ELECTROSUN™

It can be ...

MADE IN INDIA

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ABOUT ULTRASONIC HUMIDIFIER

Ultrasonic Humidifier Is A Advance Technology To Produce Fine Water Droplets From Water At Room Temperature. Ultrasonic Humidifier Use A Piezoelectric Transducer To Create A High Frequency Mechanical Oscillation In A Film Of Water. This Forms An Extremely Fine Mist Of Droplets About One Micron In Diameter That Is Quickly Evaporated Into The Air Flow. Why Use **Ultrasonic Humidifier ?**

❖ **High evaporation capacity** ❖ **Low maintance** ❖ **Advance water level controller**

❖ **Cost effective** ❖ **Effective temperature controller** ❖ **User friendly** ❖ **Low power consumption**

ULTRASONIC HUMIDIFIER UNIT

Brand	ELECTROSUN
Model	ESHU/5
Evaporation Capacity(L/hr)	5 (L/hr)
Power (Watt)	250 Watt
Water Level Control	Automatic
Working Temp	5 to 45 oC
Input Voltage	48VAC, 50 Hz

This kind of Ultrasonic Humidifier unit made by ELECTROSUN™ first time in INDIA.

INDUSTRIAL HUMIDIFIER

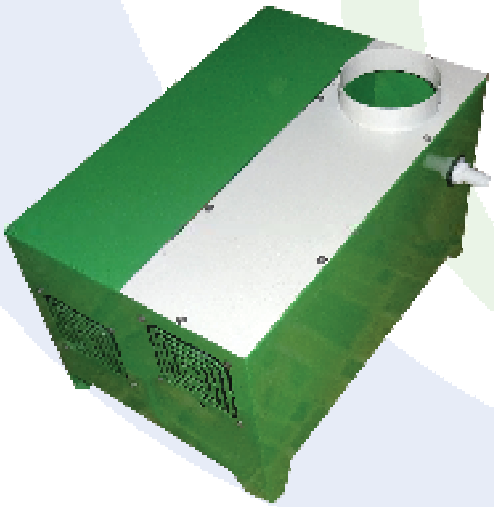
Specification :-

Portable, In built over heat unit damage protection,
Low weight, Low power consumption, Low cost, Easy maintained,
Easy installation, Long use,

Brand	ELECTROSUN	ELECTROSUN	ELECTROSUN
Model	ESPPL-3	ESPPL-5	ESPPL-10
Evaporation Capacity(L/hr)	3 (L/hr)	5 (L/hr)	10 (L/hr)
Power (Watt)	160 Watt	300 Watt	600 Watt
Water Level Control	Automatic	Automatic	Automatic
Humidity Control & Display	Up to 99% RH- Digital	Up to 99% RH- Digital	Up to 99% RH- Digital
Input Voltage	230V , 50 Hz	230V , 50 Hz	230V , 50 Hz
Body	S.S Body	S.S Body	S.S Body
Working Temp	5 to 45 oC	5 to 45 oC	5 to 45 oC
Air Volume	450 M3/hr	350 M3/hr	450 M3/hr
Gross Weight	9 kg	16 kg	20 kg
Dimension (mm) (L*W*H)	480*280*220	485*345*360	485*450*360

Applications

1. TEXTILES INDUSTRY
2. ELECTRONICS16. OPTICAL/GLASS
3. CHEMICAL STORAGE
4. POWER PLANT
5. DATA /SERVER CENTER
6. FOOD & BEVERAGES
7. CEMENT PLANT
8. DEFENCE
9. WAREHOUSE
10. RESEARCH ORGANIATION
11. ENGINEERING
12. HOSPITALS
13. EXPLOSIVE & MUNITION
14. PRINTING & PACKAGING
15. TEA PRODUCTION
16. OPTICAL/GLASS
17. HOME/OFFICE
18. HOTELS
19. TOBACCO INDUSTRY
20. GALLERIES AND MUSEUM
21. PERSONAL HEALTH
22. LABORATORIES
23. WOOD/LAMINATES
24. MEDICAL DEVICE MANUFACTURING
25. PAPER & PULP PRODUCTION
26. PHARMACEUTICALS
27. COLD STORAGE



Humidification system information in cold storage of fruits and vegetables:-

- Humidification Is A Quick, Convenient, And Popular Way To Preserve Fruits And Vegetables In Cold Storage. It Preserves More Nutrients In The Food If Properly Done.
- Humidification In Cold Storage Of Fruits And Vegetables Was Used Extensively By Our Ancestors To Keep Food After The Harvest Season.
- The Humidification Process Is One Of The Most Important Steps In The Chain That Brings Fruits And Vegetables From The Farm To The Table.
- The Cold Storage Facilities Now Available Are Mostly For A Single Commodity Like Potato, Orange, Apple, Grapes, Pomegranates, Flowers, Etc. Which Results In Poor Capacity Utilization.

