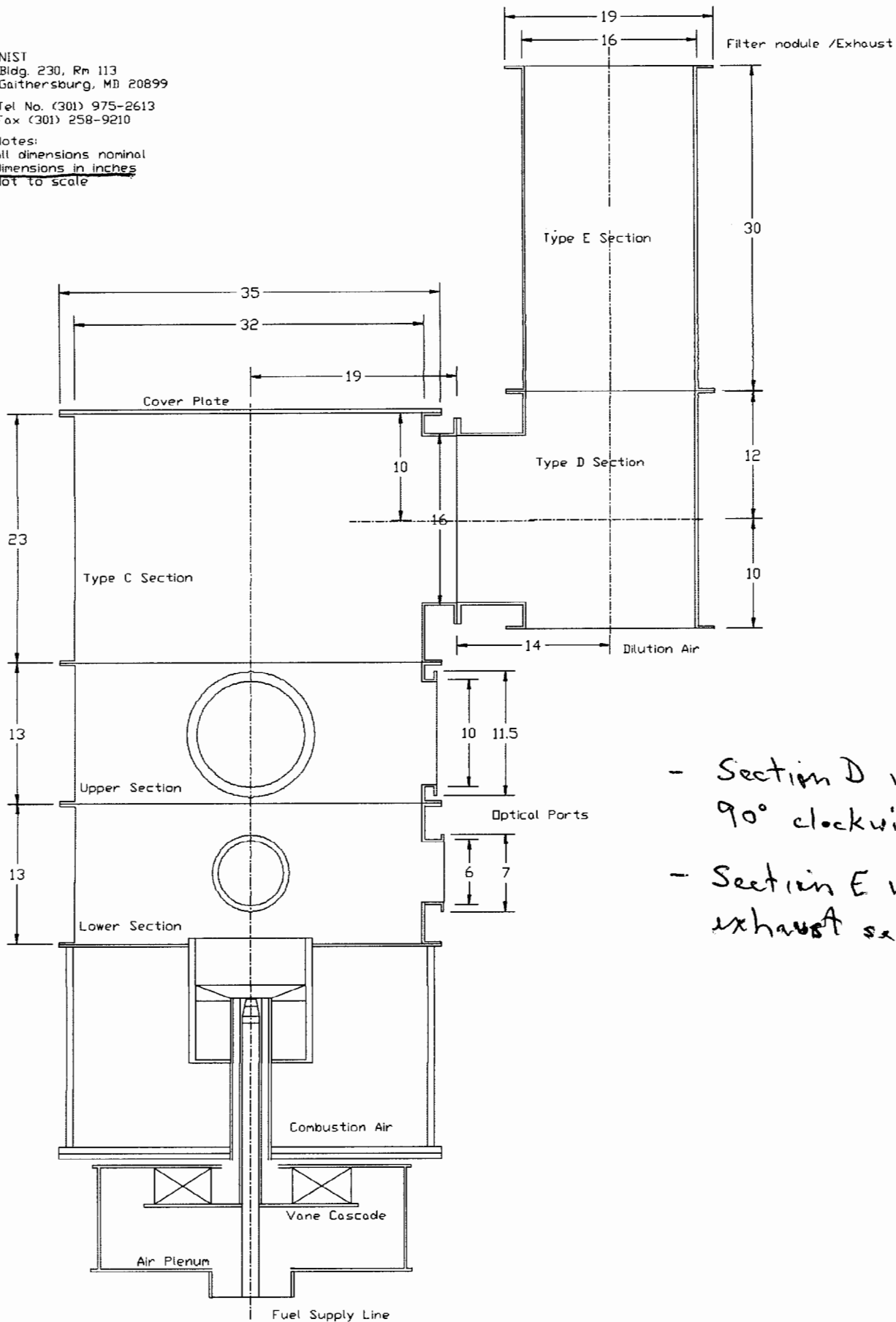


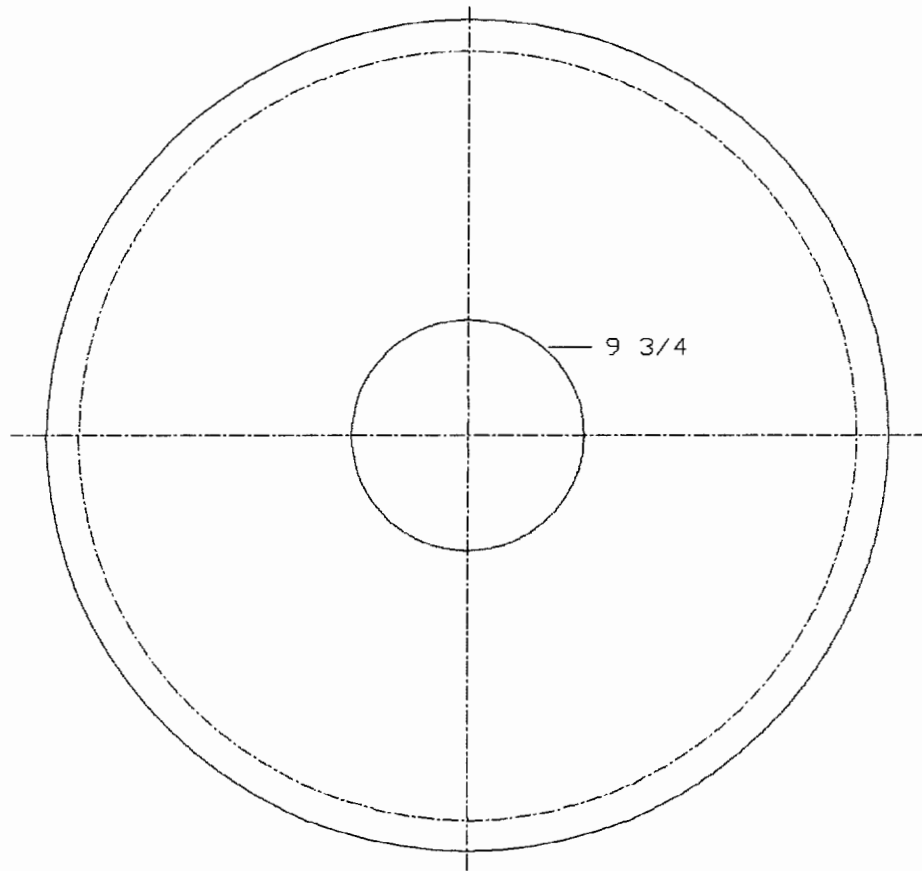
NIST
 Bldg. 230, Rm 113
 Gaithersburg, MD 20899
 Tel No. (301) 975-2613
 Fax (301) 258-9210

