

ADIATEC[®] HUMIDIFIER

High-Pressure System



- *Energy efficient*
- *Provides both direct and indirect evaporative cooling*
12 lbs/hr (5 kg/hr) = 1 ton of cooling
- *Multiple zone capabilities in air handlers, ducts, and open spaces*
- *Complete water treatment options available from DriSteem*
- *Fan-assist available for open space applications*

SUSTAINED QUALITY AND DEPENDABILITY

HIGH-PRESSURE SYSTEM

Evaporative cooling and humidification systems draw heat from air to evaporate unheated water introduced by either high-pressure nozzles or wetted media. This process raises the relative humidity (RH) level and lowers the dry bulb air temperature. Consequently, these systems humidify and cool air very efficiently. In space type applications allow for the cooling and humidification to take place right next to the specific application need. This type of application has 100% of evaporation as the nozzles have "anti-drip" check valves integral to them. High-pressure atomization is advantageous when the end user has a large load, multiple zones and can benefit from free cooling. Lifetime operating cost can be much less than other technologies when these three items are present.

REDUCES COOLING LOAD

As water is absorbed in air, the evaporative cooling effect reduces the building's cooling load. Twelve pounds of unheated evaporated water (vapor) reduces the cooling load by about one ton, saving about 12,000 Btus (3.5 kW).

APPLICATIONS

Adiabatic humidifiers use the heat gain from sources such as printing/packaging, data centers, indoor agriculture, and manufacturing facilities to vaporize water for humidification and free cooling.

LOW MAINTENANCE

High-Pressure Systems are very low maintenance systems.

The High-Pressure System's stainless-steel pump is designed to run for 8000 hours before its first maintenance check, and the stainless-steel dispersion nozzles and manifolds are maintenance free.

The High-Pressure System provides ultra-pure water that leaves no white dust when used with water treatment options available from DriSteem.



The DriSteem High-Pressure System delivers evaporative cooling and humidification to multiple zones in air handlers, ducts, and open spaces. The Vaporlogic controller provides comprehensive management of all system variables.

Learn More



DIRECT OR INDIRECT EVAPORATIVE COOLING

Direct evaporative cooling adds moisture to the supply air while humidifying and cooling the space at the same time.

Indirect evaporative cooling occurs in the heat exchanger without adding moisture. Cooling air before it enters the space without adding moisture to the space.

A High-Pressure System is shown here.

