

PVC Pipe — Mechanical Joint Restrainer

The PVC mechanical joint restrainer eliminates the need for thrust blocking, tie rodding, or harnessing mechanical joint fittings when they are used with PVC pipe. The key to the restrainer is the specially designed ductile iron, split clamping ring. This ring has serrations machined on the inside which lock onto the pipe when the clamping bolts are tightened.

The special ductile iron “T”-bolts connect the clamping ring to the fitting, providing positive joint restraint.

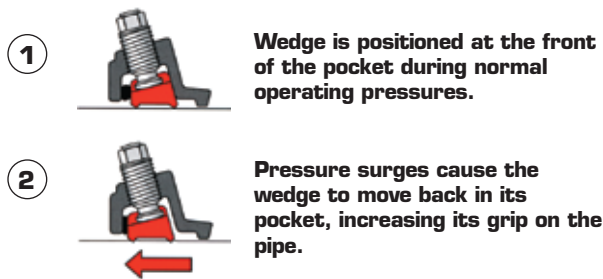
SIZE	PRODUCT NUMBER	
	DUCTILE PIPE O.D.	STEEL PIPE O.D.
3"	NA	37023
4"	37033	37034
6"	37041	37043
8"	37054	37053
10"	37064	37063
12"	37069	37073



Wedge Action Retainer Gland For Ductile Iron Pipe

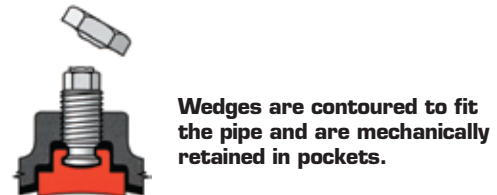
How it works

The Wedge Action Retainer is a mechanical joint restraining gland, incorporating a number of individually activated wedges located around the circumference of the pipe. When the specially designed wedge activating screws are tightened, the teeth on the bottom of each wedge lock onto the pipe surface. Under normal operating conditions, this is all the restraint that is required. If external forces cause the pipe to move, the wedge teeth remain locked on the pipe and the wedge moves against the activating screw, enclosed in its ductile iron pocket. This feature allows the joint to prevent separation yet remain resilient and flexible after assembly. In high pressure applications, or when surge pressures occur, it uses the line pressure to increase its restraining grip on the pipe. If the pressure decreases, the wedge returns to its original position and controlled expansion and flexibility are available again.



Advantages:

- **Saves time and money** — eliminates the need for costly and time consuming concrete thrust blocks and corrosion susceptible steel tie rods.
- **Wedges are contoured to fit the pipe** — this provides greater surface area contact, increasing the restraint capability and spreading the restraining force. It can be used on any class of ductile iron pipe.



- **“Auto-Tork®” wedge activating screws** — designed with a break-away head that shears at the recommended torque, leaving a hex head in case future maintenance or removal is required. This gives a visual indicator and assures correct installation every time.
- **High Pressure Capabilities** — rated at 350 psi in 4”–16” nominal sizes, 250 psi in 18”–48”. Minimum 2:1 safety factor in all sizes.
- **Proven Technology** — over 20 years of successful field service.
- **Offers full 5° deflection** — even after installation and pressurization.
- **No special tools needed** — designed for use with standard mechanical joint bells conforming to AWWA C111. The same wrench used to tighten the T-bolt nuts can be used on the wedge activating screws.
- **Wedges are mechanically retained in pockets** — they cannot fall out...all necessary parts show up at the job site! And no parts are lost in the trench if the gland is removed from the pipe for system maintenance or relocation.
- **Used with standard MJ Ductile Iron pipe and fittings** — totally field adaptable, no beveling, special segments or welded rings required.
- **UL listed and FM approved.**

SIZE	PRODUCT NUMBER	
	WEDGE ACTION RETAINER ONLY	WEDGE ACTION RETAINER ACCESSORY PACK*
3"	—	37013 1
4"	37026	37026 1
6"	37042	37042 1
8"	37046	37046 1
10"	37056	37056 1
12"	37066	37066 1
14"	37081	37081 1
16"	37091	37092
18"	37102	37102 1
20"	37111	37111 1
24"	37112	37112 1
30"	37121	37121 1
36"	37122	37122 1

* Accessory Packs include the MJ gasket and T bolts in addition to the wedge retainer.

