



COSMIC

Innovations Meet Solutions

- **PROCESS LIQUID CHILLERS**
- **CLIMATIC CHAMBERS &
TEST EQUIPMENTS**
- **HVAC PROJECTS**

COSMIC REFRIGERATION PVT. LTD.

www.cosmicrefrigeration.net



Revolutionizing the field of industrial refrigeration technology...

ABOUT US:

We are a Global Projects Company in the field of Industrial Refrigeration & Air conditioning. COSMIC - A name synonymous with excellence and professionalism for over 25 years. We have completed over 250 installations - from concept to commissioning, from single-process units to complete and integrated turnkey plants.

A vast customer base in diverse industries like - Engineering, Refrigeration, Air conditioning, Chemical, Fertilizer, Automobile, Rubber, Plastic, Metal working, Food processing, Pharmaceuticals, Electrical/Electronics & Defence Sector, spread over India and many countries, speak of customer satisfaction.

OUR EXPERTISE:

At COSMIC, we understand the dynamics of each customer requirement and the variety of demands on its air conditioning / refrigeration system. We help you with innovative design that makes the system more efficient, cost-effective and economical in long run, saving substantially on your power and maintenance cost.

Industrial Refrigeration & Air conditioning is a lot about designing 'solutions' to specific requirement rather than trying to fit available product to the requirement. In other words, what the user of industrial Refrigeration & Air conditioning needs is a 'customized cooling solution'.

This precisely is the strength of COSMIC and what we offer is value-added innovative solution to customers.

PROCESS LIQUID CHILLERS

Water / Glycol Chillers, Oil Coolers, Coolant Coolers, Ice Bank (Thermal Storage System)

A "liquid chiller" is a refrigeration system that cools liquid. In industrial application, chilled water or any liquid is cooled in the chiller and pumped through process equipment. Industrial chillers are used for controlled cooling of products, processes and machinery in a wide range of applications.

Cosmic has been one of the pioneers in developing and manufacturing Chillers for various applications.



Specification:

- Available with Reciprocating / Screw / Scroll Compressors in wide range
 - Liquid Chillers : 0.5TR to 1000TR
 - Ice Bank (Thermal Storage System : 500 LPD to 50000 LPD)
- Available in air cooled and water cooled option
- Eco-friendly and CFC Free Refrigerants. : Options of R134a, R407c, R22, R404a

Features:

- Compact in size
- Energy Efficient
- Reliable Refrigeration System and robust construction designed for continuous operation
- Attractive finish
- Digital temperature indicator cum controller
- Low maintenance



Application:

- Air conditioning systems
- Plastic industry in injection and blow molding
- Metal working cutting oils, coolants & hydraulic oil
- Welding equipment
- Chemical processes
- Pharmaceutical formulation
- Food and beverage processing
- Paper industry
- Analytical equipment
- Compressed air and gas cooling
- To cool high-heat specialized items such as MRI machines and lasers



CLIMATIC CHAMBERS & TEST EQUIPMENTS

I. Rapid Temperature Change Environmental Chambers

Environmental test chambers simulate the temperature and humidity conditions to which machinery, materials, devices or components might be exposed.

Cosmic manufactures chambers capable of providing temperature change rates from 1°C per-minute to 10°C per-minute.

Specifications:

- Temperature : 200°C to -70°C
- Dry Cool-Heat chambers
- Cool-Heat chambers with humidity control (10% to 98%)
- Volume : 30 ltrs to 8,000 ltrs



2. Walk-In Environmental Test Chambers

We supply Walk-In Environmental Test Chamber as per your requirement, capable of testing large components, assemblies and finished products.

Specifications:

- Temperature : 120°C to -60°C
- Dry Cool-Heat chambers
- Cool-Heat chambers with humidity control (10% to 98%)
- Volume : 8 m³ to 300 m³

Application:

Walk in test chambers are used for conducting tests in the telecommunication, defence, aerospace, pharmaceutical, automotive and electronics industry. Chambers are manufactured for wide variety of tests such as Climatic tests, Heat & cool tests, Rapid temperature tests, Cyclic tests etc and also for controlled temperature & humidity storage.



3. Deep Freezers / Ultra Low Temperature Cabinets

Deep freezers are used for quick freezing and / or long term storage of material.

Cosmic's deep freezers are designed with the best quality refrigeration system to meet the elevated standards of performance and controlled temperature storage.

Specifications:

- Temperature : -20°C to -80°C
- Volume : 30 liters to 8000 ltrs
- Walk in freezers: up to 300 m³

Application:

Food and beverages industry, Ice cream plants, pharmaceutical & medical industry, Engineering industry, Heat treatment of steel parts and measurement gauges, biotech and clinical applications, testing purpose.



