BLUE STAR

2019 Next Gen VRF V Plus

Creating a new benchmark

Blue Star is India's leading HVAC solutions provider. Our expertise in providing air conditioning solutions to diverse industrial domains comes from our experience of over 7 decades in the industry.

Today, the Company is a leader in commercial AC technology trends and is held in high esteem in almost every aspect of the cooling business - VRFs, Chillers, AHUs, FCUs, Packaged & Ducted Splits.

Apart from its wide range of products and solutions for which the Company offers technical and service support across the length and breadth of any country it operates in, Blue Star is also known for its manufacturing prowess. Over the decades, Blue Star has been the pioneer in introducing latest technologies in the industry. We brought in the first Scroll and then the Tandem Scroll packaged units to give our customers a heads up on power savings. We developed the first high-performance packaged units that cool high sensible loads even at high ambients. We switched to eco-friendly refrigerants well ahead of others. We introduced Inverter technology in various product ranges, and developed unique VRF solutions that suited the Indian tropical climatic conditions and high ambient conditions of regions like the Middle East.

GLOBAL PRESENCE

Blue Star has an international presence in the Middle East, Africa, SAARC and ASEAN regions. In addition, the Company also participates in international projects managed by their joint ventures in Qatar, Oman and Malaysia.

CUTTING-EDGE R&D

Blue Star's innovations are born out of the high-end R&D establishment that has been painstakingly put together 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.

Blue Star's R&D is equipped with advanced engineering design software such as Pro ENGINEER, Solid Edge, PRO-Mechanic, Rhino, Alias and ANSYS Fluent. There are also advanced software tools employed for system design, product performance rating, selection and heat exchanger optimisation.

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 & technology is tested vigorously before being productionised. Blue Star has 6 Psychrometric, 2 Condensing and 2 Environmental test labs.

Blue Star's R&D labs at Thane & Dadra have been certified by Intertek, Sweden to carry out safety tests for HVAC products, as per International Electrotechnical Commission Standards. Intertek is a global leader in safety testing & 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, India in accordance with the Standard ISO 17025: 2005.

NABL is a Signatory member of APLAC and International Laboratory Accreditation Co-operation (ILAC).

The R&D also has psychrometric test facilities to conduct performance tests on the DX systems range in line with international testing standards.

Psychrometric Test Lab

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 examine design reliability.

All Blue Star products are designed to perform under tropical conditions such as high ambients, high humidity, under extreme voltage conditions and fluctuations. All designs are tested for performance under high ambient conditions and extreme power conditions as prevalent in India.

ADVANCED PSYCHROMETRIC TEST LAB AT DADRA

Blue Star's Dadra factory has a modern Psychrometric test lab that can simulate and test VRFs under various conditions. All machines manufactured at the factory are rigorously tested for various parameters at this facility before despatch. Customers too can witness actual performance tests conducted on the new VRF V Plus before despatch of their machines, making Blue Star one of the few companies in the air conditioning industry to offer this facility.

WORLD-CLASS MANUFACTURING

Blue Star's manufacturing strength is spread across five state-of-the-art manufacturing facilities in the country. The new Blue Star VRF V Plus units are manufactured at the contemporary and modern factory at Dadra. Set up to international standards, the products manufactured at this ISO 9001 - 2015 certified factory are sold not only across India but also exported to various countries across the globe.


TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

BLUE STAR LIMITED
3rd Pokharan Road, Majiwada,
Thane - 400 601, Maharashtra,
India
and other locations as per Annexure

BLUE STAR

Design, Development and Manufacture of Air Conditioning and Refrigeration Equipment

IAF DAkkS

Panel Punching Machine

Dadra Factory

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 and specialised microprocessor-based protection and resistance welders. All these machines ensure superior quality in cabinet fabrication with tight tolerance.

All products are powder-coated by specialised process equipment from Nordson of the USA on fully conveyorised lines. This equipment is 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 powder flow.

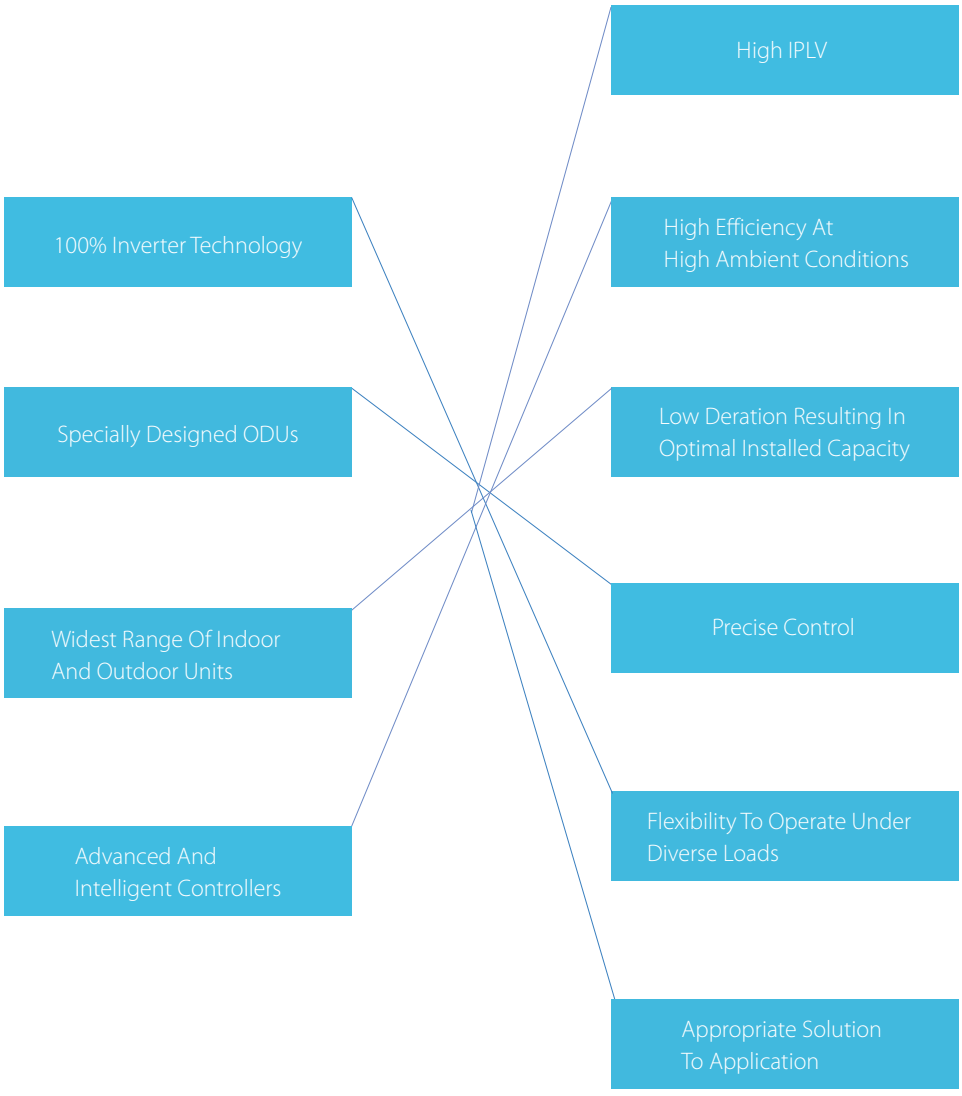
Blue Star is equipped with a high-tech coil manufacturing setup using imported Burr Oak machines that can manufacture high efficiency plain coils as well as enhanced split fins for superior heat transfer.

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

Paint Shop

Panel Blending Machine

VRF V PLUS ADVANTAGE



SCHEMATIC OF THE BLUE STAR VRF V PLUS SYSTEM

VRF V PLUS ODU COMBINATION

Appearance	System Capacity (HP)	8 HP	10 HP	12 HP	14 HP	16 HP	18 HP	20 HP	22 HP	24 HP	26 HP	28 HP	No. of IDUs
	8	1											8
	10		1										10
	12			1									12
	14				1								14
	16					1							16
	18						1						18
	20							1					20
	22								1				22
	24									1			24
	26										1		26
	28											1	28
	30	1							1				30
	32	1								1			32
	34	1									1		34
	36	1										1	36
	38		1									1	38
	40			1								1	40
	42				1							1	42
	44					1						1	44
	46						1					1	46
	48							1				1	48
	50								1			1	50
	52									1		1	52
	54										1	1	54
	56											2	56
	58	1							1			1	58
	60	1								1		1	60
	62	1									1	1	62
	64	1										2	62
	66		1									2	62
	68			1								2	62
	70				1							2	62
	72					1						2	62
	74						1					2	62
	76							1				2	62
	78								1			2	62
	80									1		2	62
	82										1	2	62
	84											3	62
	86	1							1			2	62
	88	1								1		2	62
	90	1									1	2	62
	92	1										3	62
	94		1									3	62
	96			1								3	62
	98				1							3	62
	100					1						3	62
	102						1					3	62
	104							1				3	62
	106								1			3	62
	108									1		3	62
	110										1	3	62
	112											4	62

Note : Images are for representation purpose only for number of modules required for desired capacity.

PRODUCT LINE-UP: INDOOR UNITS

	Type	0.6TR	0.8TR	1 TR	1.3 TR	1.5 TR	1.6 TR	1.7 TR	2 TR	2.25 TR	2.3 TR	2.4 TR	2.5 TR	2.8 TR	3 TR	3.2 TR	3.5 TR	4 TR	5 TR	6 TR	8 TR	10 TR
	Hi-Wall Units		●	●	●	●		●	●				●	●								
	Four-way Cassettes			●	●	●		●	●		●			●		●		●	●			
	Compact Cassettes	●	●	●	●	●																
	One-way Cassettes	●	●	●	●		●		●													
	Two-way Cassettes	●	●	●	●	●		●	●													
	Floor-cum-Ceiling Mounted Units					●			●						●			●	●			
	Verticools								●		●			●		●		●				
	Concealed Splits		●	●	●	●			●													
	Ductable IDUs					●			●	●		●	●		●		●	●	●	●	●	
	Low Static Ducted		●	●	●	●		●	●		●		●			●		●				
	Floor Mounted Packaged Units																		●		●	●

WIDE RANGE CONTROLLERS

Appearance	Type
	Cordless Remote Controller
	Wired Controller
	Group Controller
	Central Controller
	PC Monitoring System
	Keycard Controller
	Remote Monitoring System
	Tenant Billing System
	BMS Compatibility
	Mobile App
	Remote Monitoring Service
	Data Concentrator

UNIQUE FEATURES OF THE VRF V PLUS

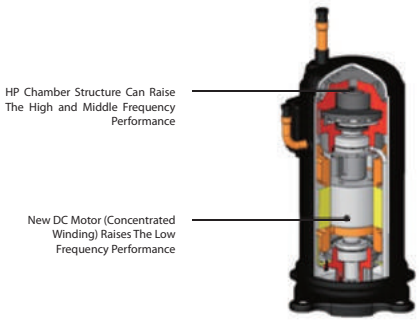
HIGHLY EFFICIENT INVERTER COMPRESSORS

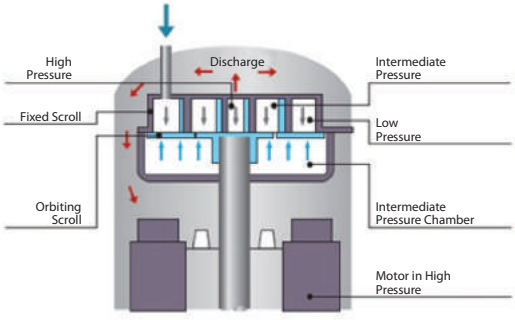
The unique design of the inverter compressor ensures that the refrigerant is directly injected into the compressor chamber. Since the suction gas enters directly into the scroll, there is no superheat gain due to the compressor motor assembly. This results in efficiency enhancement of up to 3%.

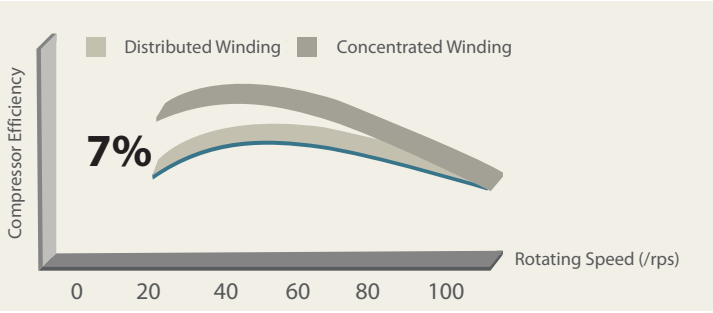
HIGH PRESSURE DISCHARGE CHAMBER COMPRESSORS

The speed of the conventional inverter compressors is, in general, restricted to 30%, as a lower speed may affect the flow of the lubricating oil in the compressor. However, the unique inverter compressor used in Blue Star's VRF V Plus uses a high pressure discharge chamber design which ensures uniform oilflow irrespective of the speed of the compressor. This gives the system the flexibility to operate under extremely low loads (even below 30%) which is not possible with other compressors.

When the hot gas from the scroll is discharged into the high pressure chamber, the velocity is reduced. Hence, the whole design acts like a muffler and reduces noise levels to a great extent.
The compressors are also fitted with concentrated windings which reduce slip loss of motors when operating at low speeds. This results in enhanced efficiency compared to other windings by up to 7% on part loads.



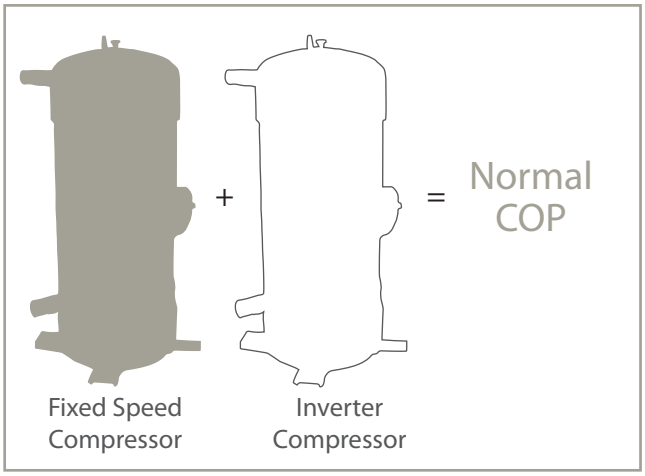




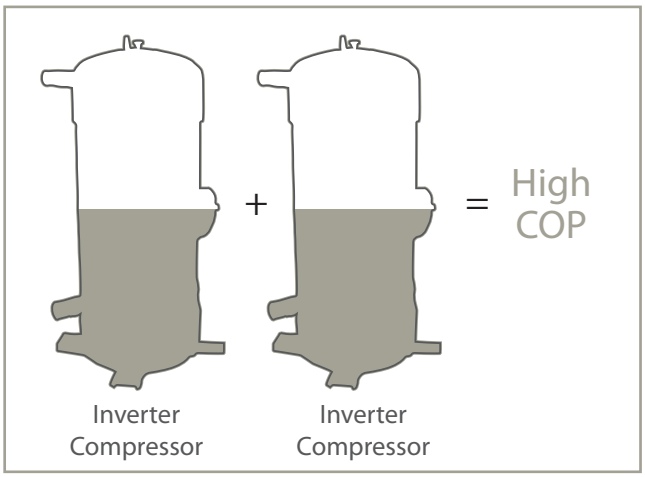
Not just that, powerful, permanent rare-earth magnets are used in the rotors of DC inverter compressors. This allows the stators to be designed smaller which ultimately results in low power consumption.

100% INVERTER ADVANTAGE

Blue Star's VRF V Plus units are fitted with 100% inverter compressors. The unique logic of the system is that it optimally loads compressors in such a way that maximum efficiency is achieved under any load condition.