Notes:
 All dimensions nominal
 Dimensions in inches
 Not to scale



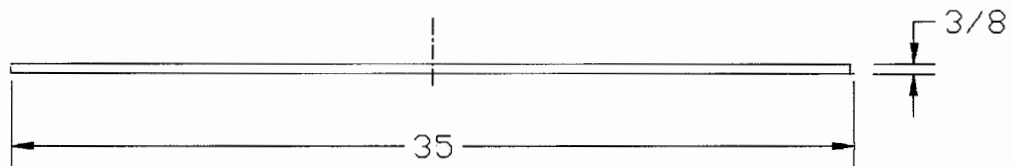
- Section D was turned 90° clockwise
- Section E was the exhaust section.

Fig. 1. Spray Combustor Enclosure (Schematic)



Plan Cover

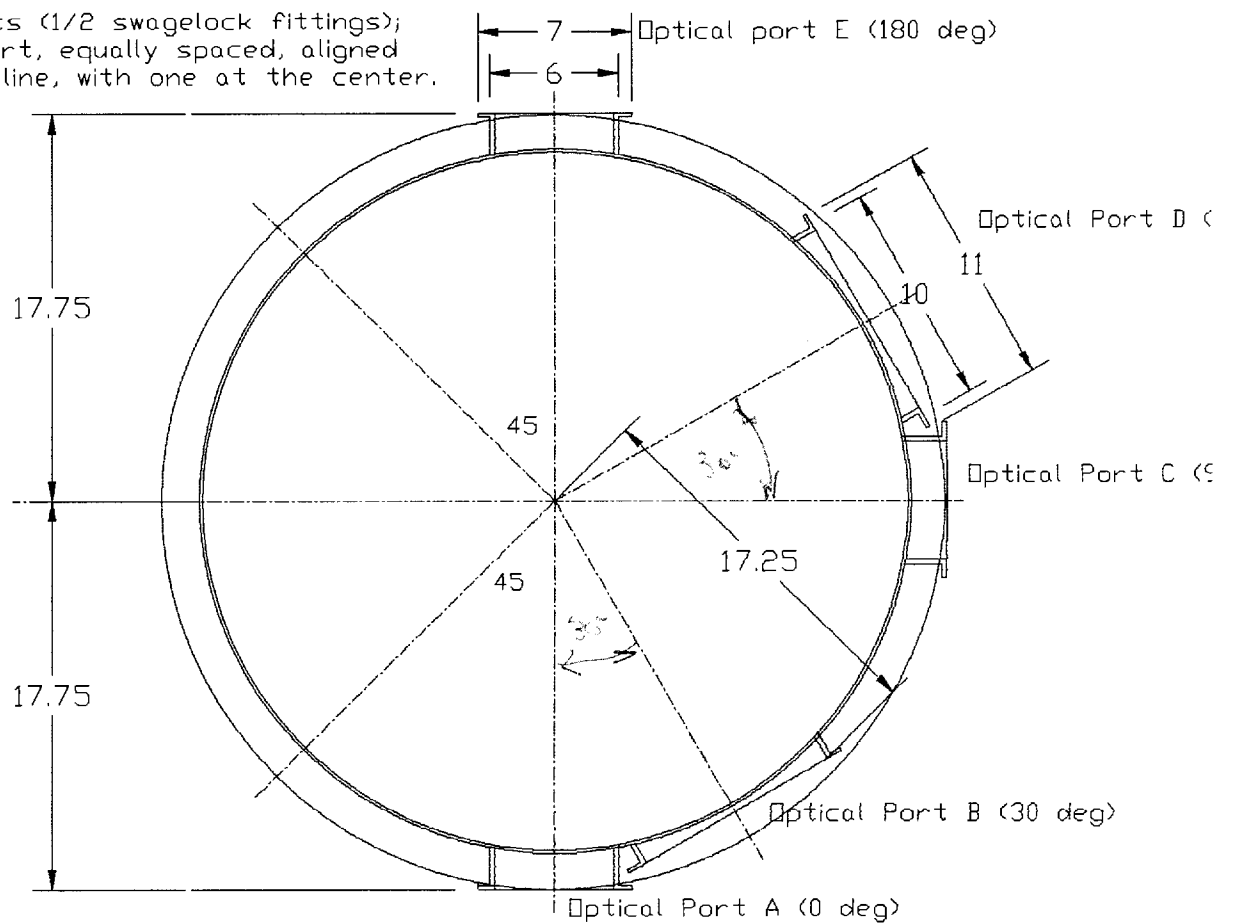
Circular plate, $\frac{3}{8}$ thick, 32 holes for $\frac{1}{4}$ bolts, equi-spaced on 33.5bc



