



# Model OA6000 - Liquid-Desiccant Dedicated Outdoor Air System



The OA6000 is a packaged rooftop system that can dry 6,000 cfm of outdoor air from over 130 grains to less than 55 grains. The OA6000 is a liquid-desiccant system, but one that is a dramatic improvement over all liquid-desiccant systems that have preceded it. Two differences stand out:

- Flow rates of desiccant in both the regenerator and the conditioner are 10 to 50 times lower than in systems now being sold, and
- These components are heat exchanges that allow the desiccant to be either continually heated or cooled.

The OA6000 is the first thermally activated air conditioner that can compete with electric cooling systems in the rooftop market. Benefits include:

- Low desiccant flow rates eliminate the carryover of droplets without the need for high maintenance mist eliminators.
- Simultaneous cooling and drying of the air in the conditioner produce a much smaller system with very low pressure drops.
- Simultaneous cooling and drying also produce greater grain depressions. In many applications the entire latent load on the building can be met by over-drying the ventilation air. Cooling coils can be designed to run dry.
- Continuous heating of the desiccant as it is regenerated leads to high thermal efficiencies, even with regeneration temperatures as low as 160 F.

### Conditioner

minimum air flow	4,000 cfm
nominal air flow	6,000 cfm
maximum air flow	8,000 cfm
cooling water flow	75 gpm
desiccant	lithium chloride
desiccant additives	none
desiccant flow	5 gpm
desiccant concentration range	40% to 44%

### Performance at Nominal Air Flow

T Inlet F	Inlet grains	Inlet wet bulb	T Outlet F	Outlet grains	Water lb/h	Net Cool tons
95	118	78	91.6	55	245	24.4
95	99	75	88.9	47	200	21.8
86	146	80	91.2	63	320	26.5
68	102	68	76.6	42	232	16.5

### Regenerator and Water Heater

nominal air flow	800
cfm hot water flow	40
gpm hot water temperature range °F	180 to 200
gas service	500,000 Btuh
regeneration COP (includes 20% flue loss)	0.50

### Cooling Tower

nominal water flow	75 gpm
air flow	6,200 cfm

### Pumps and Fans

main blower	2,000 W
(sized for 1.5" w.c. external pressure drop)	
regeneration blower	200 W
cooling tower fan	1,500 W
desiccant pumps (2) (each)	200 W
cooling water pump	1,000 W
hot-water pump	750 W

### Dimensions

height (with cooling tower)	98 inches
height (without cooling tower)	77 inches
width	80 inches
length	122 inches

### Weights

shipping weight	4,100 lbs
operating weight	5,600 lbs