HORIZON
Environmental Technology

MemLine®

Flexible Pipe Couplings

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Contents

MemLine®

General Instruction of Piping Connection

Three methods are available in traditional metal piping connection:

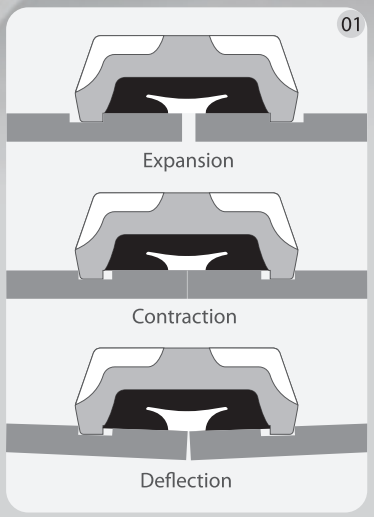
- WELDING
- FLANGE
- SCREW THREAD

While, COUPLINGS provide the fourth method to piping connection systems, as a faster, easier reliable and more economical way of jointing pipes, with no pollution to the environment at all during its installation.
The connecting way of couplings is to place an end groove(See groove specification page 12) on top of the outer wall of pipes, then joint the two pipes together by the connection of couplings.
Two processing methods of groove are available and specifications are according to AWWA norm - CUT GROOVE & ROLL GROOVE.

Benefits of grooved-end pipe flexible couplings connection compared with WELDING, FLANGE AND SCREW THREAD connection:

- Provides faster and safty installation when it is compared with WELDING
- Eliminates the safty concerns due to esay installation
- Provides more secure and reliable performance when it is compared with FLANGE AND SCREW THREAD connection
- Easy installation, simple operation, significantly reducing the installation and maintenance cost

Features of Memline® Flexible Couplings



FLEXIBILITY 01

Memline® Flexible Couplings accommodate pipe with contraction, expansion and deflection(See groove specification page 12). It accommodates the axial and radial movement which caused by vibration and pressure of system during the installation and operation of piping system.

NOISE AND VIBRATION ATTENUATION 02

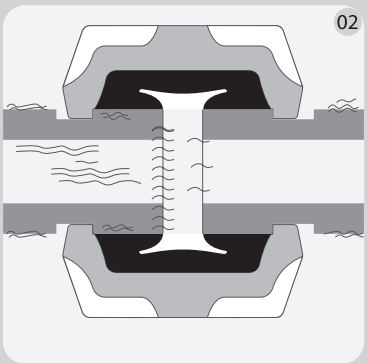
Due to the independent grooved-end pipe design of Memline® Flexible Couplings, sealed by a EPDM Gasket and unified by an externally bolted coupling bousing, noise and vibration transmission occured during the installation and operation can be reduced or absorbed efficiently.

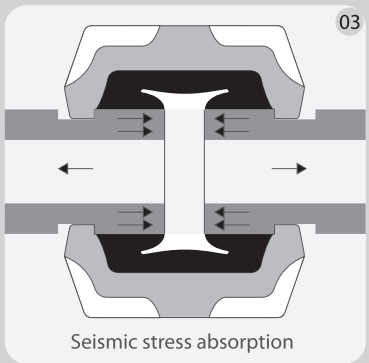
SEISMIC STRESS ABSORPTION 03

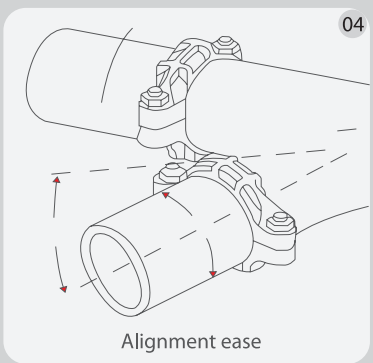
The full engagement of the housing keys into grooves around the full pipe circumference provides significant pressure restraint and load capabilities of pipe end to withstand pipe movement from various internal and external sources.

