BLUE STAR

Takes A Big Step
Towards A More Sustainable Future

High Efficiency Ductable 11.5 EER

Ducted Split ACs with eco-friendly refrigerant, R410A

COOLS EVEN AT 55°C

Cools even at 55°C

THE LEADERS IN COOLING

Blue Star is India's largest central air conditioning and commercial refrigeration company, with over seven decades of experience in providing expert cooling solutions. It has offices across India, UAE, Malaysia, Qatar & Oman with 5 modern manufacturing facilities, around 2800 employees and a turnover of over (USD) $812 million. Alliances and partnerships with leaders in global technology have further enhanced Blue Star's capability in providing advanced cooling solutions for diverse needs.

Blue Star offers a range of air conditioning products that encompasses Screw Chillers, Scroll Chillers, Air Handling Units, Fan Coil Units, Packaged Air Conditioners, Ducted Splits and VRF systems, apart from Room Air Conditioners such as Split, Window, Verticool and Cassette Air Conditioners. Refrigeration products include Water Coolers, Deep Freezers and Water Cooling solutions specifically designed to cater to the unique requirements of India, Middle East, Africa, SAARC and ASEAN markets. The Company also offers specialised air conditioning equipment for telecom, precision control and process applications.

A wide range of models are available in each product category to ensure that the air conditioning system design is implemented without any compromise. All the products are energy-efficient and come with a host of distinctive features. Every Blue Star product is a result of robust R&D, a strong understanding of design and superior manufacturing processes. These core attributes have made Blue Star the preferred cooling solution provider.

GLOBAL PRESENCE

Blue Star's international business consists of air conditioning & refrigeration product exports to Middle East, Africa, SAARC, ASEAN and Pacific Islands regions with steady progress also being made in developing other international markets. In addition, the Company also participates in international projects managed by the Company's joint ventures in Qatar, Oman and Malaysia.

New opportunities are being identified for air conditioning & refrigeration products, MEP projects, after-sales service, as well as system integration and agency businesses in global markets.

CUTTING-EDGE R&D

Blue Star's innovations are born out of the high-end R&D establishment that has been painstakingly built over decades with the brightest brains and the latest equipment in place.

Recognised by the Department of Science and Industrial Research (DSIR) - Ministry of Science and Technology, Government of India, Blue Star's R&D has enabled the Company to file more than 25 patents and win many prestigious innovation awards.

WORLD-CLASS TESTING FACILITIES

Blue Star's infrastructure for conducting various performance tests on new products is one of the largest in India, ensuring that every product and technology is tested vigorously before being manufactured. Blue Star has 6 Psychrometric, 2 Condensing and 2 Environmental test labs.

Blue Star's R&D labs at Thane and Dadra have been certified by Intertek, Sweden to carry out safety tests for HVAC products, as per International Electro-technical Commission Standards. Intertek is a global leader in safety testing and certification for regulatory approval.

Also, the National Accreditation Board for Testing and Calibration Laboratories (NABL) has conferred a Certificate of Accreditation to Blue Star Laboratories located at Thane and Wada in accordance with the Standard ISO 17025: 2005.

NABL is a signatory member of APLAC and International Laboratory Accreditation Cooperation (ILAC).

To match international testing standards, Blue Star has Psychrometric testing facilities to conduct various performance tests.

Products designed are also subject to various reliability tests before they are cleared for manufacturing. These include endurance, vibration and shock tests, along with life cycle and ageing tests to rigorously test design reliability.

All Blue Star products are designed to perform under tropical conditions such as high ambient, high humidity, extreme voltage conditions and fluctuations.

ADVANCED PSYCHROMETRIC TEST LAB

Blue Star factories have modern Psychrometric Test Labs that can simulate and test products under various conditions. All machines manufactured at our factories are rigorously tested for various parameters before despatch. Customers too can witness actual performance tests conducted on the products before the despatch of their machines, making Blue Star one of the few companies in the air conditioning industry offering this facility.

Psychometric Test Lab

WORLD-CLASS MANUFACTURING

Blue Star's manufacturing strength is spread across five state-of-the-art manufacturing facilities. Blue Star's commercial and residential AC units are manufactured at the modern factories at Wada, Dadra and Himachal Pradesh. Aligned to international standards, the manufactured products at this ISO 9001: 2015 certified factory are exported to various countries across the globe.

The automated and flexible factories have high production rate; they manufacture chillers and heat exchange coils. These factories have modern sheet metal fabrication units with Amada punching and bending machines.

Dadra Factory

Panel Punching Machine

ENSURING AN EXCELLENT FINISH

Blue Star's production facilities use raw materials that are of the highest quality including corrosion-resistant, galvanised steel for enhanced life and rust protection. The equipment used to process the steel include CNC machines such as the Amada punch press, hydraulic press, specialised microprocessor-based protection and resistance welders. All these machines ensure superior quality in cabinet fabrication to tight tolerances.

All products are powder coated by specialised process equipment from Nordson of the USA on fully conveyorised lines. They are fitted with electro-mechanical oscillators that ensure an even powder coating. A 'smart spray' mechanism senses movement of the conveyor and geometry of the component to adjust the powder flow.

Blue Star is equipped with a high-tech coil manufacturing setup using imported Burr Oak machines that can manufacture high-efficiency plain coils as well as enhanced split fins for a superior heat transfer.

The copper tubes are then processed by a bank of PLC-controlled Burr Oak machines, ensuring perfect bonding between the copper tubes and fins for a superior performance. The coils are then tested for fine leaks with ultrasensitive electronic leak detectors to enhance reliability.

Paint Shop

Panel Bending Machine

CERTIFIED FOR EXCELLENCE

Blue Star's production process and Quality Control have been internationally recognized.

Our DSE range of Ducted Splits have been tested and certified by internationally recognized 3rd party testing agency, Intertek Thailand.

intertek
Total Quality. Assured.

