THE PROTECTOR INFLATABLE SEAL

A - Inflatable Boot
B - Support Ring
C - Housing
D - Back Plate
E - O-ring


## Product Description

Type 73 is an inflatable backup seal that is used primarily to hold process fluids, without leakage, while repairs are made to primary seal, bearings and other equipment components during upset conditions or scheduled maintenance.
With this seal, there is no need to drain the tank or system. It is a low investment barrier seal for leak protection, saving days of potential lost production and product. In marine services, surface and submarine, it also is used to assure vessel integrity when making repairs at sea under pressurized conditions.

- For mixers, agitators, pulpers, and large pumps.
- For large tanks, vessels, and chests in continuous or batch processes, other industrial and marine services.
- For downtime reduction, safety, and process fluid protection.


## Performance Gapabilities

- Temperature: up to $180^{\circ} \mathrm{F} / 82^{\circ} \mathrm{C}$
- Pressure: $500 \mathrm{psi}(\mathrm{g}) / 35 \operatorname{bar}(\mathrm{~g})$
- Speed: Shaft cannot be rotated when inflatable seal is activated.


## Design Features

- Minimal components - Employs a simple design with a minimum number of parts for functional efficiencies and reliable service. The key element is a John Crane-developed elastomer "boot" seal that is inflated quickly to hold process fluids in place during maintenance.
- Internal positioning - Positioned between the process fluid and primary seal, allowing complete access to equipment components beyond the boot without interruption from leakage. In some industrial applications, it can be used as secondary containment to prevent pollution to the atmosphere.
- Long service life - Designed for long service life; some have provided more than ten years of uninterrupted service in marine and industrial applications. They can be inflated and deflated through dozens of cycles.
- Easy inflation - Elastomer boot is designed for fast inflation by merely opening a valve to the inflation medium.
- Versatility in use - Provides backup seal protection when used with a wide range of primary seals and packings. They are ideally combined with John Crane split seals. This combination allows fast split seal repairs without dismantling equipment and without having to drain the tank or system first.

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Type 73 Typical Arrangement


## Materials of Gonstruction

| SEAL COMPONENTS | MATERIALS |
| :--- | :--- |
| Inflatable Seal | Ethylene Propylene (EPD) <br> Fluoroelastomer |
| Support Ring | 316 SS |

Type 73 Dimensional Data (inches)

| A | B | 3/8" Bolt | - C* | 5/8" Bolt | D |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2.000 | 3.015 | 4.000 | 4.187 | 4.375 | 3.625 |
| 2.125 | 3.140 | 4.125 | 4.312 | 4.500 | 3.750 |
| 2.250 | 3.265 | 4.250 | 4.437 | 4.625 | 3.875 |
| 2.375 | 3.390 | 4.375 | 4.562 | 4.750 | 4.000 |
| 2.500 | 3.515 | 4.500 | 4.687 | 4.875 | 4.125 |
| 2.625 | 3.640 | 4.625 | 4.812 | 5.000 | 4.250 |
| 2.750 | 3.765 | 4.750 | 4.937 | 5.125 | 4.375 |
| 2.875 | 3.890 | 4.875 | 5.062 | 5.250 | 4.500 |
| 3.000 | 4.015 | 5.000 | 5.187 | 5.375 | 4.625 |
| 3.125 | 4.140 | 5.125 | 5.312 | 5.500 | 4.750 |
| 3.250 | 4.265 | 5.250 | 5.437 | 5.625 | 4.875 |
| 3.375 | 4.390 | 5.375 | 5.562 | 5.750 | 5.000 |
| 3.500 | 4.515 | 5.500 | 5.687 | 5.875 | 5.125 |
| 3.625 | 4.640 | 5.625 | 5.812 | 6.000 | 5.250 |
| 3.750 | 4.765 | 5.750 | 5.937 | 6.125 | 5.375 |
| 3.875 | 4.890 | 5.875 | 6.062 | 6.250 | 5.500 |
| 4.000 | 5.015 | 6.000 | 6.187 | 6.375 | 5.625 |
| 4.125 | 5.140 | 6.125 | 6.312 | 6.500 | 5.750 |
| 4.250 | 5.265 | 6.250 | 6.437 | 6.625 | 5.875 |
| 4.375 | 5.390 | 6.375 | 6.562 | 6.750 | 6.000 |
| 4.500 | 5.515 | 6.500 | 6.687 | 6.875 | 6.125 |
| 4.625 | 5.640 | 6.625 | 6.812 | 7.000 | 6.250 |


