

NOTE:

1. FACIAL DIAGRAM OF EACH AIR–CONDITIONING CONTROL PANEL AND CHILLER BOARD SHALL BE SUBMITTED FOR APPROVAL BEFORE FABRICATION
2. SELECTION OF AIR CONDITIONING UNITS SHALL MEET THE REQUIRED SENSIBLE COOLING LOAD.
3. CONDENSATE DRAIN PIPES SHALL BE EMBEDDED IN BRICK WALL AND DRAINED TO THE NEAREST PERIMETER DRAIN OR FLOOR TRAP. CONDENSATE DRAIN PIPES WHERE EXPOSED AND REFRIGERANT PIPES SHALL BE INSULATED SEPARATELY WITH 13mm THICK HIGH QUALITY ELASTOMER COMPOUND OF THERMAL CONDUCTIVITY NOT EXCEEDING 0.023 W/m.K AT 20°C AND MINIMUM DENSITY OF 45 kg/m³.
4. ALL OUTDOOR AIR–COOLED CONDENSING UNIT (ACCU) SHALL BE LOCATED AS SHOWN AND COMPLETE WITH SUPPORT BRACKET. OPENING AT R.C ROOF FOR PENETRATION OF REFRIGERANT PIPES SHALL BE PROVIDED WITH CONCRETE KERB. METAL FLASHING COMPLETE WITH WATER PROOF MEMBRANE SHALL BE PROVIDED TO PREVENT INGRESS OF RAIN WATER AFTER INSTALLATION OF REFRIGERANT PIPES
5. ALL CONDENSATE DRAIN PIPES SHALL BE UPVC TO BS 5255 WITH MINIMUM DIAMETER of 25mm WHILE ALL REFRIGERANT PIPES MATERIAL SHALL BE COPPER. HOWEVER, THE MATERIALS AND EXACT SIZES OF AIR–CONDITIONING REFRIGERANT PIPES AND CONDENSATE DRAIN PIPES SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS.
6. EACH FAN COIL UNIT SHALL BE EQUIPPED WITH A WIRED REMOTE CONTROLLERS AND HAVING THE FEATURES OF ROOM TEMPERATURE SETTING, TIMER, AIR DISCHARGE DIRECTION, FAN SPEED SELECTIONS, SELF DIAGNOSIS CIRCUIT WITH MALFUNCTION CODE DISPLAY.
7. IN THE EVENT OF FIRE, THE POWER SUPPLY FOR AIR CONDITIONING CONTROL PANELS SHALL BE TRIPPED AUTOMATICALLY UPON RECEIVING THE 'TRIP' SIGNAL FROM THE FIRE ALARM PANEL.
8. DUCTWORK SIZES SHOWN ARE NETT INTERNAL DIMENSIONS AND SHALL BE EXTERNALLY INSULATED WITH INSULATION MATERIAL OF 32 kg/m³ DENSITY MINIMUM AND THE THERMAL CONDUCTIVITY SHALL NOT BE GREATER THAN 0.036 W/m.K AT A MEAN TEMPERATURE OF 20°C. THE THICKNESS FOR ROCKWOOL INSULATION SHALL BE 50mm MINIMUM OR 13mm MINIMUM FOR CLOSED–CELL POLYETHYLENE FOAM TYPE INSULATION.
9. ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA 'HVAC' DUCT CONSTRUCTION STANDARD (1985). DUCTWORK LINING/ACOUSTIC INSULATION SHALL BE 50mm THICK ROCKWOOL OR 13mm THICK CLOSED–CELL TYPE POLYETHYLENE FOAM WITH MINIMUM DENSITY OF 32 kg/m³ AND THE THERMAL CONDUCTIVITY SHALL NOT BE GREATER THAN 0.036W/m.K AT A MEAN TEMPERATURE OF 20°C.
10. ALL SUPPLY AND RETURN AIR DIFFUSERS SHALL HAVE VOLUME CONTROL DAMPER WITH CONTROL ADJUSTABLE FROM THE FACE AND PROVIDE WITH GASKETS AGAINST CEILING AS REQUIRED. DIFFUSERS SHALL BE FOUR WAYS CONE TYPE UNLESS OTHERWISE STATED.
11. ALL SUPPLY AND RETURN AIR DIFFUSERS SHALL HAVE A FACE SIZE OF 600mm X 600mm UNLESS OTHERWISE INDICATED. HOWEVER, THE NECK SIZE SHALL VARY AS FOLLOWS:

