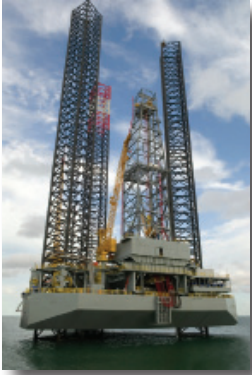


**Continental Disc[®]
Corporation**

WELL ACTIVATION AND SAFETY PROTECTION VALVE - TYPE I

for Downhole Drilling Applications



Continental Disc Corporation introduces the new **Well Activation and Safety Protection Valve**. The Well Activation and Safety Protection Valve is designed to release pressure to activate tools already in the hole or to protect downhole drill components from overpressure failure. The Well Activation and Safety Protection Valve uses rupture disc technology to achieve high accuracy and reliability. It can replace shear pins and other moving devices in most applications

and saves valuable time and labor on the drill site.

The Well Activation and Safety Protection Valve is offered in two configurations, Type A and Type I, depending on required burst direction. Type I protects drill pipes, casings and downhole tools from over-pressure within the tubing or drill string.

Industries/Applications:

- Protect drill pipe and casing from collapse or burst from overpressure scenarios
- Trigger the release of fishing grapples and releasable spears
- Activate controls in the bottom hole assembly (BHA)
- Activate tools down the hole in sequential stages
- Many other applications during drilling, cementing, perforating, completion and production

Materials (standard component materials shown below, other materials available upon request):

Rupture Disc:

- Inconel^{®1} 600

Holder Body Inlet and Outlet:

- 316 SS

O-Ring:

- Viton^{®2}

Specifications:

- Burst Pressure Available From: 1000 psig – 12000 psig in 500 psi increments. Other burst pressures available upon request. (See Table 1 for standard pressures and temperatures.)
- Maximum temperature up to 450°F. Other temperatures available upon request.
- Performance Tolerance:
 - ±100 psig for burst pressures 1000 - 5000 psig
 - ± 5% of burst pressure >5000 psig.
- Operating Pressure up to 70% of Specified Burst Pressure

Industry Standards/Certifications:

- Continental Disc Corporation has maintained a certified ISO 9001 Quality Management System since 1992.
- Product demonstrations, specification validation, and source inspection can be arranged upon request.

Features of the Well Activation and Safety Protection Valve:

- Simple pressure activation
- Accurate, reliable, and consistent rupture disc performance
- Quick opening safety valve has response time under five milliseconds
- Rugged and reliable design

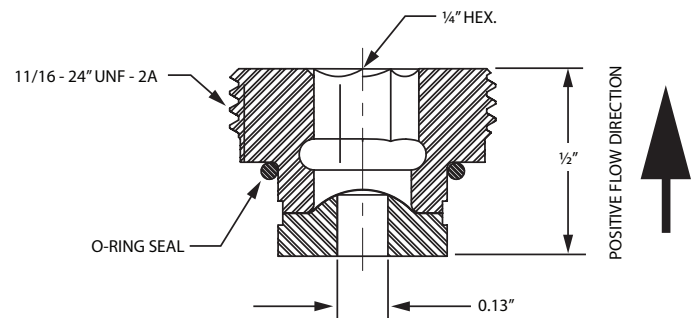


Benefits:

- Fast delivery keeps your operation running smoothly and on time. Standard lead times from one to four weeks
- Simple pressure activation allows operators to activate downhole tools and devices at any depth without having to rely on pyrotechnics, electronic signals, or mechanical systems.
- Easily replaceable parts save valuable drilling and production time by reducing down-time.
- The Type I Well Activation and Safety Protection Valve can be used to protect drill pipes, casings or even downhole tools from over-pressure within the tubing or drill string.
- The disc is designed to be self-protecting, minimizing damage by down-hole debris during trips.

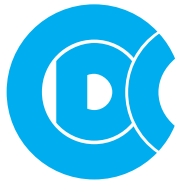
The Well Activation and Safety Protection Valve is engineered for downhole drilling applications involving all aspects of making the hole - exploration, drilling, completion and production.

For more information on the Well Activation and Safety Protection Valve and other Continental Disc Corporation products, please contact your local representative or visit our website at www.contdisc.com.



¹ Inconel[®] is a registered trademark of the Inco family of companies.

² Viton is a registered trademark of DuPont.



