

## FOLLETT CORPORATION

### 25/50 FB425 A/W DISPENSERS

DES. **J. ROBERSON**

JOB NO. **11-1420**

DATE **6/10/14**

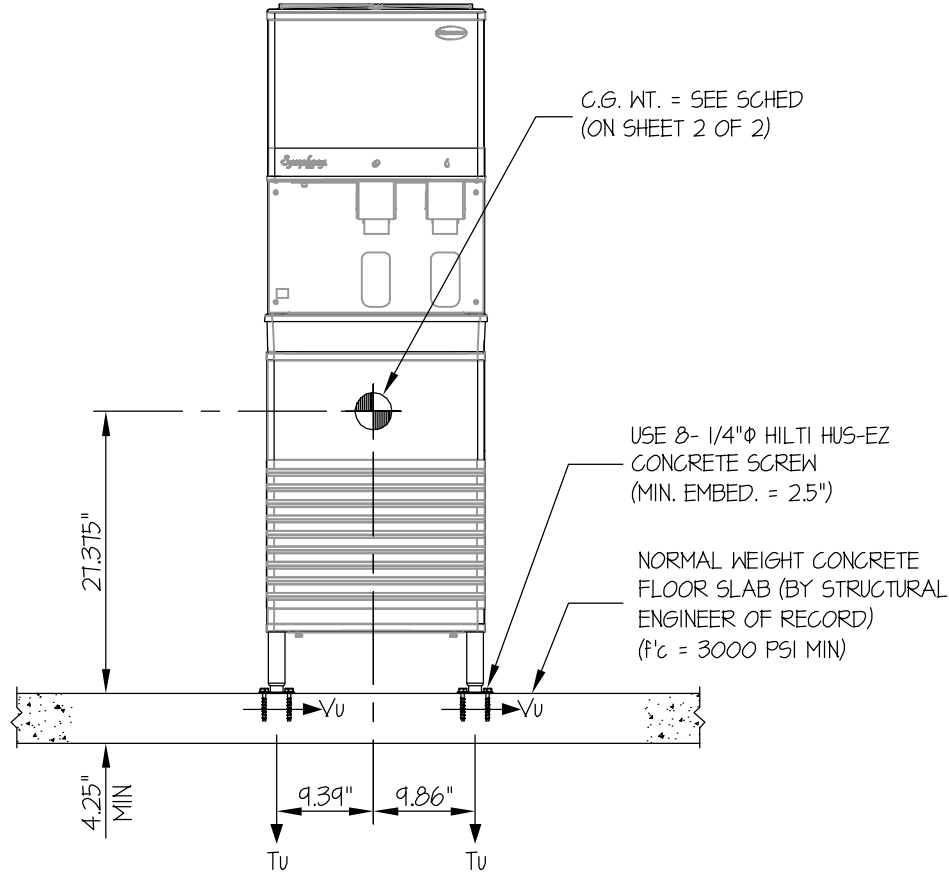
SHEET

**1**

OF **2** SHEETS

SEISMIC ANCHORAGE

SLAB ON GRADE



NOTES:

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ( $S_{Ds} = 2.5$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 2.5$ ,  $\Omega_0 = 2.5$ ,  $z/h = 0$ )

HORIZONTAL FORCE ( $E_h$ ) = 1.125  $W_p$

HORIZONTAL FORCE ( $E_{mh}$ ) = 2.81  $W_p$  (FOR CONCRETE ANCHORAGE)

VERTICAL FORCE ( $E_v$ ) = 0.50  $W_p$

- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.

*Jonathan Roberson*

REGISTERED PROFESSIONAL ENGINEER  
JONATHAN ROBERSON  
No. 4197  
EXP. 6-30-2016  
6/10/14  
STRUCTURAL  
STATE OF CALIFORNIA

