

VACUUM TRAY DRYER

WORKING:

A Vacuum Tray Dryer works under vacuum conditions on the conduction principle. Inside the dryer are several shelves having trays on which the products are placed. The top most shelf is a dummy shelf placed there to ensure proper heating and to prevent the dried power from escaping into the solvent extraction system.

The shelves are constructed hollow with baffles cum stiffeners placed in between shelves. Every shelf has an inlet and outlet nozzle and is connected to an inlet and outlet header through these nozzles. A hot medium reaches the shelf through the inlet header and flows through the shelves in a uniformly zig-zag pattern ensuring faster heat transfer to the surface. This in turn heats up the trays on the shelves. The hot medium flows out from the shelf through the outlet header.

The inlet and outlet headers are designed in such a way that the flow of the heating medium equally distributed into each of the shelves. The dryer chamber is constructed from heavy-duty plates to prevent the plates from bucking during the vacuum operation. Additional limpet coils are provided in order to further stiffen the body and to pass on the hot medium. The chamber is provided with a heavy door and adequate locking arrangement.

The vapour to be cooled is passed through the tube side of the Heat Exchanger, while cooling water is passed through the shell side. A cooling coil in the condensate receiver cools any vapours entering the receiver before it goes into the vacuum pump. The condensate receiver is connected to a vacuum trap to make sure that any uncooled vapour from the receiver get trapped thus minimizing the vapour content entering the vacuum pump.

APPLICATIONS:

- PHARMACEUTICALS • FOOD PROCESSING • CHEMICAL PROCESSING • CERAMICS

Model No.	Capacity	Tray Size	No. of Shelves	Tray/ Shelves	Chamber Thickness	Condenser (Sq.m)	Receiver (Ltrs)
VTD-6	6	800mm x 400mm x 40mm in SS 304/SS316	6+1/3+1	1/2	6	0.5	25
VTD-12	12		6+1	2	6	1	50
VTD-24	24		8+1	3	6	2	50
VTD-48	48		16+1	3	6	4	100
VTD-60	60		15+1	4	6	4	100
VTD-96	96		16+1	6	8	6	150