**EZ GRIP® Next Generation PVC Joint Restraint**

- Less wedges result in less labor time & easier installation
- The highest certified pressure rating in the Industry for PVC pipe joint restraint
- Installs on either CI OD or IPS PVC pipe without the need to remove washers, thus eliminating human error
- Wedges are threaded into the torque bolt assemblies, not glued, eliminating the possibility of the wedges falling out during shipping, or when handling in the field.
- Wedges match the curve of the pipe diameter, eliminating point loading
- Grips 2/3 of the pipe circumferential area
- Wedge torque increases with pressure, eliminating pipe stress

**ADVANTAGES, BENEFITS, FEATURES**

- The EZ GRIP® Joint Restraint performs optimally with all mechanical joint sockets of the ANSI/AWWA C111/A21.11, C110/A21.10, and C153/121.53 Standards and may be used with 4" - 12" AWWA C900 (PVC), C905 (PVC), C906 (HDPE)*, C909 (PVCO) or 3"-12" ASTM D2241 IPS PVC Pipe
- The EZ GRIP® Joint Restraint will allow full 5° joint deflection
- The EZ GRIP® Joint Restraint shall have a pressure rating equal to that of the PVC pipe and shall have a minimum safety factor of at least 2 to 1
- The hex head of the torque control actuating screw is the same size as a standard T-bolt nut (1¼"), it’s designed to shear at a preset limit, assuring proper installation and preventing damage to the PVC pipe.
- 5/8” hex head remains for disassembly and re-installation, if necessary
- The gland, wedges, and screws are manufactured from high strength Ductile Iron in compliance with the ASTM A536 Standard, Grade 65-45-12
- The EZ GRIP® Joint Restraint for PVC Pipe is provided with a standard red coating compatible with most field applied coatings. It is also available with EZ Shield®, a polyester based powder coating
- Approved by Factory Mutual (FM) for sizes 4”-12” at 250psi for AWWA C900 Class 305 DR-14 pipe and at 200psi on AWWA C900 Class 235 DR-18 pipe. Listed with Underwriters Laboratories (UL) for sizes 4”-12” at 235psi on AWWA C900 Class 235 DR-18 pipe

*AWWA C906 HDPE Pressure Pipes up to 12” by using internal pipe stiffeners. Contact SIP for further assistance.*

**Toll Free 877-921-6111**

www.sipindustries.com
Installation Procedure

Installation Procedure for restraining mechanical joint appurtenances on PVC pipe

1. Establish the type and diameter of the PVC pipe. If the PVC pipe is AWWA C900, C905, or C909 then a Standard gasket is used. If the PVC pipe is IPS (Steel OD) then a Transition Gasket is required for proper sealing.

2. Clean the socket and the plain end. Lubrication and additional cleaning should be provided by brushing both the gasket and the plain end with soapy water or an approved pipe lubrication meeting the requirement of ANSI/AWWA C111/A21.11, just prior to slipping the gasket onto the plain end for joint assembly. Place the gland on the plain end with lip extension toward the plain end, followed by the gasket.

   NOTE: In cold weather it is preferable to warm the gasket to facilitate assembly of the joint.

3. Insert the pipe into the socket and press the gasket firmly and evenly into the gasket recess. Keep the joint straight during assembly.

4. Push the gland toward the socket and center it around the pipe with the gland lip against the gasket. Insert bolts and hand tighten nuts. Make deflection after joint assembly but before tightening bolts.

5. Tighten the bolts to the normal range of torque as per AWWA C600 (see table below), while at all times maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This can be accomplished by partially tightening the bottom bolt first, then top bolt, next the bolts at either side, finally the remaining bolts. Repeat the process until all bolts are within the appropriate range of torque. The use of a torque-indicating wrench will facilitate this procedure. Over-tightening T-Head Bolts can damage the PVC pipe. Do not overtighten the T-Head Bolts.

6. Tighten the torque control hex heads clockwise until all the wedges are in firm contact with the pipe wall. Tighten a torque control hex head ½ turn, and then continue tightening each torque control hex head 180° opposite the previously tightened hex head until all torque control hex heads have been twisted off.

If it is necessary to disassemble, a 5/8" hex head is provided on the wedge screws. For re-installation, first confirm that all wedges are in their sockets, and then follow the installation instructions, using a torque indicating wrench to tighten the 5/8" hex head to 75 ft-lbs for sizes up to 12".

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**BREAK-AWAY HEX NUT TORQUE RANGES**

<table>
<thead>
<tr>
<th>SIZE (IN)</th>
<th>RANGE OF TORQUE (FT-LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 12</td>
<td>65 - 75</td>
</tr>
</tbody>
</table>

**RECOMMENDED TORQUE (T-HEAD BOLTS & NUTS)**

<table>
<thead>
<tr>
<th>PIPE SIZE (IN)</th>
<th>BOLT SIZE (IN)</th>
<th>RANGE OF TORQUE (FT-LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 12</td>
<td>3/4</td>
<td>75 - 90</td>
</tr>
</tbody>
</table>

