

DI GROOVD STANDARD FLEXIBLE COUPLING

Type: 1N

Doc No: DS-400-1N-01-E

1.0 PRODUCT OVERVIEW

Standard flexible couplings are mainly used for grooved pipe connections where adjacent pipe ends allow a certain amount of relative angular displacement and corresponding axial rotation.



Dimensions:

1"(DN25)– 24"(DN600)

Design Standard:

ISO6182, AWWA C606, GB 5135.11

Connection Standard:

ASME B36.10, ASTM A53-A53M, ISO 4200

Working Pressure:

175PSI-500PSI

Application:

Standard flexible couplings are suitable for medium and low pressure pipeline systems with nominal pressure 175-500 PSI, nominal size DN25-DN600, temperature range of - 20 °C-+180°C, which are widely applied in water supply and drainage, fire-fighting, air conditioning, etc.

Pipe Material:

Welded and seamless rolled steel pipes according to ASME B36.10, ASTM A53-A53M, ISO 4200, GB/T 21835

Sign Off:

Owner: _____ Contractor: _____

Engineer: _____

Location: _____ Date: _____

Approved & Date: _____

Surface Treatment:

- Electrophoretic painting
- Epoxy power painting
- Hot-dip galvanizing
- Black
- Others would be available upon clients' detailed request

2.0 APPROVALS



3.0 SPECIFICATIONS

Housing:

ASTM A536, Ductile iron 65-45-12

Gasket:

1、EPDM Gasket, code E:

Temperature: $-34^{\circ}\text{C} \sim +110^{\circ}\text{C}$ ($-30 \sim +230^{\circ}\text{F}$);

Applicable media: water, gas, diluted acid (base), and other chemicals (excluding hydrocarbons)

Note: Strictly prohibit the use of oil and hydrocarbons.

2、NBR, code D:

Temperature: $-29^{\circ}\text{C} \sim +82^{\circ}\text{C}$ ($-20 \sim +180^{\circ}\text{F}$);

Applicable media: Petroleum products, vegetable oils, mineral oils, etc.

Note: strictly prohibit use with high temperature substances.

3、Silicone Rubber, code S:

Temperature: $-40^{\circ}\text{C} \sim +177^{\circ}\text{C}$ ($-40 \sim +350^{\circ}\text{F}$)

Applicable media: High temperature and dry air and some high temperature chemicals, drinking water and so on.

4、Chloroprene Rubber, code LD:

Temperature: $-32^{\circ}\text{C} \sim +82^{\circ}\text{C}$ ($-26 \sim +180^{\circ}\text{F}$)

Applicable media: sea water

5、Fluororubber, code F:

Temperature: $-20^{\circ}\text{C} \sim +180^{\circ}\text{C}$

Applicable media: Hot oil, some chemical products, good oxidation resistance.

Bolts/Nuts:

Sign Off:

Owner: _____ Contractor: _____

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ANSI Heavy Hex Nut

1. Material: SAE J995 2.
2. Thread: ANSI B 1.1-1982, class 2B.
3. Surface Treatment: Zinc electroplated per ASTM B633 CLASS FE/ZN5 TYPE III , thickness $\geq 5\mu\text{m}$ per class SC1.

Metric Heavy Hex Nut

1. Material: ISO 898-2:1992 \ GB/T3098.2-2000 Class 8.
2. Thread: ISO 261, tolerance 6h for M10& M12, 7h for M16 and above.
3. Surface Treatment: Zinc Electroplated followed by a yellow chromate dip per ISO 2081 FE/ZN5, ISO4520 CLASS 1A.

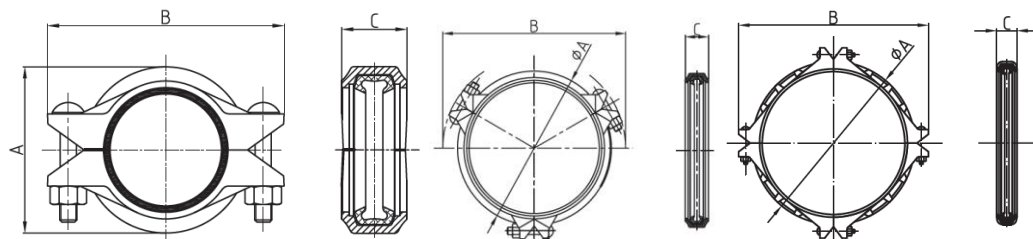
ANSI Oval Neck Track Bolt

1. Material: SAE J429 5.
2. Thread: UNC thread per ANSI B 1.1 Class 2A.
3. Surface Treatment: Silver chromate electroplated per ASTM B633 CLASS FE/ZN5 TYPE III, thickness $\geq 5\mu\text{m}$ per class SC1.

