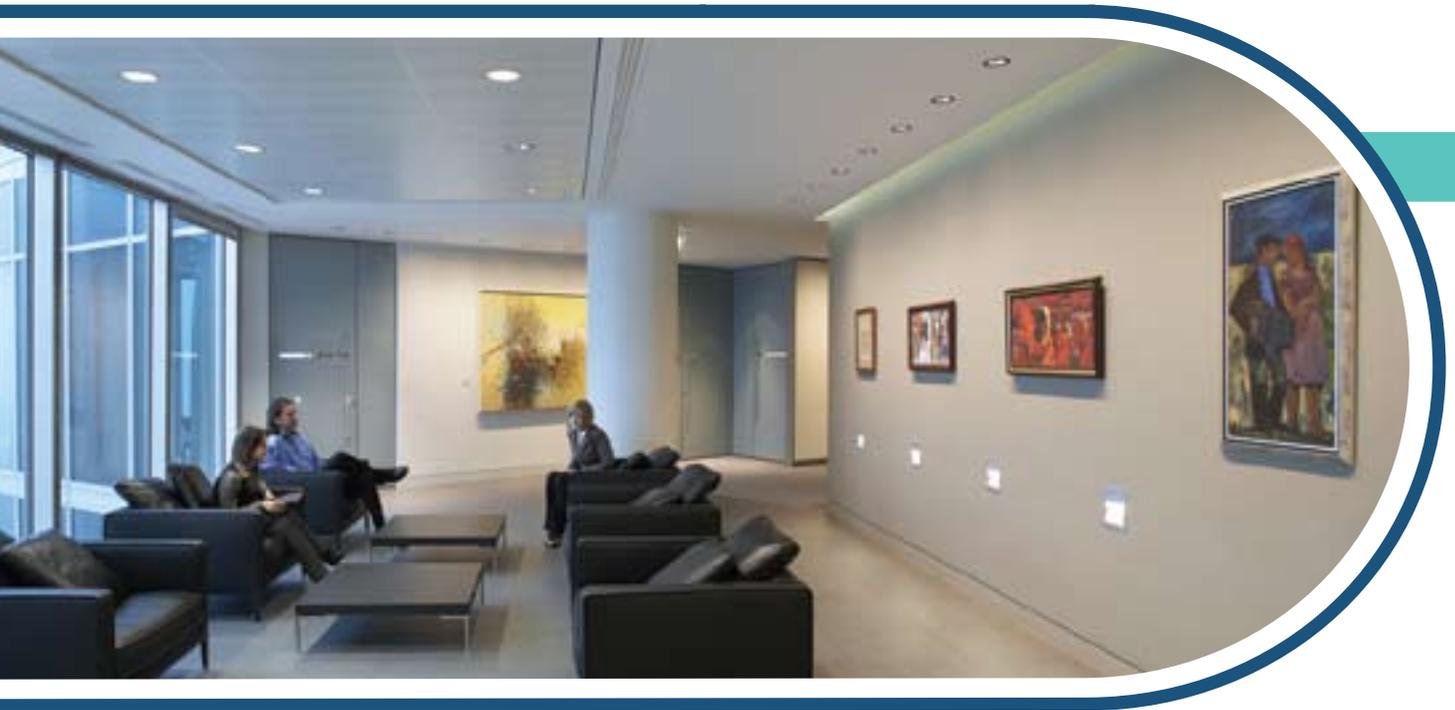




So smart, it knows where to cool,
when and how much.

Inverter VRF system from Blue Star.





Blue Star, India's leading refrigeration and airconditioning company, offers expert solutions for all your cooling needs. With over six decades of cooling experience, the Company has airconditioned many small, medium and large spaces across the country. These include ATMs, offices, malls, multiplexes, IT parks, airports and landmark buildings.

Blue Star, with its complete range of ACs from Window ACs, Split ACs, Packaged ACs to Chillers and Central Plants, offers reliable, efficient and state-of-the-art airconditioning solutions that suit all your needs.





Blue Star Inverter VRF - Right solution for multi-zoned spaces

Traditionally, multi-room spaces are airconditioned either by discrete Room ACs or a Central Plant. A VRF system combines the advantages of both Room AC and the Central Plant to offer you a third, more energy-efficient alternative. This system consists of an outdoor unit with multiple compressors, a mix of indoor units such as cassettes and high-wall splits and a sophisticated electronic control centre that ensures complete climate control in each zone.

All Blue Star products bring you cutting edge technology, superior cooling and designs that are compatible with the latest building management systems. Blue Star's latest offering, the Inverter Variable Refrigeration Flow (IVRF) system is no different. It brings world-class, state-of-the-art cooling technology and higher energy efficiency to your doorstep. Based on proven Inverter Compressor Technology, the Inverter VRF system is ideal for multi-zoned spaces such as luxury apartment complexes, condominiums, villas, multi-cabin office spaces and commercial complexes.

The Blue Star Inverter VRF system has many advantages over conventional airconditioning solutions. Listed below are a few of them.

- ✳ It offers a year-round cooling and heating system
- ✳ It comes with modular capacities that can be built up using 3.5 HP to 64 HP discrete units
- ✳ It uses a software-based design
- ✳ A choice of designer cooling units is available
- ✳ Unit selection is simple, installation is easy
- ✳ It is a R410A based eco-friendly system
- ✳ Easy to maintain and comes with in-built fault diagnostic function
- ✳ It's high on energy savings
- ✳ It uses a simplified computer control operation
- ✳ It uses frequency modulated inverter compressor technology for precise temperature and control
- ✳ It offers need-based cooling to suit your comfort requirements





Advantage Blue Star



Experts in airconditioning

Blue Star has close to seven decades of experience in providing world-class airconditioning solutions. Thanks to this experience, Blue Star is the expert in airconditioning today.



High quality execution

Every Blue Star project is well planned and is supervised, at every stage, to ensure a successful completion of the same.

- * Accurate heat load calculations before proposal to ensure precise tonnage calculation
- * Well-designed air distribution systems to avoid 'hot' and 'cold' spots
- * Computer-aided duct designing to ensure efficient and minimal ducting
- * Precise tools and tackles used at every installation to ensure professional finishing
- * Well laid-out processes and procedures to ensure efficient time-bound installation



Superior project management skills

Airconditioning requires meticulous planning and timely execution as it involves coordination with architects, interior designers, consultants and allied agencies. Blue Star and its dealers offer you expertise that ensures a smooth and hassle-free completion of the project.



