172R-102904 REV.: 7 REV. DESCRIPTION DATE BY MODEL MSSH-1E SEISMICALLY RESTRAINED VIBRATION ISOLATOR FOR 1" DEFLECTION 13/16 DIA HOLE FOR SEISMIC MOUNT RATED LOAD RATED SPRING COLOR ATTACHMENT TO RATE CONCRETE (4 TYP) SIZE (LBS) DEFLECTION CODE MSSH-1E-195 195 1.95 100 DK BLUE MSSH-1E-400 400 1.32 303 BLACK MSSH-1E-530N1 530 1.17 453 BLACK/ DK BLUE (BASE PLATE) 3/4 DIA HOLE FOR MSSH-1E-650 650 1.05 619 RED 2 1/4 ATTACHMENT TO MSSH-1E-825N1 825 1.07 771 RED/ DK BLUE STEEL (4 TYP) 6 1/4 (VIEW CUT AWAY FOR CLARITY) MSSH-1E-1000 1000 1.00 1000 TAN 2 7/8 MSSH-1E-1200N1 1200 1.04 1154 TAN/ DK BLUE MSSH-1E-1400 1400 1.00 1400 PINK 2 7/8 1700 1.10 1550 PINK/DK. BLUE MSSH-1E-1700N1 7/8 MSSH-1E-2000 2000 1.11 1800 WHITE MSSH-1E-2575N1 2575 1.11 2313 WHITE/ DK. PURPLE 1 1/2 MSSH-1E-2990N1 2990 1.11 2682 WHITE/DK. GREEN MSSH-1E-3250N1 3250 1.04 3125 WHITE/ GRAY 3/4 REMOVABLE NOTES: ADJUSTING BOLT 1. TWO NESTED SPRINGS YIELD THIS LOAD. THE COLOR CODE INDICATED IS FOR OUTER SPRING/INNER SPRING. STEEL SHIM -(REMOVE AFTER 3/4 STD. WASHER SPRING ADJUSTMENT) (BY OTHERS) 3/8 GAP (7)(1/2)6 1/8 ELASTOMERIC FREE & SNUBBER SHIPPING SPACER 1/2 LIMIT STOP **OPERATING** ASSY STRAP (NOT SHOWN HEIGHT (NOT SHOWN IN TOP VIEW IN OTHER VIEWS FOR CLARITY) (4) (6) (8) (2) FOR CLARITY) ISOLATOR SELECTIONS 10 1/4 LOC 1: LOC 2: LOC 3: LOC 4: LOC 5: LOC 6: 1. ALL DIMENSIONS ARE IN INCHES, INTERPRET PER ANSI Y14. LOC 7: LOC 8: 2. STANDARD FINISH: HOUSING - POWDER COAT (COLOR:BLACK), SPRING - POWDER COAT (COLOR: SEE TABLE), HARDWARE ZINC-ELECTROPLATE. CUSTOMER EQP'T. TAG: 3. EQUIPMENT MUST BE BOLTED OR WELDED TO THE TOP AND BOTTOM PLATE TO MEET ALLOWABLE SEISMIC RATINGS. NOTE: MATERIAL SHOWN IS FOR (1) SET.

- 4. ALL SPRINGS ARE DESIGNED FOR 50% OVERLOAD CAPACITY.
- 5. REFER TO SHEET 2 OF 2 FOR INSTALLATION INSTRUCTIONS.
- 6. RATED DEFLECTIONS ARE WITHIN 25% OF NOMINAL, HIGHER DEFLECTIONS ARE ALLOWED IF THEY MEET SPECIFICATIONS.

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

CERTIFIED FOR:	MODEL MSSH-1E 195-3250 LBS.		NONE	Mombo.
JOB NAME:	VIBRATION ISOLATOR		SHEET:	W-VISCMA
CUSTOMER:	WITH INTEGRAL SEISMIC RESTRAINT		1 OF 2	
CUSTOMER P.O.:	AND EXTERNAL ADJUSTMENT	THE VMC GROUP The Power of Together	DRAWING NO.:	REVISION
SALES ORDER:	1 INCH DEFLECTION	Bloomingdale, NJ 07403 Houston, TX 77041		

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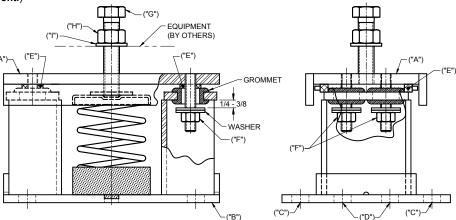
1. READ INSTRUCTIONS IN THEIR ENTIRETY BEFORE BEGINNING INSTALLATION.

- 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. ANCHOR ALL ISOLATORS TO THE FLOOR, HOUSEKEEPING PAD, OR SUB-BASE USING THRU HOLES ("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 REQUIRED STRENGTH
- 5. ISOLATORS ARE SHIPPED TO THE JOBSITE WITH (4) REMOVABLE SPACER SHIMS ("E") BETWEEN THE TOP PLATE AND THE HOUSING. THESE SHIMS **MUST** BE IN PLACE WHEN THE EQUIPMENT IS POSITIONED OVER THE ISOLATORS.
- 6. WITH ALL SHIMS ("E") IN PLACE, REMOVE ADJUSTING BOLT "G", AND SET ASIDE. KEEP THE NUT "H" SCREWED ONTO THE ADJUSTING BOLT. PLACE THE MACHINE OR EQUIPMENT ONTO TOP PLATE "A", ALIGNING THE EQUIPMENT MOUNTING HOLE WITH THE TAPPED HOLE IN THE TOP PLATE.INSTALL WASHER "I" AND REATTACH THEADJUSTING BOLT BY BOLTING THROUGH THE EQUIPMENT MOUNTING HOLE INTO THE TAPPED HOLE OF THE (Cont.)

6. (Cont.)

ISOLATOR. TURN THE ADJUSTING BOLT UNTIL IT STARTS TO COMPRESS THE SPRING. LEAVE NUT "H" AT THE TOP OF THE ADJUSTING BOLT, LEAVING ROOM FOR ADJUSTING THE ISOLATOR PER STEP 9.

- 7. THE ADJUSTMENT PROCESS CAN ONLY BEGIN AFTER THE EQUIPMENT OR MACHINE IS AT ITS FULL OPERATING WEIGHT.
- 8. BACK OFF EACH OF THE (2) OR (4) LIMIT STOP LOCKNUTS ("F") PER ISOLATOR 1/4- TO 3/8-INCH.
- 9. ADJUST EACH ISOLATOR IN SEQUENCE BY TURNING ADJUSTING BOLT(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 SHIM ("E").
- 10. REMOVE ALL SPACER SHIMS ("E").
- 11. FINE ADJUST ISOLATORS TO LEVEL EQUIPMENT.
- 12. ADJUST ALL LIMIT STOP LOCKNUTS ("F") PER ISOLATOR TO OBTAIN 3/8-INCH GAP. THE LIMIT STOP NUTS 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).
- 13. INSTALLATION IS COMPLETE.



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

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The Power of Together Bloomingdale, NJ 07403 Houston, TX 77041

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