## CHILLER SCHEDULE

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|---|---|
| IDENTIFICATION | CH-4 |
| MANUFACTURER | TRANE |
| MODEL No. | RTAC |
| TYPE | AIR-COOLED |
| NOMINAL CAPACITY (tons) | 500 |
| ACTUAL CAPACITY (tons) | 351.40 |
| O. A. TEMPERATURE | 80 |
| GPM | 1600 |
| EWT (F) | 38.10 |
| LWT (F) | 25.5 |
| CONDENSING TEMP (F) | 80 |
| SCALE FACTOR | 0.00010 |
| MAX WTR PD (FT H ⓶) | 25.10 |
| | |
| COMPRESSOR FANS: | |
| ELECTRICAL (KW) | 42.10 |
| NUMBER OF FANS | 28 |
| R.L.A. - EACH (amps) | 3.00 |
| | |
| COMPRESSOR: | |
| ELECTRICAL (KW) | 387.30 |
| UNIT ELECTRICAL | 460/60/3 |
| L.R.A. TOTAL EACH COMP. | 800/200 each |
| L.R.A. | 1384/346 each |
| STARTER TYPE | WYE DELTA CLOSED STARTER |
| UNIT KW | 435.30 |
| MCA (A) | 934.00 |
| ELECTRICAL CIRCUITS (#) | 2 |
| MOP (A) | 600 each |
| ACCESSORIES | |

REMARKS: ( ALL NOTES APPLY )

① 30% PROPYLENE GLYCOL

② FIELD CONTROLS, TRANSFORMER, DISCONNECTS, FLOW SWITCH, HEAT-TRACED EVAPORATOR, DUAL POINT CONNECTIONS.

③ PROVIDE ISOLATION VALVES ON INLET AND OUTLET. Y-TYPE START-UP STRAINER ON INLET.

④ SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

⑤ INTEGRAL CONTROL PANEL.WITH GATEWAY TO EXISTING ANDOVER SYSTEM.

⑥ EVAPORATOR COOLER SHALL INCLUDE ELECTRICAL HEATING CABLE FOR FREEZE PROTECTION DOWN TO 15°F AMBIENT.

⑥ PROVIDE FACTORY J-BOX, FACTORY MOUNTED PREWIRED STARTERS.

## DUCTWORK LEGEND

- RECTANGULAR DUCT TURNING DOWN
- ROUND DUCT TURNING DOWN
- DUCT TURNING DOWN TO SIDEWALL REGISTER AT FLOOR
- DOUBLE LINE TO SINGLE LINE DUCTWORK
- BRANCH TAP OFF MAIN W/DUCT EXTRACTOR OR SPIN-IN FITTING W/DAMPER (LOW PRESSURE)
- TRANSITION IN DUCT (NOT DIRECTION OF AIRFLOW)
- REGISTER TAPPING INTO BOTTOM OF DUCT
- CONTROL DAMPER
- FD — FIRE DAMPER (SINGLE LINE DUCT)
- FD — FIRE DAMPER (DOUBLE LINE DUCT)
- SD — SMOKE DAMPER
- SD — SMOKE DAMPER (DOUBLE LINE DUCT)
- FSD — FIRE/SMOKE DAMPER
- FSD — FIRE/SMOKE DAMPER (DOUBLE LINE DUCT)
- DUCT TERMINATION
- 45 FULL RADIUS TURN
- SQUARE ELBOW W/TURNING VANES
- FULL RADIUS TURN
- ① — ADJUSTABLE T'STAT
- ①C — CONCEALED T'STAT
- MVD — MANUAL VOLUME DAMPER
- SWR — SIDEWALL RETURN REGISTER
- SAR — SIDEWALL SUPPLY REGISTER
- SD 400 — INDICATES A SIZE "D" SUPPLY DIFFUSER SET FOR 400 CFM
- RB 100 — INDICATES A SIZE "B" RETURN REGISTER SET FOR 100 CFM
- EA 50 — INDICATES A SIZE "A" EXHAUST REGISTER SET FOR 50 CFM
- SUPPLY DIFFUSER (4-WAY)
- LINEAR SLOT DIFFUSER (SUPPLY OR RETURN)
- RETURN / EXHAUST GRILLE
- VARIABLE AIR VOLUME BOX (VAV)

## PIPING LEGEND

- S-60 — STEAM LINE-STEAM PRESSURE (60 PSI)
- GC — GRAVITY CONDENSATE RETURN
- PC — PUMPED CONDENSATE RETURN
- MCD — MOISTURE CONDENSATE DRAIN LINE
- HWS — HOT WATER SUPPLY
- HWR — HOT WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CS — CONDENSER WATER SUPPLY TO CHILLER
- CR — CONDENSER WATER RETURN TO TOWER
- DIRECTION OF WATER FLOW
- TEE
- LATERAL
- GUIDE
- ANCHOR
- PIPE TURNING DOWN
- PIPE TURNING UP
- C.O. O.S.&Y. — CHAIN OPERATED O.S.&Y. VALVE
- EMD — END OF MAIN DRIP