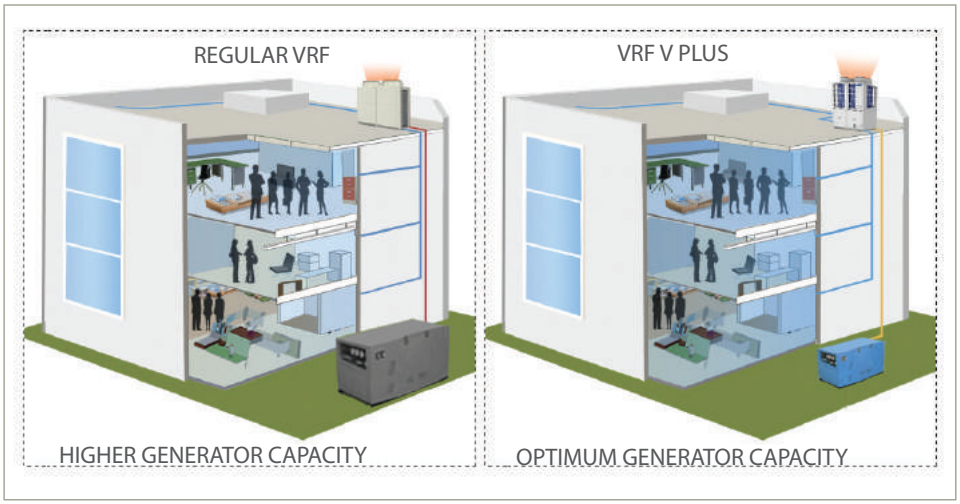


Normal VRF at 50% load



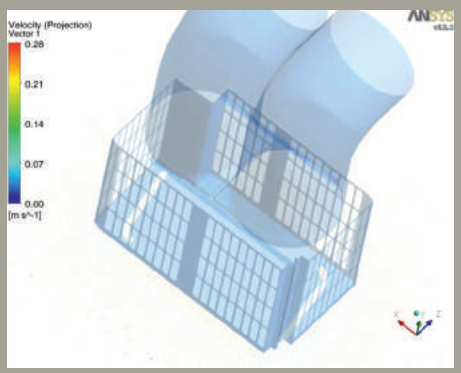
VRF V Plus at 50% load

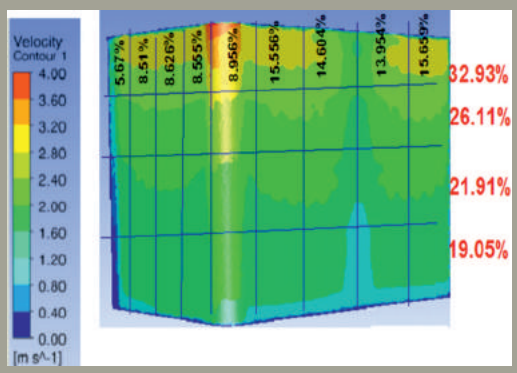
The other advantage of 100% inverter systems is the low starting current compared to VRF systems fitted with fixed and variable capacity compressors. This helps optimise electrical requirements like generator capacity and cable sizes.



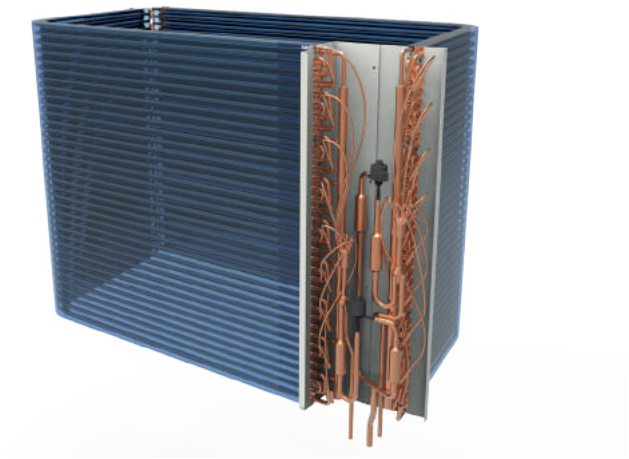
SPECIALLY DESIGNED ODUs

The VRF V Plus ODUs are specially designed using CFD analysis to ensure maximum airflow and minimum pressure drop. This robust design makes the system function efficiently even when operating under extremely high or low ambient conditions.





The condensers in these ODUs are precisely designed to ensure maximum efficiency of the VRF system. The specially designed condenser coil face area is at least 30% higher than in other systems.



The heat exchanger compartments are designed to ensure uniform airflow without any obstruction. This ensures efficient heat exchange and results in high efficiency. Specially designed louvre fins enhance system efficiency by up to 7%.

The copper tubes are inner-grooved for high heat transfer. The condenser fans are fitted with high efficiency DC motors that regulate airflow depending on demand, resulting in power savings. The special design features incorporated in the VRF V Plus ODU result in:

- High COP and IPLV
- 100% capacity at 43°C
- Non-stop operation even at 56°C

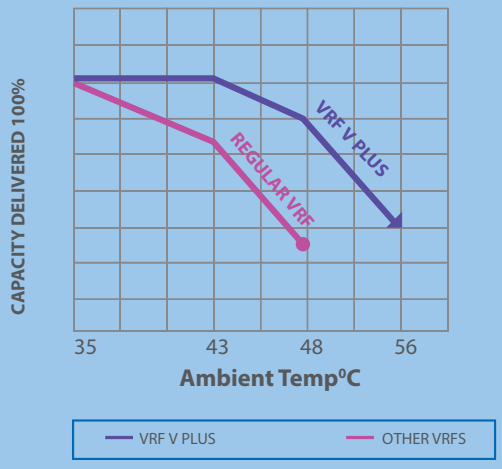
Optional Blygold coating on condenser coil enhances the durability of the coil. The coating sustains 1500 + hours of salt spray test as per ASTMB117 standard.


DESIGNED FOR HIGH AMBIENT CONDITIONS
48°C
52°C
46°C
43°C
37°C
36°C
Heat energy radiates from urban areas
Suburban
Urban Centre
Residential
Commercial
Parks
Commercial
Green areas disband heat accumulation

Most air conditioning systems are designed to deliver nominal capacity at 35°C. However, in hot climatic conditions like the Middle East, ambient temperatures are much higher most of the time. The urban heat effect, whereby ambients are a couple of degrees higher than normal, makes the situation even more difficult.

Higher ambients result in system deration and higher power consumption as well. Blue Star's VRF V Plus is specially designed to deliver 100% capacity at a higher ambient of 43°C.

VRF V PLUS HIGH AMBIENT (56°C) PERFORMANCE

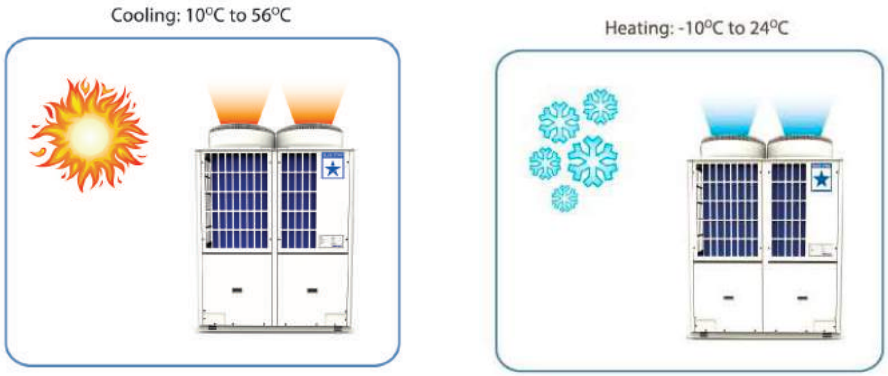


There are several reasons why the Blue Star VRF V Plus operates more efficiently even under high ambient conditions:

- Enhanced coil surface area up to 30% more than other VRF systems ensures that 100% capacity is delivered at 43°C
- This also ensures that the system is more efficient above 43°C
- Optimally selected compressors which do not unload till 48°C. When the ambient temperature goes higher than the ambient temperature the system is designed for, inverter compressors in conventional systems ramp up speed to meet with load demands. However, there are limitations to this ramp-up beyond which the compressors unload. Hence, the deration of such systems is a summation of high ambient conditions as well as the drop in capacity due to compressor unloading.
- Advanced heat sink design and oil management systems ensure that the systems function non-stop till 56°C

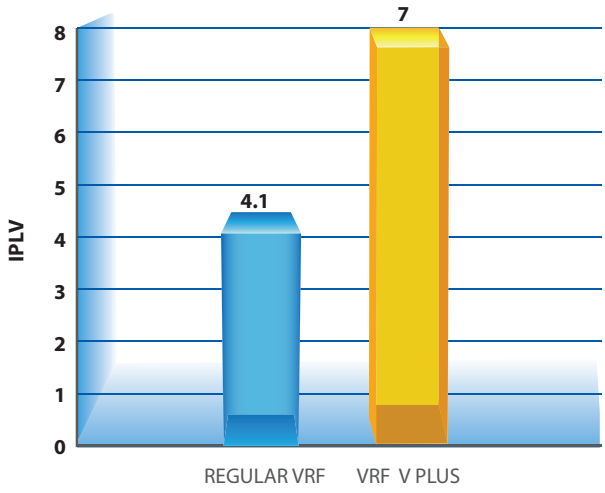
WIDE OPERATING RANGE

The VRF V Plus is designed with high pressure and low pressure protective systems, enabling the machine to perform across a wide operating temperature bandwidth. The system can operate from 10°C to 56°C in the cooling mode and -10°C to 24°C in the heating mode.



HIGH SYSTEM EFFICIENCY

Enhanced coil surface area, 100% inverter compressor advantage, and system logic for compressor efficiency optimisation together result in superior performance of the entire system.



SUPERIOR ACCUMULATOR DESIGN

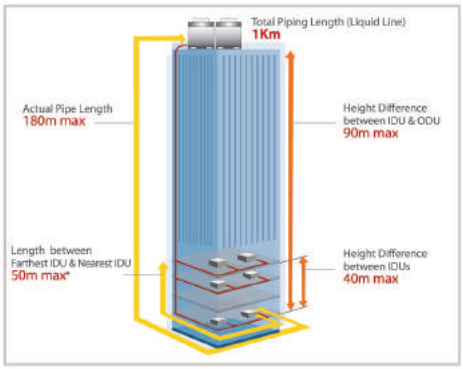
The Blue Star VRF V Plus system is designed with the largest twin accumulator in its class. This new design allows the system to perform seamlessly in low load conditions, even below 30% without tripping.

SUPERIOR ACCUMULATOR DESIGN

VRF systems are generally suggested for applications where there could be extreme variations in internal loads. However, the system design of the VRF system will decide the minimum operable load conditions. Conventional VRF systems are not designed to operate below 30% of the load, the primary reason being the inability to manage the liquid refrigerant and oil in low load conditions. The VRF V Plus is designed to handle loads as low as 5%.

LONG PIPING LENGTHS

VRF systems generally need long refrigerant piping. And when pipe lengths are higher, refrigerant charge is proportionately higher. This calls for a better system design with proper accumulator sizing to handle the excess refrigerant during the functioning of the system. The Blue Star VRF V Plus is designed to operate efficiently even with very long piping lengths of up to 1km.



INCREASED RELIABILITY

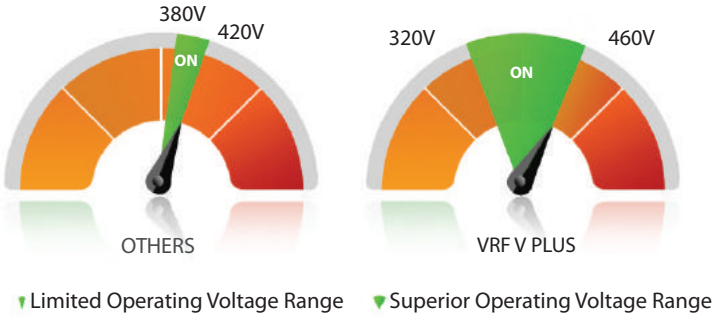
If the excess liquid refrigerant is not handled effectively, it can enter the compressor and result in failure. Since the VRF V Plus uses the best accumulator design in the industry, it ensures that no liquid enters the compressor, thus increasing reliability.

100% CAPACITY EVEN AT 43°C

The Blue Star VRF V Plus delivers 100% capacity even when the ambient temperature is as high as 43°C.
This enables reliable operation even under extremely high temperature conditions.

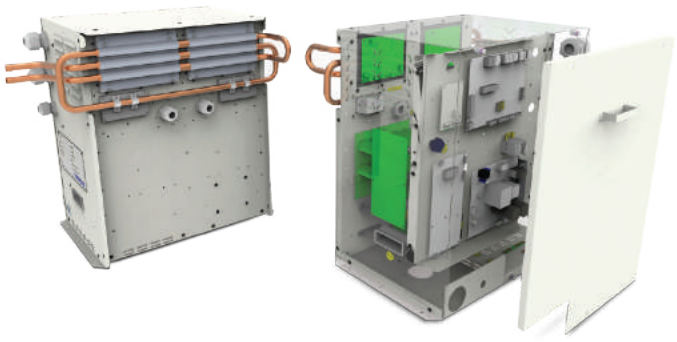
WIDE VOLTAGE RANGE

In situations where voltage fluctuations are alarming, most AC systems operate inefficiently or shut down. The Blue Star VRF V Plus is designed to operate across a wide voltage range from 320V to 400V, resulting in high uptime even in erratic power conditions.



INNOVATIVE REFRIGERANT-COOLED HEAT SINK

Inverter drives play a very important role in regulating the capacity of the system based on load requirements. Keeping the inverter drive in a controlled temperature is very important for enhanced life, improved performance and reliability. The VRF V Plus is designed with an innovative refrigerant-cooled heat sink which helps maintain the drive within the allowable temperature range. This enhances the reliability of the system when it is working under very high ambient conditions.



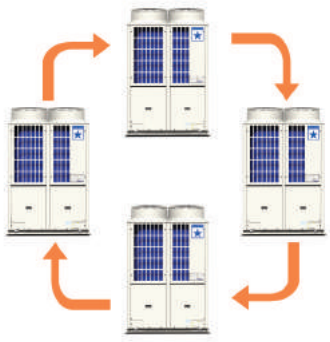
SUPERIOR OIL MANAGEMENT SYSTEM

PATENTED OIL RECOVERY

Considering the very long piping lengths that the VRF V Plus must handle, it is crucial to have a superior oil management system to ensure reliability. The VRF V Plus is manufactured with a specially designed and patented oil separator to ensure efficient oil recovery in the VRF System.

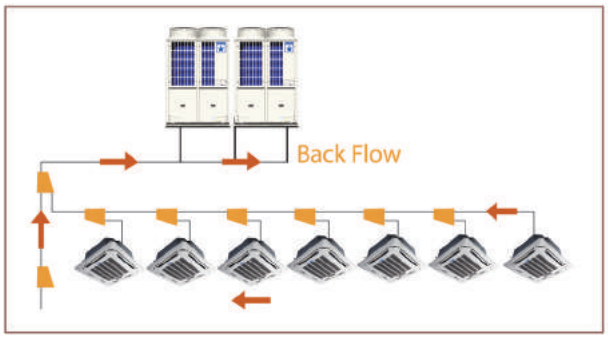
OIL SWAP

Oil is also swapped with the next ODU on a regular basis to maintain the oil balance in the system.



IDU OIL RETURN CYCLE

The cyclic oil recovery from the IDU is done by widely opening the electronic expansion valve and completely recovering the oil back to the ODU. Oil is recovered even from switched-off indoor units.



