

Condensers are used for condensation of vapours and cooling of liquids. Condensers are made by fusing number of parallel coils in a glass shell. Coils are made in different diameters using tubes of different bores.

The average co-efficient of heat transfer in coil condenser is considered as-

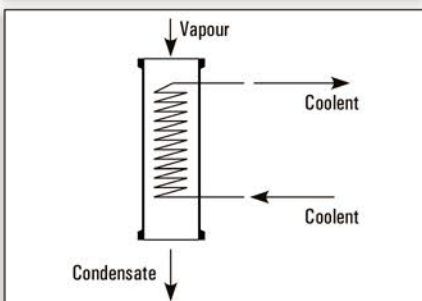
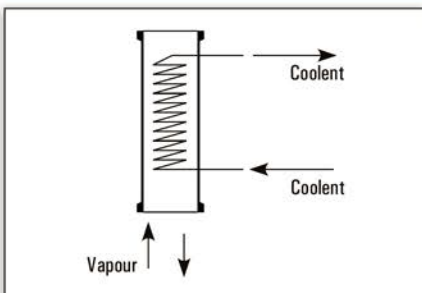
Condensation 200 - 270 Kcal/m²,hr,°C appx.
Cooling 100 - 150 Kcal/m²,hr,°C appx.

Cat. Ref.	DN	d/ DN1	L	L1	Type	Actual H.T.A. m ²	Cross Area Cm ²	Free Coolant Rate Kg/hr.	Max. Jacket Cap. Litre
HE3/3.5*	80	16	600	75	A	0.35	5	1300	2
HE4/5*	100	19	600	75	A	0.50	30	2400	4
HE4/6*	100	19	750	100	A	0.60	30	2400	6
HE6/10	150	25	600	100	B	1.00	52	2600	9
HE6/15*	150	25	850	100	B	1.50	52	2600	11
HE9/25*	225	25	800	110	B	2.50	125	3300	18
HE12/25	300	25	600	125	B	2.50	175	5700	25
HE12/40*	300	25	900	125	B	4.00	175	5700	35
HE16/40	400	25	600	125	B	4.00	450	6200	60
HE16/50	400	25	700	125	B	5.00	450	6200	70
HE18/60	450	40	750	150	C	6.00	820	4800	100
HE18/80	450	40	900	150	C	8.00	820	6200	110
HE24/120	600	50	1250	300	C	12.00	1520	6200	265

Precautions to be taken in use of condensers

- Vapours should be passed through shell only.
- Maximum pressure of coolant should be 2.7 bars.
- Adequate flow of coolant should be used.
- Steam should not be used in coils.
- Coolant should not be heated to boiling point.
- Coolant control valve should be turned slowly.
- Coolant should be allowed to drain freely.
- Brine can be used in coils in a closed circuit.
- Water main should be connected with flexible hose.
- Ensure no freezing of water remaining in the coils.
- Condensers should be mounted vertically only.
- Condensers can be mounted in series to provide larger surface area.

METHODS OF USE



Vapours from bottom

This method is simple to install over a reactor. However this results in condensate returning substantially at its condensing temperature. In this method care must be taken that condensate is not excessive that it can lead to "logging" the coils and create back pressure in the system. Generally a reflux divider is used below the condenser to take out the distillate.

Vapours from top

This method produce a cool condensate using the entire cooling surface area. This method should be used where the condensate can lead to "logging" of coils.

* marked items are available fast.