

RUBBER EXPANSION JOINTS

LITERATURE SUBMITTALS/SPECS DRAWINGS INSTALL INSTRUCTIONS O&M MANUALS WHITE PAPERS

CASE STUDIES

RUBBER EXPANSION JOINTS AND PUMP CONNECTORS

Metrasphere

Can your engineered pipe system stand the pressure? Protect pumps from temperature and pressure changes, and reduce noise and vibration, with Metrasphere. Our Metrasphere joint/flexible connector handles up to 225 PSI at 170° F and can work at temperatures up to 230° F!

The Metrasphere is the most widely applied expansion joint/flexible connector in the industry today. It provides the greatest pressure, temperature and movement, at a very reasonable cost. The Metrasphere's resiliency also helps control pulsation shocks and noise transmission.

Constructed of neoprene* and nylon (other materials are available [see charts below](#)), the spherical shape allows pressure to exert itself uniformly in all directions, thus reducing the force exerted on pipe lines and equipment. Bias-ply tire cord provides strength, a high safety factor, and low force to move. Precision molding provides a dense, uniform carcass.

Solid plate steel flanges grip the sealing area and provide a fluid tight connection. All flanges are tapped or drilled to mate with 150# or 300# companion flanges. The tapped bolt holes and rotatable flanges make installation easy. The arch is self-cleaning, thus eliminating the need for filled arch when solids are present in the stream.

Solid plate steel flanges grip the sealing area and provide a fluid tight connection. All flanges are tapped or drilled to mate with 150# or 300# companion flanges. The tapped bolt holes and rotatable flanges make installation easy. The arch is self-cleaning, thus eliminating the need for filled arch when solids are present in the stream.

Metrasphere's are available in different lengths and movements, and are designation as an "O" and "R" style. Choose the "O" or "R" version that meets the requirements of your specific application.

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Metrasphere Style R - EPDM body, threaded bolt holes



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Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSREE0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSREE0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD

MSREE0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSREE0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSREE0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSREE0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSREE0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSREE1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSREE1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - EPDM body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSOEE0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSOEE0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSOEE0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSOEE0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSOEE0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSOEE0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSOEE0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSOEE0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSOEE0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSOEE0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSOEE1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSOEE1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSOEE1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSOEE1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSOEE1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSOEE2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSOEE2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Neoprene body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRNN0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRNN0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRNN0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRNN0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRNN0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRNN0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRNN0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRNN1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRNN1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Neoprene body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSOON0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD

MSOON0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSOON0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSOON0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSOON0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSOON0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSOON0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSOON0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSOON0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSOON0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSOON1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSOON1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSOON1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSOON1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSOON1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSOON2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSOON2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Butyl body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRBB0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRBB0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRBB0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRBB0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRBB0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRBB0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRBB0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRBB1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRBB1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Butyl body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSOBB0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSOBB0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSOBB0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSOBB0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSOBB0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSOBB0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSOBB0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSOBB0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSOBB0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSOBB0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSOBB1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSOBB1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSOBB1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSOBB1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSOBB1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSOBB2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSOBB2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Nitrile body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRPN0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRPN0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRPN0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRPN0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRPN0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRPN0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRPN0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRPN1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRPN1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Nitrile body, threaded bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSOPN0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSOPN0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSOPN0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSOPN0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSOPN0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSOPN0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSOPN0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSOPN0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSOPN0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSOPN0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSOPN1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSOPN1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSOPN1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSOPN1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSOPN1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSOPN2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSOPN2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - EPDM body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRDEE0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRDEE0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRDEE0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRDEE0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRDEE0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRDEE0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRDEE0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRDEE1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD

MSRDEE1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD
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*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - EPDM body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSODEE0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSODEE0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSODEE0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSODEE0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSODEE0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSODEE0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSODEE0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSODEE0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSODEE0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSODEE0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSODEE1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSODEE1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSODEE1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSODEE1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSODEE1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSODEE2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSODEE2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Neoprene body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRDNN0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRDNN0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRDNN0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRDNN0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRDNN0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRDNN0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRDNN0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRDNN1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRDNN1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Neoprene body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSODNN0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSODNN0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSODNN0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSODNN0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSODNN0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSODNN0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSODNN0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD