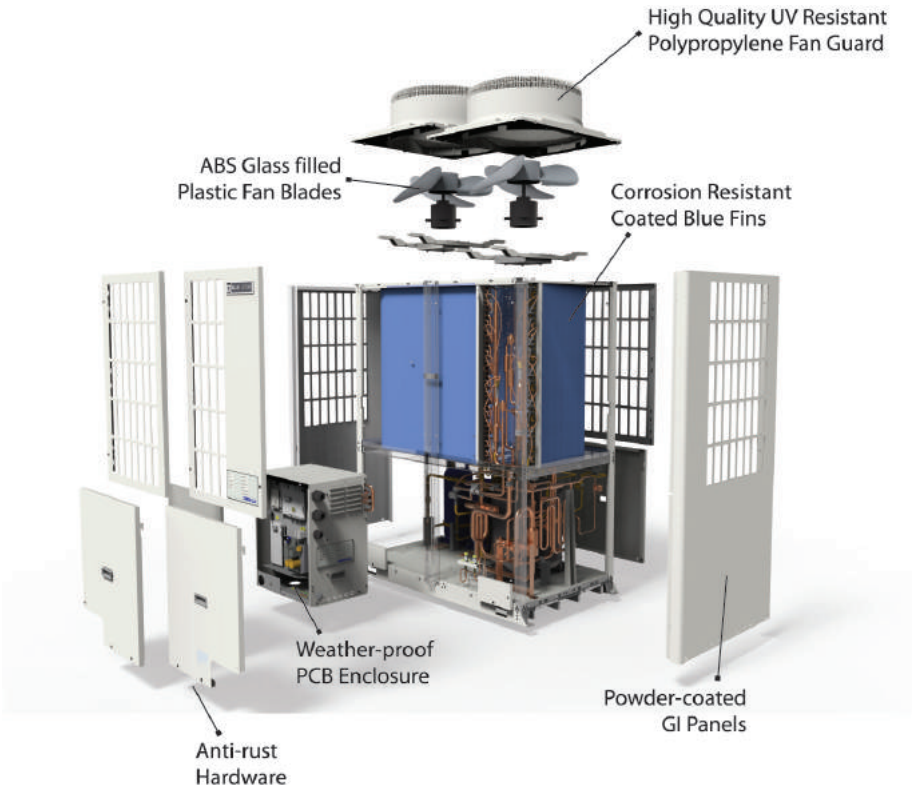
SERVICE-FRIENDLY DESIGN

All components of the outdoor unit are mounted in a separate compartment at the bottom and are accessible from all four sides. This makes these ODUs very easy to service.

WEATHER-PROOF ODU DESIGN

The Blue Star VRF V Plus is specifically designed to handle extreme climatic conditions, corrosive and polluted atmospheres.

- Powder-coated GI sheet metal cabinets
- All hardware of anti-rust quality
- Conformal coating on PCBs to protect from dust and humidity
- Hydrophilic blue fin for better corrosion resistance
- Weather-proof enclosures for critical components



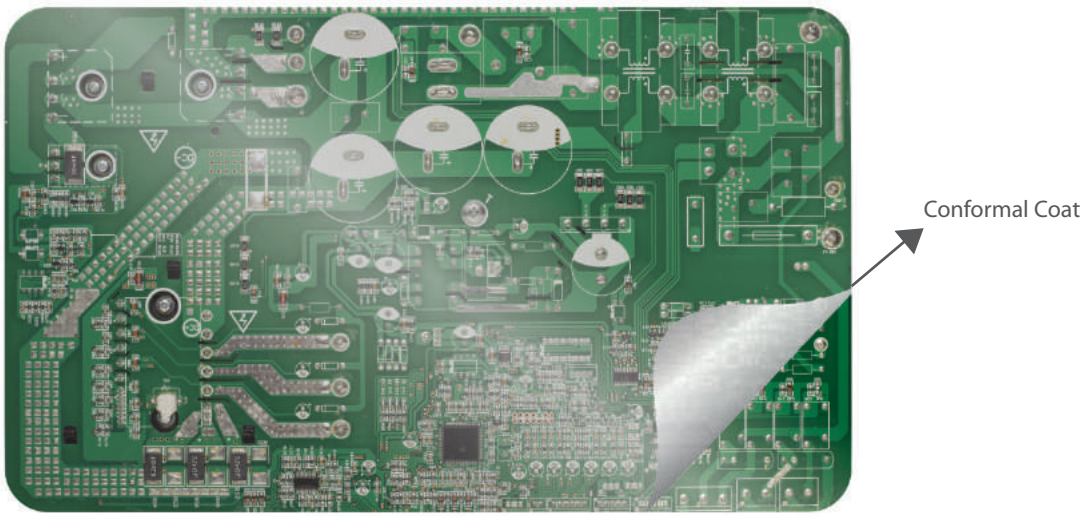
CONFORMAL COATING FOR PCBs

- All the PCBs in the VRF V Plus are coated with a special acrylic-based polymer film
- This special conformal coat adheres to the norms of circuit board topology
- This special coating is used in various industries like automobile, defence, warehousing, space and marine applications.

This protects PCBs from the harmful effects of the following:

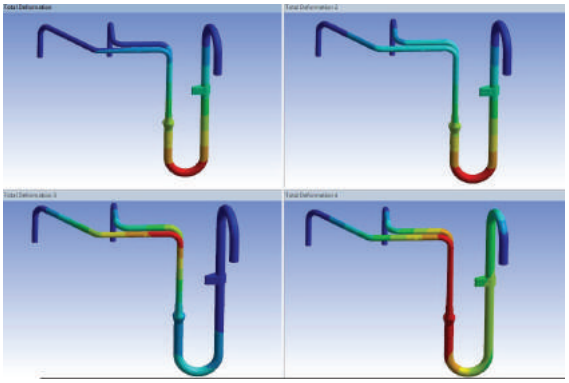
MOISTURE I HEAT I FUNGUS I CHEMICALS I DUST

This cover not only protects but also maintains the breathable layer of the PCB with good electrical properties and is also eco-friendly.



COMPUTERISED DESIGN FOR RELIABILITY

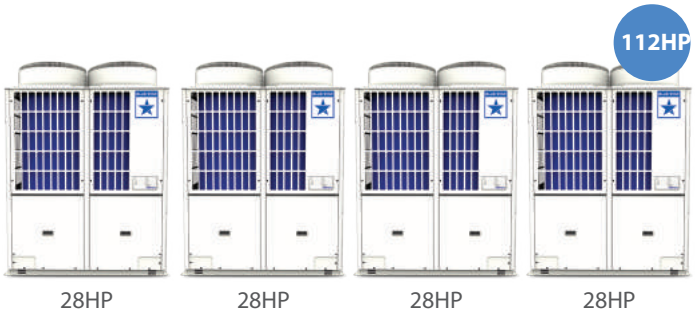
VRF systems fitted with inverter compressors run at various compressor speeds to regulate capacities to suit actual load requirements. These variations in speed result in vibrations of the copper pipe fittings. Hence, it is important to have a reliable and tested piping load design in the ODU. In the VRF V Plus, piping layers are created using Finite Element Analysis (FEA). This ensures reliability and trouble-free performance under various load conditions.



FEA Images of ODU Piping

LARGE CAPACITY AND WIDE RANGE OF ODUs

The Blue Star VRF V Plus has a wide range of ODUs with capacities from 8HP to 28HP.

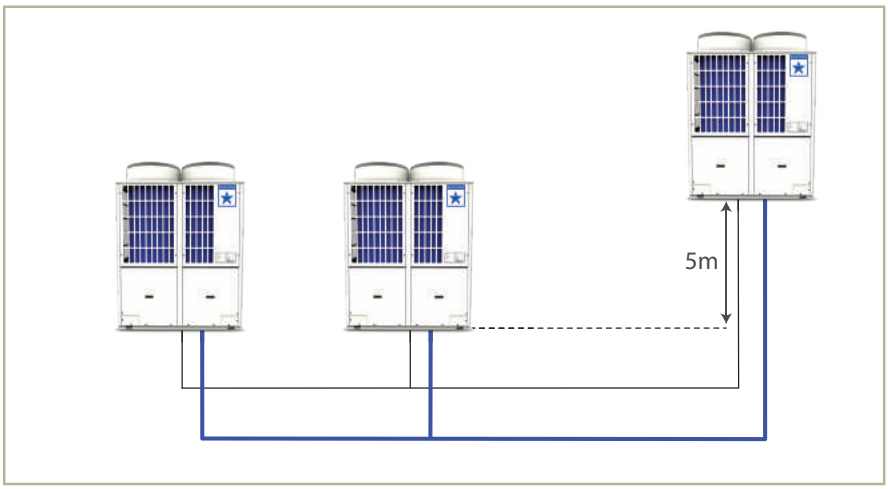


Up to 4 ODUs can be combined in one design to increase capacity up to a maximum of 112HP.

LONG AND FLEXIBLE PIPING DESIGN

The Blue Star VRF V Plus is designed with a large accumulator and an efficient oil recovery management system, hence allowing the system to be set up with long and flexible piping.

Total piping length	1km
Elevation between ODU and IDU	90m
Elevation between IDUs	40m
Elevation between ODUs	5m



QUIET MODE

When the ambient noise levels are low, like at night time, noise levels of an operating AC can be disturbing especially in residential applications. To overcome this noise issue, the Blue Star VRF V Plus has a unique 'Quiet Mode' feature which operates at two levels:

- Quiet mode: Outdoor fan speed is reduced.
- Super Quiet mode: Along with fan speed, compressor speed is also lowered. The start and end time of this feature can be set to suit each installation's requirements.

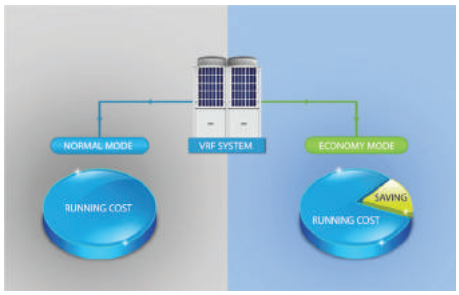
DEMAND CONTROL MODE OR ECONOMY MODE

Under the Demand Control mode, the capacity of the ODUs of the VRF V Plus can be set at 25%, 50% or 75% depending on the need. This mode is very useful when sufficient DG power is not available to run the entire air conditioning system.

This feature can also be effectively used to optimise the usage of the VRF system during low demand periods.

Utilise AC for Critical Spaces

Uniform Reduction of Operating Conditions

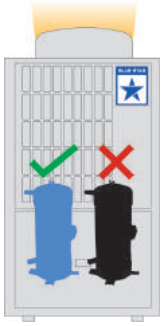


Optimised Running Cost

EMERGENCY BACKUP OPERATION

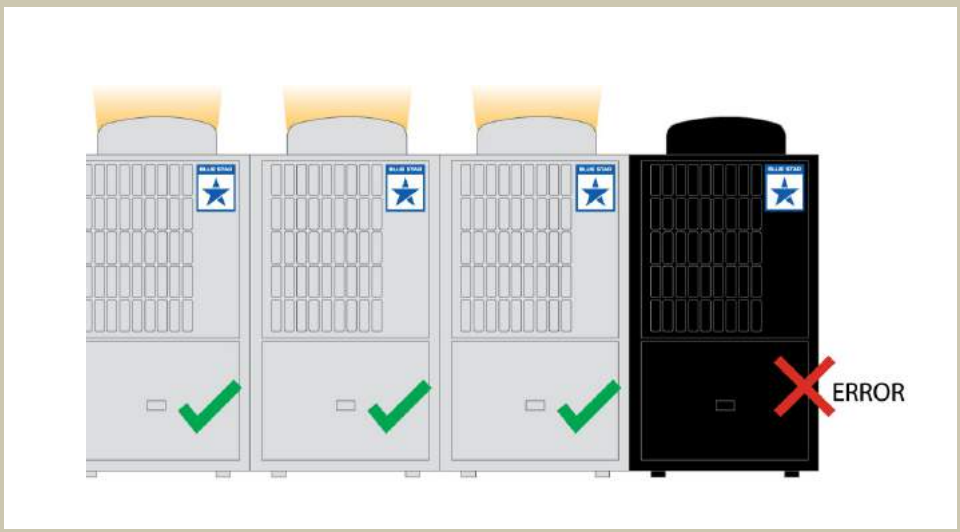
COMPRESSOR BACKUP

In ODUs that have two compressors, the VRF V Plus system can function even if there is a failure or maintenance downtime of one compressor.



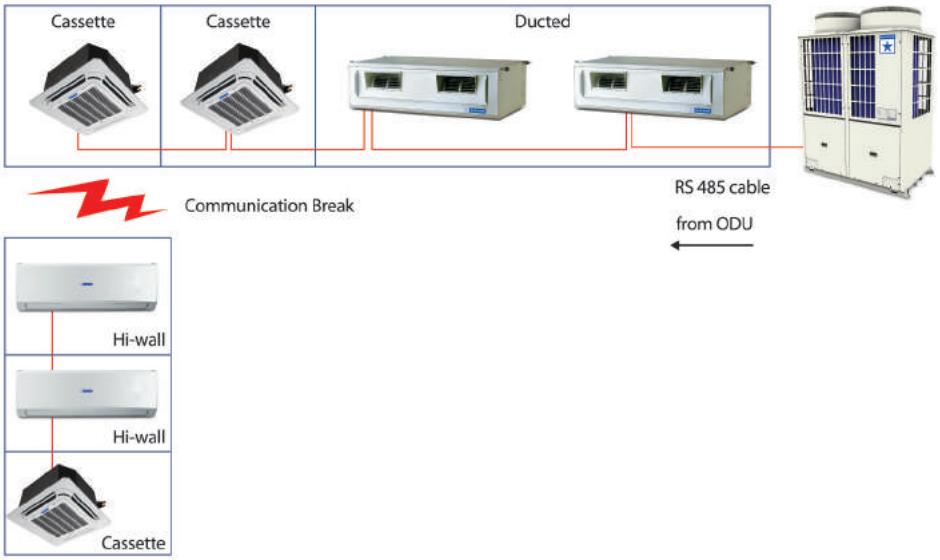
ODU BACKUP

In a modular VRF V Plus design, where multiple units have been combined to run as one larger unit, the system can operate even in case of a failure or a shutdown of one ODU. This feature helps ensure that cooling remains largely unaffected even during servicing or breakdown.



IDU EMERGENCY OPERATION

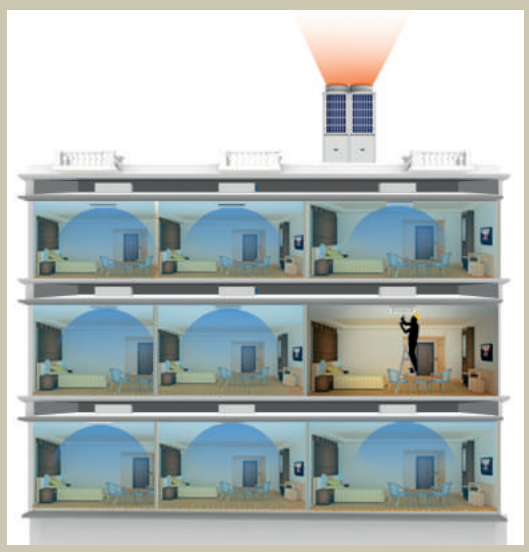
All the IDUs in any VRF system are interconnected by the communication cables. In general, if there is a break in any communication wire, subsequent IDUs are affected and do not function. By activating the IDU emergency operation on the VRF V Plus, the other IDUs can function despite such a break.



IDU ISOLATION FUNCTION

In the VRF V Plus, up to five IDUs can be switched to service backup mode even while the other indoor units in the same system run uninterruptedly. This feature is very useful to service a particular unit or units while leaving the overall system undisturbed.

REGULAR VRF



VRF V PLUS

FILTER CLEAN FUNCTION

A ‘Filter Clean’ reminder function indicates the need to clean the filters. This can be reset after the filters are cleaned.