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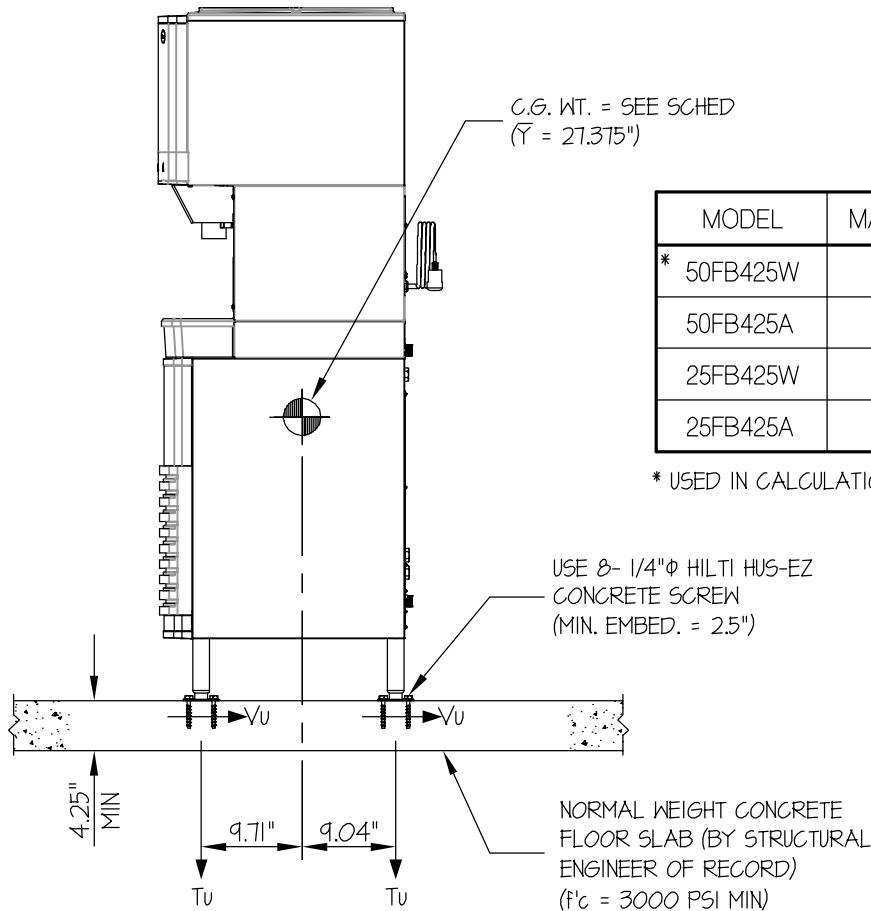
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MODEL	MAX WT	T <sub>U</sub>	V <sub>U</sub>
* 50FB425W	265	347	96
50FB425A	260	340	95
25FB425W	238	311	87
25FB425A	233	305	85

\* USED IN CALCULATION

LOADS: PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10.

(STRENGTH DESIGN IS USED) (S<sub>Ds</sub> = 2.5, α<sub>p</sub> = 1.0, I<sub>p</sub> = 1.5, R<sub>p</sub> = 2.5, Ω<sub>o</sub> = 2.5 z/h = 0)

WEIGHT = 265 LB

HORIZONTAL FORCE (E<sub>mh</sub>) = 2.81 W<sub>p</sub> = 745 LB

VERTICAL FORCE (E<sub>v</sub>) = 0.50 W<sub>p</sub> = 133 LB

BOLT FORCES:

BOLT SPEC: 1/4"φ HILTI HUS -EZ

φ<sub>T</sub> = 0.75 φ<sub>N</sub> = 623 LB/BOLT (TENSION)

φ<sub>V</sub> = φ<sub>N</sub> = 836 LB/BOLT (SHEAR)

TENSION (T)

$$T_{U \text{ MAXIMUM}} = \left[ \frac{745\#(27.38\")(9.71\"){}}{2 \text{ BOLTS}(19.25\")(18.75\")} \times (0.3) \right] + \frac{745\#(27.38\")(9.86\"){}}{2 \text{ BOLTS}(18.75\")(19.25\")} - \frac{(265\#(0.9) - 133\#)(9.86\")(9.71\"){}}{2 \text{ BOLTS}(19.25\")(18.75\")} = 347 \text{ LB/BOLT (MAX)}$$

( HORIZ - FRONT TO BACK )                      ( HORIZ - SIDE TO SIDE )                      ( O<sub>9</sub>WEIGHT) - E<sub>v</sub>)

SHEAR (V)

$$V_{U \text{ MAXIMUM}} = \frac{745\#(9.71\"){}}{4 \text{ BOLTS}(18.75\")} = 96 \text{ LB/BOLT (MAX)}$$

