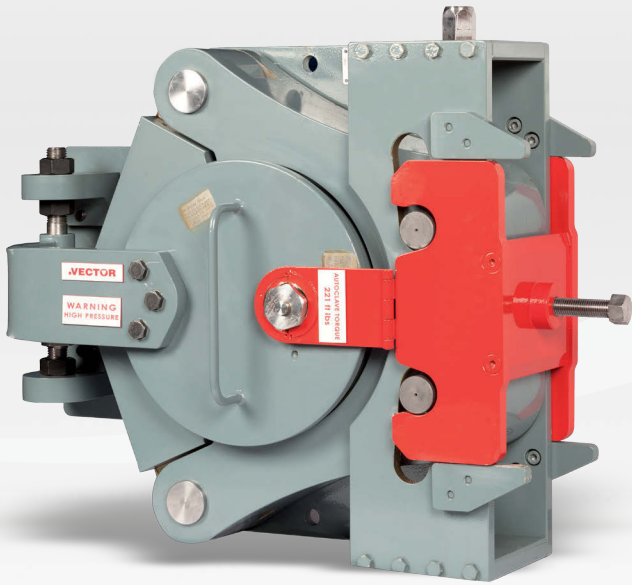


Metal-to-metal sealing closures for in-line cleaning and inspection



Single leadscrew Vector Powerlok®
(all our closures are designed to ASME VIII Div. 1/ASME VIII Div. 2)

Vector Powerlok® closure

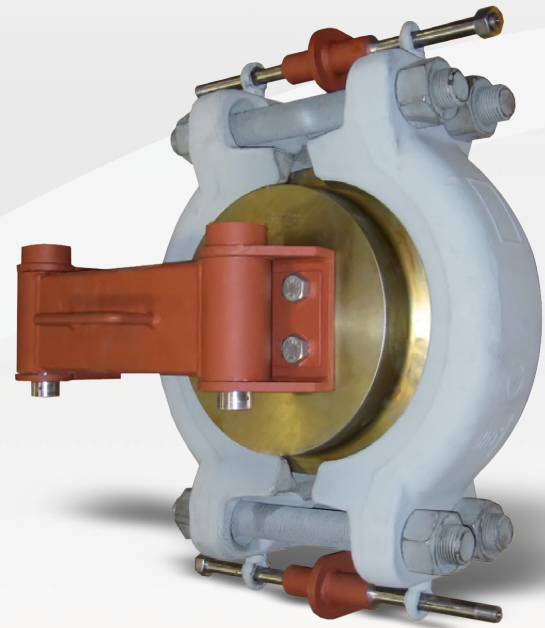
Designed using the same technology as Vector Techlok®, Vector Powerlok® closures are commonly used as man-way or cleaning closures. The time-proven Techlok® seal provides a strong, reliable metal-to-metal seal that can be used in all environments.

Vector Powerlok® closures have been designed for working pressures of up to 15,000psi, with higher pressures possible by custom design. The standard Vector Powerlok® design utilizes either single or twin leadscrew configurations.

The closure is quick release, needs only simple single-operator operation and does not require re-tightening during service use. The Vector Powerlok® clamps are fully supported by the rear hub mounting plate and are configured to suit horizontal and vertical applications in sizes from 2" -36". Pressure ratings cover ANSI 150-4500 classes as standard. A complete range of API closures for API 5,000, 10,000 and 15,000psi and design temperatures -46°C to 177°C are also available.

Doublelok Interlock

The Vector Powerlok® Doublelok interlock system provides 100% leadscrew redundancy in the closure as stipulated in the ASME design codes. The closure can be easily and safely opened once the pressure check bleed screw has been used to check the line pressure and the interlock removed.

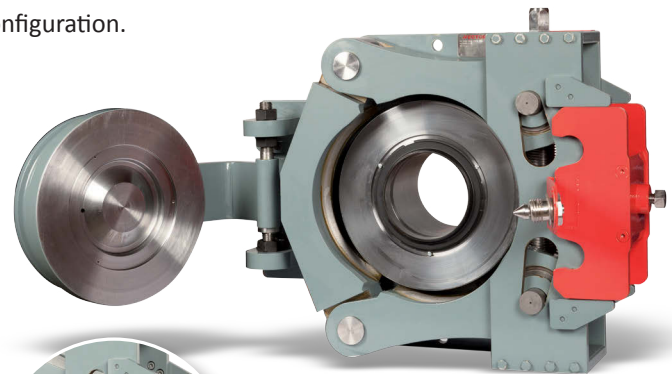


4-bolt Vector Techlok® closure in horizontal configuration

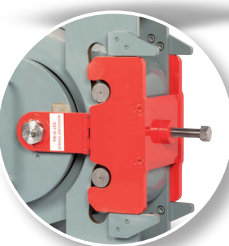
4-bolt Vector Techlok® closures 2"-26"

4-Bolt Techlok® closures offer reliable and robust sealing utilizing many of the standard parts of the time-proven Vector Techlok® clamp connector system and Vector Techlok® metal-to-metal sealing.