| A | B | 1/2" Bolt | 5/8" Bolt | 3/4" Bolt | D |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4.750 | 5.765 | 6.937 | 7.125 | 7.312 | 6.375 |
| 4.875 | 5.890 | 7.062 | 7.250 | 7.437 | 6.500 |
| 5.000 | 6.015 | 7.187 | 7.375 | 7.562 | 6.625 |
| 5.125 | 6.140 | 7.312 | 7.500 | 7.687 | 6.750 |
| 5.250 | 6.265 | 7.437 | 7.625 | 7.812 | 6.875 |
| 5.375 | 6.390 | 7.562 | 7.750 | 7.937 | 7.000 |
| 5.500 | 6.515 | 7.687 | 7.875 | 8.062 | 7.125 |
| 5.625 | 6.640 | 7.812 | 8.000 | 8.187 | 7.250 |
| 5.750 | 6.765 | 7.937 | 8.125 | 8.312 | 7.375 |
| 5.875 | 6.890 | 8.062 | 8.250 | 8.437 | 7.500 |
| 6.000 | 7.015 | 8.187 | 8.375 | 8.562 | 7.625 |
| 6.125 | 7.140 | 8.312 | 8.500 | 8.687 | 7.750 |
| 6.250 | 7.265 | 8.437 | 8.625 | 8.812 | 7.875 |
| 6.375 | 7.390 | 8.562 | 8.750 | 8.937 | 8.000 |


| A | B | 5/8" Bolt | $\text { - C }{ }^{*}$ | 1" Bolt | D |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6.500 | 7.515 | 8.875 | 9.062 | 9.437 | 8.125 |
| 6.625 | 7.640 | 9.000 | 9.187 | 9.562 | 8.250 |
| 6.750 | 7.765 | 9.125 | 9.312 | 9.687 | 8.375 |
| 6.875 | 7.890 | 9.250 | 9.437 | 9.812 | 8.500 |
| 7.000 | 8.015 | 9.375 | 9.582 | 9.937 | 8.625 |
| 7.125 | 8.140 | 9.500 | 9.687 | 10.062 | 8.750 |
| 7.250 | 8.265 | 9.625 | 9.812 | 10.187 | 8.875 |
| 7.375 | 8.390 | 9.750 | 9.937 | 10.312 | 9.000 |
| 7.500 | 8.515 | 9.875 | 10.062 | 10.437 | 9.125 |
| 7.625 | 8.640 | 10.000 | 10.187 | 10.562 | 9.250 |
| 7.750 | 8.765 | 10.125 | 10.312 | 10.687 | 9.375 |
| 7.875 | 8.890 | 10.250 | 10.437 | 10.812 | 9.500 |
| 8.000 | 9.015 | 10.375 | 10.562 | 10.937 | 9.625 |
| 8.125 | 9.140 | 10.500 | 10.687 | 11.062 | 9.750 |
| 8.250 | 9.265 | 10.625 | 10.812 | 11.187 | 9.875 |
| 8.375 | 9.390 | 10.750 | 10.937 | 11.312 | 10.000 |
| 8.500 | 9.515 | 10.875 | 11.062 | 11.437 | 10.125 |
| 8.625 | 9.640 | 11.000 | 11.187 | 11.562 | 10.250 |
| 8.750 | 9.765 | 11.125 | 11.312 | 11.687 | 10.375 |
| 8.875 | 9.890 | 11.250 | 11.437 | 11.812 | 10.500 |
| 9.000 | 10.015 | 11.375 | 11.562 | 11.937 | 10.625 |
| 9.125 | 10.140 | 11.500 | 11.687 | 12.062 | 10.750 |
| 9.250 | 10.265 | 11.625 | 11.812 | 12.187 | 10.875 |
| 9.375 | 10.390 | 11.750 | 11.937 | 12.312 | 11.000 |
| 9.500 | 10.515 | 11.875 | 12.062 | 12.437 | 11.125 |
| 9.625 | 10.640 | 12.000 | 12.187 | 12.562 | 11.250 |
| 9.750 | 10.765 | 12.125 | 12.312 | 12.687 | 11.375 |
| 9.875 | 10.890 | 12.250 | 12.437 | 12.812 | 11.500 |
| 10.000 | 11.015 | 12.375 | 12.437 | 12.937 | 11.625 |

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