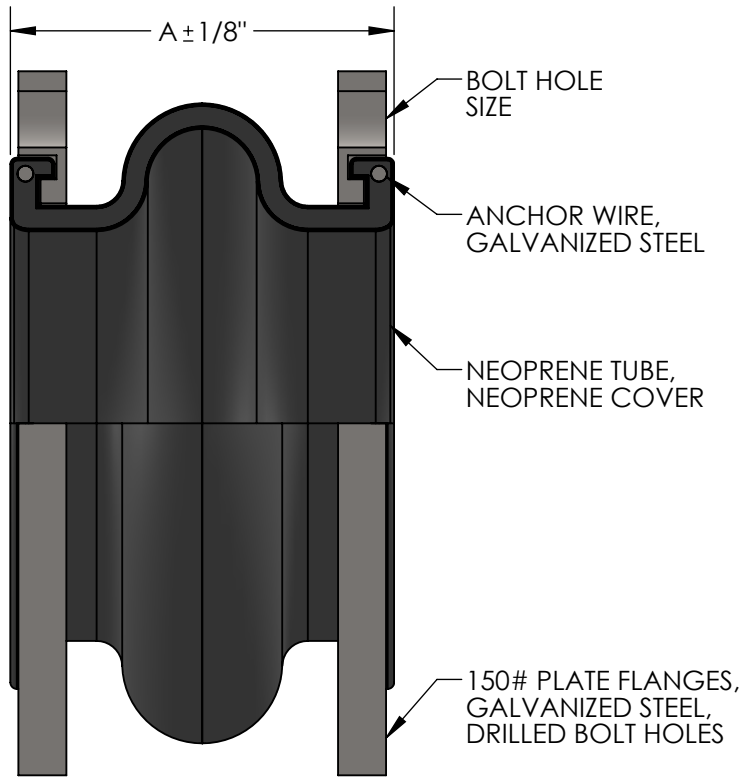


**MODEL MSODNN, STYLE "O" METRASPHERE
NEOPRENE EXPANSION JOINT, DRILLED BOLT HOLES**



MAXIMUM OPERATING CONDITIONS

| TEMPERATURE | PRESSURE (PSI) | |
|-------------|----------------|------------|
| | 1" - 12" | 14" AND UP |
| 170° | 225 | 125 |
| 180° | 200 | 115 |
| 190° | 175 | 105 |
| 200° | 150 | 95 |
| 210° | 125 | 40 |
| 220° | 100 | 35 |
| 230° | 75 | 25 |

MAXIMUM WORKING TEMPERATURE 230°F

NOTES:

WWW.METRAFLEX.COM FOR INSTALLATION INSTRUCTIONS.
JOINT MUST BE INSTALLED AT ITS NEUTRAL LENGTH.
BOLTS MUST BE PROPERLY TORQUED.
NOT SUITABLE FOR STEAM OR VACUUM APPLICATIONS.
IF CONNECTING PIPE IS NOT ANCHORED AND GUIDED,
CONTROL UNITS MUST BE USED.

TO BE FURNISHED WITH CONTROL UNITS:

YES NO

| QTY | PART NUMBER | PIPE SIZE | | A | AXIAL COMP. | FORCE (LBS) | AXIAL EXT. | FORCE (LBS) | LATERAL OFFSET | FORCE (LBS) | ANGULAR | WEIGHT (LBS) | BOLT HOLE SIZE |
|-----|-------------|-----------|-----|---------|-------------|-------------|------------|-------------|----------------|-------------|---------|--------------|----------------|
| | | INCH | MM | | | | | | | | | | |
| | MSODNN0100 | 1" | 25 | 3-3/4" | 1/4" | N/A | 3/32" | N/A | 1/4" | N/A | 15° | 5 | 5/8" |
| | MSODNN0125 | 1-1/4" | 32 | 3-3/4" | 1/4" | N/A | 3/32" | N/A | 1/4" | N/A | 15° | 6 | 5/8" |
| | MSODNN0150 | 1-1/2" | 38 | 3-3/4" | 1/4" | N/A | 3/32" | N/A | 1/4" | N/A | 15° | 7 | 5/8" |
| | MSODNN0200 | 2" | 50 | 4-1/8" | 3/8" | 55 | 1/4" | 73 | 3/8" | 55 | 15° | 8 | 3/4" |
| | MSODNN0250 | 2-1/2" | 65 | 4-1/2" | 1/2" | 102 | 1/4" | 68 | 3/8" | 97 | 15° | 13 | 3/4" |
| | MSODNN0300 | 3" | 80 | 5-1/8" | 1/2" | 136 | 1/4" | 115 | 3/8" | 108 | 15° | 14 | 3/4" |
| | MSODNN0400 | 4" | 100 | 5-3/8" | 3/4" | 145 | 3/8" | 242 | 1/2" | 275 | 15° | 18 | 3/4" |
| | MSODNN0500 | 5" | 125 | 6-3/4" | 3/4" | 172 | 3/8" | 196 | 1/2" | 308 | 15° | 23 | 7/8" |
| | MSODNN0600 | 6" | 150 | 7-1/8" | 3/4" | 293 | 3/8" | 563 | 1/2" | 484 | 15° | 28 | 7/8" |
| | MSODNN0800 | 8" | 200 | 8-1/8" | 1" | 372 | 1/2" | 587 | 7/8" | 688 | 15° | 40 | 7/8" |
| | MSODNN1000 | 10" | 250 | 9-3/8" | 1" | 398 | 1/2" | 455 | 7/8" | 781 | 15° | 68 | 1" |
| | MSODNN1200 | 12" | 300 | 10-1/4" | 1" | 390 | 1/2" | 356 | 7/8" | 842 | 15° | 94 | 1" |
| | MSODNN1400 | 14" | 350 | 10-1/2" | 1" | N/A | 5/8" | N/A | 7/8" | N/A | 15° | 105 | 1-1/8" |
| | MSODNN1600 | 16" | 400 | 10-1/2" | 1" | N/A | 5/8" | N/A | 7/8" | N/A | 15° | 120 | 1-1/8" |
| | MSODNN1800 | 18" | 450 | 10-1/2" | 1" | N/A | 5/8" | N/A | 7/8" | N/A | 15° | 125 | 1-1/4" |
| | MSODNN2000 | 20" | 500 | 10-1/2" | 1" | N/A | 5/8" | N/A | 7/8" | N/A | 15° | 145 | 1-1/4" |
| | MSODNN2400 | 24" | 600 | 10-1/2" | 1" | N/A | 5/8" | N/A | 7/8" | N/A | 15° | 265 | 1-3/8" |


NSF 372 - LEAD FREE

The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight. Material complies with state codes and standards, where applicable, requiring reduced lead content.