*Requirement of AWWA C600*
EZ-GRIP® PVC RESTRAINTS SPECIFICATIONS

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZE</th>
<th>SERIES NUMBER</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>X</th>
<th>J</th>
<th>K2</th>
<th>BOLT QTY</th>
<th>WEDGE QTY</th>
<th>APPROX. WEIGHT (LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>EZPCNGP04</td>
<td>5.92</td>
<td>1.83</td>
<td>4.90</td>
<td>7/8</td>
<td>7.50</td>
<td>9.16</td>
<td>4</td>
<td>2</td>
<td>7.22</td>
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<tr>
<td>6</td>
<td>EZPCNGP06</td>
<td>8.02</td>
<td>1.87</td>
<td>7.00</td>
<td>7/8</td>
<td>9.50</td>
<td>11.12</td>
<td>6</td>
<td>3</td>
<td>10.74</td>
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<tr>
<td>8</td>
<td>EZPCNGP08</td>
<td>10.17</td>
<td>1.88</td>
<td>9.15</td>
<td>7/8</td>
<td>11.75</td>
<td>13.75</td>
<td>6</td>
<td>4</td>
<td>15.13</td>
</tr>
<tr>
<td>10</td>
<td>EZPCNGP10</td>
<td>12.22</td>
<td>2.03</td>
<td>11.20</td>
<td>7/8</td>
<td>14.00</td>
<td>15.91</td>
<td>8</td>
<td>6</td>
<td>22.37</td>
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<tr>
<td>12</td>
<td>EZPCNGP12</td>
<td>14.32</td>
<td>2.05</td>
<td>13.30</td>
<td>7/8</td>
<td>16.25</td>
<td>18.23</td>
<td>8</td>
<td>6</td>
<td>25.50</td>
</tr>
</tbody>
</table>

All dimensions are in inches, unless stated otherwise

STANDARDIZED PRESSURE RATINGS

<table>
<thead>
<tr>
<th>ANSI/ AWWA C900 C1 OD</th>
<th>ANSI/ AWWA C905 C1 OD</th>
<th>C909 PVC PIPE</th>
<th>ASTM D2241 IPS OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR 14 305 PSI</td>
<td>DR 18 235 PSI</td>
<td>PC 235 235</td>
<td>SDR 17 250 PSI</td>
</tr>
<tr>
<td>DR 18 235 PSI</td>
<td>DR 21 200 PSI</td>
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<td>SDR 21 200 PSI</td>
</tr>
<tr>
<td>DR 25 165 PSI</td>
<td>DR 25 165 PSI</td>
<td></td>
<td>SDR 26 160 PSI</td>
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<tr>
<td>DR 32.5 125 PSI</td>
<td>DR 32.5 125 PSI</td>
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<td></td>
</tr>
</tbody>
</table>

* Requirement of AWWA C600
### SAMPLE SPECIFICATIONS

The mechanical joint restraining mechanism and the follower gland shall be designed and manufactured as one integral device providing for a joint seal and performing as a joint restraint. The mechanical joint restraint shall be compatible with AWWA C900, C905, C906, C909 and ASTM D2241 PVC Pipe and shall be achieved by a series of individually activated, contoured wedges gripping the outside wall of the PVC Pipe. The mechanical joint restraint shall have the same pressure rating as the pipe with a 2:1 safety factor. The grip of the wedges shall increase as the hydrostatic pressure increases.

There shall be no additional tool required for installation other than the tool required to install a standard Mechanical Joint T-Bolt and 1-1/4 Nut. The hex head of the actuating screw shall be designed to break off at a preset torque, and only by tightening clockwise. After the removal of the 1-1/4" torque control hex head, a 5/8" hex head on the actuating screw shall remain, to allow for the disassembly and re-installation of the gland and restraint.

The gland, screws, and wedges shall be manufactured of high strength ductile iron in accordance with the ASTM A536 Standard, Grade 65-45-12.

The restraining gland shall comply with all applicable dimensions of ANSI/AWWA C111/A21.11, C110/A21.10 and C153/121.53 and shall be compatible with all mechanical joint sockets of those standards, unless stated otherwise.

The EZGrip mechanical joint restraint mechanism for PVC pipe shall be approved by Factory Mutual for sizes 4"-12" and listed by Underwriters Laboratories for sizes 4"-12". The restraint device for PVC Pipe shall be SIP Industries series EZP or equal.

### PRODUCT LINE

#### AWWA DI Fittings & Accessories
- C153 Compact MJ Fittings and Acc. 2" - 64"
- C110 Full Body MJ Fittings 2" - 64"
- C153 Push-On Fittings 4" - 24"
- C110 Flange Fittings 2" - 64"
- Stainless Steel & Blue T-Bolts
- Ductile Iron Retainer Glands
- Made in India, China & Mexico
- Bare, Cement, Zinc, FBE & Other Linings

#### Municipal Construction Castings
- Manhole Rings and Cover
- Frames and Grates
- Valve Boxes and Service Boxes
- Water Meter Covers and Boxes
- Trench Grates and Tree Grates
- Made in India & USA

#### Fabrication Products for DI Pipe
- High Hub Flanges Class 150 and 250. 3" - 64"
- Threaded Bell Flanges 3" - 48"
- Anchor Flanges 3" - 60"
- Filler Flanges 4" - 30"

#### Joint Restraint System
- EZD Joint Restraint for DI Pipe 3" - 48"
- EZP Joint Restraint for PVC Pipe 3" - 36"
- EZDPTP Joint Restraint for Push-On Joints DI Pipe 3" - 48"
- EZPVCTP Joint Restraint for Push-On Joints PVC Pipe 14" - 36"
- EZFA Restrained Flange Adapter for DI and PVC Pipe 3" - 12"
- PTP Pipe to Pipe Restraint 4" - 48"
- PTDF Pipe to MJ Fittings Restrained 4" - 48"
- PTPFC Pipe to PVC Fittings Restrained 4" - 12"
- MjxMJ Adapter for Connecting MJ Bells 3" - 12"
- Made in China & USA
- EZ Shield or Shop Coating

#### Other Products and Services
- All Thread Rod
- Pipe Lube and Hydraulic Cement
- Socket Clamps and Lugs
- Flange Packs
- OEM Castings