## COMBUSTION VENT/SUPPLY FAN SCHEDULE

| FAN NUMBER | CVF-1 (1)(2) | CSF-1(2) |
|---|---|---|
| SERVICE | BOILER FLUE | BOILER COMBUSTION AIR |
| TYPE | INLINE | INLINE |
| CFM | 3400 | 2300 |
| INLET PRESSURE IN WC | -0.030 | -0.75 |
| MIN MOTOR HP | 2 | 2 |
| ELECTRICAL | 480/3/60 | 480/3/60 |
| MODEL | RSV-450 | BESB31S |
| MFG | EXHAUSTO | EXHAUSTO |

REMARKS:

① PROVIDE STACK ADAPTOR FOR CONNECTION OF CVF-1 TO EXISTING BOILER STACK.

② SUPPLIER SHALL PROVIDE ALL NECESSARY CONTROLS FOR A COMPLETE PACKAGE INCLUDING VFD. SEE M-602. COORDINATE WITH CONTROLS PROVIDER

MECHANICAL GENERAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. DRAWINGS SHALL NOT BE SCALED.

2. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.

3. THE DRAWINGS MAY NOT SHOW ALL EXISTING ITEMS OR CONDITIONS. IN THE EVENT CONCEALED CONDITIONS ARE ENCOUNTERED WHICH MAY VARY SIGNIFICANTLY FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE DESIGNER BEFORE PROCEEDING WITH WORK.

4. CONTRACTOR SHALL FIELD VERIFY BY MEASUREMENT THE EXACT LOCATION OF EQUIPMENT, DUCTWORK, PIPING, STRUCTURE, AND OTHER CONDITIONS WHICH WILL AFFECT INSTALLATION. CONTRACTOR SHALL LOCATE EQUIPMENT AND ROUTE DUCTWORK AND PIPING TO AVOID CONFLICTS AND INTERFERENCES WITH FIELD CONDITIONS.

5. PRIOR TO ANY INSTALLATION, CLOSELY COORDINATE ALL MECHANICAL WORK WITH PLUMBING, FIRE PROTECTION, ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL WORK. CONTRACTOR TO ENSURE ALL EQUIPMENT AND SERVICES WILL FIT IN AVAILABLE SPACES ALLOWING CEILING HEIGHTS. INSTALL EQUIPMENT SO AS TO PROVIDE CLEARANCES SHOWN ON DRAWINGS AND AS RECOMMENDED BY MANUFACTURER FOR AIRFLOW, SERVICE, MAINTENANCE, AND FILTER REMOVAL AS APPLICABLE.

6. COORDINATE DUCT, PIPING, AND EQUIPMENT LOCATIONS WITH ELECTRICAL PANEL LOCATIONS. DO NOT PASS ANY MECHANICAL OR PLUMBING ITEMS DIRECTLY OVER ELECTRICAL PANELS. FIELD VERIFY EXACT PANEL LOCATIONS.

7. ALL CUTTING AND PATCHING SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL PATCHING SHALL RESTORE EACH DAMAGED SURFACE TO ITS ORIGINAL FINISH.

8. CEILING DIFFUSER AND REGISTER LOCATIONS ARE APPROXIMATE ONLY. EXACT LOCATIONS TO BE DETERMINED BY FIELD COORDINATION. MANY DUCTS AND PIPES ARE ROUTED ABOVE FURRED DOWN/LOWERED CEILINGS. CLOSELY COORDINATE DUCT AND PIPE ROUTING WITH EXISTING CEILING HEIGHTS. COORDINATE SIDEWALL REGISTER MOUNTING HEIGHTS AND LOCATIONS WITH EXISTING CEILING HEIGHTS.

9. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR. ALLOWANCE MUST BE MADE IN SHEET METAL SIZE WHERE DUCT LINER IS SPECIFIED.

10. LOW-PRESSURE DUCT RUNOUTS TO DIFFUSERS AND REGISTERS TO BE AS SCHEDULED UNLESS OTHERWISE INDICATED ON PLANS. CONTRACTOR TO PROVIDE A DISCHARGE AIR PLENUM ON EACH AIR TERMINAL DEVICE AS NECESSARY (SEE DETAIL).

11. DUCT RUNOUT SIZES TO VAV TERMINAL BOXES TO BE AS SCHEDULED UNLESS OTHERWISE INDICATED ON PLANS. CONTRACTOR TO PROVIDE A TRANSITION AND MINIMUM 18" LENGTH RIGID BOX CONNECTION SIZE DUCT AT BOX INLET.

