

## FEATURES &amp; BENEFITS

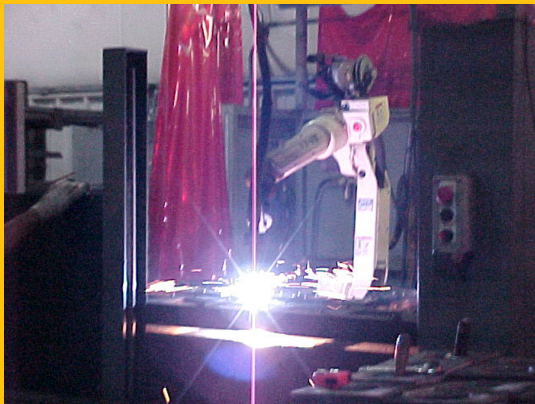
- Rugged steel housing is designed to handle high wind and seismic forces.
- Housing serves as blocking during equipment erection.
- Top plate may be welded or bolted to equipment - allowing flexible design options.
- Housing heights are identical within each series.
- Easily accessible bolt holes permit simplified installation.
- Isolators manufactured on robotic welders to maintain consistent quality.
- Powder coated housings and springs offer outstanding corrosion resistance.
- Springs are easily accessed for replacement if loads change.
- Color-coded springs permit proper identification of load capacity and simple inspection.
- Elastomeric acoustical cup allows for better vibration isolation.
- 3/8" spacer block allows for ease of installation by maintaining the installed height of the equipment and setting the proper air gap for seismic code compliance..

## APPLICATIONS

- General industrial equipment
- HVAC equipment and fan assemblies
- Pumps, chillers and cooling towers
- Condensing units
- Generator sets



ALL MS SERIES ISOLATORS ARE MANUFACTURED USING MODERN ROBOTIC WELDERS. THE STANDARD FINISH ON THE HOUSINGS AND SPRINGS IS POWDER COATING AND ALL HARDWARE WITHIN THE MOUNTING IS ZINC ELECTRO-PLATED. THE HOUSINGS CAN ALSO BE ORDERED AS HOT DIPPED GALVANIZED FOR SUPERIOR CORROSION RESISTANCE.



# IBC COMPLIANT SEISMIC RATED ISOLATORS

THE VMC GROUP'S next generation seismic mounts, the MS and MSS series isolators, combine our open spring mountings within a rugged welded seismically rated steel housing. To minimize the code required seismic loads on the isolated equipment, the housing is designed to limit equipment motion to  $\frac{1}{4}$ " in horizontal directions due to wind or seismic loads. The MS style isolator has internal spring adjustment while the MSS type incorporates an external adjustment bolt that also acts as a single point attachment to the equipment. Both isolators are designed to maintain low profiles similar to that of our non-seismic vibration isolators and both are available with 1" and 2" deflection springs. Each style of mount has a load range from 50 lbs. to 6,500 lbs.

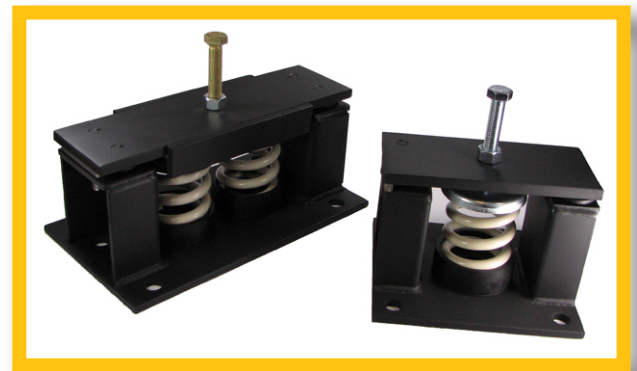
The top housing incorporates seismic restraint bolts that pass through the lower housing and are protected in all directions by an elastomeric bushing. Combined, the restraint bolts and bushings act as the internal snubbing devices for the isolator. To achieve accurate installation heights, The VMC Group has incorporated an installation spacer between the lower and upper housing. After the equipment is installed and the isolators are properly adjusted, there will be no difference between the installed and operating heights. For the MS style isolator, mechanical equipment can be positively attached to the top housing by utilizing the pre-drilled bolt holes or by welding directly to the housing. Mechanical equipment is attached to the MSS style product by using the adjustment bolt of the isolator to fasten to the equipment's designated mounting locations.