The simplicity of the design allows customers to use the pressure rating table published in the Techlok® catalogue as a pressure rating guide. If pressure ratings above the catalogue ratings are required, Freudenberg Oil & Gas Technologies can design a suitable closure for the application. Closure working pressures of up to 15,000psi can be accommodated, with higher pressures by custom design. During opening the clamps are fully supported using a rail system which is suitable for horizontal and vertical configuration.



Powerlok® opened



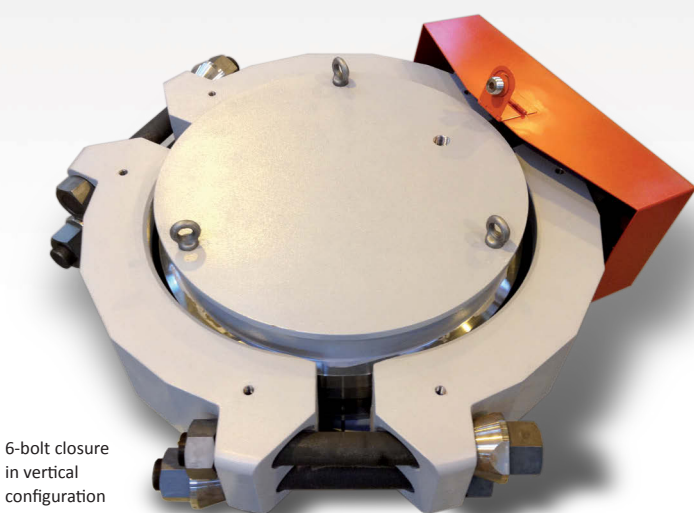
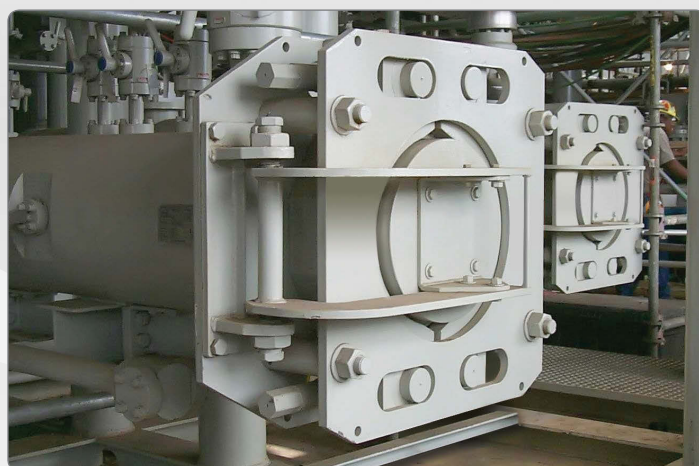
Doublelok interlock system

VECTOR
Powerlok® closure

Twin Leadscrew Vector Powerlok®

Twin leadscrew Powerloks offer an alternative to single lead-screw Powerloks for larger Vector Powerlok® closures .

The twin leadscrews assist in providing consistent and even clamping force around the full circumference of larger diameter hubs. The leadscrews can be operated with torque tools , hydraulic or electric motors.



6-bolt closure
in vertical
configuration

6-Bolt Vector Techlok® closures 28"-42"

For Vector Techlok® closures above 28" it is preferable to use a 3-piece 6-Bolt Techlok® design.

The smaller clamp segments distribute the clamp force more evenly and are easier to handle on-site.

6-bolt closures can be fitted with an integral pressure check bleed screw and interlock to facilitate safe opening.

Available options

- Interlocks with integrated pressure check bleed screw.
- Bleed valves and pressure gauges.
- Hinges, davits or lift eyes for horizontal or vertical door opening.
- Seal retention in the blind door to minimise the risk of seal damage when the door is opened during service.
- Leadscrew torque reaction points, drive buckets or motorized options.

Pressure energized sealing

VECTOR
Techlok® clamp connector

SEALING TECHNOLOGY

The Vector Techlok® sealing offers several advantages over conventional gasket types; for example, the gasket forces and seal diameter are minimal, enabling the load capacity of the components to be maximized, and the lack of a conventional flange gasket gives a gas-tight metal-to-metal seal.

