DI GROOVED RIGID COUPLING

Type: 1G **Doc No: DS-400-1G-01-E**

1.0 PRODUCT OVERVIEW

Rigid couplings are for grooved pipeline connection. At the joint part, the adjacent pipe ends are not allowed to have 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:

Rigid couplings are mainly suitable for medium and low pressure pipeline systems with nominal pressure 175-500 PSI, nominal size DN25-DN600, temperature range of - 20 ℃-+180℃, 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 according to 65-45-12. The nodularity is more than 90%, ensuring excellent physical and mechanical properties.

Gasket:

1、EPDM Gasket，code E：
Temperature：-34℃～+110℃ （-30～+230℉）；
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℃～+82℃ （-20～+180℉）;
Applicable media: Petroleum products, vegetable oils, mineral oils, etc.
Note: strictly prohibit use with high temperature substances.
3、Silicone Rubber, code S：
Temperature: -40℃～+177℃ （-40～+350℉）
Applicable media: High temperature and dry air and some high temperature chemicals, drinking water and so on.
4、Chloroprene Rubber，code LD：
Temperature：-32℃～+82℃ （-26～+180℉）
Applicable media: sea water
5、Fluororubber, code F：
Temperature: -20℃～+180℃
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 ≥ 5μm 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.

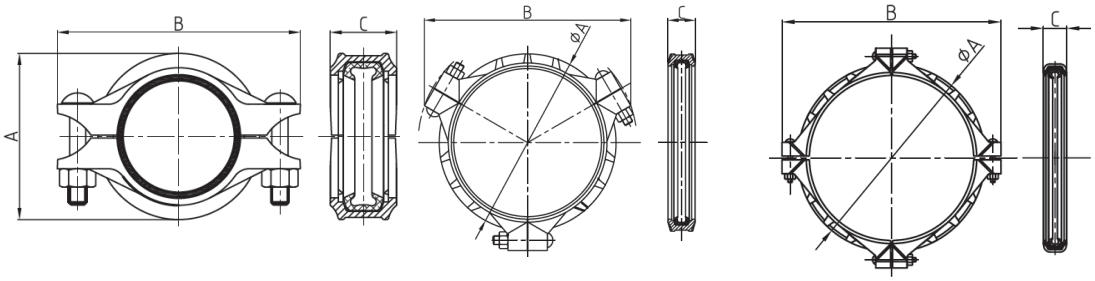
ANSI Oval Neck Track Bolt

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 ≥ 5μm 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
DN/in	mm/in	PSI/MPa	A mm/in	B mm/in	C mm/in	No.-Size mm
25	33.7	500	59	100	44	2-3/8X55

1	1.327	3.45	2.33	3.94	1.74	2-M10X57
32	42.4	500	66	109.5	45	2-3/8X55
1¼	1.669	3.45	2.6	4.31	1.78	2-M10X57
40	48.3	500	72	115	45	2-3/8X55
1½	1.9	3.45	2.84	4.53	1.78	2-M10X57
50	60.3	500	85	131	45	2-3/8X55
2	2.375	3.45	3.35	5.16	1.78	2-M10X57
65	73	500	98	145	45	2-3/8X55
2½	2.875	3.45	3.86	5.71	1.78	2-M10X57
65	76.1	500	101	147	45	2-3/8X55
2½	3	3.45	3.98	5.78	1.77	2-M10X57
80	88.9	500	115	170	46	2-1/2X70
3	3.5	3.45	4.53	6.69	1.82	2-M12X70
100	108	500	140	197	52	2-1/2X70
4	4.25	3.45	5.51	7.76	2.05	2-M12X70
100	114.3	500	146	200	52	2-1/2X70
4	4.5	3.45	5.75	7.88	2.05	2-M12X70
125	133	300	165	232	52	2-5/8X85
5	5.25	2.07	6.5	9.13	2.05	2-M16X85
125	139.7	500	170	238	52	2-5/8X85
5	5.5	3.45	6.69	9.37	2.05	2-M16X85
125	141.3	500	172	236.5	52	2-5/8X85
5	5.563	3.45	6.77	9.31	2.05	2-M16X85
150	159	300	190	258	52	2-5/8X85
6	6.25	2.07	7.48	10.16	2.05	2-M16X85
150	165.1	500	198	266	52	2-5/8X85
6	6.5	3.45	7.8	10.47	2.05	2-M16X85
150	168.3	500	202	270	52	2-5/8X85
6	6.625	3.45	7.95	10.63	2.05	2-M16X85
200	219.1	450	260	346	62	2-3/4X115
8	8.625	3.1	10.24	13.625	2.44	2-M20X115
250A	267.4	300	318	396	63	2-3/4X120
10	10.528	2.07	12.52	15.6	2.48	2-M20X115
250	273	400	327	420	63	2-7/8X125
10	10.75	2.8	12.88	16.54	2.48	2-M22X125

