

## *Tray Dryer TD-12/24/48/96/192*



The tray dryer is the device used for the drying of the wet products of the crude drugs, chemicals, powders or the granules etc.

The simplest form of the dryer in this category is a cabinet with a heater at the bottom that is laboratory oven.

These ovens are of very little value because there is no control of the heat transfer or humidity.

If a fan is fitted to the oven the forced hot air is circulated which helps in increasing the heat transfer and also in reducing the local vapour concentrations. Despite this there is no adequate control.

The best type of a tray dryer or tray drying machine is that of the directed circulation form, in which the air is heated and is directed across the material in a controlled flow.

The material to be dried is spread on the tiers of the trays. The trays used have solid, perforated or wire mesh bottoms.

The screen trays are lined with paper so that the air circulates across rather than through the drying materials.

The paper is used as a disposable tray liner to reduce cleaning time and also to prevent contamination of the product.

In a modern tray dryer a uniform temperature and air is maintained by the use of a well insulated cabinet with strategically placed fans and heating coils.

There is an alternate arrangement of the shelves so that air can flow uniformly without any obstructions. Heater is fixed in such a way that the air is reheated before passing over each shelf.

When the air passes over each shelf a certain amount of heat is given up to provide latent heat of vaporization. In such type of dryers there can be a good control of heat and humidity provided it is designed correctly.

### Specification:

MODELS	TD-12	TD-24	TD-48	TD-96	TD-192
Loading capacity	12 Trays	24 Trays	48 Trays	96 Trays	192 trays
External Dimension in mm ( W x D x H )	1370x530x940	1370x940x940	1980x1020x1880	3320x1900x1880	3320x1900x1880
Internal Dimension in mm	840x430x840	840x860x840	1020x930x1830	1960x930x1830	1960x930x1830
No of Doors	One	One	One	Two	Two
No of Blowers	One	Two	One	Two	Four
No of motors/H.P.3 PHASE 415 VOLTS.	1/0.5 H.P.3 phase 415 volts.	1/0.5 H.P.3 phase 415 volts	1/1 H.P.3 phase 415 volts	2/1 H.P.3 phase 415 volts	Four/1 H.P. each 3 phase 415 volts
Electrical Heating Load for 100°C / 200°C / 300°C	3kw/6kw/9kw	6kw/9kw/12kw	9kw/15kw/18kw	15kw/21kw/27kw	36kw/42kw/48kw
Steam Heater No. of coils.	2	2	2	2	2
Steam Pressure	3.3 kg/cm <sup>2</sup>	3.3 kg/cm <sup>2</sup>	3.3 kg/cm <sup>2</sup>	3.3 kg/cm <sup>2</sup>	3.3 kg/cm <sup>2</sup>
Steam consumption	25 LBS/hr	45 LBS/hr	60 LBS/hr	80 LBS/hr	120 LBS/hr
Insulation in mm 100°C / 200°C / 300°C	50/75/75	50/75/75	50/75/75	50/75/75	50/75/75
No of Trolleys	Rack System	Rack System	One	Two	Four
Tray Size	812x406x31	812x406x31	812x406x31	812x406x31	812x406x31
Trolley Dimension	Fixed Racks	Fixed Racks	840x960x1780	840x960x1780	840x960x1780