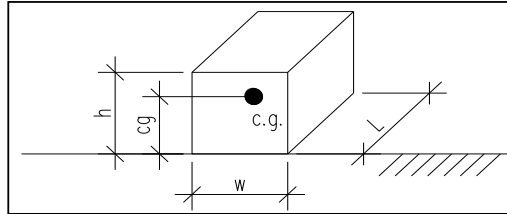


RBI FLEXCORE 6000 BOILER SEISMIC ANCHORAGE (ASCE 7-10)
Slab on Grade Applications Only

Equipment Parameters:

weight, W_p =	4885.00	LBS.
w =	34.000	in.
L =	109.400	in.
h =	80.000	in.
cg =	36.100	in.



Seismic Parameters:

S_s =	1.798	ASCE 7-10 Figure 22-1)	Site Class =	D
a_p =	1.000	(ASCE 7-10 Table 13.6-1)	Risk Category =	III
I_p =	1.500	(ASCE 7-10 13.1.3)		

R_p =	2.500	(Default value for Anchorage per ASCE 7-10 Table 13.6-1)
F_a =	1.000	(ASCE 7-10 Table 11.4-1)
$S_{MS} = F_a * S_s$ =	1.798	(ASCE 7-10 Eqn. 11.4-1)
$S_{DS} = 2/3 * S_{MS}$ =	1.199	(ASCE 7-10 Eqn. 11.4-3)

Seismic Design Category = **D**

Seismic Force:

$F_p = (0.4 * a_p * S_{DS} * W_p) / (R_p / I_p)$ =	1405.3	LBS. (ASCE 7-10 Eqn. 13.3-1)
Upper Limit: $F_{pMAX} = 1.6 * S_{DS} * I_p * W_p$ =	14053.2	LBS. (ASCE 7-10 Eqn. 13.3-2)
Lower Bound: $F_{pMIN} = 0.3 * S_{DS} * I_p * W_p$ =	2635.0	LBS. (ASCE 7-10 Eqn. 13.3-3)
$F_{p, DESIGN}$ =	2635.0	LBS.

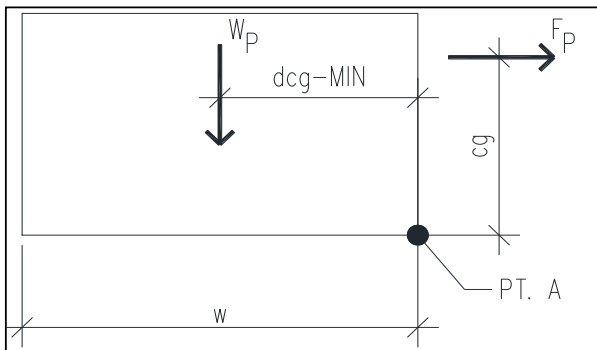
RBI FLEXCORE 6000 BOILER SEISMIC ANCHORAGE (ASCE 7-10)

Design Anchorage Force:

Horizontal Shear Force Per Anchor:

$$R_H = F_p/4 = \boxed{658.7} \text{ LBS.}$$

Overturning Resistance About Point A:



$$x = \boxed{34.00} \text{ in.}$$

$x = \text{lesser of } L \text{ or } W$
 $dcg - \text{Min} = \boxed{16.4} \text{ in.}$

$$M_{OT} = F_p * cg = \boxed{7926.9} \text{ LBS.-FT.}$$

$$M_{RES} = W_p * dcg - \text{MIN} = \boxed{3338.1} \text{ LBS.-FT. Uplift}$$

Vertical Acceleration: assume $\rho = 1.0$

$$E_v = \rho * F_p + 0.2 * S_{DS} * W = \boxed{1829.8} \text{ LBS. (ASCE Section 13.3.1)}$$

$$R_{VNETUP} = (M_{OT}/(2*x)) - (W_p/4) + (E_v/4) = \boxed{0.0} \text{ LBS. No Uplift}$$

Force Summary Per Corner:

Component Anchorage:

$$R_{HNET} = \boxed{658.7} \text{ LBS.}$$

$$R_{VNETUP} = \boxed{0.0} \text{ LBS.}$$

Anchors Embedded in Concrete or CMU:

$$1.3 * R_p * R_{HNET} = \boxed{2140.9} \text{ LBS.}$$

$$1.3 * R_p * R_{VNETUP} = \boxed{0.0} \text{ LBS.}$$