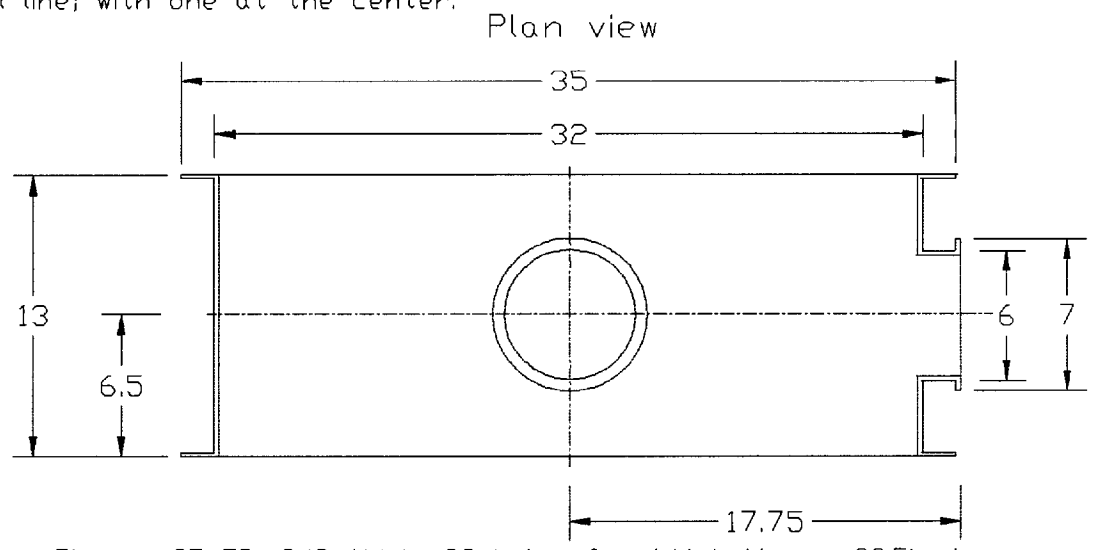
Bottom Plate of Chamber

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

5 Sensor parts (1/2 swagelock fittings);
2.6 inches apart, equally spaced, aligned
on a vertical line, with one at the center.



5 Sensor ports (1/2 swagelock fittings);
2.6 inches apart, equally spaced, aligned
on a vertical line; with one at the center.



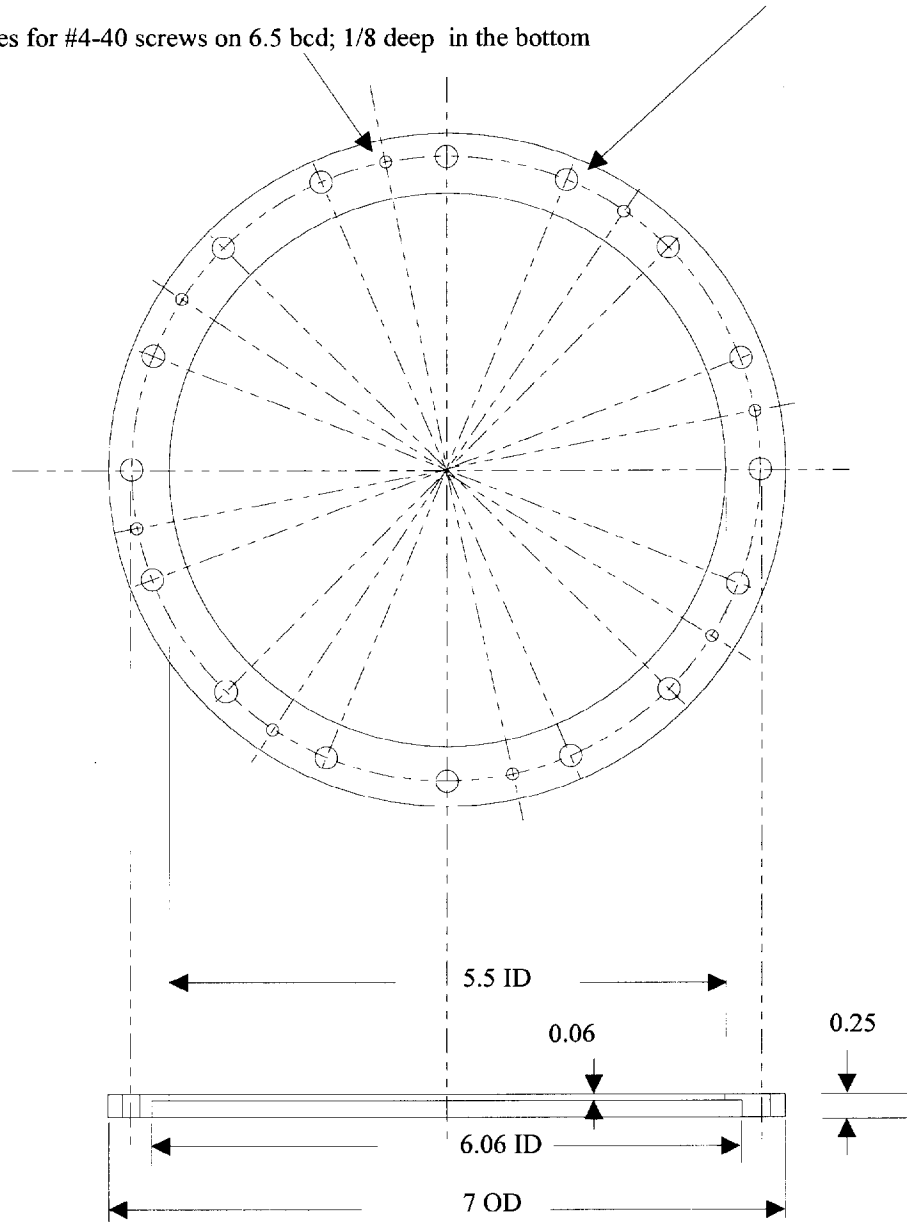
Flange, 35 OD; 3/8 thick, 32 holes for 1/4 bolts on 33.5bcd
Lower Section