SOPHISTICATED CONTROL

Blue Star's VRF V Plus offers you a wide choice of sophisticated and advanced controllers to suit various needs – from a simple cordless remote controller to highly advanced web-based controllers. These controllers are also available to calculate user-wise power consumption.

CORDLESS REMOTE CONTROLLER

- Large LCD screen for clear display
- Blue colour backlight for better clarity
- Keys with symbols and description for user convenience
- Real-time clock display
- Room temperature indication
- Display of various modes available - Cool Mode, Heat Mode, Fan Mode and Dry Mode.
- Fan speed adjustable to suit convenience of user
- Inside room temperature adjustable from 16°C to 30°C.
- Auto swing option for the louvres
- 5 options for positioning the louvres to suit one's convenience in preference mode:
  - 2 settings to suit usage pattern
  - Settings include various parameters like temperature, fan speed and louvre display.
  - When the preference mode key is pressed, the unit functions according to the preset conditions.

FILTER CLEAN FUNCTION

A 'filter clean' reminder function indicates the need to clean the filters. This can be reset after the filters are cleaned.

TIMER FUNCTION

The cordless remote controller enables the user to set on / off timings to switch the systems on or off at pre-determined times.

KEY IDENTIFICATION

Fluorescent keys enable easy identification of main keys even in the dark

FLEXIBLE OPERATION

The cordless remote controller has a unique feature that can communicate with the wired remote controllers. This is very useful when controlling units such as concealed splits and ductable split units which are mounted above the false ceiling.

WIRED CONTROLLER

Large-sized, advanced touch-screen LCD for clear display. Blue colour backlight for user convenience.

FILTER CLEAN REMINDER

A 'filter clean' reminder function indicates the need to clean the filters. This can be reset after the filters are cleaned.

TIMER FUNCTION

The cordless remote controller enables the user to set on / off timings to switch the systems on or off at pre-determined times.

FLEXIBLE LOCATION

The wiring of this controller can be led either from the top or from the back, allowing the flexibility to position the controller as required at different sites.

SELF-DIAGNOSIS

These controllers are sophisticated and designed to display error codes to precisely identify the nature of problems

COMPATIBILITY

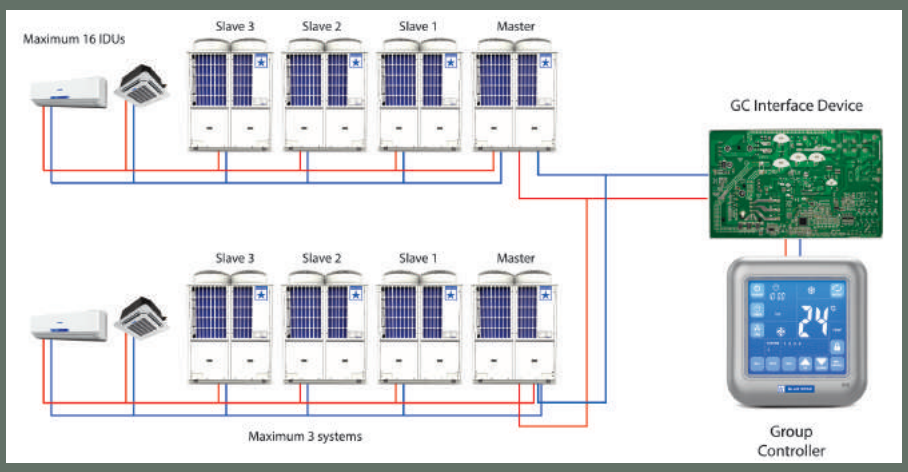
These controllers are compatible with any type of IDU selected

GROUP CONTROLLER

All the IDUs of the Blue Star VRF V Plus units are connected to cord or cordless remote controllers. For small offices / retail units where the number of indoor units are not more than 16, complete control can be taken from Group Controllers. These controllers have the following advantages:

- Touch-screen based user-friendly controller
- Up to 16 indoor units and 3 systems can be controlled
- Parameters for individual indoor units can be set
- Remote shielding of machines can be performed
- Parameters like on / off status, mode of operation, temperature setting and fan speed can be viewed and set.

When the number of IDUs is very high, it is useful to group the controllers into different categories and then segregate and control. For example, in hotels, all the rooms can be grouped under one category, all the banquet halls can be grouped under another category while the lobby could be a third category.



CENTRAL CONTROLLER

In applications such as large commercial buildings, hotels, hospitals and educational institutions, the number of IDUs used will be high. In such cases, it may be convenient to integrate the control of all the IDUs into one controller for the entire system. The Central Controller of the VRF V Plus allows users to control multiple IDUs and ODUs as follows:

- 16 systems of 64 ODUs can be controlled
- Up to 992 IDUs can be individually mounted and controlled

SCHEDULING

In large office applications, it is convenient to program the entire operational schedule either weekly, monthly or annually depending on the usage pattern and group-wise usage. The entire system can be programmed group-wise / IDU-wise for the whole year and controlled through the central controller.

REMOTE SHIELD FUNCTIONING

Allows the locking of adjustments of key parameters like On / Off mode, temperature and fan speed in each remote controller.

FLEXIBILITY

The same central controller can be used as a debugger which helps diagnose and identify any problem in the system.

DYNAMIC DISPLAY

The entire display is dynamic and is available in different colours to identify the status: Red - Faulty I Green - Functioning well I Grey - Off I Orange - Non-critical error

USER CONVENIENCE

The Central Controller can be directly connected to the VRF V Plus system. There is no intermediate device required.

AUTO POWER SAVING MODE

The display automatically switches off if the controller is not used continuously for over a minute.

PC MONITORING SYSTEM

The Blue Star VRF V Plus has an advanced PC monitoring system with the following features:

- Up to 60 systems of 240 ODUs can be controlled and monitored. Up to 3720 IDUs can be controlled.
- Multiple groupings can be created for user convenience
- Percentage of loading on each IDU can be displayed
- Scheduling daily, weekly, monthly or annually is possible.
- Very user-friendly navigation

SYSTEM PROTECTION

The PC-monitoring software offers the option of providing multiple usernames and multi-level passwords.

KEYCARD CONTROLLER

This feature is very useful for applications like hospitals, hotels and hostels. The on and off control of the IDUs can be connected with a keycard controller. The unit automatically functions based on previously set parameters when the keycard is inserted and switches off when it is removed. This facility is available with most of the IDUs.

FIRE ALARM SYSTEM

All the IDUs and ODUs of the VRF V Plus have the provision to receive fire alarm signals. These signals can be given to any one of the IDUs or ODUs. Once the fire alarm signal is received, the entire system shuts down as a safety measure.

REMOTE MONITORING SYSTEM

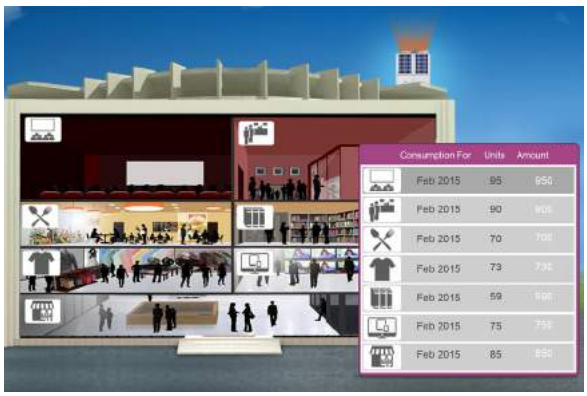
Monitor and control from anywhere in the world. System Monitoring by Blue Star offers SMS and Email notifications for error intimation plus all the features of PC monitoring systems.

TENANT BILLING SYSTEM

VRF systems are offered as solutions to various segments including commercial complexes where there are multiple users. When the builder / developer provides a common air conditioning facility, a tabulation of individual power consumption becomes difficult.

The Blue Star VRF V Plus comes with an advanced Tenant Billing Software which can capture the exact power consumption by each user, generate various reports, usage patterns and user-wise monthly bills.

- Month-wise, indoor unit-wise power consumption.
- Month-wise power charges for each indoor unit
- Generation of reports on various parameters for each tenant
- Maintenance of database of each tenant
- Facility of extracting particular period data
- Option of grouping tenants
- Provision of incorporating charges per unit of electricity



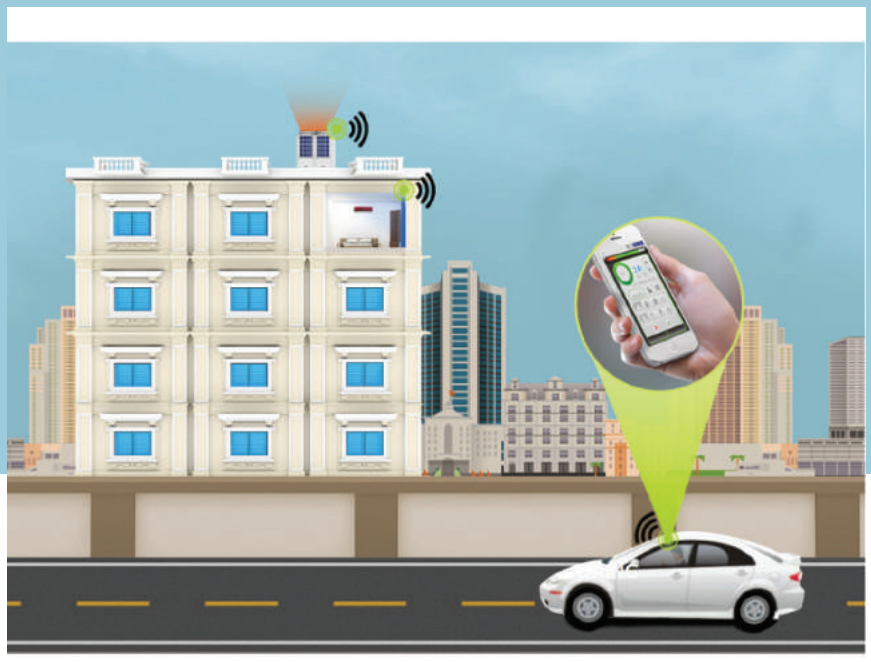
MOBILE APP

Blue Star's VRF V Plus systems are designed to operate using an advanced mobile app to enable the customer to view system status even from a remote location. The application, designed for VRFs, works with internet-enabled smartphones and tablets. It is Android and iOS compatible. The entire system can be viewed on one screen. The unique features of the VRF app are:

°C Individual temperature setting for each IDU

Through the mobile app, group or individual IDU control is possible on the following parameters:

- Turning the IDU On / Off
- Set temperature
- Mode of operation
- Fan speed selection
- IDU louvre adjustments
- Locking of the system



REMOTE MONITORING SERVICE (RMS)

The Blue Star VRF V Plus is designed to operate through an advanced GPRS-based Remote Monitoring System, which is available as an option to all users.

The RMS has the following advantages:

Close monitoring of the site irrespective of the location

24x7 auto monitoring

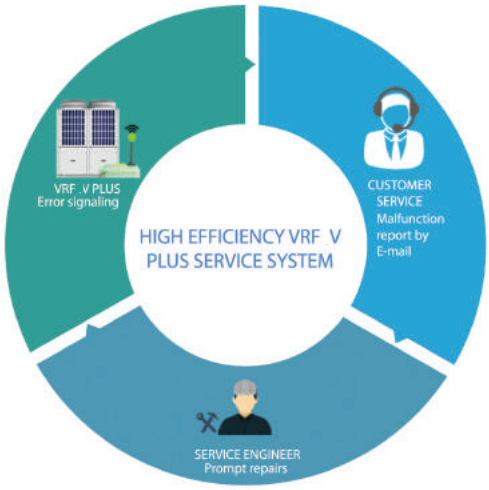
Automatic notification in the form of SMS or Email in case of any error

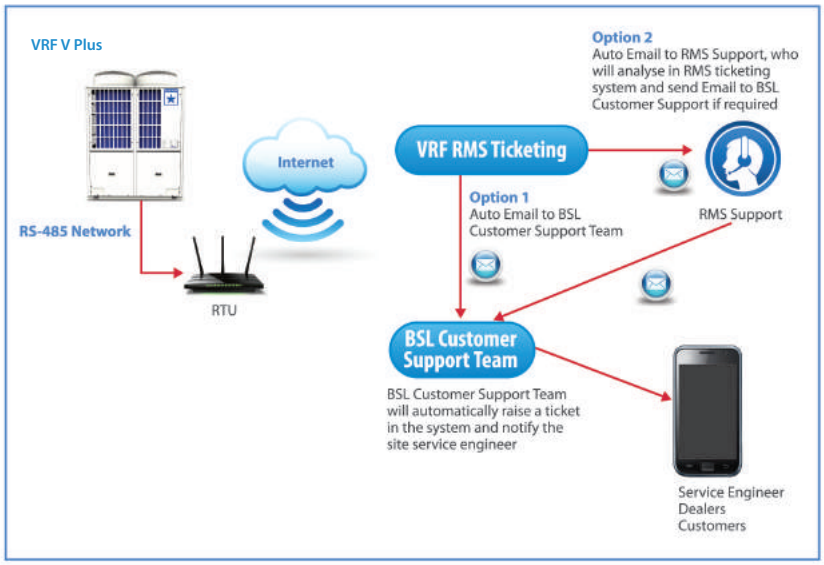
Auto call login for service

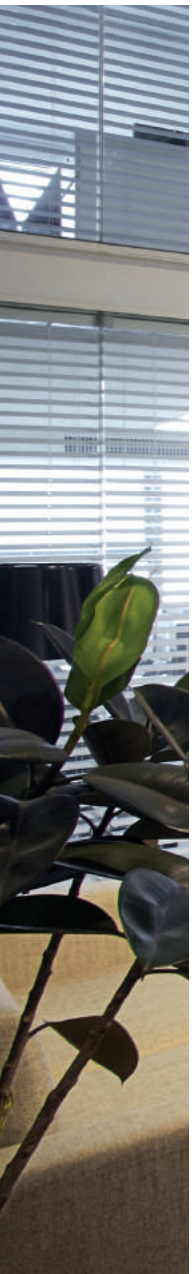
The data captured and sent by RMS to the Central Service Team enables analysis by the local service team so as to be equipped with the necessary solutions to resolve any issue speedily.

This ensures:

- Very quick responses
- Faster turnaround time
- Lower downtime of the system




VRF V Plus
Option 2
Auto Email to RMS Support, who will analyse in RMS ticketing system and send Email to BSL Customer Support if required
Internet
VRF RMS Ticketing
RMS Support
RS-485 Network
Option 1
Auto Email to BSL Customer Support Team
RTU
BSL Customer Support Team
BSL Customer Support Team will automatically raise a ticket in the system and notify the site service engineer
Service Engineer
Dealers
Customers



BMS COMPATIBILITY

Blue Star's VRF V Plus systems are highly compatible with advanced BMS systems. Each ODU has an RS-485 communication port through which it can be connected to BMS through a Modbus converter. Besides, the VRF V Plus system is specially designed to enable the Modbus gateway to be directly connected through the RS-485 port of the Master ODU.

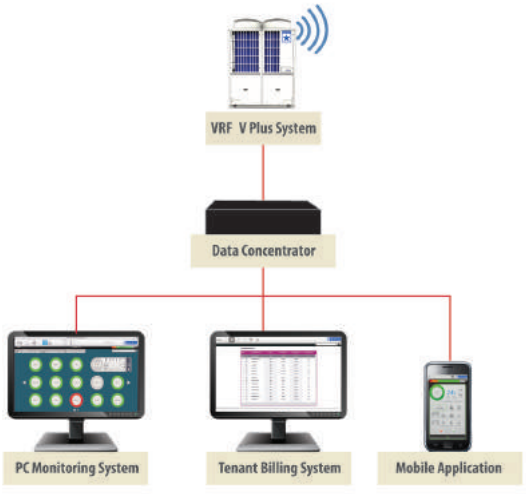
Some of the key features of the BMS modules of the VRF V Plus units are:

- Up to 15 systems can be connected
- A maximum of 62 ODUs in each system and 930 IDUs can be connected
- Slave IDs for each IDU / ODU can be set
- Debugger port is available
- Options of converting to other protocols like Bacnet, Lonworks, etc., are available through an additional converter.

