



**WATER-COOLED
TWIN RECIPROCATING CHILLERS
(100 TR - 240 TR)**

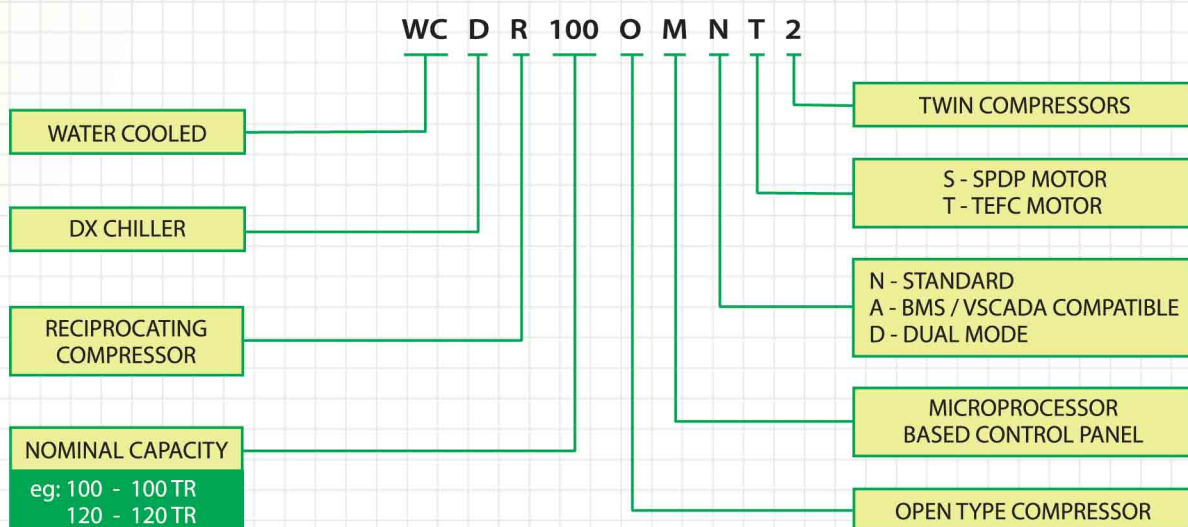


WATER-COOLED TWIN RECIPROCATING CHILLERS

Electro-mechanical & Refrigeration Business Group of Voltas, an ISO 9001 company, is pioneer and leader in India in the field of electromechanical & refrigeration. As a result of its commitment to provide customers the technology that suits their requirements and 'best value for money', Voltas Reciprocating Chillers have become an ideal choice for various air conditioning applications and are available in wide range of capacities.

We offer chillers with twin compressors, in the capacity range of 100TR – 240 TR.

MODEL NOMENCLATURE



FEATURES

Reciprocating Compressors

- Open type compressor is a rugged workhorse proven under all climatic and duty conditions offering unmatched dependability.
- Saves power due to efficient design and motor is not refrigerant cooled resulting in lower IKW/TR.
- Multistep loading/ unloading actuated through microprocessor by sensing chilled water outlet temperature accurately with electronic temperature sensor.
- As an alternative, capacity control activated by variation in suction pressure can also be provided.
- Field serviceable, thus reduces down time due to repairs.

Compressor Drive

- Squirrel cage induction motor Total Enclosed Fan Cooled (TEFC) or Screen Protected Drip Proof (SPDP) constructions are available
- Factory aligned compressor and motor ensures trouble free operation.

Condensers & Chillers

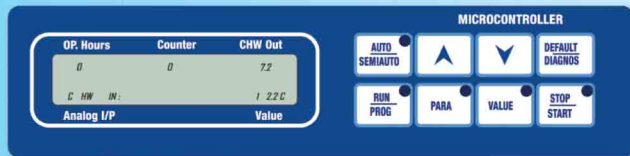
- Manufactured incorporating latest technology from world renowned Standard Refrigeration, USA
- State of art technology using most advanced heat exchanger tubes and baffle design makes the unit highly compact and energy efficient



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User-friendly operation with Microprocessor Panel

- Three mode options available Auto, Semi Auto & Manual
 - Auto Mode: Auto start & stop, programmable for entire year. This minimises operator interface. Auto mode facilitates auto restart on power restoration after a load shedding or grid supply failure
 - Semi Auto Mode: Manual single button start and stop, since further sequence is programmed.
 - Manual (Test) Mode: Facilitates testing of the unit under supervision.



