6. HEPA FILTERS

A. 24" x 24" x 11-1/2" nominal size HEPA filters, wood, or steel frames, furnished and installed by the laboratory.

B. BASE DESIGN ON AN AIR FLOW RATE OF 300 CFM FILTER OR 1250 CFM FILTER: MINIMUM FLOW RATE 200 CFM FILTER.

C. CONSULT WITH ESH PERSONNEL, FOR THE NUMBER OF HEPA FILTRATION STAGES REQUIRED.

7. CHEMICAL ADSORBERS

A. CHEMICAL ADSORBERS REMOVE GASEOUS EMISSIONS FROM RADIOACTIVE, BIOLOGICAL, AND OR CHEMICAL PROCESS EXHAUST AIR.

B. SPECIFY NUCLEAR GRADE CHEMICAL ADSORBERS USING VIRGIN COCONUT SHELL CARBON.

C. CONSULT WITH ESH PERSONNEL AND THE CHEMICAL ADSORBER MANUFACTURER'S TECHNICAL REPRESENTATIVE TO ASSURE PROPER SELECTION, RESIDENCE TIME CALCULATION, AND SYSTEM CONFIGURATION.

D. INSTALL HEPA FILTERS UPSTREAM OF THE FIRST ADSORBER CELL AND DOWNSTREAM OF THE LAST ADSORBER CELL.

8. BASE FAN SELECTION ON THE FOLLOWING FILTER AIR FLOW RESISTANCE (INCHES W.G.), RATED AT 1000 CFM FILTER.

<table>
<thead>
<tr>
<th>FILTER TYPE</th>
<th>RESISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE SCREEN</td>
<td>0.10</td>
</tr>
<tr>
<td>PREFILTER</td>
<td>0.20</td>
</tr>
<tr>
<td>HEPA FILTER (FIRST STAGE)</td>
<td>1.00</td>
</tr>
<tr>
<td>HEPA FILTER (SUBSEQUENT STAGES)</td>
<td>1.00</td>
</tr>
<tr>
<td>CHEMICAL ADSORBER</td>
<td>1.25</td>
</tr>
</tbody>
</table>

9. FILTER TEST SECTIONS

A. INSTALL TEST SECTIONS UPSTREAM AND DOWNSTREAM OF EACH HEPA FILTER AND CHEMICAL ADSORBER EXCEPT AS NOTED.

B. SINGLE, 1 HIGH x 1 WIDE, HEPA INSTALLATION DOES NOT REQUIRE AN UPSTREAM TEST HOUSING PROVIDING A CHAMBERED PORT IS FACTORY INSTALLED IN THE HEPA HOUSING AND AN INJECTION PORT IS LOCATED IN THE UPSTREAM DUCTWORK. SEE SHEET ST6700.1.

C. DO NOT SPECIFY HOUSINGS EXCEEDING 6 FILTERS WIDE OR 3 FILTERS HIGH.

D. LOCATE THE GAUGES INDOORS WHEN THE FILTER TRAIN IS INSTALLED OUTDOORS.

E. LOCATE THE FILTER TRAIN AS CLOSE AS POSSIBLE TO THE SOURCE OF CONTAMINATION. PROVIDE A MINIMUM OF 10'-0" OF DUCTWORK BETWEEN THE SOURCE AND THE FILTER TRAIN TRANSITION FLANGE.

F. SPECIFY FILTER ACCESS DOORS ON BOTH SIDES OF THE HOUSING WHEN THERE ARE MORE THAN 3 FILTERS WIDE IN A BANK.

G. DO NOT SPECIFY HOUSINGS EXCEEDING 6 FILTERS WIDE OR 3 FILTERS HIGH.

H. PROVIDE GAUGES TO MEASURE THE PRESSURE DIFFERENTIAL ACROSS EACH FILTER BAY (I.E., FIRE SCREEN, PREFILTERS, 1ST AND 2ND HEPA BANK, CHEMICAL ADSORBERS, ETC.).

I. LOCATE THE GAUGES AT THE INLET SIDE OF EACH FILTER.

J. DO NOT SPECIFY HOUSINGS EXCEEDING 6 FILTERS WIDE OR 3 FILTERS HIGH.

K. PROVIDE GAUGES TO MEASURE THE PRESSURE DIFFERENTIAL ACROSS EACH FILTER BAY (I.E., FIRE SCREEN, PREFILTERS, 1ST AND 2ND HEPA BANK, CHEMICAL ADSORBERS, ETC.).

L. LOCATE THE GAUGES AT THE INLET SIDE OF EACH FILTER.

M. DO NOT SPECIFY HOUSINGS EXCEEDING 6 FILTERS WIDE OR 3 FILTERS HIGH.