Low frequency T-Series steel springs are located within the housing and are seated in an elastomeric acoustical cup that provides high frequency attenuation and eliminates metal-to-metal contact. The spring and cup design allows for easy replacement or changing of springs when required and all springs are color-coded for ease of identification in the field. The lower housing incorporates an oversized base plate that spreads the anchor bolt over a wider area – this is specifically designed to increase seismic restraint capability. As an additional benefit, ease of installation is also achieved by allowing easy access to the anchor bolts. These isolators are designed for installations in either concrete or steel and the base plates are pre-drilled with mounting holes to accommodate attachment to either.

All MS and MSS series isolators are manufactured using modern robotic welders. The standard finish on the housings and springs is powder coating and all hardware within the mount is zinc electroplated. The housings can also be furnished as hot dipped galvanized for superior corrosion resistance.



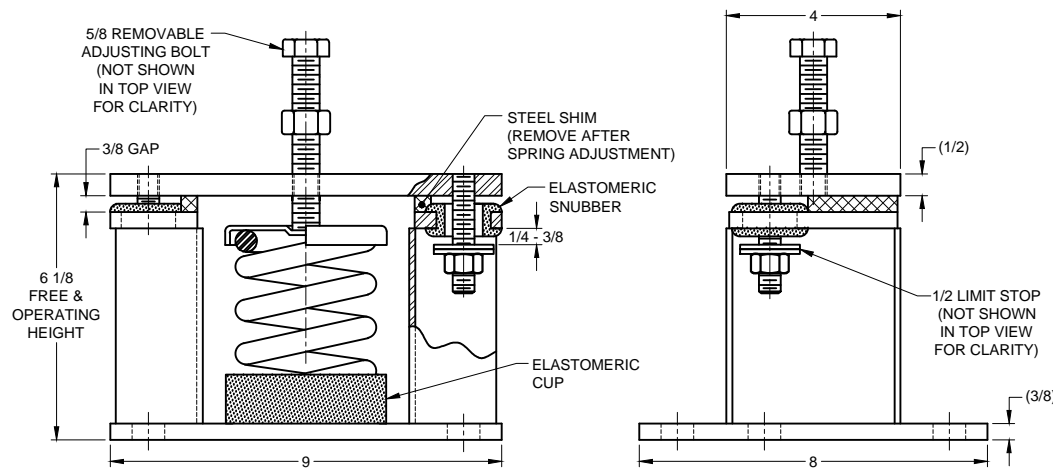
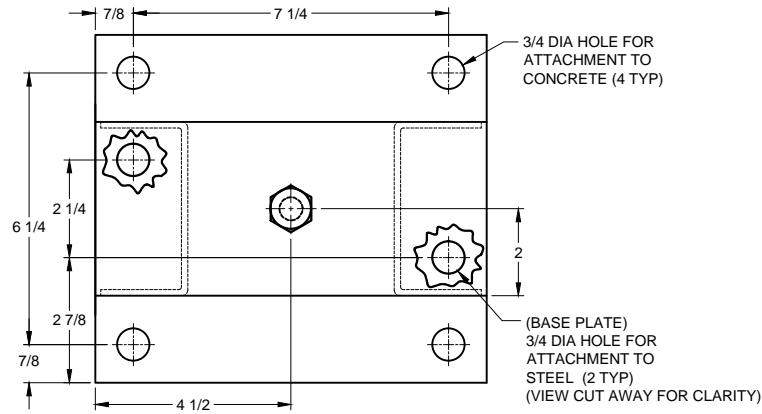
**MS STYLE ISOLATOR**



