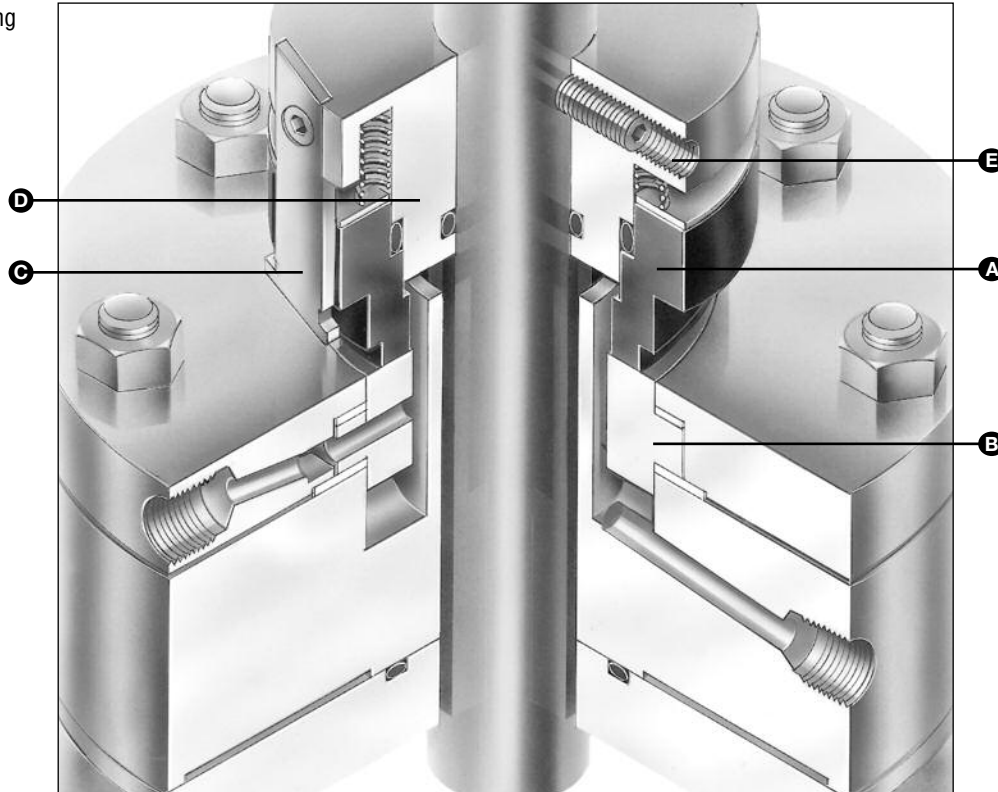


- A – Face/Primary Ring
- B – Mating Ring
- C – T-Bar
- D – Retainer
- E – Spring



### Product Description

Type 32 Seals are outside-mounted ID balanced seals with the seal faces in contact during operation. No auxiliary equipment is required for lubrication. These seals are excellent for operation in vacuum conditions, and meet the needs of pharmaceutical and chemical processing industries.

- For mixers, agitators and reactor vessels
- Seal design eliminates the need for double seals with ancillary equipment in mixer applications
- Type 32 Seals can be repaired in the field to minimize replacement costs, downtime and lost revenue

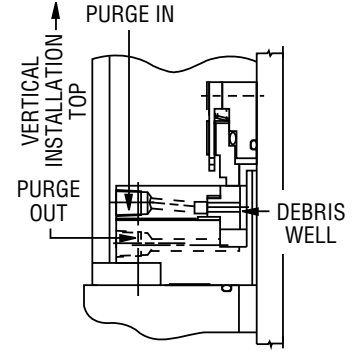
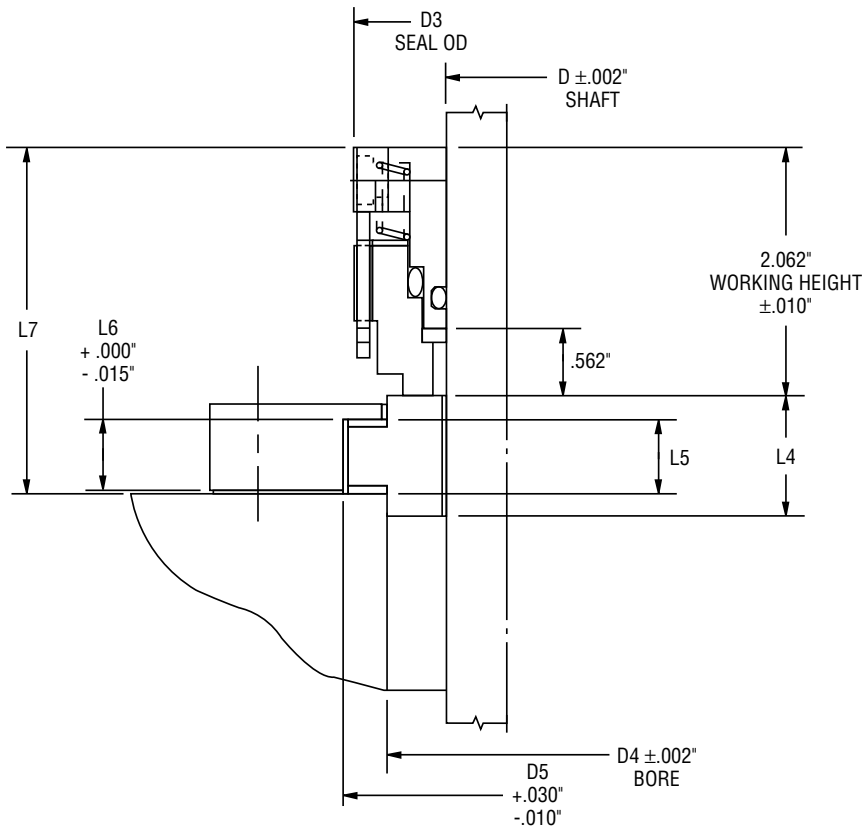
### Design Features