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

PSYCHROMETRIC LABORATORY, BLUE STAR LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO- 265/2, DEMNI ROAD, DADRA, SILVASSA, DADRA AND NAGAR HAVELI, INDIA

in the field of

TESTING

Certificate Number: TC-6267

Issue Date: 18/12/2020 Valid Until: 23/11/2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : BLUE STAR LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

ISO/IEC 17025: 2005 for Testing and Calibration by NABL

Satellite Lab approval from Intertek for Electrical Safety testing as per IEC

ISO 9001: **2015** Quality Management Systems Certification

EWA

IEC

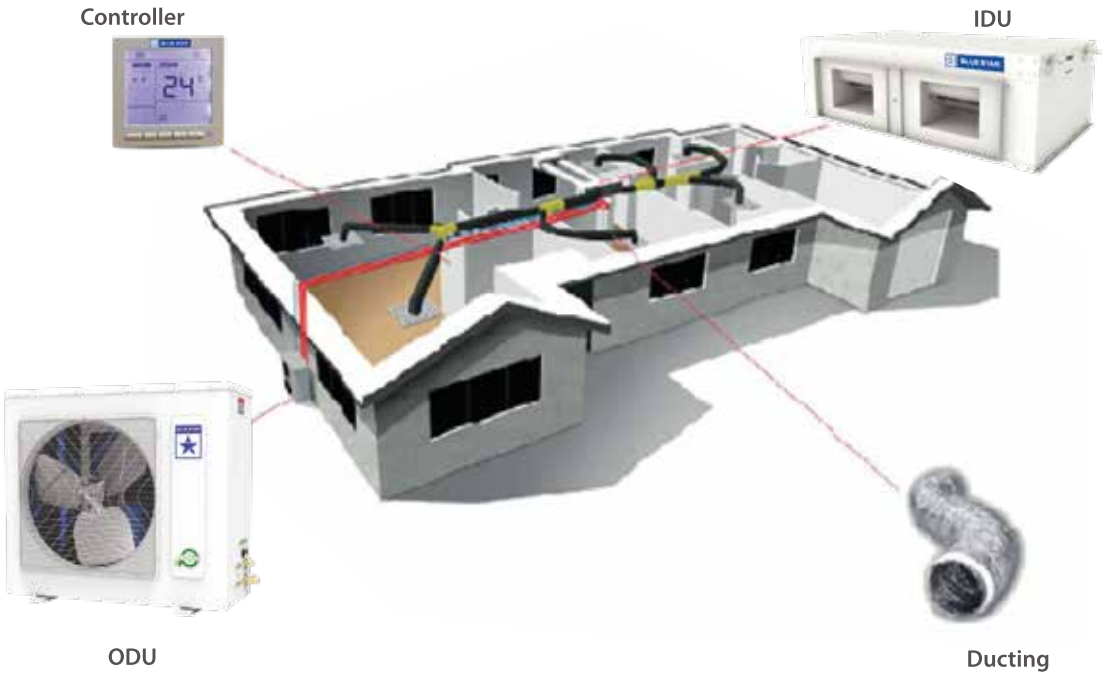
GSO

intertek
Total Quality. Assured.


BLUE STAR

DUCTED SPLIT UNITS

- Ducted Split units are one of the most widely used air conditioners.
- Ducted units are concealed, with no floor space requirements and do not interfere with room decor' and layout.
- Ducted units offer ease of installation and facilitate interior renovation with the installation of ventilation diffusers for cool air which flows through ducting.
- Ducted units are suitable for a large variety of applications that require floor level or individual level air conditioning for buildings with several rooms or large halls such as restaurants, concert halls and hotels.



FEATURES OF HIGH-EFFICIENCY DUCTABLES

High-Efficiency

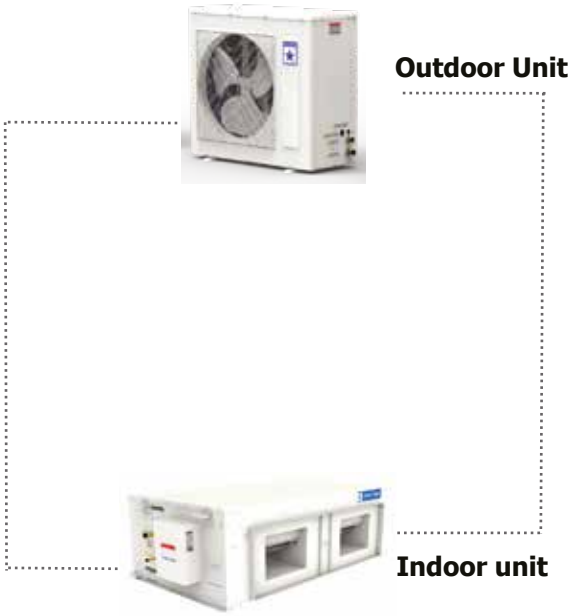
These ductables are High-Efficiency Ductables, having larger coil surface area resulting in high cooling capacity and hence faster coling; because of this, less power is consumed which is finally results in high energy savings.

Eco-friendly

R410A refrigerant is used where the major benefits come with ozone depletion potential being zero.

Long piping capability-

Long piping capability for medium height buildings , up to 50 meters of total piping length



Cools even at 55°C

Blue Star's High-Efficiency Ductables are tested under rugged conditions to provide efficient cooling at temperatures as high as 55°C.

High-Efficiency Scroll Compressor

Blue Star uses highly efficient scroll compressors which are optimised for performance and reliability for high temperature environmental conditions. Since the moving parts are less, scroll compressors are considerably quieter in operation compared to other types of compressors.

Crankcase heaters are provided as standard feature for all the models with scroll compressors. Crankcase heaters provide safety to compressor against refrigerant migration under low ambient and low load operating conditions.

High-Efficiency Rotary Compressor

Blue Star also uses highly energy-efficient rotary compressor with built-in accumulators. The compressor is especially designedto deliver maximum cooling while using low energy, thereby helping you to save power bills.

