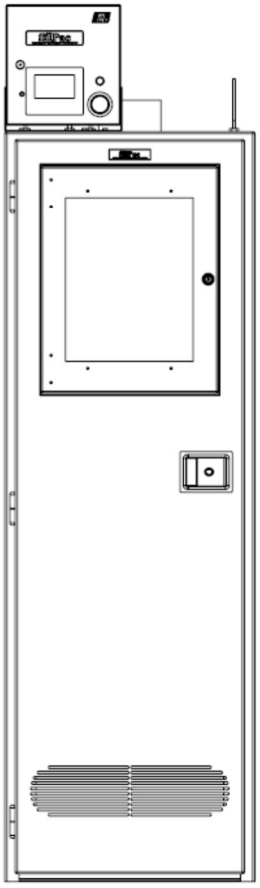
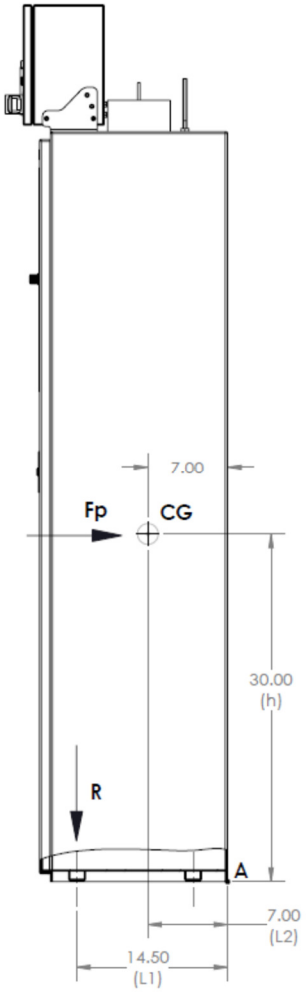




Calculation of Overturning Force

Sum the moments of the reactions on the system about line through the point A equal 0.

$$Fp(h) - 0.85Wp(L2) - 2R(L1) = 0$$

$$R = \frac{Fp(h)-0.85Wp(L2)}{2L1}$$

If $0.94h \geq 0.85L2$, than there is a tension reaction, R at the two anchors to resist overturning of system

Ll = 14.5 inch

L2 = 7 inch

h = 30 inch

W = 375 lbs

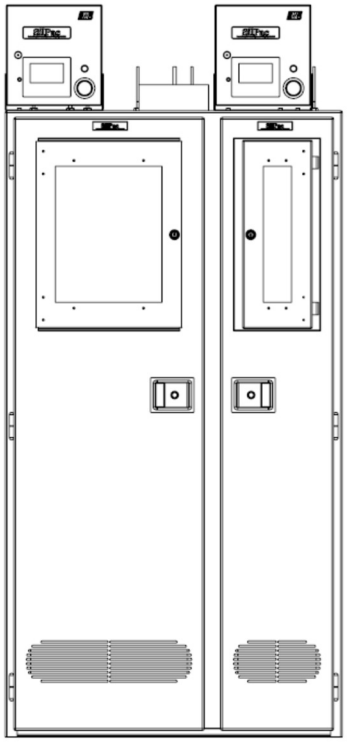
Lateral force = $Fp/4 = 0.94(375)/4 = 88.13$

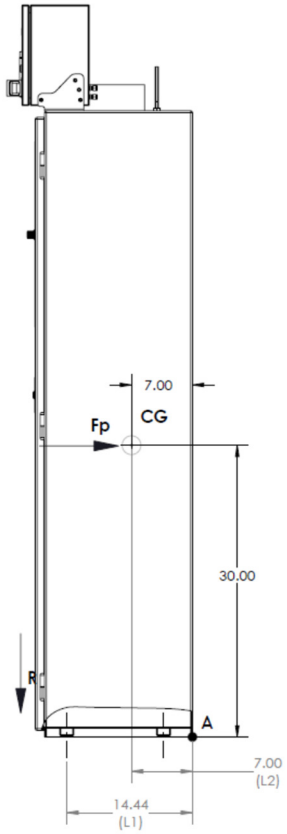
Overturning force $R = \frac{Fp(h)-0.85Wp(L2)}{2L1}$

$$R = \frac{375(0.94(30)-0.85(7))}{2(14.5)}$$

R = 288 lbs

2.2.3 Two Cylinder Seismic Calculation Drawing





Calculation of Overturning Force

Sum the moments of the reactions on the system about line through the point A equal 0.

