

The Power of Precision Cooling Performance For Business Critical Environment

VISIONTEC
TOWARDS PERFECTION

*Ceiling Mounted Minicool Series ▲
Precision Air-Conditioner ▲*



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A Passion For Perfection In Precision Air Conditioning

Today, IT Managers use computers/servers to manage complex telecommunications networks, control industrial process, handle sophisticated financial, statistical and medical information. Due to space constrain, IT manager has to populate their data centres with high heat generating servers in compact server rooms. Recognizing the emerging trends towards smaller and more compact server rooms, VISIONTEC has designed the ceiling-hung series close control air-conditioning units which are compact for maximum utilisation of valuable server space yet pact with features specially aimed at providing reliability, serviceability and energy efficiency. The ceiling-hung series are especially suitable for use in the following applications:

- > Remote telecommunication and ISP facilities
- > Compact data centres
- > Critical Switch rooms
- > Medical equipment rooms
- > Laboratory and clean rooms
- > Archives and
- > LAN/WAN environments

Visiontec MINICOOL ceiling-hung series close control air- conditioning units are offered in four capacities that range from 6 to 22 Kw. It has the following main features :

- > Precision temperature & humidity controls
- > High Sensible heat factor ensure energy efficiency
- > Advanced microprocessor control and monitoring
- > Air-cooled or chilled water system
- > Ceiling suspended design - saving valuable space
- > Compressor technology ensure high EER/COP
- > Build-in custom-designed starters
- > Hydrophillic coated fins for both indoor & outdoor to ensure better condensate removal, improved heat transfer and improve corrosion resistance
- > Direct drive fan technology come with 3-speed control with high air flow rate
- > Remote wall mount LCD display (4x20) for ease of troubleshooting and interface
- > R407C or R410A Green refrigerant (Standard)
- > Outdoor compressor reduces room space noise
- > Sight glass and filter drier included for ease of operation and maintenance
- > Hot Gas Bypass preventing icing & compressor cycling on / off at suction during low load

The heart of the environmental control units is the advance microprocessor based controller with remote LCD display. The LCD display not only monitors your space temperature, humidity, air flow, and air cleanliness, but also provides component run times, alarm history and automatic self-test of the microprocessor on system startup. Multiple messages will be displayed by automatically scrolling from each message to the next. All messages are in plain English language .

The advance microprocessor based controller can communicate with other sub-system through the following common standard communication protocol :

- | | |
|--------------------|--------------|
| (a) Modbus | (b) Lonworks |
| (c) Bacnet | (d) Trend |
| (e) SNMP | (f) Metasys |
| (g) TCP/IP Gateway | (h) SMS |

Option

In addition to its wide range of standard features, the MINICOOL ceiling-hung series offers a number of installation and enhanced options that can be added to allow a tailored solution to suit each unique requirements and application.

- > Water detection
- > Lead lag for duty and standby application
- > Ceiling concealed application
- > Higher efficiency filters
- > Heat and smoke detector
- > Crankcase heater
- > Electronic expansion valves



Humidity Control

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Unit Design And Construction Features

General

All components are selected for maximum reliability and efficiency.

Microprocessor Control Wire Remote Control

Latest state-of-Art microprocessor controls simultaneously control cooling, reheat, humidification, dehumidification and monitor full information on room condition, equipment status and alarm messaging.

Casing

Unit casing are manufactured from galvanized sheet steel with powder coated to provide maximum strength, rigidity and durability. It is acoustically and thermally insulated with 12mm thick / 1.5mm per cubic feet fiberglass fitted with gasket for air tightness.

Compressors

The compressors are generally of scroll type which is of rugged, low noise and high E.E.R / C.O.P. It also has minimum moving parts which reduces wear and tear.

Cooling & Condenser Coils

Each coil consist of staggered rows of seamless copper tubes, mechanically expanded into die-formed aluminums fins. Fins are of corrugated design and coated with hydrophilic to improve heat transfer. Every coil is computer optimized with compressor and condenser to ensure best selection to reduce operating cost.

Blowers

Blowers are directly driven by motors to achieve minimum frictional resistance loss and reduce air contamination. Each blower motor is of 3-speed to allow flexibility to change air volume to suit dehumidification and noise criteria. The blowers are of forward curve impellers and sealed for life bearings to minimize maintenance. Each blower is statically and dynamically balanced to minimize vibration and noise levels.

Filters

Disposable filter having an air arrestance value of 90 percent, equivalent to EU4, to provide clean air and superior life time performance which offer lower resistance to airflow.

Electric Reheat

The 3-stage finned tabular electric reheat coils will maintain room dry bulb conditions during dehumidification. The reheat coils are constructed of stainless steel for corrosion resistance and long life. An optional SCR-controlled reheat is available that provides continuous control to changing load condition.

Stainless Steel Drain Pan

Condensate drain pan fabricated of stainless steel with surfaces insulated with fire retardant PE foam for long life and minimum contamination.

Flexibility

VISIONTEC has a market leading portfolio of standard products along with the flexibility to develop specialist products to customers requirements, quickly and cost effectively. The company's in-house design and development teams create customised solutions, from special sizes to unique applications. Our engineering capability assures proven reliability and delivery on time.



