



BLUE STAR



Mortuary Chambers

Built to last.

Blue Star is India's largest airconditioning and refrigeration company, with a vast network of 32 offices, 5 modern manufacturing facilities, and around 2500 employees. Alliances and partnerships with leaders in global technology have further enhanced Blue Star's capabilities in providing advanced cooling solutions for diverse needs.

Blue Star's experience spans over seven decades across diverse cooling and freezing applications and has resulted in cutting-edge products that are market leaders. The wide product range includes specialised preservation solutions such as Mortuary Chambers.

Over a 1000 installations of Blue Star's Mortuary Chambers dot the Indian healthcare landscape, with all major hospital chains being users.

Sheet Metal Cutting & Folding Line at Blue Star's state-of-the-art facility



Blue Star Mortuary Chambers

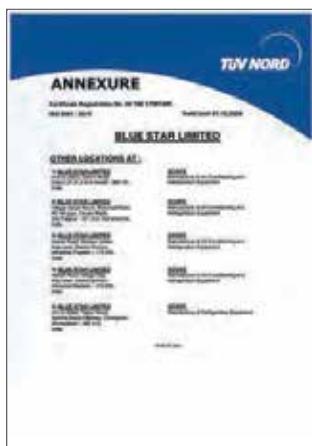
As vital infrastructure at hospitals, Mortuary Chambers ensure dignity and preservation after life, and need to be effective and robust to ensure 24x7 operation despite the rough use they are subjected to.

Blue Star uses cutting-edge technology and modern components that are manufactured at 5 state-of-the-art manufacturing facilities to ensure efficiency and reliability. The use of high-quality materials and the skilled workmanship that puts together the panels and refrigeration equipment at site, to build custom-designed mortuary chambers ensure that you get only the best storage systems to deliver effectively in a mortuary.

World-class facility

Blue Star's Mortuary Chamber cooling units are manufactured in a world-class manufacturing facility at Wada, India. The facility has obtained a Green Building Certification for ecological and environment friendliness with zero pollution in the production units.

The facility is also ISO 9001:2015 quality certified for the entire manufacturing process and product output.



Wada Factory



Panel Punching Machine





Corner foaming press

World-class support

Various teams at Blue Star assist you at all points across the life cycle of a Blue Star Mortuary Chamber.

Pre-contract technical support, advice on specification compliance, site inspection service for the duration of the project contract period, pre-warranty site inspection, advice on mechanical handling solutions, installation and commissioning support, and operations training are all part of the services provided by Blue Star, apart from of course warranty- and post-warranty support in the field.

Advanced technology. Superior performance.

Blue Star Mortuary Chambers are designed ground up to be efficient, reliable and robust, giving you performance as well as long life. What's more, they're eco-friendly and 'green' not just on their own but right from their manufacturing process as well, so when you buy a Blue Star Mortuary Chamber, you contribute significantly to sustainable development as well.



Robust chamber design

Blue Star Mortuary Chambers are manufactured using frameless sandwich type PUF insulated panels, eliminating the need for the old fashioned wood frame which decomposes and causes condensation. The metal clad panels are fabricated with foamed-in-place structural polyurethane. The tongue-n-groove construction provides exceptional strength and insulation value. The body of the chamber is made of SS 304 grade corrosion resistant stainless steel or pre-painted galvanised steel sheet.



Cutting-edge refrigeration system

The refrigeration system in Blue Star Mortuary Chambers is energy-efficient, environment-friendly, and completely airtight. It features a low-noise compressor, air cooled condenser and evaporator, and is housed in an insulated compartment outside the chamber, factory assembled, pre-charged and tested for ready field installation.

- Industrial grade condenser with welded hermetic compressor for robust performance
- Copper tube aluminium fin design forced-air type evaporator coil with 6 fins per inch designed for ceiling installation
- Fan motors, guards, multi-fin and tube-type coils housed in heavy gauge steel frame housing
- Units equipped with drain pan with suitable drain pipe connection



Microprocessor control

Equipped with an easy-to-use microprocessor-based digital control panel, temperature in a Blue Star Mortuary Chamber can be controlled within 4°C - 8°C range. The system uses an LED display for accurate measurement and display of temperature, and allows high and low temperature alarms to be set and displayed for safety reasons.