Standard Microprocessor Panel

LCD and Key Pad of Microprocessor

Displays with Diagnostic Capabilities

- Digital Display of all vital parameters such as
 - Chilled water outlet temperature
 - Suction, Discharge & Oil Pressure of compressor
 - Current
 - Voltage
 - Compressor run hours

Reduction in Energy cost through Precise & Accurate Controls

- The electronic pressure sensors and temperature sensor monitor the set points precisely and thereby save energy
- Capacity control regulates in response to chilled outlet temperature
- Compressor staging programmed to save energy by running compressors as required to match load.

Adaptive Controls

- Discharge / suction pressure limiting by uploded operation to avoid tripping on HP/LP. This offers advantage of chiller running unloaded instead of tripping.

Safety & Protection

- Microcomputer Motor Protection device (μ MPD) and Microcomputer Voltage Protection Device (μ VPD) protect chiller from phase unbalance, phase loss, phase reversal, overload, under/over voltage and supply failure
- Programmed safety features available using sensitive & accurate temperature & pressure transducers which protect the system from :
 - Freezing
 - Low Pressure
 - Anti Recycle
 - Low Chilled Water Temperature
 - High Pressure
 - Low Oil Pressure
 - Sensor Error
 - Low Water Flow in Chiller
- Maintenance trip for compressor 50 hours before completion of 8000 hours of operation
- Alarm history of last 5 faults with date, time and cause of failure.
- Compressor lead, log, programmed to safe guard motors by running them for equal hrs.

Optional Features offered

- BMS Compatibility with MODBUS / BACnet provides ability to communicate with any Building Management System.
- Dual mode operation of chiller for thermal storage system

WATER-COOLED TWIN RECIPROCATING CHILLERS

TECHNICAL DATA SHEET (R 22)

UNIT MODEL	WCDR100 OMNT2	WCDR120 OMNT2	WCDR160 OMNT2	WCDR240 OMNT2
*Nominal cooling capacity -TR	100	120	160	240
COMPRESSOR				
Type	Reciprocating Open type			
Compressor model	05060	05066	05086	05126
Compressor qty.	2	2	2	2
RPM	1450	1450	1450	1450
unit capacity reduction steps in %	100 / 91.7 / 83.3 / 66.7 / 50 / 41.7 / 33.3 / 16.7	100 / 91.7 / 83.3 / 66.7 / 50 / 41.7 / 33.3 / 16.7	100 / 87.5 / 75 / 62.5 / 50 / 37.5 / 25 / 12.5	100 / 91.7 / 83.3 / 66.7 / 50 / 41.7 / 33.3 / 16.7
Lub. Oil	Mineral			
oil charge/compr.,lit	9.933	9.933	19.393	28.853
Motor Rating/ compr. HP	60	75	100	150
Type of starter	Star / Delta	Star / Delta	Star / Delta	Star / Delta
CONDENSER				
Condenser Model	9126-2	9126-2	9166-2	9246-2
Condenser qty./unit	1	1	1	1
Cond. Water flow rate (USGPM)	366	425	561	845
CHILLER				
Chiller Type	DX	DX	DX	DX
Chiller Model	10126-2	10126-2	10156-2	10246-2
Chiller QTY./unit	1	1	1	1
Chiller water flow rate (USGPM)	240	288	384	576
UNIT DIMENSION & WEIGHTS				
Length.(MM)	3100	3100	3200	3200
Width.(MM)	1800	1800	1800	2100
Height.(MM)	1800	1800	1900	2200
App. Refrigerant wt. (kg)	85	102	136	204

* Capacity rated for evaporator leaving water temperature 7.2 °C & condenser water inlet temp.of 32 °C,