Desired Storage Environment of Fruits and Vegetables in the cold storage

Commodity	Temperature (oC)	Relative Humidity (%)
Apple	-1 - 3	90 - 98
Apricots	-0.5 - 0	90 – 95
Avocado	7 - 13	85 – 90
Asparagus	0 - 2	95 – 97
Beans, green	4 - 7	90 – 95
Beet root	0 - 2	95 – 97
Broccoli	0 - 2	90 – 95
Black berry	-0.5 - 0	95 – 97
Cabbage	0 - 2	90 – 95
Carrots	0 - 2	90 – 95
Cauliflower	0 - 2	90 – 95
Cherries	0.5 - 0	90 – 95
Cucumber	7 - 10	90 – 95
Brinjal	0 - 2	90 – 95
Grapes	-1 - 1	85 – 90
Lemons	4 - 15	86 – 88
Lettuce	0 - 1	95 – 98
Lime	3 - 10	85 – 90
Mango	11 - 18	85 – 90
Melon water	2 - 4	85 – 90
Orange	0 - 10	85 – 90
Peach	-1 - 1	88 – 92
Potato	1.5 - 4	90 – 94

Why Relative Humidity (Rh %) Required?

When Handling Fruits And Vegetables Is The Relative Humidity Of The Storage Environment. Loss Of Water From Produce Is Often Associated With A Loss Of Quality, As Visual Changes Such As Wilting Or Shrivelling And Textural Changes Can Take Place. If Using Mechanical Refrigeration For Cooling, The Larger The Area Of The Refrigerator Coils, The Higher The Relative Humidity In The Cold Room Will Remain. It Pays However, To Remember That Water Loss May Not Always Be Undesirable, For Example If Produce Is Destined For Dehydration Or Canning.

For Fresh Market Produce, Any Method Of Increasing The Relative Humidity Of The Storage Environment (or Decreasing The Vapour Pressure Deficit (vpd) Between The Commodity And Its Environment) Will Slow The Rate Of Water Loss. The Best Method Of Increasing Relative Humidity Is To Reduce Temperature. Another Method Is To Add Moisture To The Air Around The Commodity As Mists, Sprays, Or, At Last Resort, By Wetting The Store Room Floor. Another Way Is To Use Vapour Barriers Such As Waxes, Polyethylene Liners In Boxes, Coated Boxes Or A Variety Of Inexpensive And Recyclable Packaging Materials. Any Added Packaging Materials Will Increase The Difficulty Of Efficient Cooling, So Vented Liners (about 5% Of The Total Area Of The Liner) Are Recommended. The Liner Vents Must Line Up With The Package Vents To Facilitate Cooling Of The Produce Inside. Vented Liners Will Decrease Vpd Without Seriously Interfering With Oxygen, Carbon Dioxide And Ethylene Movement.

Without Rh% Maintained In Cold Storage?

1. Product Weight Loss Around 20%
2. Affecting The Appearance
3. Shelf Life Of The Products
4. Reduce The Value Of The Stock
5. Loss Quality
6. Dark Surface Appearance
7. Low Humidity Generate Cold Viruses
8. Suffer Higher Peel And Trim Losses
9. Minimize Shrinkage

Application Of Humidifier:

Too Low Room Humidity Can Lead To Health Problems Through Drying Out Of The Mucous Membranes. Dryness Affects The Functioning Of The Cilia In The Air Passages. Consequently The Self-cleaning Of The Air Passages Is Impaired And The Susceptibility To Colds Increased. Plastic Parts Become Electrically Charged In Low Air Humidity And Attract Dust Particles. Additionally Unpleasant Discharge Effects Can Occur When Touching Charged Surfaces. The Air In Heated Rooms Becomes Especially Dry In Winter. Air Conditioned Systems That Only Circulate The Air By Mixing It Proportionally With Fresh Air Will Not Humidify The Room. Whereas Room Air Humidifiers Will Contribute To The Well-being And Health For People Who Remain In Rooms For Longer Periods Of Time. Room Air Humidifiers Are Used In Office Spaces Just As In Schools, Nurseries, Hospitals And Operating Theatres. In Such Areas Air Humidities Of 30-65% R.h. (for Operating Theatres In Hospitals As High Even As 50-70%) Are Recommended. Electrostatic Charging Will Be Reduced Above 40% R.h. And Can Even Be Prevented If Air Humidification Is Increased. This Is Essential, Especially In Computer Rooms, It Centres And Telephone Exchanges. Many Materials Are Sensitive To Changing Humidity (hygroscopic Substances) As They Can Shrink And Loose Their Elasticity. Consequently It Is Important To Ensure That The Correct Humidification Is Specified For Environments Where Expensive Objects Are Warehoused And Stored.