Easy service access

All serviceable components including the refrigeration system are conveniently located outside the chamber for easy access for service. The completely self-contained system can be serviced at site or easily moved to the workshop for repair.



Quiet operation

The insulated evaporator and ventilated compressor compartments reduce noise dramatically during operation, making the Blue Star Mortuary Chamber one of the quietest in the industry.



Panel foaming press



Modular construction

Wall, ceiling and floor panels of the Blue Star Mortuary Chamber are prefabricated modular panels made of 100% foamed 80mm thick polyurethane insulation. The panels are bonded by an adhesive to the interior and exterior metal panel skins and then heat cured for long life and stability. Each wall panel skin is formed using a double 90° bend on each edge to add strength and rigidity. Panel joints are precisely formed in male and female, tongue and groove shapes fabricated to force the male edge to contact the female edge, providing an additional seal. Mechanical panel fasteners have wings which provide the necessary strength to support the cam-action of the locking mechanism when the panels are drawn together.

Blue Star's new range of pre-fabricated insulation panels are eco-friendly from the ground-up since even the manufacturing process is green.

An Eco-friendly DNA



Panel
Systems

Cyclopentane: The eco-friendly blowing agent

Cyclopentane is increasingly becoming an industry standard the world over as an eco-friendly blowing agent. Blue Star has also therefore invested into using cyclopentane as the blowing agent in the manufacture of its new series of insulation panels. This makes the panels 'green' even in their manufacturing process, and further underlines Blue Star's commitment to a greener tomorrow.



Cyclopentane Process



This ensures zero Ozone Depleting Potential (ODP) and reduces Global Warming Potential (GWP) as compared to the more generally used HCFC-141b which is not environment friendly.

Why cyclopentane

- ODP (Ozone Depletion Potential): 0
- GWP (Global Warming Potential): Negligible (11)
- Complies with TUV standards, CCOE (India) certification

Blue Star's commitment to a healthy environment is thus further reinforced by this investment into a cyclopentane process, which not only ensures superior yet environmentally friendly products, but supports India's obligations under the Montreal Protocol on 'Substances that Deplete the Ozone Layer'.

Cyclopentane vs conventional HCFC-141b :

S.No.	Particulars	HCFC-141b	Cyclopentane
1	Density (kg / m ³)	35-37	37-40
2	Compressive strength (kg / cm ²)	1.5-1.8	1.6-1.9
3	Closed cell content (%)	> 90	> 90
4	K- value (w/m °K)	0.0195	0.022
5	GWP (Global Warming Potential)	630	11
6	ODP (Ozone Depletion Potential)	0.1	0.0004
7	Fire retardant property	Self-extinguishing	Self-extinguishing

CFC- and HCFC-free polyurethane

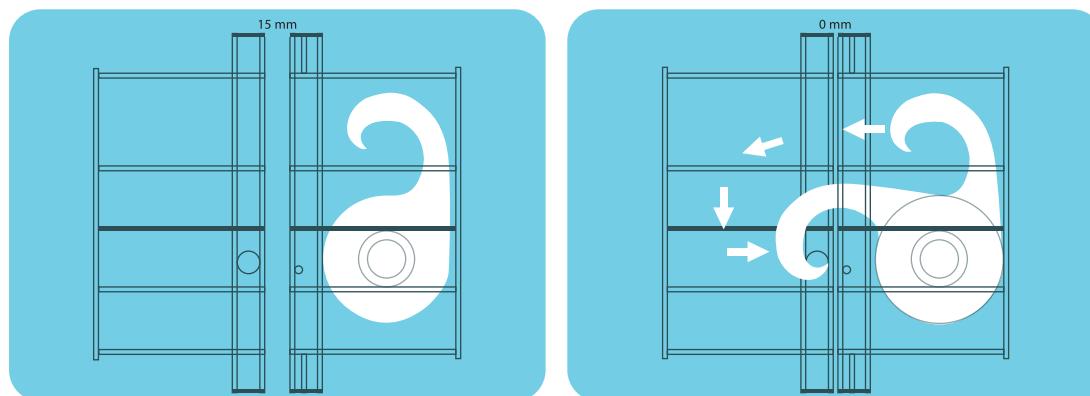
The insulation material used within Blue Star's new range of pre-fabricated panel systems is also eco-friendly, being made of CFC- and HCFC-free polyurethane.

