



TECHNICAL DATA SHEET

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BRY-AIR (ASIA) PVT. LTD.

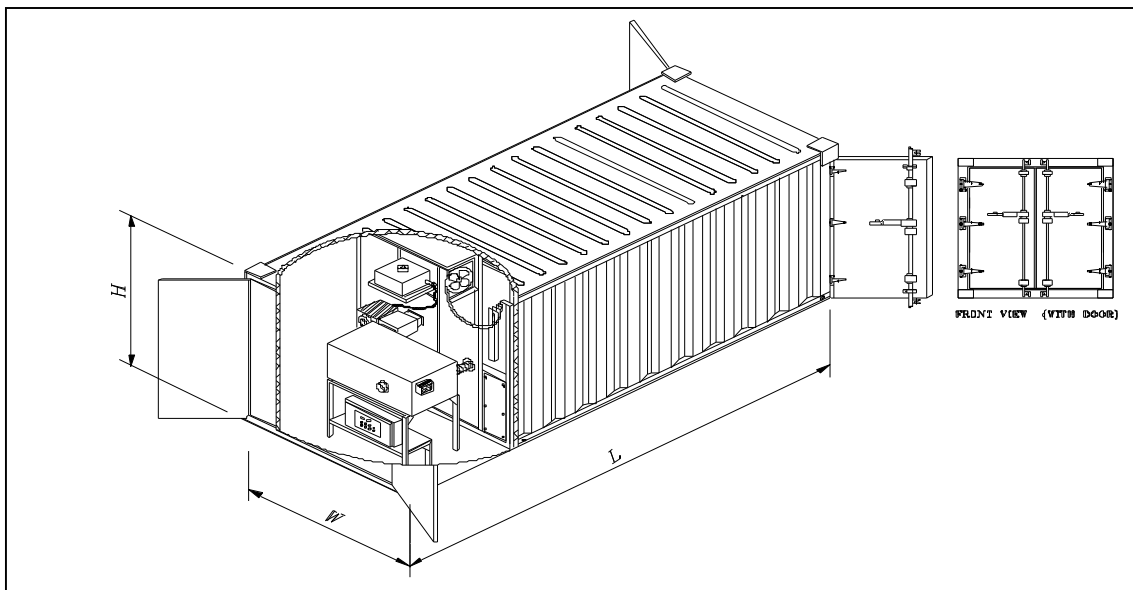
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WOOD DRYER - CWD-200

- INSULATED DRYING CHAMBER OF HEAVY GAUGE STEEL FABRICATION HAVING FRONT AND REAR DOOR WITH LOCKING ARRANGEMENT.
- AXIAL FANS FOR UNIFORM AIR CIRCULATION IN DRYING CHAMBER.
- FAN CYCLIC TIMER FOR AIR FLOW REVERSALS. DRYER INTENSITY METER (DIM) TO CONTROL CYCLIC RUNNING OF THE DEHUMIDIFIER.
- TEMPERATURE INTENSITY METER (TIM) TO SET CONTROL AND DISPLAY DRYING CHAMBER TEMPERATURE.
- STANDARD FFB DEHUMIDIFIER.
- STAINLESS STEEL HEATERS WITH INTERLOCKING WITH FANS.
- PLANT ROOM IS AN INTERGRAL PART OF DRYING CHAMBER HOUSING DEHUMIDIFIER, ALLIED ACCESSORIES AND MAIN ELECTRICAL POWER CONTROL PANEL.
- CONTROL PANEL TO FACILITATE RUNNING OF WOOD DRYER FROM THE FRONT.
- TIMBER LOADING ARRANGEMENT COMPRISES OF TROLLEY, MOUNTING STAND AND SLIDING RAILS.

