



Weather Cool Sales Pvt. Ltd.

Complete HVAC Solutions.....



AIR-CONDITIONING

| VENTILATION

| CLEAN ROOM



Comparison of MODULAR CHILLER AIRCONDITIONING VS VRV AIRCONDITIONING SYSTEM





Modular Chillers over VRF System - Case Study of a 76 HP (63.08Tr) VRF Air-conditioning system installed at Jewellery Factory - Seepz

SR.NO	DESCRIPTION	VRF SYSTEM	Modular Chiller System
1	Total Capacity of Air-conditioning system	76 HP (63.08 Tr)	64 Tr
2	Total Capacity of Indoor Units	with 13% diversity 84.63 HP (68.50 Tr) indoor units can be connected.	with 42% diversity 91.5 Tr capacity indoor units can be connected
3	No. of Outdoor units can be connected as one system	Maximum 4# of ODU can be combine as 1 System (i.e. maximum 80 HP or 64 TR).	Maximum of 16 # ODU can be connected as 1 system (ie maximum 608 Tr)
4	Number of Outdoor Units for Air-conditioning system	5 # ODU for 4# VRF System	only 3 # ODU for 1 Chiller System
5	Space required for ODUs	50% more than the modular chiller	50% less space required as only 3 # on units as against 5# of units required by VRV/VRF system
6	Minimum operational operating range	2 TR to 63.08 TR	1.5 TR to 64 TR
7	IDU to ODU connecting pipe material used	Copper	MS Pipes / U PVC / PPR
8	Possibility of leakage	Very High due to high operating pressure gas (400 psig) used in copper pipes	Very negligible as chilled water operates at 50 psig maximum pressure
9	IDU Cooling Media used	Refrigerant - R410a / R407c	Chilled water



