



BLUE STAR

# Double Skin Air Handling Units With Screwless Cabinets



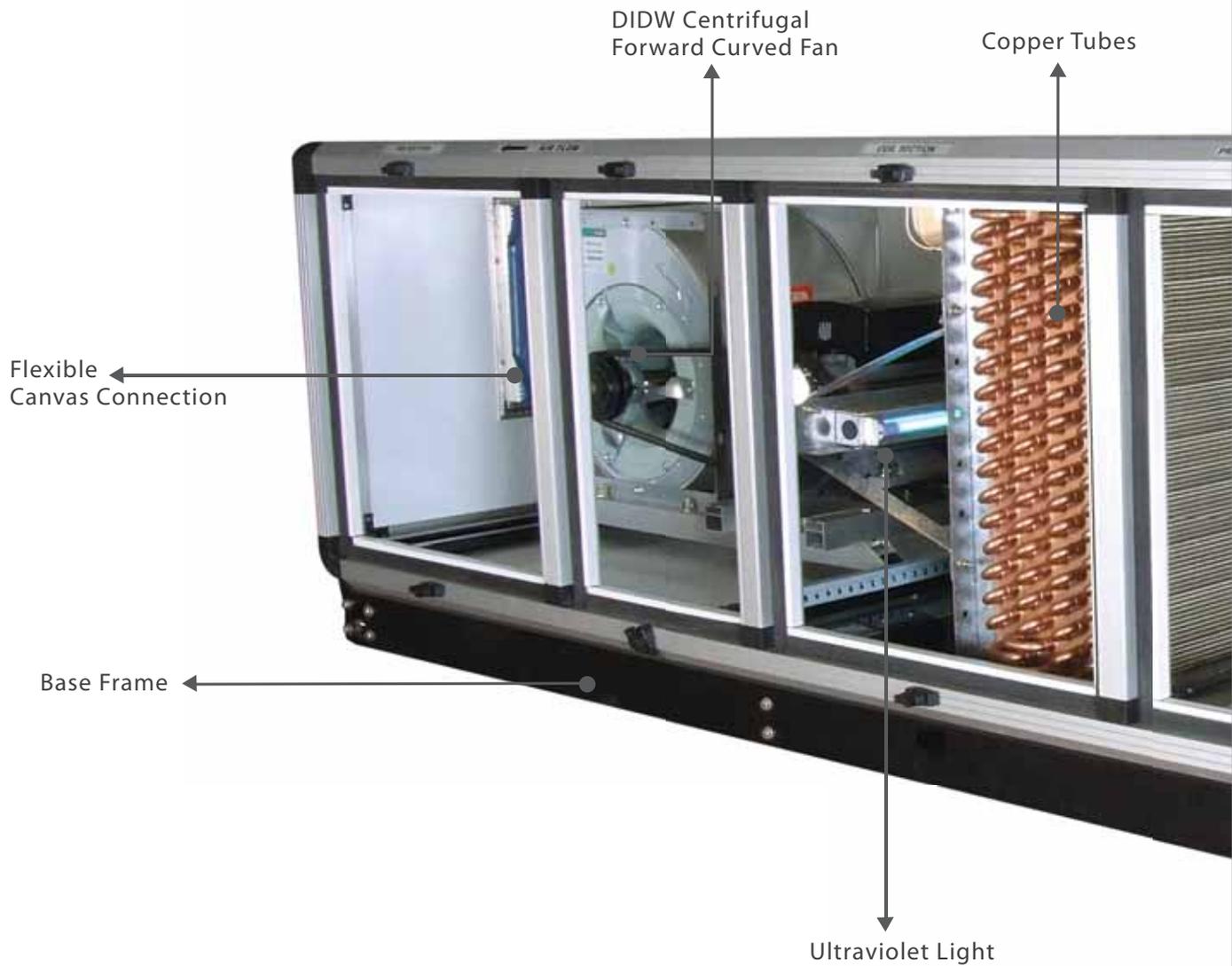
Engineered to Deliver High Indoor Air Quality

