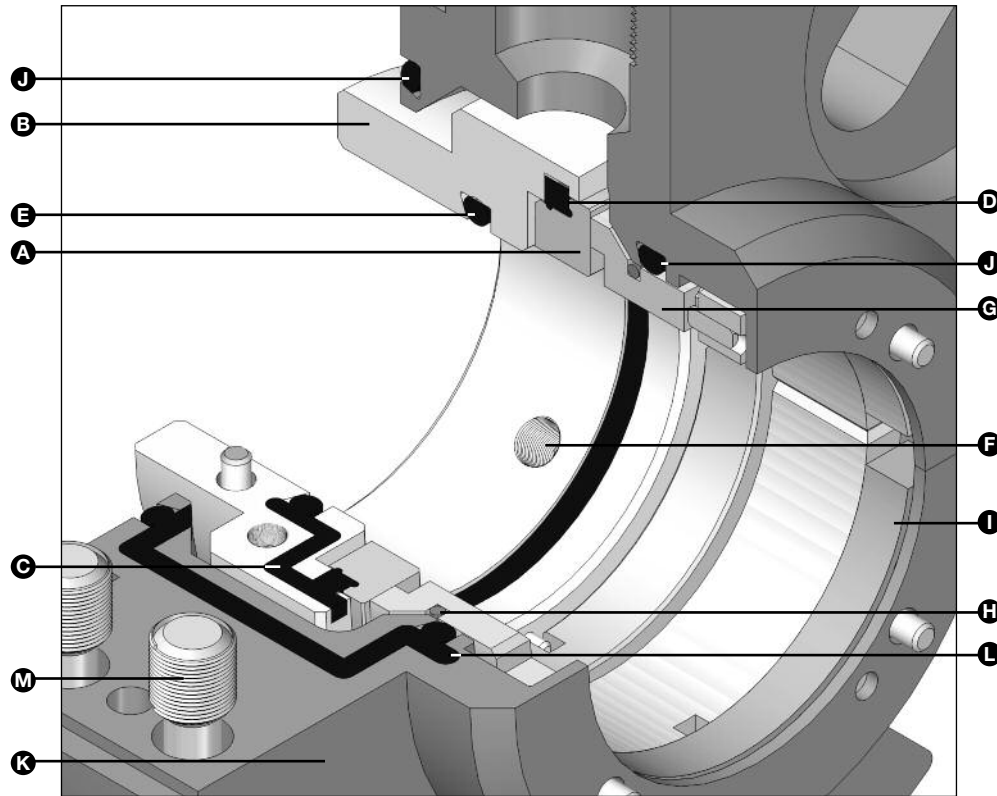


- A – Mating Ring
- B – Mating Ring Adapter Assembly
- C – Sealing Element Gasket
- D – Sealing Element Strip
- E – Sealing Element O-ring
- F – Set Screw
- G – Primary Ring
- H – Retaining Ring
- I – Spring Adapter Assembly Set
- J – O-ring
- K – Gland Plate Assembly
- L – Gland Plate Gasket
- M – Captive Socket Head Cap Crews



Product Description

The Type 3740 is a family of split seals using the latest modular split seal technology from John Crane that also combines the unique design requirements for wet-running and dry-running services onto one common seal platform.

- The Type 3740D dry-running split seal is designed for the large shaft run-out and harsh operating conditions commonly associated with top-entry vessel mixing services and other dry-running applications.
- The Type 3740 wet-running split seal incorporates the best features for fast and easy seal installation, while providing reliable seal performance in demanding pump and other rotating equipment fluid services.