Electrical and Mechanical safety:

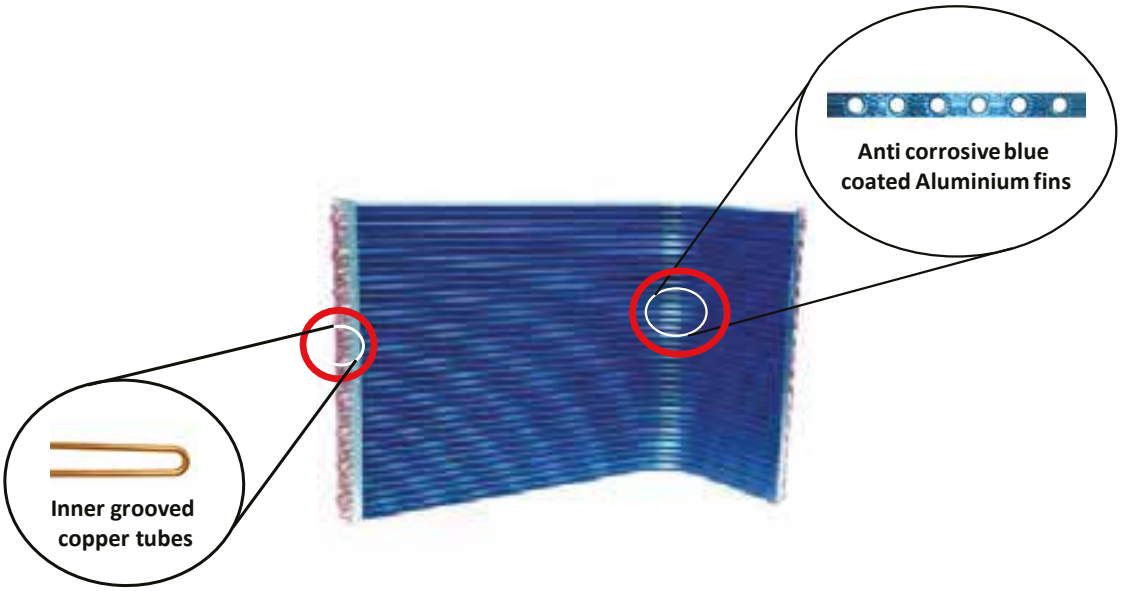
Electrical and Mechanical safety compliance as per IEC standard

Fire Resistant controller enclosure:

Metallic Enclosure provided for electrical parts and controllers ensures the safety against fire hazard.

ADVANTAGES AND BENEFITS

- Wide range of capacity available - Blue Star's High-Efficiency Ductables have a wide range of models ranging from 1TR to 5TR
- High on reliability - Blue Star's High-Efficiency Ductables undergo stringent quality checks and reliability tests to perform well under different temperature conditions
- High static unit which can cater to larger area
- Capable of cooling even at low ambient conditions
- Silent operation - Blue Star's High-Efficiency Ductables have a reduced operating noise ranging from 39 db (A) to 53 db (A)
- Long piping - Blue Star's High-Efficiency Ductables can have maximum piping length up to 50m
- Copper Coils
  - Inner grooved copper tubes(IGT)
  - Anti corrosive blue coated aluminum fins in both indoor and outdoor units.
  - Coil circuits optimized for high heat transfer.
  - All coils are factory tested at 650 psig.
  - Blygold coating - Optional for severe climatic condition.
- All units are run tested at the factory prior to shipment.



APPLICATIONS

Ideally suited for offices, conference rooms, apartments, hotels, restaurants, shops, basements, high security areas, bank vaults or wherever a conventional air conditioner cannot be fitted or cool efficiently and economically.

Restaurants

Conference Rooms

Small Offices

Apartments

BLUE STAR'S HIGH-EFFICIENCY DUCTED SPLITS RANGE

The High-Efficiency Ducted splits are further divided into 2 categories depending on the type of compressor and the tonnage of the machine.

R410A Ducted Splits

- High-Efficiency Ductable with Rotary Compressor (1~3.5TR)
- High-Efficiency Ductable with Scroll Compressor (4~5TR)

ENGINEERING FEATURES

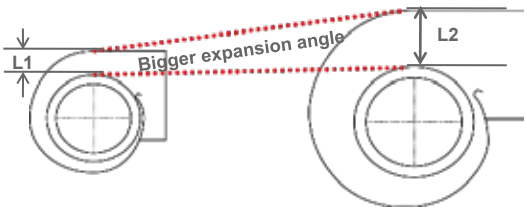
Indoor Unit Features

Cabinet

Polyester-based powder-coated, made from hot-dip galvanised steel sheet metal for high corrosion resistance of 1008 hrs salt spray test as per ASTM-B117 standard.

Silent Operation

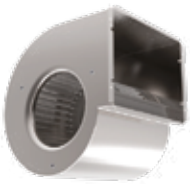
The motor and fans are designed to achieve performance by running at lower RPM to reduce tip speeds for extremely silent operation. Motors used in the units are 6 pole. The fans are designed to operate at lower blower outlet and coil face velocity for quiet and highly- efficient operation of units.



Standard Blower **Blue Star Design**

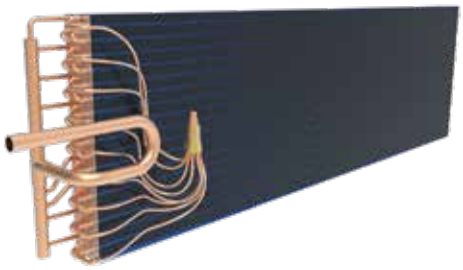
Low Height

Blue Star's High-Efficiency Ductables have height from 310mm, 400mm & 480mm. This for horizontal installation in most standard or replacement works.



Evaporator Coil:

The evaporator coil is made of corrosion resistant blue coated Aluminium fins mechanically bonded with inner grooved copper tubes



Expansion Device

Indoor units are equipped with inbuilt expansion device as standard feature. The expansion device is having provision for uniform distribution of refrigerant flow to get the best optimized performance through heat exchangers.

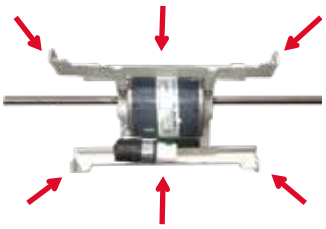
Brass Distributor

Distributor is used in all the indoor units to distribute refrigerant uniformly in the evaporator circuits for best performance in the evaporator coil.

Motor

Multi-speed, internally protected ultra high-efficiency with Class B insulation mounted on resilient neoprene rubber mountings to reduce noise levels. Ultra High-Efficiency and low RPM motors:6 Pole motors (920 RPM)

Motor Mounting Arrangement



Specially designed mounting arrangement for motors to have center allignment of motor and fan blower assembly with housing. providing absolute sturdiness against vibrations.

Six point mounting feature which aligns motor & blower assembly in center of housing.

