



The Next Level of
Dehumidifiers
and
Energy Recovery Solutions

Appidi Technologies Pvt Ltd., is a trusted name in Humidity Control and Energy Recovery Solutions in India. It is a technology driven company that was established in the year 1997, and caters to the requirements of industry sectors such as pharmaceuticals, food Processing, packaging, Storage industry. The company enjoys the excellent reputation in the industry despite being a relatively new entrant. It has acquired this enviable position through its unique approach to the products and its strategic alliances with international partners. The company has its integral manufacturing unit with CNC fabrication facilities located in Hyderabad, India.





Vision combined with Action

Within a decade of starting operations, Appidi became a name to reckon with as the company has executed several critical and challenging jobs and proved successful at customers site. We attribute our success to satisfaction of our Customers our vision and the action plan we had.

Vision they say is seeing what is invisible to others. In this market as an emerging player we had a clear vision of what we wanted to achieve. We combined that with a practical plan of action to lead us there. Soon enough we got there within the timeframes we set for ourselves. But it is not time for us to rest on our laurels; because as they say nothing wilts faster than the laurels that have been rested upon.

Thinking ahead, forging ahead

To gain further momentum in our progress and to extend our reach we have forged strategic alliances with overseas counterparts. As a relatively young and growing company we have delivered the accompanying advantages to our customers. Our deliveries are fast, our response time is double quick, and we are at the service of the customers literally round the clock. This has helped us to grow very fast and become a name to reckon within the industry

Our strengths

- Responsive to customer's needs
- Flexible and adaptable
- Quick turnaround
- Fast deliveries
- Excellent after sales network
- Customised solutions and yet affordable

Our Mission

We are dedicated to providing world class quality products to our customers, while providing an enriching environment that encourages employees to be highly productive. We ensure the quality of our products through applications of new technology and best business practices.

How Green is your Dehumidifier?

The Appidi dehumidifiers are the most energy efficient products in the market. They are engineered for environmental efficiency. The best quality components are used to manufacture our dehumidifiers.

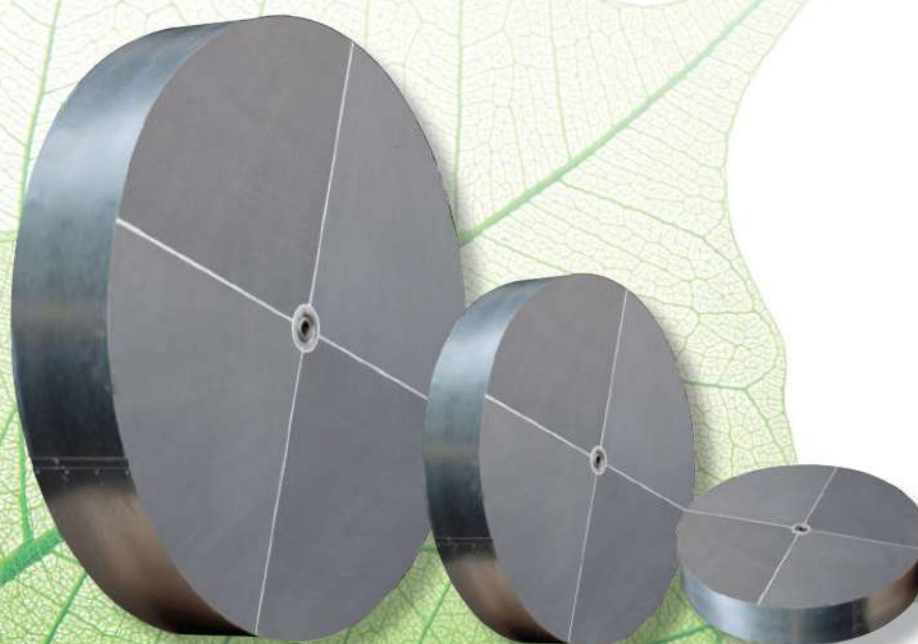
The rotor which is the heart of a dehumidifier is the best in the market. We use rotors that are imported from Sweden. The switch gear is Siemens. The sensors are from Switzerland. PLC is of Allen Bradley - USA or Mitsubishi - Japan. All this adds to the efficiency of the product. The usage of power is less and can re-generate at a maximum temperature of 120 deg C or Steam Pressure of 3.5 Kg / Cm² compared to the other dehumidifiers in the market which do the same quantum of work at Temperature of 145deg C or Steam Pressure of 7 Kg / Cm² . This results in a huge savings for customers. This reduces the carbon footprint of the company- a most essential necessity of the times. Our quality policy is in tune with the global initiatives for reducing global warming.

