



DEAERATORS

**VAPOR POWER**

***DEAERATORS***  
SPRAY AND TRAY SOLUTIONS

**VAPOR POWER** INTERNATIONAL

## WHY USE A DEAERATOR?

A pressurized deaerator will reduce the oxygen level to .005 cc/liter or less and carbon dioxide to zero. A deaerator consists of a pressure vessel in which water and steam are mixed with controlled velocities and the rapid removal of gases results when the liquid is sprayed in thin films and intensely scrubbed by the incoming steam. This raises the water temperature, thereby liberating the dissolved, non-condensable gases; and the water is then considered free from corrosive gases.

Their removal by the deaerator protects the boiler, feed pumps, and the entire feedwater system from the damaging effects of corrosion. A further benefit is simultaneous preheating of the boiler feedwater which reduces the thermal shock on downstream piping and the boiler. Deaerators can provide an added performance as well as help maximize the capital investment of the boiler system resulting in a higher return on investment (ROI) for the owner.

## TYPES OF DEAERATORS:

### SPRAY

The Vapor Power Spray Deaerator product line features a dual chambered solution (preheating and deaeration). Once deaerated, the feedwater is pumped into the bottom of the vessel to the steam boiler system.

### TRAY

The Vapor Power Tray Deaerator product line also known as a cascade type; features a vertical section that is domed, and is usually mounted on top of a horizontal water storage tank.

## WHICH DEAERATOR IS BEST FOR YOUR PROJECT?

It's always best to consult with a Vapor Power Sales Engineer. Below are some general differentiators between the two types of systems

### VAPOR POWER SPRAY DEAERATORS

- Capacities from 5,000 PPH to 300,000 PPH.
- 10 minutes of storage capacity minimum
- Turndown 33-1
- 100%/0% & 30% Makeup 70% condensate
- Usually less height required for installation
- Broader Range of pricing/options

### VAPOR POWER TRAY DEAERATORS

- Capacities from 5,000 PPH to 500,000 PPH
- 10 minutes of storage capacity minimum
- Turndown 20-1
- 100% Makeup/0% Condensate
- Higher percentage of condensate return
- Higher capacities available compared to spray

Vapor Deaerators Technology	SPRAY	TRAY
Dissolved oxygen removal to 0.005cc/liter (7 ppb) and 0 carbon dioxide	YES	YES
30% Makeup 70% condensate	YES	
100% Make Up 0% condensate	YES	YES
High Turndown	YES	YES
Load Swings	YES	YES
High Pressure Condensate Returns	YES	YES
Custom Options Available in Design	YES	YES

Review Design Criteria and other site considerations with a Vapor Power Sales Engineer. Safety, Accessibility, Space and Energy requirements all factor into the proper selection of a Vapor Power Deaerator System. Also make sure to ask about the high grade steel we use for our platforms. This ensures long term durability, and ease of relocation if required.

NOTE: Both Systems are shipped completely packaged and ready for installation. All vessels designed, built and stamped in accordance with the ASME code for 50 psig.

We offer a complete document set including specifications for each of our products including dimensions and part number call outs. Please let us know which deaerator selection you need.

