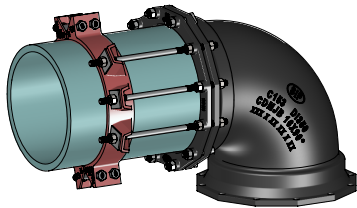




4" - 48" PVC PIPE TO DI FITTING JOINT RESTRAINT

Submittal Information

| | |
|---------------------------|--|
| Project Name / Location: | |
| Engineer: | |
| Referenced Specs: | |
| Distributor / Contractor: | |



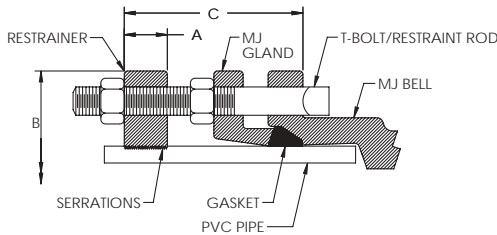
Optional Specifications

| | | |
|------------------------|--|--|
| Coating: | Standard Alkyd, Direct To Metal (DTM) Enamel (Red) | |
| | EZ-Shield® Polyester Based Powder Coating (Red) | |
| | Other - Specify: | |
| Rods, Bolts: & Nuts | Standard High Strength Low Alloy Steel (HSLA) <i>In Accordance With ANSI/AWWA C111/A21.11</i> | |
| | Fluoropolymer Corrosion Resistant Coating | |
| | Stainless Steel: | Type 304 Type 316 |
| Other - Specify: | | |

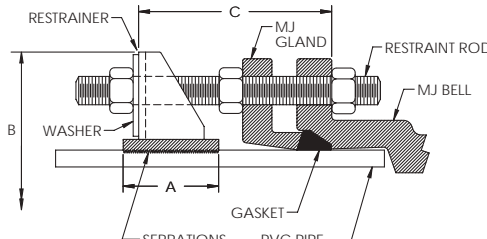


General Specifications

- Material** : Harness bodies are Ductile Iron per ASTM A536, Grade 65-45-12
- Pressure** : Pressure rating equal to that of the PVC pipe rating, with a minimum 2:1 safety factor. The grip of the 360° circumferential serrations increases as the hydrostatic pressure increases. (**Note:** Harness pressure rating is reduced if not all connecting bolts/rods are used)
- Dimensions** : Compatible with 4" - 12" AWWA C900 (PVC), C905 (PVC), C906 (HDPE)*, C909 (PVCO) or 4"-12" ASTM D2241 IPS PVC Pipe
* **AWWA C906 HDPE Pressure Pipes up to 12" by using internal pipe stiffeners.**
* **IPS PVC Pipe applications require use of a Transition Gasket.**
- Installations** : Install in accordance with SIP installation procedures and intent of AWWA C600 / M41
Pipe ends must be free from defects to allow proper gland engagement to the pipe ends
Note: There are no additional tools required for installation other than the tools required to install standard sizes of hex nuts from 5/8"-1 1/4".
The hex heads, bolts and rods shall be designed to tighten clockwise. The hex heads, bolts and rods are manufactured to allow for disassembly and re-installation of the restraint.
- Deflection** : Restraint allows the full joint deflection dictated by pipe manufacturer's recommendation, and maintains the seal while under pressure, and while subjected to ground movements
- Approvals** : FM Approved for sizes 4"-12" at 185 psi on AWWA C900 Class 235 DR-18 PVC pipe



SIZES: 4" - 12"



SIZES: 14" - 48"

| PIPE SIZE (IN) | BOLT SIZE (IN) | RANGE OF TORQUE (FT/LBS) |
|----------------|----------------|--------------------------|
| 4-24 | 3/4 | 75-90 |
| 30-36 | 1 | 100-120 |
| 42-48 | 1 1/4 | 120-150 |

| PIPE SIZE (IN) | RANGE OF TORQUE (FT/LBS) |
|----------------|--------------------------|
| 4-12 | 90-110 |
| 14-16 | 150-200 |
| 18 | 175-225 |
| 20 | 200-250 |
| 24-36 | 225-275 |
| 42-48 | 300-350 |

