

PAD/Oct'16/RRO/4K

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



**Technical Specifications HiPer+ Air Conditioners**

DESCRIPTION	UNITS	Floor Mounted Units			Ceiling Mounted Units	
		DPAP-661R1/R2	DPAP-1322R1/R2	DPAP-1983R1/R2	DSAP-1021R1/R2	DSAP-2042R1/R2
Cooling Capacity	Hiper Ton*	5.5	11.0	16.5	8.5	17.0
Refrigerant		R1 Series: R 22 ; R2 Series: R 407C				
Power Supply		380/420 V, 3 PH., 50HZ, AC				
External Finish		Pure Polyester Powder coated GI steel housing				
No. of Compressors		1	2	3	1	2
Compressor type		Hermetically Sealed Scroll				
<b>Indoor Unit</b>						
Dimensions	WxDxH (mm)	900X660X1700	1500X750X1800	1500X930X2000	1860X635X460	2135X1215X690
Power Supply		380/420 V, 3 PH., 50HZ, AC			230V, Single Phase, 50Hz, AC	
Type of Blower		Centrifugal Forward curved, Double Inlet, Double Width				
Air Flow	CMH	5950	11200	14960	7480	14960
	CFM	3500	6600	8800	4400	8800
Capacity Control		0,100%	0,50%,100%	0,33%,66%,100%	0,100%	0,50%,100%
Air filter		Non woven polyester media enclosed by HDPE mesh				
Controller		Microprocessor based with LCD display				
Indoor Unit Weight	kg.	210	390	470	105	210
<b>Out Door Unit</b>						
No of ODUs	per Unit	1	2	3	1	2
Dimensions	WxDxH (mm)	1190X550X950			1435x625x950	
Power Supply		230V, Single Phase, 50Hz, AC			380/420 V, 3 PH., 50HZ, AC	
Condenser Type		Air-cooled FTHX type				
Condenser Fan Type		Propeller Type				
Out Door Unit weight	kg/ODU	80	80	80	180	180

R1 - With R22 refrigerant, R2 - With R407C refrigerant  
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 Packaged Air Conditioners**

DESCRIPTION	UNITS	DPAN-1322R1/R2	DPAN-1983R1/R2
		Cooling Capacity	TR
Refrigerant		R1 Series: R 22 ; R2 Series: R 407C	
Power Supply		380/420 V, 3 PH., 50HZ, AC	
External Finish		Pure Polyester Powder coated GI steel housing	
No. of Compressors		2	3
Compressor type		Hermetically sealed Scroll	
<b>Indoor Unit</b>			
Dimensions	WxDxH (mm)	1500X750X1800	1500X930X2000
Power Supply		415V, Three Phase, 50 Hz, ac supply	
Type of Blower		Centrifugal Forward curved, Double Inlet, Double Width	
Air Flow	CMH	11200	14960
	CFM	6600	8800
Capacity Control		0,50%,100%	0,33%, 66%,100%
Air filter		Non woven polyester media enclosed by HDPE mesh	
Controller		Microprocessor based with LCD display	
Indoor Unit Weight	kg.	390	470
<b>Out Door Unit</b>			
No of ODUs	per Unit	2	3
Dimensions	WxDxH (mm)	1020X420X950	
Power Supply		230V, Single Phase, 50Hz, AC	
Condenser Type		Air-cooled FTHX type	
Condenser Fan Type		Propeller Type	
Out Door Unit weight	kg/ODU	50	50

R1 - With R22 refrigerant, R2 - With R407C refrigerant  
Specifications are subject to change due to continuous product improvement



**Upsized**  
**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 air conditioners 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 11 and 16.5 ton capacities for the Floor Mounted Configuration.



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## HiPer+ Packaged Air Conditioners

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.

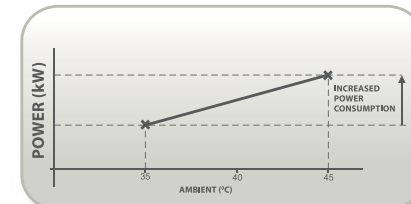
## The Challenges of Cooling Modern Buildings

- 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 air conditioners are designed for an average temperature of 35°C.

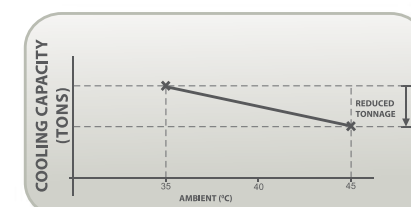
## Conventional Air Conditioners are Not Enough

- Conventional packaged and ductable split air conditioners 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 air conditioners 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 air conditioners and buy more air conditioning 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 air conditioners 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 Air Conditioners

Blue Star's HiPer+ Packaged air conditioners are high performance machines that operate even at high sensible loads and at 45°C ambients! The HiPer+ is specially designed to air condition 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 Air Conditioner 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 air conditioning 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 8.5 & 17 ton capacities for the Ceiling Suspended Configuration.



Ceiling Suspended IDU



Floor Mounted IDU



Outdoor Unit

## 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+ air conditioner 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 air conditioners 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 Air Conditioner 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.