172R-105409 REV.:2 6/22/23 REV. DESCRIPTION DATE 1/4 (BASE PLATE) MODEL M4SH-2E SEISMICALLY RESTRAINED VIBRATION ISOLATOR 13/16 DIA. HOLE FOR **FOR 2" DEFLECTION** ATTACHMENT TO CONCRETE OR **RATED** STEEL (4 TYP) **RATED SPRING RATE** SEISMIC MOUNT **DEFLECTION COLOR CODE** LOAD (LBS) (LBS/IN) (BASE PLATE) (IN) + 13/16 DIA. HOLE FOR M4SH-2E-4000 4000 2.00 2000 TAN ATTACHMENT TO STEEL (4 TYP) M4SH-2E-5600 5600 1.87 3000 RED (VIEW CUT AWAY FOR CLARITY) 10 M4SH-2E-6400N<sup>1</sup> 6400 2.13 3000 TAN/ RED M4SH-2E-7200 7200 1.71 4210 DK GRAY M4SH-2E-8200 8200 1.64 DK BLUE 5000 + + 3 1/2 9000 1.62 5556 DK BLUE/BLACK M4SH-2E-9000N1 9840 1.64 DK BLUE/RED M4SH-2E-9840N 6000 10800 1.64 6600 DK BLUE/DK GREEN (TOP PLATE) M4SH-2E-10800N 3/4-10 UNC 3 7/8 73/4NOTE: TAPPED HOLE (4 TYP) 1. LOAD DETERMINED UTILIZING NESTED SPRINGS. THE COLOR CODE INDICATED IS FOR OUTER SPRING/INNER SPRING. 3/4 ADJUSTING STEEL SHIM NUT (2 TYP)-(REMOVE AFTER 3/4 SPRING ADJUSTMENT) ELASTOMERIC **SNUBBER** SHIPPING SPACER 3/8 (3) (5) ASSY STRAP (1) (7)GAP -1/4 - 3/8(NOT SHOWN IN OTHER VIEWS -SLEEVE 10 FOR CLARITY) FREE & -3/4 LIMIT STOP **OPERATING** 3/4 LIMIT STOP (NOT SHOWN **HEIGHT** (NOT SHOWN IN TOP VIEW IN TOP VIEW FOR CLARITY) FOR CLARITY) 3/4 (8) (4) (6) (2) 15 1/2 SPRING CUP WITH **ELASTOMERIC PAD** NOTES: ALL DIMENSIONS ARE IN INCHES, INTERPRET PER ANSI Y14. STANDARD FINISH: HOUSING - 1 COAT VMC STANDARD FINISH (COLOR:BLACK), SPRING - POWDER COAT (COLOR: SEE TABLE) HARDWARE ZINC-ELECTROPLATE EQUIPMENT MUST BE BOLTED OR WELDED TO THE TOP PLATE TO MEET ALLOWABLE SEISMIC RATINGS. 3.

- ISOLATOR BASE PLATE MUST BE ANCHORED TO CONCRETE WITH (4) 3/4" DIA. ANCHORS
- ALL SPRINGS ARE DESIGNED FOR 50% OVERLOAD CAPACITY.

**CERTIFIED FOR:** 

6. REFER TO SHEET 2 OF 2 FOR INSTALLATION INSTRUCTIONS.

JOB NAME:

CUSTOMER:

CUSTOMER P.O.:

SALES ORDER:

- RATED DEFLECTIONS ARE WITHIN 25% OF NOMINAL. HIGHER DEFLECTIONS ARE ALLOWED IF THEY MEET SPECIFICATIONS
- ESTIMATED ISOLATOR SHIPPING WEIGHT: 121 LBS. ±8 LBS. TO ACCOUNT FOR SPRING VARIATIONS 8.

ISOLATOR SELECTIONS		
LOC 1:	LOC 2:	
LOC 3:	LOC 4:	
LOC 5:	LOC 6:	
LOC 7:	LOC 8:	
CUSTOMER EQP'T. TAG:	•	

NOTE: MATERIAL SHOWN IS FOR (1) SET.

OTHER MATERIALS, COMPOUNDS, OR FINISHES WITH EQUAL OR SUPERIOR PROPERTIES MAY BE SUBSTITUTED AS THEY BECOME AVAILABLE.



MODEL M4SH-2E 4000-10800 LBS. VIBRATION ISOLATOR WITH INTEGRAL SEISMIC RESTRAINT AND INTERNAL ADJUSTMENT 2 INCH DEFLECTION



SHEET: 1 OF 2 DRAWING NO.:

NONE

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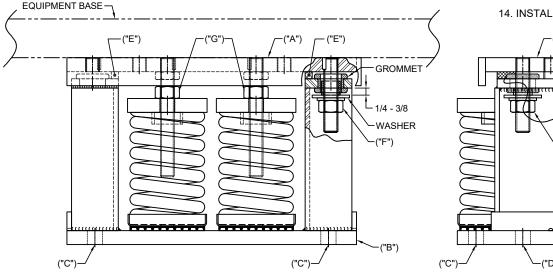
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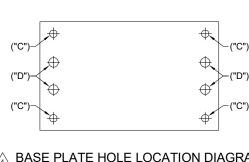
Bloomingdale, NJ 07403 Houston, TX 77041