Right-fit solutions

Blue Star's portfolio of products and solutions is comprehensive and addresses all the requirements for comfort airconditioning. This gives the customer a wide variety to choose from and also provides the right solutions for their needs.



Safety at site

At any site safety is of paramount importance to Blue Star. Every aspect of design, layout and implementation is a proof of it. Labourers and contractors on-site are extremely well educated in safety practices and processes. This ensures a smooth, accident-free work environment.



After sales support

Blue Star believes in building close ties with the customer even after a perfect execution to ensure speedy backup, support and maintenance services. After sale service is therefore available on-call through Blue Star's offices in 17 cities across India, and through Blue Star's dealers and associates who cover almost every town and city in the country. Blue Star can also be reached through the 24/7 Customer Service toll free no. 1860 266 6666.

Applications of Inverter VRF Systems

Whatever the application, this is how you can benefit from Blue Star Inverter VRF Systems:

Corporate Offices

- ✦ Various types of indoor units to suit the decor of each space
- ✦ Individual control for cabins
- ✦ Fresh air provision with ducted, ceiling concealed and cassette type indoor units
- ✦ Compatibility with BMS systems
- ✦ Substantial savings on electricity bills
- ✦ Use of minimal outdoor units ensure that valuable space is saved

Luxury Condominiums and Villas

- ✦ Independent climate control of each room
- ✦ Compact design of outdoor units for mounting on balcony
- ✦ Use of a single outdoor unit for multiple indoor units ensures that the external elevation of the building is uncluttered
- ✦ High reliability
- ✦ User-friendly design
- ✦ Substantial savings on electricity bills
- ✦ Feature-loaded indoor units
- ✦ Compatibility with BMS systems



Hotels and serviced apartments

- * Breathtaking range of contemporary indoor units to suit the decor of each space
- * Fresh air provision with ducted, ceiling concealed, floor mounted packaged and cassette type indoor units
- * Centralised control for easy operation and maintenance
- * Minimal noise and vibration
- * Substantial savings on electricity bills
- * Compatibility with BMS systems

Commercial complexes and showrooms

- * Compatibility with BMS systems
- * Use of minimal outdoor units ensure that valuable space is saved
- * Independent control for individual shops
- * Substantial savings on electricity bills

Health care

- * Individual control for consultation and patient rooms
- * Substantial savings on electricity bills
- * Zero electromagnetic interference which is vital for critical equipment
- * HRV to maintain good IAQ in a cost-effective way
- * Centralised control for easy operation and maintenance

Educational institutions

- * Individual control for classrooms, laboratories, libraries, staff rooms etc.
- * Assures good indoor air quality
- * Substantial savings on electricity bills
- * Minimal noise and vibration
- * Centralised control for easy operation and maintenance





Schematic of the Blue Star Inverter VRF System



Product line-up: Outdoor Units

Appearance	HP	Max. no. of IDUs	Appearance	HP	Max. no. of IDUs
	3.5	6		34	48
	4	7		36	48
	5	8		38	48
	6	9		40	48
	8	14		42	48
	10	16		44	48
	12	16		46	48
	14	16		48	48
	16	16		50	64
	18	30		52	64
	20	32		54	64
	22	32		56	64
	24	32		58	64
	26	32		60	64
	28	32		62	64
	30	32		64	64
	32	32			

Product line-up: Indoor Units

Appearance	Type	0.6TR	0.8TR	1TR	1.3TR	1.5TR	1.7TR	1.8TR	2TR	2.3TR	2.6TR	2.8TR	3TR	3.2TR	3.6TR	4TR	6.5TR	8TR
	Wall Mounted Split (EXV separated)	●	●	●	●	●	●		●	●								
	Wall Mounted Split (EXV Integrated)	●	●	●	●	●	●	●	●									
	Concealed Split	●	●	●	●		●		●									
	Compact Cassettes	●	●	●	●													
	Standard Cassettes		●	●	●	●	●	●	●	●	●	●		●	●	●		
	One Way Cassettes	●	●	●														
	Floor/Ceiling Split		●	●	●				●		●			●	●			
	Ductable Split	●	●	●	●		●		●		●			●		●	●	●
	Floor standing console								●				●			●		
	Wall mounted console		●	●		●												

Add ons

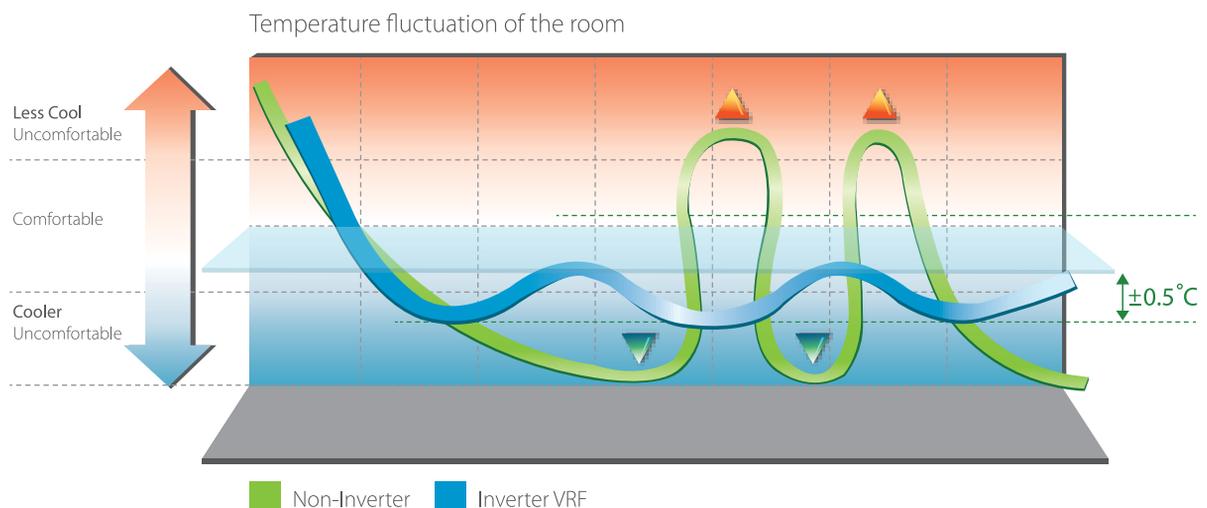
		Treated Fresh Air	ODU	HP			8	10	16
			IDU	TR	4	6.5	8	12	16

	Heat Recovery Unit	CMH	300	500	800	3000
			1000	1500	2000	



Power of the Inverter

Conventional compressors work on the cut in and cut out method, thereby offering either full or zero capacity to the airconditioning system. Blue Star's Inverter compressor comes with a fine analog control that allows capacity variation. This helps the system deliver cooling at a capacity that is needed at that point of time. This unique, patented Inverter technology makes the Inverter VRF system accurate, reliable and highly energy-efficient. The analog control also ensures that the system does not radiate any radio frequency signals that may disturb other sensitive electronic equipment nearby.