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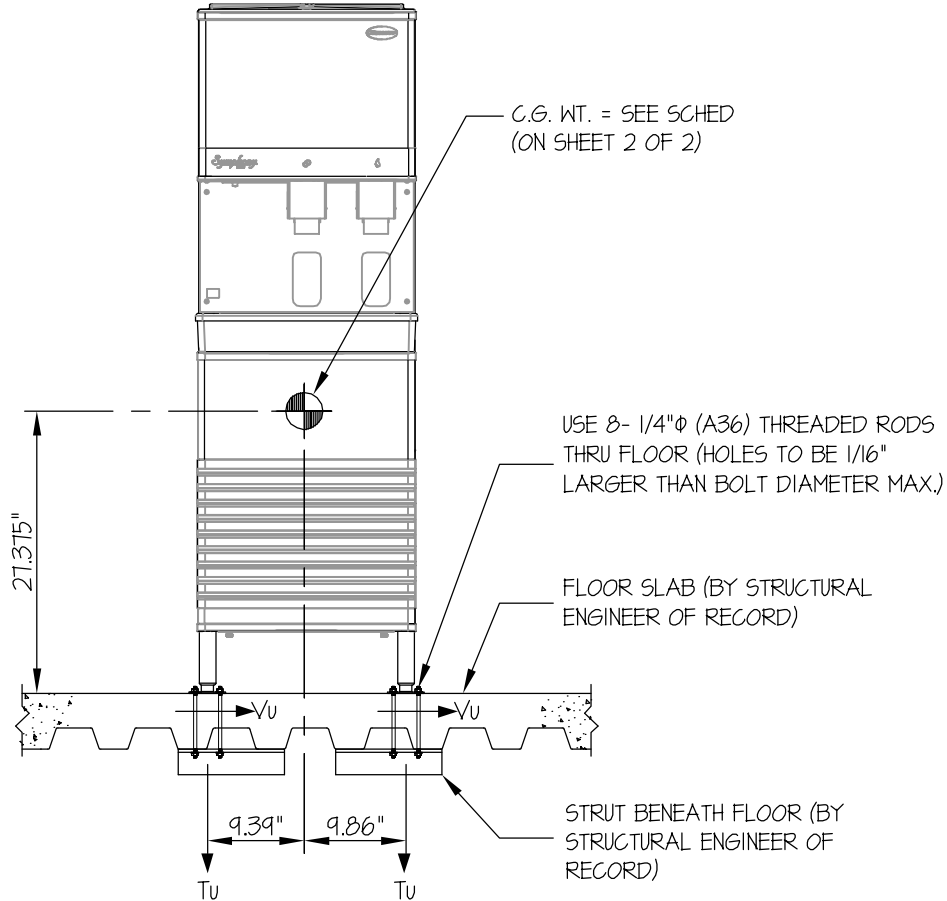
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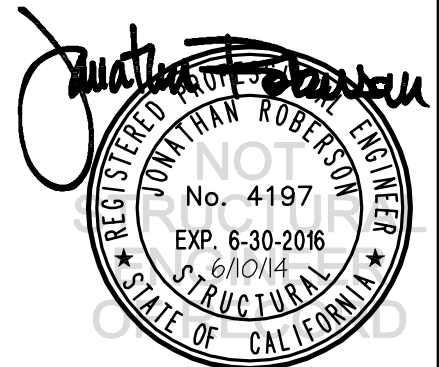
SEISMIC ANCHORAGE

UPPER FLOOR



**NOTES:**

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ( $S_{Ds} = 2.5$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 2.5$ ,  $z/h \leq 1$ )  
HORIZONTAL FORCE ( $E_h$ ) =  $1.80 W_p$   
VERTICAL FORCE ( $E_v$ ) =  $0.50 W_p$
- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THESE CALCULATIONS ENCOMPASS ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.



