114454
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Cooling Tower Operating Manual

Date: June 3,1991

Sold to: Ingersoll-Rand Company
Chattanooga, TN

User: Sofix Corporation
Chattanooga, TN

Tower Model No. NC212

Tower Serial No. NC212-6858

Customer No. C910262

Marley Order No. 6858

Motor:	BHP	15	Driveshaft:	Type	6Q
	Frame	256T	Options:		
Geareducer®:				❑	Basin Equalizer
	Type	20T		❑	Vibration Switch
	Ratio	3.78		❑	Electric Basin Heater
Fan:	Size	84-H3-6		❑	Contract Special
	Pitch	42.5			
	RPM	463			

Please refer to Marley Order Number and Tower Serial Number in correspondence concerning this tower.
We will be happy to quote current parts, prices and shipment upon request.

Please contact your local Marley Sales Representative if you have any questions.

cc: Cincinnati/BWD
file

S-3212C

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OVERLAND PARK, KANSAS 66213
1-913-664-7400 FAX 1-913-664-7753
The Marley Cooling Tower Company
5800 Foxridge Drive • Mission, KS 66202 1-800-322-6200

913 704

SOFIX CORPORATION
101 NorthGate Commercial Center
Chattanooga, Tn. 37415

TO: **Mr. Y. Nakai**

FROM: **Paul J. Cahill**

DATE: **Oct. 27, 1990**

SUBJECT: **Cooling Tower System**

The cooling tower concept in the original Basic Design Package consisted of a multi cell tower capable of handling the peak cooling water flows of 1500 GPM plus a 160,000 gallon concrete pool According to Mr. Nakajima the cooling water peak flow for the C-Line phase is 540 GPM (presumably two 270 GPM towers) and the pool size can be reduced to 50,000 gallons.

An alternate configuration would be to install two 540 GPM towers and a 6,000 gallon polyethylene surge tank. The advantages of this arrangement are:

1. More cooling capacity and avoid temperature rise of cooling water in the pool. In one hour the second 540 GPM tower can remove 6.2 million BTU's, equivalent to a 15 F rise in the temperature of the pool.

2. Lower capital cost by $5,000 to $7000. A 50,000 gallon concrete tank would cost $18,000 -$20,000 excluding support structure for the towers. A 6,000 gallon polyethylene tank would cost $6,000 and the additional cost for two 540 GPM tower versus two 270 GPM towers would be approximately $7,000.

3. Same operating cost. The towers would be operated on temperature control and the fan motors would only run as needed. If it is felt that further tower control is necessary a two speed fan motor could be installed on one of the towers.

4. Use less space.

We will proceed with the design based on the two 540 GPM towers and the 6,000 gallon surge tank. The suction and discharge piping manifolds will be sized to handle the flows for A, B, and C Lines. The C-Line phase will consist of two 370 GPM pumps at 60 psig and will be arranged to accommodate additional cooling water pumps. The cooling water header will be operated under pressure control with one or both pumps being run as necessary to maintain header pressure.

Please confirm the design inlet and outlet cooling water temperatures for the cooling towers. The original Basic Desiign package showed 90 and 113 F. A temperature range of 23 F is unusually large for the U.S. Typically cooling water systems are designed for a maximum temperature range of 15 F.

Best Regards,

Paul.

cc: AJA
HLW