



**SIP Industries**  
Quality Manufacturers Since 1960

**EZ GRIP®**

JOINT RESTRAINT FOR DUCTILE IRON PIPE

## The EZ GRIP®

Joint Restraint is a proven design, offering an efficient, reliable, and inexpensive method of restraining Ductile Iron Pipe with Mechanical Joint Pipe or appurtenances, by integrating a series of gripping wedges into a Mechanical Joint follower gland.



### ADVANTAGES, BENEFITS, FEATURES

- The EZ GRIP® Joint Restraint eliminates clamps, tie rods, cables, and thrust blocks.
- The EZ GRIP® Joint Restraint performs optimally on any Ductile Iron Pipe conforming to the ANSI/AWWA C151/A21.51 Standard and is compatible with all mechanical joint sockets of the ANSI/AWWA C111/A21.11, C110/A21.10, and C153/A21.53 Standards.
- The EZ GRIP® may also be used on steel pipe sizes 3" to 12" with the use of a transition gasket. For applications on steel sizes 14" and larger, please contact our Engineering Services.
- The EZ GRIP® Joint Restraint is rated at 350 PSI working water pressure (WWP) for nominal diameters of 3"-16" and 250 PSI WWP for nominal diameters 18" and greater, and has a minimum safety factor of at least 2 to 1 for all diameters.
- The grip on the pipe increases as the hydrostatic pressure increases.
- The hex head of the actuating screw is the same size as a standard T-bolt nut (1 1/4"), and requires no tool other than the tool required to install a standard Mechanical Joint T-Bolt and Nut.
- The hex head of the torque control screw is designed to shear at a preset limit, assuring proper installation and to prevent damage to the pipe or lining.
- When the actuating screw is rotated in the correct direction (clockwise) the torque control head breaks off, exposing a 5/8" hex head, indicating proper deployment of the wedge.
- After removing the 1-1/4" torque control hex head, a 5/8" hex head remains for multiple disassembly and re-installation, if necessary.
- EZ GRIP® Joint Restraints offers 5° deflection up to sizes 12", 3° on 14"-24", 2° on 30"-36" & 1° on 42"- 48".
- The gland, wedges, and screws are manufactured from high strength Ductile Iron in compliance with the ASTM A536 Standard, Grade 65-45-12.
- The wedges are heat treated, 370 to 470 BHN hardness range.
- If pipe hardness is over 230 BHN, do not install and contact SIP for further assistance.
- The EZ GRIP® Joint Restraint is designed to perform optimally for potable and recycled water, and for wastewater applications.
- The EZ GRIP® Joint Restraint for Ductile Iron Pipe is provided with a coating that is compatible with most field applied coatings
- The standard color for the EZ GRIP® for DI Pipe is black.
- Approved by Factory Mutual (FM) for sizes 3"-12". Listed with Underwriters Laboratories (UL) for sizes 3"-24".
- **IMPORTANT NOTE:** Not for use on Spigot End of M.J. x P.E. Fittings or on P.E. x P.E. Fittings



Available:  Import

Toll Free 877- 921-6111

[www.sipindustries.com](http://www.sipindustries.com)

**Installation Procedure**

Installation Procedure for restraining mechanical joint appurtenances on ductile iron pipe conforming to ANSI/AWWA C151/A21.51.



**1** 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.

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

**3** Push the gland toward the socket and center it around the pipe with the gland lip against the gasket.

**4** 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. In large sizes (30-48 inch), five or more repetitions may be required. The use of a torque-indicating wrench will facilitate this procedure.

**6** Tighten the torque control hex heads clockwise until all the wedges are in firm contact with the pipe wall. Continue tightening torque control hex heads in an alternating manner 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 90 ft-lbs for sizes 3"-24", and to 135 ft-lbs for sizes 30"-48".

\* If installing on steel pipe 3"-12", a Transition gasket is necessary for proper joint sealing.

**BREAK-AWAY HEX NUT TORQUE RANGES**

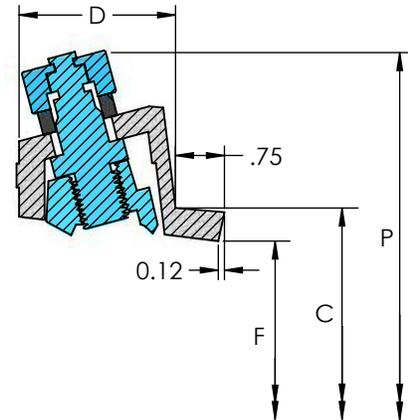
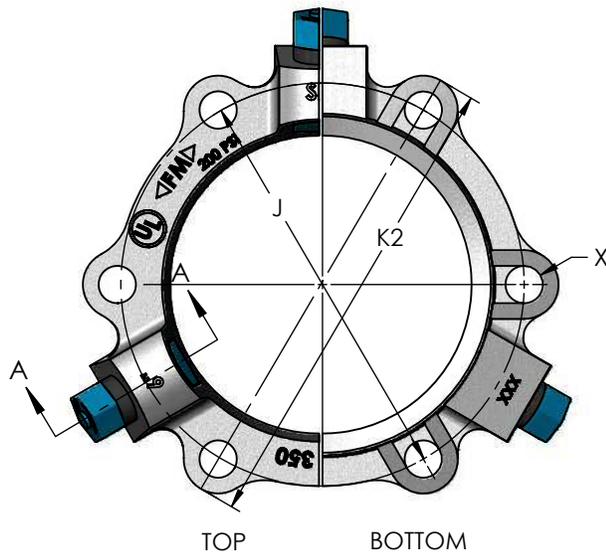
SIZE (IN)	RANGE OF TORQUE (FT-LBS)
3 - 24	80 - 90
30 - 48	115 - 135