Other Mechanical Restraints Available For Ductile Iron Pipe

Stargrip™ Series 3000 Mechanical Joint Wedge Action Restraining Gland



Romac RomaGrip™ Mechanical Joint Restraint for Ductile Iron Pipe



GLAND SIZE	PRODUCT NUMBER	
	STARGRIP™ GLAND ONLY	STARGRIP™ ACCESSORY PACK*
4"	37026 S	37026 1S
6"	37042 S	37042 1S
8"	37046 S	37046 1S
10"	37056 S	37056 1S
12"	37066 S	37066 1S
14"	37081 S	NA
16"	37091 S	37091 1S
18"	37102 S	NS
20"	37111 S	NS
24"	37112 S	NS
30"	37121 S	NS
36"	37122 S	NS
42"	NS	NS
48"	NS	NS

GLAND SIZE	PRODUCT NUMBER	
	ROMAGRIP™ GLAND ONLY	ROMAGRIP™ ACCESSORY PACK*
4"	44092 1	44092
6"	44154 1	44154
8"	44232 1	44232
10"	44310 1	44310
12"	44375 1	44375
14"	NS	44426
16"	44448	44448 1
18"	NS	44479
20"	NS	44497
24"	NS	44503
30"	NS	NS
36"	NS	NS
42"	NS	NS
48"	NS	NS

NOTE: Mechanical Joint Restraints are also available for PVC pipe. Call your local Team EJP sales office for more information.

* Accessory Packs include the MJ gasket and T bolts in addition to the mechanical joint restraint.

WARNING: Mechanical Joint restraints are not to be used on plain end MJ fittings.

Other Mechanical Restraints Available For Ductile Iron Pipe

EBBA Iron Megalug® Series 1100 Mechanical Joint Restraint for Ductile Iron Pipe



GLAND SIZE	PRODUCT NUMBER	
	MEGALUG® GLAND ONLY	MEGALUG® ACCESSORY PACK*
4"	44138	44139
6"	44201	44202
8"	44281	44282
10"	44349	44349 1
12"	44413	44414
14"	NS	44422
16"	44447	44447 1
18"	44480	NS
20"	44492	44921
24"	44500	NS
30"	44517	NS
36"	NS	NS
42"	NS	NS
48"	44518	NS

NOTE: Mechanical Joint Restraints are also available for PVC pipe. Call your local Team EJP sales office for more information.

WARNING: Mechanical Joint restraints are not to be used on plain end MJ fittings.

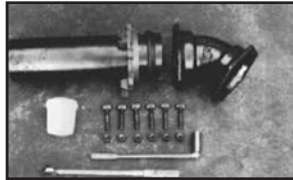
Sigma One-Lok™ Mechanical Joint Wedge Action Restraining Gland



GLAND SIZE	PRODUCT NUMBER	
	ONE-LOK™ GLAND ONLY	ONE-LOK™ ACCESSORY PACK*
4"	44138 01	44138 05
6"	44201 01	44201 05
8"	44281 01	44281 05
10"	44349 01	44349 05
12"	44413 01	44413 05
14"	44424	NS
16"	44447 2	44447 3
18"	NS	NS
20"	44491	NS
24"	44501	NS
30"	NS	44517 5
36"	NS	NS
42"	NS	NS
48"	NS	NS

* Accessory Packs include the MJ gasket and T bolts in addition to the mechanical joint restraint.

Installation Instructions for Mechanical Joint Restraints:



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 lubricant meeting the requirements 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 the lip extension toward the plain end, followed by the gasket.



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



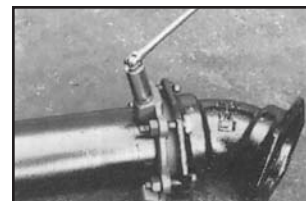
3. Push the gland toward the socket and center it around the pipe with the gland against the gasket. Insert T-bolts and hand tighten nuts. Make deflection after joint assembly but before tightening T-bolts.



4. Tighten the T-bolts to the normal range of T-bolt torque (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 T-bolt first, then the top T-bolt, next the T-bolts at either side, finally the remaining T-bolts. Repeat the process until all the T-bolts are within the appropriate range of torque. The use of a torque wrench is recommended.



5. Hand tighten the torque limiting twist off nuts in a clockwise direction until all wedges are in firm contact with the pipe surface.



6. Tighten each torque limiting twist off nut by turning approximately 180° in a clockwise direction, alternating between nuts until the breakaway nut twists off. Never turn a single nut over 180° without alternating to another nut. If removal is necessary, utilize the 5/8" hex head provided. If reassembly is required, assemble the joint in the same manner as above and tighten the wedge bolt to 90 ft. lb.

