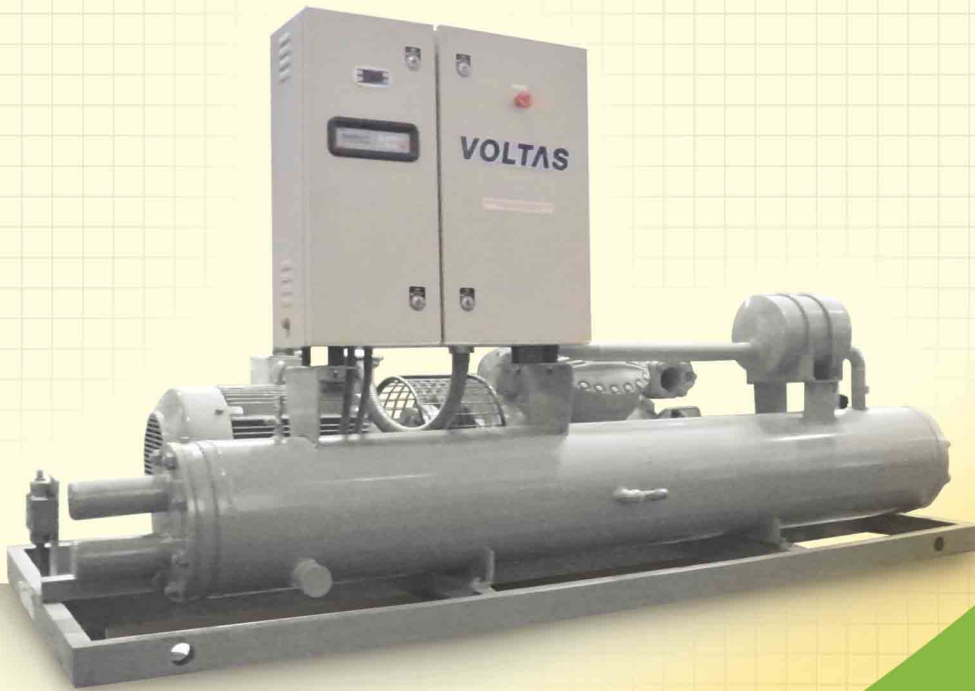




**WATER-COOLED RECIPROCATING
CONDENSING UNIT**



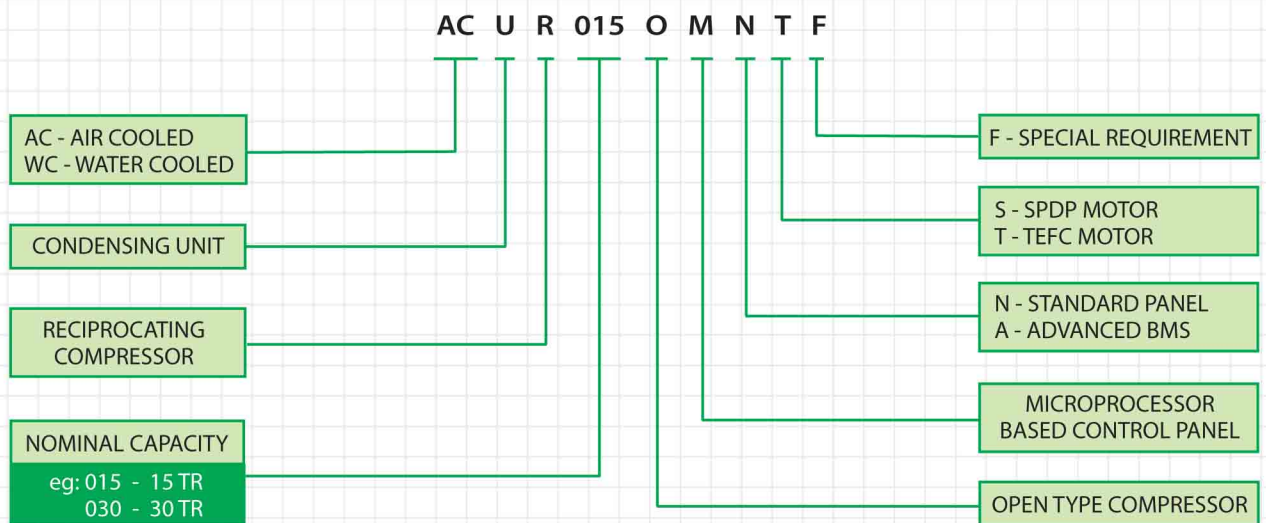
**AIR-COOLED RECIPROCATING
CONDENSING UNIT**



WATER / AIR - COOLED RECIPROCATING CONDENSING UNIT

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 condensing units with reciprocating compressors have become an ideal choice for various air conditioning applications and are available in wide range of capacities.