Filters

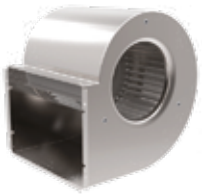
5mm thick, woven synthetic and permanent washable filters are standard on all units. Provision for fixing 1/2" thick field supplied filter. Multiple filters are provided in larger width models for ease of handling and accessibility. 1/2 inch thick Aluminum filter can be provided as a option from factory based on project requirements

Blower

Direct driven, centrifugal, forward curved, double inlet, double width type, made from galvanised steel sheet.

Blower Housing

It has a double inlet orifice and profile to give advantage in low noise. It has high-efficiency and uniform airflow. It is completely made from galvanised steel sheet.

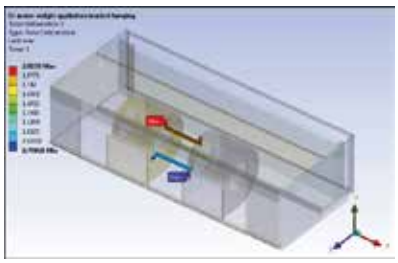


Insulation

5 mm thick irradiated-grade EPE, fire-retardant lining, odour free material for thermal hygiene and acoustic application.

Structural Analysis

Structural analysis through Computation Fluid Dynamics (CFD) and Finite Element Analysis (FEA) ensures the best optimised performance, reliability and durability of indoor units.



Drain Pan

Insulated and powder coated galvanised steel drain pan is designed with an adequate slope to have a proper condensate drain. The sandwich insulation kept between the upper and lower sheet metal panels provides drip-free performance. Stainless Steel drain can be provided as a option from factory.

Drain Pan Cleaning

The construction of cabinet is designed to remove the drain pan for servicing and cleaning purposes through bottom access under installed condition without disturbing the installation of the unit.

Electrical and Drain connection

Electrical and drain connections are provided on one side for ease of installation, accessibility and maintenance.

Anti-freeze Protection for Coil Operation

An antifreeze temperature sensor is provided on coil against freezing during abnormal operating conditions.

Provision for Direct Duct Connection

Flanges are provided on the front of units, suitable to connect flexible duct.

Riveted Panels

Non-serviceable panels in the cabinet are joined with the help of rigid steel rivets. The riveted panel provides very good stability, fit and finish.

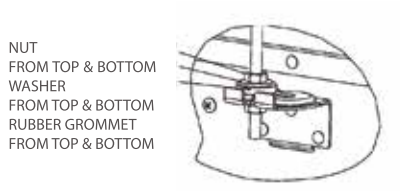
Refrigerant Connections

Sweat Solder type joints are provided outside the unit for field piping connections .Refrigerant connections are sealed with positive pressure inside the coil to protect against contamination.

Opposite side Connections can be provided as optional feature from factory based on project requirement.

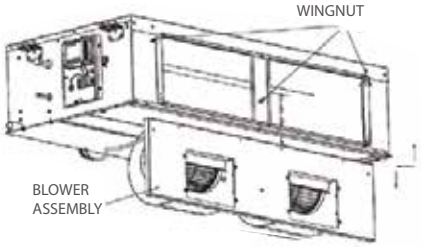
Unit Suspension

Rolled up rigid brackets for proper and easy mounting/ installation of units. Rubberised cushions are provided at hanging brackets for suspending the unit from the ceiling/concrete slab to eliminate vibration.



Service Access

Removable panels at the bottom of the unit are provided for service access to blowers, blower housing, motors and expansion valves. Entire fan and motor section assembly can be separated from the cabinet by opening special bolts for servicing and maintenance purpose in all the units. This feature provides the complete access of components without opening the ducting and refrigerant connections. Filter access provision is made without removing any part of the unit (lift and remove from backside).



CONTROLLER FEATURES

Microprocessor based Controller (Standard)

Microprocessor-based electronic controller with built-in programming for complete control of system, time delays for refrigeration system protection and interlocking arrangement with safety are provided as a standard feature on all the indoor units.

Unique Features

- Standard with all units
- Microprocessor-based unit
- High pressure and low pressure protection
- Non volatile memory , Auto reset on power failure
- Complete alarm management
- Multi speed fan motors
- Fan/Cool/Auto Modes
- Anti-freeze protection
- Built-in time delay for compressor

Connecting-cable Flexibility

Quick connector is provided for interconnecting the communication cable (10 metre long) from main controller to the controller user interface. This provides the flexibility for quick connections, avoiding missed connections in terminals and ensuring safety for service personnel.

Note: 20m long communication cable can be provided as optional feature from factory.

OUTDOOR UNIT FEATURES

System Tubing

Finite Element Analysis(FEA) of system piping ensures trouble free performance, reliability and durability of the system.

Condenser Fan Motor

Internally protected, totally enclosed and permanently lubricated type.

Oil Separator (Optional)

Inbuilt oil separator option can be provided in 48k to 60k for high rise or long distance installations. Oil separator models to be offered for long piping requirements above 50mts equivalent pipe length.

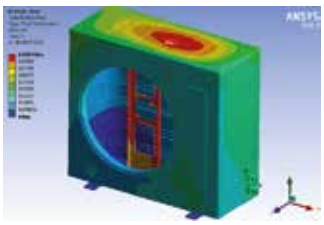
Fan Guard

Metallic wire guard conforms to IEC safety standard and high durability

Fan

Metallic condenser fan blades ensure safety and high durability

Cabinet



Polyster powder-coated, made from hot-dip galvanised steel metal for high corrosion resistance of 1008 hrs salt spray as per ASTM B117 standard. Pressed parts like base, foot, top front, fan motor bracket and side grill add sturdiness to the cabinet.

Serviceability

The compressor of the electrical box is located in a separate compartment of the cabinet for providing easy access through service panel.
Motor & fan can be accessed through front

Pre-charged

Every unit is factory charged up to 7.5 m of installation. All units are run tested before shipment.

Refrigerant Connection

Sweat & solder type connections are provided for ease of connections with field piping. Service vales are provide in all the models as standard feature. The service valves have the provision of service ports for ease of service & maintenance.

Filter Drier

Filter drier is supplied loose as standard accessory with the unit, for installation in liquid line in field. The filter drier prevents the unwanted moisture in the system and helps in enhancing the life of the system.

