

ASIA AIRBLAST

The Art of Powerful Cleaning



DEHUMIDIFIER



Dehumidification is the removal of water from the air. Dehumidification equipment will take the ambient air and will “treat” it before it is exhausted into the enclosure. The addition of heat to the air will merely reduce the relative humidity – it will not remove water from the air. Therefore, a heater is not a dehumidifier.

Asia Airblast Pte Ltd has attained yet another milestone by engineering Air Cooled Dehumidifiers through the transfer of technology by their Holland counterpart to provide dehumidification all year around.

Our dehumidifier can be customized according to the local conditions and the needs of the customers.

A comprehensive dehumidifier system is necessary to reduce moisture level in the air, reduce dew-point temperature, keep the working environment at low Relative Humidity.

Another function of dehumidifier system is in aiding the curing of paints. It regulates moisture condensation in the coating film and expedites the release of solvents.

Types of Dehumidifier

There are current four industry accepted types of dehumidification, they are:

Compression of the air

This will reduce the absolute moisture content of the air but will generally produce a saturated condition at the elevated pressure. Expansion of this high pressure air will result in a lower dew point at the lower pressure because of the increase in actual volume. This is similar to what one experiences with an air compressor. The removal of the condensed water is accomplished by use of water traps and after coolers. However, the amount of air treated does not make this a viable alternative for dehumidification within the industrial marketplace.

Liquid sorption

The air is passed through sprays of liquid sorbent, such as lithium chloride or glycol solution. The sorbent in its active state has a vapor pressure below that of the air being dehumidified and thus absorbs moisture from the air stream. The sorbent must be continually regenerated by using heat to drive off the absorbed moisture.

Solid sorption (desiccant)

This method utilizes either granular beds or fixed desiccant structures that are employed in automatic machines through which the air passed. This desiccant also needs to be reactivated by heat to release the previously sorbed moisture to an outdoor stream.

Condensation-based (Refrigerant)

This type unit, chills the air below its dew point, causing moisture to form as condensation on the cold surface of the cooling coil and thus removes water from the air.

In practicality, from the standpoint of the corrosion control and product protection industries, only the condensation based (refrigerant) and the solid sorption/desiccant types are applicable.

The desiccant based dehumidification system uses a chemical to directly absorb moisture from the air while it is a vapor. Specifically, the moist air stream is passed over a desiccant, typically lithium chloride or silica gel, that in its active state has a vapor pressure below that of the air to be dehumidified. Moisture is absorbed from the air stream. The desiccant is then heated which forces it to give up the absorbed moisture, regenerating the desiccant for continuous use. The heat of regeneration causes the temperature of the air entering the enclosure to be substantially higher than the ambient air. Due to this heat of regeneration requirement, the power requirements to operate this type of unit are generally quite high. Ultimately the desiccant will have to be completely replaced to maintain its performance level.

Why should use dehumidification during Abrasive Blasting

It is generally accepted that for corrosion to occur all four of the following components must be present:

1. Anode-A metal, in contact with the electrolyte, which corrodes (gives up energy)
2. Cathode-A metal, in contact with the electrolyte, which does not corrode (gives up energy)
3. Conductor-A metal which connects the anode and the cathode to complete the circuit for current flow
4. Electrolyte-Conducts current

Applications

A wide range of applications are available to the users of these Airblast multi-functional refrigerant based dehumidifiers.

Typical uses include, but not limited to the following:

Aviation

To facilitate the preservation of aircraft during periods of either long or short term in activity.

To facilitate the storage of sophisticated electronic equipment by minimizing the formation of minute layers of corrosion build up on the circuit surfaces.

To facilitate the painting of aircraft that have been placed within an enclosure.

Food

To facilitate the drying of grain products.

To minimize the formation and growth of detrimental algae, mold, and fungus.

To assist in the shipping of perishable food items.

To maintain dry areas to assist in packaging applications.

To protect hygroscopic materials.

To assist in the material handling of hygroscopic materials.

Marine

To reduce the amount of time required for degassing of tanks.

To reduce the time required to dry a tank after steam cleaning, hydro blasting, or washing operations.

To minimize the formation of "flash rusting" in abrasive blasting operations that are required for the application of protective linings required for a good corrosion control program.

To reduce the time required for the curing (drying) of the protective lining.

To provide a safer, more productive work environment for personnel working within a tank.

Off Shore

To protect operational electronic and computer equipment against corrosion caused by the severe off shore environment.

To reduce the time required to create a "workable" environment for personnel as they enter closed storage areas.

To maintain the enclosed work areas in a safe condition for working personnel.

To assist in the prevention of corrosion by the application of protective coatings and linings.

Petroleum

To minimize the formation of flash rust during the abrasive blasting portion of a lining project – even if it is raining.

To facilitate the application and cure of the protective coating/lining material.

To provide a more ideal environmental condition for the lining to cure and thus lengthen the service life of the coating.

To provide a more comfortable, and thus a safer and more productive, environment, for the working personnel.

Power

To facilitate in the storage of production units that have been shut down due to low power demand.

To facilitate in the preservation of storage tanks in a manner similar to that found in the above Petroleum section.