Powered by



Proflute, Sweden Desiccant Rotors

Business Partner for the past 14 years



The Appidi Edge

Compact design, easy to handle, requires less space Versatile: Functions equally well at normal or high humidity levels. Easy maintenance: easy to replace seals, filters and heaters No additional costs: Involves no special staff or costs

Custom engineering: Products designed to suit the unique needs of each customer such as only Dehumidification, Dehumidification with Air Handling Units, Dehumidification with treated Fresh Air, Dehumidification with post cooling arrangement and Dehumidification with filtration.





Thyristor control: APPIDI Dehumidifiers are equipped with advanced energy efficient control system like Thyristor control device as an optional feature. This option optimizes the use of electricity by fine controlling the Heater banks.



Limit Switch: It is provided on the Desiccant Rotor for indication of rotor rotation. In case of any slip in the rotor belt or rotor drive Motor failure the Limit switch will indicate to the PLC and the PLC stop the system with display and alarm.



RH & Temp. Transmitter: The sensor is provided with any capacity dehumidifier as per customer option. The humidity sensor has an accuracy of $\pm 3\%$ and the temperature sensor has an accuracy $\pm 1^\circ\text{C}$. the sensor can be installed in either return airpath / process inlet of the dehumidifier.



PLC: Micro processor based PLC Controller is provided in the systems CCR-250 (1500CFM) capacity onwards or shall be provided as optional for the lower models. PLC detects the fault in the system and indicates on its screen. It is programmed to perform the following functions:

- Rotor drive fault/ stopped, alarm and indication.
- The process motor failure alarm and indication.
- Reactivation motor failure alarm and indication.
- High temperature indication and alarm.
- Set RH achieved status
- Low pressure alarm.

The PLC is programmed to switch OFF the heaters automatically when it detects the fault.



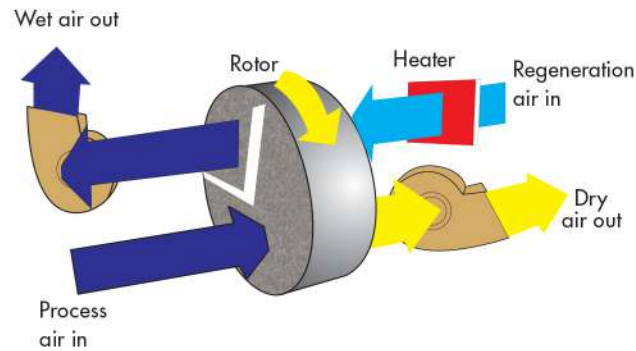
Pressure Differential Switch: Differential pressure switch is provided as a safety measure for preventing the heaters coming ON, when the reactivation blower is off or defective. This pressure switch will allow the heaters to come ON only when certain airflow is detected across the heater banks.



Heat Resistant Filter at INLET of the Regeneration is specially designed with fire retardant media. Both sides of the filter is covered with aluminum mesh for long life. Filter media in Glass fiber+ aluminum mesh and casing MOC in Aluminum. Maximum sustainable temperature 120°C .

The Operating Principle of Dehumidifiers

The Appidi dehumidifiers are based on the desiccant dehumidifying technology. It uses a solid desiccant rotor, consisting of stabilized silica gel bonded to a high heat resistant substrate that is slowly rotated. As the air passes through the fluted rotor, it adsorbs moisture from the process air that is ductated to the unit and is blown through an approx 70% of the rotor surface. This produces very dry discharge air with extremely low relative humidity, which is ducted to the AHU or area being treated to facilitate drying of other moisture control applications. Heat is applied to the remaining 30% of the rotor surface to reactivate the desiccant material. The resulting wet air discharge is vented outside. Other advanced features like microprocessor controllers are also incorporated for precision control and maximum operating efficiency.



