BLUE STAR

BUILT ON TRUST

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SCAN QR CODE – BLUE STAR CUSTOMER CARE MOBILE APP

FOR SERVICE, SMS "SERVICE" TO 57575

24X7 CUSTOMER CARE (Toll Free) 1800 209 1177 1860 266 6666

To know more about Blue Star, visit www.bluestarindia.com, email us at coolingsolutions@bluestarindia.com or SMS 'COOL' TO 57575

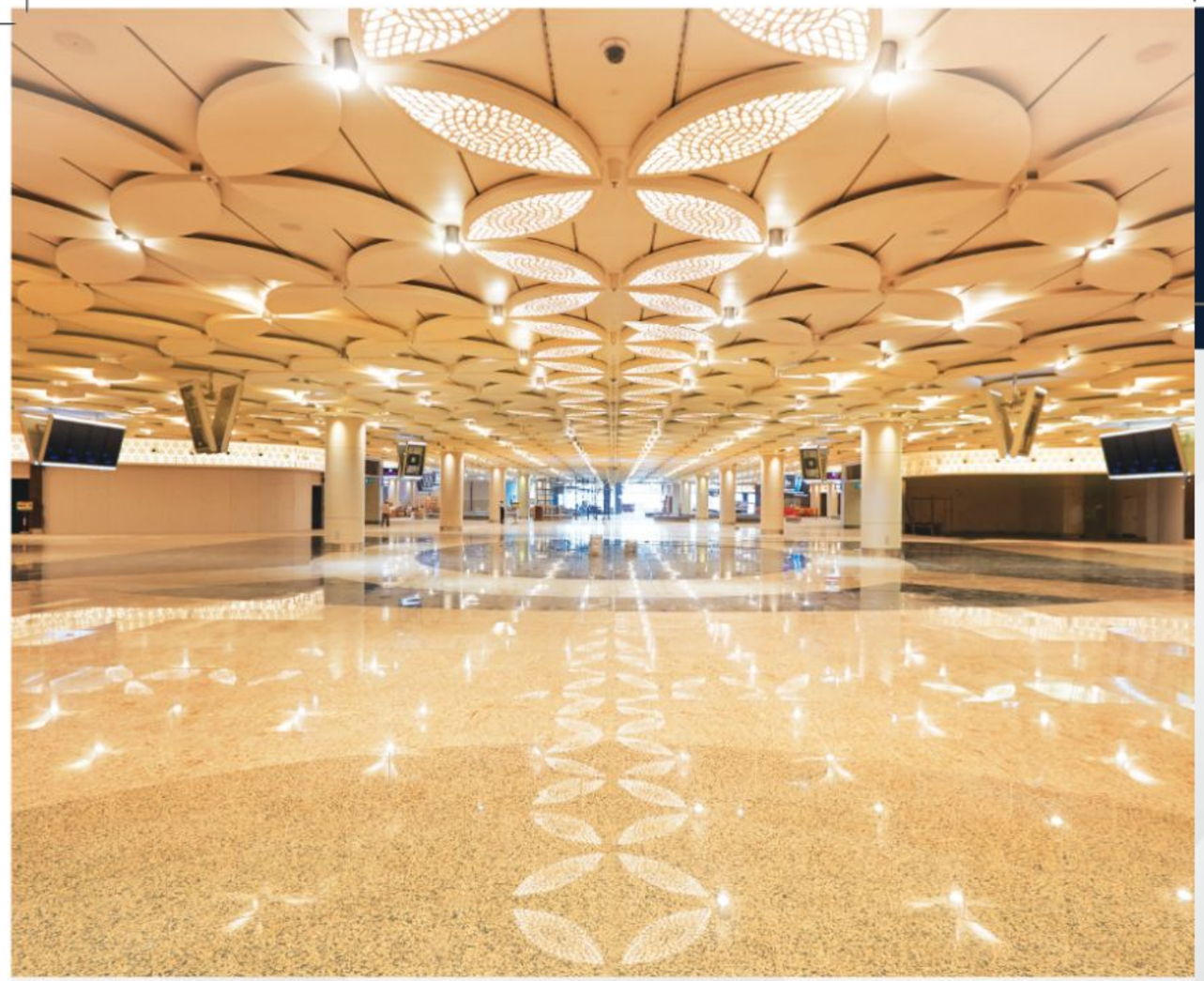
JUNE 2023

BLUE STAR

Blue Star Centrifugal Chillers

BUILT IN INDIA.
BUILT FOR INDIAN CONDITIONS.
BUILT TO BE CONSISTENT.