$$Fp(h) - 0.85Wp(L2) - 2R(L1) = 0$$

$$R = \frac{Fp(h)-0.85Wp(L2)}{2L1}$$

If $0.94h \geq 0.85L2$, than there is a tension reaction, R at the two anchors to resist overturning of system

Ll = 14.44 inch

L2 = 7 inch

h = 30 inch

W = 525 lbs

Lateral force = $Fp/4 = 0.94(525)/4 = 123.38$

Overturning force $R = \frac{Fp(h)-0.85Wp(L2)}{2L1}$

$$R = \frac{525(0.94(30)-0.85(7))}{2(14.44)}$$

R = 404 lbs

2.3.3 Three Cylinder Seismic Calculation Drawing

Section 2.2 Mounting Hole Locations

The SP-PLC100 Source System cabinets are mounted to the facility floor using four (4) anchors, one in each corner of base.

Highest tension load when resisting tip over is approximately 400 pounds (2580 N) per anchor, as calculated utilizing seismic accelerations specified by SEMI S2-93A. The facility floor mounting location should be clean and must be level.

Section 3 Cabinet Anchoring

For cabinet anchoring see the following Mounting Hole Location Figures for proper floor location of four (4) 7/16" (11.1 mm) diameter holes in cabinet floor. *Do not use inner manufacturing bolt hole set in cabinet base*. Using the inner manufacturing bolt hole set may interfere with gas cylinder and/or cylinder weight scale placement within the cabinet. If bolted into the concrete floor or other floor type, consult with a professional engineer to inspect flooring for strength requirements of cabinet bolting.