Typical Applications

- | | |
|--------------|-------------|
| • Agitators | • Alcohols |
| • Dryers | • Chemicals |
| • Fermenters | • Steam |
| • Mixers | • Vapors |

Performance Capabilities

- Temperatures: up to 135°C/275°F
- Pressures: vacuum to 5.5 bar g/80 psig
- Speeds: up to 2.0 m/s/400 fpm
- Runout:
 - 40mm-60mm/1.500"-2.250" sizes - 1.52mm/0.060" TIR
 - 70mm-80mm/2.500"-3.500" sizes - 2.54mm/0.100" TIR
 - 90mm-150mm/3.750"-6.000" sizes - 3.81mm/0.150" TIR

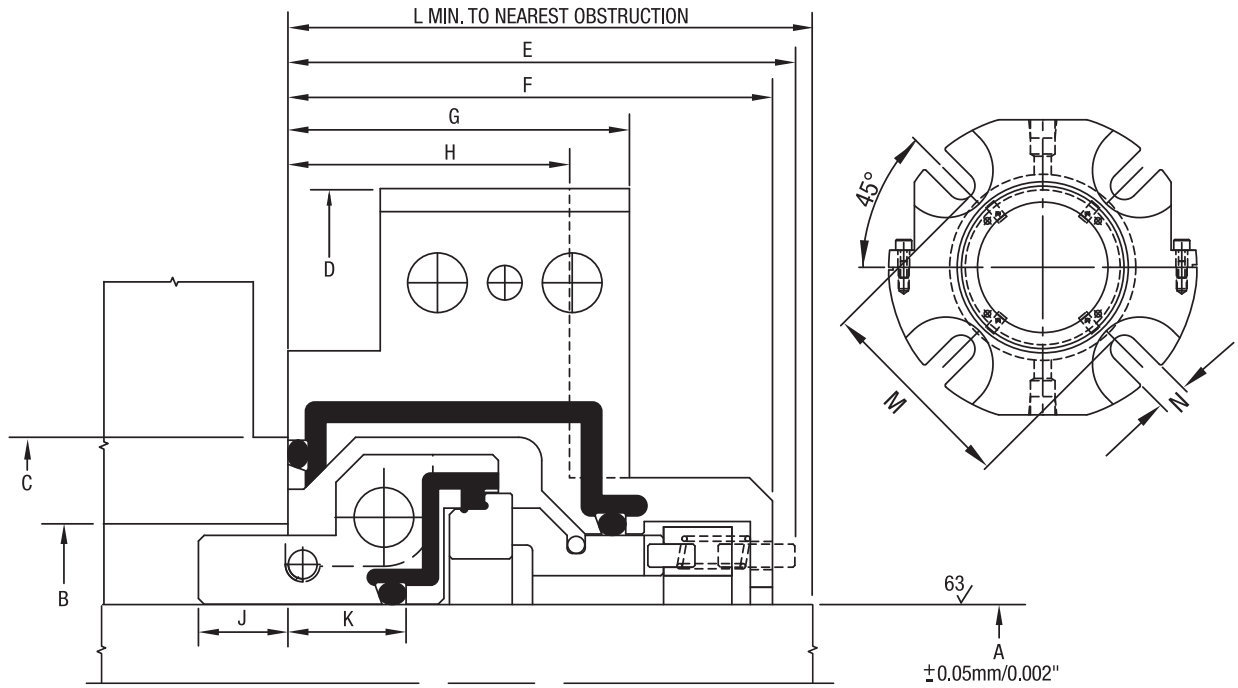
Design Features

- Factory-preassembled rotor assembly for fast, easy, yet precise rotating face installation
- Separate stationary seal face for visual assurance the halves are correctly aligned
- Factory-preassembled gland plate assembly for easy, single-step installation
- Premium seal face materials for optimal performance
- Captive socket head cap screws to eliminate lost or dropped screws
- Same-side screws on all hardware for easy access and faster installation
- Dovetail O-ring grooves to contain all O-rings without requiring adhesives
- Fast and easy field repair kits that do not require any special tools, adhesives or procedures
- Enhanced runout capability for large radial shaft movements
- Temporary wet-running allowed