AHRI CERTIFIED™ www.ahridirectory.org



Blue Star is India's leading HVAC Company with nearly eight decades of experience in the field. It provides a whole gamut of expert cooling solutions from room ACs through VRFs to large chillers, from water coolers to freezers and sophisticated medical equipment. The Company also offers refrigeration and preservation solutions for the three things life depends on: air, food and water.

The Company also offers integrated MEP services that encompass the design and installation of HVAC, fire-fighting, plumbing and electrical infrastructure in upcoming projects. Today, many large private facilities and government infrastructure projects are executed by Blue Star's EMPG teams.

As India's largest central air conditioning Company, Blue Star has been manufacturing a wide range of scroll, screw and oil-free chillers that are cooling many hospitals, airports, green buildings, hotels, malls, offices, industries and other important spaces in the country.

Now, Blue Star introduces its latest range of centrifugal chillers that are not only Made in India, but specifically Made for India as well.

NEXT GENERATION CENTRIFUGAL CHILLERS THAT ARE DESIGNED FOR INDIA.

Over the decades, Blue Star has built a reputation for R&D and innovation. Many new products and solutions have been launched and have served the specific needs of different industries. Now, the Company is launching its new series of state-of-the art star-labeled and AHRI-certified water cooled centrifugal chillers.

These chillers are designed to operate efficiently even in extreme ambient conditions that are prevalent in many parts of India; making them a first in the Industry. Specifically, this new range of Centrifugal Chillers is designed to deliver higher efficiencies even at higher condenser water temperatures and moderate water quality, aspects that are common in many parts of the country.

Due to their special India-focussed design, these chillers offer higher reliability, application versatility, higher energy-efficiency, control precision, ease of installation and operational cost-effectiveness. In short, this range delivers proven performance and offers a host of other features that are beneficial in both industrial applications and wherever comfort is a requirement.

WORLD–CLASS MANUFACTURING, RIGHT HERE IN INDIA.

Blue Star's new range of centrifugal chillers are manufactured at the Company's very own ISO 9001 certified and IGBC LEED certified factory in Wada, Mumbai.

The highly sophisticated and automated manufacturing line at the modern factory ensures that these chillers, which are designed to perform efficiently in extreme Indian climatic conditions, deliver exactly that every single time.

Quality–checked and tested at Blue Star's own test centre, that is certified by NABL (National Accreditation Board for Testing & Calibration Laboratories), and the internationally reputed AHRI (Air conditioning, Heating and Refrigeration Institute), every product performs reliably, and to specifications, when installed in the field.

EFFICIENCY THAT'S TRULY MADE FOR INDIA.

The rating and sizing of critical components, like compressors, motors and heat exchangers, have been designed and selected for the stringent conditions in which they must perform. This ensures that the new chiller range consumes the lowest power and delivers the highest efficiency in the entire industry.

Designed and engineered for the lowest power consumption

Made to deliver the highest efficiency time after time

Optimised Compressors

Heat Exchangers

NO DROP IN PERFORMANCE, NO MATTER THE CONDITIONS.

All the components of this new centrifugal chiller range including the compressors, coolers, and condensers, have been thoughtfully optimised. To compensate for high condenser water temperatures and the average water quality prevalent in many parts of India. To ensure 100%, cooling capacity, without any deration, when installed at the site.

100% CAPACITY OUTPUT, NO DERATION.

AHRI CERTIFIED™
www.ahridirectory.org

Our indigenous range of centrifugal chillers is certified by the internationally reputed AHRI. What's more, our factory possesses India's only precision-testing facility certified by AHRI. This facility tests and rates all the chillers manufactured by it and also makes it effortless for Blue Star to verify the performance of any of its chillers.