This is in accordance with India's obligations under the Montreal Protocol on 'Substances that Deplete the Ozone Layer'.

Facilities aiming to become green buildings will find these panels ideal for their LEED certification process.

Precision locking mechanism

Each Blue Star pre-fab insulation panel has cam-action locking devices precisely positioned and firmly anchored within it. All cam-locks have integral rear flanges to permanently anchor their position during the manufacture of the PUF panels. Cam-locks are also placed at exact matching locations on the tongue-and-groove side to ensure perfect locking.



BEFORE LOCKING THE PANELS

AFTER LOCKING THE PANELS

Panel gaskets

Panel gaskets are foamed in place and provided around the outer perimeter of the panel. The gaskets are continuous, without cuts or braces at the corner, leading to perfect sealing.

Interior panel bumpers

A full perimeter stainless steel bumper rail is provided to protect the wall surface of the inside.

Secure seals

The panel structure of each cooler is heavy duty to take tough day-to-day wear and tear. Embedded within the structural insulation are continuous and unbroken extruded vinyl gaskets that will not deteriorate or become loose.

Internal lighting

The internal lighting system uses waterproof CFL lamps for longer life.

Superior door design

Doors are made of stainless steel (SS 304) and fitted with external lock for security. Situated up-front, the doors allow easy loading of the trolleys. Magnetic rubber gaskets ensure a tight seal, while a heated perimeter and strike surface eliminate condensation.



Features



Energy efficient design



Modular construction



Stainless steel or pre-painted galvanised steel finish for corrosion free interior & exterior surface



Waterproof bulk head fitting with CFL lamp



High density polyurethane foam insulation with CFC-free cyclopentane as blowing agent



Three standard models: 2-body, 4-body and 6-body



Multi-door systems with each door being individually lockable



Moulded door



Manufactured to Quality Assurance Standard ISO 9001: 2008



Visual digital alarm display for high and low temperature



Telescopic Carriage with SS 304 tray



Choice of refrigerant - R22 & R404a



Closed cell insulation eliminates moisture ingress and performance failure



Available in high-performance/hygienic safe antibacterial coating



Low air leakage minimises potential transmittance of airborne pollutants



Fire Safe System - Effective heat barrier manages extreme internal/external differentials