**MSS STYLE ISOLATOR**

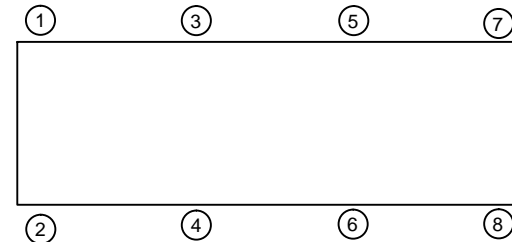


REV.	DESCRIPTION	DATE	BY



- NOTES:
1. ALL DIMENSIONS ARE IN INCHES, INTERPRET PER ANSI Y14.
  2. STANDARD FINISH: HOUSING - POWDER COAT (COLOR:BLACK), SPRING - POWDER COAT (COLOR: SEE TABLE), HARDWARE ZINC-ELECTROPLATE.
  3. EQUIPMENT MUST BE BOLTED OR WELDED TO THE TOP PLATE TO MEET ALLOWABLE SEISMIC RATINGS.
  4. ISOLATOR BASE PLATE MUST BE ANCHORED TO STEEL EITHER BY WELDING OR WITH MIN (2) 5/8 DIA A325 BOLTS, OR IT MUST BE ANCHORED TO CONCRETE WITH (4) 5/8 DIA ANCHORS WITH ALLOWABLE LOADS OF 3600 POUNDS SHEAR AND 2100 POUNDS TENSION OR AS DIRECTED BY THE VMC GROUP.
  5. ALL SPRINGS ARE DESIGNED FOR 50% OVERLOAD CAPACITY.
  6. REFER TO SHEET 2 OF 2 FOR INSTALLATION INSTRUCTIONS.

MODEL MSS-1E SEISMICALLY RESTRAINED VIBRATION ISOLATOR FOR 1" DEFLECTION				
SEISMIC MOUNT SIZE	RATED LOAD (LBS)	RATED DEFLECTION (IN)	SPRING RATE (LBS/IN)	COLOR CODE
MSS-1E-400	400	1.32	303	BLACK
MSS-1E-530N	530	1.17	453	BLACK/DK BLUE
MSS-1E-650	650	1.05	619	RED
MSS-1E-825N	825	1.07	769	RED/DK BLUE
MSS-1E-1000	1000	1.00	1000	TAN
MSS-1E-1200N	1200	1.04	1150	TAN/DK BLUE
MSS-1E-1400	1400	1.00	1400	PINK
MSS-1E-1700N	1700	1.10	1550	PINK/DK BLUE
MSS-1E-2000	2000	1.11	1800	WHITE
MSS-1E-2575N	2575	1.11	2313	WHITE/DK PURPLE
MSS-1E-2990N	2990	1.11	2682	WHITE/DK GREEN
MSS-1E-3250N	3250	1.04	3125	WHITE/GRAY



ISOLATOR SELECTIONS	
LOC 1:	LOC 2:
LOC 3:	LOC 4:
LOC 5:	LOC 6:
LOC 7:	LOC 8:
CUSTOMER EQPT. 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.

**CERTIFIED FOR:**

JOB NAME: \_\_\_\_\_  
 CUSTOMER : \_\_\_\_\_  
 CUSTOMER P.O.: \_\_\_\_\_  
 SALES ORDER: \_\_\_\_\_

**MODEL MSS-1E  
 VIBRATION ISOLATOR  
 WITH INTEGRAL SEISMIC RESTRAINT  
 AND EXTERNAL ADJUSTMENT  
 FOR 1" DEFLECTION**



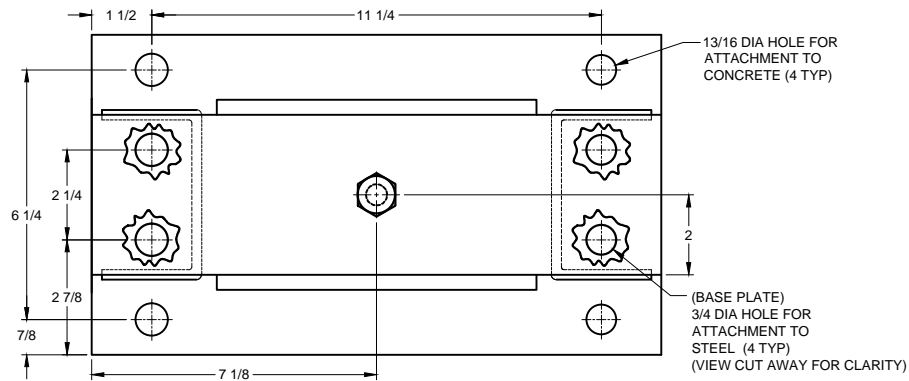
**THE VMC GROUP**  
*The Power of Together*  
 Bloomingdale, NJ 07403  
 Houston, TX 77041