Outdoor Units

Blue Star Inverter VRF outdoor units come in a range of discrete units with capacities ranging from 3.5 HP to 64 HP and offer the following features:



Load-proportionate cooling and heating using Inverter Scroll Compressor Technology

The system comes with advanced electronic expansion valves that along with the Inverter and Fixed Scrolls ensure cooling or heating proportionate to the load, at any point of time.



Wide ambient temperature range of operation

From temperatures as low as -20°C to as high as 48°C , Blue Star Inverter VRF is designed to operate efficiently in all climatic zones of the country. The modulated outdoor fan speed control and multi-step compressors work efficiently to maintain a steady indoor temperature, regardless of the outdoor temperature.

Heating range $-20^{\circ}\text{C} \sim 27^{\circ}\text{C}$

Cooling range $10^{\circ}\text{C} \sim 48^{\circ}\text{C}$



Precise room temperature control

The system's intelligent controls and modulating valves deliver the required capacity for any particular load at any point of time. These electronic expansion valves constantly respond to the changes in load of the indoor units and control the flow rate of the refrigerant accordingly. This helps the system maintain a constant temperature using the PID Control System.



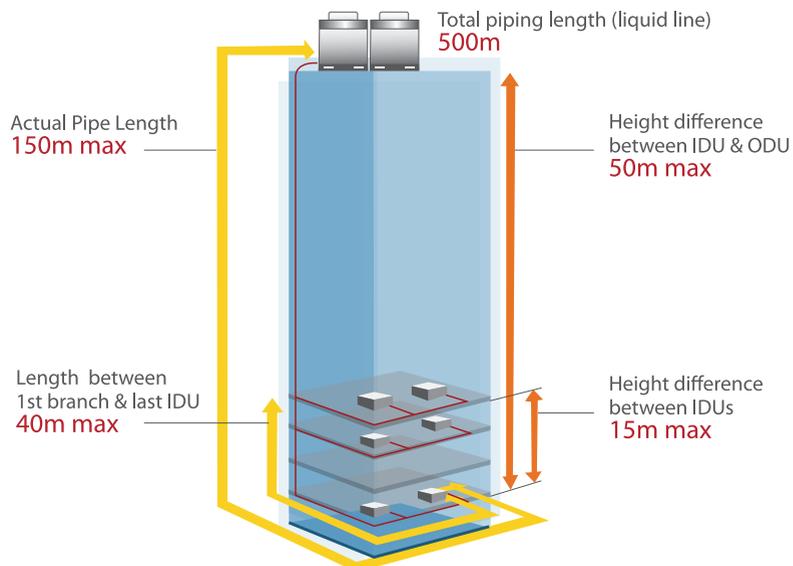
Built for easy installation

All Blue Star Inverter VRF ODUs are designed to be compact. This allows easy movement and installation of the systems.



Long piping distances

Typical VRF applications require long distances of piping between ODU and IDUs. Blue Star's Inverter VRF range is designed for long-distance piping, the highest in its class. All its indoor units can be connected through a single refrigerant piping that can run up to 500m, and outdoor units can be placed at a height of up to 50m.



Higher static pressure

The maximum external static pressure (ESP) of the outdoor fan can reach up to 75Pa.



Outdoor Units Component Features



Inverter compressor

Each ODU is equipped with a high-efficiency DC Inverter Scroll Compressor, specially designed with a high-pressure chamber that allows direct suction and increases efficiency. These innovative compressors are designed for a quieter operation and a longer life. (40dB)



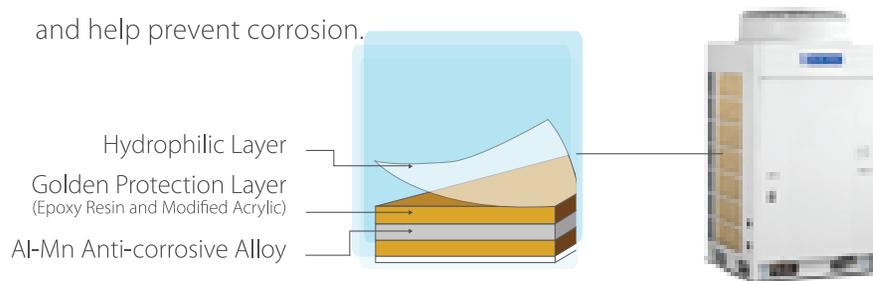
Variable Speed fan motors

8 & 10HP ODUs are fitted with DC Inverter fan motors, 12-16HP ODUs are fitted with AC Inverter fan motors. These motors come with stepless adjustments that allow better performance.



Gold fin condenser

The outdoor units come with a gold fin condenser that ensures a large and efficient heat-transfer area. The gold-coated aluminium fins increase the heat exchange rates and help prevent corrosion.



Electronic system control

The sophisticated microprocessor-driven controllers tap the potential of the Inverter compressor to give you an intelligent and efficient airconditioning system. Blue Star Inverter VRF allows you to control the entire installation with a centralised PC-controlled system. The units can also be controlled zone-wise or individually with their respective remotes. Suitable electronic modulating valves are also used to ensure quick and effective response to changes in load, by altering the refrigerant flow at any point of time.