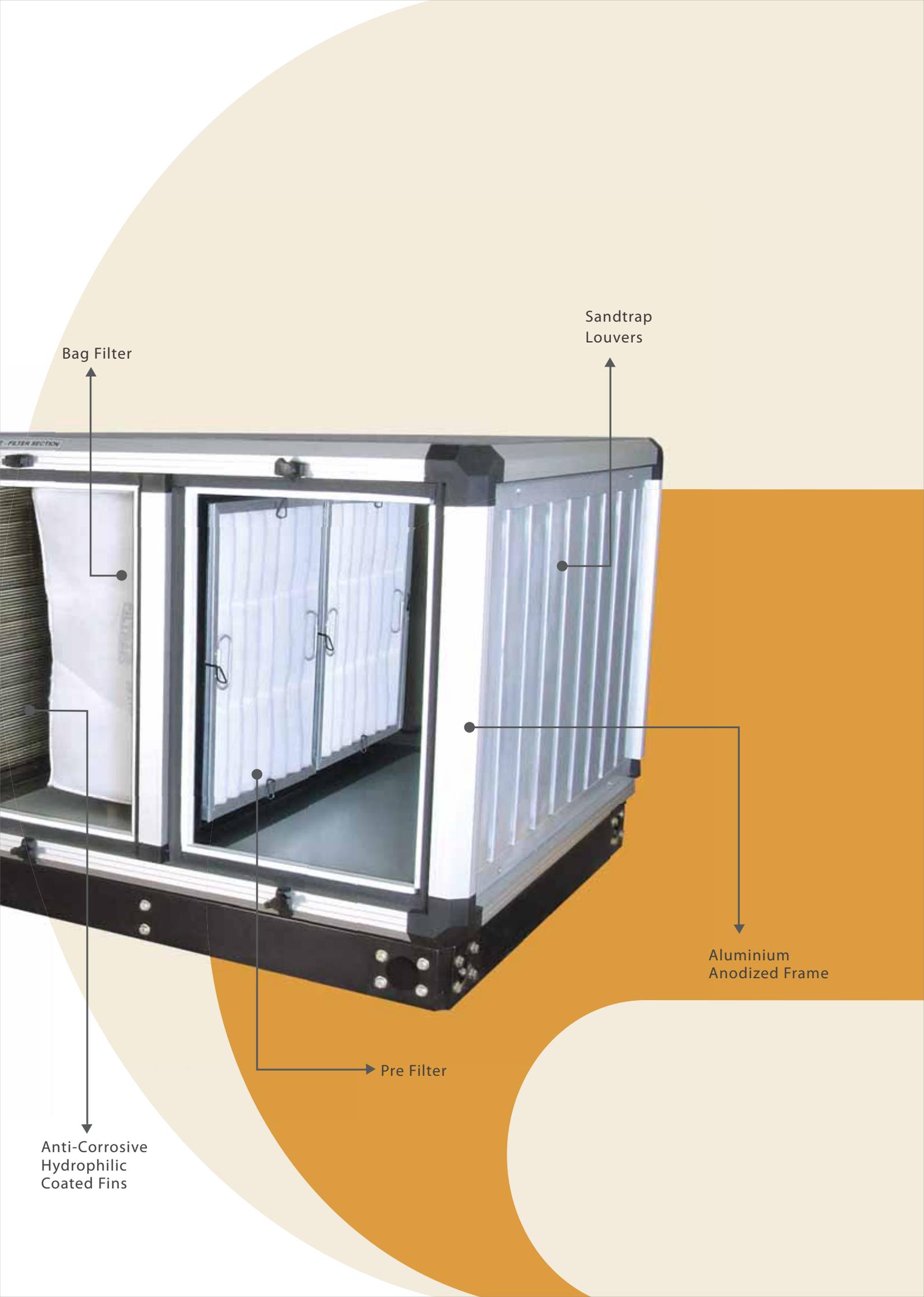


# Double Skin Air Handling Units from the Experts

Blue Star has over six decades of experience in offering Expert cooling solutions for a wide range of corporate and commercial applications. With this expertise and following the success of standard series of screwless air handling units, Blue Star introduces Engineered Double Skin Air Handling Units in screwless construction. These units are designed to offer customised solutions to suit individual requirements.

The units are reliable, long-lasting and assure high indoor air quality. Features such as screwless and sturdy construction, low noise and compact size make these units an ideal choice for a large number of applications.





Bag Filter

Sandtrap Louvers



Aluminium Anodized Frame

Pre Filter

Anti-Corrosive Hydrophilic Coated Fins



## Enhancing Indoor Air Quality

Blue Star has incorporated several advanced features in these air handling units. These features are optional and contribute to a great extent in enhancing the indoor air quality.

**Screwless Construction:** Screwless design allows easy inspection, cleaning and maintenance of the smooth inner surface, thereby reducing the risk of dirt and bacteria accumulation. Moreover, there is no erosion of internal insulation material that contaminates the air stream.



Horizontal DSAHU



Ceiling Suspended DSAHU



Vertical DSAHU

The panel frame arrangement has been improved by overlapping the wedge and the special gasket. This arrangement, along with the modified filter frame design minimises the chance of air leakage. It also makes the air handling units ideal for clean room and pharmaceutical applications.