| AIR FLOW | NECK SIZE | PRESSURE DROP (Pa) At 2.5m/s | THROW (m) At 2.5m/s | NR |
|---------------|----------------------------|------------------------------|---------------------|----|
| 290 – 380 L/S | 380mm x 380mm OR 410mm dia | 26 | 8 | 30 |
| 230 – 289 L/S | 330mm x 330mm OR 360mm dia | 24 | 7 | 30 |
| 140 – 229 L/S | 280mm x 280mm OR 310mm dia | 24 | 6 | 29 |
| 90 – 139 L/S | 230mm x 230mm OR 260mm dia | 20 | 5 | 28 |
| BELOW 90 L/S | 200mm x 200mm OR 200mm dia | 14 | 4 | 27 |
12. EXHAUST AIR AND FRESH AIR LOUVERS AND GRILLES SHALL BE ALUMINIUM MADE. EXTERNAL LOUVRES SHALL BE WEATHER PROOF TYPE AND COMPLETE WITH STAINLESS STEEL INSECT MESH SCREEN.
13. ALL AXIAL/PROPELLER FANS SHALL BE C/W ALUMINIUM AUTO SHUTTER.
14. THE AIR–COND CONTRACTOR SHALL PROVIDE THE NECESSARY DETAILS OF PLINTH SIZE REQUIRED FOR THE EQUIPMENT I.E CHILLER, COOLING TOWER, PUMPS AND ETC.

| VENTILATION FAN SCHEDULE (FOR MAIN OFFICE BUILDING AND ANNEX BUILDING) | | | | | | | | |
|--|--|-----------------------------|-----------------------|--------------------------------|---------------------------|--|-----------------------------------|---|
| ITEM | EQUIPMENT NO. | TYPE | AIR FLOW IN L/S (CFM) | EXTERNAL STATIC PRESSURE IN Pa | NO. OF UNIT | AREA SERVED | ESTIMATED ELECTRICAL LOAD Ph/V/kw | REMARK |
| 1 | EF/GF/TOIL-1 EF/GF/TOIL-2 EF/GF/TOIL-3 EF/GF/TOIL-4 | DUCTED CENTRIFUGAL IN-LINE | 250 (530) | 150 | 4 | MALE AND FEMALE TOILET AT GROUND FLOOR OF MAIN OFFICE BUILDING | 1 Ph/240/0.3 (EACH) | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 2 | EF/FF/TOIL-1 EF/FF/TOIL-2 EF/FF/TOIL-3 EF/FF/TOIL-4 | DUCTED CENTRIFUGAL IN-LINE | 300 (636) | 150 | 4 | MALE AND FEMALE TOILET AT FIRST FLOOR OF MAIN OFFICE BUILDING | 1 Ph/240/0.3 (EACH) | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 3 | EF/SF/TOIL-1 EF/SF/TOIL-2 EF/SF/TOIL-3 EF/SF/TOIL-4 | DUCTED CENTRIFUGAL IN-LINE | 320 (678) | 150 | 4 | MALE AND FEMALE TOILET AT SECOND FLOOR OF MAIN OFFICE BUILDING | 1 Ph/240/0.6 (EACH) | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 4 | EF/TOIL1-1 EF/TOIL1-2 | DUCTED CENTRIFUGAL IN-LINE | 360 (763) | 150 | 2 | MALE AND FEMALE TOILET 1 AT WAREHOUSE | 1 Ph/240/0.6 (EACH) | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 5 | EF/TOIL2-1 EF/TOIL2-2 | DUCTED CENTRIFUGAL IN-LINE | 360 (763) | 150 | 2 | MALE AND FEMALE TOILET 2 AT WAREHOUSE | 1 Ph/240/0.6 (EACH) | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 6 | EF/FIRE | WALL MOUNTED AXIAL-FLOW FAN | 400 (848) | 50 | 1 | FIRE PUMP ROOM AT GROUND FLOOR OF WAREHOUSE | 1 Ph/240/0.2 | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 7 | EF/COLD | WALL MOUNTED AXIAL-FLOW FAN | 500 (1060) | 50 | 1 | COLD WATER PUMP ROOM AT GROUND FLOOR OF WAREHOUSE | 1 Ph/240/0.4 | 1. EF TO BE INTERLOCK WITH LIGHTING SWITCH |
| 8 | EF/BAT-1 EF/BAT-2 EF/BAT-3 EF/BAT-4 | WALL MOUNTED AXIAL-FLOW FAN | 2000 (4240) | 50 | 4 (2 DUTY & 2 STANDBY) | BATTERY CHARGING ROOM AT WAREHOUSE | 1 Ph/240/1.0 | 1. EF/BAT-1 & EF/BAT-3 ARE CONTROLLED BY FAN SWITCH NO. 1 WHILE EF/BAT-2 & EF/BAT-4 ARE CONTROLLED BY FAN SWITCH NO. 2 RESPECTIVELY |

