	DN1	DN2	L	L1	Type	Actual H.T.A. m <sup>2</sup>	Free Cross Area Cm <sup>2</sup>	Jacket Cap. Litre
HEB4	100	25	25	375	100	A	0.15	40	2
HEB4/4	100	100	25	400	100	B	0.15	40	3
HEB6	150	40	25	450	100	A	0.35	50	5
HEB6/6	150	150	25	500	100	B	0.35	50	7
HEB9	225	40	25	700	100	A	1.00	150	16
HEB9/9	225	225	25	700	100	B	1.00	180	20
HEB12/12	300	300	25	700	125	B	1.30	330	40

### Notes on use of Boilers :

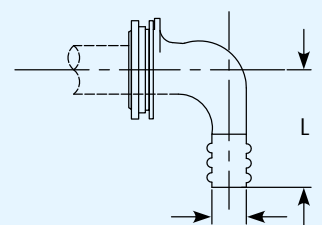
- Steam should be passed in the coils at a maximum pressure of 3.5 bar which is equalant to a temperature of 147°C.
- For higher temperature (maximum upto 200°C) heat transfer fluids can be passed in the coils. - Cold liquids
- Cold liquids should be preheated for better results.
- Boilers should be mounted in an external circulatory loop (as shown in figure) and not direct at the bottom of flask or column
- Under certain circumstances, boilers can be mounted in series to provide larger heat transfer area.



## ANGLED HOSE CONNECTOR ASSEMBLIES

Metal / Plastic angled hose connector assemblies are available to connect the flexible hose to the condensers. These are provide with a mating flange, a rubber gasket and nut bolts.

Cat.Ref.	DN	d	L
PMC1	25	22	70



## IMMERSIONS

Immersion heat exchangers are used to control exothermic reaction in glass vessels. They can be used with vessels having wider bottom outlet (type VSR and VSE). These are provided with a central hole through the coil battery so that a special, extended type, stirrer can be fitted which extends to the bottom of heat exchanger and provide through action.

In most applications, cooling water is used in coils (max. pressure 2.7 bar g.), but they can also be used with steam (max. pressure 3.5 bar g.). In latter case the coils must be completely immersed in liquid. Immersions are not recommended for use with products which have a tendency to crystallise.

Cat. Ref.	DN	DN1	DN2	L	L1	L2	d	Actual H.T.A. m <sup>2</sup>
HEM6	150	40	25	200	200	75	145	0.4
HEM9	225	40	25	300	200	75	200	0.6