TABLE

Optical Port	dia
A (0 deg)	6
B (30 deg)	10
C (90 deg)	6
D (120 deg)	10
E (180 deg)	6

NIST Spray Combustor Enclosure
Drg. No. SCE2/1; Lower Section (Type A Se
Notes:
Material: SS316
Dimensions in inches
Not to scale
Angles not shown accurately
For flange specs see Drg. SCE2/2

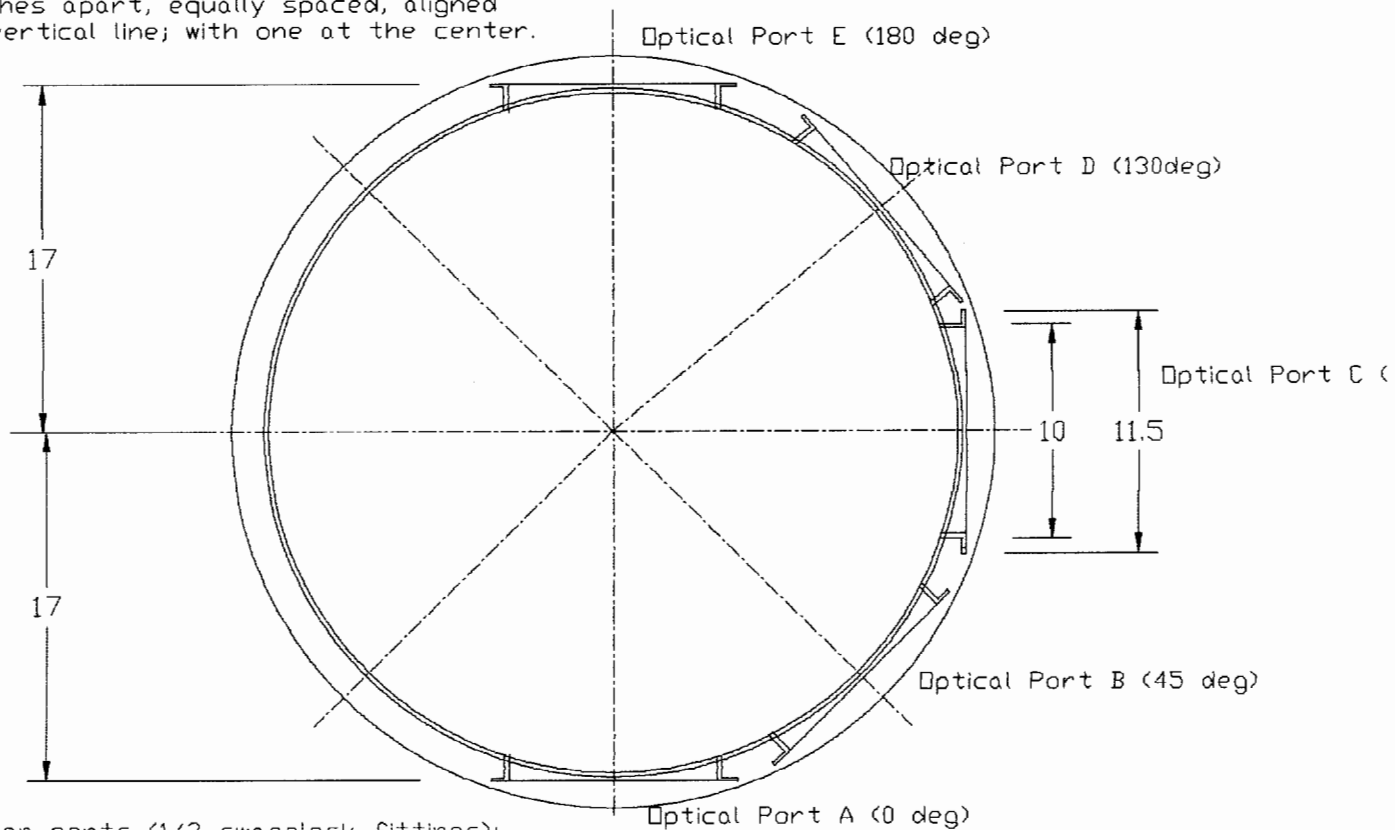
16 holes for #8-32 socket head cap screws on 6.5 bcd
8 tapped holes for #4-40 screws on 6.5 bcd; 1/8 deep in the bottom



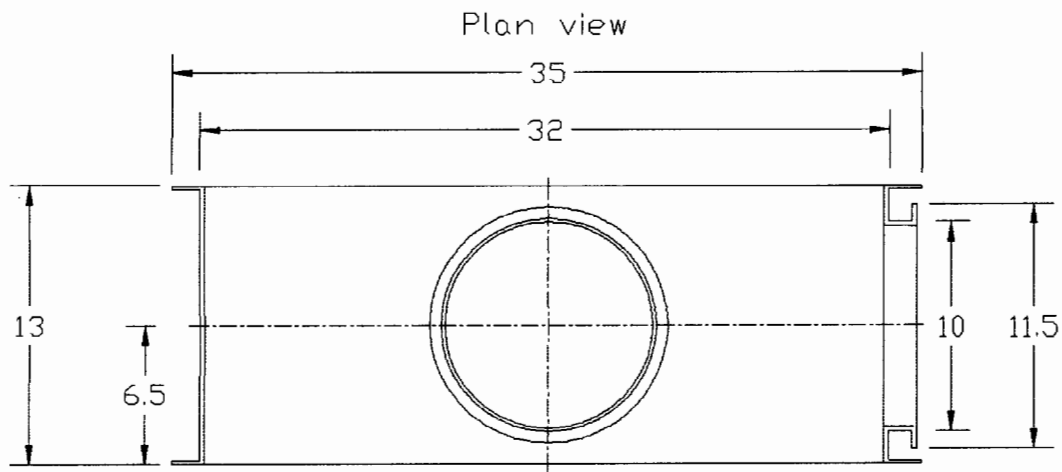
6-Inch Window Housing Body

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.



