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INFORMATION**



## Introducing Breeze Super-Seal Clamps

### A Breakthrough In Technology

Breeze Super-Seal clamps represent a breakthrough in technology for the industrial and automotive aftermarket – creating ultra-secure sealing for EPDM rubber or silicone hose connections in fluid-handling applications. When you need clamping power that can resist leaks even in the harshest environments, the Super-Seal clamp with its worm-drive closure mechanism and high dynamic compensation range answers the call.

The clamp's high-pressure, double-bead profile offers superior leak-prevention, making it ideal for critical connections in heavy-duty trucks and other commercial vehicles, agricultural operations, construction equipment and a host of additional applications.

The innovative design allows the patented band to act like a spring itself – by flexing as the joint expands and contracts due to temperature fluctuations and the compression set of the hose. Optional Belleville washers on the heavy-duty version provide additional spring force and travel for demanding applications.

**When your job requires the ultimate in clamping power and flexibility, rely on Breeze Super-Seal!**

### Super-Seal Performance Advantages

- | High-performance compensating clamp allows use of lower-cost hose material (EPDM)
- | Increased resistance to blow off
- | Versatile design allows for Belleville washers when additional compensation is required
- | Requires no special tools for installation – quick and easy assembly
- | Provides higher sealing pressure for critical applications
- | 2 beads of sealing reduces the number of clamps needed



# Breeze Super-Seal



A breakthrough constant tension clamp with dynamic compensation and ultra-secure sealing.

**Worm-Drive Closure Mechanism** | **Two Screw Options** | **Recommended Torque 90 in.-lbs. ±5** | **Diameter Range 1.41" – 4.57"**

### SUPER-SEAL

Plated 5/16" Hex Screw  
.57" 300-Series SS Band  
Two-Piece Housing in 304 Stainless Steel

### SUPER-SEAL SS

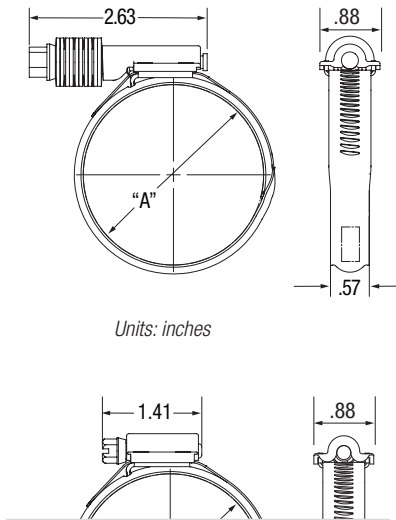
5/16" 410 SS Hex Screw  
.57" 300-Series SS Band  
Two-Piece Housing in 304 Stainless Steel

### SUPER-SEAL HD

Plated 3/8" Hex Screw/Ten Belleville Washers  
.57" 300-Series SS Band  
Two-Piece Housing in 304 Stainless Steel

### SUPER-SEAL HD SS

3/8" 410 SS Hex Screw/Ten Belleville Washers  
.57" 300-Series SS Band  
Two-Piece Housing in 304 Stainless Steel



## BREEZE SUPER-SEAL PART NUMBERS & SPECIFICATIONS

Carbon Steel, Zinc-Plated Hex Screw	AISI Type 410 SS Hex Screw	Inches (A)		Millimeters (A)		Carton Quantity	Pack Size
		Min.	Max.	Min.	Max.		
Global NORMA PN	Global NORMA PN						
0635 0006 038	0635 0004 038	1.41	1.57	36	40	100	10 Boxes of 10
0635 0002 046	0635 0000 046	1.57	2.05	40	52	100	10 Boxes of 10
0635 0002 058	0635 0000 058	2.05	2.56	52	65	100	10 Boxes of 10
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0635 0002 087	0635 0000 087	3.03	3.78	77	96	100	10 Boxes of 10
0635 0002 106	0635 0000 106	3.78	4.57	96	116	100	10 Boxes of 10

