

HiPer Green

Packaged Airconditioners



100% capacity +
up to 30% power savings.

What is 'Green' airconditioning?

The environmental impact of the building design, construction and operation industry is significant. Buildings consume more than 20% of the electricity used in India.

Green building practices can substantially reduce or eliminate negative environmental impacts and improve existing unsustainable design, construction and operational practices.

The Green rating system is based on five environmental categories:

- Sustainable sites
- Water efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor air quality

A 'green' design reduces operating costs, enhances staff productivity and reduces health hazards due to efficient indoor air quality.

Blue Star now introduces the new **HiPer Green** Packaged Airconditioners that are specifically designed to suit a green building design across all five categories.

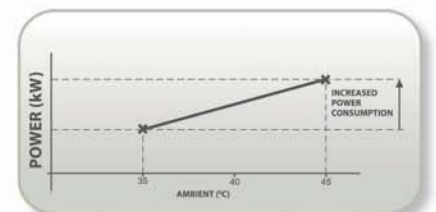
HiPer Green Packaged Airconditioners

India's growing economy is fostering the growth of New Economy business like IT companies, BPO services, financial services, mega malls and multiplexes. These new business spaces have their unique requirements for cooling, and need a solution that has been designed to meet them.

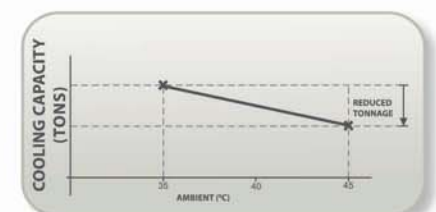
Conventional airconditioners are not enough

- Conventional packaged and ductable split airconditioners are designed only for 70% Sensible Heat Load removal capacity with an indoor air quantity of 400 CFM per ton.
- Conventional packaged and ductable split airconditioners are rated at ARI conditions of 35°C ambient. But with a rise in temperature, cooling capacities reduce and power consumption increases substantially.

This means that you are often offered 20-30% extra capacity airconditioners and buy more airconditioning tonnage than necessary. You also have to invest in larger spaces for housing units, and higher sized electricals like transformers, generators, switchgear etc., due to the higher connected load. This leads to higher power bills as conventional airconditioners consume more power at higher ambients, since they operate at sub-optimal conditions.



Power consumption increases at higher temperatures.



There is a deration in cooling capacity at higher temperatures.

Blue Star HiPer Green Packaged Airconditioners

Blue Star's HiPer Green Packaged Airconditioners are high performance machines that operate even at high sensible loads and at 45°C ambients! The HiPer Green is specially designed to aircondition applications with high sensible heat load and situated in cities that face harsh summers.

Blue Star's HiPer Green Packaged Airconditioner features:

- Indoor unit, upsized to handle upto 85% Sensible Load delivering at 500 CFM/ton
- Outdoor condenser, upsized and system balanced to deliver full capacity at 45°C. Hence, 100 tons of HiPer Green will suffice, where 125 tons of conventional airconditioning was needed.



Floor Mounted IDU

Capacities

The HiPer Green Packaged ACs are available in 5.5, 11 and 16.5 ton capacities with Floor Mounted Configuration, using eco-friendly refrigerant.

EC Fan Technology

At the heart of our innovative cooling products is the EC (Electronically Commutated) Fan technology.

Compared to conventional AC motors, EC motors need an average of 30% less energy, which rises to even 50% in part load conditions. What's more, they can be easily controlled, are maintenance free, offer outstanding efficiency and have considerably longer service life. In addition to this, the variable speed range possible with EC technology makes a wide range of individual models a thing of the past, making life much easier. In terms of pressure build-up, air performance and low noise, the EC fans meet the most stringent specifications.

The new fan design with VAV (Variable Air Volume) ensures only essential levels of air based on indoor temperature, keeping both noise and power to the minimum.



EC Fan

Air-cooled HiPer Green Condenser

New top discharge low-power, low-noise air-cooled condensers, ideally suited for roof-top installations, with new refrigerant pressure modulated BLDC/EC fans, designed to deliver higher airflow at higher operating pressure and ambient temperatures, reduce fan speed considerably at lower ambient temperatures and lower operating pressures, to operate at very low noise





levels and power consumption. Modular in construction with hydrophobic coated coils for higher heat transfer efficiency and anti-corrosion protection, these units can be installed together for multiple unit installations, saving floor space as well.

