



HUMIDIFICATION AND COOLING BY FOG TECHNOLOGY IN TEXTILE HUMIDITY ROOMS

ADVANTAGES OF FOGGING SYSTEM AT HUMIDIFICATION CELLS

- THE SYSTEM IS **HYGIENIC**. SINCE THE WATER PUMPED TO THE NOZZLES BY THE HIGH PRESSURE PUMP (100 Bars) COMPLETELY EVAPORATES, THERE IS NO NEED FOR A WATER TANK. THEREFORE THERE WILL BE NO VIRUS OR BACTERIA FORMATION, LEGIONNAIRES' DISEASE RISK THAT MIGHT HAVE OCCURRED IN CONVENTIONAL SYSTEMS WILL BE ELIMINATED.
- AMOUNT OF WATER TO BE USED IN OUR SYSTEM WILL BE LESS THAN ~ 1 % OF THAT IN CONVENTIONAL SYSTEMS. THEREFORE THE **COST OF OBTAINING THE SOFT WATER USED WILL DECREASE BY 99 %**.
- SINCE THE SEPARATORS USED AT HUMIDIFICATION CHAMBER EXITS WILL CONTACT TO 99 % LESS WATER AT TINY PARTICLE SIZE, MAINTENANCE PERIODS WILL BE LESS AND BOTH LABOUR AND MAINTENANCE COSTS WILL BE LOWER.
- ALSO AN IMPORTANT POINT WHICH IS GENERALLY OVERLOOKED IS LOW EFFICIENCY AND ENERGY LOSS THAT OCCUR DUE TO THE RESISTANCE FORMED ON AIR CONDITIONING FANS BY LARGE MASS OF WATER (AVERAGE 80 – 100 TONS/HOUR) PULVERIZED IN CONVENTIONAL SYSTEMS. IN OUR SYSTEM THE AMOUNT OF WATER PULVERIZED AT THE HUMIDIFICATION CHAMBER WILL BE MAXIMUM 1,2 TONS/HOUR AND IT WILL BE IN THE FORM OF VERY TINY PARTICLES SMALLER THAN 35 MICRONS, SO THAT THE FANS WILL OPERATE MUCH MORE EASILY AND THERE WILL BE ~ 10-15 % HIDDEN ENERGY SAVINGS.
- THE MOST IMPORTANT POINT WHERE VISIBLE ENERGY SAVING IS OBTAINED IS THE ENERGY TO BE CONSUMED BY THE ELECTRICAL ENGINE USED IN THE HUMIDIFICATION PUMP. WHILE 15-30 KW/HOUR ELECTRICAL ENGINES ARE USED IN CONVENTIONAL SYSTEMS, 1.5-4 KW/HOUR ENGINES ARE USED IN THE FOG SYSTEM. THEREFORE SAVINGS UP TO 80 % ARE ATTAINED ON THE ELECTRICAL ENERGY CONSUMED BY THE WATER PUMP.
- IN FOG SYSTEM, WATER PARTICLE DIAMETERS ARE 5-10 MICRONS AND THEY MIX UP WITH THE AIR BLOWN FASTER AND MORE HOMOGENOUS AND **HEAT AND MOISTURE FLUCTUATIONS ARE MINIMIZED.**
- SINCE THE **AIR CIRCULATING** IN THE HUMIDIFYING CHAMBER IS **CLEANER** AND DUST-FREE, QUALITY PRODUCTION WILL BE ENSURED.
- BECAUSE THE OPERATION OF THE PUMP GROUP CREATES **LESS NOISE** IN THE FOG SYSTEM NOISE POLLUTION WILL BE DECREASED.
- SINCE THE SYSTEM COMPONENTS ARE STAINLESS STEEL AND BRASS THERE IS NO CORROSION RISK. THEREFORE **IT WILL HAVE A LONGER LIFE SPAN.**

THE ONLY IMPORTANT MATTER TO BE CARED IN THE FOG SYSTEM IS THE WATER QUALITY. THE WATER MUST HAVE 10-12 FR HARDNESS AND THERE MUST BE A SMALL FILTER GRADUALLY GETTING SMALLER, AND SMALLER THAN 5 MICRONS AT THE HIGH PRESSURE PUMP ENTRY.



SAMPLE ENERGY SAVINGS TABLES

EXAMPLE-1	Conventional Pulverization System	timfog® Timsan Fogging System	Quantity Saved	% Savings
Electric Engine	22 kw/h	4 kw/h	18 kw/h	81 %
Daily Power Consumption (with an average of 10 hours of operation)	220 kw/day	40 kw/day	180 kw/day	
Monthly Power Consumption	~6.6 MW / Month	~1.2 MW / Month	~5.8 MW / Month	
Annual Power Consumption	~80 MW / Year	~15 MW / Year	~65 MW / Year	
EXAMPLE-2	Conventional Pulverization System	timfog® Timsan Fogging System	Quantity Saved	% Savings
Electric Engine	15 kw/h	3 kw/h	12 kw/h	80 %
Daily Power Consumption (with an average of 20 hours of operation)	300 kw/day	60 kw/day	240 kw/day	
Monthly Power Consumption	~9 MW / Month	~1.8 MW / Month	~7.2 MW / Month	
Annual Power Consumption	~108 MW / Year	~21.6 MW / Year	~86.4 MW / Year	