5 Sensor ports (1/2 swagelock fittings);
2.6 inches apart, equally spaced, aligned
on a vertical line; with one at the center.



Flange, 35 OD; 3/8 thick, 32 holes for 1/4 bolts on 33.5bcd
Flange, 11.5 OD; 1/4 thick, 16 holes for 1/4 dia bolts on 10.75bcd

Upper Section

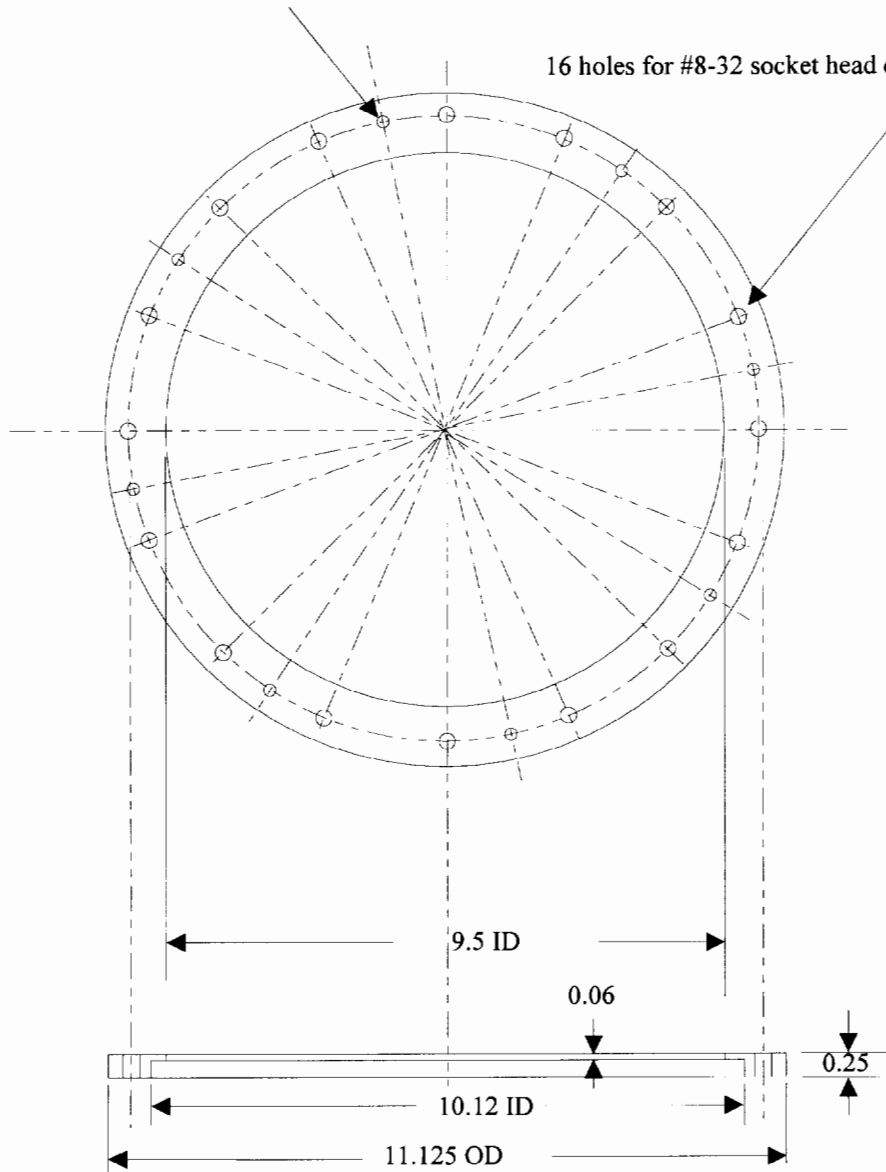
TABLE

Optical Port	dia
A (0 deg)	10
B (45 deg)	10
C (90 deg)	10
D (130 deg)	10
E (180 deg)	10

Notes:
Material: SS316
All Optical Ports identical in size and str
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

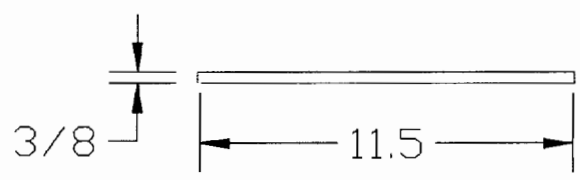
16 holes for #8-32 socket head cap screws on 10.625 bcd



10-Inch Window Housing Body

Notes:
Dimensions in inches
NOT TO SCALE
MATERIAL: SS304
Number of pieces: 3

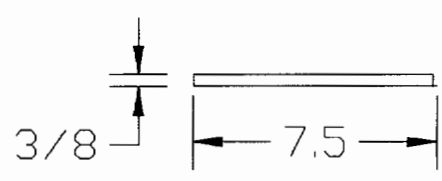
Cover Flange, 11.5 \square D, 3/8 thick, 16 holes for 1/4 bolts on 10.75bcc