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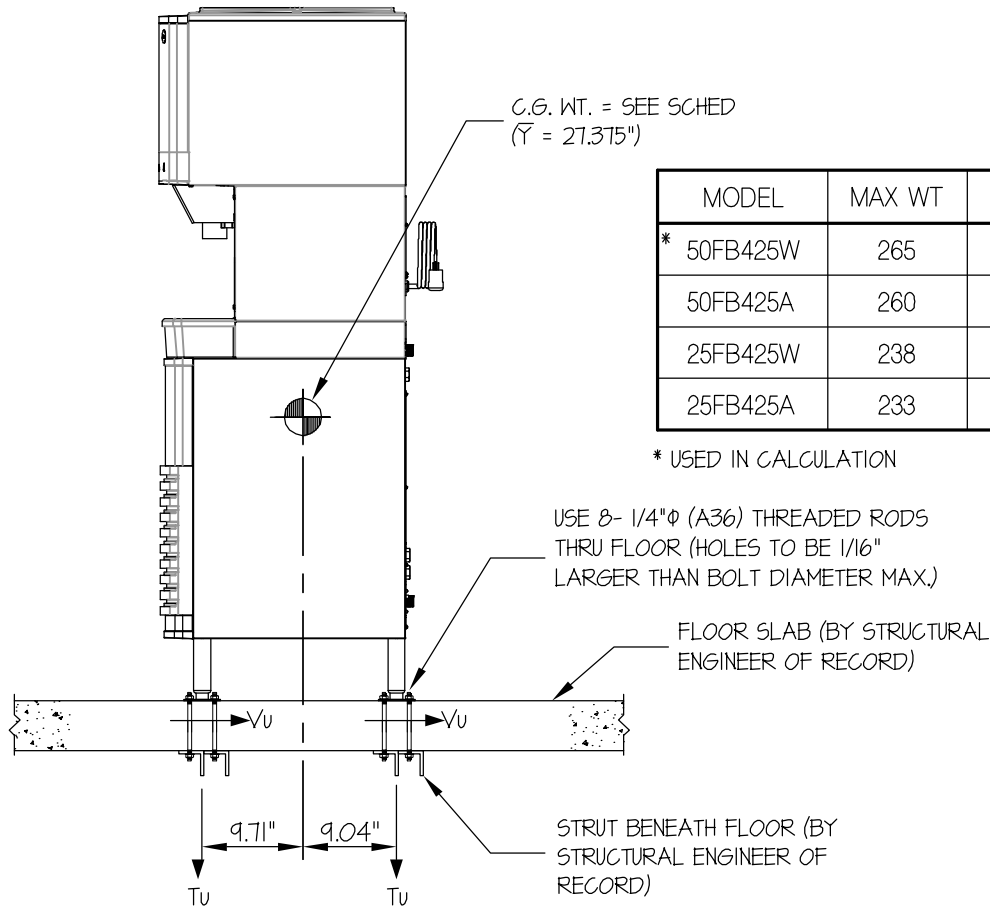
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SEISMIC ANCHORAGE

UPPER FLOOR



LOADS: PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10.

(STRENGTH DESIGN IS USED) (S<sub>ds</sub> = 2.5, a<sub>p</sub> = 1.0, I<sub>p</sub> = 1.5, R<sub>p</sub> = 2.5, z/h ≤ 1)

WEIGHT = 265 LB

HORIZONTAL FORCE (E<sub>h</sub>) = 180 W<sub>p</sub> = 477 LB

VERTICAL FORCE (E<sub>v</sub>) = 0.50 W<sub>p</sub> = 133 LB

BOLT FORCES:

BOLT SPEC: 1/4"φ (A36) THREADED ROD

φT = 1599 LB/BOLT

φV = 853 LB/BOLT

TENSION (T)

$$T_{u \text{ MAXIMUM}} = \left[ \frac{477\#(27.38\")(9.71\"){}}{2 \text{ BOLTS}(19.25\")(18.75\"){}} \times (0.3) \right] + \frac{477\#(27.38\")(9.86\"){}}{2 \text{ BOLTS}(18.75\")(19.25\"){}} - \frac{(265\#(0.9) - 133\#)(9.86\")(9.71\"){}}{2 \text{ BOLTS}(19.25\")(18.75\"){}} = 217 \text{ LB/BOLT (MAX)}$$

( HORIZ. - FRONT TO BACK )                      ( HORIZ. - SIDE TO SIDE )                      ( 0.9(WEIGHT) - E<sub>v</sub> )

SHEAR (V)

$$V_{u \text{ MAXIMUM}} = \frac{477\#(9.71\"){}}{4 \text{ BOLTS}(18.75\"){}} = 62 \text{ LB/BOLT (MAX)}$$