## BREEZE SUPER-SEAL HEAVY-DUTY PART NUMBERS & SPECIFICATIONS

Carbon Steel, Zinc-Plated Hex Screw	AISI Type 410 SS Hex Screw	Inches (A)		Millimeters (A)		Carton Quantity	Pack Size
		Min.	Max.	Min.	Max.		
Global NORMA PN	Global NORMA PN						
0635 0007 038	0635 0005 038	1.41	1.57	36	40	100	10 Boxes of 10
0635 0003 046	0635 0001 046	1.57	2.05	40	52	100	10 Boxes of 10
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0635 0003 071	0635 0001 071	2.56	3.03	65	77	100	10 Boxes of 10
0635 0003 087	0635 0001 087	3.03	3.78	77	96	100	10 Boxes of 10
0635 0003 106	0635 0001 106	3.78	4.57	96	116	100	10 Boxes of 10



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# Breeze Super-Seal

## Product Overview

Breeze Super-Seal represents the next generation of constant tension clamps. The design intent is to create ultra-secure sealing for fluid-handling applications, utilizing EPDM or silicone hose. In addition, the new Breeze Super-Seal clamp is designed to resist relative movement of the components and allow the system to be disconnected without damage to components.

## Product Advantages

- Provides greater sealing power – radial load is distributed over 33% smaller area for 50% greater clamping pressure
- Allows for use of lower-cost EPDM Hose
- Reduces the need for double clamping
- Perfect for conforming applications on commercial vehicles, agricultural and construction equipment
- Provides a high degree of security in critical applications
- Increased resistance to blow off
- No special tools required – quick and easy assembly

## Product Design Features

- Patented dual-bead design
- Two screw options: 410 stainless steel or plated carbon steel
- Unique band design acts as its own spring
- Worm-drive closure mechanism with Belleville washers for heavy-duty applications
- 304 stainless steel Quadra-Lock housing



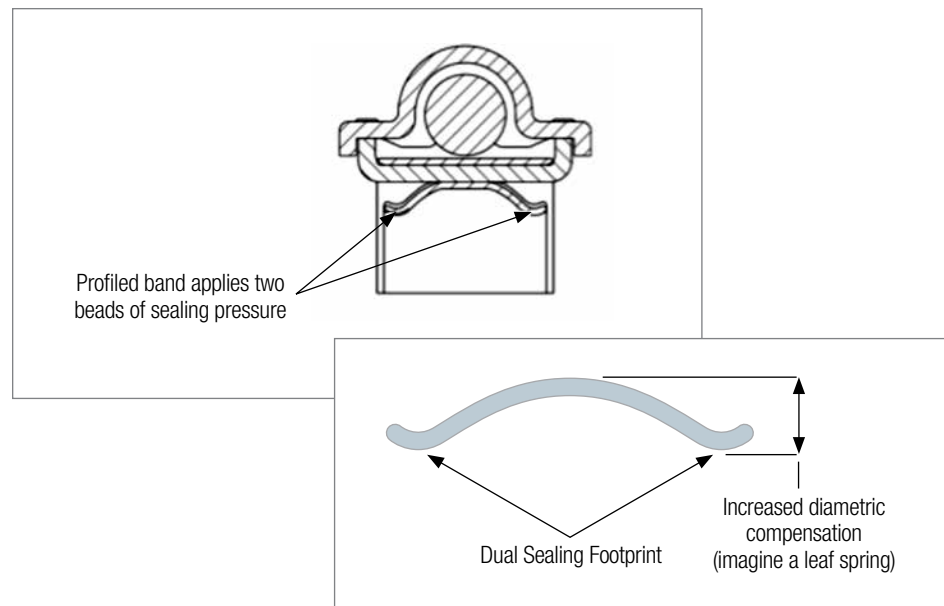
TECHNICAL SPECIFICATIONS	
<b>Diameter Range</b>	<b>Hose Information</b>
36 to 116mm [1.4"-4.5"]	Hose ID is specified to have a 3% interference with the fitting bead
<b>Fitting Information</b>	Approved hose material and compression set
<ul style="list-style-type: none"> <li>– Fitting Bead per SAE J1231 Type 1 or 2</li> <li>– Surface finish must be smooth up to 2.5um maximum per SAE J1231</li> <li>– Generally steel or aluminum with a wall thickness of 1.5mm minimum</li> <li>– Brass &amp; nylon with glass reinforcement are permissible, so long as thermal expansion rates are below 25 mm/mm *K</li> </ul>	<ul style="list-style-type: none"> <li>– Silicone 10 to 15%</li> <li>– EPDM 35 to 50%</li> </ul>
	<b>Fluid</b>
	Coolant
	<b>Assembly Torque</b>
	10.2 ± 0.6 Nm [90 ± 5 in-lb]
	<b>Assembly Speed</b>
	Maximum speed 200 RPM



