

# HiPer+

Packaged Airconditioners



100% capacity at 45°C +  
up to 20% power savings.



## HiPer+ Packaged Airconditioners

India's growing economy is fostering the growth of New Economy businesses 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.

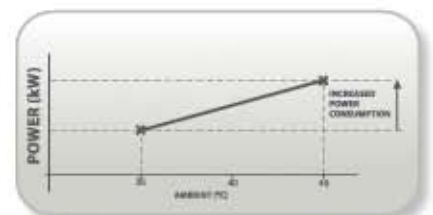
## The Challenges of Cooling Modern Buildings

- Modern office buildings often have glass facades with a high density of computers and lights. This leads to a high sensible heat load of up to 90% as against a normal 70%.
- In addition, most Indian cities experience hot summers that last 2-4 months with mercury soaring up to 45°C. Regular airconditioners are designed for an average temperature of 35°C.

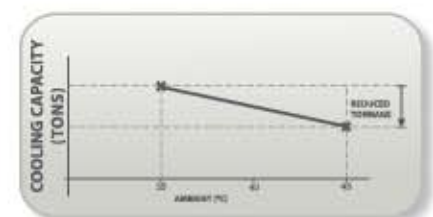
## Conventional Airconditioners are Not Enough

- 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+ Packaged Airconditioners

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

Blue Star's HiPer+ Packaged Airconditioner features:

- Indoor unit, upsized to handle 90% Sensible Load delivering up to 550 CFM/ton
  - Outdoor condenser, upsized and system balanced to deliver full capacity at 45°C
- Hence, 100 tons of HiPer+ will suffice, where 125 tons of conventional airconditioning was needed.

**This makes 1 Hiper Ton equivalent to a 1.25 Nominal Ton.**

The HiPer+ Packaged ACs are available in 5.5, 11 and 16.5 ton capacities for the Floor Mounted Configuration, and 5.5, 8.5 and 17 ton capacities for the Ceiling Suspended Configuration.

### 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+ Solution: 132 ton HiPer+ AC that delivers 550 CFM per ton. Which means 33 tons of unnecessary tonnage is saved!





## Advantages of the Blue Star HiPer+ Packaged AC's

### Highly Energy-efficient

HiPer+ Airconditioner solution can save up to 20% on your energy bill over a conventional solution.

### Low Overall Ownership Cost

A marginally higher project cost is offset by up to 20% 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 Norms

ECBC norms define the minimum energy efficiency ratios. Blue Star HiPer+ ACs exceed these norms and thus offer enormous power savings.

## Advanced Features

Here are some of the features that make the HiPer+ 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 550 CFM per ton, while the inner grooved copper tubes ensure efficient heat transfer.



#### Higher Capacity Evaporator Fan:

The optimally selected DIDW forward curved centrifugal type fan is exclusively designed to deliver a higher air volume (550 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.



#### **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 (HiPer+ Packaged ACs), ensuring high energy efficiency and hence low power consumption.



#### **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.



#### **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 polystyrene insulation for effective noise control.



## **HiSen Packaged ACs for Moderate Ambient Conditions**

To avail all the advantages of the HiPer+ Packaged ACs in cities where the ambient temperature is moderate, the HiSen Packaged Airconditioners are perfect. They are designed with an upsized cooling coil for 90% sensible heat load removal and higher capacity indoor fan for delivering up to 550 CFM per ton. It ensures efficient cooling at a lower running cost. The HiSen Packaged ACs are available in 5.5, 11 and 16.5 ton capacities for the Floor Mounted Configuration and 5.5, 8.5 and 17 ton capacities for the Ceiling Suspended Configuration.



## Technical Specifications HiPer+ Airconditioners

Model	Unit	Floor Mounted			Ceiling Suspended		
		DPAP-661R1	DPAP-1322R1	DPA <sup>+</sup> -1983R1	DSAP-661R1	DSAP-1021R1	DSAP-1982R1
Cooling Capacity	Hiper Ton*	5.5	11	16.5	5.5	8.5	17
<b>Indoor Unit</b>							
Dimensions	WxDxH (mm)	900x660x1700	1500x750x1800	1500x930x2000	1220x650x535	1525x650x535	2035x1190x690
Power Supply		415-3PH-50Hz			230V-1PH-50Hz		
Blower Fan		Centrifugal			Centrifugal		
Airflow	CMH	5100	10250	15350	4675	7225	14450
Weight	kg	195	470	600	92	100	230
<b>Outdoor Unit</b>							
Dimensions	WxDxH (mm)	1200x550x945	1200x550x945	1200x500x945	1200x550x945	1435x620x945	1435x620x945
Power Supply		230V-1PH-50Hz			415V-3PH-50Hz		
Outdoor Unit Quantity		1	2	3	1	1	2
Condenser Fan Type		Propeller			Propeller		
Weight	kg	95	95	95	138	195	195
Compressor	Type	Scroll					
	Protection Devices	In Built Internal Thermal Protector					
		Internal Pressure Relief Valve					
		High Pressure / Low Pressure Cutout					

All models are designed for hot tropical climates and can deliver 100% capacity at 45°C.

\* 1 Hiper Ton = 1.25 Nominal Ton.

## Technical Specifications HiSen Airconditioners

Model	Unit	Floor Mounted			Ceiling Suspended		
		DPAN-661R1	DPAN-1322R1	DPAN-1983R1	DSAN-661R1	DSAN-1021R1	DSAN-1982R1
Cooling Capacity	TR	5.5	11	16.5	5.5	8.5	17
<b>Indoor Unit</b>							
Power Supply		415V-3PH-50Hz			230V-1PH-50Hz		
Dimensions	WxDxH (mm)	900x660x1700	1500x750x1800	1500x930x2000	1220x650x535	1525x650x535	2035x1190x690
Weight	kg	195	470	600	92	100	230
Airflow	CMH	5100	10250	15350	4675	7225	14450
Fan Motor Quantity	Nos	1	1	1	1	2	3
<b>Outdoor Unit</b>							
Outdoor Unit Nos.	Nos	1	2	3	1	1	2
Dimensions	WxDxH (mm)	1020x416x945	1020x416x945	1020x416x945	1020x416x945	1200x550x945	1200x550x945
Power Supply		230V-1PH-50Hz			415V-3PH-50Hz		
Condenser Fan Type		Propeller			Propeller		
Weight		60	60	60	95	185	185
Compressor		Scroll					

\* Specifications are subject to change due to continuous product development.

R2 series available with R-407C Refrigerant

Ratings as per standard test conditions



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