**Engineered Dehumidifier
with AHU**



Application areas

Appidi dehumidifiers can effectively service the needs of an entire spectrum of user segments. Low humidity maintenance is a prerequisite in manufacture of tablets, capsules, dry powders, seed storage, food processing and packing including candy making, sugar coating and coffee bean / tea drying.

Similarly humidity control is very essential in the manufacture of gum based products, candies and other material processing like coffee / tea in the food industry.

Other areas

Ship building

Aircraft Maintenance Centres

Airport lounges

Hygroscopic product storage

Sugar warehouses

Seed storage rooms

Cold store rooms

Defence labs

Heritage structures, art galleries and museums

Manufacturing facilities of computers and electronic components

Power stations, precision and chemical plants
Humidity control is essential prior to painting of internal surfaces in large construction, bridges, warehouses, etc.





APPIDI **Energy Recovery** Solutions

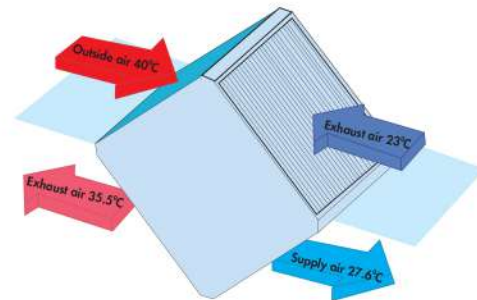
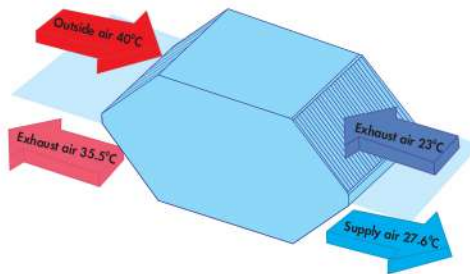
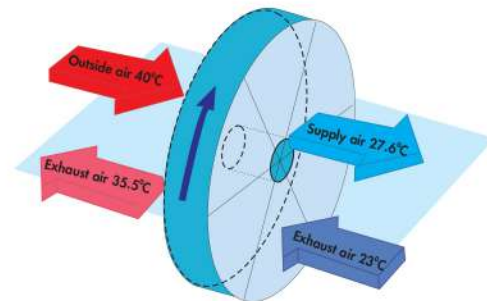
Air to air principle of energy transfer

Appidi Energy Recovery Units (ERU) heat recovery is a plate or rotary type air-to-air heat exchange designed to provide maximum energy efficiency in ventilated systems where heated or cooled air is let out and outdoor air is let in. In applications where ventilation is required or recycling of the same air is not allowed, energy recovery wheels or plate heat exchangers are used to recover the energy from exhaust air. This reduces the initial investment in HVAC equipment and minimises operating costs.

Since HVAC equipment is typically the largest source of energy consumption in commercial buildings, ERU investments are economically justified for outdoor air makeup. In new HVAC installations ERUs also allow ventilated systems to be sized with smaller compressors, lowering initial costs of the HVAC package.

Principle advantages

- Reduce CO₂ emissions
- Sensible use of fossil energy carriers
- Protects nature for future generation
- Improves indoor air quality
- Improves employee functional efficiency



Powered by :

KLINGENBURG
ENERGY RECOVERY - GERMANY

Klingenburg, Germany
A Technology Leader in Rotary,
Crossflow and Counterflow Energy Recovery Systems



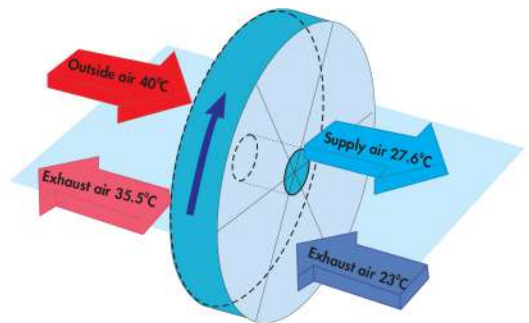
Rotary Heat Exchangers

For ventilation systems

The highest form of thermal energy recovery system in air handling systems is the rotary heat exchanger. There is no other system of energy recovery that can deliver high efficiencies with high air volumes in limited room spaces.