Fiber-free core, so no fugitive fibers



Easy-to-use telescopic trolleys



Four body model with sliding telescopic trolley arrangement



Six body model

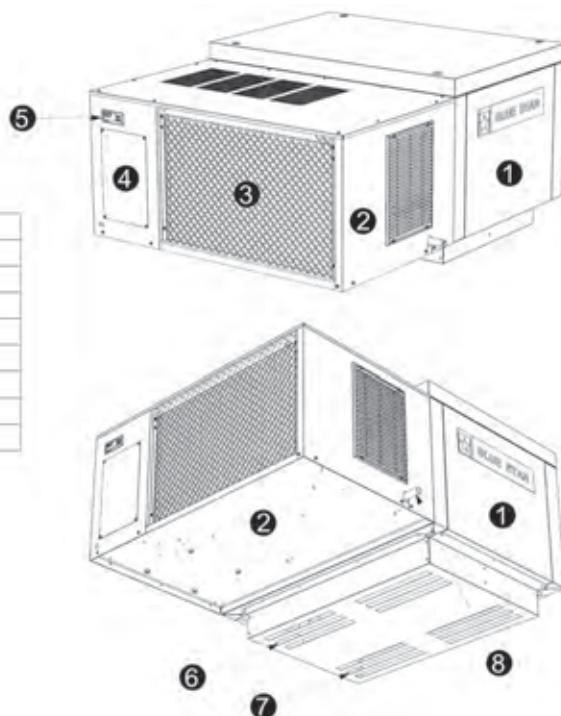


Telescopic tray fully assembled unit

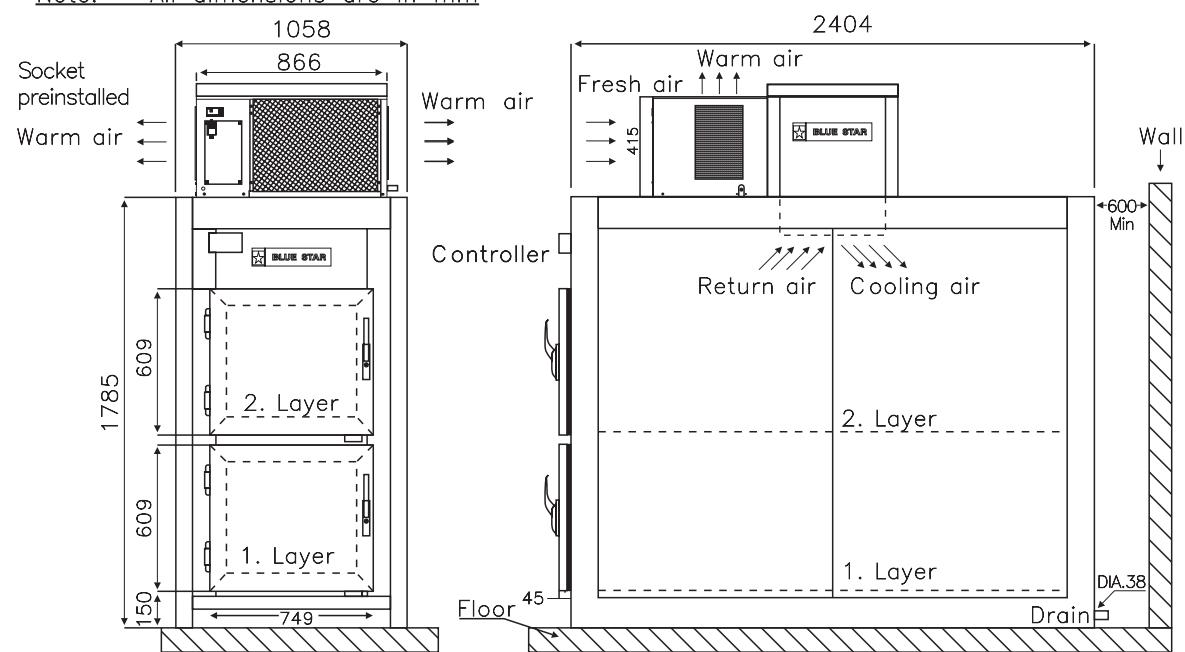


Tray position when drawn out from the Mortuary cooling unit

No.	Description
1	Evaporator Section
2	Condenser Section
3	Condenser Coil
4	Electrical Access Door
5	Controller
6	Return Air Louvers
7	Supply Air Louvers
8	Condensate Drain