SPECIFICATION SHEET FOR WOOD DRYER SERIES

MODEL	WOOD STACKING CAPACITY	PROCESS BLOWER (KW)	REACT BLOWER (KW)	BED DRIVE MOTOR (KW)	AUX. FAN BANK-I (KW)	AUX. FAN BANK-II (KW)	REACT HTR. (KW)	AUX. HTR. (KW)	WOOD STACKING SIZE (Ft.)			DRYING CHAMBER DIMENSIONS (Ft.)			OVER ALL DIMENSIONS (Ft.)			DRYING TIME (DAYS)	WEIGHT (KG)
									L	W	H	L	W	H	L	W	H		
CWD-200	200 CFT	0.37	0.37	0.03	0.8	0.8	7.2	6.0	13	5	6.3	13	5.74	7.4	20	8	8.6	5-9	1650



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General Principles of Wood Drying

Wood drying / seasoning depends on externally applied conditions and wood characteristics. It involves both heat and mass transfer. When the wood is being dried, the surface dries ahead of the interior because of evaporation of moisture at the surface, thereby, setting a vapour pressure gradient which cause moisture to move from the interior to the surface. Externally applied conditions i.e. temperature and RH should be carefully controlled to optimise drying cycle. Drying generally proceeds in three phases as follows :-

Phase I

During the initial green stage, surface evaporation is balanced against the rate of outward diffusion of moisture to prevent surface cracking and case hardening. This is achieved by adjusting the Equilibrium Moisture Content (EMC) of drying air without raising the temperature too high.

Phase II

Intermediate stage, when EMC of the drying air can safely be reduced to accelerate the drying process. However, temperature should be controlled to guard against other defects such as compression, internal cracking, warping, etc.

Phase III

The final stage, when the core has started drying below the fiber saturation point. Now the EMC of the drying air can be reduced and the temperature raised without much risk.

During all the above phases of wood drying, internal stresses can develop. Suitable measures should be taken to release the stresses to avoid degradation of timber. The various factors which influence drying rate are Temperature, Relative Humidity (RH), Air circulation, Wood species, Initial Moisture Content (IMC), Thickness, Stacking, and the Process Parameters.

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CONTAINERISED WOOD - DRYER SPECIFICATIONS

1. MODEL	:	CWD-200
2. WOOD CAPACITY	:	200 cft
3. WATER EXTRACTION	:	240 lbs/24 hrs (109 kg/24 hrs)
4. NORMAL POWER CONSUMPTION	:	7 - 9 KW
5. OVERALL DIMENSIONS	:	6058 mm(L) x 2438 mm(W) x 2591 mm(H) (20'x8'x8.5')
6. DRYING CHAMBER DIMENSIONS	:	3962 (L) x 1750 (W) x 2256 (H)
7. WOOD STACKING DIMENSIONS	:	3950 (L) x 1524 (W) x 1920 (H)
8. DRYING TIME (BASED ON 25% OVERALL MOISTURE REMOVAL)	:	(5 - 9 DAYS) DEPENDING ON TYPE OF TIMBER (BASED ON 1" PLANKS)
9. WOOD - STACKING	:	TROLLEY MOUNTED ON RAILS FOR LOADING AND UNLOADING OF STACK
10. DEHUMIDIFIER AIR	:	360 CFM (600 CMH)
11. HEATING CAPACITY	:	6 KW
12. AIR CIRCULATION FAN	:	AXIAL FAN 18", 400W, 230/1/50, 4 NOS.
13. AIR DISTRIBUTION	:	UNIFORM AIR FLOW THROUGH AIR PLENUMS
14. INSULATION	:	DRYING CHAMBER IS DULY INSULATED WITH 50 MM THICK, FIBRE GLASS
15. DEHUMIDIER	:	FFB 600
16. HEAT EXTRACTOR	:	HEAT - PIPE BASED HEAT EXTRACTOR IS PROVIDED WITH INDIRECT EVAPORATIVE COOLING SYSTEM
17. CONTROL PANEL	:	TO FACILITATES RUNNING OF WOOD DRYER
18. POWER PANEL	:	MOUNTED IN REAR PLANT ROOM
19. CONTROLS	:	TEMPERATURE INTENSITY METER (TIM), DRYER INTENSITY METER (DIM) CYCLIC TIMER IN CONTROL PANEL
20. DOORS	:	DOORS AT FRONT AND REAR WITH LOCKING/UNLOCKING ARRANGEMENT

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