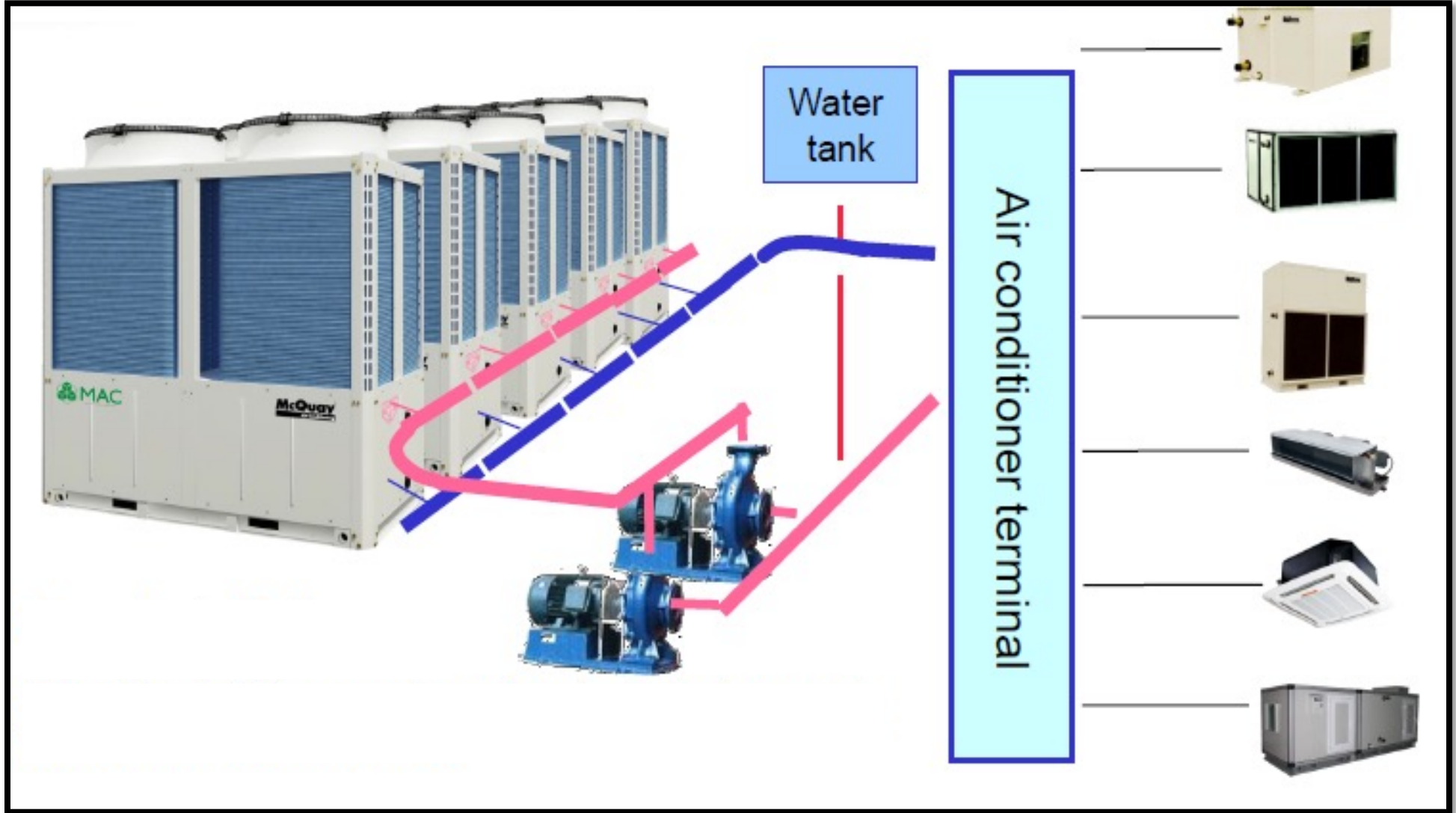
10	Cost involved incase of cooling media leakage	In case of gas leakage in 1 system of 76 HP, refilling & repair cost is $(63 \text{ TR} \times 1.5 \text{ Kg} \times 550) = \text{Rs.}51,975/-$	In case of CH Water leakage the cost of refilling is $(2000 \text{ Liters} \times 0.45) \times (1000 \text{ per joint} \times 3) = \text{Rs.}3,900/-$
11	Limitation for interconnecting Piping	maximum 1000 Meters including allowed maximum 90 Meter vertical difference between two IDUs	Unlimited i.e. can be deigned as per customer requirement. In district cooling systems CHW pipe length goes to 3 - 15 Kms.
12	Effect of coastal air quality on Interconnecting piping	Gets corroded due to atmospheric air effect of oxidation on copper brazed joints which gets leaked in maximum 6-8 years	Corrosion takes at least 40 years to make leakage in MS Pipes & C PVC pipe doesn't get corroded at all. Life can be at least 50 years for C PVC / PPR / PERT.
13	Extension of adding new IDUs can be done for the same system.	Not possible as this system does not allow any valves to be installed. If still customer desires then the entire copper piping needs to be changed (including Refnets) with new gas to be charged. Highly expensive job.	Can be easily added with just shutting OFF the valves of the desired floor header. Very low additional cost ie negligible compared to VRF system., i.e. 05:100
14	IBMS control can be provided	NO only IBMS can receive the status of the system as this system has its own Central controller & does not allow external control.	Yes Like regular chiller it can control the system with Central controller or directly by 3rd party IBMS.
15	Life of system	8 - 10 years maximum, hence new system needs to be installed after every 8 years.	30 to 40 years maximum, Hence the system needs to be replaced after every 30 years.



16	Maintenance & CAMC views	Electronically control designed system can be totally fault find by the manufacturer's design software only. CAMAC can be done only by manufacturer & Non other can do so as not allowed nor supported by the manufacturer.	Standard mechanical system, which can be maintained without any software support. No 3rd party dependency with ease of maintenance by any local HVAC service team. CAMC of chiller is only done by manufacturer and rest of the all equipment's can be done locally by the expert & experienced HVAC service teams.
17	Cost of CAMC	approximately 2500 to 3000 Rs. Per TR	approximately 1800 to 2000 Rs. Per TR
18	Electrical MCBs required for ODUs	5 # with 5 # of power supply cables including Isolation switches.	3 # with 5 # (including VPF CHW Pumps) of power supply cables including Isolation switches.
19	Type of Compressors used	All inverter scroll compressors used in VRF/VRV System. All highly power efficient compressors, which works step less for variable loads.	Only 4# of scroll compressors used as masters during operation rest all are fixed speed 9.5 TR scroll compressors as slaves. This can take care of variable load step less as VRV/VRF.







