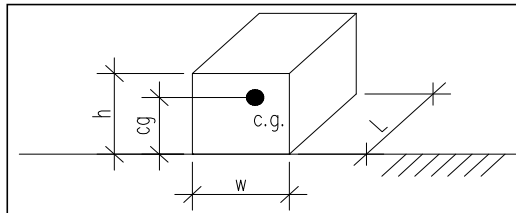


FUTERA II 1750 BOILER SEISMIC ANCHORAGE (ASCE 7-05)
Slab on Grade Applications Only

Equipment Parameters:

weight, W_p = **799.00** LBS.
 w = **23.656** in.
 Minor L = **10.843** in.
 h = **61.281** in.
 cg = **28.813** in.



Seismic Parameters:

S_s = **1.798** ASCE 7-05 Figure 22-1 Site Class = **B**
 a_p = **1.000** (ASCE 7-05 Table 13.6-1)
 I_p = **1.000** (ASCE Table 11.5-1) Seismic Use Group = **II**

R_p = **2.500** (Default value for Anchorage per ASCE 7-05 Table 13.6-1)
 F_a = **1.000** (ASCE 7-05 Table 11.4-1)
 $S_{MS} = F_a * S_s$ = **1.798** (ASCE 7-05 Eqn. 11.4-1)
 $S_{DS} = 2/3 * S_{MS}$ = **1.199** (ASCE 7-05 Eqn. 11.4-3)

Seismic Design Category = **D**

Seismic Force:

$F_p = (0.4 * a_p * S_{DS} * W_p) / (R_p / I_p)$ = **153.2** LBS. (ASCE 7-05 Eqn. 13.3-1)
 Upper Limit: $F_{pMAX} = 1.6 * S_{DS} * I_p * W_p$ = **1532.4** LBS. (ASCE 7-05 Eqn. 13.3-2)
 Lower Bound: $F_{pMIN} = 0.3 * S_{DS} * I_p * W_p$ = **287.3** LBS. (ASCE 7-05 Eqn. 13.3-3)
 $F_{p, DESIGN}$ = **287.3** LBS.

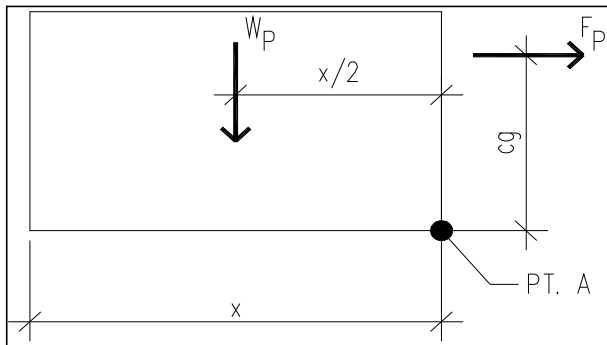
FUTERA II 1750 BOILER SEISMIC ANCHORAGE (ASCE 7-05)

Design Anchorage Force:

Horizontal Shear Force Per Anchor:

$$R_H = F_p/4 = \boxed{71.8} \text{ LBS.}$$

Overturning Resistance About Point A:



$$x = \boxed{10.84} \text{ in.}$$

$x = \text{lesser of Minor L or W}$

$$M_{OT} = F_p * cg = \boxed{689.9} \text{ LBS.-FT.}$$

$$M_{RES} = W_p * x = \boxed{722.0} \text{ LBS.-FT. OK, No Uplift}$$

Vertical Acceleration: assume $\rho = 1.0$

$$E_v = \rho * F_p + 0.2 * S_{DS} * W = \boxed{263.4} \text{ LBS. (ASCE Section 13.3.1)}$$

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

Force Summary Per Corner:

Component Anchorage:

$$R_{HNET} = \boxed{71.8} \text{ LBS.}$$

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

Anchors Embedded in Concrete or CMU:

$$1.3 * R_p * R_{HNET} = \boxed{233.4} \text{ LBS.}$$

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