DATA CONCENTRATOR

As we have seen so far, the Blue Star VRF V Plus is designed to operate with various advanced controllers. A data concentrator enables the customer to use more than one control system at a time. Using the data concentrator, up to a maximum of three interfaces can be connected simultaneously from the following controllers:

- PC Monitoring
- Central Controller
- Group Controller
- BMS
- Tenant Billing Software
- Remote Monitoring System
- Mobile App



HI-WALL UNITS

0.8TR~2.0TR

2.5TR & 2.8TR

Capacities

0.8 TR, 1.0 TR, 1.3 TR, 1.5 TR, 1.7 TR, 2.0 TR, 2.5 TR and 2.8 TR.

- Aesthetically superior with stylish design
- Very low noise, quiet operation
- Wide angle airflow to ensure even air distribution throughout the conditioned space

Multi-level Filtration*

- Active Carbon Filter: Eliminates odour and deactivates harmful chemical gases
- Dust Filter: Picks dust particles from the air and maintains dust-free conditioned air
- Silver Ion Filter: Efficient in sterilising indoor air and reducing bacteria levels

Multi-fan Speeds

Various levels of fan speed control are available to suit user comfort and convenience

Auto Restart

Automatic restart after power cut with all previously set parameters after power is restored

Filter Cleaning Reminder

Indicates when the filters need cleaning

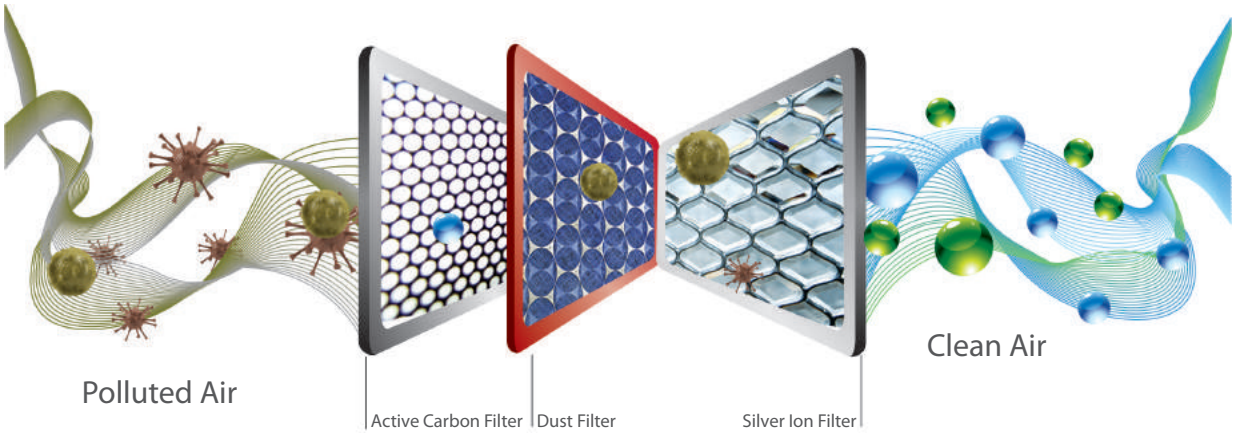
Multi-mode Functions

Various modes can be selected depending on the usage pattern and the comfort levels required:

- Auto
- Cool
- Heat
- Dry
- Sleep

Flexible Airflow Patterns

Advanced louvres where the swing can be adjusted to meet the needs of airflow, ventilation and direction required.



* Not applicable for 2.5 TR and 2.8 TR

FOUR-WAY CASSETTES

Capacities
1.0 TR, 1.3 TR, 1.5 TR, 1.7 TR, 2.0 TR, 2.3 TR, 2.8 TR, 3.2 TR, 4.0 TR and 5.0 TR.

Wide Angle Airflow
Wide angle airflow to ensure even air distribution throughout the conditioned space

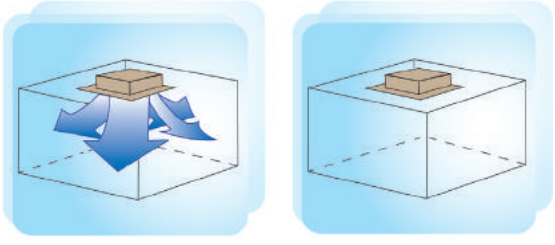
Multi-mode Functions
Various modes can be selected depending on the usage pattern and the comfort levels required:
• Auto • Cool • Heat • Dry • Sleep

In-built Drain Pump
Powerful drain pump to remove condensate drain water with a lift up to 1 Meter

Fresh Air Provision
Provision to add fresh air helps maintain better indoor air quality

Filter Clean Reminder
Indicates when the filters need cleaning

Service-friendly Design
User-friendly detachable grilles



Four-way Airflow

Saves Wall and Floor Space

COMPACT CASSETTES

Capacities
0.6 TR, 0.8 TR, 1.0 TR, 1.3 TR and 1.5 TR.

Compact Design
670mm panel makes it very convenient to install in any grid type false ceiling; ideally suited for small cabins and conference rooms.

Multi-mode Functions
Various modes can be selected depending on the usage pattern and the comfort levels required:
◆ Auto ◆ Cool ◆ Heat ◆ Dry ◆ Sleep

Filter Clean Reminder
Indicates when the filters need cleaning

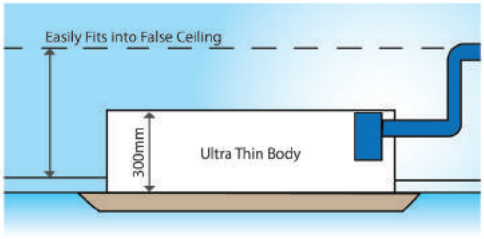
Multi-fan Speeds
Various levels of fan speed available to suit user comfort and convenience

Fresh Air Provision
Provision to add fresh air helps maintain better indoor air quality

In-built Drain Pump
Powerful drain pump to remove condensate drain water with a lift up to 1 Meter

Ideal for Small Spaces
Ideally suited for small cabins, passage areas, corners of conditioned areas, applications with narrow ceiling, lobbies and interior roofs.

Service-friendly Design
User-friendly detachable grilles



DUCTABLE INDOOR UNITS

Capacities
1.5 TR, 2.0 TR, 2.25 TR, 2.4 TR, 2.5 TR, 3.0 TR, 3.5 TR, 4.0 TR, 5.0 TR, 6.0 TR and 8.0 TR.

Long Ducting
Ideal for applications where long lengths of ducting are possible and for better air distribution in the conditioned space

Higher Air Quantity
400 CFM per TR high air throw

Fresh Air*
Designed with higher static to take care of fresh air requirements and long ducting lengths. Fresh air can be added as per quantities required by application.

Long Life
Powder-coated for long life

Filter Clean Reminder
Indicates when the filters need cleaning

* Applicable For 1.5, 2.0, 2.5, 3.0, 4.0, 5.0 & 6.0 TR

LOW STATIC DUCTED

Capacities
0.8 TR, 1.0 TR, 1.3 TR, 1.5 TR, 1.7 TR, 2.0 TR, 2.3 TR, 2.5 TR, 3.2 TR & 4.0 TR.

Moderate Slim Construction
A height of 200mm from 0.8 TR to 2.3 TR and 260 mm from 2.5 TR to 4.0 TR makes it very convenient to mount above a false ceiling

Reduced Noise & Power
The use of BLDC motor results in less power consumption and low noise

In-built Drain Pump
Powerful drain pump removes condensate drain water with a lift of up to 1 Meter

Fresh Air Provision
Provision to add fresh air helps maintain better indoor air quality

Variable Fan Speed
Various levels of fan speed available to suit user comfort and convenience

Long Life
Hot galvanized sheet material helps in corrosion protection, durability & longevity of the product.

Filter Clean Reminder
Indicates when the filters need cleaning

ONE-WAY CASSETTES

Capacities
0.6 TR, 0.8 TR, 1.0 TR, 1.3 TR, 1.6 TR and 2.0 TR.

Ideal for Small Spaces
Ideally suited for small cabins, passage areas, corners of conditioned areas, applications with narrow ceiling, lobbies and interior roofs.

Compact Design
Compact and slim design with ultra slim body measuring a total height of only 153 mm

In-built Drain Pump
Powerful drain pump removes condensate drain water with a lift up to 1 Meter

Fresh Air Provision
Provision to add fresh air helps maintain better indoor air quality (For 1.3 TR and 1.6 TR Models)

Filter Clean Reminder
Indicates when the filters need cleaning

Multi-mode Functions
Various modes can be selected depending on the usage pattern and comfort levels required:
• Auto • Cool • Heat • Dry • Sleep

Service-friendly Design
User-friendly detachable grilles

Wide Angle Airflow
Wide angle airflow to ensure even air distribution throughout the conditioned space

TWO-WAY CASSETTES

Capacities
0.6 TR, 0.8 TR, 1.0 TR, 1.3 TR, 1.5 TR, 1.7 TR and 2.0 TR.

Ideal for Narrow Spaces
Ideally suited for long narrow passage areas, open offices, cabins, meeting rooms, etc.

Stylish and Slim Design
Suits decor and interiors of any space, and convenient for installation as well.

Quiet Operation
Optimised for airflow to minimise noise levels, as low as 24 decibels making it one of the quietest units in the industry.

Filter Clean Reminder
Indicates when the filters need cleaning

Multi-mode Functions
Various modes can be selected depending on the usage pattern and comfort levels required:
- Auto
- Cool
- Heat
- Dry
- Sleep

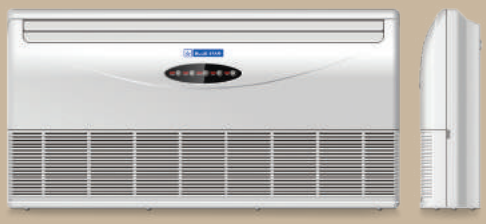
Wide Angle Airflow
Wide angle airflow to ensure even air distribution throughout the conditioned space

Multi-fan Speeds
Various levels of fan speed available to suit the user's comfort and convenience

Auto Restart
Automatic restart after power cut with all previously set parameters after power is restored

In-built Drain Pump
Powerful drain pump removes condensate drain water with a lift up to 1 Meter

FLOOR-CUM-CEILING MOUNTED UNITS



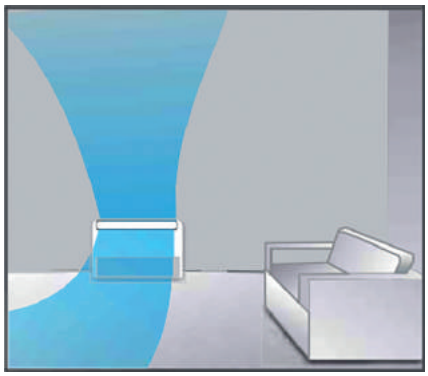
Capacities
1.5 TR, 2.0 TR, 3.0 TR, 4.0 TR and 5.0 TR.

Convenient Positioning
Flexible positioning – either in the ceiling or on the floor depending on the usage

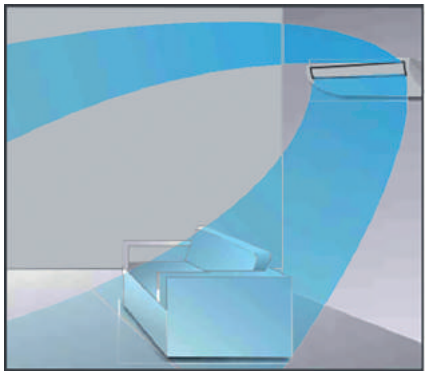
Multi-mode Functions
Various modes can be selected depending on the usage pattern and the comfort levels required:
• Auto • Cool • Heat • Dry • Sleep

Multi-fan Speeds
Various levels of fan speed available to suit user comfort and convenience

Filter Clean Reminder
Indicates when the filters need cleaning



Floor Mounted



Ceiling Mounted

VERTICOOLS

Capacities
2.0 TR, 2.3 TR, 2.8 TR, 3.2 TR and 4.0 TR.

Ideal Where There Is Ceiling Space Constraint
Ideally suited for large open halls and places where there is a limitation to use the ceiling space for mounting the indoor unit

Filter Clean Reminder
Indicates when the filters need cleaning

Powerful Air Throw
Powerful blowers ensure better air throw to cover maximum area

Flexible Airflow Patterns
Advanced louvres where the swing can be adjusted to meet the needs of airflow, ventilation and direction required.

Auto Restart
Automatic restart after power cut with all previously set parameters after power is restored

CONCEALED SPLITS

Capacities
0.8 TR, 1.0 TR, 1.3 TR, 1.5 TR and 2.0 TR.

Ideal for Small Areas
Ideally suited for rooms in hotels, hospitals and any small area applications.

Ultra Slim Construction
266mm height makes it very convenient to mount above a false ceiling

Long Life
Powder-coated for long life

Service-friendly Design
Detachable panel makes servicing easy

Multi-fan Speeds
Various levels of fan speed available to suit the user's comfort and convenience

Quiet Operation
Mounting above false ceiling reduces noise levels considerably

Filter Clean Reminder
Indicates when the filters need cleaning

FLOOR MOUNTED PACKAGED UNITS

Capacities
5.0 TR, 8.0 TR and 10.0 TR.

Ideal for Large Spaces
Ideal for banquet halls and office areas where rooms are well defined

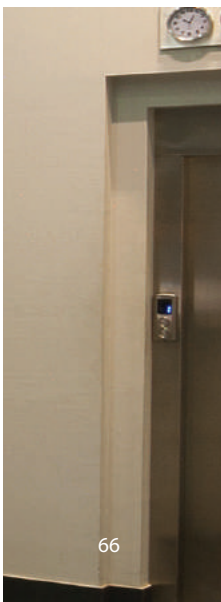
Higher Air Quantity
Floor mounted units have an advantage of higher air quantity

Fresh Air
Designed with higher static to take care of fresh air requirements. Required fresh air quantities can be added depending on application.

Service-friendly Design
Since these units are mounted inside the room on the floor, they are easy to maintain.

Long Life
The units are powder-coated for long life

Filter Clean Reminder
Indicates when the filters need cleaning



HEAT RECOVERY VENTILATION SYSTEM

Capacities
0.75 TR, 1.3 TR and 2.2 TR.

Energy Saving
Helps optimise the load due to fresh air by pre-cooling

Dual Function
The heat recovery units of Blue Star have both a heat pipe and DX coil which can be connected with the VRF ODU. This helps maintain and regulate RH levels of the fresh air entering the conditioned space.

TREATED FRESH AIR UNIT

Capacities
3.5 TR, 5.5 TR and 6.8 TR.

Ideal for High Latent Load Applications
Ideal for requirements with large fresh air in high latent load applications like hotels, hospitals, auditoriums, etc.

