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## Tray Dryer:

We design, fabricate and offer an extensive array of processing machines that is made using high quality raw materials and precision made parts. Widely applicable in the food industry, these processing machines are known for their efficiency and cost effective rates. These machines are available have sturdy and compact design.

ABF Enterprise manufacturers of a wide range of Tray Dryers, cabinet ovens, drying ovens, Industrial Dryers that are widely acknowledged in the market because of their reliability and efficiency. These drying ovens are engineered with the use of components of high standards that are acquired from certified vendors of the market. Our clients can also avail customized solutions to perfectly suit their requirements.



Tray Dryer/ Drying Oven

**Item Code:** ABF-12 to ABF-192

We manufacture a wide range of Tray Dryer/ Drying Oven that is widely used for heating, ageing, drying and many more purpose. Our range of these ovens is designed for parallel placement of the material that results in increase in production and saves batch timing by convenient loading and unloading. This types of Tray Dryer is available with external temperature control panel, and high temperature can also be fabricated. Owing to the superior quality of our products, our range of these products is widely demanded in the market. Moreover, these ovens are available in various sizes and models to choose from.

### Feature at glance of tray dryer

- Designed for uniform circulation of hot air in the drying chamber.
- Available in wide ranging models from 12 to 192 trays capacity.
- Electrical or Steam or Thermic fluid heating system available.



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- Temperature controlled by thermostat provided with the unit.
- Fresh air inlet with filter and outlet also with damper control valve.
- Electrical control panel mounted on the upper body.
- Trays are fabricated from aluminum (stainless steel Trays optional).
- Inside surface is painted with heat resistant aluminium paint and outside with hammer tone.

#### Operating principal of tray dryer ( drying oven )

The dryers are made of trays held in a cabinet which is connected to a source of air heated by electric. The air temperature is controlled by a thermostat which is normally set between 50 and 700<sup>o</sup> C. The air enters the bottom of the chamber below the trays and then rises, through the trays of food being dried, and exits from an opening in the top of the chamber. In the Practical Action systems the trays are designed to force the air to follow a longer zigzag route which increases the air/food contact time and thus improve its efficiency. This system also reduces back pressure which means that fans are used.

#### Available Models of tray dryer ( drying oven )

Model / Capacity		ABF-12	ABF-24	ABF-48	ABF-96	ABF-192
Tray Size : 32" x 16" x 1 1/4" - 18 G		Tray	Tray	Tray	Tray	Tray
Rack (Tray Loading)		Fixed Angles	Fixed Angles	One Trolley	Two Trolley	Four Trolley
Dryer Dimension :. L mm/inch		1600/64"	1600/64"	2500/100"	4200/168"	4200/168"
Exterior : W mm/inch		600/24"	1000/40"	1150/46"	1150/46"	2100/84"
(Approx.) H mm/inch.		1250/50"	1250/50"	2125/85"	2125/85"	2125/85"
Number of Doors		Two	Two	One	Two	Two
Number of Fans		One	Two	One	Two	Four
Number of Motors & H.P. (400/440 volts 3 phase A.C.)		1 x 0.5 HP	1 x 0.75 HP	1 x 1.0 HP	2 x 1.0 HP	2 x 2.0 HP
Electrical Rating	150 <sup>o</sup> C	3 KW	6 KW	12 KW	24 KW	48 KW
Of Heaters :	200 <sup>o</sup> C	3 KW	9 KW	15 KW	30 KW	60 KW
	300 <sup>o</sup> C	12 KW	18 KW	24 KW	48 KW	96 KW
Average Steam Consumption : (3 to 7 kg/cm2) kg/hr.		10-20	15-30	25-40	30-50	40-75

#### Application of Tray dryer Drying oven

Tray Dryers are ideally suitable for drying chilies, spices, potato chips, onions, fish, garlic, grapes, cashew nuts, confectionery, macaroni, vermicelli, noodles, pizza, etc. It is also for used for drying pharmaceuticals, chemicals, powders, granules, plastic granules, powder coating etc. Heating is either by electric or steam or both combined. Various models are designed & manufacture to suit customer



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requirements. Custom-built models can be quoted on request.

#### Construction Of tray dryer

**Construction :** The external frame work is made of thick gauge M. S plates both the exterior made of thick gauge CRCA sheets or AISI 304 sheets. In between the space, resin bonded special quality fiber glass heat insulation slabs are provided. Safety guards for fan blade & heaters are provided. The interiors are painted with heat resistant aluminum paint. The exterior is spray painted with automotive, Inner Chamber - CRCA or AISI 304, Outer Chamber - CRCA or AISI 304.

**Fan & Motor :** According to models doors are provided with smooth moving hinges, latch catch & sealing gaskets. Well balanced large propeller type fan (S) fitted inside the chamber with suitable shaft & dual bearing with Electric motor (S) drive.

**Heaters :** 'U' type tubular heaters are provided inside the chamber for maximum heat transfer. Steam heated models are fitted with finned type steam radiators.

**Controls Panel :** Control Panel box consists of contractor assembly, On & Off switch, Digital Controller neon lamps, operating push buttons are incorporated in the control Box.

**Damper :** Adjustable exhaust Damper with an arrangement for pre-filtration, in the air inlet.

**Optional :** GMP models / complete S.S unit. Trolleys & Trays supplied as per requirement. Microprocessor based temp. Control with printer interface (Centronic PC interface with RS 232 CPC / RS-485 for networking of controllers. Profile controller for Ramp / Soak cyclic applications.

**Safety Features :** Built-in temp. deviation audio visual alarm. Safety thermostat for over shoot temp. cut off circuit to cut off the whole systems in case of malfunction. (only applicable to Microprocessor based models).

**Steam Heated Models :** These are provided with finned tubular steam coils instead of /in addition to heaters, along with solenoid valve.