12. NO FLEXIBLE DUCT SHALL PASS THROUGH ANY WALL, FIRE RATED OR OTHERWISE. NO FLEXIBLE DUCT SHALL BE EXPOSED. FIELD VERIFY EXISTING INSTALLATION HAS FLEXIBLE DUCT LENGTHS GREATER THAN 10 FT AS INDICATED ON AS-BUILT DRAWINGS. IF INSTALLATION USES FLEXIBLE DUCT FROM TERMINAL BOXES TO AIR DISTRIBUTION DEVICES, MATCH EXISTING. IF INSTALLATION USES MAXIMUM OF 10 FT OF FLEXIBLE DUCT, MATCH EXISTING. FLEXIBLE DUCT LENGTHS SHALL NOT EXCEED 3'-0" AT EACH VAV AIR TERMINAL DEVICE CONNECTION.

13. WHERE BRANCH TAPS OCCUR, PROVIDE INDIVIDUAL SPIN-IN FITTINGS WITH MANUAL-VOLUME DAMPERS FOR BALANCING. DO NOT USE TYPE WITH AIR SCOOP/EXTRACTOR. ADDITIONALLY, PROVIDE OPPOSED-BLADE VOLUME DAMPERS AT EACH AIR DISTRIBUTION DEVICE.

14. PROVIDE ACCESS DOORS IN DUCTS, WALLS, AND CEILINGS AS REQUIRED TO ACCESS DAMPERS, VALVES, AND OTHER ENCLOSED ITEMS. COORDINATE LOCATION OF ALL DOORS WITH GENERAL CONTRACTOR.

15. COORDINATE LOCATION AND PROVIDE DUCT ACCESS DOORS FOR ACCESS TO ALL FIRE DAMPERS. DUCT ACCESS DOORS MAY BE OMITTED WHERE TYPE "A" FIRE DAMPERS ARE ACCESSIBLE THROUGH SIDEWALL REGISTER FACE. INSURE DUCT ACCESS DOORS AND DAMPERS ARE ACCESSIBLE THROUGH CEILINGS AND WALLS. LOCATE DUCT ACCESS DOORS ABOVE SPACES WITH LAY-IN CEILINGS OR EXPOSED CEILINGS WHERE POSSIBLE.

16. ALL EXPOSED DUCTWORK, PIPING, AND EQUIPMENT IN FINISHED SPACES TO BE INSTALLED AS HIGH AS POSSIBLE ABOVE FINISHED FLOOR.

17. PROVIDE CANVAS, FLAME RETARDANT FLEXIBLE DUCT CONNECTORS AT ALL CONNECTIONS OF FANS TO DUCTWORK.

18. ALL MOISTURE CONDENSATE DRAIN (MCD) LINES SHALL BE "DWV" COPPER. SLOPE PIPING MINIMUM ⅛" PER FOOT TOWARD DRAIN. PROVIDE LINE SIZE CLEANOUTS AT CHANGES IN DIRECTION AND SPACED MAXIMUM 50'-0" ON CENTER.

19. PATCH ALL RATED FLOOR AND RATED WALL PENETRATIONS WITH U.L. APPROVED ASSEMBLIES IN ACCORDANCE WITH IBC REQUIREMENTS.

20. PROVIDE A MINIMUM 20'-0" SEPARATION BETWEEN ANY FRESH AIR INTAKE AND ANY MECHANICAL EXHAUST, GAS VENT, PLUMBING VENT, OR OTHER VENT OUTLETS.

21. PAINT CHILLERS TO MATCH SURROUNDING SURFACES IN ACCORDANCE WITH OWNER'S INSTRUCTIONS.

22. WHERE EXISTING DUCT IS REPLACED AND DEMOLISHED DUCT ICONTAINED MANUAL VOLUME DAMPER (MVD), CONTRACTOR SHALL PROVIDE MVD AS REQUIRED FOR THE REPLACEMENT DUCT.

23. ALL FLOOR OR RATED CHASE PENETRATIONS OF DUCT SHALL BE PROTECTED WITH FIRE/SMOKE DAMPERS.

THESE DOCUMENTS HAVE BEEN PREPARED PRIMARILY BASED ON INFORMATION PROVIDED BY OTHERS. I.C. THOMASSON HAS NOT VERIFIED THE ACCURACY OF ALL INFORMATION PROVIDED BY OTHERS. SEE LIMIT OF LIAIBILITIES STATEMENT ON COVER SHEET.

US ARMY ENGINEERING AND SUPPORT CENTER HUNTSVILLE

| Symbol | Description | Date | Appr. |
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DEFENSE INFORMATION SCHOOL FT. MEADE MARYLAND

MECHANICAL SCHEDULES

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