- Debris well option — Isolates and captures face wear particles in gland cavity, preventing contamination of process liquid or gas. Pipe taps allow flushing during cleaning cycle
- Clamped-in mating ring (standard) — Clamped-in design prevents axial movement of mating ring. Mating ring is available in tungsten carbide or ceramic
- “T” bar design — Simple, rugged drive design that withstands constant movement and vibrations of mixer applications. The Type 32 has been designed to accommodate up to 0.150" total runout

### Performance Capabilities

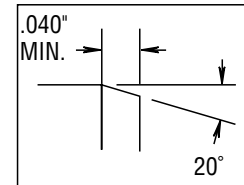
- Temperature: -45°C to 150°C/-50°F to 300°F (depending on materials used)
- Pressure: full vacuum to 15 bar g/225 psig
- Speed: up to 2 mps/400 fpm

### Type 32 Typical Arrangement/Dimensional Data



#### Debris Well Option

For space required use dimensions indicated below for seal size 1/2" larger than shaft diameter.



For ease of installation, the lead-in edge of the shaft or sleeve should be chamfered as shown.

### Type 32 Dimensional Data (inches)

Seal Size/D (inches)	D3	D4	D5	L4	L5	L6	L7
1.000	2.500	1.937	2.281	0.812	.500	.468	2.718
1.125	2.625	2.000	2.406	0.812	.500	.468	2.718
1.250	2.750	2.187	2.656	0.875	.500	.468	2.750
1.375	2.875	2.312	2.781	0.875	.500	.468	2.750
1.500	3.000	2.500	3.031	0.875	.500	.468	2.750
1.625	3.125	2.625	3.156	0.875	.500	.468	2.750
1.750	3.250	2.750	3.281	0.875	.500	.468	2.750
1.875	3.375	2.875	3.531	1.000	.625	.593	2.875
2.000	3.500	3.125	3.781	1.000	.625	.593	2.875
2.125	3.625	3.250	3.906	1.000	.625	.593	2.875
2.250	3.750	3.375	4.031	1.000	.625	.593	2.875
2.375	3.875	3.500	4.156	1.000	.625	.593	2.875
2.500	4.000	3.625	4.281	1.000	.625	.593	2.875
2.625	4.125	3.750	4.406	1.000	.625	.593	2.875
2.750	4.250	3.875	4.531	1.000	.625	.593	2.875
2.875	4.375	4.000	4.656	1.000	.625	.593	2.875
3.000	4.500	4.062	4.718	1.000	.625	.593	2.875
3.125	4.625	4.250	4.906	1.000	.625	.593	2.875
3.250	4.750	4.375	5.031	1.000	.625	.593	2.875
3.375	4.875	4.500	5.156	1.000	.625	.593	2.875
3.500	5.000	4.625	5.281	1.000	.625	.593	2.875
3.625	5.125	4.750	5.406	1.000	.625	.593	2.875
3.750	5.250	4.875	5.531	1.000	.625	.593	2.875
3.875	5.375	5.000	5.656	1.000	.625	.593	2.875

