### Manufacturer Information

- **Manufacturer:** Beckman Coulter
- **Manufacturer's Technical Representative:** Nico Wedekind
- **Mailing Address:** Sauerbruchstraße 50, München, Ba 81377
- **Telephone:** +49 89 579589 3551  
- **Email:** NWedekind@beckman.com

### Product Information

- **Product Name:** DxA Automation System
- **Product Type:** Other Mechanical or Electrical Component
- **Product Model Number:** (5 Instruments: Models B87341, B50845, B50844, B50846, B50848) (27 Transports: B37440, B37443, B37963, B38005, B42934, B42938, B50516, B51679, B57018, B57634, B68911, B71587, B71589, B71597, B71598, B71599, B71600, B71601, B71602, B74207, B74208, B74209, B77037, B79209, B57633, B57631, B57632)
- **General Description:** Automated blood analysis system

### Applicant Information

- **Applicant Company Name:** EASE LLC.
- **Contact Person:** Tiffany Tonn
- **Mailing Address:** 1515 FAIRVIEW AVE, STE 205, MISSOULA, MT 59801
- **Telephone:** (406) 541-3273  
- **Email:** tiffany@easeco.com
- **Title:**

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**STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY**

3/25/2020  
OPM-0515-19: Reviewed for Code Compliance by Haeseong Lim  
1 or 26
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<th><strong>Certification Method</strong></th>
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<td>Testing in accordance with:</td>
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<td>☐ Other(s) (Please Specify):</td>
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*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2019 may be used when approved by OSHPD prior to testing.*

| X Analysis |
| ☐ Experience Data |
| ☐ Combination of Testing, Analysis, and/or Experience Data (Please Specify): |

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<td>Date: 3/25/2020</td>
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<tr>
<td>Name: Haeseong Lim</td>
</tr>
<tr>
<td>Title: Senior Structural Engineer</td>
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<td>Condition of Approval (if applicable):</td>
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GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2019 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2019 CBC.

2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.

3. THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE WHERE $S_{d}$ IS NOT GREATER THAN 2.20. SEE DETAIL FOR APPLICABILITY.

4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3.1, 13.3.2 & 13.3.3,
   WHERE $S_{d} = 2.20, a_{p} = 1.0, I_{p} = 1.5, R_{p} = 1.5, z/h = 0$ AT CONCRETE SLAB, $z/h < 1$ AT CONCRETE SLAB ON METAL DECK.
   SEE FOLLOWING SHEETS FOR $a_{p}$.

5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.

6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.

7. CONCRETE SLAB ON METAL DECK DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION IN THE BUILDING. (i.e. $z/h \leq 1$)

8. CONCRETE SLAB DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION AT OR BELOW GRADE. (i.e. $z/h = 0$)

9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING

A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.

B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.

C. VERIFY THAT PROJECT SPECIFIC VALUES OF $S_{d}$ & $z/h$ RESULT IN SEISMIC FORCES ($E_h, E_v$) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.

D. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT AND THIS OPM.

E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 2).

F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6m FROM THIS UNIT'S ANCHORS.
## 10. EXPANSION ANCHORS:

A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

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<th>Min. f'c (psi)</th>
<th>Anchor Type</th>
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<th>Min. Embed.</th>
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B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 12 OR 24" AWAY MINIMUM (I.E. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING AND SPECIAL INSPECTION OF EXPANSION ANCHORS SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

(i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT FULL TENSION TEST OR TORQUE TEST AT LEAST 50% OF THE ANCHORS.

(ii) ACCEPTANCE CRITERIA:
- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: 1/2 TURN OF THE NUT

(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

D. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSION ANCHORS.

E. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.

## 11. BOLTS THROUGH CONCRETE ON METAL DECK

A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS OTHERWISE NOTED.

B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE

C. (HOLE SIZE = BOLT SIZE + 1/16") FOR CONCRETE.

D. THROUGH-BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.
NOTES:

1. **FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16**
   STRENGTH DESIGN IS USED. ($\phi = 2.20, \breve{a}p = 10, l_p = 15, R_p = 15, \Omega_x = 15, z/h = 0$)
   
   - HORIZONTAL FORCE ($E_h$) = 0.99 $W_p$
   - HORIZONTAL FORCE ($E_{hm}$) = 149 $W_p$ (FOR CONCRETE ANCHORAGE)
   - VERTICAL FORCE ($E_v$) = 0.44 $W_p$