EASY AND SIMPLE INSTALLATION & MAINTENANCE 04

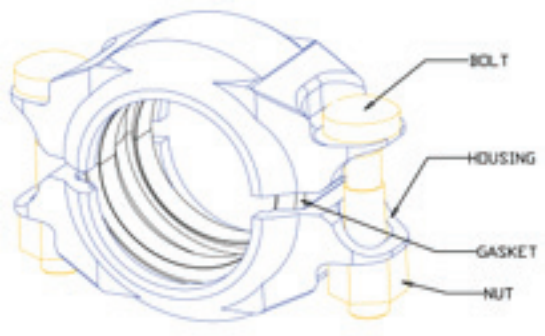
Only simple tool is required for installation. The grooved system allows full rotation of the pipe and system components before tightening so that proper alignment can be achieved, elimination mate-up problems and field rework.
Significantly reduce the installation, maintenance, and system expension cost.







Memline® Flexible Couplings



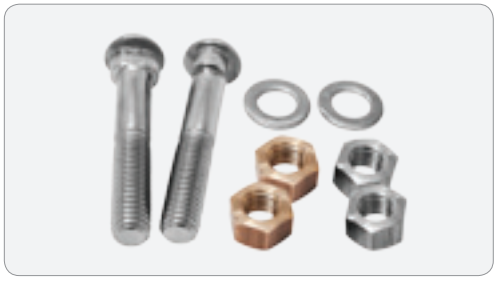
Designed especially to provide a reliable and flexible joint for roll and cut grooved piping in reverse osmosis (RO) systems , Memline® Flexible Couplings can cover a wide range of plant type, from low pressure RO for treatment of brackish water through to high pressure seawater RO desalination.

The manufacture and shop testing of Memline® Couplings are strictly according to ASME norm. High anti-corrosion performance, enhanced housing thickness enables Memline® couplings securely working as piping connection even in high pressure system, which ensure a longer lifetime and lower maintenance cost for the system.

The Housings

Cast of Stainless Steel 304, 316 and Duplex type CE8MN enables

- Better physical characteristics
- Higher tensile strength, yield strength, and elongation
- Good at Reverse Osmosis seawater desalination systems
- Excellent shake reduction function
- Safe guaranteed with test guranteed wall thickness



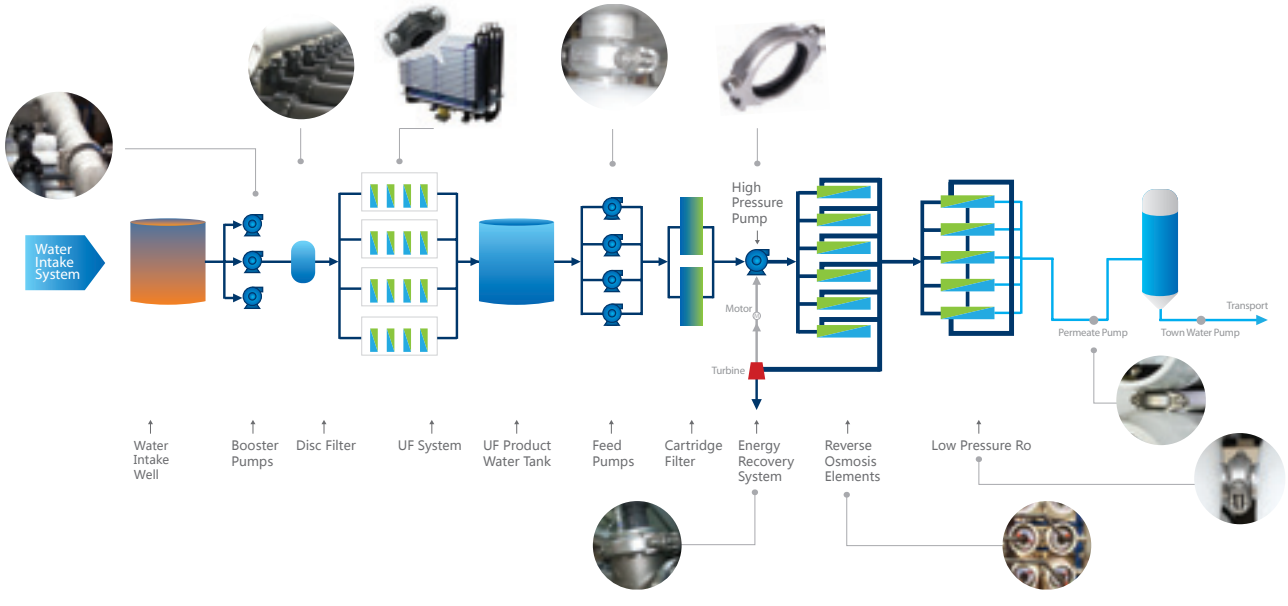
The Bolts and Nuts

The bolts are mainly made of 316 stainless steel(conform to ASTM F-593)