Restoration

To dry buildings and their contents after catastrophes such as floods, hurricanes, fires, broken water pipes, etc.

To dry books, papers and other similar items that have been severely wetted.

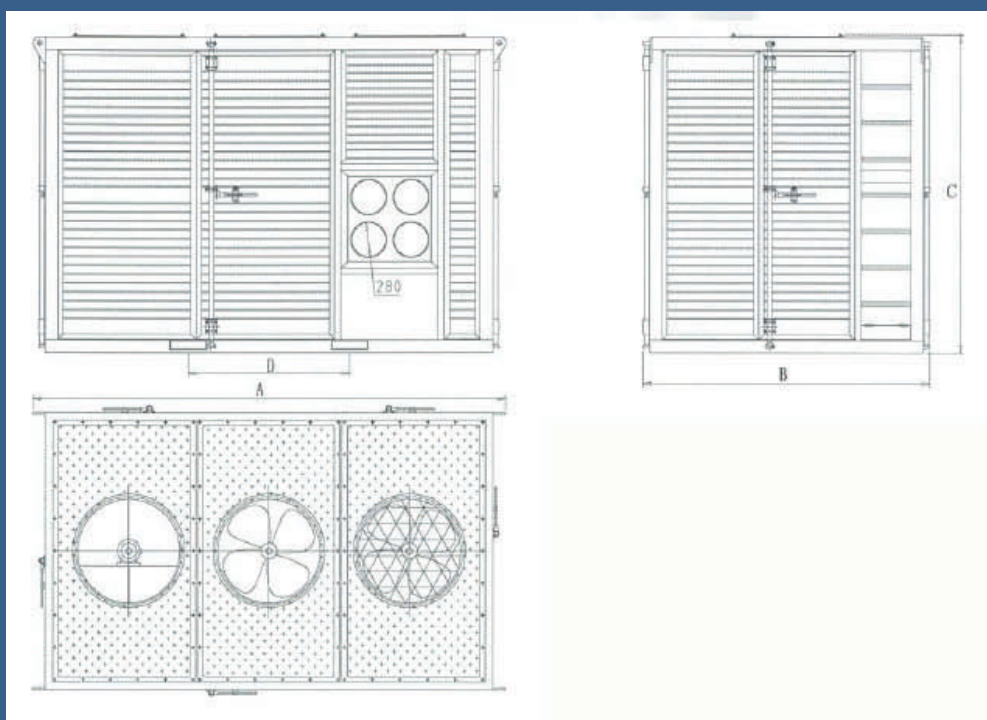
Shipyards

To assist and speed up the degassing of tanks to allow faster personnel entry.

To provide a safer and more productive working environment for personnel.

To provide an environment that will assist in abrasive blasting and lining applications due to a lower Relative Humidity within the tank.

AR DH Series Drawings



The main Components of Tropical Climate Dehumidifier



Evaporator



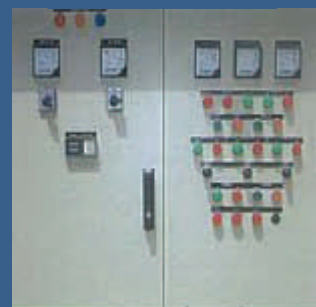
Discharge Fan



Compressor



IP 55 Control



| Air-Cooled | | Dehumidifier | | Series | |
|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--|
| Model | AR 18000SE | AR 12000SE | AR 9000SE | AR 6000SE | |
| Item | | | | | |
| Process Airflow (m ³ /hr) | 18000 | 12000 | 9000 | 6000 | |
| Compressor Power () (HP/kW) | 110/82 | 60/45 | 50/37 | 40/30 | |
| Compressor Capacity (kW/hr) | 379.6 | 207 | 191,4 | 150.5 | |
| Process Blower (kW) | 30 | 15 | 11 | 5.5 | |
| Reheating Capacity (kW) | 54 | 27 | 27 | 27 | |
| Condenser Fans (kW) | 6*2.2 | 3*2.2 | 3*2.2 | 2*2.2 | |
| Static Pressure (Pa/H ₂ O) | 4000 | 3000 | 2500 | 2000 | |
| Power Consumption (kW) | 179.2 | 93.6 | 81.6 | 66.9 | |
| Condenser | Copper tube/ Aluminum Fins | | | | |
| Evaporator | Copper tube/Copper fins | | | | |
| External Dimension L*W*H(mm) ()refers without eye-bolt Measurement | 5920*2300*2500 (5700*2300*2500) | 3800*2300*2520 (3600*2300*2520) | 3800*2300*2420 (3600*2300*2420) | 2800*2200*2220 (2600*2200*2220) | |
| Weight (Metric ton) | 7 | 4 | 3.5 | 2.8 | |
| Discharge Dimension (mm) | 6-φ280 | 4-φ280 | 3-φ280 | 2-φ280 | |

Note (All Models):

1. Power supply: 3-phase plus each 415V / 50 Hz
2. Refrigerant: R22
3. Cooling step control: 25%~50%~75%~100%
4. Cooling Media: Air
5. Discharge condition: 25 ± 3 °C/RH below 45%
6. We have the policy to improve out equipment cintinously & shall reserve the rights to change the dimensions and specs without perior notice.



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