# DI GROOVED RIGID COUPLING

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

## 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

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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℃～+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℃

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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.

Hexagon Flange Nut: Dimension according to DIN6923

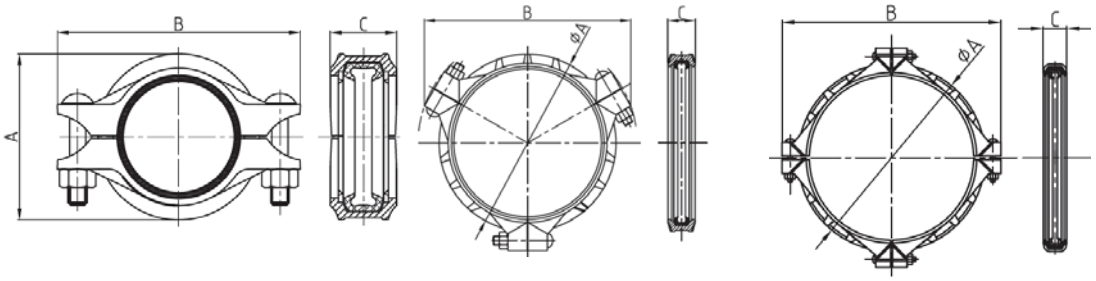
ANSI Oval Neck Track Bolt

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

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Location:_____ Date:_____ Approved& Date: _____

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JINAN MEIDE CASTING CO., LTD

| Nominal Size DN/in | Pipe O.D mm/in | Working Pressure PSI/MPa | Dimensions | | | Bolt Size |
|---|---|---|---|---|---|---|
| | | | A | B | C | 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 |

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**JINAN MEIDE CASTING CO., LTD**

| Nominal Size | Pipe O.D | Working Pressure | Dimensions | | | Bolt Size |
|---|---|---|---|---|---|---|
| DN/in | mm/in | PSI/MPa | A | B | C | 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 | 355.6 | 300 | 415 | 510 | 72 | 3-7/8X140 |
| 14 | 14 | 2.07 | 16.34 | 20.08 | 2.84 | 3-M22X140 |
| 350 | 377 | 225 | 435 | 535 | 72 | 3-7/8X140 |
| 14 | 14.842 | 1.6 | 17.13 | 21.05 | 2.84 | 3-M22X140 |
| 400 | 406.4 | 300 | 468 | 575 | 72 | 3-7/8X140 |
| 16 | 16 | 2.07 | 18.43 | 22.64 | 2.84 | 3-M22X140 |
| 400 | 426 | 225 | 490 | 592 | 72 | 3-7/8X140 |
| 16 | 16.772 | 1.6 | 19.29 | 23.3 | 2.84 | 3-M22X140 |
| 450 | 457.2 | 225 | 508 | 608 | 78 | 3-7/8X140 |
| 18 | 18 | 1.6 | 20 | 23.94 | 3.07 | 3-M22X140 |
| 450 | 480 | 225 | 533 | 630 | 78 | 3-7/8X140 |
| 18 | 18.9 | 1.6 | 20.98 | 24.8 | 3.07 | 3-M22X140 |
| 500 | 508 | 225 | 563 | 660 | 78 | 4-7/8X140 |
| 20 | 20 | 1.6 | 22.17 | 25.98 | 3.07 | 4-M22X140 |
| 500 | 529 | 225 | 595 | 700 | 76 | 4-7/8X140 |
| 20 | 20.827 | 1.6 | 23.43 | 27.56 | 3 | 4-M22X140 |
| 600 | 609.6 | 225 | 668 | 772 | 78 | 4-1X140 |
| 24 | 24 | 1.6 | 26.3 | 30.4 | 3.07 | |
| 600 | 630 | 225 | 692 | 796 | 78 | 4-1X140 |
| 24 | 24.8 | 1.6 | 27.24 | 31.33 | 3.07 | |