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

PIPE SIZE (IN)	BOLT SIZE (IN)	RANGE OF TORQUE (FT-LBS)
3	5/8	45 - 60
4 - 24	3/4	75 - 90
30 - 36	1	100 - 120
42 - 48	1 1/4	120 - 150

\* Requirement of AWWA C600

**Technical Data**



SECTION A-A

**EZ-GRIP DI RESTRAINTS SPECIFICATIONS**

NOMINAL PIPE SIZE	SERIES NUMBER	C	D	F	J	X	P	K2	BOLT QTY	WEDGE QTY	APPROX. WEIGHT (LBS)
3	EZD03	4.84	2.43	4.06	6.19	3/4	10.00	7.69	4	2	6.38
4	EZD04	5.92	2.46	4.90	7.50	7/8	11.00	9.12	4	2	7.88
6	EZD06	8.02	2.46	7.00	9.50	7/8	13.14	11.12	6	3	11.57
8	EZD08	10.17	2.46	9.15	11.75	7/8	15.30	13.39	6	4	15.91
10	EZD10	12.22	2.46	11.20	14.00	7/8	17.30	15.62	8	6	22.34
12	EZD12	14.32	2.46	13.30	16.25	7/8	19.45	17.89	8	8	29.82
14	EZD14	16.40	2.98	15.44	18.75	7/8	21.45	20.80	10	10	49.90
16	EZD16	18.50	2.84	17.54	21.00	7/8	24.20	22.50	12	12	58.02
18	EZD18	20.60	2.95	19.64	23.25	7/8	26.00	25.25	12	12	68.52
20	EZD20	22.70	2.91	21.74	25.50	7/8	28.20	27.50	14	14	75.94
24	EZD24	26.90	3.20	25.94	30.00	7/8	33.50	31.87	16	16	126.18
30	EZD30	33.29	3.50	32.17	36.88	1 1/8	39.80	39.12	20	20	196.60
36	EZD36	39.59	3.50	38.47	43.75	1 1/8	46.10	46.00	24	24	243.52
42	EZD42	45.79	5.18	44.67	50.62	1 3/8	54.50	53.12	28	28	441.96
48	EZD48	52.09	5.18	50.97	57.50	1 3/8	60.80	60.00	32	32	522.24

All dimensions are in inches, unless otherwise noted

Please refer to our web page [www.sipindustries.com](http://www.sipindustries.com) for up to date product data and technical advisories



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## 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. This shall be achieved by a series of individually activated wedges gripping the outside wall of the Ductile Iron Pipe. 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. 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, if necessary.

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 wedges shall be heat treated to a minimum hardness of 370 BHN.

The mechanical joint restraint mechanism shall be rated at 350 PSI working water pressure for nominal diameters of 3"-16" and 250 PSI WWP for nominal diameters 18" and greater with a 2:1 safety factor. The restraint device shall perform optimally on any Ductile Iron Pipe conforming to the ANSI/AWWA C151/A21.51 Standard and the gland shall comply with all applicable dimensions of, and be compatible with, all mechanical joint sockets of ANSI/AWWA C111/A21.11, C110/A21.10, and C153/121.53 Standards.

The EZ GRIP® mechanical joint restraint mechanism for ductile iron pipe shall be approved by Factory Mutual for sizes 3"-12" and listed by Underwriters Laboratories for sizes 3"-24". The restraint device for Ductile Iron Pipe shall be SIP Industries series EZD or equal.

Available: Import



## PRODUCT LINE

### AWWA DI Fittings & Accessories

- C153 Compact MJ Fittings and Acc. 2" - 64"
- C110 Full Body MJ Fittings 2" - 64"
- C153 Trim Tyton® Push-On Fittings 4" - 24"
- C110 Flange Fittings 2" - 64"
- MJ x MJ Adapter for Connecting MJ Bells 3" - 24"
- Stainless Steel & Blue T-Bolts
- Made in India, China & Mexico
- Bare, Cement, Zinc, FBE & Other Linings

### Joint Restraint System

- EZD Joint Restraint for DI Pipe 3" - 48"
- EZDTP Joint Restraint Tandem for DI Pipe 3" - 48"
- EZDPTP Joint Restraint for Push-On Joints DI Pipe 3" - 48"
- Ductile Iron Retainer Glands 3" - 30"
- FAR / FAH Flange Adapter for DI Pipe 3" - 48"
- EZFA Restrained Flange Adapter for DI and PVC Pipe 3" - 36"
- EZPVC Joint Restraint for PVC Pipe 3" - 36"
- ULTRA Joint Restraint for PVC Pipe 4" - 12"
- EZPVCPTP Joint Restraint for Push-On Joints PVC Pipe 14" - 36"
- PTPVC Pipe to Pipe Restraint 4" - 48"
- PTPDF Pipe to MJ Fittings Restraint 4" - 48"
- PTPFC Pipe to PVC Fittings Restraint 4" - 12"
- Made in China & USA
- EZ Shield or Shop Coating

### Municipal Construction Castings

- Manhole Rings and Cover
- Frames and Grates
- Valve Boxes and Service Boxes
- Water Meter Covers and Boxes
- Cleanout and Monument Boxes
- Detectable Warning Plates
- Extension Rings
- 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"

### Other Products and Services

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



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