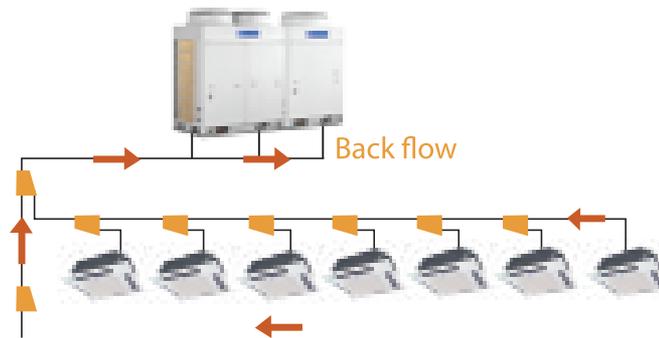
Compact design

Blue Star Inverter VRF ODUs are designed to be so compact that they fit easily in the allotted area. The weight and footprint of these ODUs are on par with the industry standards.



High-efficiency oil return

A new generation control system in these ODUs ensures that the oil-return is efficient and reliable. Compressor crankcase is always maintained at a discharge pressure. This ensures oil circulation, even at low speeds. Oil returning from all IDUs is managed using time-tested algorithms and the oil management between compressors is also very simple.



Protection against power vagaries

Designed to operate in the range of 342 to 456VAC, the outdoor unit is protected against power fluctuations by an auto shut down. The system restarts on its own with the resumption of clean power.



Protected from the ambient

With its unique high-efficiency, radiating air-ducting design, the electrical control box in the ODU is designed to be water-proof, dust-proof, and well-ventilated. This makes the system more reliable and ensures a long life.



Easy maintenance

These systems come with an easily accessible electrical control panel, self-diagnostic systems, an error display and LED displays that help in quick servicing and easy maintenance.



In-built diagnostics

The outdoor unit has in-built diagnostics that can identify faults during installation and operation, thereby assisting in quick rectification.

A wide range of Indoor Units

Blue Star's Inverter VRF range offers the widest range of indoor units in the industry. These units are designed keeping in mind the modern day interiors and decors. They are also flexible in their locational requirement, allowing you to position the IDUs as required by the architect. The IDUs are compact and easily service-able. They can be operated using cordless remotes, wired remotes, central controllers or even through a personal computer.

The general features of the indoor units include:

- * They come in eight different product models with up to 61 units
- * They are available in a wide range of units to suit your interiors
- * They come with three to four speed fan options
- * A timer function to switch On/Off is built in
- * They use an oscillating air flow
- * An advanced digital display of key functions is used
- * A higher flexibility in cooling and heating capacity that ranges from 0.6 TR to 8 TR is available

Wall Mounted Split (EXV separated and EXV integrated)

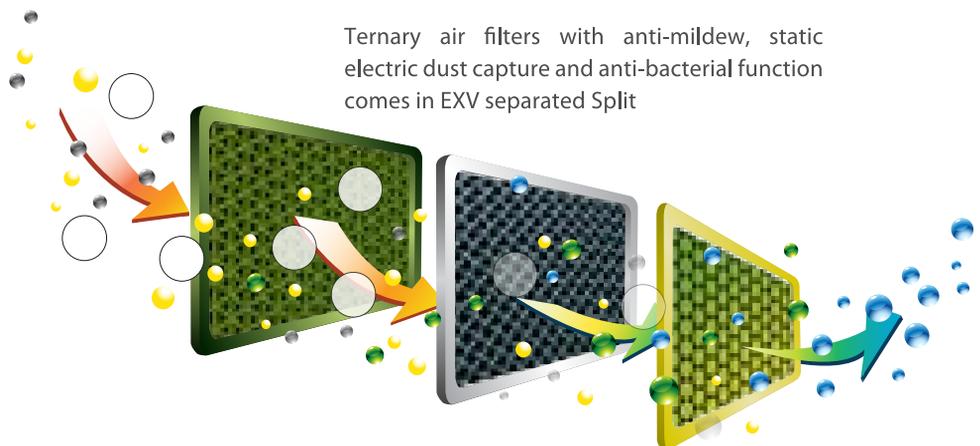
- * Ternary air filter
- * Quiet operation
- * Wide air supply angle
- * Remote controller with LCD display
- * Easily removable front panel
- * Vertical auto-swing
- * Auto-clean function
- * Low noise



EXV separated Split



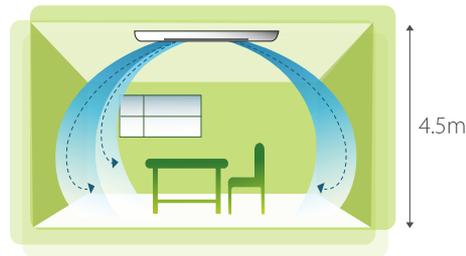
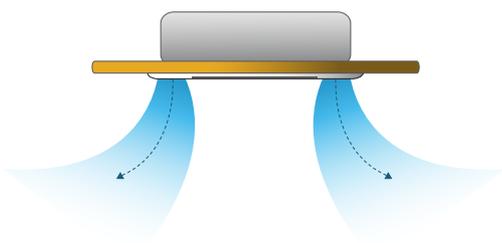
EXV integrated Split



Ternary air filters with anti-mildew, static electric dust capture and anti-bacterial function comes in EXV separated Split

Four Way Cassettes

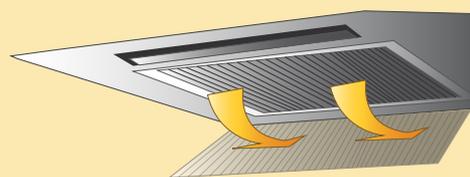
- * Compact design
- * Powerful and even air supply
- * Intelligent drainage
- * Low noise 3D spiral fan blades
- * Long-life washable filter
- * LED display
- * Fresh air function
- * Wide range of sweep and height
- * Available in standard and compact range. Standard range available in size 96 cm x 96 cm, from 0.8 TR to 4 TR. Compact range is available in size 65 cm x 65 cm, from 0.6 TR to 1.3 TR



Wide range of sweep and height

One Way Cassettes

- * Space-saving, compact design
- * Easy installation
- * Intelligent drainage
- * Detachable and washable grilles
- * Long-life filter
- * Ultra-quiet operation
- * Even temperature distribution



Detachable and washable grilles

Floor/Ceiling Mounted Split

- * High-efficiency filter
- * Great looks
- * Space-saving design
- * Easy maintenance
- * Wide discharge range
- * Quiet operation
- * Flexible installation – floor mounted or ceiling suspended
- * No suspended ceiling required

