Section D was turned 90° clockwise
- Section E was the exhaust section.

Fig. 1. Spray Combustor Enclosure (Schematic)
Circular plate, 3/8 thick, 32 holes for 1/4 bolts, equi-spaced on 33.5bcs

Bottom Plate of Chamber

Notes:
Materials: SS316
Dimensions in inches
Not to Scale
equispaced bolt holes

NIST Spray Combustor Enclosure
Drg. No. SCE3/3; Bottom Plate of Chamber
5 Sensor ports (1/2 swagelock fittings); 2.6 inches apart, equally spaced, aligned on a vertical line, with one at the center.

Plan view

Flange, 35 OD; 3/8 thick, 32 holes for 1/4 bolts on 33.5bcd

Lower Section

<table>
<thead>
<tr>
<th>Optical Port</th>
<th>dia</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (0 deg)</td>
<td>6</td>
</tr>
<tr>
<td>B (30 deg)</td>
<td>10</td>
</tr>
<tr>
<td>C (90 deg)</td>
<td>6</td>
</tr>
<tr>
<td>D (120 deg)</td>
<td>10</td>
</tr>
<tr>
<td>E (180 deg)</td>
<td>6</td>
</tr>
</tbody>
</table>

Notes:
- Material: SS316
- Dimensions in inches
- Not to scale
- Angles not shown accurately
For flange specs see Drg. SCE2/2
16 holes for #8-32 socket head cap screws on 6.5 bcd

8 tapped holes for #4-40 screws on 6.5 bcd; 1/8 deep in the bottom

6-Inch Window Housing Body

Notes:
Dimensions in inches
NOT TO SCALE
MATERIAL: SS304
No. of Pieces: 3
5 Sensor ports (1/2 swagelock fittings); 2.6 inches apart, equally spaced, aligned on a vertical line; with one at the center.

Plan view

<table>
<thead>
<tr>
<th>Optical Port</th>
<th>dia</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (0 deg)</td>
<td>10</td>
</tr>
<tr>
<td>B (45 deg)</td>
<td>10</td>
</tr>
<tr>
<td>C (90 deg)</td>
<td>10</td>
</tr>
<tr>
<td>D (130 deg)</td>
<td>10</td>
</tr>
<tr>
<td>E (180 deg)</td>
<td>10</td>
</tr>
</tbody>
</table>

Notes:
- Material: SS316
- All Optical Ports identical in size and shape
- Dimensions in inches
- Not to Scale
- Angles not shown accurately
- NIST Spray Combustor Enclosure
- Drg. No. SCE3/1: Upper Section (Type B S)
8 tapped holes for #4-40 socket head cap screws on 10.625 bcd; 1/8 deep in the bottom

16 holes for #8-32 socket head cap screws on 10.625 bcd

10-Inch Window Housing Body

Notes:
Dimensions in inches
NOT TO SCALE
MATERIAL: SS304
Number of pieces: 3
Cover Flange, 11.5 OD, 3/8 thick, 16 holes for 1/4 bolts on 10.75bcd

![Diagram of Cover Flange Dimensions]

Cover Plate for 10 dia Optical Port

Material: Aluminum
Required: 8 pieces

Cover Plate, 7.5 OD, 3/8 thick, 16 holes for 1/4 bolts on 6.75bcd

![Diagram of Cover Plate Dimensions]

Cover Plate for 6 dia Optical Port

Material: Aluminum
Required: 3 pieces

Notes:
Dimensions in inches
Not to Scale
equispaced bolt holes
Bolt hole patterns must match bolt hole patterns on interfacing optical port flanges

NIST Spray Combustor Enclosure
Drg. No. SCE2/3; Cover Plates for Optical Ports
Notes:
Materials: SS316
Dimensions in inches
Not to Scale
Equispaced bolt holes
Smooth surface without bumps to facilitate inserting of sleeves
Flanges to be welded carefully to maintain bolt hole alignment
Need to achieve the assembly as indicated in the sketches (Drg. No. SCE1/1 and SCE1/2)

NIST Spray Combustor Enclosure
Drg. No. SCE4/1; Type C Section
Flange, 19 DD, 3/8 thick, 16 holes for 1/4 bolts on 17.5bcd

Notes:
Material: SS316
Dimensions in inches
Not to Scale
equispaced bolt holes
Smooth surfaces without bumps to facilitate inserting of sleeves
Flanges to be welded carefully to maintain bolt hole alignment
Need to achieve the assembly as indicated in the sketches
(Drg. No. SCE1/1 and SCE1/2)

NIST Spray Combustor Enclosure
Drg. No. SCE4/2; Type D Section
Total of 11 Sensor ports (3/4 swagelock fittings) arranged radially, 2.5 inches apart, one at the center.

Plan view

3/8 thick Flange, 35 ID, 32 holes for 1/4 dia bolts on 33.5bcd

Top Cover Plate

Notes:
Material:
Dimensions in inches
Not to Scale
equispaced bolt holes

NIST Spray Combustor Enclosure
Drg. No. SCE4/3; Top Cover Plate
Flange, 19 OD, 3/8 thick, 16 holes for 1/4 bolts on 17.5bcd

Cover Plate

No of pieces required: 2

Notes:
Material: SS316
Dimensions in inches
Not to Scale
equispaced bolt holes

NIST Spray Combustor Enclosure
Drg. No. SCE5/2; Cover Plate