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| Nom. Size | Pipe O.D | 1G | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Cut Grooved | | Roll Grooved | | | Max. End Load | Pipe End Separation |
| | | Max. Work Press. | | Max. Work Press. | | | KN/Lbs | mm/in |
| | | Sch.30 | Sch.40 | Sch.10 | Sch.30 | Sch.40 | | |
| DN/in | mm/in | Bar/Psi | Bar/Psi | Bar/Psi | Bar/Psi | Bar/Psi | | |
| 25<br>1 | 33.7<br>1.315 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 3.0/680 | 0-1.6<br>0-0.06 |
| 32<br>1¼ | 42.4<br>1.660 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 4.8/1080 | 0-1.6<br>0-0.06 |
| 40<br>1½ | 48.3<br>1.900 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 6.3/1420 | 0-3.2<br>0-0.13 |
| 50<br>2 | 60.3<br>2.375 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 9.8/2210 | 0-3.2<br>0-0.13 |
| 65<br>2½ | 73<br>2.875 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 14.4/3240 | 0-3.2<br>0-0.13 |
| 65<br>2½ | 76.1<br>3.000 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 15.7/3520 | 0-3.2<br>0-0.13 |
| 80<br>3 | 88.9<br>3.500 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 21.4/4810 | 0-3.2<br>0-0.13 |
| 100<br>4 | 108<br>4.25 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 31.5/7100 | 0-3.2<br>0-0.13 |
| 100<br>4 | 114.3<br>4.500 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 35.4/7960 | 0-3.2<br>0-0.13 |
| 125<br>5 | 133<br>5.25 | 20/300 | 20/300 | 20/300 | 20/300 | 20/300 | 28.7/6460 | 0-3.2<br>0-0.13 |
| 125<br>5 | 139.7<br>5.5 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 52.9/11800 | 0-3.2<br>0-0.13 |
| 125<br>5 | 141.3<br>5.563 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 54.1/12100 | 0-3.2<br>0-0.13 |
| 150<br>6 | 159<br>6.25 | 20/300 | 20/300 | 20/300 | 20/300 | 20/300 | 41.0/9240 | 0-3.2<br>0-0.13 |
| 150<br>6 | 165.1<br>6.500 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 73.8/16610 | 0-3.2<br>0-0.13 |
| 150<br>6 | 168.3<br>6.625 | 35/500 | 35/500 | 35/500 | 35/500 | 35/500 | 76.7/17260 | 0-3.2<br>0-0.13 |
| 200<br>8 | 219.1<br>8.625 | 31/450 | 31/450 | 20/300 | 31/450 | 31/450 | 116.9/26280 | 0-3.2<br>0-0.13 |

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| Nom. Size | Pipe O.D | 1G | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Cut Grooved | | Roll Grooved | | | Max. End Load | Pipe End Separation |
| | | Max. Work Press. | | Max. Work Press. | | | KN/Lbs | mm/in |
| | | Sch.30 | Sch.40 | Sch.10 | Sch.30 | Sch.40 | | |
| DN/in | mm/in | Bar/Psi | Bar/Psi | Bar/Psi | Bar/Psi | Bar/Psi | | |
| 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 | 323.9 | 20/300 | 28/400 | 20/300 | 20/300 | 28/400 | 230.6/51880 | 0-3.2 |
| 12 | 12.750 | | | | | | | 0-0.13 |
| 350 | 355.6 | 20/300 | 20/300 | 20/300 | 20/300 | 20/300 | 205.5/46220 | 0-3.2 |
| 14 | 14 | | | | | | | 0-0.13 |
| 350 | 377 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 178.5/40160 | 0-3.2 |
| 14 | 14.842 | | | | | | | 0-0.13 |
| 400 | 406.4 | 20/300 | 20/300 | 20/300 | 20/300 | 20/300 | 268.4/60370 | 0-3.2 |
| 16 | 16 | | | | | | | 0-0.13 |
| 400 | 426 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 227.9/51270 | 0-3.2 |
| 16 | 16.772 | | | | | | | 0-0.13 |
| 450 | 457.2 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 262.5/59060 | 0-3.2 |
| 18 | 18 | | | | | | | 0-0.13 |
| 450 | 480 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 289.4/65100 | 0-3.2 |
| 18 | 18.9 | | | | | | | 0-0.13 |
| 500 | 508 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 324.1/72910 | 0-3.2 |
| 20 | 20 | | | | | | | 0-0.13 |
| 500 | 530 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 351.5/79070 | 0-3.2 |
| 20 | 20.866 | | | | | | | 0-0.13 |
| 600 | 609.6 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 466.7/104990 | 0-3.2 |
| 24 | 24 | | | | | | | 0-0.13 |
| 600 | 630 | 16/225 | 16/225 | 16/225 | 16/225 | 16/225 | 498.5/112140 | 0-3.2 |
| 24 | 24.8 | | | | | | | 0-0.13 |

## 5.0 REFERENCE MATERIALS

Approved certification for grooved fittings and couplings

**Sign Off:**

Owner:_____ Contractor:_____ Engineer: _____

Location:_____ Date:_____ Approved& Date: _____

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

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