TYPE 3740D

DRY RUNNING CARTRIDGE SPLIT SEAL

Type 3740D Typical Arrangement



Type 3740D Dimensional Data (mm)

| SEAL SIZE | SIZE CODE | A | B MIN. | B MAX. | C MIN. | D | E | F | G | H | J | K | L MIN. | M | N |
|-----------|-----------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|--------|-------|
| 40 | 0400 | 40.00 | 57.15 | 70.61 | 76.96 | 139.70 | 52.58 | 50.29 | 38.10 | 31.75 | 9.53 | 12.07 | 54.10 | 80.98 | 14.27 |
| 50 | 0500 | 50.00 | 66.68 | 76.20 | 82.55 | 146.05 | 52.58 | 50.29 | 38.10 | 31.75 | 9.53 | 12.07 | 54.10 | 90.50 | 14.27 |
| 60 | 0600 | 60.00 | 76.20 | 88.90 | 95.25 | 158.75 | 52.58 | 50.29 | 38.10 | 31.75 | 9.53 | 12.07 | 54.10 | 100.00 | 17.48 |
| 70 | 0700 | 70.00 | 90.47 | 101.60 | 107.95 | 177.80 | 61.82 | 58.67 | 41.28 | 34.93 | 9.27 | 13.84 | 63.50 | 114.30 | 17.48 |
| 80 | 0800 | 80.00 | 100.00 | 111.13 | 117.48 | 196.85 | 61.82 | 58.67 | 41.28 | 34.93 | 9.27 | 13.84 | 63.50 | 127.00 | 17.48 |
| 90 | 0900 | 90.00 | 114.30 | 132.59 | 138.94 | 228.60 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 150.83 | 20.62 |
| 100 | 1000 | 100.00 | 120.65 | 138.13 | 144.48 | 228.60 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 150.83 | 20.62 |
| 110 | 1100 | 110.00 | 133.35 | 150.83 | 157.18 | 241.30 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 163.53 | 20.62 |
| 120 | 1200 | 120.00 | 139.70 | 157.18 | 163.53 | 254.00 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 176.23 | 20.62 |
| 130 | 1300 | 130.00 | 152.40 | 173.05 | 179.40 | 292.10 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 204.77 | 23.83 |
| 140 | 1400 | 140.00 | 158.75 | 176.23 | 182.58 | 292.10 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 204.77 | 23.83 |
| 150 | 1500 | 150.00 | 171.45 | 188.93 | 195.28 | 292.10 | 69.85 | 66.68 | 46.99 | 38.86 | 12.32 | 16.26 | 72.14 | 204.77 | 23.83 |

Type 3740D Dimensional Data (inch)

| SEAL SIZE | SIZE CODE | A | B MIN. | B MAX. | C MIN. | D | E | F | G | H | J | K | L MIN. | M | N |
|-----------|-----------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1.500 | 0381 | 1.500 | 2.125 | 2.500 | 2.750 | 5.250 | 2.070 | 1.980 | 1.500 | 1.250 | 0.375 | 0.475 | 2.130 | 3.063 | 0.562 |
| 1.750 | 0444 | 1.750 | 2.375 | 2.750 | 3.000 | 5.500 | 2.070 | 1.980 | 1.500 | 1.250 | 0.375 | 0.475 | 2.130 | 3.313 | 0.562 |
| 2.000 | 0508 | 2.000 | 2.625 | 3.000 | 3.250 | 5.750 | 2.070 | 1.980 | 1.500 | 1.250 | 0.375 | 0.475 | 2.130 | 3.563 | 0.562 |
| 2.250 | 0571 | 2.250 | 3.000 | 3.375 | 3.625 | 6.250 | 2.070 | 1.980 | 1.500 | 1.250 | 0.375 | 0.475 | 2.130 | 3.937 | 0.688 |
| 2.500 | 0635 | 2.500 | 3.312 | 3.750 | 4.000 | 6.750 | 2.435 | 2.310 | 1.625 | 1.375 | 0.365 | 0.545 | 2.500 | 4.250 | 0.688 |
| 2.750 | 0698 | 2.750 | 3.562 | 4.000 | 4.250 | 7.000 | 2.435 | 2.310 | 1.625 | 1.375 | 0.365 | 0.545 | 2.500 | 4.500 | 0.688 |
| 3.000 | 0762 | 3.000 | 3.812 | 4.250 | 4.500 | 7.500 | 2.435 | 2.310 | 1.625 | 1.375 | 0.365 | 0.545 | 2.500 | 4.750 | 0.688 |
| 3.250 | 0825 | 3.250 | 4.062 | 4.500 | 4.750 | 7.750 | 2.435 | 2.310 | 1.625 | 1.375 | 0.365 | 0.545 | 2.500 | 5.000 | 0.688 |
| 3.500 | 0889 | 3.500 | 4.312 | 4.750 | 5.000 | 8.000 | 2.435 | 2.310 | 1.625 | 1.375 | 0.365 | 0.545 | 2.500 | 5.250 | 0.812 |
| 3.750 | 0952 | 3.750 | 4.500 | 5.188 | 5.438 | 9.000 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 5.938 | 0.812 |
| 4.000 | 1016 | 4.000 | 4.750 | 5.438 | 5.688 | 9.000 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 5.938 | 0.812 |
| 4.250 | 1079 | 4.250 | 5.000 | 5.688 | 5.938 | 9.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 6.438 | 0.812 |
| 4.500 | 1143 | 4.500 | 5.250 | 5.938 | 6.188 | 9.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 6.438 | 0.812 |
| 4.750 | 1206 | 4.750 | 5.500 | 6.188 | 6.438 | 10.000 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 6.938 | 0.812 |
| 5.000 | 1270 | 5.000 | 5.750 | 6.438 | 6.688 | 10.000 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 6.938 | 0.812 |
| 5.250 | 1333 | 5.250 | 6.000 | 6.813 | 7.063 | 11.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 8.062 | 0.938 |
| 5.500 | 1397 | 5.500 | 6.250 | 6.938 | 7.188 | 11.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 8.062 | 0.938 |
| 5.750 | 1460 | 5.750 | 6.500 | 7.188 | 7.438 | 11.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 8.062 | 0.938 |
| 6.000 | 1524 | 6.000 | 6.750 | 7.438 | 7.688 | 11.500 | 2.750 | 2.625 | 1.850 | 1.530 | 0.485 | 0.640 | 2.840 | 8.062 | 0.938 |