SCALE :  
 NONE  
 SHEET:  
 1 OF 2

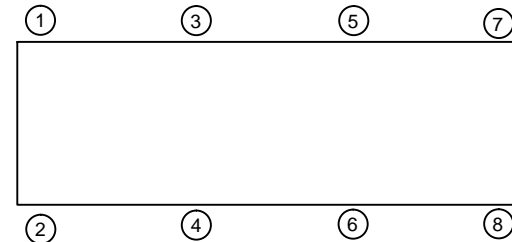
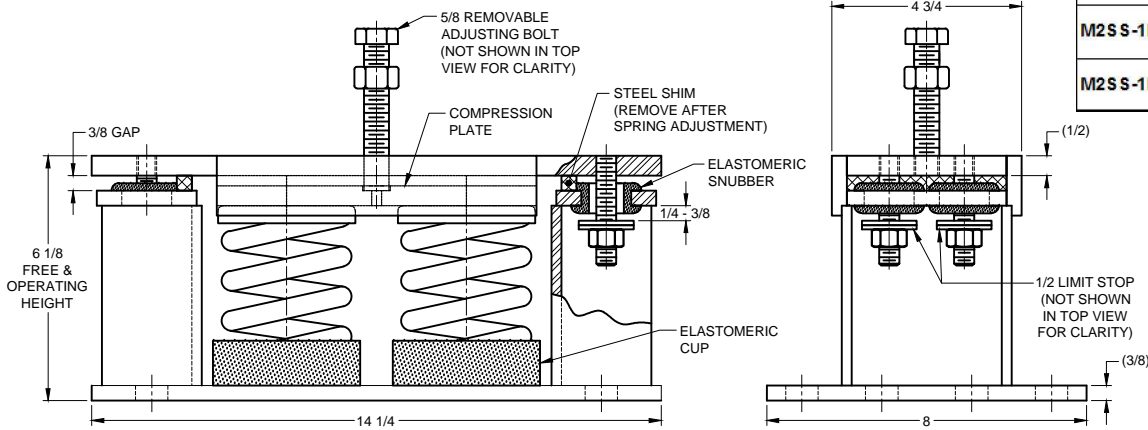


DRAWING NO.: \_\_\_\_\_ REVISION

REV.	DESCRIPTION	DATE	BY



MODEL M2S S-1E SEISMICALLY RESTRAINED VIBRATION ISOLATOR FOR 1" DEFLECTION				
SEISMIC MOUNT SIZE	RATED LOAD (LBS)	RATED DEFLECTION (IN)	SPRING RATE (LBS/IN)	COLOR CODE
M2S S-1E-1650N	1650	1.07	1538	RED/DK. BLUE
M2S S-1E-2000	2000	1.00	2000	TAN
M2S S-1E-3400N	3400	1.10	3100	PINK/DK. BLUE
M2S S-1E-4000	4000	1.11	3600	WHITE
M2S S-1E-5150N	5150	1.11	4626	WHITE/DK. PURPLE
M2S S-1E-5980N	5980	1.11	5364	WHITE/DK. GREEN
M2S S-1E-6500N	6500	1.04	6250	WHITE/GRAY



**NOTES:**

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3. EQUIPMENT MUST BE BOLTED OR WELDED TO THE TOP PLATE TO MEET ALLOWABLE SEISMIC RATINGS.
4. ISOLATOR BASE PLATE MUST BE ANCHORED TO STEEL EITHER BY WELDING OR WITH MIN (4) 5/8 DIA A325 BOLTS, OR IT MUST BE ANCHORED TO CONCRETE WITH (4) 3/4 DIA ANCHORS WITH ALLOWABLE LOADS OF 5900 POUNDS SHEAR AND 3900 POUNDS TENSION OR AS DIRECTED BY THE VMC GROUP.
5. ALL SPRINGS ARE DESIGNED FOR 50% OVERLOAD CAPACITY.
6. REFER TO SHEET 2 OF 2 FOR INSTALLATION INSTRUCTIONS.