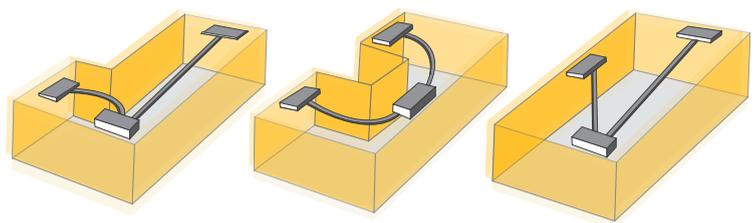


Wide discharge range



Duct Type

- * High external static pressure
- * 4-step fan motor
- * Flexible set-up and even air supply
- * Highly flexible installation
- * Great looks



Highly flexible installation

Concealed Split

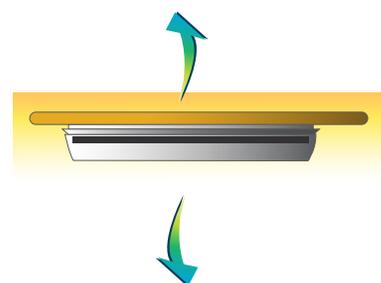
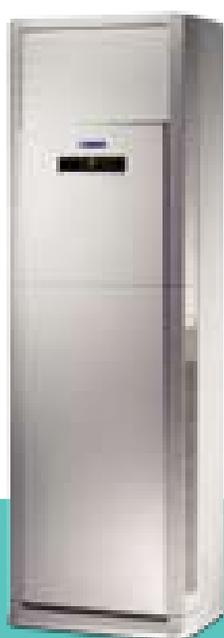
- * Low height of 200 mm
- * Compact size
- * Intelligent drainage
- * Flexible installation
- * 4-step fan motor
- * Even air distribution
- * Low noise level





Floor Standing Console

- * Elegant and sleek look
- * Auto diagnosis
- * Quiet operation
- * Efficient, long-lasting filter
- * Wider four way air flow
- * Digital display
- * CE certified for electrical safety
- * Ideal for conference rooms, meeting rooms, large living rooms, etc.
- * Wireless and wired remote control



Up and down swing

Wall Mounted Console

- * New, elegant design and a novel appearance
- * Digital temperature display
- * Up and down swing
- * Wireless and wired remote control
- * Memory back-up for set parameters
- * Error display
- * Highly effective filter
- * CE certified for electrical safety
- * Sleek wall mounting design





Add Ons

Treated Fresh Air Units

TFA units supply fresh air at a temperature which almost matches the indoor temperature. This ensures that the indoor air is fresh and comfortable. These units can be connected with common indoor units sharing the same outdoor unit.

- * Up to 30% capacity from the existing IVRF system can be allocated to the ODU of a TFA unit
- * Separate outdoor units are available for independent operation
- * Indoor units available in 4,6,8,12 and 16TR models
- * Static pressure up to 200 pa
- * Can be connected with centralized control



Heat Recovery Ventilation Systems

IHRV units supply fresh air and replace the indoor air for a comfortable ambience inside. The heat ex-changer helps in utilizing the discharged air for fresh air cooling. This two way air change helps to reduce the change in the indoor temperature during the air change.

- * Reduces fresh air load up to 25%
- * Special low noise ventilation fan
- * Internal air filter to provide clean air
- * CE certified for electrical safety
- * Easy to install and maintain
- * Wide range of capacities is available from 150 CMH to 3000 CMH





Advanced control systems

Advanced AC systems such as Blue Star's Inverter VRF series require equally intelligent controllers. A wide range of controller options are available to meet every need.

Wired Remote Controller

- ✧ Temperature setting
- ✧ Fan speed setting
- ✧ Energy-saving function
- ✧ Room temperature & set temperature display
- ✧ Sleep function
- ✧ On/Off Timer
- ✧ Operating mode setting
- ✧ Vertical swing
- ✧ Self-diagnosis function (Error code display)
- ✧ Memory function
- ✧ Child lock function
- ✧ Infrared remote control function



Wireless Remote Controller

- ✧ Temperature setting
- ✧ Fan speed setting
- ✧ Child lock function
- ✧ On/Off Timer
- ✧ Operation mode setting
- ✧ Vertical swing
- ✧ Sleep function
- ✧ Room temperature & set temperature display



Smart Zone Controller

- * Single or up to three sets of ODUs can be controlled
- * Direct control over 16 indoor units in the network without extra communication module
- * Operation status of any one operating indoor unit in its control group can be checked and displayed
- * Single unit control and centralised control available
- * Remote shield function
- * Timer function



Centralised Controller

- * Clock setting
- * Error alarm and error code display
- * Single/Group/Centre control (including weekly timer setting, shield setting etc.)
- * 64 communication modules can be connected to control 1024 indoor units
- * Control the On/Off, operation mode, set temperature, fan speed, swing state etc. of indoor unit
- * Automatically detect and display the status of online "region" and indoor unit (including operation mode, set temperature, fan speed, swing, weekly timer, shield etc.)
- * Up to 1km communication wires without repeaters



Communication Module

- * The communication module is used for transforming and transmitting signals between the computer and the airconditioning system
- * Modbus protocol and RS485 interface are adopted so that the unit can be connected to the user's BMS system and other networks
- * Numerous monitoring nodes allow almost 255 units to be included in the same network
- * Control of setting parameter is available
- * Monitoring of operation state is available
- * Monitoring of malfunction state is available



Protocol Converter

Optoelectronic isolated converter is used for converting the signal between computer/BMS system and Blue Star airconditioning systems



PC monitoring system

- * Airconditioning system running status/error information checking
- * Airconditioning system operation parameter setting
- * Multi-user management with different authorised levels
- * Intelligent timer with simplified schedule management available
- * Automatic detection enables quick monitoring even if the user is not familiar with the concept of equipment, protocol and models