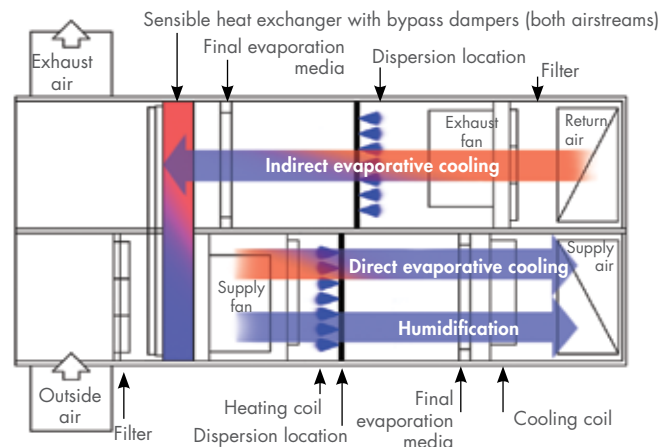


Table 3-1:
Adiatec high-pressure pump station specifications

Model		250	500	1000	1750	2500	3500	5500
System capacity, lbs/hr (kg/h)		250 (113)	500 (227)	1000 (454)	1750 (794)	2500 (1134)	3500 (1588)	5500 (2495)
System voltage/ phase, Amp draw	50Hz	230/1, 5.2 400/3, 1.9	230/1, 9.2 400/3, 3.3	230/1, 16.9 400/3, 3.6	400/3, 8.1	400/3, 10.6	400/3, 14.7	400/3, 20.6
	60Hz	240/1, 5.2 480/3, 1.6 600/3, 1.3	240/1, 7.3 480/3, 2.2 600/3, 1.8	240/1, 13.8 480/3, 4.0 600/3, 3.2	480/3, 6.6 600/3, 5.3	480/3, 6.6 600/3, 5.3	480/3, 9.2 600/3, 7.3	480/3, 12.6 600/3, 10.1
Fuse size (see Note 1)	50Hz	230/1, 25 400/3, 15	230/1, 35 400/3, 15	230/1, 50 400/3, 20	400/3, 30	400/3, 35	400/3, 40	400/3, 50
	60Hz	240/1, 25 480/3, 16 600/3, 6	240/1, 35 480/3, 10 600/3, 6	240/1, 50 480/3, 15 600/3, 10	480/3, 30 600/3, 15	480/3, 30 600/3, 15	480/3, 35 600/3, 20	480/3, 40 600/3, 20
Dimensions (W/D/H), inches (mm)	50Hz	24/24/60 (610/610/1524)	24/24/60 (610/610/1524)	24/24/60 (610/610/1524)	24/30/60 (610/762/1524)	24/30/60 (610/762/1524)	24/36/60 (610/915/1524)	24/36/60 (610/915/1524)
	60Hz	24/24/60 (610/610/1524)	24/24/60 (610/610/1524)	24/24/60 (610/610/1524)	24/24/60 (610/610/1524)	24/30/60 (610/762/1524)	24/30/60 (610/762/1524)	24/30/60 (610/762/1524)
Dimensions (W/D/H) with redundant high- pressure pump option, inches (mm)	50Hz	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	Consult factory	Consult factory
	60Hz	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)	24/30/76 (610/762/1930)
Operating weight, lbs (kg)	50Hz	275 (125)	325 (147)	350 (159)	375 (170)	400 (181)	450 (204)	525 (238)
	60Hz	275 (125)	300 (136)	325 (147)	325 (147)	350 (159)	400 (181)	450 (204)
Operating weight with redundant high- pressure pump option, lbs (kg)	50Hz	375 (170)	425 (193)	480 (218)	510 (231)	575 (261)	Consult factory	Consult factory
	60Hz	375 (170)	400 (181)	475 (216)	475 (216)	500 (227)	625 (284)	700 (318)
Shipping weight, lbs (kg)	50Hz	295 (133)	349 (158)	376 (170)	403 (182)	430 (195)	485 (220)	564 (255)
	60Hz	296 (134)	323 (146)	349 (158)	349 (158)	376 (171)	430 (195)	484 (219)
Shipping weight with redundant high-pressure pump option, lbs (kg)	50Hz	403 (182)	456 (206)	516 (234)	548 (248)	618 (280)	Consult factory	Consult factory
	60Hz	403 (183)	430(195)	511 (232)	511 (232)	538 (244)	672 (305)	753 (341)
Supply water connection diameter, inches (see Note 2)		1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	3/4 (18 mm)	3/4 (18 mm)	3/4 (18 mm)
High-pressure water connection diameter, inches (see Note 2)		1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)	1/2 (12 mm)
High-pressure pump motor power, hp (kW)	50Hz	1 (0.75)	2 (1.5)	4 (3)	5.5 (4)	7.5 (5.5)	10 (7.5)	15 (11)
	60Hz		1.5 (1.1)	3 (2.2)	5 (3.7)	5 (3.7)	7.5 (5.5)	10 (7.5)

Notes:

1. Wiring and branch circuit protection (Type RK1, J, or T fusing) to be provided by installer in accordance with NEC requirements.
2. High-pressure compression fittings. Metric adapter attached to system (optional) for 50Hz units.
3. Unit ships with 36" x 1/2" high-pressure flexible hose and a 1/2" union for easy connection to dispersion piping.
4. 25 psi (170 kPa) supply water pressure at 125% of maximum flow rate, 60 psi (415 kPa) maximum
5. The standard enclosure on the RO-400 series is NEMA 1.
6. Prefilter included, 5 micron, on pump station.



DRI-STEEM Corporation

a subsidiary of Research Products Corporation
DriSteem U.S. operations are
ISO 9001:2015 certified

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Expect quality from the industry leader

Since 1965, DriSteem has been leading the industry with creative and reliable humidification solutions. Our focus on ease of ownership is evident in the construction of DriSteem products. DriSteem leads the industry with a Two-year Limited Warranty and optional extended warranty.

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