Principle:

The rotor which is constructed like a honey comb rotates non-stop between the streams of cold air and hot air. The rotor is cooled up to 80% of the cooling and humidity contained in the air. Then the cooling is transferred to the hot supply air coming from ambient to the rooms.



Rotor types

Condensation rotors

Primarily used for sensible energy recovery

Enthalpy rotors

This kind of rotor has hygroscopic surface, which supports the transfer of moisture

Sorption rotors - HUGO

Rotors of this type have a high hygroscopic coating which allows high sensible and latent efficiencies year round

Epoxy coated rotors

In order to increase corrosion resistance; rotary heat exchangers are also coated out of epoxy-coated aluminium foil

Rotary Heat Exchangers

Paint booth rotor

It is quite impossible to imagine today's large sized paint booths in the automotive industry without heat recovery systems. The economic benefits are indisputable.

Paint application systems are in constant use, maintenance intervals are growing and this requires heat recovery systems with high standards of operational safety.

Applications:

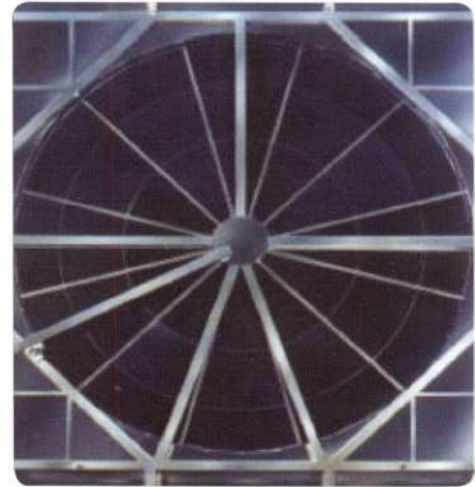
Pharmaceutical labs

Hospitality industry

Schools

Software parks

All comfort air conditioning zones require good indoor air quality



Counter flow plate heat exchanger

- * Give energy savings of up to 90% and higher in cases of condensation
- * Machine finished real counter flow heat exchangers with channelled airflow guides made from sea water resistance aluminium to achieve higher efficiencies over the entire volumetric spectrum.

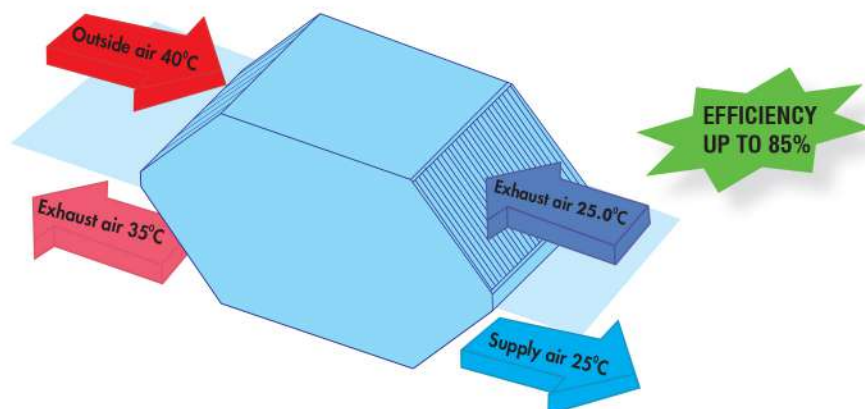


Applications

Air-conditioning units, controlled accommodation ventilation, warmth recovery in winter and cooling recovery in summer.

Functional principle

The two air streams are conducted past each other along thin parallel aluminium plates according to the counter flow principle. Up to 90% of the heat in the exhaust air is transferred to the ingoing air, without any smells or humidity being exchanged.