- Round-head, Square-neck
- Better intensity, tenacity and corrosion resistance
- The hex Nut makes sure the security of system.
- Patented product: Flange loosing-proof Nut.
- Silicon-bronze nuts are available in order to avoid seizing problems

The Gaskets

Material: EPDM (Ethylene Propylene Diene monomer)
Available in "C" Type & Flush Type Gasket
EPDM gasketing material, flexible in different temperature, it is applicable to cold water, hot water, rare acid, oil-free air and multiple chemical, and provides premium temperature performance within an operating temperature range of (-50≈150°C).
Triple seal design: The bigger the pressure of medium in the pipe, the tighter the force is, the better the seal function is.
Drinking Water Certificate: Gaskets are NSF, WRAS, WACKER, UL, KTW certified



Memline® Plastic Flexible Couplings

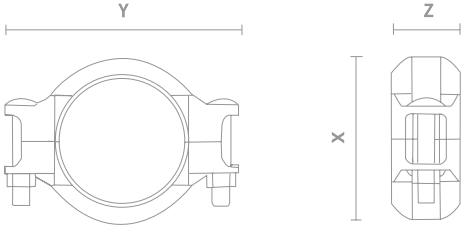
Pressure Rating	100psi	250psi
Size	3/4" - 4"	3/4" - 2.1/2"
Housing	Reinforced ABS	Reinforced Nylon
Bolts/Nuts/Washers	Carbon Steel	Carbon Steel
	304 Stainless Steel	304 Stainless Steel
	316 Stainless Steel	316 Stainless Steel
Gasket	EPDM Rubber	EPDM Rubber

Specially Designed for

- Brackish watertreatment
- MF
- UF
- Membrane filtration
- Permeate
- Waste water
- Low pressure RO

Superiority

- Applicable Criterion: GB14
- Color: Black
- Housing: Available in both Reinforced ABS and Nylon.
- Complete corrosion resistant.
- Light weight, permanent, UV resistant, non water absorptive
- Bolts & Nuts & Washer: Available in carbon steel, 304SS, 316SS for different applications and budget. Confirming to ASTM F-593
- Gasket: EPDM rubber, suitable for hot and cold water service. Drinking water certificate.



Main Parameters

Size	Dimensions			Approx Wgt. Each
Nominal Size mm inches	X mm inches	Y mm inches	Z mm inches	Kg
20 3/4	46.2 1.82	79 2.99	42.7 1.68	0.33
25 1	66.4 2.61	91.4 3.60	44.3 1.74	0.35
40 1 1/2	68.0 2.56	104 4.09	43.8 1.71	0.4
50 2	80.3 3.16	114.3 4.50	47.0 1.85	0.45
65 2 1/2	94.5 3.63	134.6 5.30	47.0 1.85	0.65
80 3	110 4.30	147.3 5.80	47.0 1.85	0.85
100 4	156 6.14	208 8.19	52 2.05	0.95

Note 1: Working pressure ratings is designed and tested in accordance with ASME Section VIII Division 1 pressure vessel test method.

Note 2: End-Groove Specification is designed and strictly follow AWWA Norm_C606-97

Memline® Stainless Steel Flexible Couplings

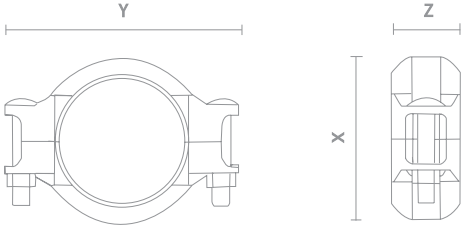
Designed for low pressure system(MF/UF)