Nominal Size	Pipe O.D	Working Pressure	Dimensions			Bolt Size
DN/in	mm/in	PSI/MPa	A mm/in	B mm/in	C mm/in	No.-Size mm
300A	318.5	300	364	456	63	2-7/8X140
12	12.539	2.07	14.33	17.95	2.48	2-M22X140
300	323.9	400	378	466	63	2-7/8X140

12	12.75	2.8	14.88	18.35	2.48	2-M22X140
350 14	355.6 14	300 2.07	415 16.34	510 20.08	72 2.84	3-7/8X140 3-M22X140
350 14	377 14.842	225 1.6	435 17.13	535 21.05	72 2.84	3-7/8X140 3-M22X140
400 16	406.4 16	300 2.07	468 18.43	575 22.64	72 2.84	3-7/8X140 3-M22X140
400 16	426 16.772	225 1.6	490 19.29	592 23.3	72 2.84	3-7/8X140 3-M22X140
450 18	457.2 18	225 1.6	508 20	608 23.94	78 3.07	3-7/8X140 3-M22X140
450 18	480 18.9	225 1.6	533 20.98	630 24.8	78 3.07	3-7/8X140 3-M22X140
500 20	508 20	225 1.6	563 22.17	660 25.98	78 3.07	4-7/8X140 4-M22X140
500 20	529 20.827	225 1.6	595 23.43	700 27.56	76 3	4-7/8X140 4-M22X140
600 24	609.6 24	225 1.6	668 26.3	772 30.4	78 3.07	4-1X140
600 24	630 24.8	225 1.6	692 27.24	796 31.33	78 3.07	4-1X140

Nom. Size	**Pipe O.D**	**1G**						
		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	42.4	35/500	35/500	35/500	35/500	35/500	4.8/1080	0-1.6

1¼	1.660							0-0.06
40	48.3	35/500	35/500	35/500	35/500	35/500	6.3/1420	0-3.2
1½	1.900							0-0.13
50	60.3	35/500	35/500	35/500	35/500	35/500	9.8/2210	0-3.2
2	2.375							0-0.13
65	73	35/500	35/500	35/500	35/500	35/500	14.4/3240	0-3.2
2½	2.875							0-0.13
65	76.1	35/500	35/500	35/500	35/500	35/500	15.7/3520	0-3.2
2½	3.000							0-0.13
80	88.9	35/500	35/500	35/500	35/500	35/500	21.4/4810	0-3.2
3	3.500							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	114.3	35/500	35/500	35/500	35/500	35/500	35.4/7960	0-3.2
4	4.500							0-0.13
125	133	20/300	20/300	20/300	20/300	20/300	28.7/6460	0-3.2
5	5.25							0-0.13
125	139.7	35/500	35/500	35/500	35/500	35/500	52.9/11800	0-3.2
5	5.5							0-0.13
125	141.3	35/500	35/500	35/500	35/500	35/500	54.1/12100	0-3.2
5	5.563							0-0.13
150	159	20/300	20/300	20/300	20/300	20/300	41.0/9240	0-3.2
6	6.25							0-0.13
150	165.1	35/500	35/500	35/500	35/500	35/500	73.8/16610	0-3.2
6	6.500							0-0.13
150	168.3	35/500	35/500	35/500	35/500	35/500	76.7/17260	0-3.2
6	6.625							0-0.13
200	219.1	31/450	31/450	20/300	31/450	31/450	116.9/26280	0-3.2
8	8.625							0-0.13

Nom. Size	**Pipe O.D**	**1G**						
		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**
250A	267.4	20/300	20/300	20/300	20/300	20/300	116/26130	0-3.2
10	10.528							0-0.13
250	273	20/300	28/400	20/300	20/300	28/400	163.8/36800	0-3.2
10	10.750							0-0.13
300A	318.5	20/300	20/300	20/300	20/300	20/300	164.8/37080	0-3.2

12	12.539							0-0.13
300 12	323.9 12.750	20/300	28/400	20/300	20/300	28/400	230.6/51880	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 14.842	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
600 24	630 24.8	16/225	16/225	16/225	16/225	16/225	498.5/112140	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