Vibration Isolation

Vibration isolation pads are provided as standard features with all the units .

Pressure Cut-outs

High pressure and low pressure safety controls are standard features on all the models. Single phase, phase reversal and phase imbalance protection: All the 3-phase units are provided with single phase imbalance protection modules are safety of electrical components.

HIGH-EFFICIENCY DUCTABLES WITH ROTARY COMPRESSOR

Blue Star's High-Efficiency Ductables have a rotary compressor with a built-in accumulator for efficient cooling even at T3 conditions. These ductables are available in the range from 1TR to 3.5 TR.

FEATURES

- R410A Refrigerant
- Power Savings
- Cools even at 55°C
- High-Efficiency Rotary Compressor
- Cool Mode
- Auto Mode

- Fan Mode
- Auto-Restart with Memory Backup
- Multi-Fan Speed
- LCD Display
- Anti-Corrosive Blue Fin Copper Condenser
- Anti-Freeze Thermostat
- Powder-Coated Outer Body

Technical Specifications

Model	IDU		DSE12FAI-XX	DSE18FAI-XX	DSE21FAI-XX	DSE24FAI-XX	DSE30FAI-XX	DSE36FAI-XX	DSE42FAI-XX	DSE48FAI-XX	DSE54FAI-XX	DSE60FAI-XX
	ODU		DSE121CYFAO-XX	DSE181CYFAO-XX	DSE211CYFAO-XX	DSE241CYFAO-XX	DSE301CYFAO-XX	DSE361CYFAO-XX	DSE423CYFAO-XX	DSE483CSFAO-XX	DSE543CSFAO-XX	DSE603CSFAO-XX
Nominal Performance	Cooling Capacity[1]	KBTU	11.2	17.4	21.0	25.2	29.4	36.0	40.9	47.0	47.5	58.0
	EER[1]		12.04	12.08	11.77	11.51	11.53	11.52	11.52	11.52	11.53	11.72
	Cooling Capacity[2]	KBTU	11.3	17.6	21.7	25.9	30.3	36.5	42.2	48.2	48.5	50.9
	EER[2]		12.35	12.17	12.06	11.81	11.82	11.82	11.82	11.81	11.83	11.91
	Cooling Capacity[3]	KBTU	9.9	15.3	18.5	21.8	25.8	31.0	36.8	41.0	41.5	50.9
	EER[3]		8.84	8.69	8.69	8.32	8.32	8.33	8.36	8.32	8.33	8.66
Indoor Unit	Power Supply	V/Hz/Ph	220-240 / 50 / 1P ~									
	Air Flow (H/M/L)	CFM	500/435/360	650/570/485	790/770/745	890/840/795	1250/1200/1145	1290/1250/1200	1560/1390/1260	1560/1400/1250	1825/1720/1640	1825/1720/1640
	ESP(Nominal)	Pa(Inch)	25(0.1)	25(0.1)	25(0.1)	25(0.1)	37.5(0.15)	37.5(0.15)	37.5(0.15)	50(0.2)	50(0.2)	50(0.2)
	Fans	Type	DIDW forward curved centrifugal mettallic fan bladed with metallic housing									
	Motor	Type	Permanentaly lubricated, thermally protected , Class B insulated PSC motor									
	Evaporator Coil	Type	Corrosion ressitant blue coated Aluminium fins mechanically bonded with inner grooved copper tubes									
	Expansion Device	Type	Orifice/Piston									
	Filter	Type	Synthetic washable filter									
		Size(mm)	920x295	920x295	1195x295	1195x295	1195x380	1195x380	660x380	660x380	660x465	660x465
		Nos	1	1	1	1	1	1	2	2	2	2
	Insulation	Type	Iradiated grade fire resistant EPE for thermal and accoustic properties									
	Noise level (H/M/L)	db(A)	39.7/39.3/38.6	40.5/39.1/38.4	41.7/41.3/40.8	47.5/46.5/46.3	45.9/45.4/44.8	46.7/45.9/45.4	50.7/49.1/48.1	52.2/50.7/49.1	53.4/52.6/51.8	53.4/52.6/51.8
	Dimension (WxHxD)	MM	977x310x600	977x310x 600	1252x310x600	1252x310x600	1252x400x700	1252x400x700	1402x400x700	1402x400x700	1402x479x700	1402x479x700
	Net Weight	KG	37.0	38.0	44.0	44.0	58.0	58.0	64.0	64.0	74.0	74.0
Outdoor Unit	Power Supply	V/Hz/Ph	220-240 / 50 / 1P ~						380 - 415 / 50 / 3N ~			
	Compressor	Type	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	Scroll	Scroll	Scroll
	Fan	Type	Axial Metallic fans									
	Motor	Type	TEAO Permanentaly lubricated, thermally protected , Class B insulated PSC motor									
	Condenser Coil	Type	Corrosion ressitant blue coated Aluminium fins mechanically bonded with inner grooved copper tubes									
	Dimension (WxHxD)	MM	850x550x310	850x690x310	850x690x310	850 x 800 x 310	850x800x310	1020x930x416	1020x930x416	1020x930x416	1020x930x416	1020x1045x416
	Net/Gross Weight	KG	36.0	50.0	50.0	55.0	58.0	80.0	86.0	92.0	92.0	110.0
	Refrigerant	Type	R-410A									
	Max. Ambient	℃	55℃									
Piping and Electrical	Suction	Inch(mm)	1/2" (12.7)	1/2" (12.7)	5/8" (15.87)	5/8" (15.87)	5/8" (15.87)	5/8" (15.87)	3/4" (19.05)	3/4" (19.05)	3/4" (19.05)	3/4" (19.05)
	Liquid	Inch(mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Total piping length*	Meter	50	50	50	50	50	50	50	50	50	50
	Vertical Piping limit**	Meter	30/10	30/10	30/10	30/10	30/10	30/10	30/10	30/20	30/20	30/20
	Remote cable lenght	Meter	10m standard, 20 m (Optional)									
	Power Supply		To Both IDU & ODU Individually									
Controller			Microprocessor based controller with LCD display, alarm management & safety interlocks									
Safety Features			Low pressure & High Pressure switch Auto restart with memory fucntion , Anti freeze thermostat, Synthetic washable filter, Hydrophilic Blue fins for both evaporator and Condenser.									
Accessories			Vibration isolation pad for outdoor unit and rubber grommets for IDU installation									