Cover Plate for 10 dia \square Optical Port

Material: Aluminum
Required: 8 pieces

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



Cover Plate for 6 dia \square Optical Port

Material: Aluminum
Required: 3 pieces

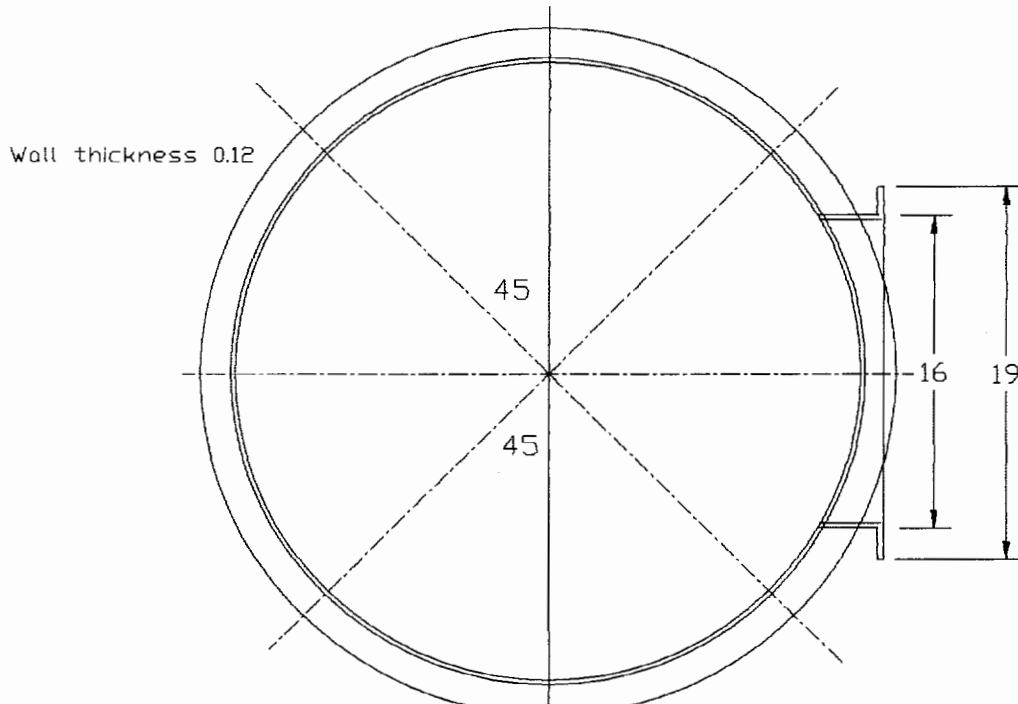
Notes:

Dimensions in inches

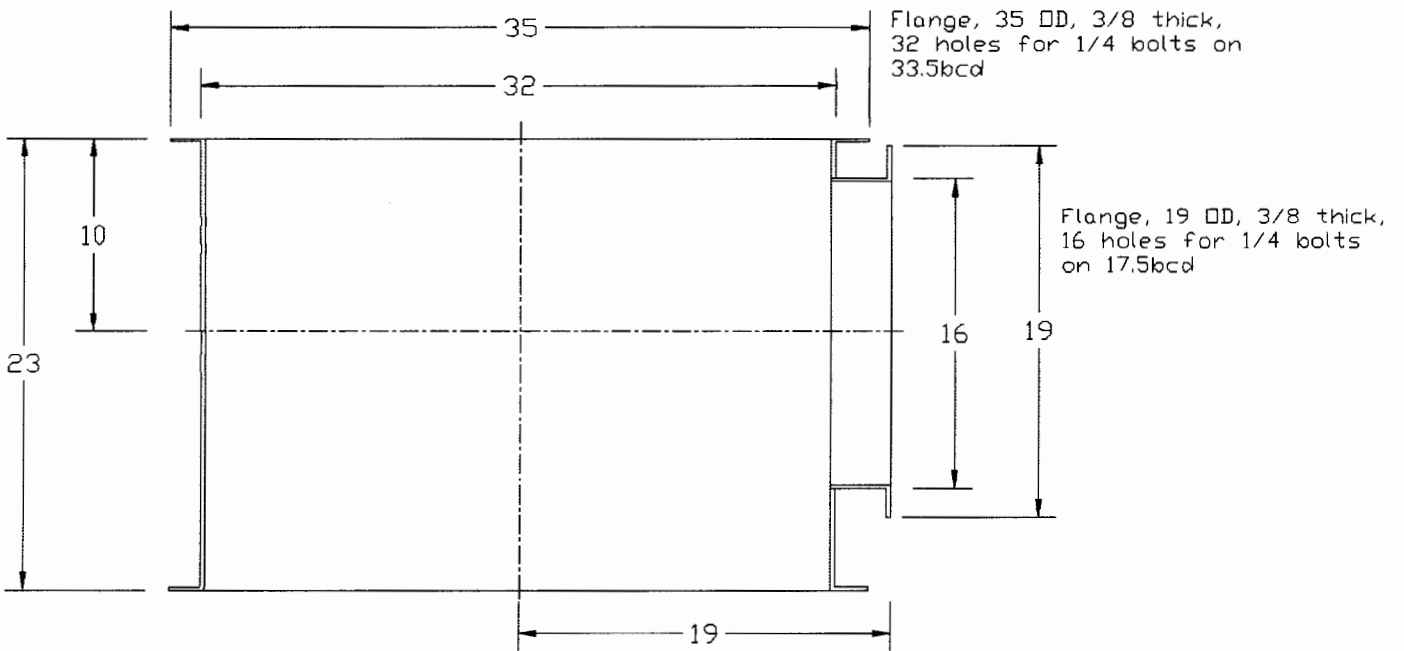
Not to Scale

equispaced bolt holes

Bolt hole patterns must match bolt hole patterns on interfacing optical port flanges