Food Storage

Cold Rooms: When The Humidity Is Too Low, Meat, Fruit And Vegetables Dry Out, Loose Weight And Spoil More Quickly. Dependent On The Goods Being Cooled, A Controlled Uniform Humidity Of 60-85% Ensures Lasting Quality And A Long Shelf-life.

Ripening Rooms: For Many Foods, Aroma And Taste Can Only Develop In Particular Climatic Conditions. Cheese For Example Ripens Optimally At A Temperature Of 2-15°c And At A Relative Air Humidity Of 75-95%.

Eggs: Ambient Humidity Of Up To 80 % R.h. Prevent Eggs Drying Out And Loosing Weight Through Their Porous Shells.
Meat And Sausages: Ambient Air Relative Humidities Of 80-90% In The Cold Room And During Hanging Prevent A Loss Of Weight And Quality In Meat. Humidified Shop Counters Safeguard The Appearance And Quality Of Fresh Meat.
Fruit And Vegetables: Dry Ambient Air Removes Moisture From Fruit And Vegetables. It Quickly Dries Out, Loses Weight, No Longer Looks Attractive And Goes Off More Quickly. Ambient Humidities Of 80 To 90% Safeguard Quality And Prevent Weight Loss.

Honey: To Maintain Consistency And Flavour, The Honey Is Optimally Stored At A Temperature Of 2°c And 75% R.h.

Tobacco: A Relative Humidity Of 70-80% In The Raw Tobacco Warehouse At About 22-25°c Maintains The Aroma And Favours The Ongoing, Quality Increasing Fermentation.

Tea: Tea Maintains Its Aroma And Flavour, If It Is Stored At A Temperature Of Approximately 15-20°c And A Humidity Of 60-65%.

Storage Of Artefacts

Books: Paper Is Hygroscopic, Which Means It Reacts To Changes In The Humidity Level. Especially With Valuable Old Books, The Paper Can Become Frail Due To Too Little Humidity And Thus Undergo Irreparable Damage. It Is Helpful To Maintain A Controlled Humidity Level Of Between 40 - 50 % R.h. For The Storage Of Valuable Old Books And Papers.

Antiques: The Wood Of Valuable Old Furniture And Musical Instruments Can Crack Or Warp.

Pictures: Fluctuations In Humidity Can Lead To Paint Peeling, Canvases Cracking And Warped Frames.

Sculptures: Variations In The Humidity Can Result In Sculptures Made Of Natural Materials To Shrink And Crack. Valuable Artworks Are Thus Damaged Or Destroyed. A Uniform Air Humidity Matched To The Material In Question Safeguards The Artworks And Their Value. Many Production Processes Only Function With The Correct Air Humidity. Either The Production Process Itself Requires A Defined Air Humidity (e.g. As It Is The Case For Baking Bread Or Cheese Production) Or The Materials Used In Production Require A Particular Air Humidity To Maintain Their Quality Or Usability.
Experimental Arrangements Often Require A Precisely Defined Room Climate. To Obtain A Reliable And Reproduceable Result, The Respective Moisture Content Of The Air Quickly And Precisely Adjusts To Match The Requirements In Question. Therefore, Laboratories Are Often Equipped With An Electrode Or Heater Element Steam Humidifier With Modern Microprocessor Controls.
Dry Air Favours Electrostatic Charging And Electrostatically Charged Objects Attract Dust. Also Electrostatic Charging Can Result In The Destruction Of Electronic Components.

Clean Rooms:

Constant Humidity Is Essential For The Operation Of Clean Rooms As It Prevents Electrostatic Charging. Humidification Also Supports The Maintenance Of Constant Production Parameters With Sensitive Manufacturing Processes, For Example In Semiconductor Production. Other Clean Room Applications Include The Pharmaceutical Industry, Medical Research, Biosciences And Nanotechnology. In Such Validated Processes, All Production Parameters Have To Remain Constant So That Conditions Can Be Reproduced.