Notes:

[1] :Outdoor Condition DB 35°C; Indoor Condition DB 27°C, WB 19°C

[2] :Outdoor Condition DB 35°C; Indoor Condition DB 26.7°C , WB 19.4°C

[3] :Outdoor Condition DB 46°C; Indoor Condition DB 27°C, WB 19°C

*** Standard feature for scroll models. Rotary models require recommended accessories above 30 mts total equivalent pipe length.**

*** Standard feature for scroll models. Rotary models required recommended accessories for vertical limit above 10 mts. (ODU above IDU / ODU below IDU)**

Special scroll models available from 1.75 TR - 3.5 TR

Optional 3 Phase model available for 3 TR capacity

Refer the technical manual or contact authorized representative for piping length limitation, piping guidelines & accessories required.

Air flow mentioned is at dry coil condition

Products performance is evaluated in accordance with GSO ISO 13253 standards in laboratory accredited as per ISO17025.

Note that XX stands for country code in the model number.

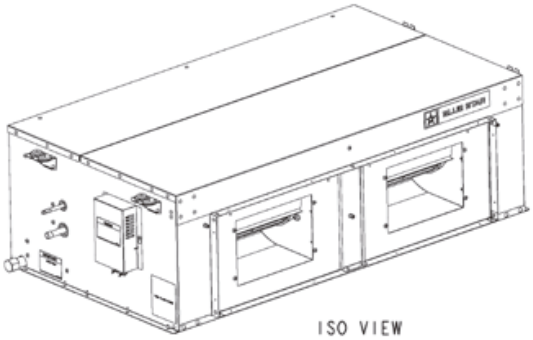
Blue Star has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

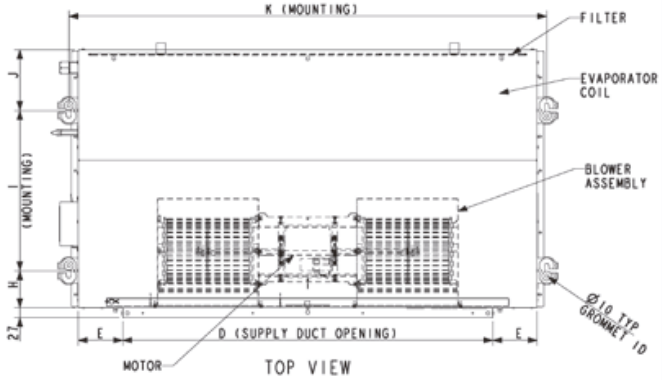
Air Flow Performance Chart

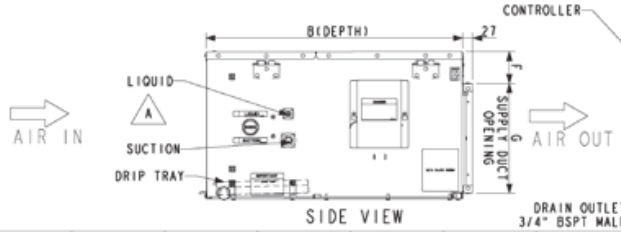
MODEL	BLOWER MOTOR SPEED	CFM @ EXTERNAL STATIC PRESSURE in Pa (Inches of Water)					
		0	**25(0.1)**	**37 (0.15)**	**50 (0.2)**	**75 (0.3)**	**100 (0.4)**
DSE12FAI	Low	455	360	290	-	-	-
	Medium	510	435	340	-	-	-
	High	575	500	400	-	-	-
DSE18FAI	Low	580	485	360	-	-	-
	Medium	675	570	435	280	-	-
	High	785	650	560	290	-	-
DSE21FAI	Low	890	745	645	425	-	-
	Medium	925	770	665	450	-	-
	High	955	790	685	470	-	-
DSE24FAI	Low	890	795	745	695	520	-
	Medium	930	840	795	740	585	-
	High	980	890	845	790	640	-
DSE30FAI	Low	1355	1225	1145	1045	615	-
	Medium	1420	1280	1200	1100	635	-
	High	1485	1330	1250	1145	705	-
DSE36FAI	Low	1420	1280	1200	1100	635	-
	Medium	1485	1330	1250	1145	705	-
	High	1560	1385	1290	1185	720	-
DSE42FAI	Low	1310	1290	1260	1180	880	470
	Medium	1520	1460	1390	1250	890	480
	High	1810	1660	1560	1400	980	480
DSE48FAI	Low	1520	1460	1390	1250	890	480
	Medium	1810	1660	1560	1400	980	480
	High	2025	1810	1700	1560	1200	540
DSE54FAI	Low	1965	1830	1740	1640	1200	475
	Medium	2130	1950	1835	1720	1265	490
	High	2285	2065	1935	1825	1370	530
DSE60FAI	Low	1965	1830	1740	1640	1200	475
	Medium	2130	1950	1835	1720	1265	490
	High	2285	2065	1935	1825	1370	530

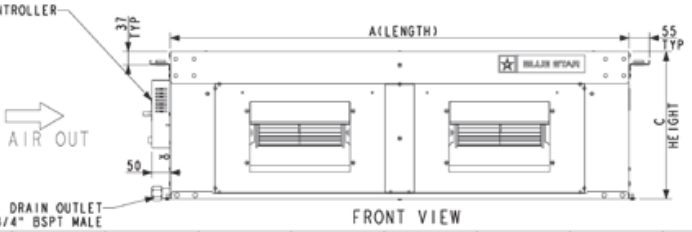
Note: Airflow is at dry coil condition and standard ambient condition of 27°C DBT

