WHEN THE HOT WATER SYSTEM IS NOT IN OPERATION.

TGA AUTOMATIC - CIRCULATING HOT WATER SYSTEM PUMPS OR HEAT TRACE SHALL BE FOR EQUIPMENT SERVING OTHER OCCUPANCIES. THE OUTLET TEMPERATURE OF SERVICE WATER-HEATING EQUIPMENT SHALL BE PROVIDED WITH CONTROLS TO OR PLENUM DOES NOT EXCEED 15°F (8°C).


EXCEPTIONS:

AA. ALL REGISTERS AND DIFFUSERS SHALL HAVE DAMPERS OR EXTRACTORS FOR AIR BALANCING.
BB. INSTALL SPLITTERS AT BRANCH CONNECTIONS.
CC. CONTRACTOR SHALL HAVE INDEPENDENT TEST AND BALANCE CONTRACTOR BALANCE AIR FLOWS PER SMACNA STANDARDS, AND UMC STANDARDS.
DD. CONTRACTOR SHALL INSTALL A PRESSURE REGULATOR AT THE INCOMING WATER SERVICE IF WATER PRESSURE WASHES IN EXCESS OF 50 PSI.
EE. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR APPROPRIATE SIZE FOR ALL INCORRIBEL REMOTE EQUIPMENT.
FF. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR APPROPRIATE SIZE FOR ALL INCORRIBEL REMOTE EQUIPMENT.
GG. CONTRACTOR SHALL NOT MODIFY ANY STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, TRUSSES, ETC.
HH. SEE ARCHITECTURAL DRAWINGS FOR ROOF DRAINS.
II. ALL PIPING AND DUCTWORK THAT PENETRATES A FIRE RATED SHALL BE SEALED WITH APPROVED FIRE RATING MATERIALS AND FABRICATE AND INSTALL FIRE RATING AS REQUIRED.
JJ. SEE ARCHITECTURAL DRAWINGS FOR ROOF DRAINS.
KK. MECHANICAL AND PLUMBING EQUIPMENT SHALL BE LOCATED OUTSIDE THE BUILDING.
LL. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
MM. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
NN. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
OO. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
PP. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
QQ. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
RR. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
SS. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
TT. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
UU. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
VV. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
WW. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
XX. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
YY. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.
ZZ. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.

---

**MECHANICAL/PLUMBING SYMBOL LEGEND**

**SYMBOL**

**DESCRIPTION**

---

**ABBREVIATIONS**

**SYMBOL**

**DESCRIPTION**

---

**MINIMUM DUCT INSULATION**

| BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2009, SECTION R302.8 |

---

**MINIMUM PIPE INSULATION**

| BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2009, SECTION R308 AND ON SL |

---

**SEISMIC RESTRAINT FOR WATER HEATERS**

| BASED ON: UNIFIED MECHANICAL CODE, SECTION 603.4 |

---

**MINIMUM PIPE INSULATION**

| BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2009, SECTION R308 AND ON SL |

---

**TEMPERATURE AND HOT WATER SYSTEM CONTROLS**

| BASED ON: UNIFIED MECHANICAL CODE, SECTION 611.3 |

---

**TGA SET 6/17/2013**

---

**MECHANICAL NOTES & LEGEND**

---

**NOTES & LEGEND**

---

**M-001**
1. Recirculate air from top of stair down to first floor.
2. Down to 1st floor ceiling supply.
3. Up to 2nd floor, floor supply.
1. CONTRACTOR TO REUSE EXISTING DUCTWORK. SUPPLY AND RETURN AIR GRILLS SHALL BE REPLACED WITH NEW EQUIPMENT.
General Notes

A. SEE SHEET HM-1 FOR GENERAL MECHANICAL NOTES AND LEGEND.
B. SEE EQUIPMENT SCHEDULE ON SHEET HM-1 FOR EQUIPMENT SPECIFICATIONS.
C. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
D. COORDINATE ALL THERMOSTAT LOCATIONS WITH ARCHITECT.

Keyed Notes

1. CONTRACTOR TO REUSE EXISTING DUCTWORK.
2. SUPPLY AND RETURN AIR GRILLS SHALL BE REPLACED WITH NEW EQUIPMENT.
MECHANICALFLOOR PLAN

General Notes
A. SEE SHEET M-106 FOR GENERAL MECHANICAL NOTES AND LEGEND.
B. SEE EQUIPMENT SCHEDULE ON SHEETS M-101 FOR EQUIPMENT SPECIFICATIONS.
C. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
D. COORDINATE ALL THERMOSTAT LOCATIONS WITH A HIGH ELECTRICIAN.