STAMP / NOTA :

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| 1 | 09.5.08 | ISSUED FOR CONSTRUCTION | SKS |
| 0 | 24.3.08 | ISSUED FOR CONSTRUCTION | SKS |
| NO. | TARIKH | R I N G K A S A N | OLEK |
| P I N D A A N | | | |

TAJUK PROJEK :

CADANGAN MEMBINA SEBUAH GUDANG 1 TINGKAT BESERTA PEJABAT 3 TINGKAT, YANG MENGANDUNGI:-
PENCAWANG ELEKTRIK TNB, PUSAT PENGUMPULAN SAMPAH, BILIK PAM, 1 UNIT PONDOK PENGAWAL DAN 1 UNIT RUANG MENUNGGU 1 TINGKAT, DI ALAMAT NO.9 (PT 33271) JALAN TIANG U8/92, SEKSYEN U8, PERINDUSTRIAN BUKIT JELUTONG, 40150 SHAH ALAM, SELANGOR DARUL EHSAN

UNTUK
TETUAN ORYX IMPRESSIONS SDN. BHD.

TANDATANGAN & ALAMAT PEMILIK :

ORYX IMPRESSIONS SDN. BHD. (no. no. 846594–X)
36–2, JALAN 5/101C, OFF JALAN KASKAS, JALAN CHERAS, 56100 KUALA LUMPUR
TEL: 03– 9132 3018 FAX: 03–9132 7018

ARKITEK :



6–15–01, Tower 2, Menara PGRM, no. 8&8 Jalan Putu Ulu 56100 Kuala Lumpur, Malaysia
603–9261 7177 603–9267 8208 e-gram@gra.com.my www.gra.com.my

JURUTERA M&E :



238, JALAN SS15/4C, 47500 SUBANG JAYA, SELANGOR DARUL EHSAN
Tel: 03–56366711 Fax: 03–56366177 E–mail: perunding_at02@myjaring.net

TAJUK LUKISAN :

AIR–CONDITIONING AND VENTILATION SYSTEM
EQUIPMENT SCHEDULE
(SHEET 1 OF 2)

| | | | |
|------------|----------------|---------|------------|
| DILUKIS | DAN | DISEMAK | SKS |
| SKALA | NOT TO SCALE | TARIKH | MARCH 2008 |
| NO.LUKISAN | 508307/M/AC/08 | PINDAAN | 1 |

PELAN INI MENGANDUNGI HAK CIPTA
kontraktor hendaklah mengikut dimensi yang ada di dalam rajah, segala dimensi mesti diperiksa dan disemak di tapak binaan, sebarang selisihan yang terdapat hendaklah dilaporkan kepada aitek/jurutera yang berkuasa.