

MARLEY
REV. 2, 2/26/02

M010322-461A002 R2
JEA BRANDY BRANCH

3/11/2002

JEA Brandy Branch Cooling Tower Specification Sheets

MODEL: F499-4.0-10B

Design and Operating Conditions

Circulating water flow	165,000	165,000	165,000	gpm
Hot (Inlet) Water Temperature	83.9	104.3	107.3	°F
Cold (Outlet) Water Temperature	69.1	90.1	90.7	°F
Ambient Temperature (DRY BULB)	59.0	95.0	95.0	°F
Wet Bulb Temperature (ENTERING)	53.5	84.7	84.7	°F
Tower Pump Head @ Inlet Flange (ABOVE BASIN CURB)	4.2	/	1.5	ft.
	(31.3)			
Tower Inlet Connection Elevation (Above ring wall)	(5) @ 27.1	/	(5) @ 29.8	ft.
	*SEE GENERAL ARRANGEMENT DRAWINGS (ALL INLET FLANGES ON WEST SIDE)			
Total Fan BHP	2,000	1,910	1,900	
Drift Loss, % of circulating water flow	0.002			
Evaporation Loss	1,740	2,080	2,400	GPM
Design Wind Load	130			mph
Average Wind Velocity	8			mph
Design Seismic Zone	A _s = 0.05 A _v = 0.05			
Elevation above Sea Level	88'			ft.
Tower FIRE PROTECTION SPRINKLER SYSTEM	(OPTIONAL)			
Connection size	2 @ 8"			inches
Materials Used	STAINLESS STEEL			
Required Flow and Pressure	1700 / 80			gpm /
	(NOT INCLUDING 500 GPM HOSE ALLOWANCE)			psig
Design Pressure				psig

Review does not relieve contractor from responsibility for errors or deviations from contract requirements

- ☒ NO EXCEPTIONS NOTED
Release for manufacture
- ☐ EXCEPTIONS NOTED
Release for manufacture
Revise and resubmit for distribution
- ☐ RETURNED FOR CORRECTION
Do not proceed
Revise and resubmit for authorization

UTILITY
ENGINEERING

Danny Lynn

Structural Details

Number of Towers	1 - Back to Back
Number of Cells per Tower	10
Fans per Cell	1

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Total number of Fans per Tower	10	
Nominal Cell Dimension, L x W	54 x 54	
Overall Tower Dimension, L x W	276.0 x 114.0	
Height - Basin Curb to Fan Deck	45.1	
Fan Stack Height	13.7	
Air Intake Cross Sectional Area	16,254	sq. ft.
Overall Tower Height	58.8	
Inside Basin Dimensions	284.0 x 122.0	
Hot Water Inlet		
Number	10	
Nominal Diameter	36	In.
Type	Flanged	

Materials of Construction

Framework Members	PULTRUDED FRP, FSR<25
Casing	CORRUGATED FRP, 8 oz/ft ² , FSR<25
Filling	PVC
Support	PULTRUDED FRP, FSR<25
Drift Eliminators	PVC
Spacer	N/A
Fan Stacks	FRP, FSR<25
Louvers, Material	N/A
Partitions	CORRUGATED FRP, 8 oz/ft ² , FSR<25
Fan Deck	PULTRUDED FRP, FSR<25
Water Distribution	
Type	LOW PRESSURE, DOWN-SPRAY
Material	RTR / PVC

Splashers or Spray Nozzles

POLYPROPYLENE

Stairway and Handrail

FRP, FSR<25

Structural Connectors

FRP / STAINLESS STEEL

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Bolts, Nuts & Washers

SERIES 300 STAINLESS STEEL

Anchor Connectors

SERIES 300 STAINLESS STEEL

Anchor Bolts

Furnished by

MARLEY

Material

SERIES 300 STAINLESS STEEL

Cold Water Basin

Material

CONCRETE

Furnished by

PURCHASER

Basin Accessories, by Mfg.

NONE

Mechanical Equipment**Fans**

Number

10

Type or Model

10MHP7-7

Manufacturer

MARLEY

Diameter

32.8

Number of Blades

7

Speed

119

rpm

Tip Speed

12,270

fpm

BHP per Fan, Driver Output

200

Blade Material

FIBERGLASS REINFORCED EPOXY

Hub Material

HDG STEEL / EPOXY COATED CAST IRON

Total Static Pressure

0.519

in.
H2O

Velocity Pressure

0.105

Air Delivery per Fan

1,438,000

Acfm

Fan Static Efficiency

60.9 %

Speed Reducer

Type

RIGHT ANGLE, SPLASH LUBRICATED

Model

SERIES 4000

Manufacturer

MARLEY

Reduction Ratio

14.88

AGMA Mechanical HP Rating

500

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Service Factor at Rated HP of Driver	2.5
Number of Reductions	2
Drive Shaft	
Type	FULL FLOATING
Model	LRC600.425
Manufacturer	ADDAX
Rated HP	200
Drive Shaft Material	GRAPHITE COMPOSITE
Coupling Material	316 STAINLESS STEEL
Motor	
Kind	Electric
Type	TEFC
Manufacturer	(TBD)
Full Load Speed	1800 RPM (NOMINAL)
Electrical Characteristics - Phase/Cycles/Volts	3/60/460
Rated HP	200
Service Factor	1.15