Flexibility to Connection with any type and make of Indoor Unit





Electricity Bill Before and After Installation of Modular Chiller



BILL OF SUPPLY

INDUSTRY

24x7 Powerline

19122 We're listening.

CUSTOMER CARE CENTRE/CORRESPONDENCE ADDRESS/INTERNAL GRIEVANCE REDRESSAL CELL (FORC)

E-4, MDC, Andheri (E), Mumbai 400 093 Fax: 3009 4200

JASANI JEWELLERY UNIT -II
 UNIT-302 NON A/C, MULTISTORTIED BLDG SEEPZ ANDHERI (EAST) BTW SDF -I & SDF -II SEZ MUMBAI 400096

Mobile No 98*****65
 Email Id ut*****le@jasanijewellery.com
 PAN AA*****8G
 GSTIN

Bill No. 101653796905
Bill Distribution No.

Bill Date 07-01-2021
SOUTH CENTRAL/SCZ3-MDC/33/S79//

Cycle No. 33
Type of Supply LT

TRACK YOUR CONSUMPTION (UNITS)

NOV-20	29128
OCT-20	34912
SEP-20	42728
AUG-20	33024
JUL-20	27912
JUN-20	25360
MAY-20	13664
APR-20	1032
MAR-20	22064
FEB-20	28344
JAN-20	25792

IMPORTANT MESSAGE

- Please pay this bill by Online / RTGS / NEFT / Cheque or Demand Draft.
- Meter reading as on 01-02-2021 will be downloaded for preparing JAN-21 bill.
- Your power factor (PF) is below 90%. Please take necessary measures to improve your power factor close to unity for availing highest benefits.
- We will 1st Oct 2020 Tax Collection at Source at 0.075% (with PAN) and 1% (without PAN) applicable for total bill amount in excess of 50 lakh in FY 2021. Pls visit adanelectricity.com for details.
- In view of MERC order in case no. 325 of 2019, each payment limit towards electricity bills is fixed at ₹. 5,000/- per account per month. For payment of amount greater than ₹. 5,000/- please use convenient digital channels / online / cheque modes.

ACCOUNT NO
150907763

BILL MONTH
DEC-20

DUE DATE
28-01-2021

SMILES EARNED
105600


DUE AMOUNT
241920.00*

SUMMER ALERT
Keep a watch on the use of electrical cooling gadgets. Curtail the use to control consumption and applicability of a higher tariff slab.

DISCOUNTED BILL AMOUNT
Round sum bill payable (after discount of 2173.51) on or before discount date 14-01-2021 239750.00





LATE PAYMENT BILL AMOUNT
Round sum bill payable (including DPC of 3023.96) after due date 28-01-2021 244950.00#

What to do amid Coronavirus



R D NERURKAR
Customer Relationship Head
(INTERNAL CIRCULATION)

Please quote your account no. 150907763, cycle no. 33 and book no.579 in all your correspondence. Addr. in receipt 'C' for cheque, 'C' for cash, E&O.E.

BILL OF SUPPLY

INDUSTRY

24x7 Powerline

19122 We're listening.

CUSTOMER CARE CENTRE/CORRESPONDENCE ADDRESS/INTERNAL GRIEVANCE REDRESSAL CELL (FORC)

E-4, MDC, Andheri (E), Mumbai 400 093 Fax: 3009 4200

JASANI JEWELLERY UNIT -II
 UNIT-302 NON A/C, MULTISTORTIED BLDG SEEPZ ANDHERI (EAST) BTW SDF -I & SDF -II SEZ MUMBAI 400096

Mobile No 98*****65
 Email Id ut*****le@jasanijewellery.com
 PAN AA*****8G
 GSTIN

Bill No. 100788842671
Bill Distribution No.