### Design Features

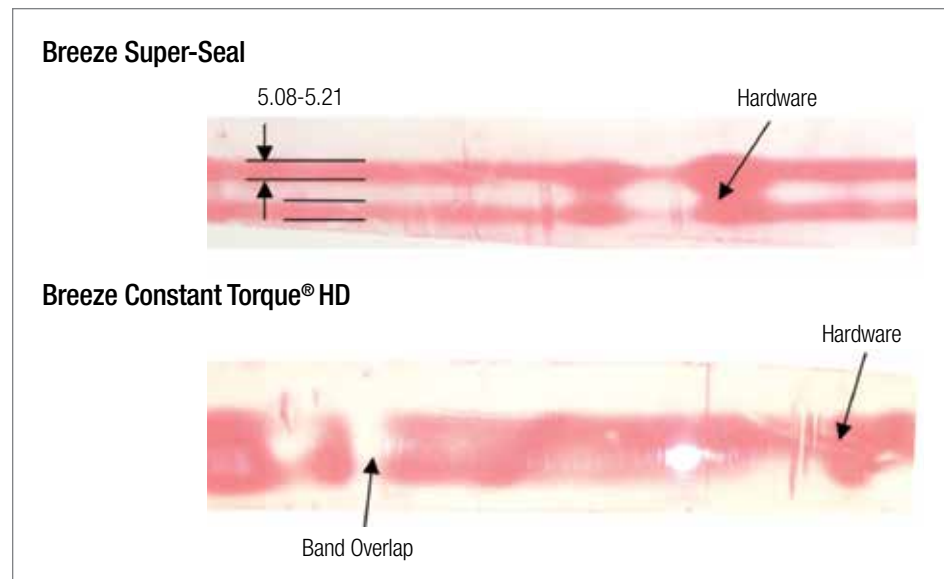
Both the Super-Seal and Super-Seal HD clamps use a dual bead design to provide the highest sealing pressure and ensure the greatest leak resistance.

The illustration shows the two beads – a design that reduces the area of radial load by 33%, increasing clamping force by 50%.



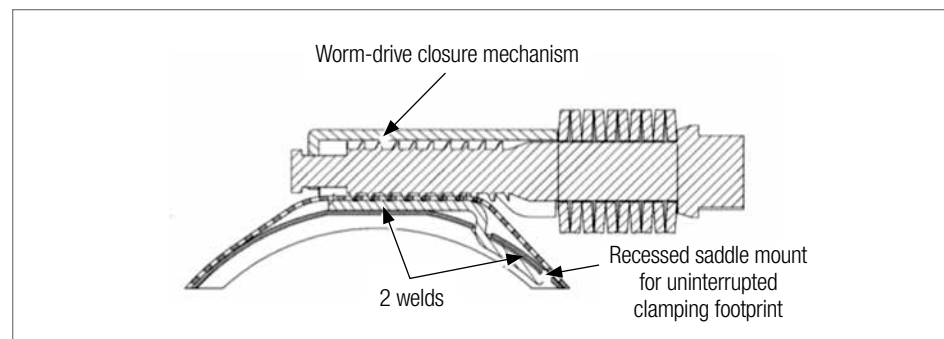
### Infrared Seal Test

Images show the advantage of the dual bead design in securing a leak-proof seal. Top image shows the twin beads forming an unbroken seal, while bottom image shows a leak point at the band overlap in a standard clamp.