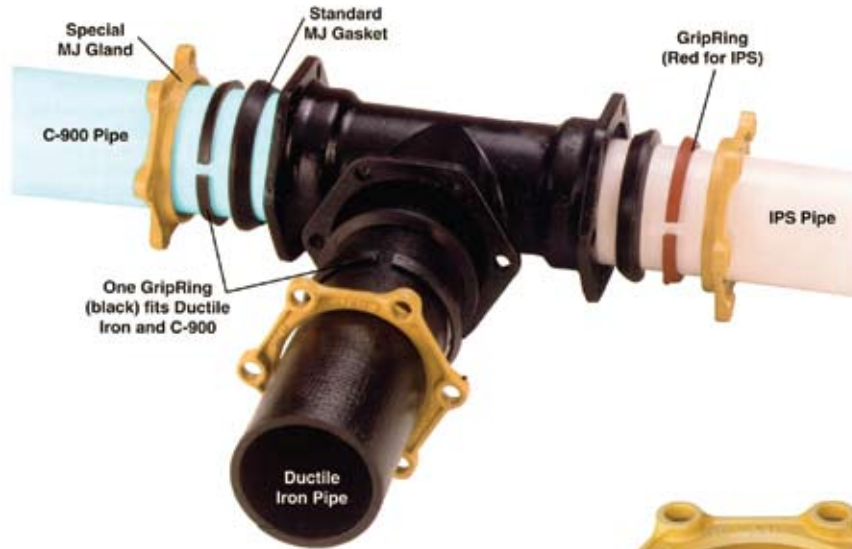
T-HEAD BOLT & NUT DETAIL		
PIPE SIZE	BOLT SIZE	RANGE OF TORQUE (FT.-LBS.)
4" - 24"	3/4"	75-90
30" - 36"	1"	100-120

These torque ranges are requirements of AWWA C600.

Water, Sewer & Drain Fittings B-20

Mechanical Joint Restraints

GripRing™ Pipe Restrainer for D.I., C-900, and IPS Size PVC



Reduce Your Inventory

Dual Purpose – one GripRing™ fits both Ductile Iron and C-900 pipe.

The GripRing™ Uses Full Pipe Circumference for Restraint

This spreads the restraining forces more evenly than products using radial bolts or pads.

Easy to Install

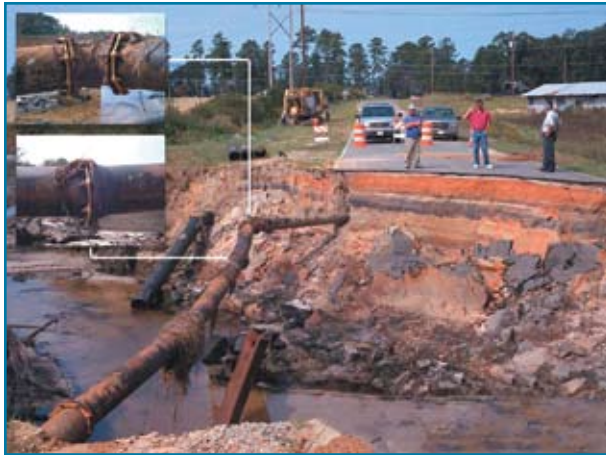
Uses standard mechanical joint gasket and T-bolts. No radial bolts or pads for the installer to forget to tighten! When the T-bolts on the gland are tightened, the GripRing™ restraint system is engaged.

Ductile Iron GripRing™ – specially machined for positive restraint while not over stressing the pipe.

GRIPRING™	NOMINAL PIPE SIZE	PRODUCT NUMBER			
		DI & C900 PIPE SIZE	DI & C900 PIPE SIZE ACCESSORY PACK*	IPS PIPE SIZE	IPS PIPE SIZE ACCESSORY PACK*
	4"	44136	44094	44136 1	44094 1
	6"	44152	44164 1	44153	44164 2
	8"	44221	44234	44222	44234 1
	10"	44297	44309	44298	44309 1
	12"	44362	44374	44363	44374 1

* Accessory Packs include the MJ gasket and T-bolts in addition to the GripRing™ and special MJ gland contained in the standard kit.

The GripRing's™ Articulating Wedge Action Provides the Restraint Required for Virtually Any Pressure



Actual 1999 field photo, North Carolina - Hurricane Floyd washed the road out, leaving a 70 foot crevasse. At a height of 12 feet, the 12 inch water main remained operational, under pressure the whole time due to the Romac GripRings installed on the pipe. It was the only water main serving a town of more than 11,000.

Features:

- **Reduce your inventory** – Dual purpose – one black GripRing™ fits both Ductile Iron and C-900.
- **Rated to full working pressure of pipe** – GripRing™ pipe restrainers may be used at the full rated capacity of the pipe, including an allowance for pressure surges.
- **Built in stop to prevent damage to pipe** – The “gap” in each GripRing™ is designed to completely close before a pipe can be excessively stressed.
- **The GripRing™ provides the restraint required for virtually any pressure** – After the GripRing™ is engaged by tightening the T-bolts, the system responds dynamically to pressure changes in the pipe, providing the restraint required. Restraining systems using radial bolts or pads need to be pretightened enough to restrain the “worst case” pressure conditions.
- **The Ring flexes to accommodate deflection allowed in a mechanical joint** – Restrains under the misalignment conditions often found in the field.
- **The gland is painted yellow to avoid confusion** – Since the gland used with the GripRing™ restraint system is similar in looks to a standard MJ Gland, it is painted yellow. The inspector can easily see that a restrainer has, in fact, been used.