MODEL NOMENCLATURE



FEATURES

Open Type Reciprocating Compressor

- Rugged workhorse, proven performance under all climatic & duty conditions
- Saves power as motor is not refrigerant cooled resulting in better IKW/TR
- Loading / unloading is controlled through micro-processor by sensing AHU return air temperature accurately with electronic temperature sensor, supplied as standard design
- As an alternative, capacity control activated by variation in suction pressure can also be provided
- Field serviceable, thus reduces down time due to repair

Compressor Drive

- Squirrel cage induction motor Total Enclosed Fan Cooled (TEFC) or Screen Protected Drip Proof (SPDP) constructions are available

Water Cooled Condensers

- Manufactured incorporating latest technology from world renowned heat exchanger manufacturer
- State of art technology makes the unit highly compact and heat energy efficient, using most advanced IGT tubes

Air Cooled Condensers

- Air cooled condensers are manufactured using IGT tubes with slotted louvered fins resulting compact units
- Each coil pneumatically tested 410 PSIG underwater
- High efficiency multiple blade fans driven by IP 55 motors
- Smallest footprint saves your space by V configuration of unit structure



Microprocessor Control Panel for user-friendly operation

- Three mode options are available: Programmed Mode, Auto Mode & Test Service Mode
 - Programmed Mode : Auto start & stop, programmable for entire year. This minimises operator interface. This mode facilitates auto restart on power restoration after a load shedding or grid supply failure
 - Auto Mode : Manual single button to be used for start and stop, reset operation sequence is programmed automatically
 - Test Service Mode : Facilitates testing of the unit under supervision, for service or default detection
- All operating parameters & safety limits can be pre set as per customer application



Standard Microprocessor Panel

LCD and Key Pad of Microprocessor

Displays with diagnostic capabilities

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

Capacity Control & reduction in energy consumption

- The electronic pressure sensors and temperature sensor measures pressure & temperature precisely and provide feedbacks to microprocessor. Based on this precise data and actual load requirements, microprocessor regulates loading / unloading of cylinders for optimum operation to the best of energy efficiency of plant

Adaptive Controls

- Discharge / suction pressure limiting possible by unloaded operation to avoid tripping on HP / LP
- Current limiting is possible by unloaded operation to avoid tripping on current drawn

Safety & Protection

- Microcomputer Motor Protection device (μMPD) and Microcomputer Voltage Protection Device (μVPD) protect condensing unit 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 :

- High Pressure
- Low Oil Pressure
- Sensor Error
- Low Pressure
- Anti Recycle
- Low Room Temperature

- 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

Optional Features offered

- Dual mode chillers for thermal storage system
- Communication port RS 485 for remote connectivity, status and fault indication
- Advanced BMS compatibility with ASCII or RTu MODBUS protocol can be linked to Integrated Building Management Systems (IBMS)
- Limited hardware BMS for remote control and operation



WATER-COOLED RECIPROCATING CONDENSING UNIT

TECHNICAL DATA SHEET (R 22)							
UNIT MODEL	WCUR017	WCUR040	WCUR050	WCUR060	WCUR075	WCUR100	WCUR150
	OMNT	OMNT	OMNT	OMNT	OMNT	OMNT	OMNT
*Nominal cooling capacity -TR	16.5	38	48.5	58	71	97	144
COMPRESSOR							
Compressor model	05018	05040	05046	05060	05066	05086	05126
Type	Reciprocating open type						
Compressor qty.	1	1	1	1	1	1	1
RPM	1450	1450	1450	1450	1450	1450	1450
Unit capacity reduction	100/	100/	100/	100/83.3/	100/83.3/	100/	100/83.3/
Steps in %	75/50/25	75/50/25	75/50/25	66.6/33.3	66.6/33.3	25	66.6/33.3
Oil type	Mineral						
Oil charge/compr.,lit	5.676	8.514	8.514	9.933	9.933	19.393	28.853
Motor Rating, HP	25	40	60	60	75	100	150
Type of starter		Star / Delta					
CONDENSER							
Condenser Model	9026	9046	9066	9066	9076	9126	9166
Condenser model QTY./unit	1	1	1	1	1	1	1
Cond. Water flow rate (USGPM)	60	125	170	210	260	350	525
UNIT DIMENSION & WEIGHTS							
Length.(MM)	2000	2500	2500	2500	2600	2600	2600
Width.(MM)	1000	1100	1100	1200	1250	1300	1300
Height.(MM)	1000	1250	1315	1350	1350	1450	1450
Operating wt.(KG.)	815	1198	1369	1786	2037	2455	3354