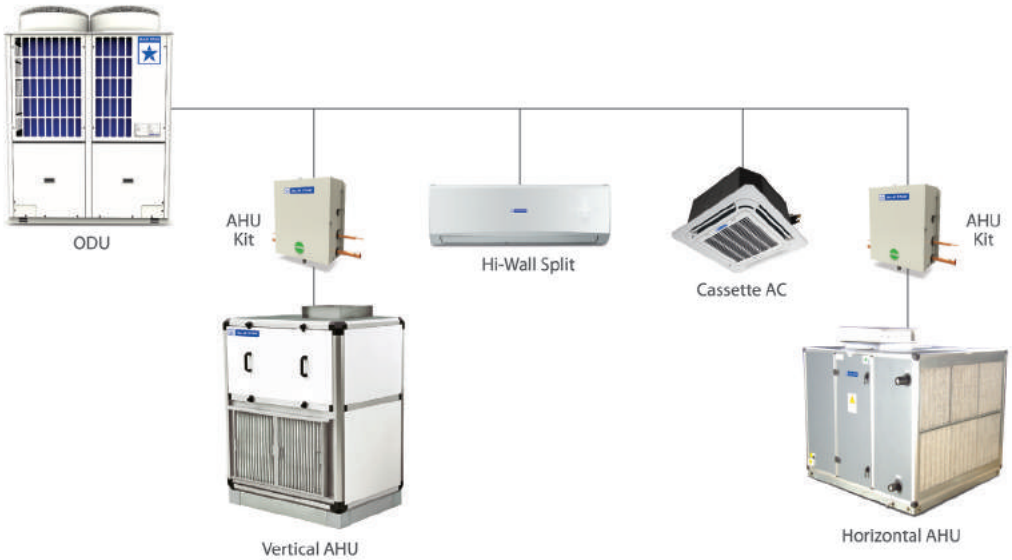
Higher Air Quantity
TFAs have an advantage of higher air quantity

AHU KIT

AHU kits are specially designed to integrate AHUs with the ODUs of the Blue Star VRF V Plus system. There are many applications like banquet halls in hotels, operation theatres in hospitals and many other special applications where there is a need to customise and provide AHUs. For these applications, it will not be viable to use standard IDUs available in the VRF system.

Till the advent of the AHU Kit, VRFs were unable to cater to a complete facility due to the above limitations. With the introduction of the specially designed Blue Star AHU Kit, we can now connect customised AHUs to the VRF V Plus to suit various special needs and requirements.

100% FAHU or recirculating AHUs with various combinations of static & CFM requirements can be connected to the VRF V Plus ODUs by using AHU Kits. Maximum AHU Kits can be used with multiple circuit coils for larger capacity AHUs



TECHNICAL SPECIFICATIONS - INDOOR UNITS

HI-WALL UNITS

VHW 10A-24A

VHW 30-34

Model			VHW-10A	VHW-12A	VHW-16A	VHW-18A	VHW-20A	VHW-24A	VHW-30	VHW-34
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph							
Cooling Capacity		TR	0.8	1.0	1.3	1.5	1.7	2.0	2.5	2.8
		kW	2.9	3.5	4.7	5.3	6.0	7.0	8.8	10
Heating capacity		TR	0.9	1.1	1.5	1.7	1.9	2.2	2.8	3.1
		kW	3.2	3.9	5.2	5.8	6.6	7.7	9.7	10.8
Motor	Type		AC						DC	
	Motor Power	W	55	55	70	70	95	95	70	70
	Current	A	0.4	0.4	0.45	0.45	0.55	0.55	0.5	0.6
Airflow rate (H/M/L)		CMH	540/460/330	630/540/460	762/686/503	850/686/547	989/886/816	1089/920/829	1486/1223/944	1600/1223/944
		CFM	318/271/194	371/318/271	448/404/296	500/404/322	582/522/480	647/541/488	875/720/556	942/720/556
Piping Connection	Liquid Pipe	mm(inch)	6.35 (1 /4)	6.35 (1 / 4)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)	9.52 (3/8)
	Suction Pipe	mm(inch)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	15.87 (5/8)	15.87 (5/8)	15.87 (5/8)	15.87 (5/8)
	Type		Flared	Flared	Flared	Flared	Flared	Flared	Flared	Flared
	Drain Pipe	mm	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25
IDU Sound level (H/M/L)		dB(A)	39/36/33	42/39/36	42/40/35	44/40/36	46/43/41	48/46/41	52/49/42	55/49/42
Refrigerant Control		Type	Electronic Expansion Valve							
Dimensions & Weight	Net Dim (W×D×H)	mm	845×209×289	845×209×289	970×224×300	970×224×300	1078×246×325	1078×246×325	1350×258×326	1350×258×326
	Packing Dim (W×D×H)	mm	918×278×364	918×278×364	1038×380×305	1038×380×305	1145×410×335	1145×410×335	1493×418×343	1493×418×343
	Net/Gross Wt	kg	10/12	10/12	13.5/16.5	13.5/16.5	17/20.5	17/20.5	18.5/23.5	18.5/23.5

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

DUCTABLE INDOOR UNITS - DSD SERIES

Model			DSD-18	DSD-24	DSD-30	DSD-36	DSD-48	DSD-60	DSD-72	DSD-96
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph							
Cooling Capacity		TR	1.5	2.0	2.5	3.0	4	5	6	8
		kW	5.3	7.0	8.8	10.5	14.1	17.6	21.1	28.1
Heating capacity		TR	1.6	2.2	2.7	3.2	4.3	5.4	6.5	8.6
		kW	5.6	7.7	9.5	11.3	15.1	19.0	22.9	30.2
Motor	Motor Quantity	No.	1	1	1	1	1	2	2	2
	Motor Power	W	75	75	187	187	187	375	375	375
	Curent	A	0.70	0.70	1.00	1.80	1.80	4.10	4.10	4.10
Air Volume (H/M/L)		CFM	740/715/690	745/725/705	935/910/890	1120/1015/910	1500/1350/1200	2200/2175/2155	2200/2175/2155	3380/3245/3080
		CMH	1258/1215/1172	1265/1232/1198	1588/1546/1512	1903/1725/1546	2548/2293/2039	3737/3695/3661	3737/3695/3661	5742/5513/5233
External Static Presure (Pa)		Nominal	25	25	25	25	40	50	50	50
		High	50	50	80	80	80	100	100	100
Piping Connection	Liquid Pipe	mm(inch)	6.35 (1/4)	9.5(3/8)	9.5(3/8)	9.5(3/8)	9.5(3/8)	9.5(3/8)	9.5(3/8)	9.5(3/8)
	Suction Pipe	mm(inch)	12.7(1/2)	15.9(5/8)	15.9(5/8)	15.9(5/8)	15.9(5/8)	19.1(3/4)	19.1(3/4)	22.2(7/8)
	Type		Brazed							
	Drain Pipe	mm (inch)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)
IDU Noise Level (H/M/L)		dB(A)	43/42/41	44/43/42	47/45/43	47/45/43	49/45/43	54/53/52	54/53/52	56/55/54
Refrigerant Control		Type	Electronic Expansion Valve							
Dimension & Weight	Net Dim (W×D×H)	mm	934×600×265	934×600×265	932×700×318	932×700×318	1260×800×310	1260×900×387	1260×900×387	1475×647×538
	Packing Dim (W×D×H)	mm	1050×615×275	1050×615×275	1050×615×330	1050×615×330	1375×815×325	1375×917×430	1375×917×430	1620×710×545
	Net/Gross Weight	kg	28/32	32/35	45/49	45/49	56/62	86/92	86/92	90/96

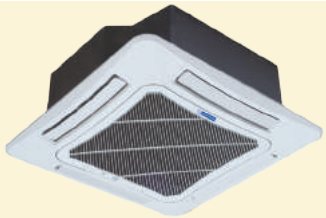
Blue Star has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

COMPACT CASSETTES

Model			VCC-08	VCC-10	VCC-12	VCC-16	VCC-18
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph				
Cooling Capacity		TR	0.6	0.8	1.0	1.3	1.5
		kW	2.1	2.9	3.5	4.7	5.3
Heating capacity		TR	0.7	0.9	1.1	1.4	1.7
		kW	2.3	3.2	3.9	5.0	5.8
Fan & Fan Motor	Motor Type		DC				
	Motor Power	W	35	35	35	35	35
	Blower Type		Centrifugal				
Airflow rate(H/M/L)		CMH	651/550/451	651/550/451	651/550/451	700/651/600	700/651/600
		CFM	383/323/265	383/323/265	383/323/265	412/383/353	412/383/353
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)
	Suction Pipe	mm(inch)	12.7(1/2)	12.7(1/2)	12.7(1/2)	12.7(1/2)	12.7(1/2)
	Type		Flared				
	Drain Pipe	mm	25	25	25	25	25
IDU Noise Level(H/M/L)		dB(A)	41/39/35	41/39/35	41/39/35	45/43/38	45/43/38
Refrigerant Control		Type	Electronic Expansion Valve				
Dimension & Weight	Net Dim: WxDxH (mm)	Indoor Unit	596×596×240	596×596×240	596×596×240	596×596×240	596×596×240
		Grille	670×670×50	670×670×50	670×670×50	670×670×50	670×670×50
	Packing Dim: WxDxH (mm)	Indoor Unit	773×733×300	773×733×300	773×733×300	773×733×300	773×733×300
		Grille	763×763×105	763×763×105	763×763×105	763×763×105	763×763×105
	Net Weight (kg)	Indoor Unit	20.5	20.5	20.5	20.5	20.5
		Grille	3.5	3.5	3.5	3.5	3.5
	Gross Weight (kg)	Indoor Unit	25.5	25.5	25.5	25.5	25.5
		Grille	5	5	5	5	5

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

FOUR-WAY CASSETTES



Model			VLC-12	VLC-16	VLC-18	VLC-20	VLC-24	VLC-27	VLC-34	VLC-38	VLC-48	VLC-60A
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph									
Cooling capacity		TR	1	1.3	1.5	1.7	2	2.3	2.8	3.2	4	5
		kW	3.5	4.6	5.3	6	7	8.1	9.8	11.3	14.1	17.6
Heating capacity		TR	1.1	1.4	1.7	1.9	2.2	2.5	3.1	3.5	4.4	5.5
		kW	3.9	5.0	5.8	6.6	7.7	8.9	10.8	12.4	15.5	19.3
Fan & Fan Motor	Motor	Type	BLDC									
	Motor Power	W	48	48	48	59	59	59	98	98	98	120
	Blower	Type	Centrifugal									
Airflow rate (H/M/L)		CMH	800/700/600	800/700/600	831/751/651	1100/952/801	1182/1000/901	1182/1000/901	1600/1402/1200	1862/1452/1302	1862/1452/1302	2202/1900/1550
		CFM	471/412/353	471/412/353	489/442/383	647/560/471	695/588/530	695/589/530	942/824/706	1095/854/766	1095/854/766	1295/1118/912
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4)	6.35(1/4)	6.35(1/4)	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)
	Suction Pipe	mm(inch)	12.7(1/2)	12.7(1/2)	12.7(1/2)	15.87(5/8)	15.87(5/8)	15.87(5/8)	15.87(5/8)	15.87(5/8)	15.87(5/8)	19.1(3/4)
	Drain Pipe	mm	25	25	25	25	25	25	25	25	25	25
IDU Noise Level (H/M/L)		dB(A)	36/34/31	36/34/31	36/34/31	37/35/32	38/36/35	38/36/35	40/37/35	43/41/38	43/41/38	47/44/42
Refrigerant Control		Type	Electronic Expansion Valve									
Dimension & Weight	Net Dim: WxDxH (mm)	Indoor Unit	840×840×190	840×840×190	840×840×190	840×840×240	840×840×240	840×840×240	840×840×320	840×840×320	840×840×320	910×910×293
		Grille	950×950×65	950×950×65	950×950×65	950×950×65	950×950×65	950×950×65	950×950×65	950×950×65	950×950×65	1040×1040×65
	Packing Dim: WxDxH (mm)	Indoor Unit	963×963×272	963×963×272	963×963×272	963×963×325	963×963×325	963×963×325	963×963×409	963×963×409	963×963×409	1023×993×375
		Grille	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1033×1038×130	1137×1137×140
	Net Weight (kg)	Indoor Unit	22.5	22.5	22.5	26.5	26.5	26.5	32.5	32.5	32.5	44.5
		Grille	7	7	7	7	7	7	7	7	7	8
	Gross weight (kg)	Indoor Unit	29.5	29.5	29.5	34.5	34.5	34.5	40	40	40	54.5
		Grille	11	11	11	11	11	11	11	11	11	11.5

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

LOW STATIC DUCTED

Model			VLSD-10	VLSD-12	VLSD-16	VLSD-18	VLSD-20	VLSD-24	VLSD-27	VLSD-30	VLSD-38	VLSD-48
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph									
Cooling Capacity		TR	0.8	1.0	1.3	1.5	1.7	2.0	2.3	2.5	3.2	4.0
		kW	2.8	3.5	4.6	5.3	6.0	7.0	8.1	8.8	11.3	14.1
Heating capacity		TR	0.9	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.5	4.4
		KW	3.1	3.9	5.0	5.8	6.6	7.7	8.9	9.7	12.4	15.5
Motor	Motor Power	W	60	60	60	60	60	60	60	150	150	150
	Current	A	0.32	0.32	0.32	0.32	0.32	0.34	0.34	0.5	0.5	0.5
Air Volume (H/M/L)		CFM	382/345/271	386/347/298	551/482/440	556/491/456	614/551/482	665/567/510	665/567/410	856/668/451	1035/732/539	1113/876/668
		CMH	649/587/460	656/590/506	937/819/748	944/834/775	1044/937/819	1130/963/866	1130/963/866	1454/1136/767	1759/1243/916	1890/1488/1136
External Static Pressure		Pa	30	30	30	30	30	30	30	50	50	50
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4")	6.35(1/4")	6.35(1/4")	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")
	Suction Pipe	mm(inch)	9.52(3/8")	12.5(1/2")	12.5(1/2")	15.87(5/8")	15.87(5/8")	15.87(5/8")	15.87(5/8")	15.87(5/8")	15.87(5/8")	15.87(5/8")
	Type		Flare Connection									
	Drain Pipe	mm	25									
IDU Noise Level (H/M/L)		dB(A)	38/36/30	38/36/30	37/35/33	37/35/31	39/37/33	39/37/35	39/37/35	40/36/32	40/36/32	42/40/37
Refrigerant Control		Type	Electronic Expansion Valve									
Dimension & Weight	Net Dim. (W×D×H)	mm	710×450×200	710×450×200	1010×450×200	1010×450×200	1010×450×200	1310×450×200	1310×450×200	1340×655×260	1340×655×260	1340×655×260
	Packing Dim. (W×D×H)	mm	1003×551×285	1003×551×285	1303×551×285	1303×551×285	1303×551×285	1603×551×285	1603×551×285	1591×861×330	1591×861×330	1591×861×330
	Net Weight	kg	19	20	24	25	25	30.5	30.5	46.0	46.0	47.0
	Gross Weight	kg	23	23.5	29	30.5	30.5	37	37	55.0	55.0	56.0

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

DUCTED INDOOR UNIT - EBI VRF SERIES

Model			EBIVRFA-18DSI	EBIVRFA-24DSI	EBIVRFA-27DSI	EBIVRFA-30DSI	EBIVRFA-36DSI	EBIVRFA-42DSI	EBIVRFA-48DSI	EBIVRFA-60DSI
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph							
Cooling Capacity		TR	1.5	2	2.25	2.4	3	3.5	4	5
		kW	5.3	7.0	7.9	8.4	10.6	12.3	14.1	17.6
Heating Capacity		TR	1.6	2.2	2.5	2.7	3.2	3.8	4.3	5.4
		kW	5.6	7.7	8.6	9.5	11.3	13.3	15.1	19.0
Motor	Quantity	No.	1	1	1	1	1	1	1	1
	Motor Power	W	37	75	187	187	187	187	187	373
Airflow rate(H/M/L)		CMH	1333/1146/985	1665/1580/1512	2778/2650/2523	2778/2650/2523	2778/2650/2523	3228/2633/2379	3228/2633/2379	4000/3635/3280
		CFM	785/675/580	980/930/890	1635/1560/1485	1635/1560/1485	1635/1560/1485	1900/1550/1400	1900/1550/1400	2350/2140/1930
External Static Pressure (Pa)		Nominal	25	25	25	25	25	37.5	50	50
		High	50	75	75	75	75	100	100	100
Piping Connection	Liquid Pipe	mm(inch)	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)
	Suction Pipe	mm(inch)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	22.22(7/8)	22.22(7/8)	22.22(7/8)
	Type		Brazed							
IDU Noise Level (H/M/L)		dB(A)	43/41/40	51/49/47	51/49/47	51/49/47	51/49/47	50/48/47	55/52/50	57/55/53
Refrigerant Control		Type	Electronic Expansion Valve							
Dimension & Weight	Net Dim (W×D×H)	mm	977× 600×310	1252×600×310	1252×700×400	1252×700×400	1252×700×400	1652×700×400	1652×700×400	1652×900×400
	Packing Dim (W×D×H)	mm	1170 × 650 × 325	1415 × 650 × 325	1415 × 750 × 415	1415 × 750 × 415	1415 × 750 × 415	1815 × 750 × 415	1815 × 750 × 415	1815 × 950 × 415
	Net Weight	kg	36	42	52	52	52	68	68	76
	Gross Weight	kg	40	46	58	58	58	75	75	84

