

Job Information

Red Rock
 Plant Process Equipment
 Houston, TX

Selected By

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Cooling Tower Definition

Manufacturer	Marley	Fan Motor Speed	1800 rpm
Product	NC Steel	Required Fan Motor Output per cell *	75.00 BHp
Model	NC8409WAN5	Required Fan Motor Output total *	375.00 BHp
Cells	5	Fan Motor Capacity per cell	75.00 Hp
CTI Certified	Yes	Fan Motor Output per cell	75.00 BHp
Fan	12.00 ft, 7 Blades	Fan Motor Output total	375.00 BHp
Fan Speed	323 rpm, 12177 fpm	Air Flow per cell	221000 cfm
Fans per cell	1	Air Flow total	1105000 cfm
Fill Type	MX75	Static Lift	12.34 ft
		Distribution Head Loss	0.00 ft
		ASHRAE 90.1 Performance	40.9 gpm/Hp

Model Group Standard Low Sound (A)

* Required Fan Motor Output assumes VFD operation

Conditions

Tower Water Flow	15000 gpm	Air Density In	0.07349 lb/ft³
Hot Water Temperature	105.00 °F	Air Density Out	0.06991 lb/ft³
Range	20.00 °F	Humidity Ratio In	0.00983
Cold Water Temperature	85.00 °F	Humidity Ratio Out	0.03741
Approach	21.00 °F	Wet-Bulb Temp. Out	95.56 °F
Wet-Bulb Temperature	64.00 °F	Estimated Evaporation	250 gpm
Relative Humidity	50.0 %	Total Heat Rejection	149330000 Btu/h
Capacity	100.0 %		

- This selection satisfies your design conditions.

Weights & Dimensions

	Per Cell	Total
Shipping Weight	13000 lb	64800 lb
Heaviest Section	13000 lb	
Max Operating Weight	29900 lb	149600 lb
Width	22' - 5"	22' - 5"
Length	13' - 10 ¾"	70' - 7 ¾"
Height	11' - 11 ¾"	

Minimum Enclosure Clearance

Clearance required on air inlet sides of tower without altering performance. Assumes no air from below tower.

Solid Wall	15.2 ft
50 % Open Wall	11.3 ft

Weights and dimensions do not include options; refer to sales drawings. For CAD layouts refer to file 8409_ALN.dxf

Cold Weather Operation

Heater Sizing (to prevent freezing in the collection basin during periods of shutdown)

Heater kW/Cell	30.0	24.0	18.0	15.0	12.0	9.0	7.5
Ambient Temperature °F	-21.50	-8.40	4.71	11.26	17.81	24.36	27.64