DI GROOVED HEAVY-DUTY FLEXIBLE COUPLING

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

1.0 PRODUCT OVERVIEW

Heavy-duty flexible couplings are one type of flexible couplings which are applied for high pressure environments. They are mainly used for grooved pipe connections where adjacent pipe ends allow a certain amount of relative angular displacement and corresponding axial rotation.

Dimensions:

2"(DN50)– 8"(DN200)

Design Standard:

ISO6182, AWWA C606, GB 5135.11

Connection Standard:

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

Working Pressure:

175PSI-750PSI

Application:

Heavy-duty flexible couplings are suitable for medium and high pressure pipeline systems with nominal pressure 175-750 PSI, nominal size DN50-DN200, 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:

Sign Off:

Owner:_____ Contractor:_____ Engineer: _____

Location:_____ Date:_____ Approved& Date: _____

☐ 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℃～+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

Sign Off:
Owner:_____ Contractor:_____ Engineer: _____
Location:_____ Date:_____ Approved& Date: _____

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.

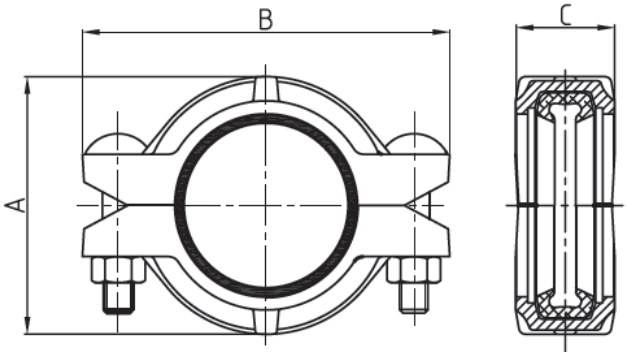
ANSI Oval Neck Track Bolt

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



Sign Off:

Owner:_____ Contractor:_____ Engineer: _____

Location:_____ Date:_____ Approved& Date: _____

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
50 2	60.3 2.375	750 5.17	90 3.54	134 5.28	45 1.77	2-1/2X75 2-M12X76
65 2½	73 2.875	750 5.17	100 3.94	150 5.91	45 1.77	2-1/2X75 2-M12X76
65 2½	76.1 3	750 5.17	102 4.02	154 6.06	45 1.77	2-1/2X75 2-M12X76
80 3	88.9 3.5	750 5.17	121 4.76	172 6.78	45 1.77	2-1/2X75 2-M12X76
100 4	114.3 4.5	750 5.17	151 5.95	214 8.43	50 1.97	2-5/8X85 2-M16X85
125 5	141.3 5.563	750 5.17	180 7.09	248 9.76	51 2	2-3/4X115 2-M20X115
150 6	165.1 6.5	750 5.17	205 8.07	278 10.95	51 2	2-3/4X115 2-M20X115
150 6	168.3 6.625	750 5.17	208 8.2	284 11.18	51 2	2-3/4X115 2-M20X115
200 8	219.1 8.625	750 5.17	268 10.56	354 13.94	61 2.4	2-7/8X140 2-M22X140

Sign Off:

Owner:_____ Contractor:_____ Engineer: _____

Location:_____ Date:_____ Approved& Date: _____

Nom. Size	Pipe O.D	Pipe Sched/Thickness	1NH		
			Roll Grooved Max. Work Pressure	Max. End Load	Pipe End Separation
DN/in	mm/in	(Sch)	Bar/Psi	kN/Lbs	mm/in
50	60.3	40	52/750	14.8/3320	0-3.2
2	2.375	10	35/500		0-0.13
65	73	40	52/750	21.6/4860	0-3.2
2½	2.875	10	35/500		0-0.13
65	76.1	5.08（Thickness）	52/750	23.5/5280	0-3.2
2½	3	3.81（Thickness）	35/500		0-0.13
80	88.9	40	52/750	32.1/7210	0-3.2
3	3.5	10	35/500		0-0.13
100	114.3	40	52/750	53.0/11900	0-3.2
4	4.5	10	35/500		0-0.13
125	141.3	40	52/750	81.0/18200	0-3.2
5	5.563	10	31/450		0-0.13
150	165.1	6.35（Thickness）	52/750	110.6/24800	0-3.2
6	6.5	5.08（Thickness）	31/450		0-0.13
150	168.3	40	52/750	115.0/25800	0-3.2
6	6.625	10	31/450		0-0.13
200	219.1	40	52/750	194.8/43800	0-3.2
8	8.625	30	35/500		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

Sign Off:

Owner:_____ Contractor:_____ Engineer: _____

Location:_____ Date:_____ Approved& Date: _____