

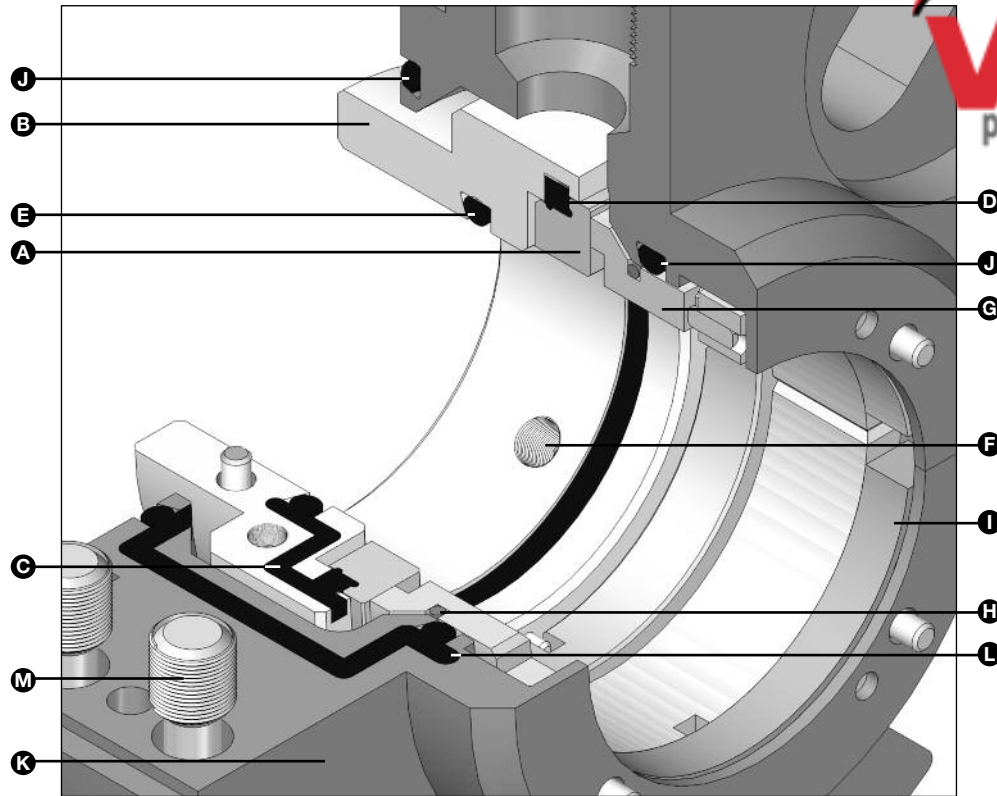
# TYPE 3740D

## DRY RUNNING CARTRIDGE SPLIT SEAL

Technical Specification



- 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

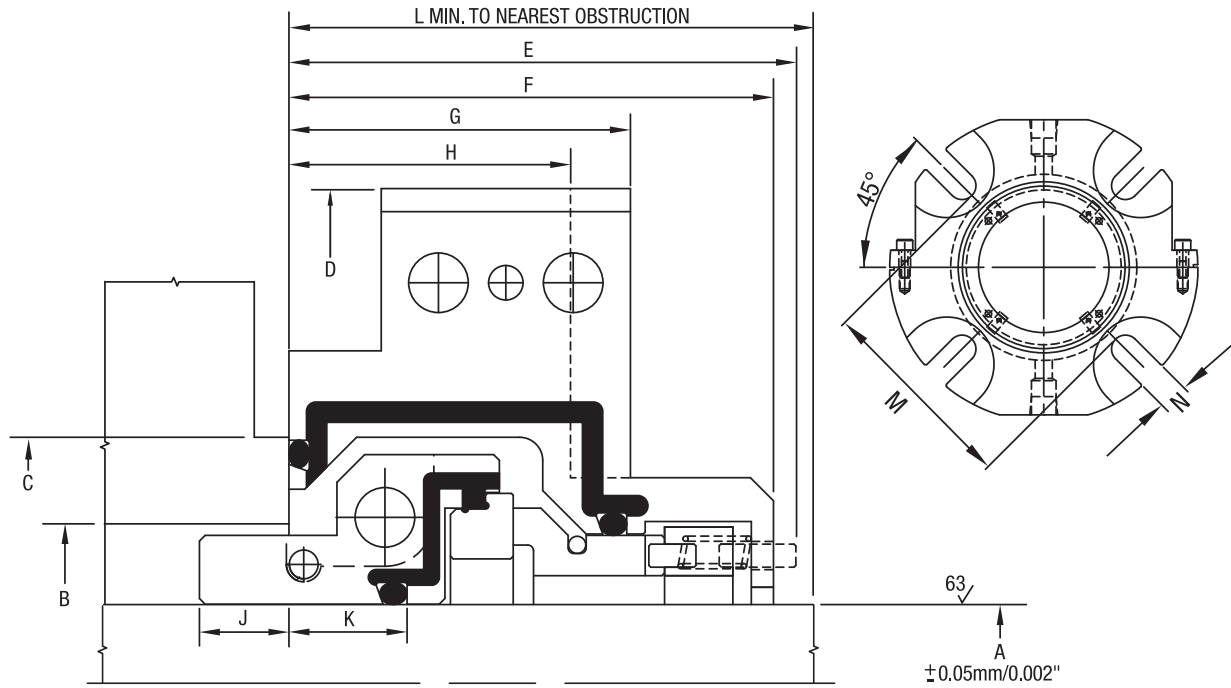
### Design Features

- 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

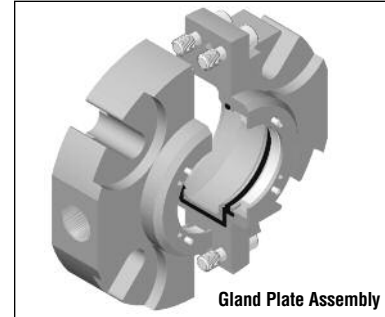