JUST THE CHILLERS FOR BUILDING GREEN.

Our new range of centrifugal chillers not only complies with the Indian Green Building Council's energy efficiency norms but also enables customers to achieve higher credits as mentioned here.

IGBC

Mandatory requirements:

- **CFC-free Refrigerants**
  Blue Star's new centrifugal chiller range uses the environmentally friendly non-CFC R-134a refrigerant thereby complying with the above requirement.

- **Energy-efficiency compliance with ASHRAE 90.1.2021**
  The efficiency of these new centrifugal chillers is actually higher than the prescribed efficiency for compliance with ASHRAE 90.1.2021.

Credit requirements:

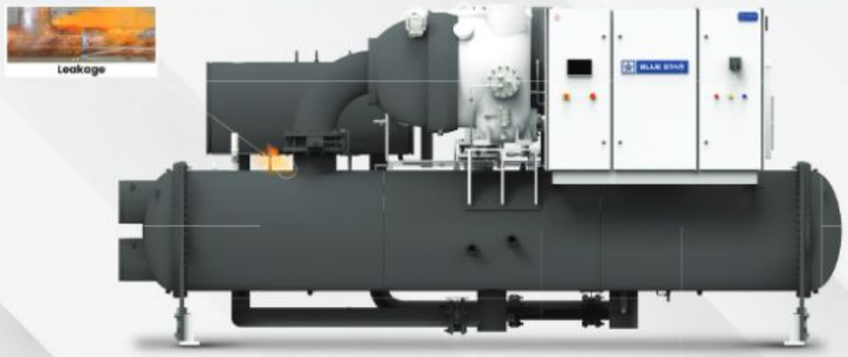
- **Credit 1: Eco-friendly Refrigerants**
  The R-134a refrigerant that is used in these chillers is not only CFC-free but also has zero Ozone Depletion Potential and low Global Warming Potential. This enables the facility to get additional credit points in the Green Building Rating Norms.

- **Credit 2: Energy-efficiency norms higher than prescribed performance**
  The new centrifugal chiller series not only complies with ASHRAE 90.1.2021 efficiency norms but in fact provides much higher efficiency. This benefit enables the facility to get additional credit points for the buildings.

UNIQUE FEATURES

Arrests leakage before it escalates.

REFRIGERANT LEAK DETECTION SYSTEM



Centrifugal chillers are mostly used where higher cooling capacities are called for, usually in the range of 300TR to as high as 3000TR. In large installations, multiple chillers are also installed to cater to the high cooling requirement. These large chillers need huge quantities of expensive refrigerant and leakage of this refrigerant can cause major losses over time.

This series of Blue Star's next generation centrifugal chillers comes with a unique feature to detect leakage of costly refrigerant. A control logic built into these chillers detects the refrigerant leak and connectable to an alarm thereby activating the arrest–mechanism. This unique feature helps in quick prevention of leaks and saves the cost of replacing expensive refrigerant.

Locks the speed as per requirement.

It is often noted that chillers may not always run at initially designed capacities due to dynamic changes in weather conditions, occupancy levels or internal heat emitting equipment loads. Clear loading patterns on chillers evolve only upon running them over a few weeks. Keeping this practical requirement in mind, this new range of centrifugal chillers is provided with advanced controllers that offer to lock the chiller at a specific speed based on actual capacity requirements.

This advanced feature is available in the VFD–driven chillers.

ENERGY OPTIMISATION FEATURE

Real–time energy savings

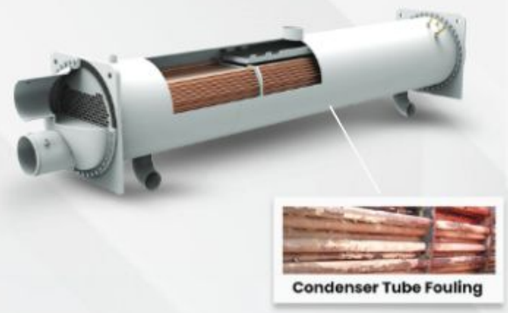
Predicts the health of the condenser.