8 sensor ports, aligned in a vertical arrangement
 1/2 swagelock (weld) fittings
 2.6 apart, starting one at 1.3 from bottom flange



Type C Section

Notes:

Materials: SS316

Dimensions in inches

Not to Scale

equispaced bolt holes

Smooth surface without bumps to facilitate inserting of sleeves

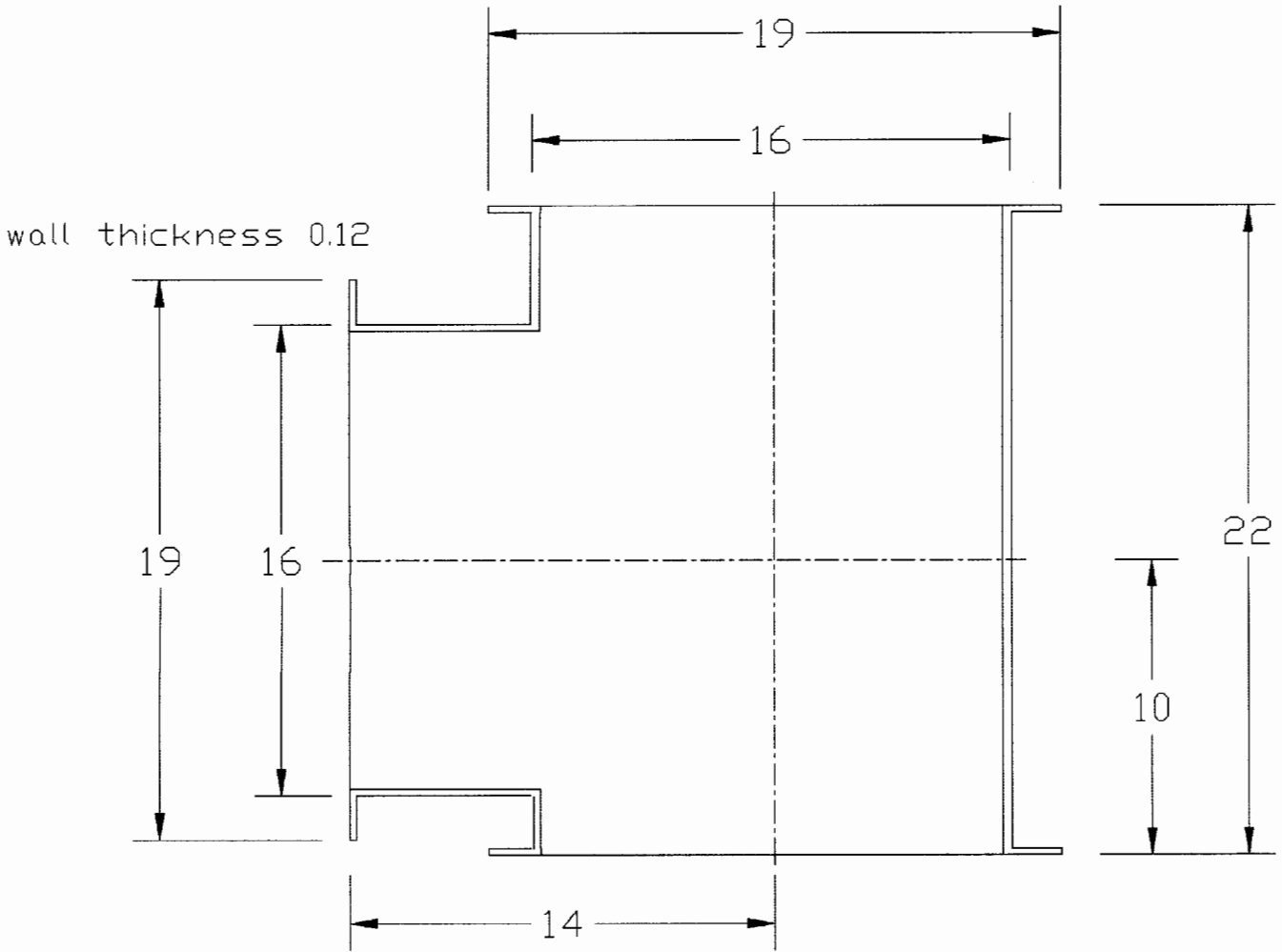
Flanges to be welded carefully to maintain bolt hole alignment

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 \square D, 3/8 thick, 16 holes for 1/4 bolts on 17.5bcd



Flange, 19 \square D, 3/8 thick, 16 holes for 1/4 bolts on 17.5bcd

Type D Section

Notes:

Material: SS316

Dimensions in inches

Not to Scale

equispaced bolt holes

Smooth surfaces without bumps to facilitate inserting of sleeve

Flanges to be welded carefully to maintain bolt hole alignment

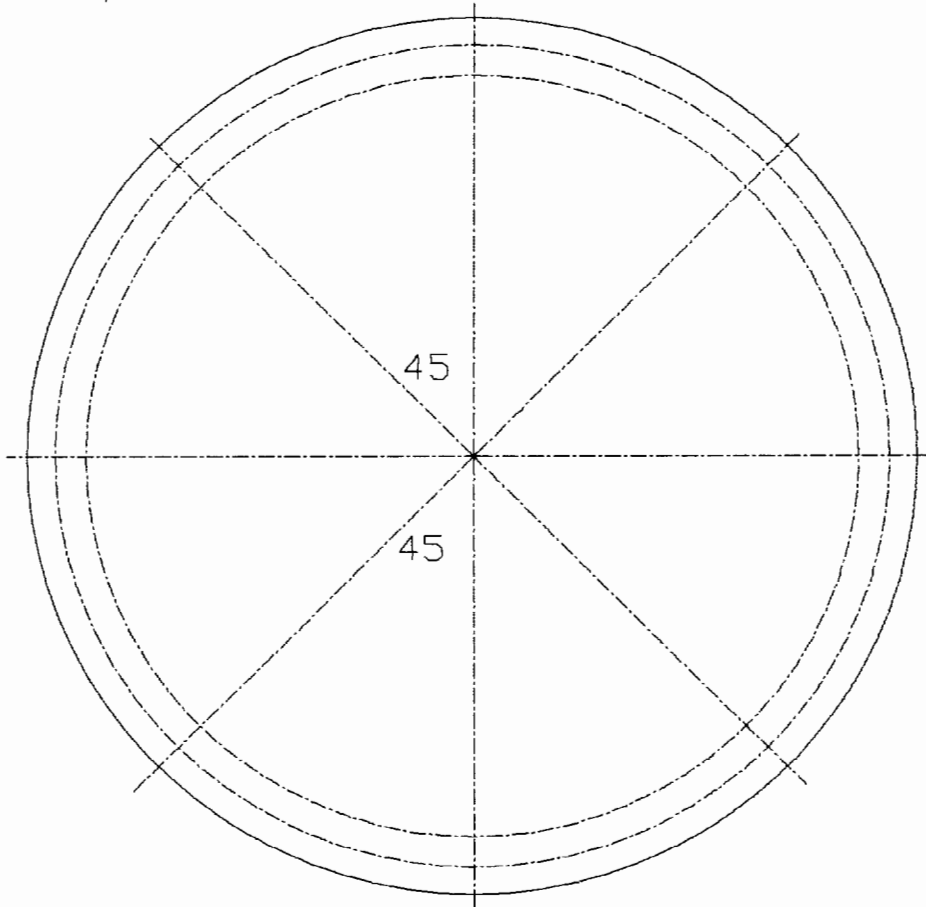
Need to achieve the assembly as indicated in the sketches

(Drg. No. SCE1/1 and SCE1/2)

NIST Spray Combustor Enclosure

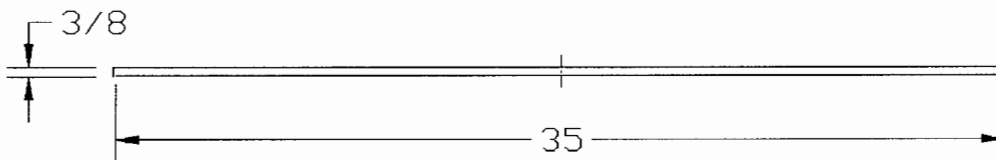
Drg. No. SCE4/2; Type D Section

Total of 11 Sensor ports (3/4 swagelock fittings) arranged radially, 2.5 inches apart, one at the center.



Total of 11 Sensor ports (3/4 swagelock fittings) arranged radially, 2.5 inches apart, one at the center.

Plan view



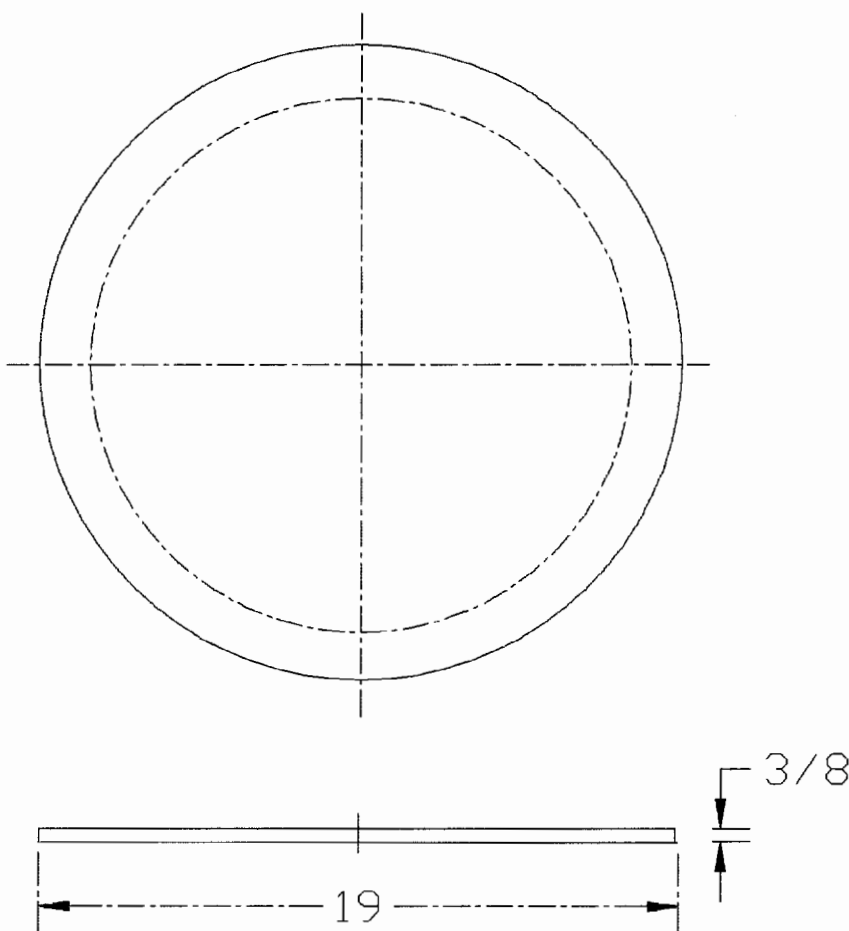
3/8 thick Flange, 35 \square D, 32 holes for 1/4 dia bolts on 33.5bcd

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