Technical Specifications

Modular Outdoor Unit - Inverter

Model			IVRF -08T	IVRF -10T	IVRF -12T	IVRF -14T	IVRF -16T
Capacity	Cooling	HP	8	10	12	14	16
		kW	22.4	28	33.5	40	45
		Btu/h	76429	95536	114302	136480	153540
	Heating	kW	25	31.5	37.5	45	50
		Btu/h	85300	107408	127950	153540	170600
IPLV			4.15			3.95	4.15
Sound Level		dB(A)	68		70	71	
R410A Filling Amount		kg	12	13	15	16	17
Power Supply			415V~3PH~50Hz				
Power Input	Cooling	kW	5.52	7.52	9.23	12.45	14.32
	Heating	kW	5.82	7.7	9.38	11.2	13.9
Rated Current	Cooling	A	9.9	13.4	16.5	22.3	25.6
	Heating	A	10.4	13.8	16.8	20.02	24.9
Dimensions	Width	mm	930		1340		
	Depth	mm	770		770		
	Height	mm	1670		1670		
Compressor			Inverter + Fixed Scroll				
Connection Pipe	Gas Pipe	mm	22.2		28.6		
		Inch	7/8		9/8		
	Liquid Pipe	mm	9.52		12.7		
		Inch	3/8		1/2		
	Oil	mm	12.7		12.7		
		Inch	1/2		1/2		
Connection Method			Brazing Connection				
Net Weight		kg	255		350		370
Recommended Power Lines x Number of lines		mm ²	6.0x4		10.0 x4		

Non Modular Outdoor Unit - Inverter Range

Model			IVRF -035F	IVRF -04F	IVRF -05F	IVRF -06F
Capacity	Cooling	HP	3.5	4	5	6
		kW(Btu/h)	10 (34,120)	12 (40,944)	14 (47,770)	16.0 (54,560)
		kW(Btu/h)	11 (37,540)	14 (47,770)	15.4 (52,544)	17.6 (60,050)
Sound Level		dB(A)	58			60
R410A Filling Amount		kg	7.5			
Power Supply			220-240V~1Ph~50Hz			
Power Input	Cooling	kW	2.86	3.5	4.36	4.98
	Heating	kW	2.6	3.4	4.05	4.85
Rated Current	Cooling	A	14.2	17.3	20.5	23.2
	Heating	A	13.2	16.4	19.6	21.9
Dimensions	Width	mm	950			
	Depth	mm	340			
	Height	mm	1250			
Compressor			DC Inverter Dual-rotor Type Compressor			
Connection Pipe	Gas Pipe	mm	15.9			19.05
		Inch	5/8			3/4
	Liquid Pipe	mm	9.52			9.52
		Inch	3/8			3/8
Connection Method			Flare Connection			
Net Weight		kg	111			115
Recommended Power Lines x Number of lines		mm ²	6.0X3			10.0X3

Indoor Units

Cassette Type One Way

Model			IOC -08	IOC - 10	IOC - 12
Nominal Capacity (TR)			0.6	0.8	1.0
Capacity	Cooling	kW	2.2	2.8	3.6
	Heating	kW	2.5	3.2	4
Power Supply		V	220-240~1Ph~50Hz		
Air Flow Volume		cfm	265	294	
Sound Level (H/M/L)		dB(A)	45/43/41		
Fan Motor	Input	Watts	42		
	Running Current	A	0.22		
Connection Pipe	Gas	inch	3/8		
	Liquid	inch	1/4		
	Connection Method		Flare Connection		
Water Pump			Yes, Inbuilt		
Drain Pipe	External Dia.	mm	30		
	Thickness	mm	1.5		
Outline Dimensions (WxDxH)	Body	mm	920 × 360 × 185		
	Panel	mm	1180 × 430 × 30		
Net Weight	Body	kg	16		
	Panel	kg	3		

Compact Cassette

Model			ICC-08	ICC-10	ICC-12	ICC-16
Nominal Capacity (TR)			0.6	0.8	1.0	1.3
Capacity	Cooling	kW	2.2	2.8	3.6	4.5
	Heating	kW	2.5	3.2	4	5
Power Supply		V	220-240~1Ph~50Hz			
Sound Level (H/L)		dB(A)	47/41			
Air Flow Volume		cfm	353			
Fan Motor	Input	Watts	12			
	Running Current	A	0.05			
Connection Pipe	Gas	inch	3/8		1/2	
	Liquid	inch	1/4			
	Connection Method		Flare Connection			
Water Pump			Yes, Inbuilt			
Drain Pipe	External Dia.	mm	30			
	Thickness	mm	1.5			
Outline Dimensions (WxDxH)	Body	mm	570 × 570 × 230			
	Panel	mm	650 × 650 × 30			
Net Weight	Body	kg	20			
	Panel	kg	2.5			

Large Cassette Type

Model			ILC-10	ILC-12	ILC-16	ILC-18	ILC-20	ILC-22	ILC-24	ILC-27	ILC-31	ILC-34	ILC-38	ILC-43	ILC-48
Nominal Capacity (TR)			0.8	1.0	1.25	1.65	1.7	1.8	2.0	2.3	2.6	2.8	3.2	3.6	4.0
Capacity	Cooling	kW	2.8	3.6	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14
	Heating	kW	3.2	4	5	5.8	6.3	7.1	8	8.8	10	11	12.5	13.5	14.5
Power Supply		V	220-240V~1Ph~50Hz												
Air Flow Volume		cfm	400				684				1095				
Sound Level (H/L)		dB(A)	37/33				39/35				40/36				
Fan Motor	Input	Watts	65				83				133				
	Running Current	A	0.27		0.28		0.37				0.59				
Connection Pipe	Gas	inch	3/8		1/2		5/8								
	Liquid	inch	1/4				3/8								
	Connection Method		Flare Connection												
Water Pump		Yes, Inbuilt													
Drain Pipe	External Dia.	mm	30												
	Thickness	mm	1.5												
Outline Dimensions (WxDxH)	Body	mm	840 x 840 x 190				840 x 840 x 240				840 x 840 x 320				
	Panel	mm	950 x 950 x 60												
Net Weight	Body	kg	25				30				38				
	Panel	kg	6.5												

