

DI GROOVED LIGHT-DUTY RIGID COUPLING

Type: 1GS

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

1.0 PRODUCT OVERVIEW

Light-duty rigid couplings are the short style of the rigid couplings, which are mainly used 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:

3"(DN80)– 10"(DN250)

Design Standard:

ISO6182, AWWA C606, GB 5135.11

Connection Standard:

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

Working Pressure:

175PSI-350PSI

Application:

Light-duty rigid couplings are mainly suitable for medium and low pressure pipeline systems with nominal pressure 175-350 PSI, nominal size DN80-DN250, 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: _____

Engineer: _____

Location: _____ Date: _____

Approved & Date: _____

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.

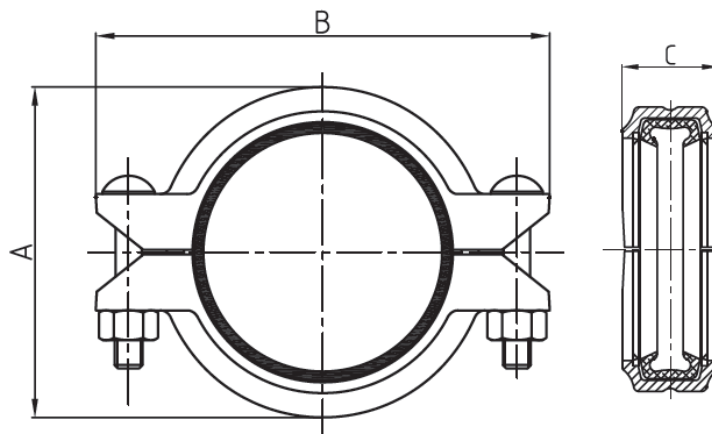
ANSI Oval Neck Track Bolt

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
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Sign Off:

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

DN/in	mm/in	PSI/MPa	A mm/in	B mm/in	C mm/in	No.-Size mm
80	88.9	350	114	160	45	2-3/8X55
3	3.5	2.41	4.5	6.3	1.78	2-M10X57
100	108	300	135	185	50	2-1/2X70
4	4.25	2.07	5.3	7.28	1.97	2-M12X70
100	114.3	350	140	192	46.5	2-1/2X70
4	4.5	2.41	5.51	7.56	1.83	2-M12X70
125	139.7	350	168	225	50	2-1/2X75
5	5.5	2.41	6.62	8.86	1.97	2-M12X76
125	141.3	350	170	225	50	2-1/2X75
5	5.563	2.41	6.69	8.86	1.97	2-M12X76
150	159	300	190	252	50	2-5/8X80
6	6.25	2.07	7.48	9.92	1.97	2-M16X85
150	165.1	350	195	250	50	2-1/2X75
6	6.5	2.41	7.68	9.84	1.97	2-M12X76
150	168.3	350	200	255	50	2-1/2X75
6	6.625	2.41	7.87	10.04	1.97	2-M12X76
200A	216.3	300	255	320	58	2-5/8X85
8	8.516	2.07	10.04	12.6	2.28	2-M16X85
200	219.1	350	255	324	58	2-5/8X85
8	8.625	2.41	10.05	12.76	2.28	2-M16X85
250	273	300	318	410	63	2-3/4X120
10	10.75	2.07	12.52	16.14	2.48	2-M20X115

Nom. Size	Pipe O.D	1GS			
		Cut Grooved	Roll Grooved		

Sign Off:

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

		Max. Work Pressure		Max. Work Pressure			Max. End Load	Pipe End Separation
		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
80	88.9	24/350	24/350	24/350	24/350	24/350	15.0/3360	0-3.2
3	3.5							0-0.13
100	108	20/300	20/300	20/300	20/300	20/300	18.9/4260	0-3.2
4	4.25							0-0.13
100	114.3	24/350	24/350	24/350	24/350	24/350	24.7/5560	0-3.2
4	4.5							0-0.13
125	139.7	24/350	24/350	24/350	24/350	24/350	36.9/8300	0-3.2
5	5.5							0-0.13
125	141.3	24/350	24/350	24/350	24/350	24/350	37.8/8490	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	24/350	24/350	24/350	24/350	24/350	51.6/11600	0-3.2
6	6.5							0-0.13
150	168.3	24/350	24/350	24/350	24/350	24/350	53.6/12000	0-3.2
6	6.625							0-0.13
200A	216.3	20/300	20/300	20/300	20/300	20/300	76.0/17100	0-3.2
8	8.516							0-0.13
200	219.1	24/350	24/350	24/350	24/350	24/350	90.8/20430	0-3.2
8	8.625							0-0.13
250	273	20/300	20/300	20/300	20/300	20/300	121.0/27210	0-3.2
10	10.75							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:

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Approved & Date: _____