Metric Oval Neck Track Bolt

1. Material: ISO 898-1: 1992 \ GB/T3098.1-2000 Class 8.8.
2. Thread: ISO metric thread per ISO 261, tolerance 6h.
3. Surface Treatment: Yellow chromate electroplated per ISO 2081 FE/ZN5 ISO4520 CLASS 1A.

4.0 DIMENSIONS AND PERFORMANCE



Sign Off:

Owner: _____ Contractor: _____
 Location: _____ Date: _____

Engineer: _____
 Approved & Date: _____

Nominal Size	Pipe O.D	Working Pressure	Dimensions			Bolt Size
			DN/in	mm/in	PSI/MPa	
25	33.7	500	55	92	42	2-3/8X55
1	1.327	3.45	2.16	3.62	1.65	2-M10X57
32	42.4	500	65	104	44	2-3/8X55
1¼	1.669	3.45	2.56	4.14	1.74	2-M10X57
40	48.3	500	70	110	44	2-3/8X55
1½	1.9	3.45	2.75	4.33	1.74	2-M10X57
50	60.3	500	83	125	44	2-3/8X55
2	2.375	3.45	3.27	4.92	1.74	2-M10X57
65	73	500	96	143	45	2-3/8X55
2½	2.875	3.45	3.78	5.63	1.78	2-M10X57
65	76.1	500	100	145	45	2-3/8X55
2½	3	3.45	3.94	5.71	1.78	2-M10X57
80	88.9	500	115	160	45	2-1/2X70
3	3.5	3.45	4.53	6.3	1.78	2-M12X70
100	108	500	138	190	50	2-1/2X70
4	4.25	3.45	5.43	7.48	1.97	2-M12X70
100	114.3	500	145	198	50	2-1/2X70
4	4.5	3.45	5.71	7.8	1.97	2-M12X70
125	133	300	162	225	51	2-5/8X80
5	5.25	2.07	6.38	8.86	2.01	2-M16X85
125	139.7	500	169	230	52	2-5/8X80
5	5.5	3.45	6.65	9.06	2.05	2-M16X85
125	141.3	500	170	232	51	2-5/8X80
5	5.563	3.45	6.69	9.13	2.01	2-M16X85
150	159	300	190	256	52	2-5/8X85
6	6.25	2.07	7.48	10.08	2.05	2-M16X85
150	165.1	500	196	260	52	2-5/8X85
6	6.5	3.45	7.72	10.24	2.05	2-M16X85
150	168.3	500	200	265	52	2-5/8X85
6	6.625	3.45	7.87	10.43	2.05	2-M16X85
200	216.3	300	254	320	59	2-5/8X85
8	8.516	2.07	10	12.6	2.32	2-M16X85
200	219.1	450	258	342	60	2-3/4X115
8	8.625	3.1	10.24	13.46	2.37	2-M20X115
250	267.4	300	308.5	403	64	2-3/4X115
10	10.528	2.07	12.15	15.87	2.52	2-M20X115

Sign Off:

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Nominal Size	Pipe O.D	Working Pressure	Dimensions			Bolt Size
			DN/in	mm/in	PSI/MPa	
250	273	300	337	406	65	2-7/8X140
10	10.75	2.07	13.27	16	2.56	2-M22X140
300	318.5	300	363	460	63	2-7/8X140
12	12.539	2.07	14.29	18.11	2.48	2-M22X140
300	323.9	300	378	465	65	2-7/8X140
12	12.75	2.07	14.96	18.31	2.56	2-M22X140
350	355.6	300	402	493	72	3-7/8X140
14	14	2.07	15.83	19.41	2.83	3-M22X140
350	377	225	428	520	72	3-7/8X140
14	14.843	1.6	16.85	20.45	2.85	3-M22X140
400	406.4	300	458	547	72	3-7/8X140
16	16	2.07	18.03	21.54	2.85	3-M22X140
400	426	225	476	566	73	3-7/8X140
16	16.772	1.6	18.74	22.28	2.87	3-M22X140
450	457.2	225	505	598	78	3-7/8X140
18	18	1.6	19.88	23.54	3.07	3-M22X140
450	480	225	529	623	78	3-7/8X140
18	18.9	1.6	20.83	24.53	3.07	3-M22X140
500	508	225	550	648	78	4-7/8X140
20	20	1.6	21.65	25.51	3.07	4-M22X140
500	530	225	585	680	76	4-7/8X140
20	20.866	1.6	23.03	26.77	3	4-M22X140
600	609.6	225	662	774	78	4-1X140
24	24	1.6	26.06	30.47	3.07	

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JINAN MEIDE CASTING CO., LTD

