

S-I UNITS (mm AND kg)																			
TYPE	DIMENSION																		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
FMSE	254	381	203	457	38	32	165	21	27	38	381	38	117	29	197	29	324	64	41

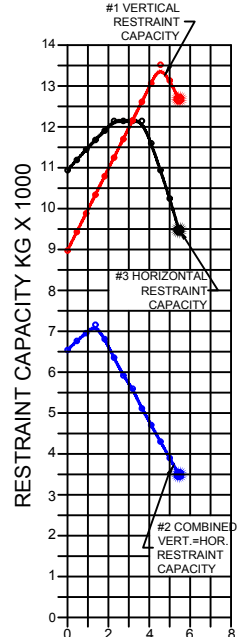


FIGURE 2  
STEEL ATTACHMENT

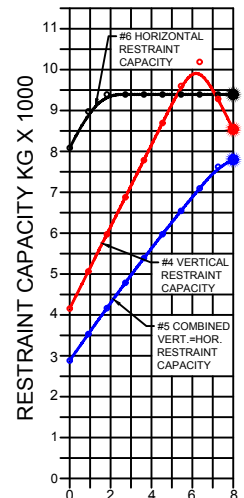
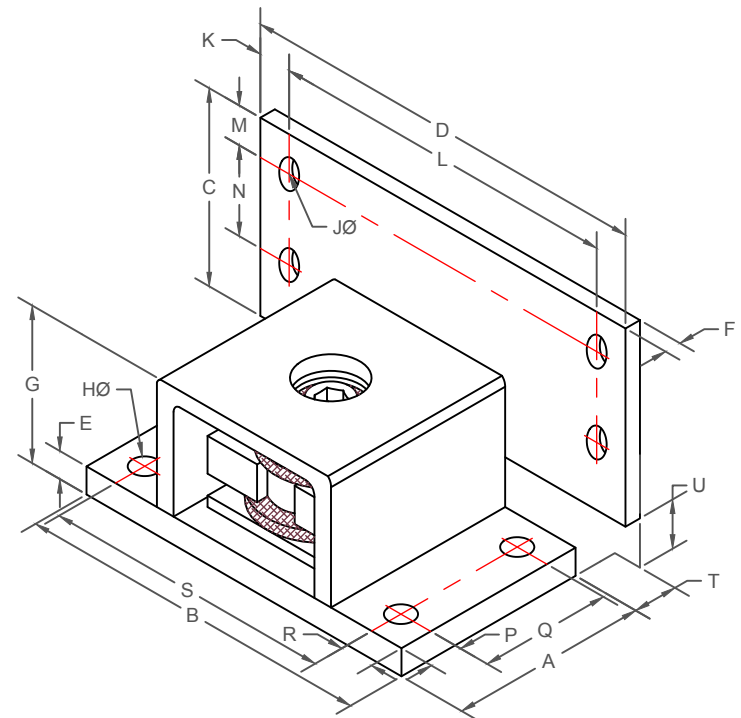


FIGURE 3  
CONCRETE ATTACHMENT

FMSE REQUIRES 19 X 121 MIN EMBED ANCHORS IN CONCRETE  
(ALLOWABLE LOADS BASED ON 20700 kPa MIN CONCRETE)  
FMSE ANCHOR BOLT TORQUE - 203 N-M, PULL TEST - 1646 KGS



**RESTRAINT CAPACITY ENVELOPE GENERATION**

**RESTRAINT ONLY (NO SPRING ELEMENT)**

1) READ THE ANCHORED (CONCRETE) OR BOLTED (STEEL) ENVELOPES DIRECTLY FROM FIGURE 1.

**RESTRAINT WITH SPRING SUPPORT ELEMENT (ISOLATOR/RESTRAINT)**

- 1) DETERMINE THE MAXIMUM EQUIPMENT LOAD SUPPORTED BY THE ISOLATOR(S)
- 2) IF THROUGH-BOLTED (STEEL), REFER TO FIGURE 2. IF ANCHORED (CONCRETE), REFER TO FIGURE 3.
- 3) PLOT THE VERTICAL RESTRAINT CAPACITY FROM CURVE #1 (FIGURE 2) OR #4 (FIGURE 3) ON THE VERTICAL AXIS OF FIGURE 1.
- 4) PLOT THE HORIZONTAL RESTRAINT CAPACITY FROM CURVE #3 (FIGURE 2) OR #6 (FIGURE 3) ON THE HORIZONTAL AXIS OF FIGURE 1.
- 5) PLOT THE COMBINED RESTRAINT CAPACITY FROM CURVE #2 (FIGURE 2) OR #5 (FIGURE 3) AT THE POINT ON FIGURE 1 WHERE THE VERTICAL AND HORIZONTAL FORCES BOTH MATCH THIS VALUE.
- 6) CONNECTING THESE POINTS CREATES AN ENVELOPE THAT SHOWS THE RESTRAINT'S CAPACITY WHEN SUBJECTED TO EQUIPMENT SUPPORT AND SEISMIC LOADS SIMULTANEOUSLY.
- 7) FOR THE RESTRAINT TO BE ADEQUATE, ALL WORST CASE SEISMIC LOADS MUST FALL WITHIN THE ENVELOPE.

**SPECIFICATIONS:**

- 3 AXIS RESTRAINT WITH REPLACEABLE NEOPRENE SNUBBING ELEMENTS.
- RESTRAINTS ARE POWDER COATED.
- HOUSINGS MAY BE USED FOR BLOCKING DURING EQUIPMENT ERECTION.
- CAN BE USED WITH OR WITHOUT SPRING COIL.

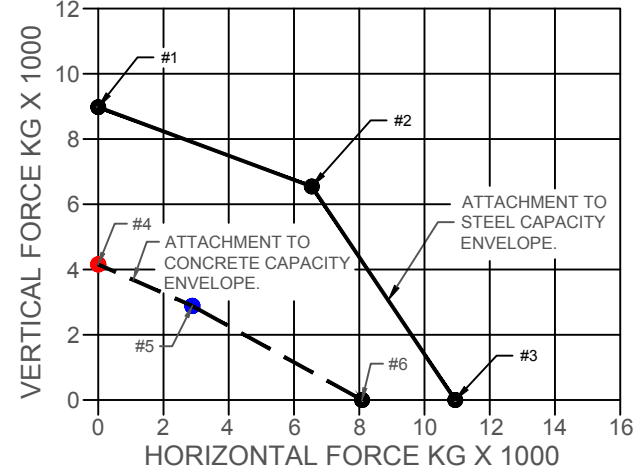


FIGURE 1  
RESTRAINT CAPACITY ENVELOPE



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6300 IRELAN PL,  
DUBLIN, OH 43017 USA  
Ph: 614 889-0480, Fax: 614 889-0540  
www.kineticsnoise.com

Model:  
**FMSE  
RESTRAINT**

By: **JMJ**  
Date: **08/26/03**  
Revised: **06/29/10 / BB**

Drawing No:  
**S-01.40-500  
METRIC**