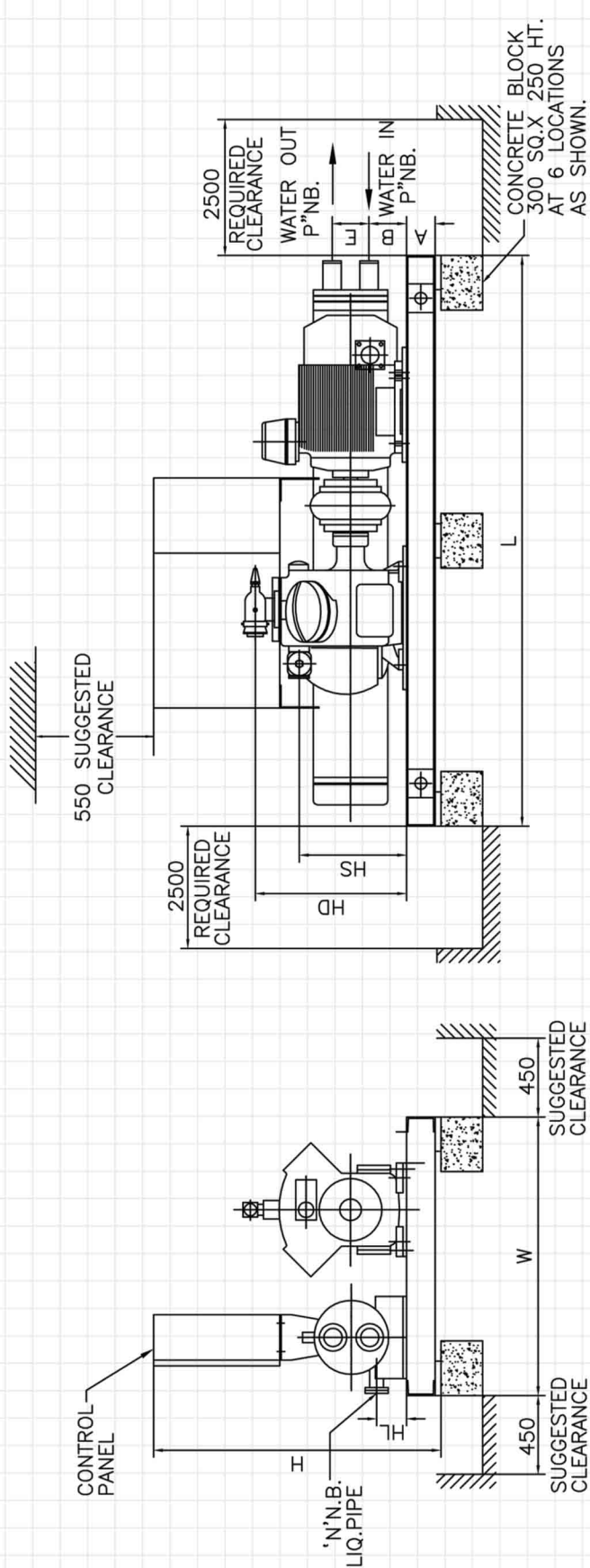
*Capacity rated at design condenser water inlet temp.of 32°C,water side fouling factor of 0.000044 m2.deg.C/W

for SST of 7.2 °C ; Power & control supply voltage is 375 - 455 V & 210-240 V respectively and frequency 50Hz +/- 5%