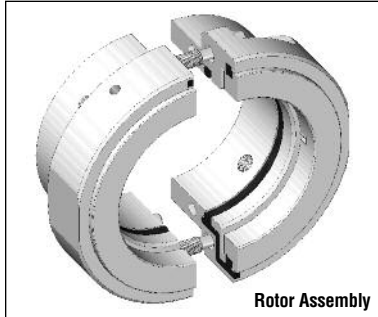
# TYPE 3740D

## DRY RUNNING CARTRIDGE SPLIT SEAL

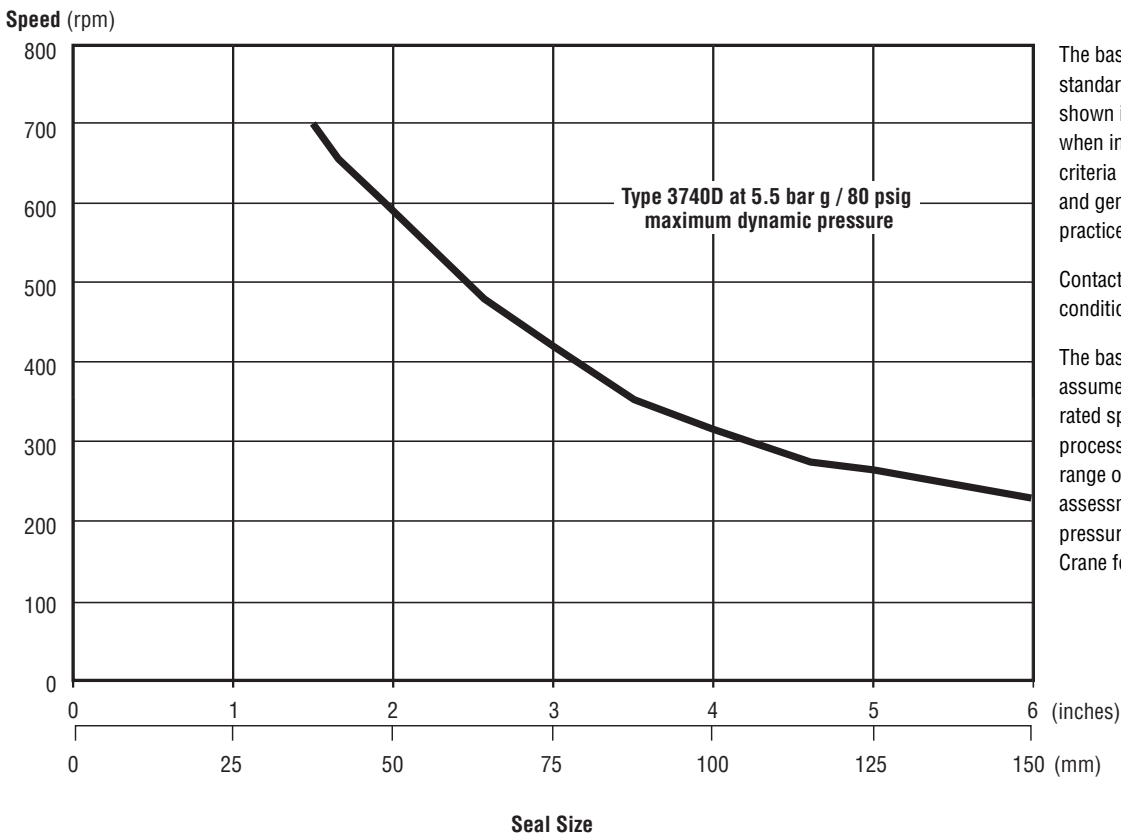
### Modular Split Seal Technology

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.

### 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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