GA DRAWINGS

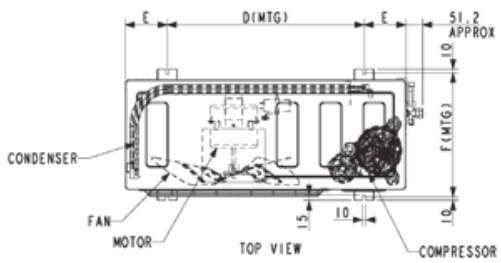


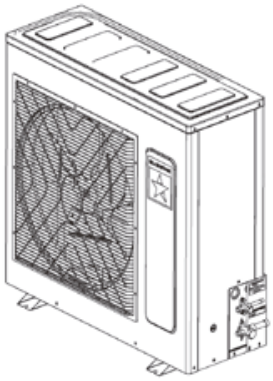


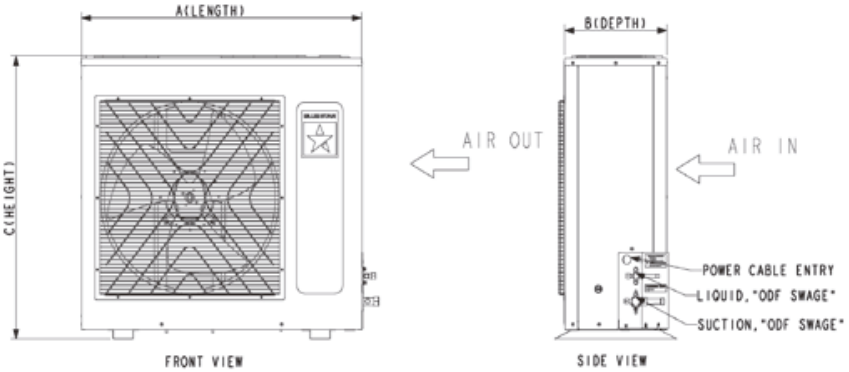




MODEL	A	B	C	D	E	F	G	H	I	J	K	SUC. SIZE	LIQ. SIZE
DSE12FAI/18FAI	977	600	310	815	81	52	242	75	390	135	1029	1/2"	3/8"
DSE21FAI/24FAI	1252	600	310	1010	121	52	242	75	390	135	1304	5/8"	3/8"
DSE30FAI/36FAI	1252	700	400	1010	121	87	297	100	435	165	1304	5/8"	3/8"
DSE42FAI/48FAI	1402	700	400	1010	196	87	297	100	435	165	1454	3/4"	3/8"
DSE54FAI/60FAI	1402	700	479	1010	196	120	342	100	435	165	1454	3/4"	3/8"



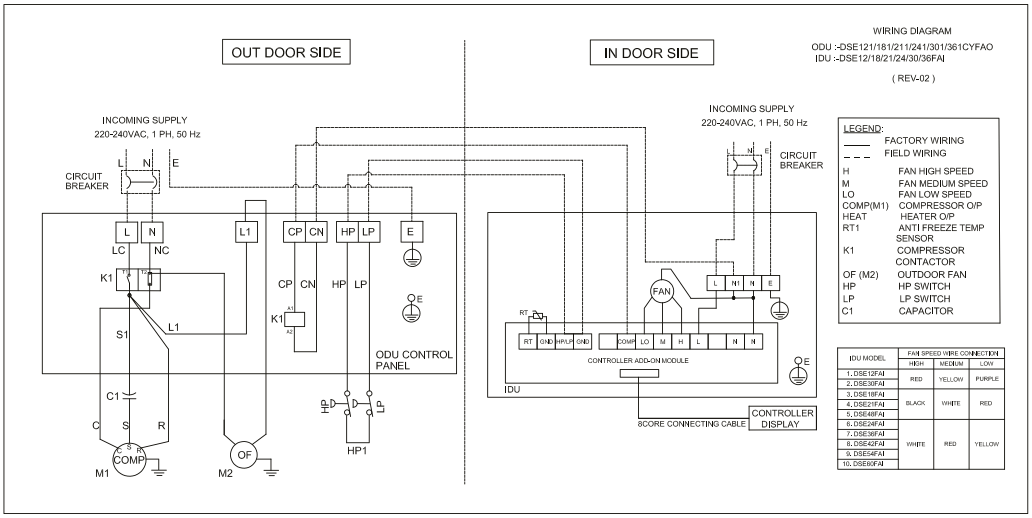




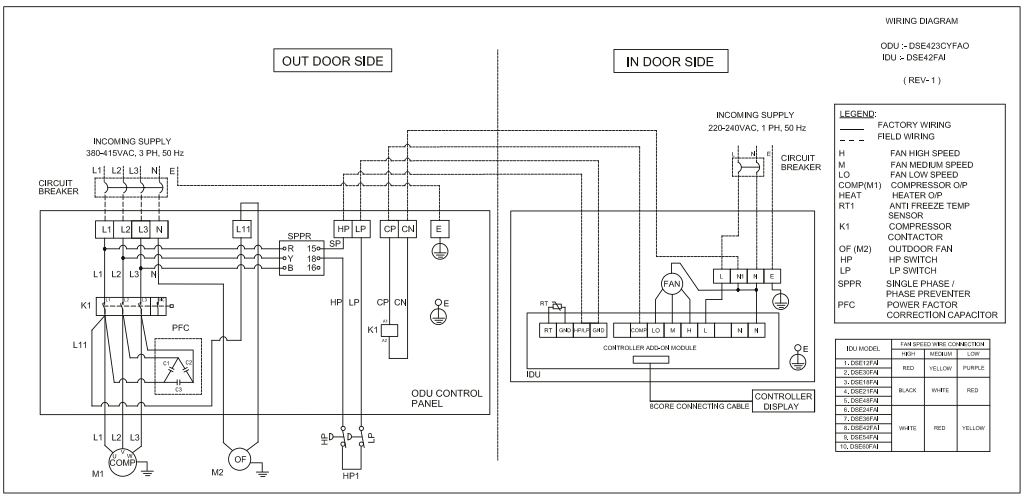
MODEL-50Hz.	A	B	C	D	E	F	SUCTION CONNECTION	LIQUID CONNECTION	FAN DIA
DSE603CSFAO	1020	416	1045	680	170	445	3/4"	3/8"	26"
DSE423CYFAO/483CSFAO/543CSFAO	1020	416	930	680	170	445	3/4"	3/8"	24"
DSE361CYFAO	1020	416	930	680	170	445	5/8"	3/8"	24"
DSE241CYFAO/301CYFAO	850	310	800	595	125	350	5/8"	3/8"	20"
DSE211CYFAO	850	310	690	595	125	350	5/8"	3/8"	18"
DSE181CYFAO	850	310	690	595	125	350	1/2"	3/8"	18"
DSE121CYFAO	850	310	550	535	157	350	1/2"	3/8"	16"