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN.
   THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
### FRONT ELEVATION

**INSTRUMENT B87341 SHOWN**

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<th>&quot;C&quot; (in)</th>
<th>&quot;D&quot; (in)</th>
<th>&quot;E&quot; (in)</th>
<th>&quot;F&quot; (in)</th>
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**VALUES INCLUDE GM**

Tu & Vu ARE IN LB/BOLT
NOTES:

1. **FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16**
   
   STRENGTH DESIGN IS USED. \( \Sigma_{os} = 2.20, \sigma_p = 1.0, \beta_p = 1.5, \beta_r = 1.0, \Omega = 15, z/h = 0 \)
   
   \[
   \begin{align*}
   \text{HORIZONTAL FORCE (} E_h \text{)} &= 0.99 \ W_p \\
   \text{HORIZONTAL FORCE (} E_{hn} \text{)} &= 149 \ W_p \text{ (FOR CONCRETE ANCHORAGE)} \\
   \text{VERTICAL FORCE (} E_v \text{)} &= 0.44 \ W_p
   \end{align*}
   \]

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
SEISMIC SUPPORTS & ATTACHMENTS

BRACKET PROVIDED BY BECKMAN COULTER
SEE DETAIL "C"

5/8" HILTI KB-TZ
EXPANSION ANCHORS
(MIN. EMBED. (h) = 3.125")
(2 PER BRACKET,
SEE SCHED FOR
TOTAL BRACKETS)

G.S. WT. = SEE SCHED
(\gamma = SEE SCHED)
SEE SHEET 7 OF 24
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** VALUES INCLUDE \( \Omega \)

* MUST BE CONNECTED TO AN ADJACENT TRANSPORT OR INSTRUMENT ANCHORAGE NOT REQUIRED ON THIS TRANSPORT
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB

FRONT ELEVATION
(TRANSPORT B51633 SHOWN)

C.G. WT. = 247 LB

BRACKET PROVIDED
BY BECKMAN COULTER
SEE DETAIL "C"

5/8" HILTI KB-TZ
EXPANSION ANCHORS
(MIN. EMBED. (L) = 3 1/2")
(2 PER BRACKET, 8 TOTAL)

NORMAL WEIGHT CONCRETE FLOOR
SLAB (BY STRUCTURAL ENGINEER OF
RECORD) (f_c = 3000 PSI MIN)

Tu = 185 LB/BOLT (MAX)
Vu = 145 LB/BOLT (MAX)
VALUES INCLUDE Ω

NOTES:
1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16
   STRENGTH DESIGN IS USED. (So = 220, a_p = 10, l_p = 15, R_p = 15, Ω_c = 15, z/h = 0)
   HORIZONTAL FORCE (Eh) = 0.99 Wp
   HORIZONTAL FORCE (Emh) = 149 Wp (FOR CONCRETE ANCHORAGE)
   VERTICAL FORCE (Ev) = 0.44 Wp

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING
   PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES
   ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.

3/25/2020
OPM-0515-19: Reviewed for Code Compliance by Haeseong Lim
10 of 26
**BECKMAN COULTER**

**DXA SYSTEM**

**TRANSPORTS**

**SEISMIC SUPPORTS & ATTACHMENTS**

**CONCRETE SLAB**

---

**PLAN AT BASE**

**TRANSPORT B51933 SHOWN**

---

**BEACHTER PROVIDED**

**BY BECKMAN COULTER**

**SEE DETAIL "C"**
1. **FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16**
   
   STRENGTH DESIGN IS USED. \((\mathrm{Sos} = 220, \alpha_p = 1.0, \lambda_p = 15, \mathrm{R}_p = 1.5, \Omega_s = 15, z/h = 0)\)
   
   \[
   \begin{align*}
   \text{HORIZONTAL FORCE (Eh)} &= 0.99 \ \mathrm{W}_p \\
   \text{HORIZONTAL FORCE (Emh)} &= 149 \ \mathrm{W}_p \text{ (FOR CONCRETE ANCHORAGE)} \\
   \text{VERTICAL FORCE (Ev)} &= 0.44 \ \mathrm{W}_p 
   \end{align*}
   \]

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB

5/8”* HILTI KB-TZ
EXPANSION ANCHORS

(MIN. EMBED. ($h_e) = 3.125’)
(2 PER BRACKET, 6 TOTAL)

C.G. WT. = SEE SCHED
($\gamma = \text{SEE SCHED}$)

BRACKET PROVIDED
BY BECKMAN COULTER
SEE DETAIL "C"