Internal sheet metal, filter and coil frame can also be offered in optional Stainless Steel construction for these applications.



**Efficient Filters:** Apart from standard EU-3 type pre-filter, various types of filters such as bag and fine HEPA Filters with different levels of filtration can be selected. These filters are of progressive density type with high dust holding capacity and with lesser pressure drop, ensuring high energy efficiency.



**UVC Emitters:** The option of UVC Emitters inside the units is available to combat the growth of microorganisms. UVC Emitters ensure clean and sterile air at all times. Moreover, the system functions efficiently, resulting in optimum power consumption.



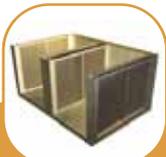
**Low Leak Dampers:** Powder-coated galvanized or aluminium volume control dampers of opposed blades and in aerofoil design are provided to maintain the fresh-air to return-air ratio. A wide range of control options are available that include motorised and manual operation of the damper. The option of sandtrap louvers is also available for outdoor applications preventing sand or dust particles from entering the air handling unit.

## Maximising Energy Efficiency

With rising costs of electricity, it has become imperative to opt for additional components which keep operation costs under control. The following components also qualify the AHUs for green building applications:



**Heat Recovery Wheels:** Current energy performance guidelines emphasise the usage of heat recovery wheels. These units utilise the energy from stale air to pre-cool the air entering the AHU. Heat recovery wheels used in air handling units recover up to 80% energy, thereby substantially reducing the operating costs.



**Heat Pipes:** Heat pipes are used to transfer the available heat thereby reducing energy consumption and moisture content. Wrap-around heat pipes are used for pre-cooling and reheating the air, whereas heat recovery heat pipes are used for recovering the energy from exhaust air.



**Variable Frequency Drives:** Blue Star offers Variable Frequency Drives specially customised for HVAC applications. These drives offer advanced variable speed technology which helps reduce energy consumption substantially. In new installations, a payback time of less than a year can be achieved when compared to constant volume systems.



**Energy Efficient Motors:** Motors account for nearly two thirds of the power consumption in an HVAC application. Even the smallest improvement in motor efficiency can significantly reduce energy consumption. Blue Star offers EE1 motors meant for continuous operation. These motors make the AHUs highly energy efficient.



**Energy Efficient Blowers:** Energy efficient DIDW blowers have been incorporated. These are available in three types: centrifugal forward curved, backward curved or backward with aerofoil design.

The option of plug fan without the belt and pulleys makes it suitable for clean room and pharmaceutical applications.



## A Wide Range of Air Handling Units to Choose From

Blue Star offers a wide range of AHUs to suit individual requirements.

### Standard Air Handling Units

- Ceiling suspended ranging from 1670 to 13500 CMH (available in 3 direct-driven and 15 belt-driven models)
- Vertical floor mounted ranging from 3500 to 25000 CMH (available in 10 models)
- Horizontal floor mounted ranging from 3500 to 60000 CMH (available in 37 models)

### Engineered Air Handling Units

- Available from 3500 to 60000 CMH

## Optimum Selection

Blue Star has designed its own AHU selection software which is used by field engineers and is integrated in the manufacturing process. This helps in addressing customer requirements effectively.





## Standard Superior Features of the Unit

### Casing

- The AHU is constructed on a thick fabricated GSS channel
- Fan and motor is mounted on a fabricated slide rail. A specially designed motor mounting base plate allows adjustment of the belt tension without disturbing motor alignment. Flexible fire retardant canvas connection is provided at the fan outlet.
- The coil is placed on sliding channels for ease of service and maintenance
- The drain pan is made up of Stainless Steel and insulated with a closed cell elastomeric insulation to avoid surface condensation



### Hinges and Handles

- The fan section is provided with an access door for ease of serviceability of the fan and motor
- User-friendly nylon handles can be operated from both inside and outside the casing



### View Port and Marine Lamp

- View port is provided on the fan door panel to enable monitoring the fan and motor status
- Marine lamp provides easy visibility



### Fans

Centrifugal fans are of double inlet, double width type with forward curved impeller. Fans are AMCA certified for sound and air performance, and are statically and dynamically balanced. The whole fan assembly is trim balanced to match ISO 1940 & AMCA 204.G 2.5 standards. The motor is of TEFC squirrel cage induction type with IP55 protection and Class 'F' insulation.



### Limit Switch

Door limit switch automatically trips the motor/fan when the door is opened.



B R E A T H E E A S Y