Pressure Rating	300psi (21bar)
Size	3/4" - 12"
Housing Material	304stainless steel Grade CF-8, conforming to ASTM A 351, A 743 & A 744.
	316 stainless steel Grade CF-8M, conforming to ASTM A 351, A 743 & A 744.
	SUPERDUPLEX stainless steel type CE8MN, Conforming to ASTM A-890 Grade 2A.
Bolts/Washers	304 SS or 316SS conform to ASTM F-593, Group 2, condition CW
Nuts	Available in 304SS, 316SS and Silicone Bronze hex type
Gasket	Standard C Type EPDM Rubber, suitable for hot and cold water service

Specially Designed for

- Brackish watertreatment
- MF
- UF
- Membrane filtration
- Permeate
- Waste water
- Low pressure RO

Main Parameters



300PSI Specification				
Size	Dimensions			Approx Wgt. Each
Nominal Size mm inches	X mm inches	Y mm inches	Z mm inches	Kg Lbs
20 3/4	46.2 1.82	73.7 2.90	42.7 1.68	0.33 0.73
25 1	54.6 2.12	82.4 3.21	42 1.64	0.35 0.77
40 1 1/2	94 2.56	17 4.60	43.8 1.71	0.57 1.26
50 2	94 3.70	134 5.27	45.5 1.79	0.74 1.63
65 2 1/2	99.3 3.66	134.6 5.30	47 1.85	0.98 2.15
76.1mm	102.30 4.03	137.60 5.42	47.00 1.85	0.98 2.16
80 3	109.2 4.30	147.3 5.80	47 1.85	1.06 2.33
100 4	144.00 5.7	181.60 7.2	49.20 1.9	1.40 3.1
125 5	175.00 6.89	213.00 8.39	49.20 1.94	1.9 4.18
150 6	200 7.87	245 9.65	49.2 1.93	2.2 4.85
200 8	254 10.0	303 11.93	57.2 2.25	3.9 8.60
250 10	310 12.2	362 4.25	57.2 2.25	5.3 11.7
300 12	370 14.57	421 16.5	62 2.44	16.2 35.7

Note 1: Working pressure ratings is designed and tested in accordance with ASME Section VIII Division 1 pressure vessel test method.

Note 2: End-Groove Specification is designed and strictly follow AWWA C606-97

Memline® Stainless Steel Flexible Couplings

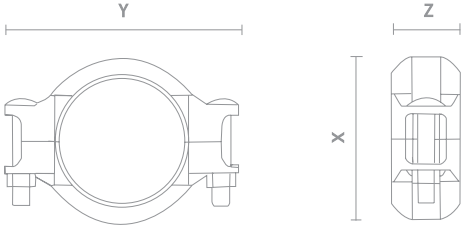
Designed for medium pressure system

Pressure Rating	600psi (40bar)
Size	3/4" - 12"
Housing Material	304 stainless steel Grade CF-8, conforming to ASTM A 351, A 743 & A 744.
	316 stainless steel Grade CF-8M, conforming to ASTM A 351, A 743 & A 744.
	SUPERDUPLEX stainless steel type CE8MN, Conforming to ASTM A-890 Grade 2A.
Bolts/Washers	304 SS or 316SS conform to ASTM F-593, Group 2, condition CW
Nuts	Available in 316SS and Silicone Bronze hex type
Gasket	Standard C Type EPDM Rubber, suitable for hot and cold water service

Specially Designed for

- Brackish watertreatment
- Waste water treatment
- Medium pressure RO

Main Parameters



600PSI Specifications				
Size	Dimensions			Approx Wgt. Each
Nominal Size mm Inches	X mm inches	Y mm inches	Z mm inches	Kg Lbs
20 3/4	52.3 2.06	81.3 3.33	42.7 1.68	0.35 0.77
25 1	54.6 2.12	84.6 3.21	42 1.64	0.42 0.93
40 1 1/2	70.6 2.78	103.1 4.06	43.8 1.71	0.57 1.26
50 2	82.8 3.26	117.4 4.62	47 1.85	0.65 1.43
65 2 1/2	95.5 3.76	137.2 5.40	47 1.85	0.98 2.15
76.1mm	106.30 4.19	142.80 5.62	47.00 1.85	1.30 2.86
80 3	111.3 4.38	149.8 5.90	47.0 1.85	1.80 3.96
100 4	147 5.79	195 7.68	52.1 2.05	2.7 5.95
125 5	178.00 7.01	218.00 8.58	52.10 2.05	3.6 7.92
150 6	208 8.19	272 10.7	52.1 2.05	4.5 9.92
200 8	262 10.47	330 13.03	61 2.40	9.3 20.5
250 10	326 13.00	386 15.28	61 2.40	12.3 27.1
300 12	374 15.03	440 17.4	65 2.56	16.2 35.7

Note 1: Working pressure ratings is designed and tested in accordance with ASME Section VIII Division 1 pressure vessel test method.