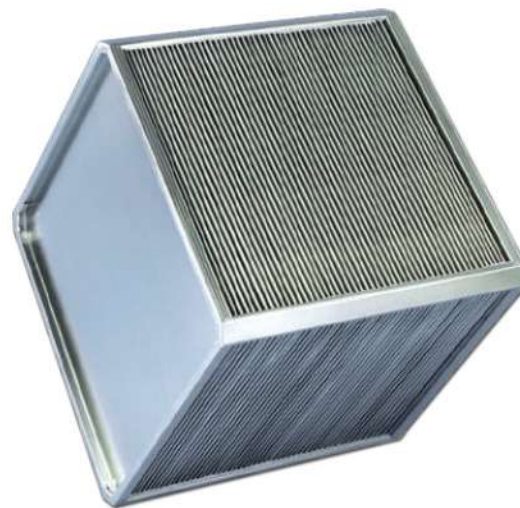


Advantages

- Distribution of airflow through definite channelled guides, thus ensuring high performances by simultaneous low pressure losses over the entire volumetric spectrum.
- Eight sizes available to cover volumes from 50-5000 m³/h for one unit
- Application of seawater resistant aluminium
- Precise machine manufacturing
- Precision engineering with totally smooth outer surfaces to ensure optimum sealing and perfect matching to the A/C systems
- No use of screws, bolts or drivers
- Long life span
- resistant to frost damage
- Sealing between plates is done through adhesive diffusion of the sealing substance, thus making the system extremely hygienic. No bacterial growth is possible

Cross flow Plate Heat Exchangers

The plate heat exchanger consists of a plate stack composed of advantageously circular grooved plates, welded together. The clearances between the plates form flow ducts for flows of a heat-supplying medium and a heat-receiving medium. The plates are provided with holes which form inlet and outlet channels for the flows of the heat transfer media. At least one of the holes on the plates is located substantially in the centre of the plate.



The plate heat exchanger operates on the cross flow principle. When the plate heat exchanger is provided with a partly opened mantle which connects the end plates together, and the central channel is provided with a partly opened pipe to control the flows, the plate heat exchanger is made to function both on the counter flow principle and the forward flow principle.

The outside air and the inside air are completely separate from each other.

