



**BLUE STAR**

# Water-cooled Brine Chiller

A wide range of flexible, energy-efficient chillers for refrigeration needs.



# Blue Star presents a range of Water-cooled Scroll & Screw Brine Chillers.

Over 60 years of experience in providing expert refrigeration solutions has made Blue Star India's leading airconditioning and refrigeration company. And now, Blue Star brings you a whole new extended range of Water-cooled Scroll & Screw Brine Chillers perfectly suited to refrigeration needs.

Manufactured in a world-class, ISO 9001 qualified manufacturing facility, the chillers are available in a wide range of capacities from 8 to 155 tons of refrigeration.

Due to fewer moving parts, these chillers are reliable and rugged. Further with their automatic capacity control, they provide better efficiency under part loads making them the ideal choice for varying load applications such as large cold stores, precooling, pack houses and hotels.





## Screw Brine Chiller Features

### 7 Models: 50TR to 155TR Capacity

#### Compressor

Semi-hermetic screw compressors incorporated in the chillers are manufactured by Hanbell Precise Machinery Co. Ltd., Taiwan. Hanbell follows state-of-the-art manufacturing processes which are ISO 9001 certified and use high precision machinery. Hanbell is one of the largest manufacturers of such compressors, which are widely used in chillers in Europe including France, Germany and Italy.

**The salient features of these compressors are :**



-  Highly efficient with low noise levels.
-  Tested in accordance with ARI Standards.
-  Due to few moving parts such as male & female screws and slider valve, these compressors have minimal wear and tear.
-  Each compressor has capacity control from 25% to 100%, making it suitable for varying load applications and efficient under part load conditions. The capacity control also helps in limiting the starting current.

#### Evaporator




The shell and tube evaporator has inner grooved copper tubes for better heat transfer. The tubes are designed to optimise for refrigerant and water velocities.

#### Control Centre

The control centre is mounted in the framework of the chiller. It is provided with an advanced microprocessor control panel which has unique features and advantages.

-  Accurate control of the cooler outlet temperature within a close tolerance of  $\pm 0.5^\circ$  F.
-  In-built time delays for compressor single phase / phase reversal protection and anti freeze protection.

#### Optional features in Control Centre

-  RS 485 port & TCP/IP webgate for remote connectivity, fault indication and status facility.
-  PC connectivity and remote monitoring without BMS through dedicated telephone line, Gateway and Modem.
-  BMS compatibility with JC N2, BACnet and Modbus protocol with translator.

## Scroll Brine Chiller Features

Blue Star's all new range of microprocessor controlled water-cooled chillers comes with the following features:

### 5 Models: 8TR to 62TR Capacity

#### Compressor

##### Easy and quick installation

Pre-wired, fully charged and run-tested at the factory, these chillers are ready to fit in the field, so they take less time to install and start up.

##### Energy-efficient

The reliable and time-tested imported scroll compressors are highly energy-efficient, resulting in lower power bills.

##### Capacity modulation

Multiple compressors are used in each model, with independent refrigerant circuits. In "part load" conditions, the microprocessor ensures that only the required number of compressors operate to handle the load, saving power.

##### Lower electrical infrastructure cost

Multiple compressor configurations have lower starting current. Hence, switchgear, transformers and generators need not be upsized, thus saving initial capital costs.

#### Evaporator

The shell and tube evaporator has inner grooved copper tubes for better heat transfer. The tubes are designed to optimise for refrigerant and water velocities.

#### Microprocessor Controller

The entire range of water-cooled scroll chillers comes with intelligent microprocessor controls, offering you a host of new operating features. These features go far beyond just convenience and ease of operation. They ensure significant power savings, reduced maintenance and breakdown costs as well.

##### Digital setting of temperature levels

This allows you to set your desired temperature levels accurately (to 0.1°C levels), unlike a manual control, where tolerances are much higher.

**Benefit :** Optimal cooling, power saved.

##### Built-in time delays

Compressors need a few minutes delay time before they are switched on again after they are switched off, or after a power failure. The controller ensures these time delays are automatically adhered to.

**Benefit :** Longer compressor life.

##### Useful display features

The display indicates operating current as well as alarms for underload / overload conditions.

**Benefit :** Safer operation.

##### Power monitor

The incoming power supply is automatically monitored for single phase / phase reversal / phase unbalance.

**Benefit :** Protects compressor from power quality issues.

# Technical Specifications

## Water-cooled Scroll Brine Chillers

Description	Units	XWB25-08	XWB25-18	XWB35-27	XWB45-36	XWB45-62
Nominal Cooling Capacity	kW (TR)	27 (8)	61.5(18)	92(27)	123(36)	211.5(62)
Capacity Control	%	100, 50	100, 50	100, 66, 33	100, 75, 50, 25	100, 75, 50, 25
Nominal Dimensions	Length	mm	1700	2300	2300	2700
	Width	mm	550	950	950	1550
	Height	mm	1415	1490	1490	1812
Net Weight / Unit (Approx.)	kg	650	1175	1600	2500	2900
Compressor	Nos.	2	2	3	4	4
Power Supply	V/Ph/Hz	400/3/50				
Total Power Consumption	kW	8	19.2	28.7	38.3	63
Refrigerant		R22 / 407C				

## Water-cooled Screw Brine Chillers

Description	Units	LCWX1-070 DiC	LCWX1-085 DiC	LCWX1-115 DiC	LCWX1-135 DiC	LCWX1-160 DiB	LCWX1-175 DiB	LCWX1-225 DiB
Nominal Cooling Capacity	kW (TR)	175 (50)	200 (57)	270 (77)	325 (92)	380 (108)	415 (118)	545 (155)
Nominal Dimensions	Length	mm	2420	2503	2462	2843	2979	2958
	Width	mm	900	900	927	943	900	1350
	Height	mm	1807	1853	1955	2019	2100	2400
Net Weight / Unit (Approx.)	kg	1800	2100	2400	2600	3365	3650	4600
Compressor	Nos.	1	1	1	1	1	1	1
Power Supply	V/Ph/Hz	400/3/50						
Total Power Consumption	kW	48	57	75	88	100	110	140
Refrigerant		R22						

## Water-cooled Screw Brine Chillers (with Eco-friendly Refrigerant)

Description	Units	LCWX1-100 DEF	LCWX1-150 DEF
Nominal Cooling Capacity	kW (TR)	228 (65)	355 (101)
Nominal Dimensions	Length	mm	2900
	Width	mm	950
	Height	mm	2125
Net Weight / Unit (Approx.)	kg	2725	3300
Compressor	Nos.	1	1
Power Supply	V/Ph/Hz	400/3/50	
Total Power Consumption	kW	61	95
Refrigerant		R134a	

• Specifications are subject to change without prior notice

### Rating Conditions

- All Brine Chiller ratings at -5°C leaving the chiller & 0°C return to chiller.
- Chiller Fouling Factor - 0.0001 Hr.sq.ft°F/Btu
- Condenser Fouling Factor - 0.00025 Hr.sq.ft°F/Btu
- Brine selection based on MEG (Glycol)



**BLUE STAR**

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