

# 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

### **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.

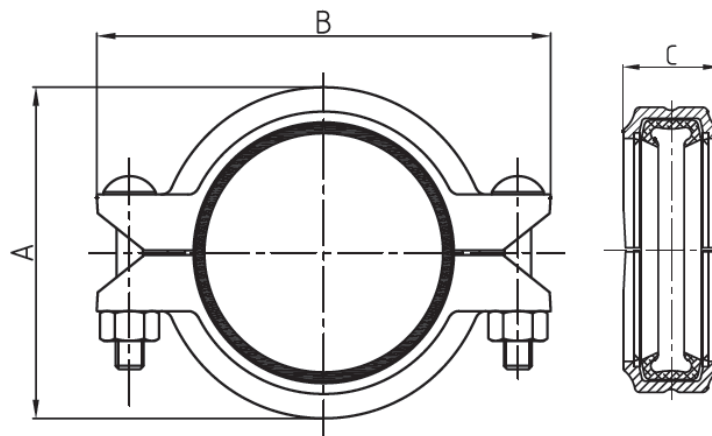
### ANSI Oval Neck Track Bolt

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
80	88.9	350	114	160	45	2-3/8X55
3	3.5	2.41	4.5	6.3	1.78	2-M10X57

100 4	108 4.25	300 2.07	135 5.3	185 7.28	50 1.97	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 6.62	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	300 2.07	190 7.48	252 9.92	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	300 2.07	255 10.04	320 12.6	58 2.28	2-5/8X85 2-M16X85
200 8	219.1 8.625	350 2.41	255 10.05	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

Nom. Size	Pipe O.D	1GS						Max. End Load	Pipe End Separation
		Cut Grooved		Roll Grooved					
		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	
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	20/300	20/300	20/300	20/300	20/300	18.9/4260	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	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	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	20/300	20/300	20/300	20/300	20/300	76.0/17100	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