

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

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:

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.

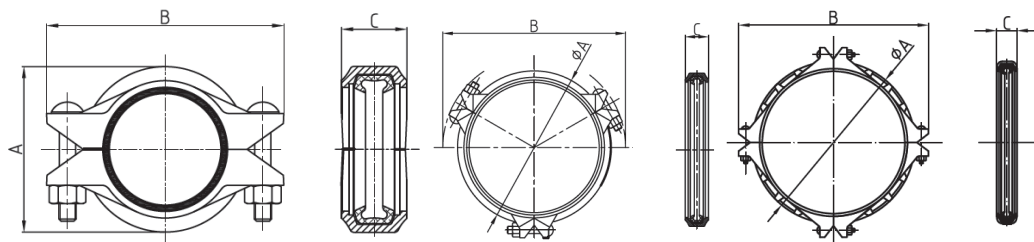
ANSI Oval Neck Track Bolt

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



Nominal Size	Pipe O.D	Working Pressure	Dimensions			Bolt Size
			A	B	C	
DN/in	mm/in	PSI/MPa	mm/in	mm/in	mm/in	No.-Size mm
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 2½	73 2.875	500 3.45	96 3.78	143 5.63	45 1.78	2-3/8X55 2-M10X57
65 2½	76.1 3	500 3.45	100 3.94	145 5.71	45 1.78	2-3/8X55 2-M10X57
80 3	88.9 3.5	500 3.45	115 4.53	160 6.3	45 1.78	2-1/2X70 2-M12X70
100 4	108 4.25	500 3.45	138 5.43	190 7.48	50 1.97	2-1/2X70 2-M12X70
100 4	114.3 4.5	500 3.45	145 5.71	198 7.8	50 1.97	2-1/2X70 2-M12X70
125 5	133 5.25	300 2.07	162 6.38	225 8.86	51 2.01	2-5/8X80 2-M16X85
125 5	139.7 5.5	500 3.45	169 6.65	230 9.06	52 2.05	2-5/8X80 2-M16X85
125 5	141.3 5.563	500 3.45	170 6.69	232 9.13	51 2.01	2-5/8X80 2-M16X85
150 6	159 6.25	300 2.07	190 7.48	256 10.08	52 2.05	2-5/8X85 2-M16X85
150 6	165.1 6.5	500 3.45	196 7.72	260 10.24	52 2.05	2-5/8X85 2-M16X85
150 6	168.3 6.625	500 3.45	200 7.87	265 10.43	52 2.05	2-5/8X85 2-M16X85
200 8	216.3 8.516	300 2.07	254 10	320 12.6	59 2.32	2-5/8X85 2-M16X85
200 8	219.1 8.625	450 3.1	258 10.24	342 13.46	60 2.37	2-3/4X115 2-M20X115
250 10	267.4 10.528	300 2.07	308.5 12.15	403 15.87	64 2.52	2-3/4X115 2-M20X115

Nominal Size	Pipe O.D	Working Pressure	Dimensions			Bolt Size
			A mm/in	B mm/in	C mm/in	
250 10	273 10.75	300 2.07	337 13.27	406 16	65 2.56	2-7/8X140 2-M22X140
300 12	318.5 12.539	300 2.07	363 14.29	460 18.11	63 2.48	2-7/8X140 2-M22X140
300 12	323.9 12.75	300 2.07	378 14.96	465 18.31	65 2.56	2-7/8X140 2-M22X140
350 14	355.6 14	300 2.07	402 15.83	493 19.41	72 2.83	3-7/8X140 3-M22X140
350 14	377 14.843	225 1.6	428 16.85	520 20.45	72 2.85	3-7/8X140 3-M22X140
400 16	406.4 16	300 2.07	458 18.03	547 21.54	72 2.85	3-7/8X140 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	

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	108	35/500	35/500	35/500	35/500	35/500	31.5/7100	0-3.2

4	4.25							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

Nom. Size	Pipe O.D	1N							Max. End Load	Pipe End Separation
		Cut Grooved		Roll Grooved			KN/Lbs	mm/in		
		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 couplings