Keyed Notes
1. MOUNT FAN COIL ON GALVANIZED METAL PLATFORM. PROVIDE RETURN DUCT THROUGH WALL TO RG-2. SEE DETAIL SHEET M-501.
a) Refer to Installation, Operation and Service Manual for proper design.
b) Type "B" vent materials must be used outdoors.
c) An insulating thimble (P/N 90505600) is required to pass through combustible structures.
d) 4" (10 cm) O.D. vent pipe, maximum 45 ft. (13.7 m) in length may be used as shown above with an approved vent cap (P/N 90502300). NOTE: Condensate may develop when long vent pipes are used. It is recommended that the pipe length should be less than 20' (6m).
e) When heater extension packages are used, they directly affect maximum vent length. Refer to Installation, Operation and Service Manual for requirements.
### EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL</th>
<th>CFM</th>
<th>ESP</th>
<th>AMPS</th>
<th>VAC/P/HZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>EX-1</td>
<td>SP-A50</td>
<td>51</td>
<td>0.125&quot;</td>
<td>0.50</td>
<td>120/1/60</td>
</tr>
</tbody>
</table>

EX-1: CEILING EXHAUST; CEILING MOUNTED SUPER-QUIET EXHAUST FAN; STATIC AND DYNAMICALLY BALANCED; ROUND BLOODED WOODEN WALL CAP WITH BRIDGEDCEILING GRILLE. MODEL NUMBERS ARE GREENHECK. CAPACITIES ARE FOR SEA LEVEL.

### RANGE HOOD

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL #</th>
<th>WIDTH</th>
<th>CFM</th>
<th>VAC/P/HZ</th>
<th>AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RH-1</td>
<td>QDE30SS</td>
<td>30&quot;</td>
<td>280</td>
<td>120/1/60</td>
<td>1.6</td>
</tr>
</tbody>
</table>

RH-1: RANGE HOOD: STAINLESS STEEL; TWO POSITION LIGHT; RESILIENT VIBRATION ISOLATION; 2 SPEED CENTRIFUGAL FAN; DISHWASHER SAFE ALUMINUM FILTERS; DUCT CONNECTOR WITH BUILT IN DAMPER; FRONT CONTROLS; ENERGY STAR RATING.

### HEAT PUMP

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL NO.</th>
<th>COOLING BTUH</th>
<th>HEATING BTUH</th>
<th>WEIGHT</th>
<th>VAC/P/HZ</th>
<th>MCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP-1</td>
<td>25HCA624A0030</td>
<td>24,000</td>
<td>15,300@17°F</td>
<td>257</td>
<td>208/230/1/60</td>
<td>16.2</td>
</tr>
<tr>
<td>HP-2</td>
<td>25HCA636A0030</td>
<td>36,000</td>
<td>22,600@17°F</td>
<td>269</td>
<td>208/230/1/60</td>
<td>23.7</td>
</tr>
<tr>
<td>HP-3</td>
<td>25HCA648A0030</td>
<td>48,000</td>
<td>29,200@17°F</td>
<td>295</td>
<td>208/230/1/60</td>
<td>29.8</td>
</tr>
</tbody>
</table>

HP-1: OUTDOOR HEAT PUMP; 2 STAGE SCROLL COMPRESSOR; INTERNAL PRESSURE RELIEF VALVE; INTERNAL THERMAL OVERLOAD; HIGH PRESSURE SWITCH; LOSS OF CHARGE SWITCH; FILTER DRIER; LOW AMBIENT ACCESORY KIT; BAKED ON POWDER PAINT; DENSE WIRE COIL GUARD; CRANK CASE HEATER. MODEL NO. IS CARRIER.

### FAN COIL

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL NO.</th>
<th>CFM/SP</th>
<th>COOLING BTUH</th>
<th>HEATING BTUH</th>
<th>BLOWER CLG/HTG</th>
<th>HP</th>
<th>VAC/P/HZ</th>
<th>AUX. ELEC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC-1</td>
<td>FV4CNF0020O5</td>
<td>875/0.5</td>
<td>24,000</td>
<td>15,300@17°F</td>
<td>1/2</td>
<td>1/2</td>
<td>208/230/1/60</td>
<td>5 KW</td>
</tr>
<tr>
<td>FC-2</td>
<td>FV4CNF0030O5</td>
<td>1050/0.5</td>
<td>36,000</td>
<td>22,600@17°F</td>
<td>1/2</td>
<td>1/2</td>
<td>208/230/1/60</td>
<td>5 KW</td>
</tr>
<tr>
<td>FC-3</td>
<td>FV4CNF0030O5</td>
<td>1400/0.5</td>
<td>48,000</td>
<td>29,200@17°F</td>
<td>1/2</td>
<td>1/2</td>
<td>208/230/1/60</td>
<td>5 KW</td>
</tr>
</tbody>
</table>

FC-1: DX FAN COIL; DOUBLE DEFLECTION; 3/4" BLADE SPACING; ADJUSTABLE BLADES PARALLEL.

### RETURN GRILLE

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG-1</td>
<td>36&quot;X36&quot;</td>
</tr>
<tr>
<td>RG-2</td>
<td>18&quot;X18&quot;</td>
</tr>
</tbody>
</table>

RG-1: RETURN GRILLE: TITUS RETURN GRILLE: MODEL 350RL FIXED BLADES AT 3/4 CENTERS.

### CONDENSATE PUMP

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL NO.</th>
<th>CAPACITY</th>
<th>HP</th>
<th>VAC/P/HZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-1</td>
<td>VCC-20</td>
<td>80 GAL/HR</td>
<td>1/30</td>
<td>120/1/60</td>
</tr>
</tbody>
</table>

P-1: CONDENSATE PUMP: LOW PROFILE; VERTICAL TYPE PUMP; LEAK PROOF ABS TANK; 3/8" BARBED DISCHARGE; SAFETY SWITCH & FUSES CON; UL/CSA LISTED; 30' HOSE; STAINLESS STEEL MOTOR SHAFT. MODEL NO. IS LITTLE GIANT.