Environmental Chamber And Deep Freezer Features

- Electronic temperature controller
- Optional PID Controller
- Reliable operation,
- Energy Efficient
- Accurate temperature (humidity if applicable) control & holdover capability
- Fast pull-down
- Excellent temperature stability & homogeneity
- Internal Stainless Steel & external powder coated MS Construction
- Computer interfacing (Optional)
- Data Logging (Optional)

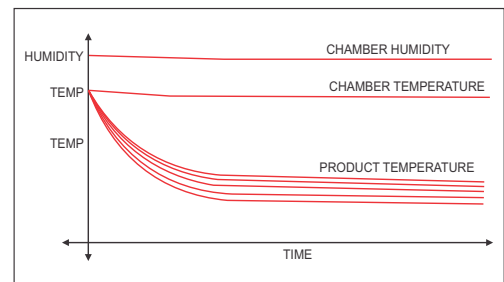


4. Test Facilities for Refrigeration & air conditioning industry

Cosmic is pioneer in designing and manufacturing of Test facilities for Refrigeration & air conditioning products like Refrigerators, water coolers, water chillers, deep freezers etc.

Types Of Test Facilities Installed By Us

- Refrigerator test room
- Beverage cooler / deep freezer test room
- Air conditioner test facility – psychrometric type as per ASHRAE standards
- Air conditioner test facility –Balance ambient calorimetric type
- Water cooler test room
- Air cooled and water cooled water chiller test facility



Graph : Temperature Vs Time for product cooler



Some of the challenging projects in designing and installation of test facility are

1. First Balanced ambient calorimeter in India for Tecumesh Industries Ltd, Hydrabad
2. First visi cooler test facility for Coca Cola in India
3. First 10°C/min cooling and heating rate test chamber, 120°C to -40°C for climatic testing of electronic assembly systems for Honeywell Ltd.
4. More than 10 air conditioner test facilities.
5. More than 25 refrigeration test facilities
6. Various other test facilities for testing compressors, water chillers, electronic / automobile / engg parts

5. Compressor Reliability Test Stands

Cosmic manufactures Compressor Test stands to provide compressor designers and manufacturers a valuable insight into the performance of their compressors. This also helps them to analyze the components and in boosting the efficiency and cost effectiveness of their products.

Application:

- To establish the operating envelop for compressors by evaluating the reliability of compressor under various operating conditions
- To simulate field conditions in laboratory & test the suitability of compressors
- Test stands for measuring compressor capacity performance
- Portable Compressor Test Panel for onsite testing of compressors. This is an easy and simple method to evaluate whether the compressor ok or not



HVAC PROJECTS

Cosmic undertakes Turnkey projects of industrial HVAC, Refrigeration systems and Climatic test facilities right from the conceptual stage to commissioning stage.

1. Cold Storage

Cosmic offers a wide range of cooling and preservation solutions. Solutions customized to suit any industry that requires storage of engineering products or perishable produce over extended periods of time without suffering any loss of quality.

Specifications:

- Temperature Range: 15°C to -35°C
- Volume: 8 m³ to 2000 m³

Features:

- PUF panel rooms available with G.I./S.S sheet
- Reliable Refrigeration System and robust construction designed for continuous operation
- Incorporated with various refrigeration, electrical and electronic safety devices to protect your product
- Humidity control cold storages (Optional)

Application:

- Agriculture sector including horticulture and floriculture units
- Manufacturers of fresh food produce of any kind
- Food processing units
- Pharmaceutical industries
- Seafood industries
- Dairy & hospitality sectors Including hotels restaurants and eateries
- Engineering Industry



2. Industrial Air conditioning

As indicated by its name, Industrial Air Conditioning refers to industrial applications where the parameters like type of heat load, temperature and humidity are different from the comfort air conditioning requirement. Generally, this would include industries such as engineering, textiles, electronics, automobiles, defence, pharmaceuticals, glass, food, entertainment, horticulture etc and hospitals. These types of applications would require a more detailed and specialized air conditioning system. Cosmic offers the most cost-efficient option, with the most impeccable quality refrigeration and ventilation systems.

3. Precision Air Conditioning

Precision air-conditioning systems regulate temperature and humidity for sensitive technology very precisely. Cosmic has catered services in the field of Precision air conditioning to variety of institutes like Research labs, ordnance factories, manufacturing industries.

Specifications:

- Temperature control $\pm 0.1^\circ\text{C}$
- Humidity control $\pm 3\%$



4. Air Washer System / Ventilation system

Air washer system also known as evaporative cooling system works by adiabatic cooling of air in which air is cooled by transferring heat in the air to evaporate water. The innovative evaporative cooling media provides simple and efficient evaporative cooling using water, not refrigerants.

Any business can count on the Cosmic evaporative cooling system to improve working conditions and productivity. Cosmic systems are the efficient way to cool, at running cost 20% that of air conditioning with refrigeration. We provide a turnkey solution for Air washer system, Ventilation system right from design, manufacturing to installation from capacities 10,000 CFM to 500,000 CFM.



Features:

- Longer functional life
- Easy to install
- Application specific design
- Precision functionality

Application:

- Factory Shop floors
- Movie theatres and auditoriums
- Chemical and biological laboratories
- Food cooking and processing areas

OTHER PRODUCTS

Cosmic design, develop & manufacture many more innovative refrigeration machinery. We have solution for all your requirement of industrial refrigeration & air conditioning.

Heat Pumps



Panel coolers



Dehumidifiers



Special Application Refrigeration Machinery



Market Segments



Cientele



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COSMIC

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