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

ONE-WAY CASSETTES

Model			VOC-08	VOC-10	VOC-12	VOC-16	VOC-19	VOC-24
Power Supply		V/Hz/ph	220-240V/ 50Hz/1-ph					
Cooling Capacity		TR	0.6	0.8	1.0	1.3	1.6	2
		kW	2.2	2.8	3.5	4.6	5.6	7.1
Heating capacity		TR	0.7	0.9	1.1	1.4	1.8	2.3
		kW	2.6	3.2	3.9	5.0	6.3	8
Motor	Motor Power	W	29.5	31	31	39.5	41.5	56.2
	Current	A	0.24	0.25	0.25	0.27	0.32	0.36
Airflow rate(H/M/L)		CMH	523/404/275	573/456/315	573/456/315	693/600/476	792/688/549	933/749/592
		CFM	308/238/162	337/268/185	337/268/185	408/353/280	466/405/323	550/441/348
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4)	6.35(1/4)	6.35(1/4)	9.52(3/8)	9.52(3/8)	12.7(1/2)
	Suction Pipe	mm(inch)	12.7(1/2)	12.7(1/2)	12.7(1/2)	15.8(5/8)	15.8(5/8)	15.8(5/8)
	Type		Flared					
	Drain Pipe	mm	25	25	25	25	25	25
IDU Noise Level (H/M/L)		dB(A)	30	34	34	35	36	37
Refrigerant Control		Type	Electronic Expansion Valve					
Dimension & Weight	Net Dim: W×D×H (mm)	Indoor Unit	1054×425×153	1054×425×153	1054×425×153	1204×443×189	1204×443×189	1204×443×189
		Grille	1180×465×36.5	1180×465×36.5	1180×465×36.5	1350×505×25	1350×505×25	1350×505×25
	Packing Dim: W×D×H (mm)	Indoor Unit	1155×490×245	1155×490×245	1155×490×245	1370×505×295	1370×505×295	1370×505×295
		Grille	1232×517×107	1232×517×107	1232×517×107	1410×560×95	1410×560×95	1410×560×95
	Net Weight (kg)	Indoor Unit	12.5	13	13	18.5	18.8	19.5
		Grille	3.5	3.5	3.5	4	4	4
	Gross weight (kg)	Indoor Unit	16	16.5	16.5	23.2	23.5	24.2
		Grille	5.2	5.2	5.2	5.4	5.4	5.4

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

TWO-WAY CASSETTES

Model			VTC-08	VTC-10	VTC-12	VTC-16	VTC-18	VTC-20	VTC-24
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph						
Cooling Capacity		TR	0.6	0.8	1.0	1.3	1.5	1.7	2
		kW	2.2	2.8	3.6	4.5	5.3	6.0	7.0
Heating capacity		TR	0.7	0.9	1.1	1.4	1.7	1.9	2.2
		kW	2.4	3.1	4.0	5.0	5.8	6.6	7.7
Motor	Motor Power	W	67	67	67	128	128	128	162
	Curent	A	0.41	0.41	0.41	0.58	0.58	0.58	0.74
Airflow rate (H/M/L)		CMH	725/591/458	725/591/458	725/591/458	980/800/670	980/800/670	980/800/670	1200/1000/770
		CFM	430/350/270	430/350/270	430/350/270	580/471/395	580/471/395	580/471/395	710/590/455
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4)	6.35(1/4)	6.35(1/4)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Suction Pipe	mm(inch)	12.7(1/2)	12.7(1/2)	12.7(1/2)	15.8(5/8)	15.8(5/8)	15.8(5/8)	15.8(5/8)
	Type		Flared						
	Drain Pipe	mm(inch)	32(1-1/4)	32(1-1/4)	32(1-1/4)	32(1-1/4)	32(1-1/4)	32(1-1/4)	32(1-1/4)
IDU Noise Level (H/M/L)		dB(A)	33/29/24	36/32/29	36/32/29	39/35/30	39/35/30	39/35/30	44/40/34
Refrigerant Control		Type	Electronic Expansion Valve						
Dimension & Weight	Net Dim: W×D×H (mm)	Indoor Unit	1172×591×299	1172×591×299	1172×591×299	1172×591×299	1172×591×299	1172×591×299	1172×591×299
		Grille	1430×680×53	1430×680×53	1430×680×53	1430×680×53	1430×680×53	1430×680×53	1430×680×53
	Packing Dim: W×D×H (mm)	Indoor Unit	1355×675×400	1355×675×400	1355×675×400	1355×675×400	1355×675×400	1355×675×400	1355×675×400
		Grille	1525×765×130	1525×765×130	1525×765×130	1525×765×130	1525×765×130	1525×765×130	1525×765×130
	Net Weight (kg)	Indoor Unit	34	34	34	35.8	35.8	35.8	35.8
		Grille	10.5	10.5	10.5	10.5	10.5	10.5	10.5
	Gross weight (kg)	Indoor Unit	42.5	42.5	42.5	43	43	43	43
		Grille	15	15	15	15	15	15	15

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

FLOOR-CUM-CEILING MOUNTED UNITS

Model			VFC-18	VFC-24	VFC-36	VFC-48	VFC-60
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph				
Cooling Capacity		TR	1.5	2.0	3.0	4.0	5.0
		KW	5.3	7.0	10.5	14.1	17.6
Heating capacity		TR	1.7	2.2	3.3	4.4	5.5
		KW	5.8	7.7	11.6	15.5	19.3
Motor	Motor Power	W	125	125	148	121	121
	Curent	A	0.6	0.6	0.7	2x0.5	2x0.5
Airflow rate (H/M/L)		CMH	1300/1050/900	1400/1200/1000	1800/1450/1300	2300/1800/1600	2300/1800/1600
		CFM	765/618/530	825/710/590	1060/855/766	1355/1060/942	1355/1060/942
Piping Connection	Liquid Pipe	mm(inch)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Suction Pipe	mm(inch)	12.7(1/2)	15.8(5/8)	19.05(3/4)	19.05(3/4)	19.05(3/4)
	Type		Flared				
	Drain Pipe	mm	25	25	25	25	25
IDU Noise Level (H/M/L)		dB(A)	51/46/41	53/48/43	53/48/43	53/50/47	54/51/48
Refrigerant Control		Type	Electronic Expansion Valve				
Dimension & Weight	Net Dim: (WxDxH)*	mm	1068x675x235	1068x675x235	1285x675x235	1650x675x235	1650x675x235
	Packing Dim: (WxDxH)	mm	1145x755x313	1145x755x313	1360x755x313	1725x755x313	1725x755x313
	Net/Gross Wt	kg	24/29	24/29	29/34	36.5/43	39/45

*Dimension for ceiling mounted option. For floor mounted option, D & H will be interchanged
Blue Star has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

VERTICOOLS

Model			VVC-24	VVC-27	VVC-34	VVC-38	VVC-48
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph				
Cooling Capacity		TR	2.0	2.3	2.8	3.2	4.0
		kW	7.0	8.1	9.8	11.3	14.1
Heating capacity		TR	2.2	2.5	2.9	3.5	4.4
		kW	7.7	8.8	10.2	12.4	15.5
Motor	Motor Power	W	152	152	300	300	300
	Curent	A	0.75	0.75	1.5	1.5	1.5
Airflow rate (H/L)		CMH	1110/920	1110/920	1800/1490	1800/1490	1800/1490
		CFM	655/543	655/543	1060/880	1060/880	1060/880
Piping Connection	Liquid Pipe	mm(inch)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Suction Pipe	mm(inch)	15.8(5/8)	15.8(5/8)	19.05(3/4)	19.05(3/4)	19.05(3/4)
	Type		Flared				
	Drain Pipe	mm(inch)	17.8 (11/16)	17.8 (11/16)	17.8 (11/16)	17.8 (11/16)	17.8 (11/16)
IDU Noise Level (L)		dB(A)	44	44	51	51	51
Refrigerant Control		Type	Electronic Expansion Valve				
Dimension & Weight	Net Dim (WxDx H)	mm	500x260x1680	500x260x1680	540x379x1775	540x379x1775	540x379x1775
	Packing Dim (WxDxH)	mm	585x380x1805	585x380x1805	660x475x1915	660x475x1915	660x475x1915
	Net/Gross Wt	kg	32/44	32/44	49 / 59	49 / 59	49 / 59

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

CONCEALED SPLITS

Model			DCS-10	DCS-12	DCS-16	DCS-18	DCS-24
Power Supply		V/Hz/ph	220-240V/50Hz/1-ph				
Cooling Capacity		TR	0.8	1.0	1.3	1.5	2.0
		kW	2.9	3.5	4.7	5.3	7.0
Heating capacity		TR	0.9	1.1	1.5	1.7	2.2
		kW	3.2	3.9	5.2	5.8	7.7
Motor	Motor Power	W	62	62	62	62	75
	Curent	A	0.60	0.60	0.60	0.60	0.80
Air Volume (H/M/L)		CFM	450/350/285	450/350/285	450/350/285	450/350/285	680/660/640
		CMH	765/595/485	765/595/485	765/595/485	765/595/485	1155/1121/1088
External Static Pressure (Pa)		Nominal	10	10	10	10	20
		High	20	20	20	20	30
Piping Connection	Liquid Pipe	mm(inch)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)	9.52(3/8)
	Suction Pipe	mm(inch)	12.7(1/2)	12.7(1/2)	12.7(1/2)	12.7(1/2)	15.87(5/8)
	Type		Flared				
	Drain Pipe	mm(inch)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)	19.1(3/4)
IDU Noise Level (H/M/L)		dB(A)	45/44/43	45/44/43	46/45/44	46/45/44	49/48/47
Refrigerant Control		Type	Electronic Expansion Valve				
Dimension & Weight	Net Dim (W×D×H)	mm	1086×496×267	1086×496×267	1086×496×267	1086×496×267	1086×496×267
	Packing Dim (W×D×H)	mm	1135×540×280	1135×540×280	1135×540×280	1135×540×280	1135×540×280
	Net/Gross Weight	kg	33/37	33/37	35/37	35/37.5	35/38.5

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

FLOOR MOUNTED PACKAGED UNITS

Model			DFM-60	DFM-96	DFM-120
Power Supply		V/Hz/ph	380-415V/50Hz/3-ph		
Cooling Capacity		TR	5	8	10
		kW	17.6	28.1	35.2
Heating capacity		TR	5.5	8.7	10.9
		kW	19.0	30.4	38.0
Motor & Fan	Motor Power	W	560	1500	1700
	Curent	A	1.5	3.3	4.3
	Blower Size	inch	12 × 9	12 × 12	12 × 12
Airflow rate		CMH	3400	5440	6800
		CFM	2000	3200	4000
External Static Pressure		Pa	40	60	80
Piping Connection	Liquid Pipe	mm(inch)	9.52(3/8)	12.7(1/2)	12.7(1/2)
	Suction Pipe	mm(inch)	19.1(3/4)	28.5(1-1/8)	28.5(1-1/8)
	Type		Brazed		
	Drain Pipe	mm(inch)	31.75(1-1/4)	31.75(1-1/4)	31.75(1-1/4)
Refrigerant Control		Type	Electronic Expansion Valve		
Dimension & Weight	Net Dim: (W×D×H)	mm	900×660×1700	1160×660×1700	1160×660×1700
	Gross Dim: (W×D×H)	mm	915 × 675 × 1740	1170 × 675 × 1740	1170 × 675 × 1740
	Net/Gross Weight	kg	136/146	205/215	210/220

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

HEAT RECOVERY VENTILATION SYSTEM

Indoor Unit		DHRV-03	DHRV-05	DHRV-09
DX Coil Capacity				
Cooling	**kW**	2.6	4.7	7.7
Cooling	**TR**	0.8	1.3	2.2
Unit Dimensions				
Height	**mm**	335	355	385
Width	**mm**	965	1115	1360
Depth	**mm**	1030	1030	1145
Casing		**Power Coated Galvanised Steel**		
Fan Type		**Centrifugal Plug Fan**		
Blower Model		R2E 220-AA40-05	R2E 225-BD92-09	R2E 250-AS47-05
Air Flow Rate (H/M/L)	**CMH**	290/255/170	540/500/450	900/840/790
	CFM	170/150/100	318/294/265	530/494/465
External Static Pressure	**Pa**	80	80	80
Heat Recovery Efficiency	**%**	55	55	55
Operation Range		**7deg C to 54deg C,80%RH or less**		
Piping Connection		Flared		
Liquid	**mm**	**6.35**	**6.35**	**9.53**
Gas	**mm**	12.7	12.7	15.88
	mm	**12.7**	**12.7**	**15.88**
Drain		**3/4" External Thread**		
Insulation Material		**Fire Retardant Polyurethane**		
Dehumidication Mode		**Direct Expansion**		
Heat Exchange Element		**Heat Pipe**		
Outdoor Air Filter		**EU3**		
Power Supply	**V/Hz/ph**	**220-240V/50Hz/1-ph**		
INPUT POWER	**W**	170	207	350
Current	**Amps**	0.8	1.0	1.7
Heat Recovery Coil				
Face Area	**sq.m.**	0.16	0.24	0.37
Rows Deep	**no.**	6	6	6
TUBE PITCH / ROW PITCH		25.4x22	25.4x22	25.4x22
FINS PER INCH		10	10	10
TUBE OUTSIDE DIA AND TYPE		9.52, Inner grooved tube	9.52, Inner grooved tube	9.52, Inner grooved tube
FINNED LENGTH ×TUBE HEIGHT	**mm×mm**	800 × 6	950 × 8	1200 × 10
DX Coil				
Face Area	**sq.m.**	0.08	0.12	0.18
Rows Deep	**no.**	6	6	6
TUBE PITCH / ROW PITCH		25.4x22	25.4x22	25.4x22
FINS PER INCH		9	10	10
TUBE OUTSIDE DIA AND TYPE	**mm**	9.52, Inner grooved tube	9.52, Inner grooved tube	9.52, Inner grooved tube
FINNED LENGTH ×TUBE HEIGHT	**mm×mm**	305 × 10	340 × 12	465 × 14
Reheat Coil				
Rows Deep	**no.**	2	2	2
TUBE PITCH / ROW PITCH		25.4x22	25.4x22	25.4x22
FINS PER INCH		9	10	10
TUBE OUTSIDE DIA AND TYPE	**mm**	9.52, Inner grooved tube	9.52, Inner grooved tube	9.52, Inner grooved tube
FINNED LENGTH ×TUBE HEIGHT	**mm×mm**	305 × 10	340 × 12	465 × 14
Expansion Device		Electronic Expansion Valve		