**ISOLATOR SELECTIONS**

LOC 1:	LOC 2:
LOC 3:	LOC 4:
LOC 5:	LOC 6:
LOC 7:	LOC 8:
CUSTOMER EQPT. 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.

**CERTIFIED FOR:**

JOB NAME: \_\_\_\_\_  
 CUSTOMER : \_\_\_\_\_  
 CUSTOMER P.O.: \_\_\_\_\_  
 SALES ORDER: \_\_\_\_\_

**MODEL M2SS-1E  
 VIBRATION ISOLATOR  
 WITH INTEGRAL SEISMIC RESTRAINT  
 AND EXTERNAL ADJUSTMENT  
 FOR 1" DEFLECTION**

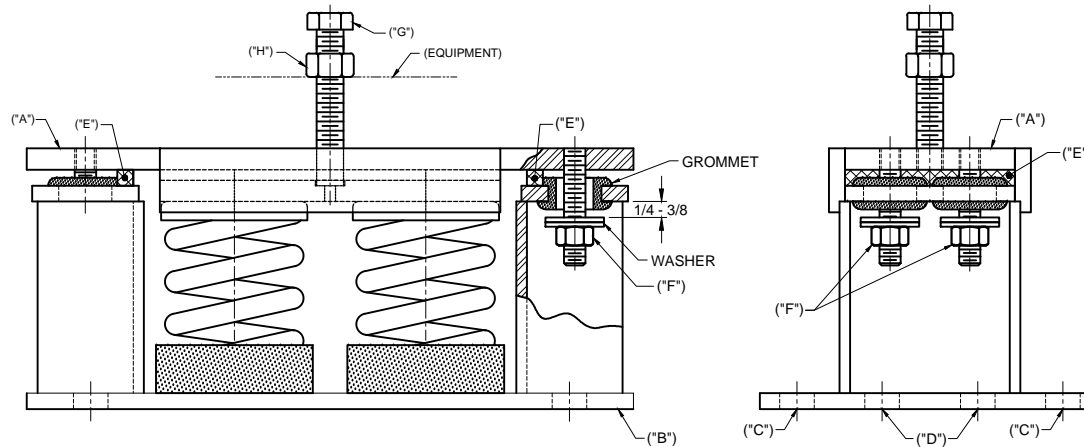


SCALE:	NONE	
SHEET:	1 OF 2	
DRAWING NO.:	REVISION	

REV.	DESCRIPTION	DATE	BY

- 1. READ INSTRUCTIONS IN THEIR ENTIRETY BEFORE BEGINNING INSTALLATION.**
- ISOLATORS ARE SHIPPED FULLY ASSEMBLED AND ARE TO BE POSITIONED IN ACCORDANCE WITH THE SUBMITTAL DRAWINGS OR AS OTHERWISE RECOMMENDED.
- 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).
- 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.
- ISOLATORS ARE SHIPPED TO THE JOBSITE WITH (2) 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.
- 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. REATTACH THE ADJUSTING 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.**
- BACK OFF EACH OF THE (2) OR (4) LIMIT STOP LOCKNUTS ("F") PER ISOLATOR 1/4- TO 3/8-INCH.
- 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").
- REMOVE ALL SPACER SHIMS ("E").
- FINE ADJUST ISOLATORS TO LEVEL EQUIPMENT.
- 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).
- INSTALLATION IS COMPLETE.



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.: \_\_\_\_\_  
 SALES ORDER: \_\_\_\_\_

**INSTALLATION INSTRUCTIONS  
 SERIES MSS AND M2SS  
 SEISMIC ISOLATORS**



SCALE :	NONE	
SHEET:	2 OF 2	
DRAWING NO.:	REVISION	