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



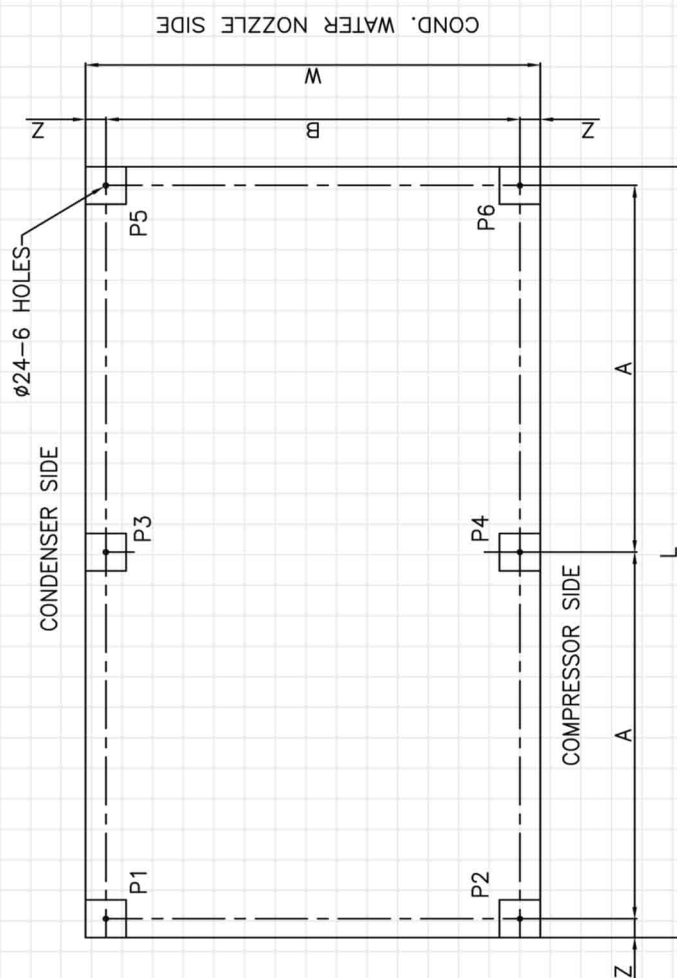
G. A DRAWING OF W/C RECIPROCATING CONDENSING UNIT



MODEL	WCUR0170MNT	WCUR0400MNT	WCUR0500MNT	WCUR0600MNT	WCUR0750MNT	WCUR1000MNT	WCUR1500MNT
COMPRESSOR	1X05018	1X05040	1X05046	1X05060	1X05066	1X05086	1X05126
CONDENSER W/C	1X09026	1X09046	1X09066	1X09066	1X09076	1X09126	1X09166
TEFC MOTOR H.P.	25	40	60	60	75	100	150
DIM. L MM.	2000	2500	2500	2500	2600	2600	2600
DIM. W MM.	1000	1100	1100	1200	1250	1300	1300
DIM. H MM.	1000	1250	1315	1350	1350	1450	1450
DIM. E MM.	130	120	140	140	160	188	188
DIM. P N.B. MM.	50	65	100	100	125	150	150
DIM. N N.B. MM.	32	50	65	65	80	90	90
DIM. A MM.	75	75	75	125	125	125	125
DIM. B MM.	60	117	123	123	138	150	150
DIM. HS MM.	352	422	422	575	575	727	671
DIM. HD MM.	460	667	667	602	602	708	762
DIM. HL MM.	60	67	63	63	73	74	74



POINT LOAD DIAGRAM OF W/C RECIPROCATING CONDENSING UNIT



MODEL	L	W	Z	A	B	LOAD PER POINT - KG.						TOTAL WT.-KG.
						P1	P2	P3	P4	P5	P6	
WCUR0170MNT	2000	1000	75	925	850	100	130	170	175	125	115	815
WCUR0400MNT	2500	1100	100	1150	900	96	202	253	270	193	184	1198
WCUR0500MNT	2500	1100	100	1150	900	158	211	295	300	216	189	1369
WCUR0600MNT	2500	1200	100	1150	1000	214	270	387	377	292	246	1786
WCUR0750MNT	2600	1250	100	1200	1050	249	317	427	430	325	289	2037
WCUR1000MNT	2600	1300	100	1200	1100	288	389	514	537	379	348	2455
WCUR1500MNT	2600	1300	100	1200	1100	376	526	688	735	466	563	3354



AIR-COOLED RECIPROCATING CONDENSING UNIT

TECHNICAL DATA SHEET (R 22)

