

Latest Smith-Blair Innovation: RazorLock™

Wide Range Restrained Coupling



Ratings

Working pressure:	250 PSI
Test pressure:	375 PSI
Restraint:	100°F ΔT HDPE DR 9

Materials

Sleeve:	Cast Ductile Iron per ASTM A536
Flange:	Cast Ductile Iron per ASTM A536 or Cast Carbon Steel
Gasket:	Buna-N per ASTM D2000
Armor:	304 Stainless Steel per ASTM A240
Grip Ring:	Carbon Steel per ASTM 36 or ASTM A513 Heat Treated
Hardware:	Stainless Steel per ASTM A193 & A194 w/anti-galling coatings
Coating:	Fusion Bonded Epoxy Coating per AWWA C213

The demand for pipe couplings is driven by the need for speed, convenience, and simplified installations. Traditional couplings with multiple bolts or specific sizing are becoming less favorable due to their complexity and inefficiency. Restraint methods like joint restraints and thrust blocks, though effective, add time, sourcing challenges, and vulnerability to third-party damage.

Smith-Blair's new RazorLock Restrained Coupling redefines the market by delivering unmatched speed, ease, and reliability. Featuring a single Dual Drive bolt on each end, it accommodates a wide range of pipe in both size and materials, while integrating proven restraint technology for secure connections. With over 15 years of experience in wide-range couplings, RazorLock incorporates advanced, patent-pending features, including bolting innovations, molded gaskets with armor, controlled flex technology, and precision restraint components.

Adapted from Smith-Blair's 30 years of expertise in natural gas restraint technology, RazorLock builds on the proven success of the EZ Maxi-Grip coupling, trusted in hundreds of thousands of installations across the U.S. This makes RazorLock a dependable choice for today's pipeline professionals.



**Patent
pending**





Installation

Out of the box, RazorLock couplings are “stab fit”, requiring no disassembly to install. A handle on the sleeve provides a means for ergonomic transport and maneuvering of the coupling into position for installation. To eliminate complexity, the design utilizes a single gasket. No secondary gasket, like the Top-Bolt, is required to achieve the “Size Range” listed below.

Product	Size Range	Bolt Size	Torque
4"	4.44" – 5.06"	(2) 5/8"	100 ft-lb
6"	6.56" – 7.16"	(2) 5/8"	130 ft-lb
8"	8.53" – 9.39"	(2) 3/4"	250 ft-lb

Components

Sleeve

- Ergonomic handle
- 7" length

Flanges

- Cast from ductile materials
- Flex points positioned to promote controlled bending and uniform, radial compression

Gasket

- Single gasket per coupling end
- Molded, not extruded and spliced
- Molded-in corrugated ¼ hard 304 stainless steel armor

Grip Ring

- One-piece, near-full circumferential
- Wedge-shaped

Hardware

- Dual Drive Bolt for installation without sockets
- Top Facing Ergonomic installation

Pipe types

- PVC (DIPS-DR25, IPS-SDR26 min. thickness)
- PVC0 (CIOD PC235 min. thickness)
- PE (DR32.5 min. thickness) *Stiffeners required
- Ductile Iron
- Carbon Steel
- Cast Iron *must be round and smooth

RazorLock is the first Smith-Blair product to feature our innovative patent pending Dual Drive Bolt, designed for faster, easier installation. This unique fastener can be tightened with ASA B5.38 ½" square drive tools eliminating the need for sockets. Alternatively, the bolt head will allow the use of standard-depth heavy hex sockets, so no extra-deep sockets are required.

As the installer tightens the bolt, the flanges bend uniformly compressing the gasket and the one-piece grip ring. This controlled bending is achieved through flexure points strategically positioned on the flanges inside faces, preventing point loading and “egging” of the pipe. The grip ring’s sharp, multi-length teeth engage around the pipe, protecting its integrity while distributing thrust loads.

As pressure increases, hydraulic force enhances the grip ring’s engagement, pushing it tighter around the pipe to ensure a secure connection. This smart design simplifies installation while delivering unmatched reliability.