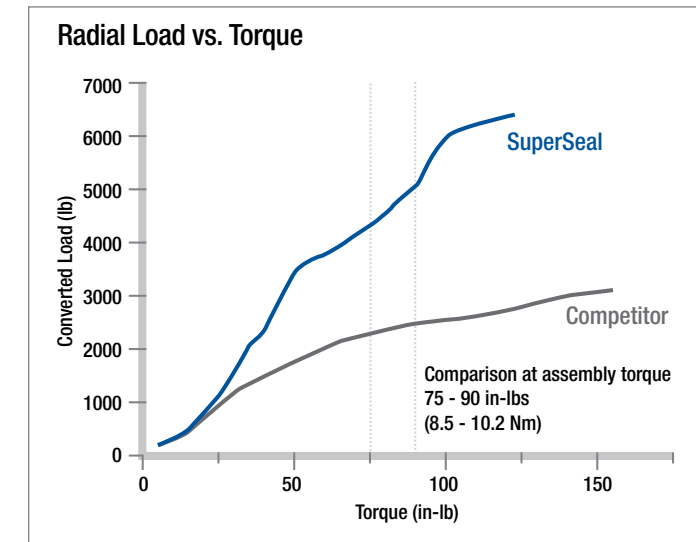


### Breeze Super-Seal HD with Belleville Washers

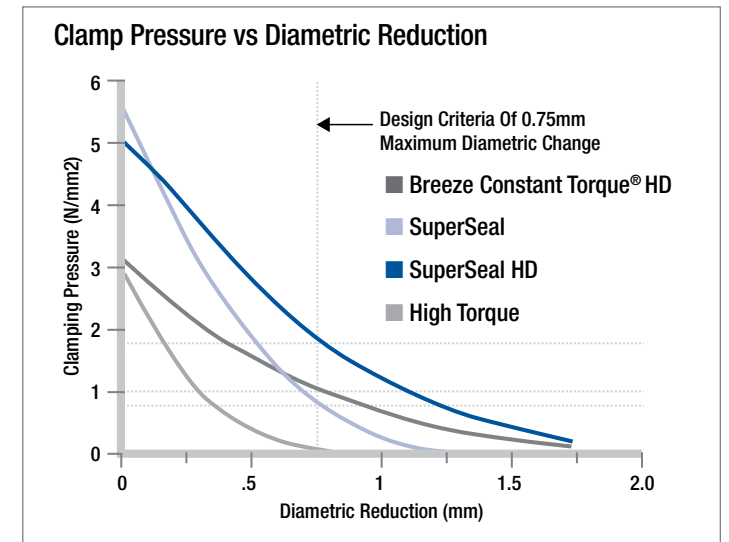
Belleville washers provide additional spring force and clamping pressure, leveraging the worm-drive closure mechanism. Recessed saddle mounts show sealing beads are not interrupted by the saddle tab and are in constant contact with the sealing surface.