## VAPOR POWER TRAY DEAERATORS

CAPACITY	DIMENSIONS*		GALLONS**	MINUTES***
	STORAGE	DEAERATOR		
5,000 PPH	24" x 76"	18" x 69"	110	10
7,000 PPH	24" x 112"	18" x 69"	160	11
9,000 PPH	30" x 79"	18" x 72"	180	10
11,000 PPH	30" x 103"	18" x 72"	250	10
15,000 PPH	36" x 106"	24" x 81"	370	12
20,000 PPH	36" x 118"	30" x 81"	420	10
25,000 PPH	42" x 109"	36" x 84"	530	10
30,000 PPH	42" x 121"	36" x 84"	600	10
35,000 PPH	48" x 112"	36" x 87"	700	10
40,000 PPH	48" x 124"	36" x 87"	800	10
50,000 PPH	60" x 106"	42" x 93"	1,020	10
60,000 PPH	60" x 130"	48" x 93"	1,300	10
70,000 PPH	60" x 154"	48" x 93"	1,570	11
80,000 PPH	72" x 125"	60" x 100"	1,720	10
90,000 PPH	72" x 137"	60" x 100"	1,930	10
100,000 PPH	72" x 161"	60" x 100"	2,070	10
125,000 PPH	84" x 143"	72" x 106"	2,470	10
150,000 PPH	84" x 167"	72" x 106"	2,970	10
175,000 PPH	84" x 179"	72" x 125"	3,520	10
200,000 PPH	96" x 173"	72" x 142"	4,020	10
225,000 PPH	96" x 185"	72" x 154"	4,520	10
250,000 PPH	96" x 197"	72" x 154"	5,020	10
300,000 PPH	108" x 191"	72" x 166"	6,025	10
400,000 PPH	108" x 251"	72" x 184"	8,000	10
500,000 PPH	108" x 323"	72" x 196"	10,000	10

## VAPOR POWER SPRAY DEAERATORS

CAPACITY	DIMENSIONS*	GALLONS**	MINUTES***
5,000 PPH	36" x 70"	140	14 min
7,000 PPH	36" x 82"	160	11 min
9,000 PPH	36" x 94"	190	10 min
11,000 PPH	36" x 118"	240	11 min
15,000 PPH	48" x 88"	360	12 min
20,000 PPH	48" x 100"	420	11 min
25,000 PPH	48" x 112"	490	10 min
30,000 PPH	48" x 148"	670	11 min
35,000 PPH	60" x 106"	780	11 min
40,000 PPH	60" x 106"	780	10 min
50,000 PPH	60" x 130"	990	10 min
60,000 PPH	60" x 154"	1,220	10 min
70,000 PPH	72" x 125"	1,410	10 min
80,000 PPH	72" x 137"	1,580	10 min
90,000 PPH	72" x 161"	1,920	11 min
100,000 PPH	72" x 161"	1,920	10 min
125,000 PPH	84" x 167"	2,790	11 min
150,000 PPH	84" x 191"	3,270	11 min
175,000 PPH	84" x 203"	3,520	10 min
200,000 PPH	96" x 173"	3,840	10 min
225,000 PPH	96" x 197"	4,490	10 min
250,000 PPH	96" x 221"	5,150	10 min
300,000 PPH	108" x 203"	6,030	10 min

\* Dimensions are "Diameter x OAL" for Storage and "Diameter x OAH" for Deaerator  
 \*\* Approximate gallons to overflow \*\*\* Minutes of storage based on rated capacity

NOTE: Size and arrangement of any system can be modified to fit customers needs

## Optional trim, controls, skid packaging available for both Spray and Tray



CHEMICAL FEED PUMP



VARIABLE SPEED DRIVES



WATER SOFTENER



PLC/HMI CONTROLS PACKAGE



MODULATING MAKE UP CONTROL VALVE WITH DIFFERENTIAL PRESSURE TRANSMITTER



BLOW DOWN TANKS AND BLOW DOWN SEPARATORS



**We provide industry leading solutions for your boiler, deaeration, and commercial/ industrial water heating needs.**

**Our Vertical Market Expertise includes:**

- Brewing and Distilleries
- Food Processing including Bakeries
- Seafood, Meat, Poultry Processing
- Education Facilities
- Hospital and Medical Centers
- Commercial & Industrial Facilities
- Pharmaceutical and Medical Equipment
- Green Buildings
- Chemical Manufacturing and Processing
- Commercial Packaging
- Dry Cleaning & Industrial Laundries
- Energy Management including Gas & Oil Processing
- Clean Steam and Humidification
- Military Bases & Government Facilities
- Asphalt Heating & Liquid Terminal Facilities

**Custom Applications**

We have been serving our customers for over 100 years with the highest level of quality products and first class customer service. We look forward to working with you on your next project.

**VAPOR POWER** INTERNATIONAL

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