The deration of the condenser over a period of time affects the performance of any chiller. A poorly performing condenser will result in higher discharge pressures and hence very high power consumption. Failure to take timely corrective action will result in inflated electricity bills and also reduce the life of the condenser.

The sophisticated controller in the new Blue Star centrifugal chillers continuously monitors critical parameters like discharge pressure, and condenser inlet and outlet water temperatures and pressures. In–built algorithms then use these measurements to estimate the health of the condenser in terms of its fouling, and indicate the same as 'Good, Average, or Poor health of condenser' to the user, with the 'Poor' condition being specifically highlighted so that immediate action can be taken to inspect the condenser.

Improves the life of chillers

Optimises power consumption

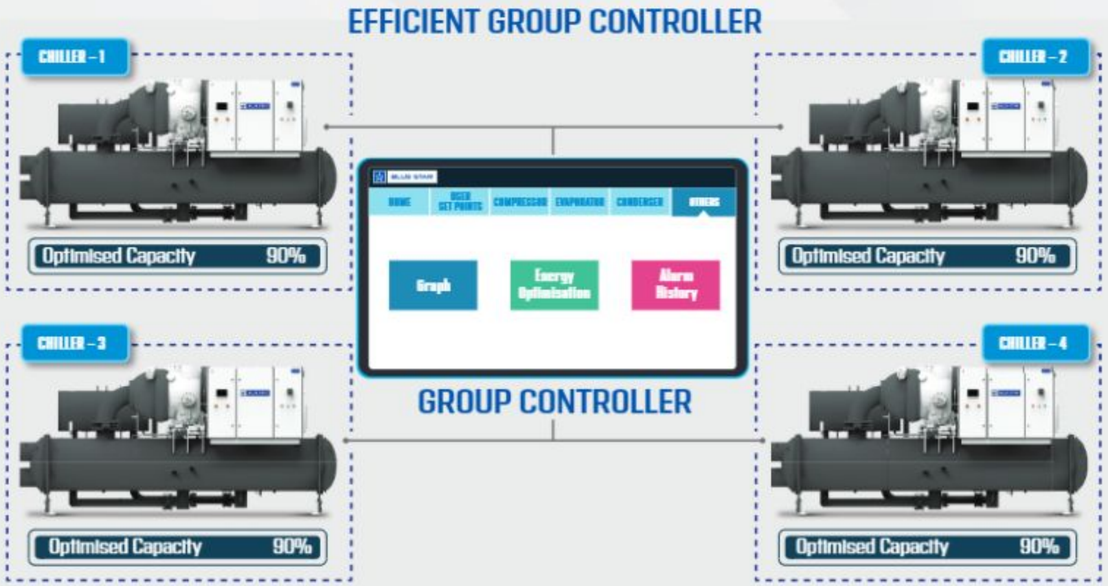


Ensures the highest efficiency of every chiller.

Since centrifugal chillers are mostly designed for large projects that need multiple chillers to be installed to cater to the required capacity, it is important to ensure that all the chillers run equally and efficiently.

The new Blue Star range comes with an optional sophisticated group controller for multiple chiller installations with an in–built control logic which ensures the following:

- All the chillers operate at their best efficiency points
- Run time equalisation is carried out for all the chillers in the plant room (i.e., the chiller that has run the maximum number of hours stops first and the chiller that has run the minimum number of hours will start first)
- Standby chillers, if any, are not looped in for equalisation



ADDED FEATURES

Capacity range

The new-generation Blue Star Centrifugal Chillers come in a wide range of capacities up to 1000TR.

The above capacities are available with both fixed speed and VFD options.

BMS compatibility

These chillers come with BMS compatible microprocessor control that allows them to be operated through central Building Management Systems.

Touch screen option

An elegant looking back-lit touch screen not only helps in the easy operation of the chiller but also provides a user-friendly graphical interface to view various parameters.