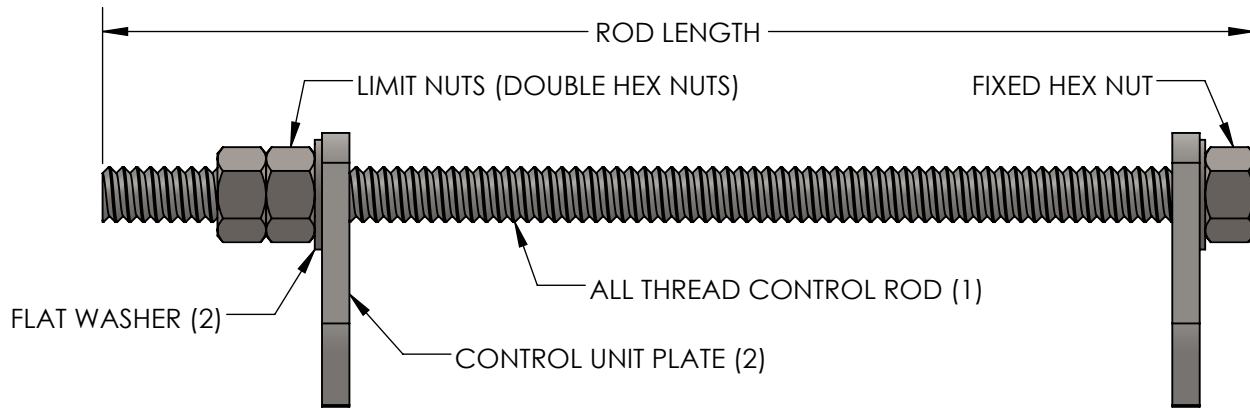
CUSTOMER: _____

PROJECT: _____

ENGINEER: _____

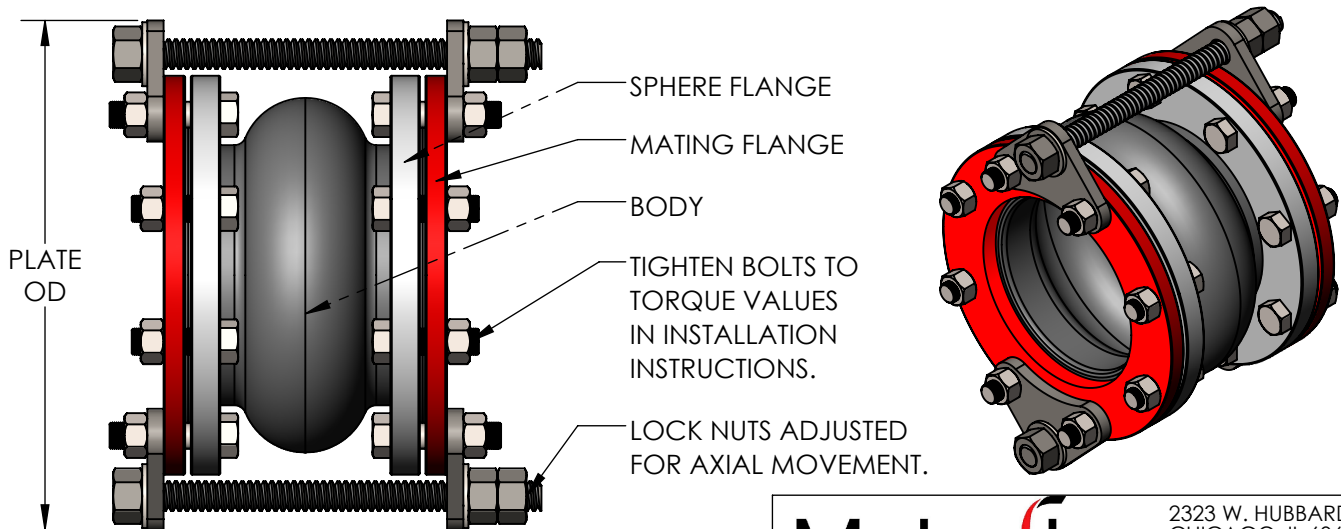
| | |
|---|---------------------------------|
| REV. | DATE |
|  | |
| 2323 W. HUBBARD ST. CHICAGO, IL 60612 TEL: 312-738-3800 FAX: 312-738-0415 WWW.METRAFLEX.COM | |
| METRASPHERE MODEL MSODNN NEOPRENE EXPANSION JOINT, DRILLED BOLT HOLES | |
| DRAWN BY: DKISH | DATE: 1/19/2017 |
| APPROVED: JC | DATE: 1/23/2017 |
| SCALE: N/A | DRAWING NUMBER: MSODNN-1 |

CONTROL UNIT SELECTION CHART / DIMENSIONS FOR MODEL MSO ONLY



CONSULT FACTORY FOR NUMBER OF CONTROL UNITS REQUIRED

| PIPE SIZE | ROD TYPE | ROD THICKNESS | ROD LENGTH | PLATE TYPE | PLATE THICKNESS | PLATE OD |
|-----------|--------------|---------------|------------|------------|-----------------|----------|
| 1" | GUSRD058X120 | 5/8" | 12" | GUSPLT01 | 3/8" | 8-3/8" |
| 1-1/4" | GUSRD058X120 | 5/8" | 12" | GUSPLT01 | 3/8" | 8-3/4" |
| 1-1/2" | GUSRD058X120 | 5/8" | 12" | GUSPLT01 | 3/8" | 9-1/8" |
| 2" | GUSRD058X120 | 5/8" | 12" | GUSPLT0204 | 3/8" | 10-1/8" |
| 2-1/2" | GUSRD058X120 | 5/8" | 12" | GUSPLT2503 | 3/8" | 11-1/8" |
| 3" | GUSRD058X120 | 5/8" | 12" | GUSPLT2503 | 3/8" | 11-5/8" |
| 4" | GUSRD058X120 | 5/8" | 12" | GUSPLT0204 | 3/8" | 13-1/8" |
| 5" | GUSRD058X120 | 5/8" | 12" | GUSPLT0506 | 1/2" | 14-1/8" |
| 6" | GUSRD058X140 | 5/8" | 14" | GUSPLT0506 | 1/2" | 15-1/8" |
| 8" | GUSRD100X170 | 1" | 17" | GUSPLT0800 | 1/2" | 19-1/8" |
| 10" | GUSRD100X190 | 1" | 19" | GUSPLT1012 | 3/4" | 21-5/8" |
| 12" | GUSRD100X190 | 1" | 19" | GUSPLT1012 | 3/4" | 24-5/8" |
| 14" | GUSRD100X210 | 1" | 21" | GUSPLT1400 | 3/4" | 26-5/8" |
| 16" | GUSRD125X215 | 1-1/4" | 21-1/2" | GUSPLT1600 | 3/4" | 30-1/8" |
| 18" | GUSRD125X215 | 1-1/4" | 21-1/2" | GUSPLT1800 | 3/4" | 31-5/8" |
| 20" | GUSRD125X215 | 1-1/4" | 21-1/2" | GUSPLT2000 | 3/4" | 34-1/8" |
| 24" | GUSRD125X215 | 1-1/4" | 21-1/2" | GUSPLT2400 | 1" | 38-5/8" |



Metraflex
for pipes in motion

2323 W. HUBBARD ST.
CHICAGO, IL 60612
TEL: 312-738-3800
FAX: 312-738-0415
WWW.METRAFLEX.COM

CUSTOMER: _____

PROJECT: _____

ENGINEER: _____

CONTROL UNITS FOR MSO

DRAWN BY: **DKISH**

DATE: **1/5/2017**

APPROVED: **JC**

DATE: **1/6/2017**

SCALE: N/A

DRAWING NUMBER: CONTROLUNIT-MSO