Bill Date 08-02-2021
SOUTH CENTRAL/SCZ3-MDC/33/S79//

Cycle No. 33
Type of Supply LT

TRACK YOUR CONSUMPTION (UNITS)

DEC-20	24752
NOV-20	29128
OCT-20	34912
SEP-20	42728
AUG-20	33024
JUL-20	27912
JUN-20	25360
MAY-20	13664
APR-20	1032
MAR-20	22064
FEB-20	28344

IMPORTANT MESSAGE

- Please pay this bill by Online / RTGS / NEFT / Cheque or Demand Draft.
- Meter reading as on 01-03-2021 will be downloaded for preparing FEB-21 bill.
- Your power factor (PF) is below 90%. Please take necessary measures to improve your power factor close to unity for availing highest benefits.
- We will 1st Oct 2020 Tax Collection at Source at 0.075% (with PAN) and 1% (without PAN) applicable for total bill amount in excess of 50 lakh in FY 2021. Pls visit adanelectricity.com for details.
- In view of MERC order in case no. 325 of 2019, each payment limit towards electricity bills is fixed at ₹. 5,000/- per account per month. For payment of amount greater than ₹. 5,000/- please use convenient digital channels / online / cheque modes.

ACCOUNT NO
150907763

BILL MONTH
JAN-21

DUE DATE
01-03-2021

SMILES EARNED
105600


DUE AMOUNT
120330.00*

SUMMER ALERT
Keep a watch on the use of electrical cooling gadgets. Curtail the use to control consumption and applicability of a higher tariff slab.

DISCOUNTED BILL AMOUNT
Round sum bill payable (after discount of 1085.09) on or before discount date 15-02-2021 119250.00

LATE PAYMENT BILL AMOUNT
Round sum bill payable (including DPC of 1504.18) after due date 01-03-2021 121840.00#

What to do amid Coronavirus



R D NERURKAR
Customer Relationship Head
(INTERNAL CIRCULATION)

Please quote your account no. 150907763, cycle no. 33 and book no.579 in all your correspondence. Addr. in receipt 'C' for cheque, 'C' for cash, E&O.E.

With VRF and Before installation of Modular Chiller

After installation of Modular Chiller



Multi - Modular Chiller System

ADVANTAGES OF MULTI-MODULAR AIR-COOLED CHILLER SYSTEM

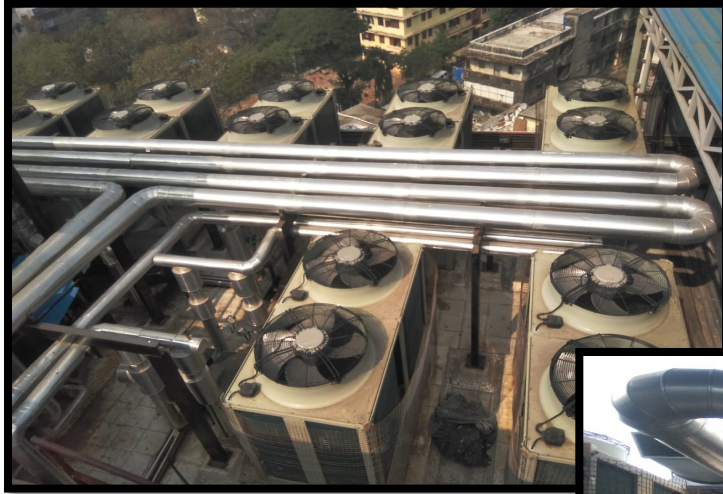
- Technology - 100 years old proven technology.
- Most power efficient - Minimum 30% energy saving compared to conventional air-cooled systems.
- Cooling media - Chilled water used as cooling media instead of refrigerant gas.
- Longer system life - 20 to 25 years life due to product design.