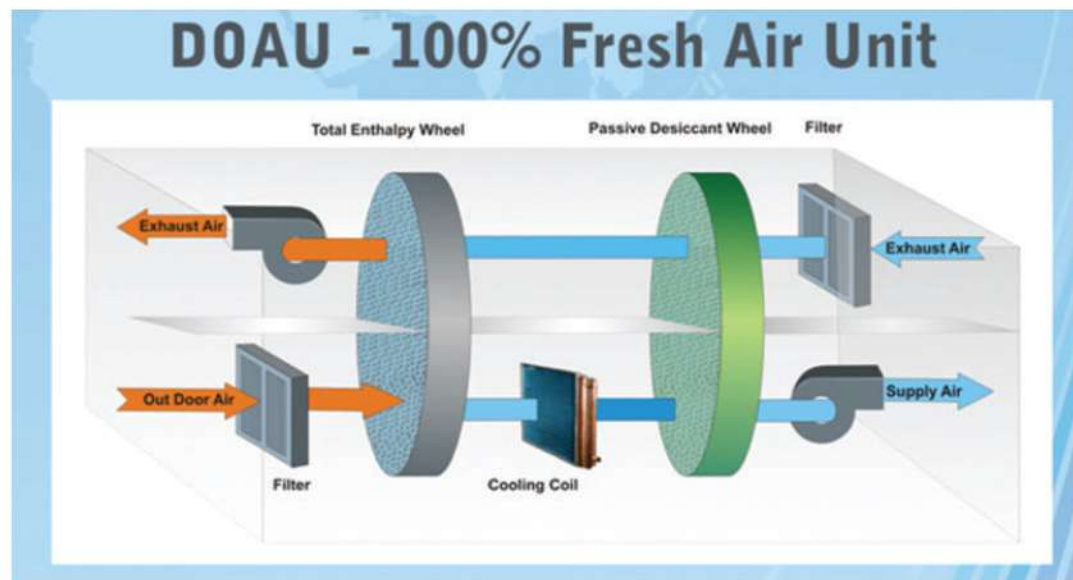
DOAU - Dedicated Outdoor Air Unit

A dedicated outdoor air Unit (DOAU) is a type of heating, ventilation and air-conditioning system that consists of two parallel systems a dedicated outdoor air ventilation system that handles latent heat and a parallel system to handle sensible heat, thereby reducing the cost of capital and operational expenses. DOAU provides comfort conditions in the air conditioned area.

A combined system in which conditioned outdoor air is ducted to the main HVAC system that supplies the cooled or heated air in to the space to improve the Indoor Air Quality (IAQ) and enhances the efficiency of the people working in the conditioned space

The advantages are as follows:

- a. Reduces the load on the HVAC system and also initial capital cost.
- b. Supplies the optimal Air Conditions required in the space for higher efficiency and comfort of the occupants.
- c. Combined air flow reduces the air volume and thereby energy.
- d. Avoids the foul smell, odors normally found in re-circulation systems
- e. Reduces and maintains the required level of Relative Humidity



DOAU Consisting of passive dehumidification wheel, drive arrangement, Seals , supply and exhaust fans, pre filters, cooling coil, SS 304 drain tray, Supply and exhaust Motors, VFD , Double skinned casing with thermal break Aluminum Profiles frame work and 45 mm panels, Volume control dampers and base frame etc..

Appidi's Valued Customers

We have a long term relationships with some leading companies. Our market position is reflected in our client list and is a testimony to our professionalism and product strength. Our partnership with our customers has always been excellent because we are solution centric and deliver results. We are responsive and adaptable to their needs. We are informal in responding to their requirements whenever the need arises-24 x7.

Ranbaxy Laboratories Ltd.

Cipla Ltd.

DR. Reddy's Laboratories Ltd.

Sandoz Private Ltd.

Glaxo Smithkline Limited

Hetero Drugs LTD

Wockhardt Limited

Piramal Healthcare Ltd

Torrent Pharmaceuticals Ltd

Glenmark Pharma, USA, INDIA

Volvo Automobiles

Lupin Ltd

Mylan Laboratories Ltd.

Natco Pharma

Alstom

Panacea Biotec Ltd.

Shanta Biotechnics Ltd.

Unichem Laboratories Ltd.

Wrigley India Ltd.

Raheja IT Park

Saint Gobain Glass Ltd.

Supreme Seed Company Ltd. – Dhaka

Blue Star Limited

Voltas Limited

Mankind Limited

Virchow Biotech Pvt. Ltd.

Cadbury

Addis Pharmaceuticals

Intas Pharmaceuticals

Dr.Reddy's

Mylan®

WOCKHARDT

gsk GlaxoSmithKline

LUPIN

UNICHEM
LABORATORIES LIMITED

RANBAXY
LABORATORIES LIMITED

SAINT-GOBAIN
CORPORATION

Mankind

virchow
BIOTECH PRIVATE LIMITED

NATCO

VOLTAS LIMITED

Cadbury

ALSTOM

SUN
PHARMACEUTICAL
INDUSTRIES LTD.

Cipla
Caring for life

SANDOZ

glenmark
A new way for a new world

Piramal | Healthcare
knowledge action care

HETERO
where the future started yesterday

LAURUS Labs
Knowledge. Innovation. Excellence.

ALKEM

Abbott
A Promise for Life

MSN

AUROBINDO
Committed to healthier life!

ipca
A dose of life

BLUE STAR

WRIGLEY

INTAS



**Address: Survey No : 123, Jeedimetla Village, Quthbullapur Road,
Hyderabad - 500055, Telangana . INDIA.**

Tel : +91- 40 - 65863942, +91- 92480 33474

Email: sales@appiditech.com, appiditech@yahoo.com

Website : www.appiditech.com