Seal Size/D (inches)	D3	D4	D5	L4	L5	L6	L7
4.000	5.500	5.250	5.906	1.000	.625	.593	2.875
4.125	5.625	5.375	6.031	1.000	.625	.593	2.875
4.250	5.750	5.500	6.156	1.000	.625	.593	2.875
4.375	5.875	5.625	6.281	1.000	.625	.593	2.875
4.500	6.000	5.750	6.406	1.000	.625	.593	2.875
4.625	6.125	5.875	6.531	1.000	.625	.593	2.875
4.750	6.250	6.000	6.656	1.000	.625	.593	2.875
4.875	6.375	6.125	6.781	1.000	.625	.593	2.875
5.000	6.500	6.250	6.906	1.000	.625	.593	2.875
5.125	6.625	6.625	7.281	1.000	.625	.593	2.875
5.250	6.750	6.750	7.406	1.000	.625	.593	2.875
5.275	6.875	6.875	7.531	1.000	.625	.593	2.875
5.500	7.000	7.000	7.656	1.000	.625	.593	2.875
5.625	7.125	7.125	7.781	1.000	.625	.593	2.875
5.750	7.250	7.250	7.906	1.000	.625	.593	2.875
5.875	7.375	7.375	8.031	1.000	.625	.593	2.875
6.000	7.500	7.500	8.156	1.000	.625	.593	2.875
6.125	7.625	7.625	8.281	1.000	.625	.593	2.875
6.250	7.750	7.750	8.406	1.000	.625	.593	2.875
6.375	7.875	7.875	8.531	1.000	.625	.593	2.875
6.500	8.000	8.000	8.656	1.000	.625	.593	2.875
6.625	8.125	8.125	8.781	1.000	.625	.593	2.875
6.750	8.250	8.250	8.906	1.000	.625	.593	2.875
6.875	8.375	8.375	9.031	1.000	.625	.593	2.875
7.000	8.500	8.500	9.156	1.000	.625	.593	2.875

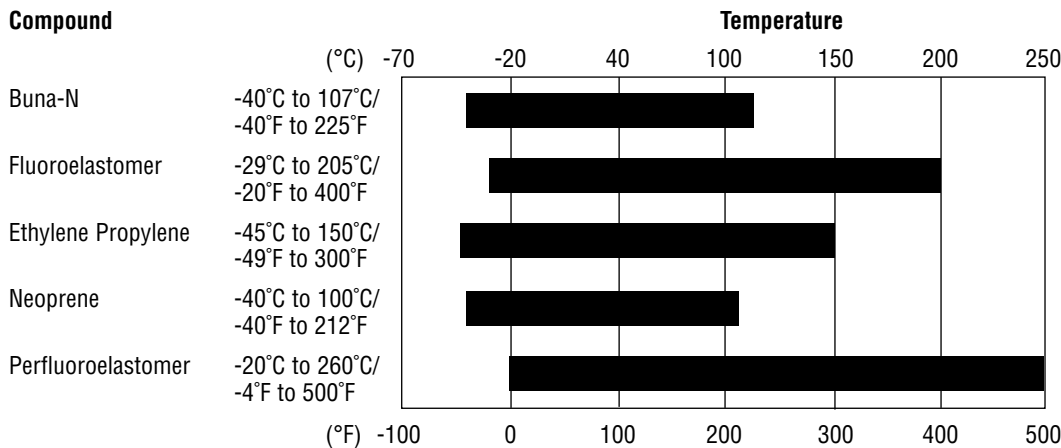
Note: For larger sizes, contact John Crane.

### Type 32 Dimensional Data (mm)

Seal Size/D (mm)	Seal Size Code	D3	D4	D5	L4	L5	L6	L7	Seal Size/D (mm)	Seal Size Code	D3	D4	D5	L4	L5	L6	L7
25	0250	63.5	47.6	57.9	20.6	12.7	11.9	69.0	80	0800	120.6	111.1	127.8	25.4	15.9	15.1	73.0
28	0280	66.6	50.8	61.1	20.6	12.7	11.9	69.0	85	0850	123.8	114.3	131.0	25.4	15.9	15.1	73.0
30	0300	69.8	53.9	67.5	20.6	12.7	11.9	69.9	90	0900	130.2	120.6	137.3	25.4	15.9	15.1	73.0
32	0320	69.8	53.9	67.5	20.6	12.7	11.9	69.9	95	0950	133.3	123.8	140.5	25.4	15.9	15.1	73.0
33	0330	73.0	57.1	70.6	22.2	12.7	11.9	69.9	100	1000	139.7	133.3	150.0	25.4	15.9	15.1	73.0
35	0350	73.0	57.1	70.6	22.2	12.7	11.9	69.9	105	1050	142.9	136.5	153.2	25.4	15.9	15.1	73.0
38	0380	76.2	63.5	77.0	22.2	12.7	11.9	69.9	110	1100	149.2	142.8	159.5	25.4	15.9	15.1	73.0
40	0400	79.3	66.6	80.2	22.2	12.7	11.9	69.9	115	1150	155.5	149.2	165.9	25.4	15.9	15.1	73.0
43	0430	82.5	69.8	83.3	22.2	12.7	11.9	69.9	120	1200	158.7	152.4	169.1	25.4	15.9	15.1	73.0
45	0450	85.7	73.0	89.7	22.2	12.7	11.9	69.9	125	1250	165.1	158.7	175.4	25.4	15.9	15.1	73.0
50	0500	88.9	79.3	96.0	25.4	15.9	15.1	73.0	130	1300	168.2	168.2	184.9	25.4	15.9	15.1	73.0
53	0530	92.0	82.5	99.2	25.4	15.9	15.1	73.0	135	1350	174.6	174.6	191.3	25.4	15.9	15.1	73.0
55	0550	95.2	85.7	102.4	25.4	15.9	15.1	73.0	140	1400	180.9	180.9	197.6	25.4	15.9	15.1	73.0
58	0580	98.4	88.9	105.6	25.4	15.9	15.1	73.0	145	1450	184.1	184.1	200.8	25.4	15.9	15.1	73.0
60	0600	98.4	88.9	105.6	25.4	15.9	15.1	73.0	150	1500	190.5	190.5	207.2	25.4	15.9	15.1	73.0
63	0630	101.6	92.0	108.7	25.4	15.9	15.1	73.0	155	1550	193.6	193.6	210.3	25.4	15.9	15.1	73.0
65	0650	104.7	95.2	111.9	25.4	15.9	15.1	73.0	160	1600	200.0	200.0	216.7	25.4	15.9	15.1	73.0
68	0680	107.9	98.4	115.1	25.4	15.9	15.1	73.0	165	1650	203.2	203.2	219.9	25.4	15.9	15.1	73.0
70	0700	107.9	98.4	115.1	25.4	15.9	15.1	73.0	170	1700	209.5	209.5	226.2	25.4	15.9	15.1	73.0
75	0750	114.3	103.2	119.8	25.4	15.9	15.1	73.0	175	1750	215.9	215.9	232.6	25.4	15.9	15.1	73.0