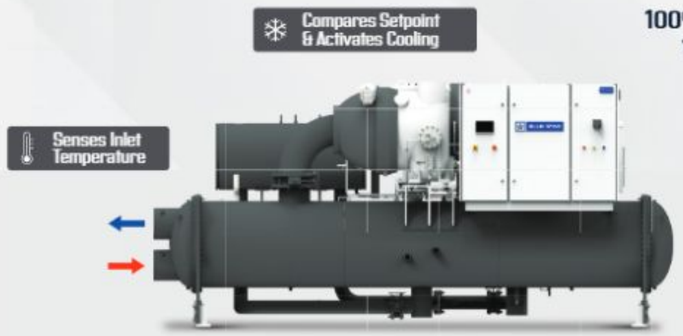
Quick restart

This new series of centrifugal chillers has the facility to connect the controller to a UPS to ensure permanent supply of power to the controller.

Once the chiller controller is connected to a UPS, the chiller can restart within 30 seconds of power resumption thereby providing continuous cooling for critical applications like industries and data centres among others.

Rapid cool mode

The in-built control logic in the centrifugal chiller series enables faster loading of the compressor and thereby achieves 100% cooling capacity within 2 minutes* of starting the chiller with UPS backup.



Precise temperature control

The microprocessor in the controller of the new centrifugal chiller series uses the latest smart PID (Proportional Integral Derivative) logic. The PID control logic provides precise and continuous feedback to the controller which allows the chilled water temperature to be set to the nearest ±0.2 deg C.

Operating range

COOLER	MIN °C	MAX °C
Entering temperature at start–up	8	20
Leaving temperature during operation	5	10
CONDENSER	**MIN °C**	**MAX °C**
Entering temperature at start–up	18.3	–
Leaving temperature during operation	–	38

ASME stamp option

These new generation centrifugal chillers are available with the 'U Stamp' for the pressure vessels, in compliance with ASME (American Society of Mechanical Engineers), a reputed third party certifying organisation for the safety of pressure vessels.

The American Society of Mechanical Engineers

U

CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

Blue Star Limited
Village Vasuri Khurd, Khanivali Road
PO Khupari, Taluka Wada, District Palghar
Maharashtra 421312
India

SCOPE:

Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: **April 19, 2022**
EXPIRES: **April 19, 2025**
CERTIFICATE NUMBER: **52520**

Board Chair, Conformity Assessment

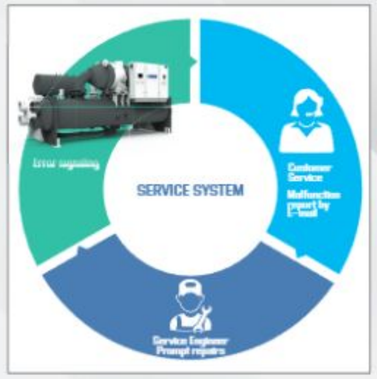
Managing Director, Conformity Assessment

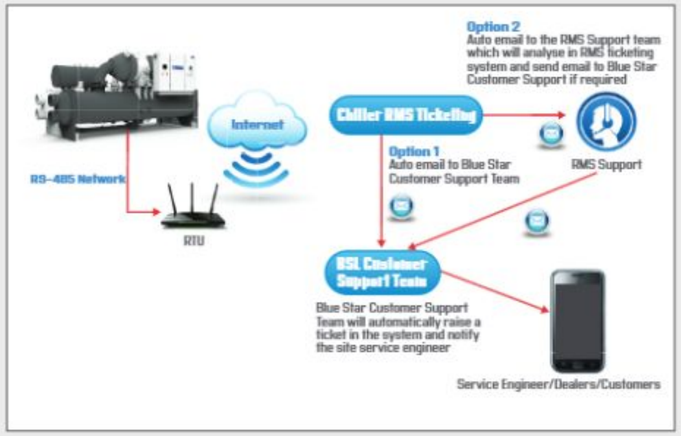
Remote monitoring system

These centrifugal chiller series is designed to operate through an advanced GPRS–based Remote Monitoring System (RMS), which is available as an option.

The RMS has the following advantages:

- Close monitoring of the site irrespective of the location
- 24x7 automatic monitoring
- Automatic notification in the form of SMS or e–mail in case of any error
- Automatic call login for service



The data captured and sent by the RMS to the Central Service Team enables analysis by the local service personnel which in turn helps them to be equipped with the necessary solutions to resolve any issues speedily. This ensures:

- Very quick response time
- Faster turnaround
- Lower down time of the system