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**PDA VACUUM DEAERATOR**

# PDA VACUUM DEAERATOR



Processing of liquid products often incorporates air and unwanted gases into the product. These gases normally cause problems such as oxidation, discoloration, inconsistency, bad smell and filling difficulties. The PerMix PDA series Vacuum Deaerator, or Degaser, is a totally compact sanitary device designed for the continuous automatic removal of air or other occluded gases from any type of liquid or paste, by means of vacuum.

PerMix PDA Vacuum Deaerators can handle numerous processes including (but not limited to) the manufacturing of food products, cosmetics and chemicals, which requires to avoid air oxidation to ensure a correct preservation or application. End products can be sauces, fruit pulp, cosmetic creams, syrups, PVC dispersions, lubricants, car polish, shower gels, paraffin and penicillin emulsions, ice creams, adhesives, etc.

## HOW IT WORKS

The PerMix PDA series Vacuum Deaerating Machine starts to work by creating a very high vacuum in the chamber up to  $-0.95\text{barG}$ , and then the loading of product follows. In most cases, product can be sucked easily into the chamber by the vacuum; for product of high viscosity, an extra pump is necessary to aid the loading.

The deaeration begins with the formation of a fine layer of product, which is distributed firstly on a high speed centrifugal disc with dismountable sieves surrounding it. Depending on the product character and/or processing requirements, the sieve number can be from 0 to 3, with the sieve hole size also to be decided, typically from 1-3mm.

The creation of fine layer under vacuum makes the air bubbles in the product burst and the product is then deaerated. Besides, during its passing through the sieve holes, the product particle is subject to shearing, folding, particle size reduction, etc, which results in even better separation of air from product particles.

Away from the centrifugal disc, the product is then sprinkled in radial direction toward the chamber wall. It then stops there, flows by gravity, and forms another thin layer all over the wall below the centrifugal disc, continuing to be deaerated by the vacuum, and finally arrives at the discharge port, and discharged by means of a positive displacement pump (screw pump, diaphragm pump or the other type).



## FEATURES & OPTIONS

PerMix PDA series Deaerators have a lot of features & options available including:

- Fully automated for "stand alone" operation with PLC control cabinet
- Explosion-proof construction for flammable product
- Pneumatic or electrical lifting or lowering of the top cover
- Speed of distributor plate infinitely adjustable
- Special level control for sensitive products
- Various vacuum systems available
- Higher pressure discharge pump
- Sanitary designs
- Jacket for heating or cooling
- Special materials of construction by Duplex SS, Titanium, Hastelloy, etc
- Portable design/on casters



## APPLICATIONS

PerMix PDA series Vacuum Deaerators can be used extensively in many applications including but not limited to:

### Foods

Baby Food, Chocolate Fillings, Chocolate Frostings, Creams, Dessert Toppings, Fruit Concentrates, Ketchup, Mayonnaise, Mustard Paste, Salad Dressings, Sauces

### Chemicals

Adhesives, Glues, Ink Dispersions, Detergents, Plastics, Slurries, Oils, Paint Dispersions, Varnishes

### Pharma & Cosmetics

Creams, Emulsions, Gels, Lotions, Ointments, Shampoo, Toothpaste



## SPECIFICATIONS

Model	Working Volume (Liter)	Flowrate (Liter/hr)			Total power (kW) (*)	L (mm)	W (mm)	H (mm)	H1, with open lid (mm)	Weight (kg)
		Light liquid (<300cPs)	Viscous product (<5,000cPs)	Highly viscous product (≥5,000cPs)						
		PDA-25	25	1,500						
PDA-65	65	4,000	2,500	800	4.45	1,855	715	1,780	2,200	690
PDA-125	125	8,000	5,000	1,600	7.8	2,165	850	2,170	2,500	920
PDA-300	300	15,000	9,000	3,000	14.1	2,455	1,080	2,590	3,000	1,300
PDA-550	550	20,000	12,500	4,000	24	2,845	1,225	2,865	3,300	1,550
PDA-1200	1,200	30,000	18,000	6,000	32.5	3,455	1,850	3,675	4,180	2,180

- (\*) including all motors, e.g. distribution disc, vacuum pump, and discharge pump
- All specifications and illustrations are as accurate as is reasonably possible, but they are not binding.
- PerMix reserves the right to modify the design without notice.

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