ELECTRICAL SCHEMATIC DIAGRAM

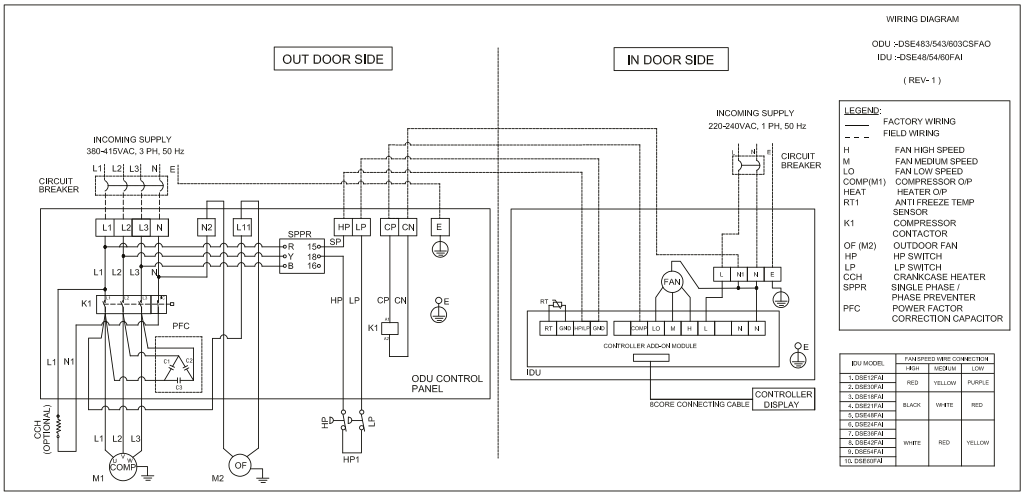
1 Phase Models : 12k to 36k



3 Phase Model : 42k



3 Phase Models : 48k to 60k



STANDARD AND OPTIONAL FEATURES

Features	Standard	Optional
Mettalic Fan	•	
Evaporator coil - Blue fins	•	
Condenser coil - Blue fins	•	
Condenser coil blygold coating		•
Filter Drier (Field installed)	•	
Connecting Cable -10 meters	•	
Connecting Cable -20 meters		•
5 mm Thk Insulation in IDU	•	
Fire resistant electrical enclosure	•	
Service valve on outdoor unit	•	
Service port on service valve	•	
Pre charge refrigerant from factory	•	
Microprocessor based controller	•	
Microprocessor Advanced Controllers for BMS compatibility		•
5mm thick, woven synthetic filter	•	
1/2 inch thick Aluminium filter		•
Stailess Steel drain pan for IDU		•
Option of oil separator for long piping up to 61 meters in 48 to 60 KBTU models		•
Factory Installed Expansion Device	•	
HP, LP, antifreeze & SPPR protection	•	

GUIDE SPECIFICATIONS

AIR-COOLED, DUCTED SPLIT AIR CONDITIONER, 1.0 TO 5.0 NOMINAL TONS GENERAL

System Description

Outdoor unit- suitable for ground or rooftop installation. Unit consists of a Rotary or Scroll compressor, an air--cooled coil, propeller--type condenser fan, and a control box. Unit with side discharge supply air.
Indoor Unit - suitable for installation in ceiling space. Compact in size consisting of cooling coil, blower, motor, filter, control box & microprocessor based controller.

Quality Assurance

- Units tested and rated as per: GSO ISO 13253:2011
- Unit cabinet will be capable of withstanding 1008 Hr salt spray test as per ASTM B-117.
- All coils will be leak tested at 650psig on low and high side.
- Unit constructed in ISO 9001:2015 approved facilities.

Delivery, Storage, and Handling

Unit will be shipped as single package (outdoor + indoor) only and is stored and handled as per unit manufacturer's recommendations.

PRODUCTS

Equipment

Factory assembled, single piece, air cooled air conditioner split unit. The outdoor unit Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge (R-410A) & expansion device.
The system should be suitable for non stop operation up to 55°C / 131°F.

Unit Cabinet

For Both indoor unit and outdoor unit polyester based powder coated, made from hot deep galvanized sheet metal steel for high corrosion resistance of 1008 hrs of salt spray test as per ASTM-B117 std.

Fans

- Condenser fan will be direct--drive propeller type, side discharge.
- Condenser fan motors will be totally enclosed air over (TEAO), 1--phase type with minimum class B insulation, thermally protected and permanently lubricated bearings.
- Fan blades will be made of metal and shall be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

Blowers

- Indoor blowers shall be metallic centrifugal double inlet double width (DIDW) type.
- Indoor motors shall be permanently lubricated, thermally protected, Class B insulated, PSC motor

Compressor

- Compressor will be hermetically sealed rotary or scroll type.
- Compressor will be mounted on rubber vibration isolators.

Condenser Coil

- Condenser coil shall be air cooled.
- Coil will be constructed of corrosion resistant blue coated Aluminium fins mechanically bonded with inner grooved copper tubes.
- Coil will be capable of withstanding 500hr salt spray test (per ASMB117 test method).
- The outdoor unit circuit shall be with filter drier either equipped from factory or as loose item with each unit.

Evaporator Coil

- Coil will be constructed of corrosion resistant blue coated Aluminium fins mechanically bonded with inner grooved copper tubes.
- Coil will be capable of withstanding 500hr salt spray test (per ASMB117 test method).
- Operating Characteristic

Controller

- The controller shall be microprocessor based with facility like alarm control system, auto reset, time delays, anti freeze protection,
- The connecting cable for display shall be 10 meter and optional of 20 meter shall be provided (if required).
- Wired remote shall be provided as standard and provision of wireless remote shall be as option.

A complete range of applied products to suit every need

VRF Systems

Packaged ACs & Ducted Splits

Condensing Units

Inverter scroll chillers

Process Chillers

Tank Chillers

Air cooled & Water cooled VFD Screw Chillers

Air-Cooled Configured Screw Chiller - High Efficiency Series

Air Cooled and Water Cooled Scroll Chiller

Water-Cooled Screw Chillers Configured Series

Turbocor Chillers

Water Cooled Falling Film Screw Chillers

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