Note 2: End-Groove Specification is designed and strictly follow AWWA C606-97

Memline® Stainless Steel Flexible Couplings

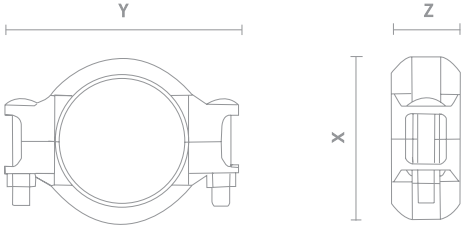
Designed for high pressure system

Pressure Rating	1000psi (70bar)
Size	3/4" - 12"
Housing Material	316 stainless steel Grade CF-8M, conforming to ASTM A 351, A 743 & A 744.
	SUPERDUPLEX stainless steel type CE8MN, Conforming to ASTM A-890 Grade 2A.
Nuts	Available in 316SS and Silicone Bronze hex type
Gasket	Available in Standard C Type and Flush Type Material in EPDM Rubber, suitable for hot and cold water service

Specially Designed for

- Brackish watertreatment
- Waste water treatment
- Medium pressure RO

Main Parameters



1000PSI Specifications				
Size	Dimensions			Approx Wgt. Each
Nominal Size mm Inches	X mm inches	Y mm inches	Z mm inches	Kg Lbs
25 1	54.6 2.12	84.6 3.21	42 1.64	0.42 0.93
40 1 1/2	70.6 2.78	103.1 4.06	43.8 1.71	0.57 1.26
50 2	82.8 3.26	117.4 4.62	47 1.85	0.98 2.15
65 2 1/2	95.5 3.76	137.2 5.40	47 1.85	0.98 2.15
76.1mm	106.30 4.19	142.80 5.62	47.00 1.9	1.30 2.86
80 3	111.3 4.38	149.8 5.90	47 1.85	1.80 3.96
100 4	147 5.79	195 7.68	52.1 2.05	2.7 5.95
125mm 5	178.00 7.01	218.00 8.58	52.10 2.05	3.6 7.92
150 6	208 8019	272 10.7	52.1 2.05	4.5 9.92
200 8	262 10.47	330 13.03	61 2.40	9.3 20.5
250 10	326 13.00	386 15.28	61 2.40	12.3 27.1
300 12	374 15.03	440 17.4	65 2.56	16.2 35.7

Note 1: Working pressure ratings is designed and tested in accordance with ASME Section VIII Division 1 pressure vessel test method.

Note 2: End-Groove Specification is designed and strictly follow AWWA C606-97

Memline® Stainless Steel Flexible Couplings

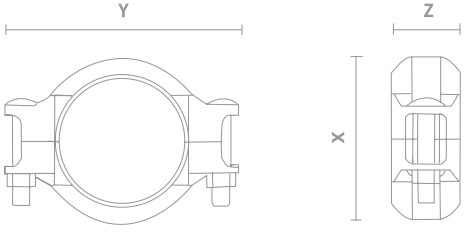
Designed for high pressure system

Pressure Rating	1200psi (83bar)
Size	3/4" - 12"
Housing Material	316 stainless steel Grade CF-8M, conforming to ASTM A 351, A 743 & A 744.
	SUPERDUPLEX stainless steel type CE8MN, Conforming to ASTM A-890 Grade 2A.
Bolts/Washers	316 stainless steel conform to ASTM F-593, Group 2, condition CW
Nuts	Available in 316SS and Silicone Bronze hex type
Gasket	Available in Standard C Type and Flush Type Material in EPDM Rubber, suitable for hot and cold water service