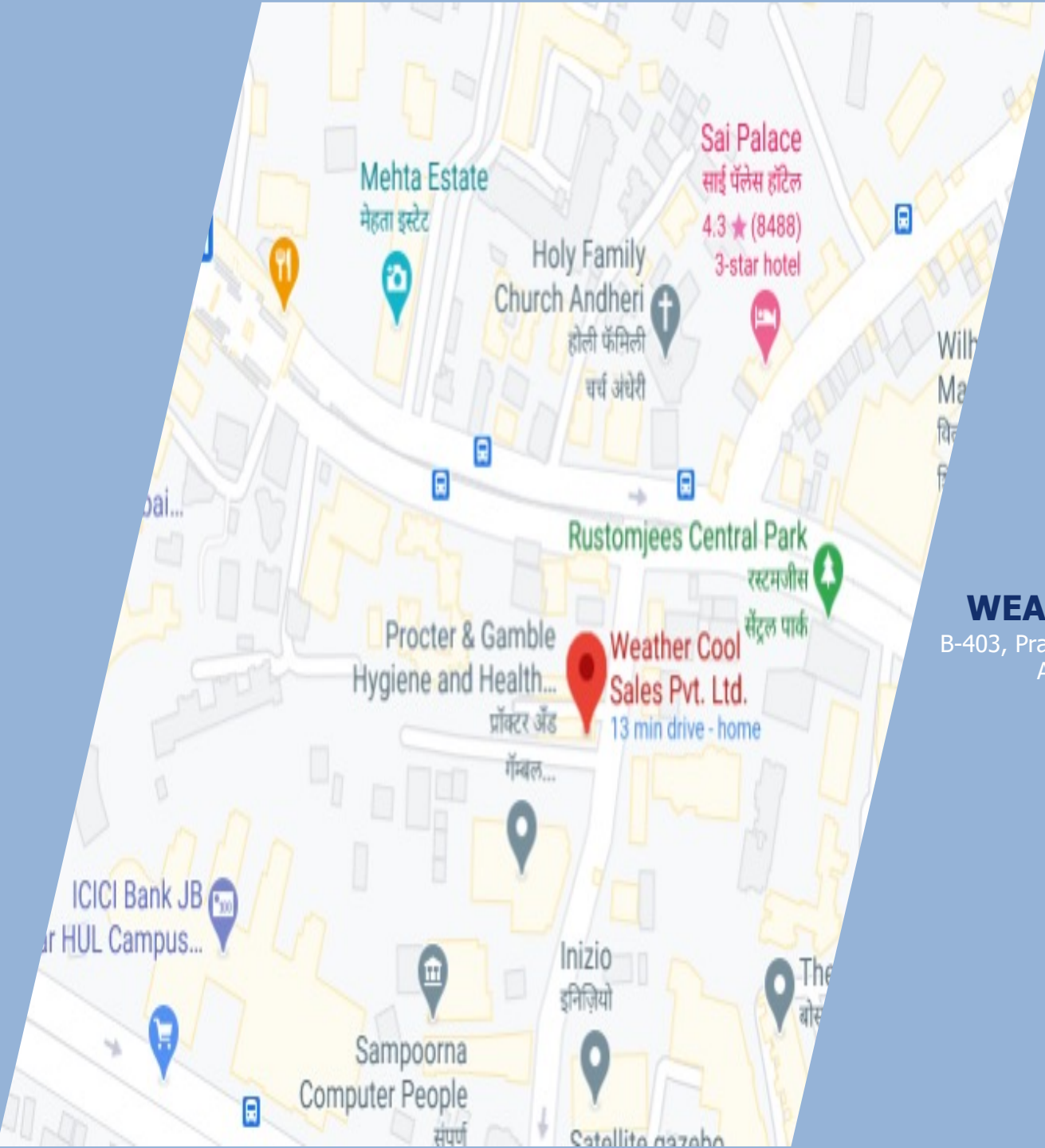


- ODU footprint - 30% lesser ODU space required compared to conventional VRF/VRV system.
- Design flexibility - Adding new IDUs to the existing system is possible.
- Redundancy- - Highest redundancy due to maximum number of compressors in a single system.
- Easy to maintain - Lower maintenance cost as system is chilled water based.
- Piping types - various piping (PPR/PE/UPVC/MS) can be used to suite site and reduce cost



Site Images





CONTACT US



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