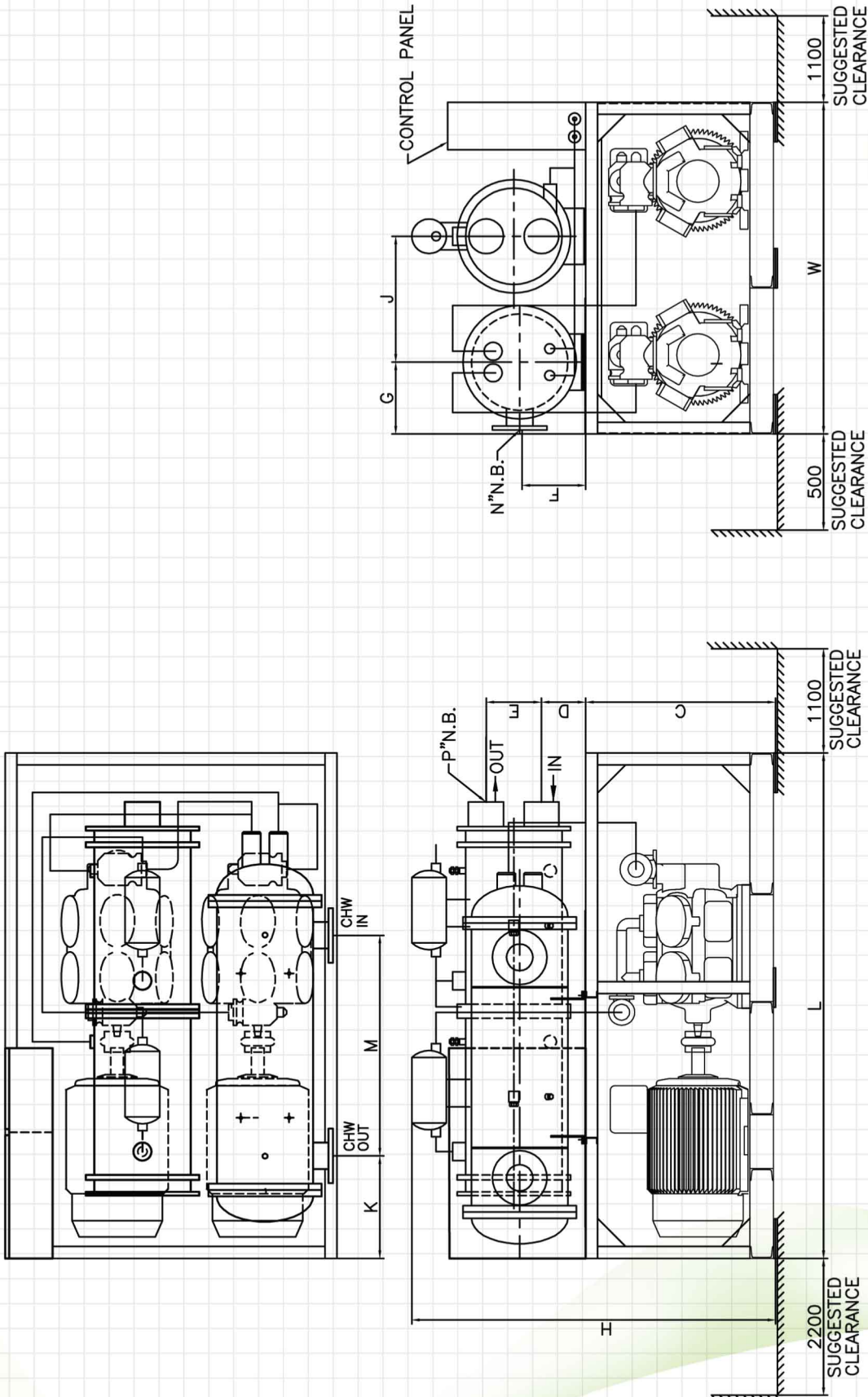
Evaporator water side fouling factor of 0.000018 m².deg.C/W , Condenser water side fouling factor of 0.000044 m².deg.C/W

Power & control supply voltage is 415 + 10% V & 210-240 V respectively and frequency 50Hz + 3%

Note : For higher ambient application pl. refer to EM&R BG Engg.