Note: — All dimensions are in mm



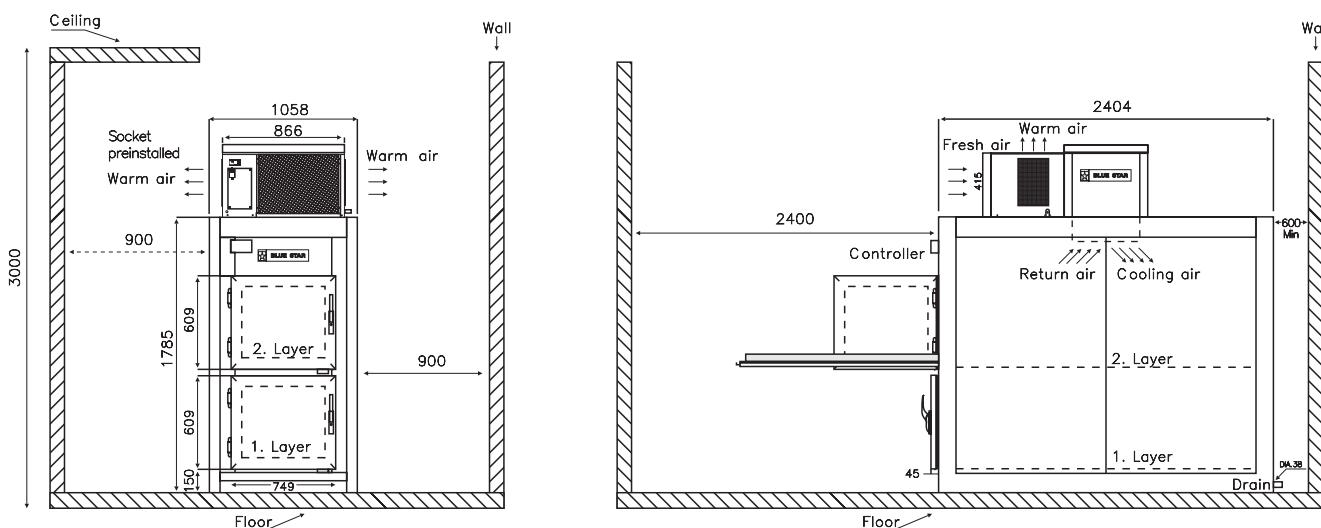
Typical layout of the Mortuary cooling unit

Technical specifications

Technical Data (common to all models)

Number of bodies	2/4/6
Temperature range	2°C to 8°C
Temperature control	Digital microprocessor
Temperature display	LED display
Construction	304 Stainless Steel/GSS/MS
Insulation	High grade polyurethane
Doors	Made of steel sheets with magnetic gasket & external lock
Tray material	Stainless Steel SS 304
Tray dimension	608 x 75 x 2182 (H x D x L) mm
Trolleys	Made of steel and sliding on telescopic rails
Compressor	Reciprocating type
Evaporation	Internal evaporator system forced draught
Internal drainage	Yes
Refrigeration system	Air cooled hermetically sealed
Air circulation	Forced air circulation
Alarm	High/low visual alarm system
Internal lighting	Waterproof CFL lamps
Locking system	Standard key locks
Power supply	1 phase/220 Volts/50 Hz

Note: - All dimensions are in mm



Typical room layout for Mortuary cooling unit

Technical specifications

Product Specifications

Models	BMC-206/SS/BMC-206-4	BMC-406/SS/BMC-406-4	BMC-610/SS/BMC-610-4
	2 body	4 body	6 body
Dimensions			
Width (mm)	1058	2114	3168
Depth (mm)	2404	2404	2404
Height (mm)	1785	1785	1785
Sheet Metal Skin			
Interior finish	Pre-painted GI Sheet/SS 304		
Exterior finish	Pre-painted GI Sheet/SS304		
Front finish	Stainless Steel in No.2 Finish SS 304		
Door & Door Frame	Stainless Steel, plastic grooved extrusion with replacement of gasket provision		
Foamed Panels			
Insulation thickness (mm)	80	80	80
Insulation material	Rigid Polyurethane foam (CFC free), Density 40 kg/m ³ As per tol. standard		
Locking mechanism	Cam-locks embedded in foam		
Standard Accessories			
Lamp	Bulk Head Luminary , CFL -W, 230V		
Temperature indicator-cum-controller	Electronic with digital display		
Carriage assembly	Three-piece, telescopic action, GI powder coated		
Mortuary tray	One-piece Stainless Steel tray with tubular edge and handles.		
Refrigerating System (Rooftop Mounting Unitary)			
Capacity (BTU/H)	6,000	6,000	10,000
Power supply	230V/1 HP/50 Hz		
Compressor power (kW)	1.25 for R22		1.3 for R22
	0.91 for R404a		1.35 for R404a
Total Unit Power Consumptions (kW)	1.75 for R22		2.05 for R22
	1.4 for R404a		2.1 for R404a
Operating conditions (PRESET BY FACTORY)	4°C Room Temperature at 35°C Ambient		
Overall dimensions (mm) of Ref. Unit	1140 (L) x 900 (W) x 600 (H)		
Refrigerant (kg)	1.25 for R22, 1.2 for R404a		1.4 for R22, 1.4 for R404a



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