PLAN AT BASE
(TRANSPORT B51631 SHOWN)

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<th>&quot;D&quot; (in)</th>
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**VALUES INCLUDE $\gamma_e$
NOTES:
1. **FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16**
   
   STRENGTH DESIGN IS USED. \( S_{os} = 2.20, a_p = 1.0, I_p = 15, R_p = 15, \Omega_s = 15, z/h \leq 1 \)
   
   - **HORIZONTAL FORCE** \( (E_h) = 2.64 \ W_p \)
   - **HORIZONTAL FORCE** \( (E_{mh}) = 3.96 \ W_p \) (FOR CONCRETE ANCHORAGE)
   - **VERTICAL FORCE** \( (E_v) = 0.44 \ W_p \)

2. CENTER OF GRAVITY (CG) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
### Seismic Supports & Attachments

**Concrete Slab on Metal Deck**

- Bracket provided by Beckman Coulter See Detail "B"
- C.G. WT. = see sched (Y = see sched)
- 5/8"Ø (A36) threaded rods thru floor (2 per bracket, 8 total)

### Front Elevation

**Front Elevation**

(Instrument B87341 shown)

### Table

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**Values do not include \( \Omega \)**

\( T₀ \) & \( V₀ \) are in lb/bolt
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

FRONT ELEVATION
TRANSPORT B31440 SHOWN

NOTES:
1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16.
   STRENGTH DESIGN IS USED. ($\cos = 0.22, \alpha_p = 1.0, \lambda_p = 1.5, R_p = 1.5, \Omega_s = 1.5, z/h \leq 1$)
   
   HORIZONTAL FORCE (\(E_h\)) = 2.64 \(W_p\)
   HORIZONTAL FORCE (\(E_{hm}\)) = 3.96 \(W_p\) (FOR CONCRETE ANCHORAGE)
   VERTICAL FORCE (\(E_v\)) = 0.44 \(W_p\)

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
BECKMAN COULTER
DxA SYSTEM
TRANSports

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

BRACKET PROVIDED BY BECKMAN COULTER
SEE DETAIL "C"

5/8" x 10 A36 THREADED RODS
THRU FLOOR (2 PER BRACKET, SEE SCHED FOR TOTAL BRACKETS)

PLAN AT BASE
(TRANSPORT B31440 SHOWN)

G.G. WT. = SEE SCHED
(7 = SEE SCHED)
SEE SHEET 16 OF 24

3/25/2019
# BECKMAN COULTER
## DxA SYSTEM TRANSPORTS

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** VALUES DO NOT INCLUDE \( \alpha \)

+ MUST BE CONNECTED TO AN ADJACENT TRANSPORT OR INSTRUMENT ANCHORAGE NOT REQUIRED ON THIS TRANSPORT
BECKMAN COULTER
DxA SYSTEM
TRANSports

Seismic Support & Attachments

Concrete Slab on Metal Deck

Notes:
1. Forces are determined per 2019 California Building Code and ASCE 7-16
   Strength design is used. (Sos = 2.20, Ωp = 10, Ip = 15, Rp = 15, Ω = 15, z/h ≤ 1)
   
   Horizontal Force (Eh) = 2.64 Wp
   Horizontal Force (Enh) = 3.96 Wp (For Concrete Anchorage)
   Vertical Force (Ev) = 0.44 Wp

2. Center of gravity (C.G.) and weight are the governing parameters for design. This preapproval encompasses all weights up to the maximum weight shown.

3. 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.

Tu = 355 LB/BOLT (MAX)
Vu = 257 LB/BOLT (MAX)
(VALUES DO NOT INCLUDE Ω)

Bi = 3000 PSI MIN.

Bracket provided by Beckman Coulter
See Detail "C"

5/8" (A36) threaded rods
Through floor (2 per bracket, 8 total)

Nail or sand l.h.