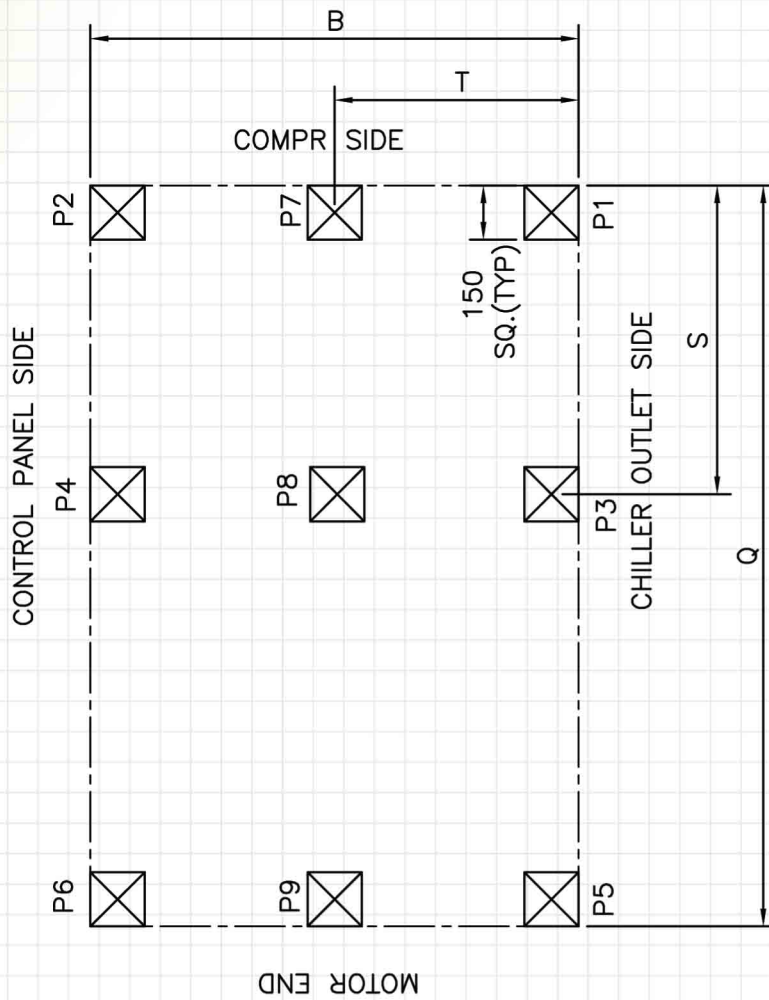
(Product development is a continuous process in Voltas, hence specifications and technical data are subject to alterations without notice)

**G. A. DRAWING 100 TR - 240 TR
(TWIN COMPRESSOR SERIES)**



MODEL	L	W	H	C	D	E	F	G	J	K	M	N	P
WCDR1000MNT2	3100	1800	1800	1000	147	188	315	380	650	360	1795	6"	6"
WCDR1200MNT2	3100	1800	1800	1000	147	188	315	380	650	360	1795	6"	6"
WCDR1600MNT2	3200	1800	1900	1025	147	188	340	380	650	410	1755	8"	6"
WCDR2400MNT2	3200	2100	2200	1200	228	350	415	455	800	435	1396	8"	8"

POINT LOAD DIAGRAM 100 TR - 240 TR



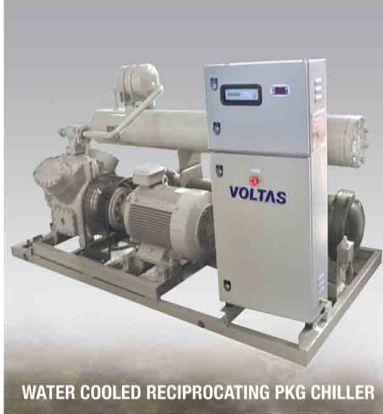
APPROXIMATE POINT LOAD WEIGHT IN Kg.															
MODEL	B	Q	S	T	P1	P2	P3	P4	P5	P6	P7	P8	P9	SHIPPING WEIGHT(KG)	OPERATING WEIGHT(KG)
WCDR1000MNT2	1800	3100	1440	900	351	351	487	487	410	410	524	569	510	4100	4300
WCDR1200MNT2	1800	3100	1440	900	368	368	511	511	430	430	549	597	535	4300	4500
WCDR1600MNT2	1800	3200	1485	900	453	453	630	630	530	530	677	736	660	5300	5500
WCDR2400MNT2	2100	3200	1485	1050	625	625	868	868	730	730	933	1014	908	7300	7600

WATER-COOLED TWIN RECIPROCATING CHILLERS

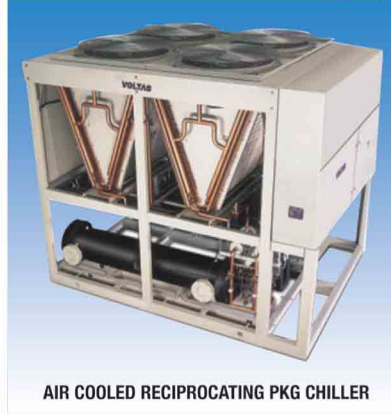
HVAC PRODUCT RANGE...