Technical Specifications

| Size | C900/C905 PVC Pipe PTPDF Series | | | IPS PVC Pipe PTPSDF Series | | | A | B (Approx.) | C (Max.) | Restraint Bolts/Rods | | Clamping Bolts | | Approx. Weight (Lbs) |
|------|------------------------------------|-------|-----------|-------------------------------|-------|-----------|------|----------------|-------------|----------------------|------------|----------------|---------------|----------------------|
| | Select | O.D. | Item Code | Select | O.D. | Item Code | | | | Qty | Size | Qty | Size | |
| 4 | | 4.80 | PTPDF04 | | 4.50 | PTPSDF04 | 1.12 | 9.15 | 6.00 | 2 | 3/4 X 7 | 2 | 3/4 X 3 1/2 | 8 |
| 6 | | 6.90 | PTPDF06 | | 6.63 | PTPSDF06 | 1.15 | 11.12 | 6.00 | 2 | 3/4 X 7 | 2 | 3/4 X 3 1/2 | 10 |
| 8 | | 9.05 | PTPDF08 | | 8.63 | PTPSDF08 | 1.47 | 14.75 | 6.00 | 2 | 3/4 X 9 | 2 | 3/4 X 4 | 20 |
| 10 | | 11.10 | PTPDF10 | | 10.75 | PTPSDF10 | 1.38 | 16.82 | 6.00 | 4 | 3/4 X 9 | 2 | 3/4 X 5 | 25 |
| 12 | | 13.20 | PTPDF12 | | 12.75 | PTPSDF12 | 1.42 | 19.45 | 6.00 | 4 | 3/4 X 9 | 2 | 3/4 X 5 | 28 |
| 14 | | 15.30 | PTPDF14 | | N/A | N/A | 4.00 | 22.56 | 15.00 | 6 | 3/4 X 17 | 4 | 3/4 X 7 | 65 |
| 16 | | 17.40 | PTPDF16 | | N/A | N/A | 4.00 | 24.64 | 15.00 | 6 | 3/4 X 17 | 4 | 3/4 X 7 | 72 |
| 18 | | 19.50 | PTPDF18 | | N/A | N/A | 5.00 | 26.64 | 15.00 | 8 | 3/4 X 17 | 4 | 3/4 X 7 | 90 |
| 20 | | 21.60 | PTPDF20 | | N/A | N/A | 5.00 | 28.75 | 22.00 | 8 | 3/4 X 24 | 4 | 1 1/4 X 9 | 110 |
| 24 | | 25.80 | PTPDF24 | | N/A | N/A | 5.00 | 33.90 | 22.00 | 12 | 3/4 X 24 | 4 | 1 1/4 X 9 | 135 |
| 30 | | 32.00 | PTPDF30 | | N/A | N/A | 5.50 | 40.75 | 22.00 | 10 | 1 X 24 | 4 | 1 1/4 X 8 1/2 | 260 |
| 36 | | 38.30 | PTPDF36 | | N/A | N/A | 7.00 | 47.25 | 22.00 | 12 | 1 X 24 | 6 | 1 1/4 X 6 | 382 |
| 42 | | 44.50 | PTPDF42 | | N/A | N/A | 6.30 | 56.25 | 32.00 | 16 | 1 1/4 X 36 | 4 | 1 1/4 X 9 | 565 |
| 48 | | 50.80 | PTPDF48 | | N/A | N/A | 6.90 | 63.64 | 32.00 | 16 | 1 1/4 X 36 | 6 | 1 1/4 X 10 | 1170 |

Supporting documentation for the above 'General Specifications' and 'Optional Specifications' are available upon request to review, in addition to Installation Instructions and any requested material samples

Please contact SIP for technical assistance of nonstandard applications

Please refer to our web page www.sipindustries.com for up to date product data and technical advisories