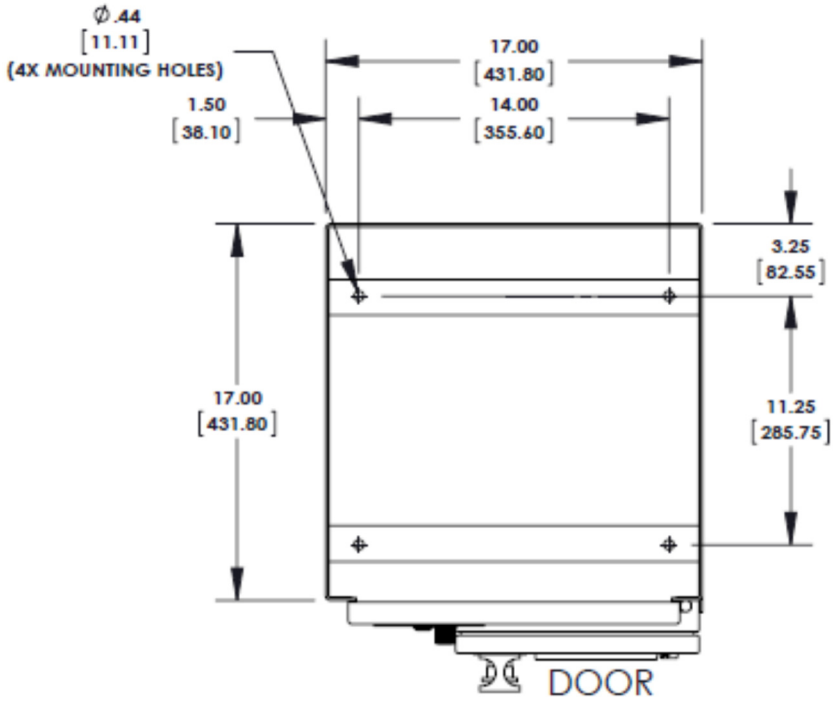
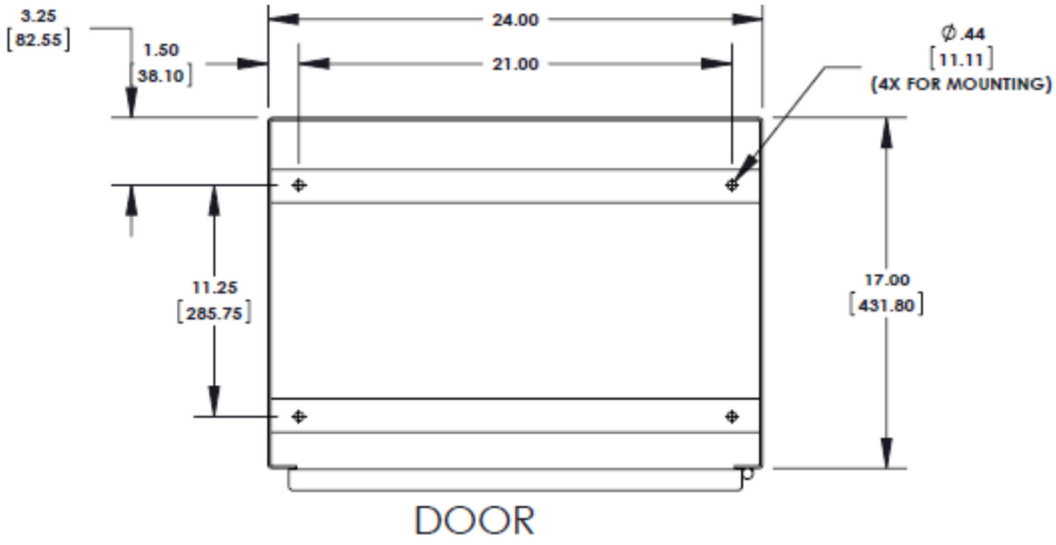
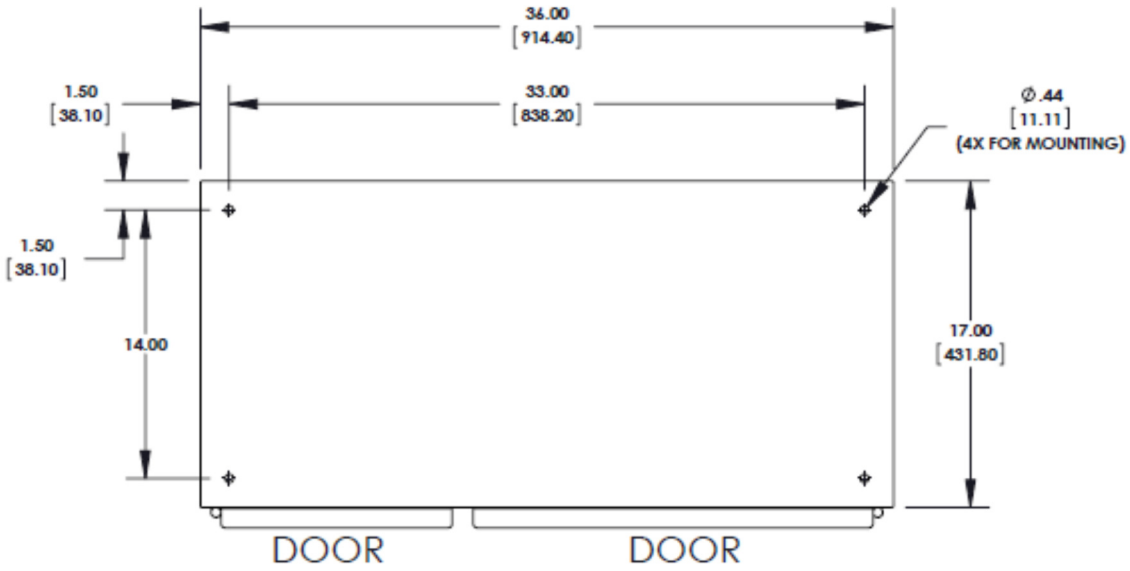


Figure 1 One Cylinder Cabinet Anchoring



Two Cylinder Cabinet



Three Cylinder Cabinet