Concealed Split Duct

Model			ICS-08	ICS-10	ICS-12	ICS-16	ICS-20	ICS-24		
Nominal Capacity (TR)			0.6	0.8	1.0	1.25	1.65	2.0		
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5.6	7.1		
	Heating	kW	2.5	3.2	4	5	6.3	8		
Power Supply		V	220-240V~1Ph~50Hz							
Air Flow Volume		cfm	265		324		412		588	
Sound Level (H/L)		dB(A)	37/33		39/35		40/36		41/37	42/38
Fan Motor	Input Power	Watts	64		70		91		100	
	Running Current	A	0.28		0.31		0.41		0.45	
ESP		pa	20							
Connection Pipe	Gas	inch	3/8		1/2		5/8			
	Liquid	inch	1/4				3/8			
	Connection Method		Flare Connection							
Water Pump		Yes, Inbuilt								
Drain Pipe	External Dia.	mm	20				30			
	Thickness	mm	1.5							
Outline Dimensions (WxDxH)		mm	700 x 615 x 200			900 x 615 x 200		1100 x 615 x 200		
Net Weight		kg	21		22		26		30	

Duct Type High Static

Model			ISD -08	ISD - 10	ISD -12	ISD - 16	ISD -20	ISD -24	ISD -31	ISD -38	ISD - 48	ISD -78	ISD - 96	
Nominal Capacity (TR)			0.6	0.8	1.0	1.25	1.65	2.0	2.6	3.2	4.0	6.4	8.0	
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5.6	7.1	9	11.2	14	22.4	28	
	Heating	kW	2.5	3.2	4	5	6.3	8	10	12.5	15	25	31	
Power Supply		V	220-240V~1Ph~50Hz								380V-3Ph -50Hz			
Air Flow Volume		cfm	265	335		412	589	647	1001		1177	2381	2857	
Sound Level (H/L)		dB(A)	37/33	39/35		40/36	44/40	45/41	48/44		50/46	56	57	
Fan Motor	Input Power	Watts	75	80		140	240		360		500	1600		
	Running Current	A	0.28	0.41		0.55	1.3		2.15		2.67	2.8	3.3	
ESP		Pa	20/50			30/60		40/80		50/100		200	220	
Connection Pipe	Gas	inch	3/8		1/2		5/8				7/8			
	Liquid	inch	1/4				3/8							
	Connection Method		Flare Connection									Brazed		
Drain Pipe	External Dia.	mm	20			30								
	Thickness	mm	1.5											
Outline Dimensions (WxDxH)		mm	880 x 665 x 250			980 x 721 x 266	1155 x 736 x 300		1425 x 736 x 300			1463 x 799 x 389	1628 x 869 x 454	
Net Weight		kg	27	28.5		34	49		62		63.5	88	113	

Wall Mounted Split - EXV Separated

Model			IHW -08E	IHW -10E	IHW -12E	IHW -16E	IHW -18E	IHW -20E	IHW -24E	IHW -27E
Nominal Capacity (TR)			0.6	0.8	1.0	1.25	1.5	1.65	2.0	2.3
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5	5.6	7.1	8
	Heating	kW	2.5	3.2	4	5	5.8	6.3	8	9
Power Supply		V	220-240V~1Ph~50Hz							
Air Flow Volume		cfm	212		294	294	412	441	706	
Sound Level (H/L)		dB(A)	37/28		43/28		45/40		49/42	
Fan Motor	Output Power	Watts	32		48		56	58	63	85
	Running Current	A	0.15		0.22		0.25	0.26	0.29	0.39
Connection Pipe	Gas	Inch	3/8		1/2				5/8	
	Liquid	Inch	1/4				3/8			
	Connection Method		Flare Connection							
Drain Pipe	Outer Dia.	mm	20				30			
	Thickness	mm	1.5							
Outline Dimensions (WxDxH)		mm	770x190x250		830x189x285		1020x228x310		1178x227x326	
Net Weight		kg	8		11		15.5		17.5	

Wall Mounted Split - EXV Integrated

Model			IHW -08	IHW -10	IHW -12	IHW -16	IHW -18	IHW -20	IHW -22	IHW -24
Nominal Capacity (TR)			0.6	0.8	1.0	1.25	1.5	1.65	1.8	2.0
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5	5.6	6.3	7.1
	Heating	kW	2.5	3.2	4	5	5.8	6.3	7	8
Power Supply		V	220-240V~1Ph~50Hz							
Air Flow Volume		cfm	294		371			471		
Sound Level (H/L)		dB(A)	38/34		44/38					
Fan Motor	Input Power	Watts	50		60			70		
	Running Current	A	0.31		0.36			0.4		
Connection Pipe	Gas	inch	3/8		1/2			5/8		
	Liquid	inch			1/4			3/8		
	Connection Method		Flare Connection							
Drain Pipe	External Dia.	mm	28							
	Thickness	mm	1.5							
Outline Dimensions (WxDxH)		mm	843 x 180 x 275		940 x 200 x 298			1008 x 221 x 319		
Net Weight		kg	10.5		13			15		

Floor/Ceiling-Suspended Dual Type Indoor Unit

Model			IFC -10	IFC -12	IFC -18	IFC -24	IFC -31	IFC -38	IFC -43	
Nominal Capacity (TR)			0.8	1.0	1.5	2.0	2.6	3.2	3.6	
Capacity	Cooling	kW	2.8	3.6	5	7.1	9	11.2	12.5	
	Heating	kW	3.2	4	5.8	8	10	12.5	13.5	
Power Supply		V	220-240~1Ph~50Hz							
Air Flow Volume		cfm	383		559	824	942	1177		
Sound Level (H/L)		dB(A)	43	44	50			54		
Power Input		Watts	55		110	140	180	250		
Connection Pipe	Gas	inch	3/8	1/2		5/8				
	Liquid	inch			1/4		3/8			
Drain Pipe	External Dia.	mm			17		31			
	Thickness	mm			1		1.5			
Outline Dimensions (WxDxH)		mm	1220 x 700 x 225			1420 x 700 x 245		1700 x 700 x 245		

Floor Standing Console

Model	Units	IFS-24	IFS-36	IFS-48
Nominal Capacity	TR	2	3	4
- Cooling	KW	7	10	14
- Heating	KW	8	11	15
Power Supply		220-240V-1ph-50Hz		
Airflow volume (High)	cfm	655	952	1012
Sound level	dB(A)	48/45/42	51/49/47	52/50/48
Fan Motor Input	watts	50	120	120
Running Current	A	0.8	1.1	1.1
Connection pipe - Gas	Inch	5/8	5/8	5/8
- Liquid	Inch	3/8	3/8	3/8
Connection method		Flare Connection		
Drain pipe - External dia	mm	31	31	31
Thickness	mm	1.5	1.5	1.5
Outline dimensions (W x D X H)	mm	502 x 316 x 1756	556x381x1896	556 x 381x1896
Net Weight	Kg	39	53	57

