

## DI GROOVED FITTINGS-RIGID COUPLING

Type: 1GS

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

### 1.0 PRODUCT OVERVIEW

The light-duty rigid couplings used for grooved pipeline connection. At the joint part, the adjacent pipe ends are not allowed to have rel 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:**

Rigid couplings are mainly suitable for medium and low pressure pipeline systems with nominal pressure 175-500 PSI, nominal size DN25-DN800, temperature range of - 20 °C-+180°C, which are widely applied in water supply and drainage,

**Sign Off:**

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Engineer: \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Approved & Date: \_\_\_\_\_

fire-fighting, air conditioning, etc.

**Pipe Material:**

Welded and seamless rolled steel pipes according A53-A53M, ISO 4200, GB/T 21835

**Surface Treatment:**

- Electrophoretic painting
- Epoxy power painting, such as RAL3000
- 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.

**Gasket:**

1. EPDM Gasket, code E:  
 Temperature: -34°C ~ +110°C (-30°F ~ +230°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°C ~ +82°C (-20°F ~ +180°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°C ~ +177°C (-40°F ~ +350°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°C ~ +82°C (-26°F ~ +180°F) Applicable media: sea water
5. Fluororubber, code F :  
 Temperature: -20°C ~ +180°C  
 Applicable media: Hot oil, some chemical products, good oxidation resistance.

**Bolts/Nuts:**

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 Location: \_\_\_\_\_ Date: \_\_\_\_\_ Approved & Date: \_\_\_\_\_

ANSI Heavy Hex Nut

1. Material: SAE J995 2.
2. Thread: ANSI B 1.1-1982.
3. Surface Treatment: Zinc electroplated per ASTM B633 CLASS FE/ZN5 TYPE III, thickness per class SC1.

Metric Heavy Hex Nut

1. Material: ISO 898-2:1992 \ GB/T3098.2-2000 Class 8.
2. Thread: ISO 261.
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.
3. Surface Treatment: Silver chromate electroplated per ASTM B633 CLASS FE/ZN5 TYPE III, thickness per class SC1.

Metric Oval Neck Track Bolt

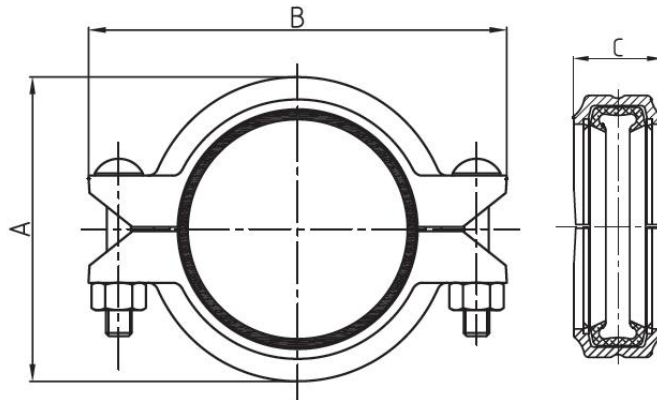
1. Material: ISO 898-1: 1992 \ GB/T3098.1-2000 Class 8.8.
2. Thread: ISO metric thread per ISO 261.

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3. Surface Treatment: yellow chromate electroplated per ISO 2081  
 FE/ZN5ISO4520 CLASS 1A.ISO4520 CLASS 1

#### 4.0 DIMENSIONS AND PERFORMANCE



Nominal Size	Pipe O.D	Working Pressure PSI/MPa	Dimensions			Bolt Size No.-Size mm
			A mm/in	B mm/in	C mm/in	
80 3	88.9 3.5	350 2.41	114 4.49	160 6.30	45 1.77	2-3/8X55 2-M10X57
100 4	108 4.25	350 2.41	135 5.31	185 7.28	49 1.93	2-1/2X70 2-M12X70
100 4	114.3 4.5	350 2.41	140 5.51	192 7.56	46.5 1.83	2-1/2X70 2-M12X70
125 5	139.7 5.5	350 2.41	168 6.61	225 8.86	50 1.97	2-1/2X75 2-M12X76
125 5	141.3 5.563	350 2.41	170 6.69	225 8.86	50 1.97	2-1/2X75 2-M12X76
150 6	159 6.25	350 2.41	189 7.44	254 10.00	50 1.97	2-5/8X80 2-M16X85
150 6	165.1 6.5	350 2.41	195 7.68	250 9.84	50 1.97	2-1/2X75 2-M12X76
150 6	168.3 6.625	350 2.41	200 7.87	255 10.04	50 1.97	2-1/2X75 2-M12X76
200A 8	216.3 8.516	350 2.41	255 10.04	320 12.6	58 2.28	2-5/8X85 2-M16X85
200 8	219.1 8.625	350 2.41	255 10.04	324 12.76	58 2.28	2-5/8X85 2-M16X85
250 10	273 10.75	300 2.07	318 12.52	410 16.14	63 2.48	2-3/4X120 2-M20X115

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## Pressure Ratings and End Loads for Mech Couplings on Steel Pipe

Nom. Size	Pipe O.D	1GS						
		Cut Grooved		Roll Grooved			Max. End Load	Pipe End Separation
		Max.Work Press.		Max.Work Press.				
		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 3	88.9 3.5	24/350	24/350	24/350	24/350	24/350	15.0/3360	0-3.2 0-0.13
100 4	108 4.25	24/350	24/350	24/350	24/350	24/350	22.1/4960	0-3.2 0-0.13
100 4	114.3 4.5	24/350	24/350	24/350	24/350	24/350	24.7/5560	0-3.2 0-0.13
125 5	139.7 5.5	24/350	24/350	24/350	24/350	24/350	36.9/8300	0-3.2 0-0.13
125 5	141.3 5.563	24/350	24/350	24/350	24/350	24/350	37.8/8490	0-3.2 0-0.13
150 6	159 6.25	24/350	24/350	24/350	24/350	24/350	47.8/10760	0-3.2 0-0.13
150 6	165.1 6.5	24/350	24/350	24/350	24/350	24/350	51.6/11600	0-3.2 0-0.13
150 6	168.3 6.625	24/350	24/350	24/350	24/350	24/350	53.6/12000	0-3.2 0-0.13
200A 8	216.3 8.516	24/350	24/350	24/350	24/350	24/350	88.3/19860	0-3.2 0-0.13
200 8	219.1 8.625	24/350	24/350	24/350	24/350	24/350	90.8/20430	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

## 5.0 REFERENCE MATERIALS

Approved certification for Grooved Fittings and Couplings

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

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