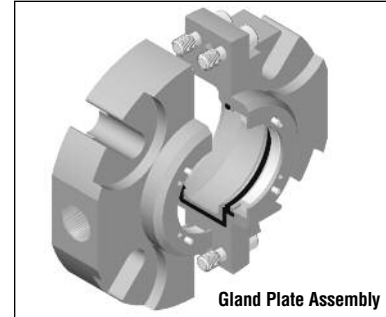
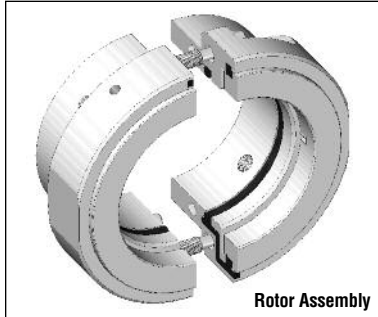
TYPE 3740D

DRY RUNNING CARTRIDGE SPLIT SEAL

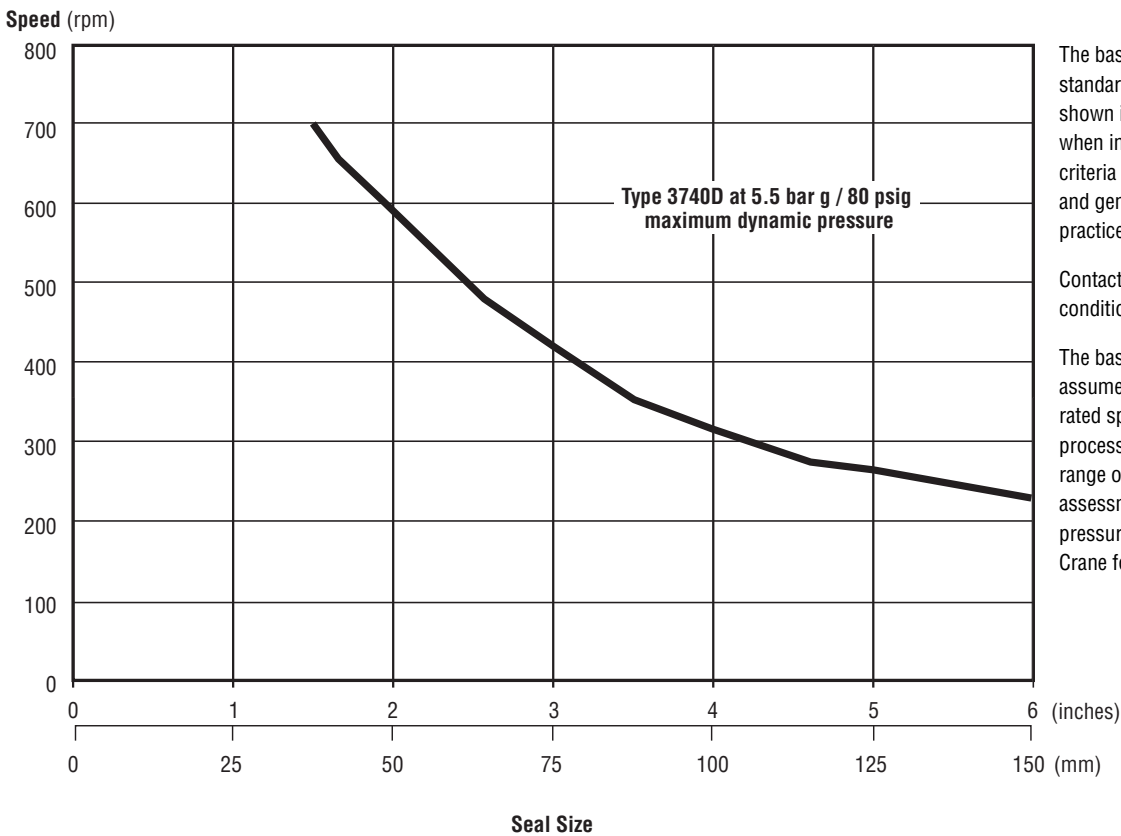
Modular Split Seal Technology

The Type 3740D cartridge split seal is the latest in split seal design technology that makes installation as fast and as easy as possible, yet ensures the important step of proper seal face halves alignment is done correctly for optimal performance. The Type 3740D seal is comprised of pre-assembled modules that combine multiple individual parts into three components:

- Rotor assembly – rotating mating ring seal face and hardware
- Primary ring assembly – stationary primary ring seal face and retaining ring clip
- Gland plate assembly – all stationary hardware



Pressure/Speed Ratings



The basic pressure rating is for a standard Type 3740D seal, as shown in the typical arrangement, when installed according to the criteria given in this data sheet and generally accepted industrial practices.

Contact John Crane for operating conditions above the curve.

The basic pressure rating assumes stable operation at the rated speed and pressure. For process services outside this range or a more precise assessment of the dynamic pressure rating, contact John Crane for more information.

Notes:

1. All seal sizes are capable of handling the rated maximum dynamic pressure of 5.5 bar g/80 psig. Therefore, all speeds are based on 5.5 bar g/80 psig.
2. Material combination: carbon vs. ceramic

Example:

Application: Is a 50mm/2.000" Type 3740D suitable at 3.5 bar g/50 psig, dry running and 400 RPM?

Answer: Yes, the pressure is less than 5.5 bar g/80 psig and the speed is below the graph line shown above. Therefore, Type 3740D is suitable for the application.

TYPE 3740D

DRY RUNNING CARTRIDGE SPLIT SEAL

Materials of Construction

| SEAL COMPONENTS | MATERIALS | |
|---|---------------------------------------|--|
| Description | Standard | Options |
| Primary Ring | Carbon | — |
| Mating Ring | Ceramic | — |
| Gland Plate Assembly Mating Ring Adapter Assembly Spring Adapter Assembly Set | 316 Stainless Steel | Alloy 20 Monel® Titanium Inconel® 625 |
| Retaining Ring | Alloy X-750 | — |
| Springs | Alloy C-276 | — |
| Elastomers | Ethylene Propylene Fluoroelastomer | — |

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North America
United States of America
Tel: 1-847-967-2400
Fax: 1-847-967-3915

Europe
United Kingdom
Tel: 44-1753-224000
Fax: 44-1753-224224

Latin America
Brazil
Tel: 55-11-3371-2500
Fax: 55-11-3371-2599

Middle East & Africa
United Arab Emirates
Tel: 971-481-27800
Fax: 971-488-62830

Asia Pacific
Singapore
Tel: 65-6518-1800
Fax: 65-6518-1803

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