Temperature Control



Air Filtration Control



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DX System Cooling Capacities

Air Cooled Performance at 35 deg C / 95 deg F Condenser Air Inlet Temperature (KW)

On Coil	VCM05AC		VCM08AC		VCM12AC		VCM16AC		VCM19AC	
	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
26.7°C / 50% RH	5.8	4.6	9.1	6.8	14.0	10.8	17.8	14.2	21.4	17.0
24.0°C / 50% RH	5.5	4.5	8.7	6.8	12.6	10.5	16.0	13.5	19.3	16.8
22.0°C / 50% RH	5.0	4.3	8.1	6.7	12.5	10.4	16.0	13.7	19.2	16.7
20.0°C / 50% RH	4.4	4.0	7.6	6.1	11.7	9.7	14.9	12.7	17.9	15.2

Please contact PAVISION for other design requirements.

Air-cooled Data							
Model	INDOOR UNIT		VCM05AC	VCM08AC	VCM12AC	VCM16AC	VCM19AC
Model	OUTDOOR UNIT		VAS25	VAS35	VAS60	VAS75	VAS85
Airflow rate		cfm	900	1200	1800	2400	3000
Power Supply	Indoor Unit	V/Ph/Hz	240/1/50	240/1/50	240/1/50	240/1/50	240/1/50
	Outdoor Unit	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Operating Current (Indoor Unit)	Blower Motor	kW / (Qty)	0.17 (1)	0.25 / (1)	0.375 (1)	0.375 (2)	0.375 (2)
		FLA	1.25	2.3	4.5	4.5 (2)	4.5 (2)
	Heaters	kW / FLA / (3 stage)	2.4 / 10	2.4 / 10	3.6 / 15.0	4.5 / 19.0	5.4 / 22.5
Operating Current	Condenser Fan	kW / FLA / (Qty)	0.55 / 1.4 / (1)	0.55 / 1.4 / (1)	0.55 / 1.4 / (1)	0.37 / 1.2 / (1)	0.37 / 1.2 / (1)
	Compressor	FLA (hp)	4.8 (2)	13.1 (3)	7 (4.5)	8.5 (5)	10 (6)
UNIT DATA		Indoor / Outdoor (Amp)	11.3/7.1	12.3/7.8	19.5/8.2	27.8 / 9.7	31.5/11.2
Evaporator Coil	FACE AREA	m2 (ft2)	0.22 (2.3)	0.36 (3.9)	0.37 (4)	0.49 (5.3)	0.56 (6)
		Rows/FPI	2/12	2/16	3/14	3/14	3/14
Condenser Coil	FACE AREA	m2 (ft2)	0.54 (5.8)	0.72 (7.8)	0.72 (7.8)	0.89 (9.6)	1.05 (11.3)
		Rows/FPI	1/10	1/14	2/13	2/13	2/14
Refrigerant Pipe Size	SUCTION	Inch(mm)	3/4 (19.0)	5/8 (15.9)	7/8 (22.2)	7/8 (22.2)	7/8 (22.2)
	LIQUID	Inch(mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Condensate Drain Pipe		Inch(mm)	3/4 (19.0)	3/4 (19.0)	3/4 (19.0)	3/4 (19.0)	3/4 (19.0)
Dimension	INDOOR UNIT	Length (mm)	1167	1372	1270	1778	1778
		Width (mm)	915	915	1016	1016	1016
		Height (mm)	457	394	495	495	495
		Weight (kg)	90	90	112	126	140
	OUTDOOR UNIT	Length (mm)	1194	1194	1194	1346	1346
		Width (mm)	508	508	508	508	508
		Height (mm)	775	734	734	826	826
Weight (kg)	80	67	98	107	116		

Chilled Water System Cooling Capacities

Chilled Water Performance at 6.7 deg C Chilled Water Entering Temperature (KW)

Model	VCM08CH		VCM12CH		VCM16CH		VCM19CH	
On coil	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
26.7°C / 50% RH	13.2	8.7	19.2	13.0	25.8	17.4	31.1	21.1
24.0°C / 50% RH	8.4	6.9	12.7	10.7	17.1	14.3	20.8	17.5
22.0°C / 50% RH	6.7	6.1	10.3	9.6	13.8	12.9	16.8	15.8
20.0°C / 50% RH	5.2	5.2	8.0	8.0	10.8	10.8	13.1	13.1

Please contact PAVISION for other design requirements.

Chilled water data							
MODEL	INDOOR UNIT		VCM08CH	VCM12CH	VCM16CH	VCM19CH	
Airflow rate		cfm	1200	1800	2400	3000	
Power Supply	V/Ph/Hz		240/1/50	240/1/50	240/1/50	240/1/50	240/1/50
	Heater	kW / FLA / (stage)	2.4/10.0/3	3.6/15.0/3	4.5/19/3	5.4/22.5/3	
Operating Current	Blower Motor	kW / (Qty)	0.25/(1)	0.375/(1)	0.375/(2)	0.375/(2)	
		FLA	2.3	4.1	2.4 (2)	3.6 (2)	
	FLA (with heater)	amp	12.3	19.1	23.8	29.7	
Evaporator Coil	FACE AREA	m2 (ft2)	0.36(3.9)	0.37(4)	0.49(5.3)	0.56(6)	
		Rows/FPI	2/16	3/14	3/14	3/14	
Condensate Drain Pipe	Inlet / Outlet Size	Inch(mm)	1 1/4 (31.8)	1 1/4 (31.8)	1 1/2 (38.1)	1 1/2 (38.1)	
		Inch(mm)	3/4 (19.0)	3/4 (19.0)	3/4 (19.0)	3/4 (19.0)	
Dimension	INDOOR UNIT	Length (mm)	1372	1270	1778	1778	
		Width (mm)	915	1016	1016	1016	
		Height (mm)	394	495	495	495	
		Weight (kg)	90	112	126	140	



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notice due to continuous engineering innovation improvements.