Specially Designed for

- Brackish watertreatment
- Waste water treatment
- Medium pressure RO

Main Parameters



1200PSI Specifications				
Size	Dimensions			Approx Wgt. Each
Nominal Size mm inches	X mm inches	Y mm inches	Z mm inches	Kg Lbs
20 3/4	51 2.0	82 3.3	43 1.71	0.53 1.2
25 1	57.4 2.26	87.1 3.43	42 1.64	0.56 1.24
40 1 1/2	78 3.04	107 4.17	43 1.71	0.78 1.71
50 2	90 3.54	122 4.81	46 1.79	1.22 2.68
65 2 1/2	102 4.0	137 5.38	47 1.85	1.44 3.2
76.1mm	110.30 4.34	156.80 6.17	47.00 1.9	1.60 3.52
80 3	120 4.72	160 6.30	47 1.85	1.9 4.18
100 4	152 5.98	186 7.33	51 2.02	2.68 5.9
125 5	180.00 7.09	221.00 8.7	52.10 2.05	3.9 8.58
150 6	212 8.35	263 10.35	51 2.02	5.2 11.2
200 8	266 10.47	331 13.03	63 2.48	11.2 24.1
250 10	330 13.00	388 15.28	65 2.56	15.4 33.1
300 12	382 15.03	442 17.4	67 2.02	20.3 43.6

Note 1: Working pressure ratings is designed and tested in accordance with ASME Section VIII Division 1 pressure vessel test method.

Note 2: End-Groove Specification is designed and strictly follow AWWA C606-97

End Caps

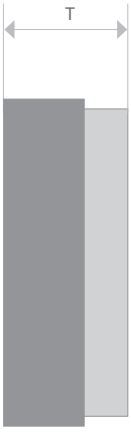
Material Available

- 304 Stainless Steel
- 316 Stainless Steel
- Super Duplex (2205)
- Super Duplex (2507)

Pressure Rating

- 1200psi

Main Parameters



Size		Caps Parameters	
Nominal Size	Actual Outside Diameter	Thickness (T)	Approx. Weight Each
inches	inches	Inches	Lbs
mm	mm	mm	KG
3/4 20	1.050 26.9	1.00 25	0.2 0.1
1 25	1.315 33.7	0.98 25	0.3 0.1
1. 1/4 32	1.660 42.4	1.00 25	0.3 0.1
1. 1/2 40	1.900 48.3	1.00 25	0.5 0.2
2 50	2.375 60.3	1.00 25	0.6 0.3
2.1/2 65	2.875 73.0	1.00 25	1.0 0.5
3 80	3.500 88.9	1.00 25	1.2 0.5
4 100	4.500 114.3	1.00 25	2.5 1.1
6 150	6.625 168.3	1.00 25	6.1 2.8
8 200	8.625 219.1	1.38 35	13.1 5.9
10 250	10.750 273.0	1.38 35	21.0 9.5
12 300	12.750 323.9	1.38 35	35.6 16.2

Standard Cut-Groove Specification

Notes:

Gasket Seat "A":
Must be smooth and free of indentations, roll marks, scratches, imperfections and projections from the end of the pipe to the groove in order to provide a leak-tight seal for the gasket.
All loose paint,scale,dirt,chips,grease and rust must be removed.
Gasket seat "A" is measured from the end of the pipe.
Beveled end pipe not recommended.

Groove Width"B":
The bottom of the groove to be free of dirt,chips etc.that may interfere with coupling assembly.See redius notes on drawing above.

Groove Depth "D":
Must be of uniform depth for the entire pipe circumfrence and must be maintained within the 'C' dimension tolerance listed.

Min.Wall Thicness"T":
This is the minimum wall thickness which may be cut grooved.
Actual dimensions must be per groove diameter 'C'

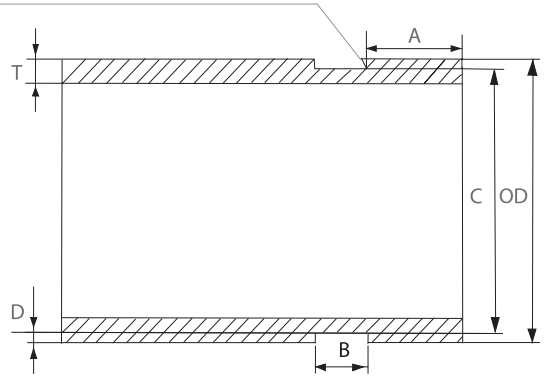
Notes:

The outside diameter of cut grooved pipe shall not vary more than the tolerance listed.