Consider a Typical Application

16,000 sq.ft. of space that needs 126 tons of cooling capacity with 66,000 CFM air flow. Conventional Solution: 165 ton AC that delivers 400 CFM per ton. The HiPer Green Solution: 132 ton HiPer Green AC that delivers 500 CFM per ton. Which means 33 tons of unnecessary tonnage is saved!

Advantages of the Blue Star HiPer Green Packaged ACs

Highly Energy-efficient

HiPer Green Airconditioner solution can save up to 30% on your energy bill over a conventional solution.

Low Overall Ownership Cost

A marginally higher project cost is offset by up to 30% savings in power, which pays back the difference in just 6 months! What's more, you save on all the extra infrastructure (transformer, switchgears, generators etc.) and real estate costs that additional conventional airconditioners would entail.

Exceeds ECBC/ASHRAE Norms

ECBC/ASHRAE norms define the minimum energy efficiency ratios. Blue Star HiPer Green ACs exceed these norms at **>3.5 COP** and thus offer enormous power savings.

Advanced Features

Here are some of the features that make the HiPer Green Packaged Airconditioner a high-end, superior quality product:



Efficient Heat Transfer:

An upsized evaporator removes high sensible heat and handles a high indoor air volume of up to 500 CFM per ton, while the inner grooved copper tubes ensure efficient heat transfer.



Higher Capacity Evaporator Fan:

The optimally selected backward curved EC fan is exclusively designed to deliver a higher air volume (500 CFM/ton) at low noise levels.



Optimum Expansion Valve:

The optimally selected expansion valve with accurate preset super heat settings minimises splash gas and avoids improper cooling in the evaporator.



High efficiency filtration:

High efficiency MERV-8/EU4/G4 filtration system for high purity filtration to keep environment safe for indoor air quality standards as per ASHRAE 52.1.



Condenser with Higher Heat Rejection Capability:

The upsized condenser coil and twin fan condenser with higher heat rejection capability ensure lower condensing temperature, and deliver full capacity even at temperatures as high as 45°C, ensuring high energy efficiency and hence low power consumption. Water less condenser system eliminates total water consumption in line with **GBC** standards but delivers water cooled performance with free natural air cooling.



Corrosion Resistant Blue Fin Condenser:

The special pre-coated blue fin condensers, tested for 500 hours of salt spray as per international standard JIS-Z-2371, are resistant to both chemical and saline corrosion.



Energy-efficient Scroll Compressors:

Scroll type, hermetically sealed highly energy-efficient compressors.



Advanced Microcomputer Controller:

A feature-packed microcomputer controller with Run Time Equalisation, Auto Restart after power failure, Self-Fault Diagnostics and much more. All **PCB** of the motors and controller are in line with **ROHS** compliance.



Safety Alarms and Controls:

Built-in safety features in the compressor and refrigeration circuits ensure a high level of protection.



Acoustically Treated Panels:

Closed cell Ecofriendly polystyrene insulation for effective noise control.



Integrated Controller:

BMS – Integrated controller with master/slave combination with Modbus protocol.



Protective Coatings:

All the sheet metal parts of the unit are coated with Polyester powder spray paint, which is totally free from **VOC** solvents.



Technical Specifications

Model	Unit	Floor Mounted		
		DPAG-661R2	DPAG-1322R2	DPAG-1983R2
Cooling Capacity	HiPer Ton	5.5	11	16.5
Indoor Unit				
Dimensions	WxDXH (mm)	900x660x1700	1500x750x1800	1500x930x2000
Power Supply		415-3Ph-50Hz		
Blower Fan		Electronically Commutated Fan (Variable Speed EC fan)		
Airflow	CMH	4675	9350	14025
Weight	kg	195	470	600
Compressor	Type	Scroll		
	Protection Devices	In Built Internal Thermal Protector		
		Internal Pressure Relief Valve		
		High Pressure / Low Pressure Cutout		
Outdoor Unit				
Dimensions	WxDXH (mm)	1170x850x1065		
Power Supply		230V-1PH-50Hz		
Fan Motor Type		BLDC - Motor (Variable Speed)		
Outdoor Unit Quantity		1	2	3
Condenser Fan Type		Propeller		
Weight	kg	110	110	110

- Specifications are subject to change due to continuous product development
- All models are designed for hot tropical climates and can deliver 100% capacity at 45°C
- R2 series available with R 407C Ecofriendly Refrigerant.
- Ratings as per standard test conditions



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