UNIT MODEL	ACUR015OMN	ACUR035OMN	ACUR040OMN	ACUR050OMN	ACUR065OMN	ACUR080OMN	ACUR120OMN
*Nominal cooling capacity -TR	14	34	40	50	62.4	80	120
COMPRESSOR							
Compressor model	05018	05040	05046	05060	05066	05086	05126
Type	Reciprocating open type						
Compressor qty.per unit	1	1	1	1	1	1	1
Rpm	1450	1450	1450	1450	1450	1450	1450
Unit capacity reduction	100/	100/	100/	100/83.3/	100/83.3/	100/	100/83.3/
Steps in %	75/50/25	75/50/25	75/50/25	66.6/33.3	66.6/33.3	75/50/25	66.6/33.3
Oil type	Mineral						
Oil charge / compr (Ltr.)	5.68	8.51	8.51	9.93	9.93	19.39	28.85
Motor Rating, HP	25	50	60	75	100	125	180
Type of starter	Star / Delta						
CONDENSER							
Condenser module	9AB8	9AV30	9AV35	9AV20	9AV30	9AV35	9AV35
Condenser module QTY.	2	1	1	2	2	2	3
Fan qty.	2	2	2	4	4	4	6
Total CFM	12,000	25,000	24,000	52,000	50000	48000	72000
UNIT DIMENSION & WEIGHTS							
Length.(MM)	1700	2536	2536	2642	2642	2642	3710
Width ,(MM)	1000	1270	1270	2236	2236	2236	2236
Height.(MM)	1625	2590	2590	2615	2615	2615	2615
Operating Wt. (KG.)	720	1225	1350	2200	2300	2500	3350

*Capacity rated at design ambient of 35 °C and for SST of 7.2 °C

Power & control supply voltage is 375 - 455 V & 210 -240 V respectively and frequency 50Hz +/- 5%.

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



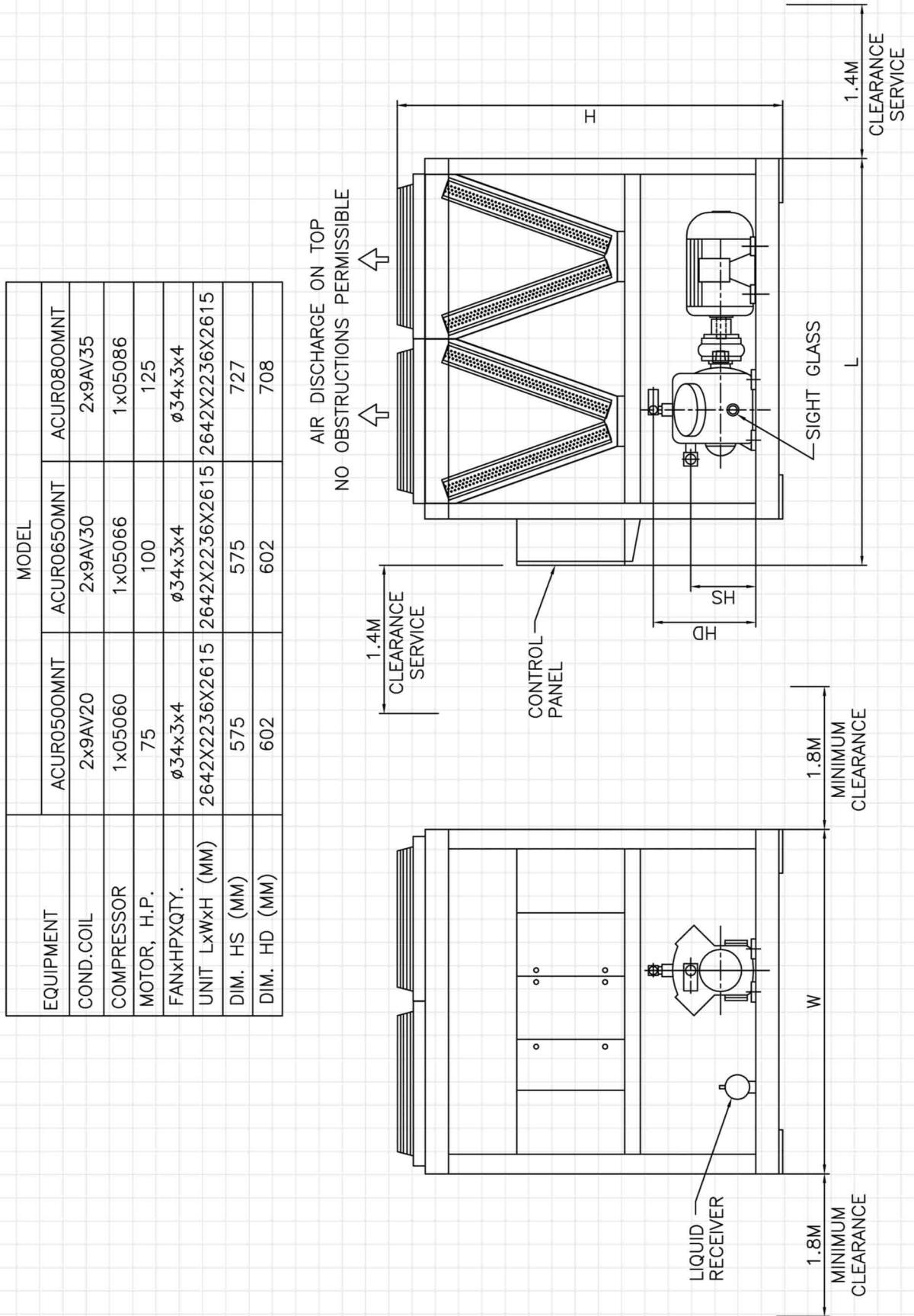
MODEL	ACUR0150MNT
COND.COIL	9AB8-2 NOS.
COMPRESSOR	1x05018
MOTOR H.P.	25 H.P.
FANxHPXQTY.	ø24"x0.5X2 NOS.