Construction:

Natural Building Materials Such As Loam, Wood, Cork And Other Moisture Storing Materials Are Increasingly Being Used In New Builds As Well As In The Existing Building Stock. As Insulation Solutions And Ventilation Systems Are Improved To Reduce Energy Consumption, Materials Are Drying Out Due To A Lack Of Air Humidity. This Is Increasingly Becoming A Problem, Especially During The Colder Seasons. Buildings Are Experiencing Cracks In The Wood Beams, In Antique Wooden Furniture, In Parquet Floors And Also In Loam Rendering. A Controlled Air Humidity Protects Furnishings Against Drying Out And Thus Contributes To Maintaining Investment Values.

Food Production:

Baking: The Best Results In Commercial Baking Are Achieved Using Different Humidity Levels In The Various Stages Of The Baking Process. A High Air Humidity Will Prevent A Skin Forming On The Fresh Dough During The Fermentation Process And This Will Therefore Encourage The Yeast To Grow. During Baking, The Humidity In The Oven Influences The Consistency Of The Baking, While A Briefly Increased Humidity During The Last Few Minutes Of Baking Ensures That The Surface Of The Bread And Bread Rolls Is Particularly Crisp And Glazed.

Cheese Dairy: The Aroma And Taste Of Cheese Can Only Develop Correctly During The Ripening Of The Cheese At A Temperature Of 2 - 15°c And A Relative Humidity Of 75-95%.

Fruit And Vegetables:

Fruits And Vegetables Have A Natural Degree Of Moisture. Fruits And Vegetables Can Lose Their Moisture If They Are Stored In A Cold Warehouse That Does Not Have A Controlled Humidity. As A Result, The Fruits And Vegetables Will Decrease In Weight And Will No Longer Appear To Be Fresh. If The Correct Humidification Is Specified, Fruits And Vegetables Will Maintain Their Weight, Have A Longer Shelf Life And Can Remain In The Warehouse For Extended Periods Of Time.

Textile Industry, Leather And Preparation Of Furs:

Textiles Are Hygroscopic, I.e. They React To Humidity. If This Is Too Low, Then The Air Takes Moisture Out Of The Material. The Consequence: It Becomes Frail, Tears More Easily And Will Not Last As Long. During Production And Storage Of Textiles, The Quality Must Be Maintained By Controlling The Air Humidity So That It Is Appropriate For The Material Being Produced.

Modern Industrial Fibres Currently Have Varying Fractions Of Synthetics. An Ambient Humidity Of Up To 70% Is Required During Spinning Or Weaving To Ensure That The Fibres Do Not Tear Or Attract Dust. Leather Can Loose Its Suppleness Or Become Frail Once It Has Been Exposed To A Low Humidity During The Production, Storage Or Processing Stages. In The Leather Preparation Areas And Tannery, A Relative Air Humidity Of 65-70% Must Be Maintained At 10-20℃, While For Production And Storage 55-65% R.h. At 20-23℃ Are Optimum.

Wood Processing:

If Wood Becomes Exposed To A Low Or Non-uniform Humidity During Production And Storage It Can Warp, Crack Or Break. Experts Recommend A Uniform Relative Air Humidity Of 45-60%.

Paper Manufacturing And Processing:

With Paper, The Maintenance Of Its Own Moisture Level Through The Provision Of The Correct Humidity In The Ambient Air Is Particularly Important. Creasing, Edge Waves And So-called "craters" Are Almost Impossible To Remove Later. A Relative Humidity Of 50-65% Ensures Consistent Quality During Cutting, Binding, Gluing And Storage.

Printing:

For Rotary Or Screen Printing, Photo Printing And Machinery Rooms Printers Require A Relative Humidity Of Between 50 And 60%, So That The Paper Is Not Cratered Or Wavy And Without Flash Burns Or Register Differences.

Animal Husbandry:

Animals Are Less Prone To Disease And Grow Faster If The Humidity Is Appropriate And Uniform. For Example, Chicks Are Particularly Comfortable In An Incubator Maintained At A Temperature Of 36-39°c And A Relative Air Humidity Of 70-75%.

Greenhouses:

For Fast And Healthy Growth, Plants Require 60 - 95% R.h. If The R.h.is Too Low, Plants Grow Too Slowly And The Blooms And Fruit Remain Small And Keep For A Reduced Shelf Life.

Our Clients

Export Country

Srilanka | Nepal | Myanmar | Bangladesh | Iran | Iraq | Riyadh
Dubai | UAE | Canada | America | Newzealand

ELECTROSUN™

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MAKE IN INDIA

स्वच्छ भारत
एक कदम स्वच्छता की ओर