## 1. READ INSTRUCTIONS IN THEIR ENTIRETY BEFORE BEGINNING INSTALLATION.

- 2. ISOLATORS ARE SHIPPED FULLY ASSEMBLED AND ARE TO BE POSITIONED IN ACCORDANCE WITH THE SUBMITTAL DRAWINGS OR AS OTHERWISE RECOMMENDED.
- 3. SET ISOLATORS ON FLOOR, HOUSEKEEPING PAD, OR SUB-BASE, ENSURING THAT ALL ISOLATOR CENTERLINES MATCH THE EQUIPMENT MOUNTING HOLES. THE VMC GROUP RECOMMENDS THAT THE ISOLATOR BASE PLATES ("B") BE INSTALLED ON A LEVEL SURFACE. SHIM OR GROUT AS REQUIRED. LEVELING ALL ISOLATOR BASE PLATES AT THE SAME ELEVATION (1/4-INCH MAXIMUM DIFFERENCE CAN BE TOLERATED).
- /4\MARK ANCHOR HOLE LOCATIONS AS INDICATED ON BASE PLATE FOOTPRINT AND SET ISOLATOR ASIDE PRIOR TO DRILLING.
- 5. ANCHOR ALL ISOLATORS TO THE FLOOR, HOUSEKEEPING PAD, OR SUB-BASE USING MARKED HOLE LOCATIONS ("C") FOR CONCRETE OR ("D") FOR STEEL AS REQUIRED. USE ANCHORS MEETING THE DESIGN REQUIREMENTS SPECIFIED ON SHEET 1 OF 2. WELDING TO STEEL IS PERMITTED PROVIDING THE WELD ACHIEVES THE STRENGTH THAT IS REQUIRED TO SECURE MOUNT PER APPLIED LOADS.
- 6. ISOLATORS ARE SHIPPED TO THE JOBSITE WITH REMOVABLE SPACERS ("E") BETWEEN THE TOP PLATE AND THE BOTTOM HOUSING. THESE SPACERS MUST BE IN PLACE WHEN THE EQUIPMENT IS POSITIONED ON TOP OF THE ISOLATORS.

- 7. PLACE THE MACHINE OR EQUIPMENT ONTO TOP PLATE ("A") OF THE ISOLATORS. BOLT EQUIPMENT SECURELY TO THE ISOLATORS USING MINIMUM (2) ASTM A325 OR SAE GR. 5 HIGH-STRENGTH BOLTS (BY OTHERS). WELDING IS PERMITTED PROVIDING THE WELD ACHIEVES THE REQUIRED STRENGTH.
- 8. THE ADJUSTMENT PROCESS CAN ONLY BEGIN AFTER THE EQUIPMENT OR MACHINE IS AT ITS FULL OPERATING WEIGHT.
- 9. BACK OFF EACH OF THE LIMIT STOP LOCKNUTS ("F") 1/4- TO 3/8-INCH FROM THEIR AS-SHIPPED POSITION
- 10. ADJUST EACH ISOLATOR IN SEQUENCE BY TURNING ADJUSTING NUT(S) ("G") ONE FULL CLOCKWISE TURN AT A TIME. REPEAT THIS PROCEDURE ON ALL ISOLATORS. ONE AT A TIME. CHECK THE LIMIT STOP LOCKNUTS ("F") PERIODICALLY TO ENSURE THAT CLEARANCE BETWEEN THE WASHER AND RUBBER GROMMET IS MAINTAINED. STOP ADJUSTMENT OF AN ISOLATOR ONLY WHEN THE TOP PLATE ("A") HAS RISEN JUST ABOVE THE SPACERS ("E").
- 11. REMOVE ALL SPACERS ("E").
- 12. FINE ADJUST ISOLATORS TO LEVEL EQUIPMENT.
- 13. ADJUST ALL LIMIT STOP LOCKNUTS ("F") BACK UP TO OBTAIN 3/8-INCH GAP AS SHOWN. THE LIMIT STOP LOCKNUTS MUST BE KEPT AT THIS 3/8-INCH GAP TO ENSURE UNIFORM BOLT LOADING DURING UPLIFT (AS IN THE CASE WHEN A COOLING TOWER IS DRAINED).
- 14. INSTALLATION IS COMPLETE.





## BASE PLATE HOLE LOCATION DIAGRAM

NOTE: ISOLATOR BASE PLATE IS TO BE USED FOR HOLE LOCATION MARKING ONLY AND NOT AS A DRILLING GUIDE

OTHER MATERIALS, COMPOUNDS, OR FINISHES WITH EQUAL OR SUPERIOR PROPERTIES MAY BE SUBSTITUTED AS THEY BECOME AVAILABLE.



## **CERTIFIED FOR:**

JOB NAME: CUSTOMER:

**CUSTOMER P.O.:** 

MODEL M4SH-2E 4000-10800 LBS. VIBRATION ISOLATOR WITH INTEGRAL SEISMIC RESTRAINT AND INTERNAL ADJUSTMENT 2 INCH DEFLECTION



GROUP

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REVISION