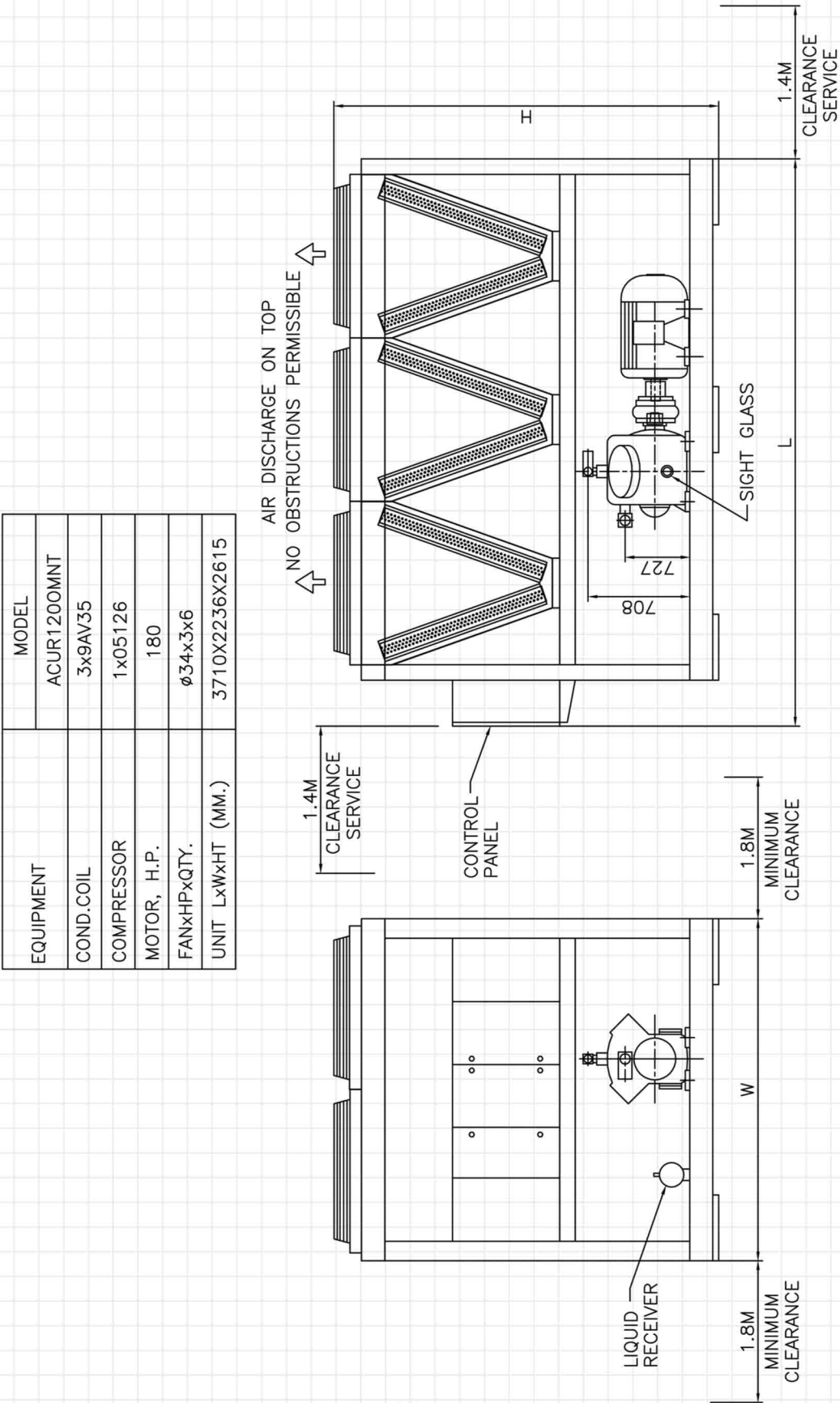




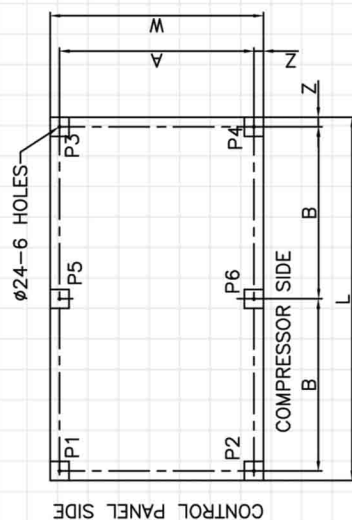
G. A DRAWING OF A/C RECIPROCATING CONDENSING UNIT



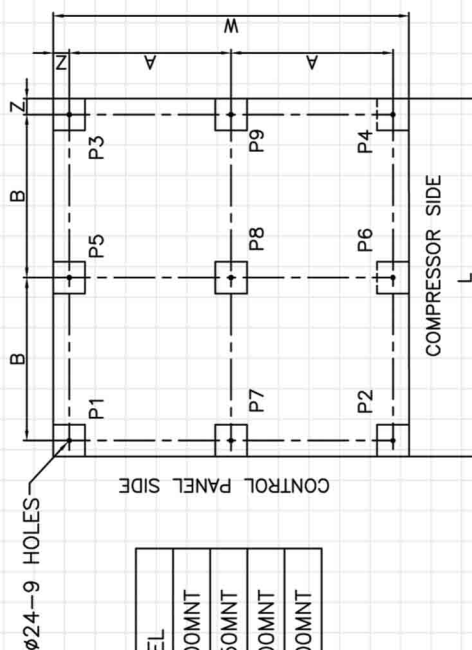
G. A DRAWING OF A/C RECIPROCATING CONDENSING UNIT



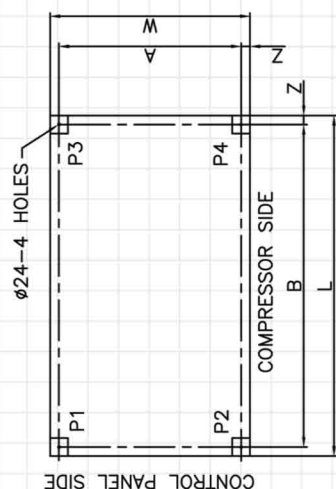
POINT LOAD DIAGRAM OF A/C RECIPROCATING CONDENSING UNIT



MODEL
ACUR0350MNT
ACUR0400MNT



MODEL
ACUR0500MNT
ACUR0650MNT
ACUR0800MNT
ACUR1200MNT



MODEL
ACUR0150MNT

MODEL	L	W	Z	A	B	LOAD PER POINT – KG.									TOTAL WT. – KG.
						P1	P2	P3	P4	P5	P6	P7	P8	P9	
ACUR0150MNT	1400	1000	75	850	1250	180	180	180	180	—	—	—	—	—	720
ACUR0350MNT	2236	1270	100	1070	1018	180	220	180	220	180	225	—	—	—	1225
ACUR0400MNT	2236	1270	100	1070	1018	215	235	215	235	215	235	—	—	—	1350
ACUR0500MNT	2336	2236	100	1018	1068	230	250	220	250	225	255	250	270	250	2200
ACUR0650MNT	2336	2236	100	1018	1068	240	265	240	260	240	265	260	275	255	2300
ACUR0800MNT	2336	2236	100	1018	1068	260	280	255	285	260	290	285	305	280	2500
ACUR1200MNT	3404	2236	100	1018	1602	355	380	345	375	350	385	380	400	380	3350

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	

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