Nom. Size	Pipe O.D	1N						
		Cut Grooved		Roll Grooved			Max. End Load	Pipe End Separation
		Max. Work Pressure		Max. Work Pressure				
		Sch.30	Sch.40	Sch.10	Sch.30	Sch.40		
DN/in	mm/in	Bar/Psi	Bar/Psi	Bar/Psi	Bar/Psi	Bar/Psi	KN/Lbs	mm/in
25 1	33.7 1.315	35/500	35/500	35/500	35/500	35/500	3.0/680	0-1.6 0-0.06
32 1¼	42.4 1.66	35/500	35/500	35/500	35/500	35/500	4.8/1080	0-1.6 0-0.06
40 1½	48.3 1.9	35/500	35/500	35/500	35/500	35/500	6.3/1420	0-3.2 0-0.13
50 2	60.3 2.375	35/500	35/500	35/500	35/500	35/500	9.8/2210	0-3.2 0-0.13
65 2½	73 2.875	35/500	35/500	35/500	35/500	35/500	14.4/3240	0-3.2 0-0.13
65 2½	76.1 3	35/500	35/500	35/500	35/500	35/500	15.7/3520	0-3.2 0-0.13
80 3	88.9 3.5	35/500	35/500	35/500	35/500	35/500	21.4/4810	0-3.2 0-0.13
100 4	108 4.25	35/500	35/500	35/500	35/500	35/500	31.5/7100	0-3.2 0-0.13
100 4	114.3 4.5	35/500	35/500	35/500	35/500	35/500	35.4/7960	0-3.2 0-0.13
125 5	133 5.25	20/300	20/300	20/300	20/300	20/300	28.7/6460	0-3.2 0-0.13
125 5	139.7 5.5	35/500	35/500	35/500	35/500	35/500	52.9/11800	0-3.2 0-0.13
125 5	141.3 5.563	35/500	35/500	35/500	35/500	35/500	54.1/12100	0-3.2 0-0.13
150 6	159 6.25	20/300	20/300	20/300	20/300	20/300	41.0/9240	0-3.2 0-0.13
150 6	165.1 6.5	35/500	35/500	35/500	35/500	35/500	73.8/16610	0-3.2 0-0.13
150 6	168.3 6.625	35/500	35/500	35/500	35/500	35/500	76.7/17260	0-3.2 0-0.13
200 8	216.3 8.516	20/300	20/300	20/300	20/300	20/300	76.0/17100	0-3.2 0-0.13

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Nom. Size	Pipe O.D	1N						
		Cut Grooved		Roll Grooved			Max. End Load	Pipe End Separation
		Max. Work Pressure		Max. Work Pressure				
		Sch.30	Sch.40	Sch.10	Sch.30	Sch.40		
DN/in	mm/in	Bar/Psi	Bar/Psi	Bar/Psi	Bar/Psi	Bar/Psi	KN/Lbs	mm/in
200 8	219.1 8.625	31/450	31/450	20/300	31/450	31/450	116.9/26280	0-3.2 0-0.13
250 10	267.4 10.528	20/300	20/300	20/300	20/300	20/300	116.2/26140	0-3.2 0-0.13
250 10	273 10.75	20/300	20/300	20/300	20/300	20/300	121.0/27210	0-3.2 0-0.13
300 12	318.5 12.539	20/300	20/300	20/300	20/300	20/300	164.8/37090	0-3.2 0-0.13
300 12	323.9 12.75	20/300	20/300	20/300	20/300	20/300	170.3/38280	0-3.2 0-0.13
350 14	355.6 14	20/300	20/300	20/300	20/300	20/300	205.5/46220	0-3.2 0-0.13
350 14	377 14.843	16/225	16/225	16/225	16/225	16/225	178.5/40160	0-3.2 0-0.13
400 16	406.4 16	20/300	20/300	20/300	20/300	20/300	268.4/60370	0-3.2 0-0.13
400 16	426 16.772	16/225	16/225	16/225	16/225	16/225	227.9/51270	0-3.2 0-0.13
450 18	457.2 18	16/225	16/225	16/225	16/225	16/225	262.5/59060	0-3.2 0-0.13
450 18	480 18.9	16/225	16/225	16/225	16/225	16/225	289.4/65100	0-3.2 0-0.13
500 20	508 20	16/225	16/225	16/225	16/225	16/225	324.1/72910	0-3.2 0-0.13
500 20	530 20.866	16/225	16/225	16/225	16/225	16/225	351.5/79070	0-3.2 0-0.13
600 24	609.6 24	16/225	16/225	16/225	16/225	16/225	466.7/104990	0-3.2 0-0.13

5.0 REFERENCE MATERIALS

Approved certification for Grooved Fittings and Couplings

I-JM-Grooved fitting: Installation Instructions for grooved fittings and

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couplings

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