**Continental Disc
Corporation**

WELL ACTIVATION AND SAFETY PROTECTION VALVE - TYPE I

for Downhole Drilling Applications (continued)

Table 1 – List of Standard Burst Pressures and Temperatures (Type I)

| Part Number | Specified Burst Pressure at Temperature (psig) | Burst Pressure at Temperature (psig) | | | | | | | |
|-------------|--|--------------------------------------|--------------|--------------|---------------|---------------|--------|--------|--------|
| | | 100°F | 150°F | 200°F | 250°F | 300°F | 350°F | 400°F | 450°F |
| WSP-I01 | 1,000 @ 100°F | 1,000 | 980 | 960 | 949 | 939 | 929 | 929 | 919 |
| WSP-I02 | 1,500 @ 100°F | 1,500 | 1,470 | 1,439 | 1,424 | 1,409 | 1,394 | 1,394 | 1,379 |
| WSP-I03 | 2,000 @ 100°F | 2,000 | 1,960 | 1,919 | 1,899 | 1,879 | 1,859 | 1,859 | 1,838 |
| WSP-I04 | 2,500 @ 100°F | 2,500 | 2,449 | 2,399 | 2,374 | 2,348 | 2,323 | 2,323 | 2,298 |
| WSP-I05 | 3,000 @ 100°F | 3,000 | 2,939 | 2,879 | 2,848 | 2,818 | 2,788 | 2,788 | 2,758 |
| WSP-I06 | 3,500 @ 100°F | 3,500 | 3,429 | 3,359 | 3,323 | 3,288 | 3,253 | 3,253 | 3,217 |
| WSP-I07 | 4,000 @ 100°F | 4,000 | 3,919 | 3,838 | 3,798 | 3,758 | 3,717 | 3,717 | 3,677 |
| WSP-I08 | 4,500 @ 100°F | 4,500 | 4,409 | 4,318 | 4,273 | 4,227 | 4,182 | 4,182 | 4,136 |
| WSP-I09 | 5,000 @ 150°F | 5,103 | 5,000 | 4,897 | 4,845 | 4,794 | 4,742 | 4,742 | 4,691 |
| WSP-I10 | 5,500 @ 150°F | 5,613 | 5,500 | 5,387 | 5,330 | 5,273 | 5,216 | 5,216 | 5,160 |
| WSP-I11 | 6,000 @ 150°F | 6,124 | 6,000 | 5,876 | 5,814 | 5,753 | 5,691 | 5,691 | 5,629 |
| WSP-I12 | 6,500 @ 150°F | 6,634 | 6,500 | 6,366 | 6,299 | 6,232 | 6,165 | 6,165 | 6,098 |
| WSP-I13 | 7,000 @ 200°F | 7,295 | 7,147 | 7,000 | 6,926 | 6,853 | 6,779 | 6,779 | 6,705 |
| WSP-I14 | 7,500 @ 200°F | 7,816 | 7,658 | 7,500 | 7,421 | 7,342 | 7,263 | 7,263 | 7,184 |
| WSP-I15 | 8,000 @ 200°F | 8,337 | 8,168 | 8,000 | 7,916 | 7,832 | 7,747 | 7,747 | 7,663 |
| WSP-I16 | 8,500 @ 200°F | 8,858 | 8,679 | 8,500 | 8,411 | 8,321 | 8,232 | 8,232 | 8,142 |
| WSP-I17 | 9,000 @ 200°F | 9,379 | 9,189 | 9,000 | 8,905 | 8,811 | 8,716 | 8,716 | 8,621 |
| WSP-I18 | 9,500 @ 250°F | 10,005 | 9,803 | 9,601 | 9,500 | 9,399 | 9,298 | 9,298 | 9,197 |
| WSP-I19 | 10,000 @ 250°F | 10,532 | 10,319 | 10,106 | 10,000 | 9,894 | 9,787 | 9,787 | 9,681 |
| WSP-I20 | 10,500 @ 250°F | 11,059 | 10,835 | 10,612 | 10,500 | 10,388 | 10,277 | 10,277 | 10,165 |
| WSP-I21 | 11,000 @ 250°F | 11,585 | 11,351 | 11,117 | 11,000 | 10,883 | 10,766 | 10,766 | 10,649 |
| WSP-I22 | 11,500 @ 250°F | 12,112 | 11,867 | 11,622 | 11,500 | 11,378 | 11,255 | 11,255 | 11,133 |
| WSP-I23 | 12,000 @ 300°F | 12,774 | 12,516 | 12,258 | 12,129 | 12,000 | 11,871 | 11,871 | 11,742 |

Bold type indicates specified burst pressure. Regular type indicates estimated nominal burst pressure for other temperatures.

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Continental Disc Corporation has representatives located throughout the world. Contact the Continental Disc Corporation office nearest you for the authorized representative in your area or visit www.contdisc.com.

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