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

TREATED FRESH AIR UNIT

Model			DTFA-42	DTFA-66	DTFA-82
Power Supply		**V/Hz/ph**	**220-240V/50Hz/1-ph**		
Cooling Capacity		**TR**	3.5	5.5	6.8
		kW	12.3	19.2	24
Heating Capacity		**TR**	3.8	6	7.5
		kW	13.3	20.9	26.0
Motor & Fan	**Motor Power**	**W**	245	245	366
	Curent	**A**	1.2	1.3	1.9
	Blower Size	**inch**	9×7		
Airflow rate		**CMH**	848	1358	1697
		CFM	500	800	1000
External Static Pressure		**Pa**	80	80	80
Insulation Material			Fire Retardant Polyurethane		
Air Filter		**Type**	HDPE,90% to 20 Microns		
Casing		**Type**	Powder Coated Galvanised Steel		
Piping Connection	**Liquid Pipe**	**mm(inch)**	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Suction Pipe	**mm(inch)**	15.88(5/8)	19.1(3/4)	22.2(7/8)
	Type		Flared		
	Drain Pipe	**mm(inch)**	19.1(3/4)		
Refrigerant Control		**Type**	Electronic Expansion Valve		
Dimension & Weight	**Net Dim (W×D×H)**	**mm**	760×950×390	900×950×390	1100×1100×390
	Net Wt	**kg**	55	67	88

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

Model	Cooling Only		IVRFB-08 TCN	IVRFB-10 TCN	IVRFB-12 TCN	IVRFB-14 TCN	IVRFB-16 TCN	IVRFB-18 TCN	IVRFB-20 TCN	IVRFB-22 TCN	IVRFB-24 TCN	IVRFB-26 TCN	IVRFB-28 TCN
	Heat pump		IVRFB-08 THN	IVRFB-10 THN	IVRFB-12 THN	IVRFB-14 THN	IVRFB-16 THN	IVRFB-18 THN	IVRFB-20 THN	IVRFB-22 THN	IVRFB-24 THN	IVRFB-26 THN	IVRFB-28 THN
Power Supply		V/Hz/Ph	380-415V/50Hz/3-ph										
Nominal Capacity		HP	8	10	12	14	16	18	20	22	24	26	28
Capacity (Nominal)	Cooling	TR	6.4	8.0	9.6	11.2	12.8	14.4	16.0	17.6	19.2	20.8	22.4
		kW	22.4	28.0	33.6	39.2	44.8	50.4	56.0	61.6	67.2	72.8	78.4
Capacity (Nominal)	Heating	TR	7.1	8.8	10.6	12.8	14.6	16.4	18.2	20.1	21.4	23.1	25.0
		kW	24.9	31.1	37.4	45.0	51.4	57.8	64.2	70.7	75.3	81.5	87.8
Compressor	Type		Hermetic Sealed DC Scroll Inverter										
	Quantity	No.	1	1	1	1	1	2	2	2	2	2	2
Outdoor Fan Motor	Type		BLDC										
	Quantity	No.	1	1	1	2	2	2	2	2	2	2	2
Outdoor Fan	Material		ABS PLASTIC 20% GLASS FILLED										
	Type		Axial Fan										
Air Flow rate		CFM	7000	7000	7000	9000	10200	12300	12300	12300	13800	13800	13800
ODU Sound Pressure Level @ 1 metre		dB(A)	57.9	59.2	60.9	62.1	62.8	63.7	66.6	65.9	70	70	70
Operating Range		℃	10°C~56°C (Cooling) , -10°C~24°C (Heating)										
Connetion Ratio	VRF Indoor Units Only		50%~130%										
Outdoor Unit	Dimension(W×D×H)	mm	976×800×1965	976×800×1965	976×800×1965	1250×800×1950	1250×800×1950	1450×800×1950	1450×800×1950	1450×800×1950	1450×800×1950	1450×800×1950	1450×800×1950
	Net Weight	kg	268	276	276	372	379	403	412	412	422	445	445
	Shipping Weight	kg	281	289	289	391	398	424	433	433	444	467	467
Regfrigerant	Type		R-410A										
	Control		Electronic Expansion Valve (Only for Heat Pump Models)										
	Precharge Amount	kg	9	10.5	10.5	12.5	13	13.5	14	14	15	16	17
Regrigerant Piping	Liquid	inch(mm)	3/8 (9.52)	3/8 (9.52)	1/2(12.7)	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)
	Gas	inch(mm)	3/4 (19.05)	7/8 (22.22)	1-1/8 (28.57)	1-1/8 (28.57)	1-1/8 (28.57)	1-1/8 (28.57)	1-1/8 (28.57)	1-1/8 (28.57)	1-1/8 (28.57)	1-3/8 (34.9)	1-3/8 (34.9)
	Oil	inch(mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
Safety Devices			Drive Protection for Current & Temperature, HP Switch, HP/LP Sensor, Current Protection, Current Protection, Anti-freeze, Discharge Temperature protection										

* Nominal Cooling capacities are based on the following conditions
  Indoor temperature: 27°C DB, 19°C WB; Outdoor temp.: 35°C DB;

* Nominal Heating Capacity are based on the following conditions.
  Indoor temperature: 20°C DB Outdoor temp : 7°C DB, 6°C WB;

* Tested In accordance with condition specified in ISO15042.

* Blue star has a policy of continuos data improvement and reserves the right to change design and specifications without notice.

VRF SELECTION SOFTWARE

With advances in technology and the need for faster response time, Blue Star has developed a selection software which can be used for faster selection of Indoor and Outdoor Units as per the requirement. The user-friendly interface enables the user to choose complex selections and pipings very easily and smoothly. It also has the function for recommending IDUs based on the capacity and airflow required. All the selections at a given ambient temperature can be done, as the software automatically selects the ODU based on the selected ambient temperature and capacity of the IDUs connected to it.

Three different reports can be generated based on the selection and requirements:

- BOQ of entire project taking into consideration IDUs, ODUs, Controllers, Refnets.
- The project report giving details about each and every system, their actual diversity and all the details of the selected IDUs and ODUs.
- Piping Schematic Layout and Wiring Diagram can also be generated with details like liquid and suction pipe diameter, the length of copper pipe required, extra refrigerant charge required for all the systems and other electrical details.

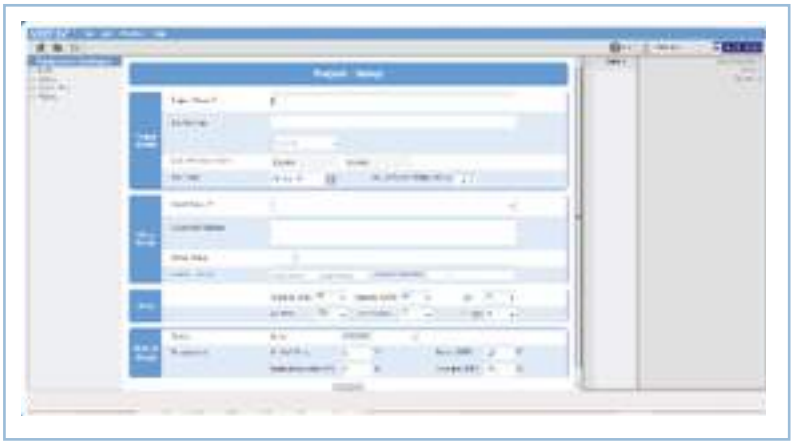
Login Page:

Project Setup Page:

Here the user can enter all the required details and units of the project.

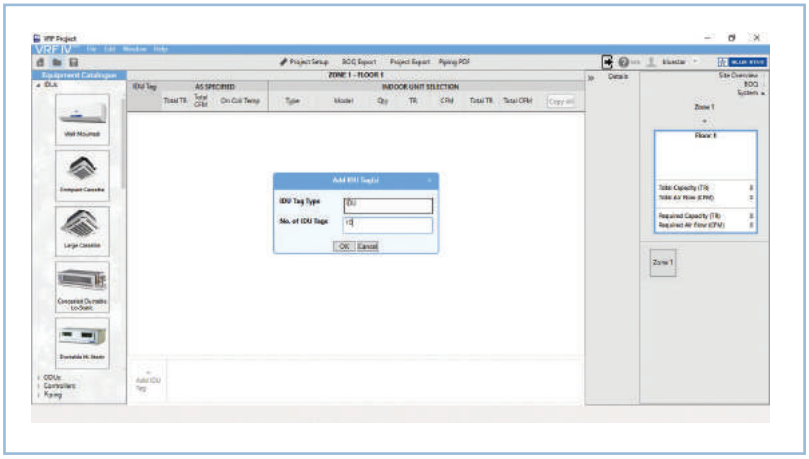
- Project name, project address and other project details.
- Client details
- Units of IDU Capacity, ODU Capacity, ESP, Airflow, Length & Temperature.
- Basics of design like Ambient Temp., Room Wet Bulb, Mode.

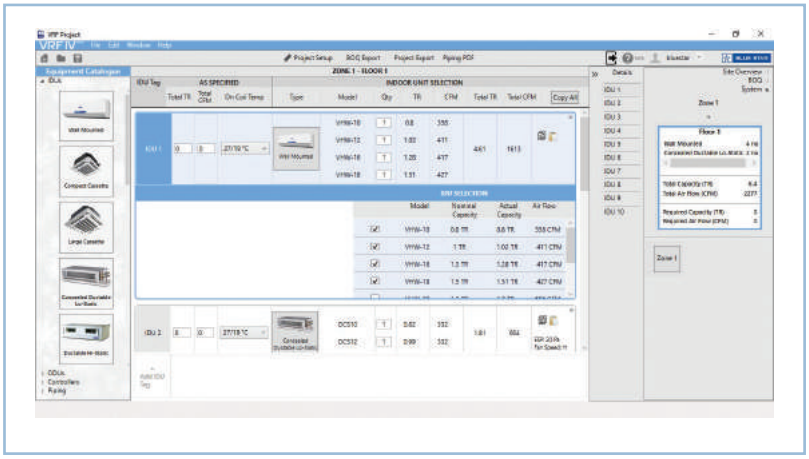
Here the user is also allowed to change the details at any point.



Indoor Selection Page:

- The user can add rooms and floors according to the requirements
- The user can select the IDUs from the range provided in the software

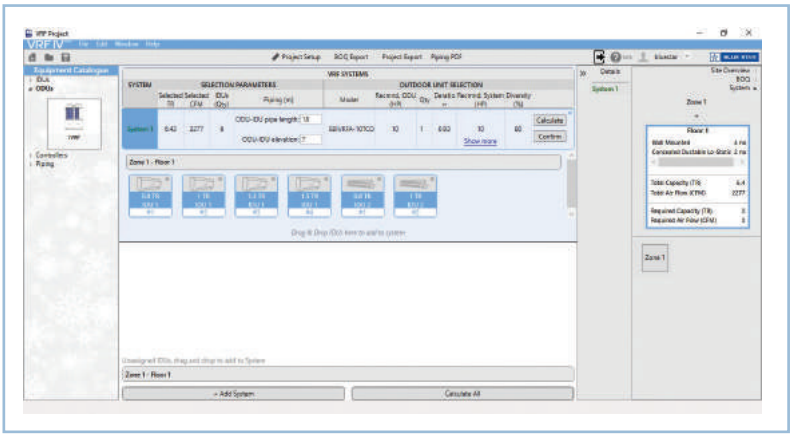




Outdoor Selection Page:

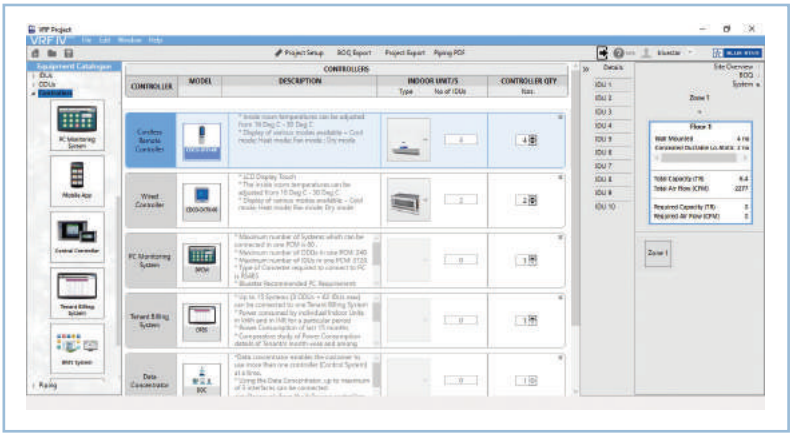
The user can add systems as per the requirements and allot their respective IDUs. The diversity can be adjusted as per the requirements and also the piping length is taken into consideration for selection of ODU.

The software will automatically select the ODU on the basis of the IDU assigned to the system, diversity and pipe length entered by simply clicking on the calculate option.



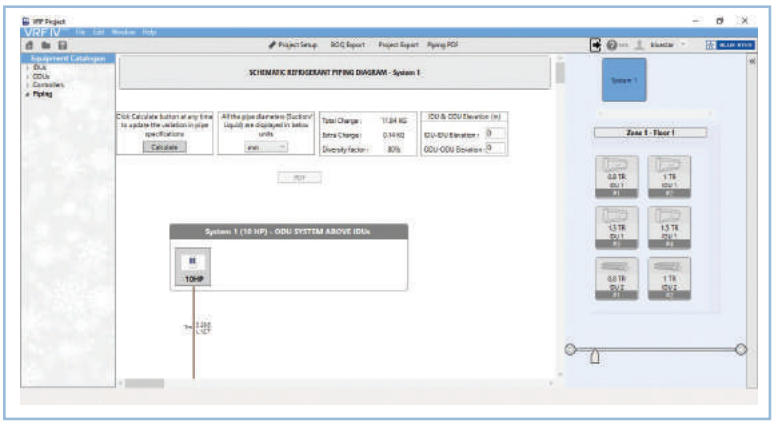
Controller Page:

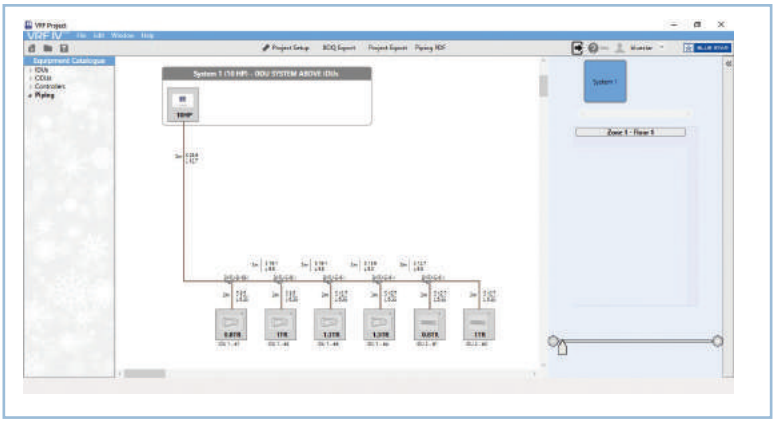
Based on the type of IDUs selected, the software automatically selects the required controller. Other controllers like group controller or mobile controller can be selected manually as per the requirement.



Piping Page:

Here, the user can manually prepare the Piping Schematic Diagram and the software will automatically calculate the pipe sizes, refnet number and extra gas charging required system-wise.





BLUE STAR

EXPERTS IN COOLING

GPSD/AP/BRO/VRF4P/12.2018

For more information, please contact:

BLUE STAR INTERNATIONAL FZCO: Unit No. 3E 520, Building No. 3E (East Side), Dubai Airport Free Zone, Dubai, UAE, PO Box: 293719. Phone: +971 4 230 6900
Email: exports@bluestarindia.com

INDIA: BLUE STAR LIMITED: 2nd Pokhran Road, Majiwada, Thane (West) 400 601, India.
Phone: +91 22 6792 4000 Customer Care Email: globalexpertservice@bluestarindia.com
Visit us at: www.bluestarindia.com

Authorised Distributor