Note: For larger sizes, contact John Crane.

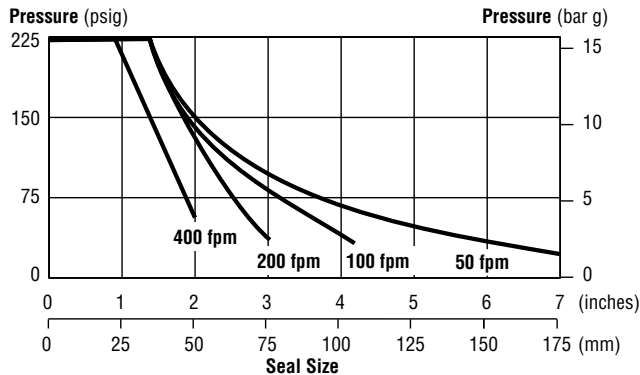
### Elastomer Temperature Limits



### Criteria for Installation

Shaft/Sleeve	Limits
Surface Finish	63 Ra
Ovality/Out of Roundness (Shaft)	0.051mm/0.002"
End Play/Axial Float Allowance	±1.57mm/0.062"
Shaft Runout	3.81mm/0.150" TIR max.
Squareness of Seal Housing Face to Shaft	0.78mm/0.031" TIR max.

### Basic Pressure Rating



To determine the maximum pressure for the Type 32 required, multiply the maximum pressure by the multiplier factors to obtain the maximum operating pressure.

### Multiplier Factors

	Selection Considerations	Multiplier Factor
<b>Sealed Fluid Temperature</b>	Below 79°C/175°F	x 1.00
	From 79°C to 121°C/175°F to 250°F	x 0.90
	From 121°C to 177°C/250°F to 350°F	x 0.80
	Above 177°C/350°F	x 0.65

#### Example for Determining Pressure Rating Limits

Seal: 76mm/3" diameter Type 32

Product: air

Face Material: carbon vs. ceramic

Temperature: 65°C/150°F

Speed: 1 mps/200 fpm

Using the basic pressure rating chart, the maximum pressure would be 3 bar g/50 psig.

From the multiplier factors chart, apply the multipliers for the specific service requirements to determine the maximum dynamic pressure rating for the application.

$$3 \text{ bar g/50 psig} \times 1 = 3 \text{ bar g/50 psig}$$

The maximum operating pressure for this 3" diameter Type 32 seal is 3 bar g/50 psig.

### Materials of Construction

SEAL COMPONENTS	MATERIALS	
Description	Standard	Options
Face/Primary Ring	Carbon	—
Mating Ring	Tungsten Carbide Nickel Binder High Purity Ceramic	Hard Face Coatings
O-ring	Buna-N Fluoroelastomer Ethylene Propylene Neoprene®	Perfluoroelastomer
Retainer Disc T-bar Set Screws Cap Screws	316 Stainless Steel	Alloy C-276 (UNS N10276) Hastelloy B®
Springs	316 Stainless Steel	Alloy C-276 (UNS N10276) Hastelloy B

Hastelloy B is a registered trademark of Haynes International.  
Neoprene is a registered trademark of DuPont.



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