MSODNN0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSODNN0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSODNN0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSODNN1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSODNN1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSODNN1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSODNN1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSODNN1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSODNN2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSODNN2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Butyl body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSRDBB0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRDBB0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRDBB0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRDBB0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRDBB0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRDBB0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRDBB0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRDBB1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRDBB1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Butyl body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSODBB0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSODBB0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSODBB0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSODBB0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSODBB0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSODBB0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSODBB0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSODBB0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSODBB0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSODBB0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSODBB1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSODBB1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSODBB1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSODBB1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSODBB1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSODBB2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSODBB2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style R - Nitrile body, drilled bolt holes

Model #	Joint	FACE-TO-FACE	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR	THREAD SIZE	GROSS WT.	3D
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	Size ID (in)*	(in.)	170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)	(Degrees)	(in.)	(lbs.)	DRAWING
MSRDPN0200	2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	8	CAD
MSRDPN0250	2 1/2	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	13	CAD
MSRDPN0300	3	6	225	150	100	1/2	3/8	1/2	15	5/8-11NC	14	CAD
MSRDPN0400	4	6	225	150	100	5/8	3/8	1/2	15	5/8-11NC	18	CAD
MSRDPN0500	5	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	23	CAD
MSRDPN0600	6	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	28	CAD
MSRDPN0800	8	6	225	150	100	5/8	3/8	1/2	15	3/4-10NC	40	CAD
MSRDPN1000	10	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	68	CAD
MSRDPN1200	12	8	225	150	100	3/4	1/2	3/4	15	7/8-9NC	94	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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Metrasphere Style O - Nitrile body, drilled bolt holes

Model #	Joint Size ID (in)*	FACE-TO-FACE (in.)	PRESSURE VS. TEMPERATURE			MOVEMENT CAPABILITY			ANGULAR (Degrees)	THREAD SIZE (in.)	GROSS WT. (lbs.)	3D DRAWING
			170°F	200°F	220°F	Compression	Elongation (in.)	Lateral (in.)				
MSODPN0100	1	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	5	CAD
MSODPN0125	1 1/4	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	6	CAD
MSODPN0150	1 1/2	3-3/4	225	150	100	1/4	3/32	1/4	15	1/2-12NC	7	CAD
MSODPN0200	2	4-1/8	225	150	100	3/8	1/4	3/8	15	5/8-11NC	8	CAD
MSODPN0250	2 1/2	4-1/2	225	150	100	1/2	1/4	3/8	15	5/8-11NC	13	CAD
MSODPN0300	3	5-1/8	225	150	100	1/2	1/4	3/8	15	5/8-11NC	14	CAD
MSODPN0400	4	5-3/8	225	150	100	3/4	3/8	1/2	15	5/8-11NC	18	CAD
MSODPN0500	5	6-3/4	225	150	100	3/4	3/8	1/2	15	3/4-10NC	23	CAD
MSODPN0600	6	7-1/8	225	150	100	3/4	3/8	1/2	15	3/4-10NC	28	CAD
MSODPN0800	8	8-1/8	225	150	100	1	1/2	7/8	15	3/4-10NC	40	CAD
MSODPN1000	10	9-3/8	225	150	100	1	1/2	7/8	15	7/8-9NC	68	CAD
MSODPN1200	12	10-1/4	225	150	100	1	1/2	7/8	15	7/8-9NC	94	CAD
MSODPN1400	14	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	105	CAD
MSODPN1600	16	10-1/2	125	95	35	1	5/8	7/8	15	1-1/8 Hole	120	CAD
MSODPN1800	18	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	125	CAD
MSODPN2000	20	10-1/2	125	95	35	1	5/8	7/8	15	1-1/4 Hole	145	CAD
MSODPN2400	24	10-1/2	125	95	35	1	5/8	7/8	15	1-3/8 Hole	265	CAD

*Consult factory for special material such as Viton, Hypalon, EPDM, Nitrile, etc. and for larger sizes or higher working pressures.

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