

Deionization

Hellenbrand's DI Systems designed for high quality applications

Industrial / Commercial Systems

Hellenbrand offers Deionization (DI) systems designed for high purity water applications. Deionization is a method for reducing the ionic content of water through an ion exchange process. This process uses both cation and anion resins which are regenerated with acids and caustics respectively. As the water passes through the cation resin and the cations (positively charged ions, i.e.: sodium, calcium, magnesium, etc.) are removed and exchanged for hydrogen ions (H⁺) which are released into the effluent stream. The anion resin removes the anions (negatively charged ions, i.e.: chloride, sulfate, etc.) which are exchanged for hydroxide ions (OH⁻) which are also released into the effluent stream. The released hydrogen (H⁺) ions and the hydroxide (OH⁻) ions then combine to form water (H₂O).

Hellenbrand offers both separate bed and mixed bed systems depending upon your final water quality requirements. While the separate bed systems typically provide water qualities around 1 Megohm, the mixed bed systems can provide much higher qualities, typically between 1 and 18 Megohm depending on the constituents of the feed water.



Typical Applications

- Pharmaceutical
- Plating
- E-Coat and Powder Coat


Hellenbrand

HVN-MBD Mixed Bed Demineralizer Model Specifications Steel - Valve Nest

Model No.	Nominal Capacity	Minimum Service Flow	Normal Service Flow	Polishing Service Flow	Manifold Pipe Size	Cation Resin	Anion Resin	Cation Regen 30% HCl	Anion Regen 50% NaOH	Vessel Size	Backwash Flow	Air Mix Flow	Shipping Weight
	grains	GPM	GPM	GPM	inches	cu.ft.	cu.ft.	gals	gals	inches	GPM	cfm	lbs.
HVN-MBD 1096	20,000	1	4	8	.5	1	1.5	2.8	1.9	10 x 96	1.6	4	1000
HVN-MBD 1696	40,000	3	11	25	1	2	3	5.6	3.8	16 x 96	3.5	11	1270
HVN-MBD 2096	66,400	4	17	25	1	3.3	5	9.2	6.3	20 x 96	6	17	1520
HVN-MBD 2496	100,000	6	25	60	1.5	5	7.5	13.9	9.4	24 x 96	9	25	2105
HVN-MBD 3096	146,400	9	38	92	2	7.5	11	20.8	13.8	30 x 96	14	38	2690
HVN-MBD 3696	213,600	14	55	95	2	10.7	16	29.8	20.1	36 x 96	20	55	3333
HVN-MBD 4296	293,600	19	75	95	2	14.7	22	40.9	27.6	42x96	28	76	4710

HFVN-TBD Two Bed Demineralizer Specifications Fiberglass - Valve Nest

Model No.	Nominal Capacity	Normal Service Flow	Maximum Service Flow	Manifold Pipe Size	Cation Resin	Anion Resin	Cation Regen 32% HCl	Anion Regen 50% NaOH	Vessel Size	Cation Backwash	Anion Backwash	Maximum Regen Flow To Drain	Shipping Weight
	grains	GPM	GPM	inches	cu.ft.	cu.ft.	gal	gal	inches	GPM	GPM	GPM	lbs.
HFVN-TBD 14-1"	44,000	6	12	1	2.2	2.2	4.6	2.8	14 x 65	3.5	2.5	5	1800
HFVN-TBD 16-1"	70,000	9	18	1	3.5	3.5	7.3	4.4	16 x 65	5	3	7	2200
HFVN-TBD 21-1"	110,000	16	25	1	5.5	5.5	11.4	7.0	21 x 62	10	5	12	3100
HFVN-TBD 24-1/2"	180,000	20	45	1.5	9	9	18.7	11.3	24 x 71	12	7	20	3800
HFVN-TBD 30-2"	300,000	32	75	2	15	15	31.0	18.8	30 x 72	20	10	30	4800
HFVN-TBD 36-2"	400,000	46	80	2	20	20	41.4	25.2	36 x 72	30	15	40	6100
HFVN-TBD 36-3"	400,000	50	110	3	20	20	41.4	25.2	36 x 72	30	15	40	6200
HFVN-TBD 42-2"	500,000	46	80	2	25	25	51.7	31.4	42 x 72	35	20	40	6800
HFVN-TBD 42-3"	500,000	50	110	3	25	25	51.7	31.4	42 x 72	35	20	40	6850

Product Improvement designs are subject to change without notice.

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