Refer to Min Steel Deck Requirements and Strut Detail "A"
For additional details

Front Elevation
(Transport B51633 Shown)
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

FRONT ELEVATION
(TRANSPORT B51631 SHOWN)

5/8" (A36) THREADED RODS THRU FLOOR (2 PER BRACKET, 6 TOTAL)

BRACKET PROVIDED BY BECKMAN COULTER SEE DETAIL "C"

N.H. OR SAND L.H. CONC. (3000 PSI MIN)

REFER TO MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL "A" FOR ADDITIONAL DETAILS

NOTES:

1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16

STRENGTH DESIGN IS USED. (Sos = 220, ap = 10, lp = 15, Rp = 15, \( \Omega_s = 15, z/h \leq 1 \))

   HORIZONTAL FORCE (En) = 2.64 Wp
   HORIZONTAL FORCE (Emh) = 3.96 Wp (FOR CONCRETE ANCHORAGE)
   VERTICAL FORCE (Ev) = 0.44 Wp

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

5/8"# (A36) THREADED RODS THRU FLOOR
(2 PER BRACKET, 6 TOTAL)

G.G. WT. = SEE SCHED
(γ = SEE SCHED)

BRACKET PROVIDED
BY BECKMAN COULTER
SEE DETAIL "C"

PLAN AT BASE
(TRANSPORT B57631 SHOWN)

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<th>MODEL #</th>
<th>WEIGHT (lb)</th>
<th>&quot;Y&quot; (in)</th>
<th>&quot;A&quot; (in)</th>
<th>&quot;B&quot; (in)</th>
<th>&quot;C&quot; (in)</th>
<th>&quot;D&quot; (in)</th>
<th>&quot;E&quot; (in)</th>
<th><strong>Tu (lb)</strong></th>
<th><strong>Vu (lb)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>B57631</td>
<td>242</td>
<td>23.8</td>
<td>26.8</td>
<td>13.3</td>
<td>13.5</td>
<td>4.0</td>
<td>4.3</td>
<td>33</td>
<td>998</td>
</tr>
<tr>
<td>B57632</td>
<td>235</td>
<td>22.8</td>
<td>35.8</td>
<td>18.4</td>
<td>17.4</td>
<td>4.7</td>
<td>3.6</td>
<td>36</td>
<td>890</td>
</tr>
</tbody>
</table>

**VALUES INCLUDE γ.

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SEISMIC SUPPORTS & ATTACHMENTS

USE 1/2" HILTI KB-TZ EXPANSION ANCHORS
(MIN. EMBED. (te) = 3.25"
(2 ANCHORS MIN PER STRUT)

L3 X 3 X 1/4" X 1'-2" MIN
(A36) AT EACH ANCHOR
(EXTEND ANGEL TO ADJACENT FLUTE WHEN THREADED ROD OCCURS AT FLUTE)

MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (INSTRUMENTS)
SEISMIC SUPPORTS & ATTACHMENTS

MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (TRANSPORTS)

- Use 3/8" HILTI KB-TZ expansion anchors (min. embed. (te) = 2")
- L3 x 3 x 1/4" x 1'-2" min (A36) at each anchor (extend angle to adjacent flute when threaded rod occurs at flute)

HEX NUT TOP & BOT OF FLANGE (TYP) AT CONDITIONS WHERE NUT CANNOT BE PROVIDED AT TOP SIDE OF STRUT, PROVIDE TAPPED HOLE THROUGH STRUT FLANGE.

FLUTE DETAIL
BECKMAN COULTER
DXA SYSTEM
INSTRUMENT BRACKET

SEISMIC SUPPORTS & ATTACHMENTS

M20 X 180, HB0 BOLT (BY MFR)
W/ 1" FENDER WASHERS
(Fy = 30 KSI MIN)

THREADED SLEEVE

NOTE: BRACKET ASSEMBLY TO BE PROVIDED
BY BECKMAN COULTER

BOTTOM OF UNIT

F436 WASHERS TOP & BOT OF SLOT

SPACER PROVIDED
BY BECKMAN COULTER
3.354 T ALUMINUM (5083)
(2 PER BRACKET)
(ANODIZED REQUIRED)

50.8

55

25.4

165 MAX

38

14.4

152.4

36 x 5mm DEEP COUNTERSUNK HOLE

8mm THK (AISI 303) BRACKET
(Fy = 60 KSI MIN)

(2) 20mm HOLES

PLAN AT BRACKET

BRACKET DETAIL

N.T.S

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SEISMIC SUPPORTS & ATTACHMENTS

NOTE: BRACKET TO BE PROVIDED BY BECKMAN COULTER

M16 x 180, H8 BOLT (BY MFR) W/ NUTS AND F436 WASHERS (TOP AND BOTTOM) ($f_y = 30$ KSI MIN)

F436 WASHERS TOP & BOT OF SLOT

8mm THK (AISI TYPE 303) BRACKET ($f_y = 60$ KSI MIN)

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS

PLAN AT BRACKET

BRACKET DETAIL

N.T.S

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