Pipe ends to be square cut and shall be neat and free from imperfections that may affect durability,operability and safety.

Metal shall be free from flins, burrs and sharp/rough edges, flame cutting is not permitted.

Dimension range of angle
0.010-0.015(inches)
0.25-0.38(mm)



Standard Cut Groove Specifications

Nom. PipeSize Inches	Pipe Outside Dia.O.D			Gasket Seat A	Grv. Width B	Groove Dia.-C		Groove Depth D (ref.)	Min.Allow. Wall Thk.T
	Basic	Tolerance				Basic	Tolerance		
in	in	+ in	- in	±0.03 in	±0.03 in	in	in	in	in
3/4	1.050	0.010	-0.010	0.625	0.313	0.938	-0.015	0.056	0.013
1	1.315	0.013	-0.013	0.625	0.313	1.190	-0.015	0.063	0.133
1 1/2	1.900	0.019	-0.019	0.625	0.313	1.775	-0.015	0.063	0.145
2	2.375	0.024	-0.024	0.625	0.313	2.250	-0.015	0.063	0.154
2 1/2	2.875	0.029	-0.029	0.625	0.313	2.720	-0.018	0.078	0.188
3	3.500	0.035	-0.031	0.625	0.313	3.344	-0.018	0.078	0.188
4	4.500	0.045	-0.031	0.625	0.375	4.334	-0.020	0.083	0.203
5	5.563	0.056	-0.031	0.625	0.375	5.395	-0.022	0.084	0.203
6	6.625	0.063	-0.031	0.625	0.375	6.455	-0.022	0.085	0.219
8	8.625	0.063	-0.031	0.750	0.438	8.441	-0.025	0.092	0.238
10	10.750	0.063	-0.031	0.750	0.500	10.562	-0.027	0.094	0.250
12	12.750	0.063	-0.031	0.750	0.500	12.531	-0.030	0.109	0.279

Nom. PipeSize Inches	Pipe Outside Dia.O.D			Gasket Seat A	Grv. Width B	Groove Dia.-C		Groove Depth D (ref.)	Min.Allow. Wall Thk.T
	Basic	Tolerance				Basic	Tolerance		
in	mm	+ mm	- mm	± 0.76 mm	± 0.76 mm	mm	mm	mm	mm
3/4	26.90	0.25	-0.25	15.88	7.95	23.83	-0.38	1.42	2.87
1	33.70	0.33	-0.33	15.88	7.95	30.23	-0.38	1.60	3.38
1 1/2	48.30	0.48	-0.48	15.88	7.95	45.09	-0.38	1.60	3.68
2	60.30	0.61	-0.61	15.88	7.95	57.15	-0.38	1.60	3.91
2 1/2	73.00	0.74	-0.74	15.88	7.95	69.09	-0.46	1.98	4.78
3	88.90	0.89	-0.79	15.88	7.95	84.94	-0.46	1.98	4.78
4	114.30	1.14	-0.79	15.88	9.53	110.08	-0.51	2.11	5.16
5	141.30	1.42	-0.79	15.88	9.53	137.03	-0.56	2.13	5.16
6	168.30	1.60	-0.79	15.88	9.53	163.96	-0.56	2.16	5.56
8	219.10	1.60	-0.79	19.05	11.13	214.40	-0.64	2.34	6.05
10	273.00	1.60	-0.79	19.05	12.70	268.28	-0.69	2.39	6.35
12	323.90	1.60	-0.79	19.05	12.70	318.29	-0.76	2.77	7.09

We believe Horizon is your best choice !

Company Profile

Horizon LTD is a specialized environmental science and technology enterprise. We focus on the development, production and extension of products and technology in water treatment area and product technical sales.

On the basis of powerful technology and abundant capital, Horizon has developed various high-quality, good-performance and cost-effective products over the years, Our diverse production lines can supply many key components which cover a wide range of plant types, BWRO and SWRO.

HORIZON
Environmental Technology

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