Wall Mounted Console

Model	Units	IWC-10	IWC-12	IWC-18
Nominal Capacity	TR	0.8	1	1.5
- Cooling	KW	2.8	3.6	5
- Heating	KW	3.2	4	5.5
Power Supply		220-240V-1ph-50Hz		
Airflow volume (High)	cfm	253	306	365
Sound level	dB(A)	38/32/26	40/37/32	46/41/35
Fan Motor Input	watts	30	30	30
Running Current	A	0.15	0.15	0.15
Connection pipe - Gas	Inch	3/8	3/8	1/2
- Liquid	Inch	1/4	1/4	1/4
Connection method		-	Flare Connection	
Drain pipe - External dia	mm	17.2	17.2	17.2
Thickness	mm	1	1	1
Outline dimensions (W x D X H)	mm	700 x 215 x 600	700x215x600	700 x 215x600
Net Weight	Kg	16	16	16

Heat Recovery Ventilation System

Model				IHRV-03	IHRV-05	IHRV-08	IHRV-10	IHRV-15	IHRV-20	IHRV-30
Air flow volume		H-M-L	m3/hr	360-260-210	500-380-300	800-600-480	1000-750-600	1500	2000	3000
External Statics Pressure		H-M-L	Pa	100-80-60	100-80-60	110-85-65	110-85-65	150	150	220
Temperature exchange efficiency		H-M-L	%	71-73-75	68-70-72	70-72-74	75-77-79	73	71	70
Enthalpy exchange efficiency	Heating	H-M-L	%	65-67-68	62-64-65	63-65-67	66-68-70	65	62	62
Enthalpy exchange efficiency	Cooling	H-M-L	%	61-63-65	57-59-61	60-62-64	62-64-65	60	58	58
Recommended wiring	CORE			3	3	3	3	4	4	4
	Area		mm2	1.0	1.0	1.0	1.0	1.5	1.5	1.5
Power supply				220-240V-1Ph-50Hz	220-240V-1Ph-50Hz	220-240V-1Ph-50Hz	220-240V-1Ph-50Hz	415V 3PH-50Hz	415V 3PH-50Hz	415V 3PH-50Hz
Power Input			W	165	262	400	440	600	950	2800
Sound level			dB(A)	37	39	45	46	48	50	54
Outline Dimension		(W X D X H)	mm	800X879X306	800X879X306	832X1016X380	832X1016X380	1210X1215X452	1210X1215X452	1340X1550X572
Net Weight			Kg	45	45	57	57	100	100	240

- The models of 220V power supply type has 3 types of fan speed (High/medium/low) and the models of 380V have one fan speed
- The temperature exchange efficiency and enthalpy exchange efficiency are tested under the testing conditions furnished below:
Cooling efficiency - indoor air 27°CDB/20°CWB : Outdoor air 35°CDB/29°CWB
Heating efficiency - indoor air 20°CDB/14°CWB : Outdoor air 5°CDB/20°CWB
- Sound level according to ISO 5151 calculated at 1m distance.
- Operating condition : ambient temperature - 15°C - 50°C relative humidity <80%
- No outdoor units required for these models.

Treated Fresh Air - Indoor Units

Model	Heat Pump		IOSD-48	IOSD-78	IOSD-96A	IOSD-96B	IOSD-150	IOSD-192A	IOSD-192B
Nominal Capacity		TR/HP	4/5	6.5/8	8/10	8/10	12/16	16/20	16/20
Capacity	Cooling	kW	14.00	22.40	28.00	28.00	45.00	56.00	56.00
	Heating	kW	10.00	16.00	20.00	20.00	32.00	39.00	39.00
Power Supply		V/Ph/Hz	220-240/1/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Motor Power Input		W	500	1100	1100	1100	2200	2200	2200
Air flow volume		cfm	700	1200	1500	1800	2400	3000	3600
Standard Esp		Pa	150	50-200	50-200	50-200	50-200	50-200	50-200
Sound level		dB(A)	42	47	48	51	52	57	57
Fan	Type	-	Centrifugal						
	Quantity	-	3	2	2	2	2	2	2
Fan Motor	Drive type	-	Axial drive	Belt driven					
	Speed (H/M/L)	rpm	1160/1030/920/840	1390	1390	1390	1410	1410	1410
Unit Dimensions	(W X D X H)	mm	1463 x 756 x 300	1500 x 1000 x 500	1500 x 1000 x 500	1500 x 1000 x 500	1700 x 1100 x 650	1700 x 1100 x 650	1700 x 1100 x 650
Connecting pipe	Gas	Inch	5/8	7/8	7/8	7/8	9/8	9/8	9/8
	Liquid	Inch	3/8	3/8	3/8	3/8	1/2	5/8	5/8
	Connection method	Brazing connection							
Drain pipe	External dia	mm	30	30	30	30	30	30	30
	Thickness	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net weight	Body	kg	63.5	130	150	150	190	215	215

Indoor models IOSD-192A / B (20 hp) should be connected to 2 outdoor units of 10 hp each (IVOAP-10T)

Treated Fresh Air - Outdoor Units

Model			IVOAP-08T	IVOAP-10T	IVOAP-16T
Nominal Capacity		HP	8	10	16
Capacity	Cooling	kW	22.4	28.0	45.0
	Heating	kW	16.0	20.0	32.0
IPLV	Cooling	kW/kW	4.15	4.15	4.15
Noise		dB(A)	68	68	71
R410A Filling quantity		kg	15.5	15.5	17
Power supply	380-415V-3ph-50Hz				
Power input	Cooling	kW	10	10.5	14.5
	Heating	kW	8.5	9	13.5
Dimensions	W	mm	930	930	1340
	D	mm	770	770	770
	H	mm	1670	1670	1670
Compressor	Type	Inverter+Fixed Scroll			
	Quantity		1+1	1+1	1+2-
Connection Pipe	Gas Pipe	inch	7/8	7/8	9/8
	Liquid pipe	inch	3/8	3/8	1/2
Net Weight		kg	255	255	370
Recommended cable size		mm2 X Core	6 x 4	6 x 4	10 x 4





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