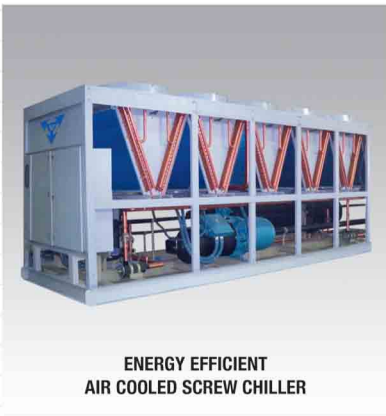
AIR COOLED SCROLL PKG CHILLER



WATER COOLED RECIPROCATING PKG CHILLER



AIR COOLED RECIPROCATING PKG CHILLER



ENERGY EFFICIENT
AIR COOLED SCREW CHILLER



ENERGY EFFICIENT
WATER COOLED SCREW CHILLER



WATER COOLED SCREW CHILLER



WATER COOLED SCROLL CHILLER



CO-GEN VAPOUR ABSORPTION MACHINE (VAM)



DOUBLE EFFECT VAM



PACKAGED & DUCTABLE SPLIT UNITS



VARIABLE REFRIGERANT FLOW SYSTEM (VRF)



AIR HANDLING UNIT (AHU)

ALL INDIA CONTACT NUMBERS

OFFICE	TELEPHONE		FAX
NORTHERN REGION			
DELHI (Branch)	011	66505550	66505697
	011	66505570	26950081
Chandigarh	0172	2663669	2604625
Gurgaon	0124	5060504	
Jaipur	0141	25179983	2213728
Jalandhar	0181	2227687	
LUCKNOW (Branch)	0522	2238538	2238532
	0522	2237856	
Dehradun	0135	2750401	
WESTERN REGION			
AHMEDABAD (Branch)	079	66301107	66301199
	079	66301108	
Ankleshwar	02646	238199	
Rajkot	0281	2578124	
Silvassa	0260	2640363	
Surat	0261	2422761	
Vadodara	0265	2351706	2332098
MUMBAI (Branch)	022	66656757	66656797
	022	66656761	66656768
Goa	0832	2463664	
Indore	0731	2498616	
Nagpur	0712	5618846	
Nasik	0253	2455169	
PUNE (Branch)	020	66046602	66046600
	020	66046603-5	66046601
Aurangabad	0240	2320510	

OFFICE	TELEPHONE		FAX
EASTERN REGION			
JAMSHEDPUR (Branch)	0657	2431062	2432201
	0657	2434322	
Patna	0612	2232717	
Raipur	0771	5059303	
KOLKATA (Branch)	033	66266283	22300108
	033	66266264	
Bhubaneswar	094371	78427	
Cuttack	0671	2332366	
Guwahati	0361	2340519	
SOUTHERN REGION			
BANGALORE (Branch)	080	67132500	22270172
	080	67132504	22998508
Mangalore	0824	2453316	
CHENNAI (Branch)	044	66760349	24342178
	044	66760375	
Coimbatore	0422	2241188	2218771
	0422	2244384	
Madurai	0452	2535818	
HYDERABAD (Branch)	040	66500407	66203882
	040	66500451	
Vijaywada	0866	2435282	2431507
Vishakhapatnam	0891	2754051	2570864
	0891	2754665	
KOCHI (Branch)	0484	2359621	2357129
	0484	2359648	
Calicut	0495	2770503	
Thiruvananthapuram	0471	2338873	

Backed by Voltas countrywide after sales service.



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INTEGRATING SYSTEMS.

INCOMPARABLE VALUE.

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Voltas Limited, Electro-mechanical & Refrigeration Business Group.

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