

HIGH FREQUENCY VACUUM WOOD DRYER



High frequency vacuum wood dryer is small but fast with low temperature drying machine, suitable for drying all kinds of wood, from veneer/lamella/wood board to thick lumber, even heavy timber. For thin pieces like veneer or floor lamella, HF vacuum drying not only offer short cycle solution but also eliminate curved or shrink problem.

For thick and hard wood, HF vacuum drying brings good quality with uniform humidity, free of split or spark both on surface or inside, short drying cycle will help a lot to meet demand for production.

CHARACTER

High frequency vacuum drying technology constitutes a combination of two special methods: heating by high frequency current and drying in vacuum where the boiling point of water is decreased with decreasing pressure.

A. high frequency heating:

High frequency power acts only on the moisture in the wood, it penetrates the wood, and where there is water or moisture, there is high frequency power, so it can dry fast and uniformly.

B. vacuum condition

1. At vacuum condition, the water is vapor at very low temperature, this eliminates the sparking or splitting problem for hard wood, especially extremely hardwood that likely to spark if drying temperature is high.

2. Further more, vacuum condition creates a minus pressure in the tank, the movement of water through wood increases leading to shorter drying time than can be achieved at atmospheric pressure, minus pressure sucks the water or moisture out of the wood fast.

1. WTS OFFERS ONE BUTTON CONTROL TECHNOLOGY

Full automatic drying program within PLC control system for different wood, the operator does not need to know too much knowledge about wood drying to cook the wood perfect.

2. PRECISE AND RELIABLE MONITORING SYSTEM

High precision and stable monitoring spare will always guide on the machine both for warranty of good drying quality or safety of personal and machine.

3. WELL SELECT SPARE PARTS

We choose high grade stable spare parts which is tested for long time for the machine to make it stable running and problem free.

4. LOGICAL AND SAFE DESIGN

With more than 10 years of experienced engineer, customers can expect a more logical and humanistic machine that very easy to use, stable running and help a lot in production.

PARAMETER

		HFVD30-SA	HFVD45-SA	HFVD60-SA	HFVD80-SA	HFVD100-SA	HFVD120-SA
Overall Size (mm)	HF Generator	1000*1050*1950	1000*1050*1950	1250*1200*2050	1250*1200*2050	1250*1200*2050	1250*1200*2050
	Tank	4200*2150*2100	5700*2150*2100	7300*2150*2100	9300*2150*2100	7300*2250*2200	9000*2250*2200
	Cooling System	1500*1150*2100					
	Control Cabinet	700*400*1700					
Gross Weight(KGS)		6400	7300	8000	9200	10000	11000
Inside Diameter(mm)		Φ1700	Φ1700	Φ1700	Φ1700	Φ1900	Φ1900
Stack Timber Size (mm)		1000*1000*3000	1000*1000*4500	1000*1000*6000	1000*1000*8000	1300*1300*6000	1300*1300*8000
Stack Timber Capacity		3m3	4.5m3	6m3	8m3	10m3	13m3
HF Input Power		40KVA	40KVA	70KVA	70KVA	70KVA	70KVA
HF Output Power		30KW	30KW	50KW	50KW	50KW	50KW
HF Oscillation		6.78Mhz					
Protection		Overload protection/Wind cooling pressure detection/Filament 2 stage starts/Lose phase protection					
Tuning Mode		Variable vacuum capacitor					
Cooling Type		Force wind cooling					
Main Spare Parts		Schneider/Siemens/Omron/Delta					
Hydraulic System		Taiwan brand					
Temperature		45-70°C					
Temperature System		Fiber optic glass temperature sensor					
Moisture Sensor		Weighing system(PATENT)					
Dewatering		Full automatic					
Cooling in Tank		Condensation system					

Stacking Way	Manual					
Feeding Way	Automatic					
Thickness of Tank	12mm					
Hydraulic Pressure	3 ton	3 ton	6 ton	6 ton	6 ton	6 ton
Vacuum Pump	7.5Kw	7.5Kw	7.5Kw	11Kw	11Kw	11Kw
Vacuum Range	-0.07~-0.093Mpa					
Cooling Type	Stainless steel water-ring vacuum pump					
Controller	PLC program					
Environment Temp.	1~45 °C					

For the operation of the installation requires a Three-phase electric power (industrial applications only)

- United Kingdom (UK) 415 V, 50 Hz
- United States (USA) 240/480 V, 60 Hz
- Canada 480 / 600 V, 60 Hz
- Australia 400 V, 50 Hz
- Brazil 380 V, 60 Hz
- Chile 380 V, 50 Hz
- Europa 400 V, 50 Hz
- France 400 V, 50 Hz
- Germany 400 V, 50 Hz
- Israel 400 V, 50 Hz
- Italy 400 V, 50 Hz
- Japan 200 V, 60 Hz
- Korea 380 V, 60 Hz
- Mexico 480 V, 60 Hz
- Paraguay 380 V, 50 Hz
- Peru 220 V, 60 Hz
- Russia 380 V, 50 Hz
- Saudi Arabia 400 V, 60 Hz

WORKING PROCESS

1. Load the timber on the feeding cart and place electrode after the layer finished.
2. Push into the tank and close the door
3. Start the system, vacuum pump starts first, when it reaches the set limit, HF power starts automatically to heat.
4. When HF heats to set maximum limit temperature, HF stops and waits, after temperature falls down to minimum limit, HF generator starts to heat again, during this cycle, vacuum pressure is always near to -0.09Mpa, if it is lower than set limit, vacuum pump starts working automatically.
5. When the drying cycle finished, the weighing sensor will calculate and stop all system, drying process finish.

DRYING CHART FOR SOME COMMON WOOD

Wood Species	Start Moisture	End Humidity	Drying Timer(hour)
Extremely Hardwood			
Mahogany valued wood Density>1.0	15%	10%	80
	30%	10%	150
Medium Hardwood			
Beech/Oak/Ash,etc Density ≤ 0.6	20%	8%	70
	40%	8%	120
Softwood			
Pine Density<0.5	15%	8%	20
	40%	8%	75

Above is just common comparing chart for reference, but there are so many wood species world wide, you can compare with the density of your wood type and get an approximately calculation, for some special wood like teak, contains oil or other wood, may need much different drying time. Thickness changes also affects drying time, so this information much rely on real condition.

DETAIL INFORMATION



12mm thick tank wall



stainless steel press cart



High frequency generator



Control cabinet with PLC



Stainless steel cooling tower



Stainless steel vacuum pump



Stainless steel condenser



Weighing sensor



Vacuum sensor



Auto feeding cart



Hydraulic system



Water tank

DRYING CASES