### Increased Clamping Force

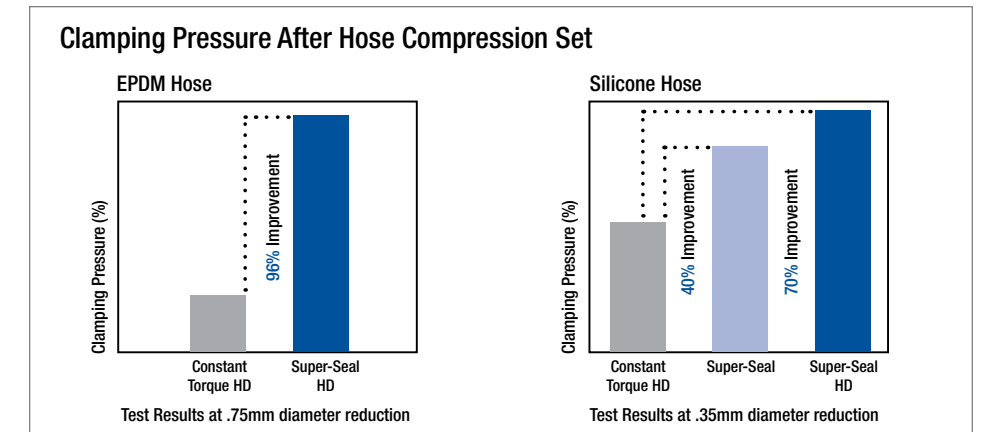
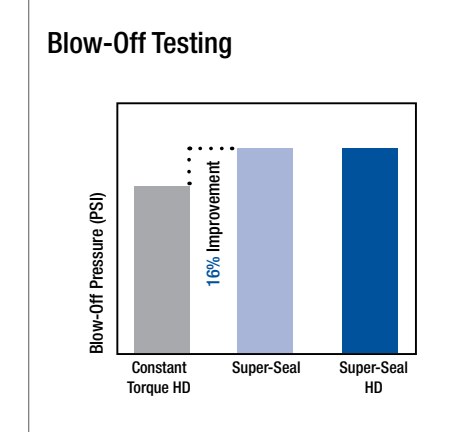
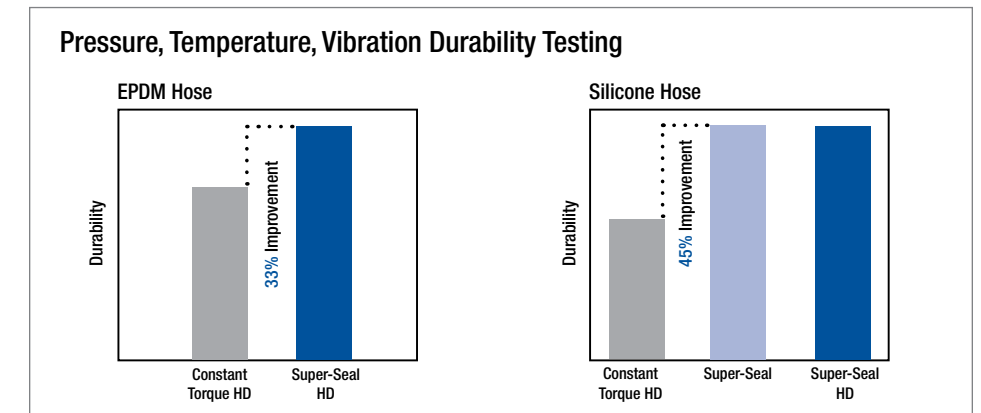
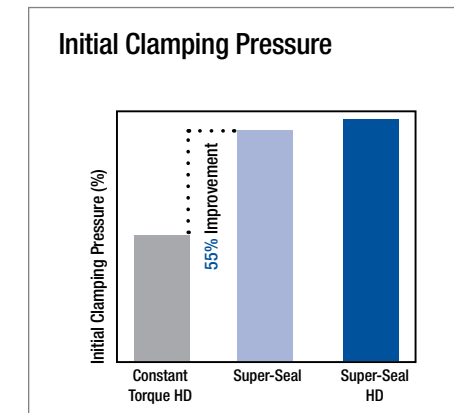


Data represents the averages of 12 samples; Super-Seal clamps generate twice the load of competitive products.



Super-Seal HD w/Belleville washers generates approximately 60% greater clamping pressure than Breeze Constant Torque® HD clamp.

Super-Seal generates more pressure until approx. 0.6mm diameter reduction.





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