



The Type 31 hard-faced seal is a heavy duty seal for your most demanding applications.

The Type 31 features mechanically crimped components, eliminating the use of adhesives. The crimped head feature prevents solids from entering the head between the shell and the face, which is a cause of pre-mature failure in non-crimped designs.

Our unique Hexagonal Torque Drive (Hex Drive) reduces elastomer stress by distributing torque forces over the greatest possible area.

The elastomer bellows will accommodate variations in seal cavity length and pump misalignment.

Our standard design features an o-ring mounted stationary seat for better thermal transfer and easier installation. Cup seats are available.

Applications:

Agriculture, Construction, Sewage/Waste Water, Oilfield, Trash Pumps, Drainage Pumps, Coolant Pumps, Mining, Horizontal Drilling, Food Processing, Cryogenics

Fluid Media:

Abrasive Fluids, Slurries, Oils, Aggressive Chemicals, Thermal Transfer Fluids, De-Ionized Water and other demanding applications.

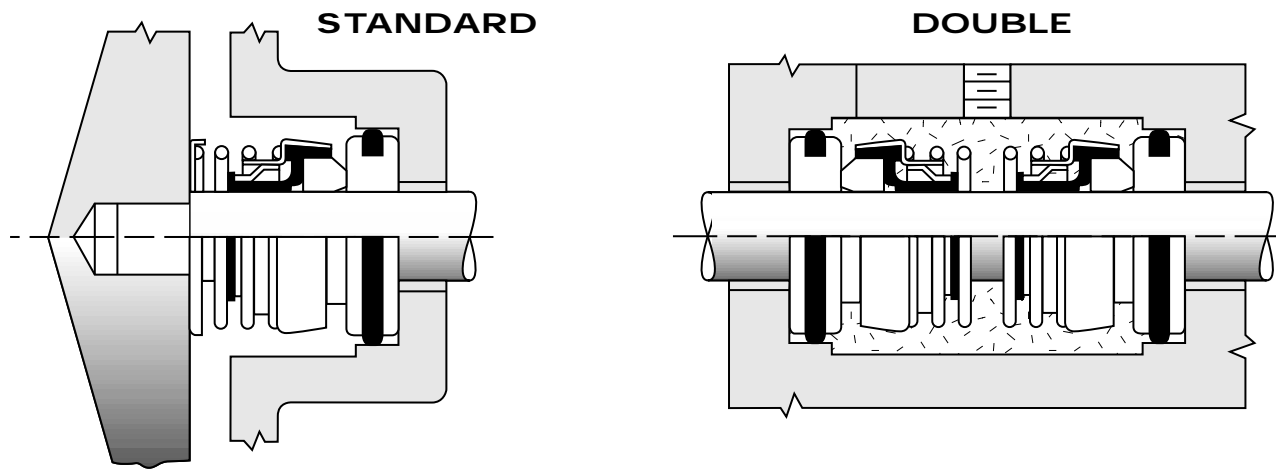
Operating Limits:

Pressure = 650 psi Balanced
= 250 psi Unbalanced
Speed = 5,000 ft./min.
Temperature = -55 to 400°F

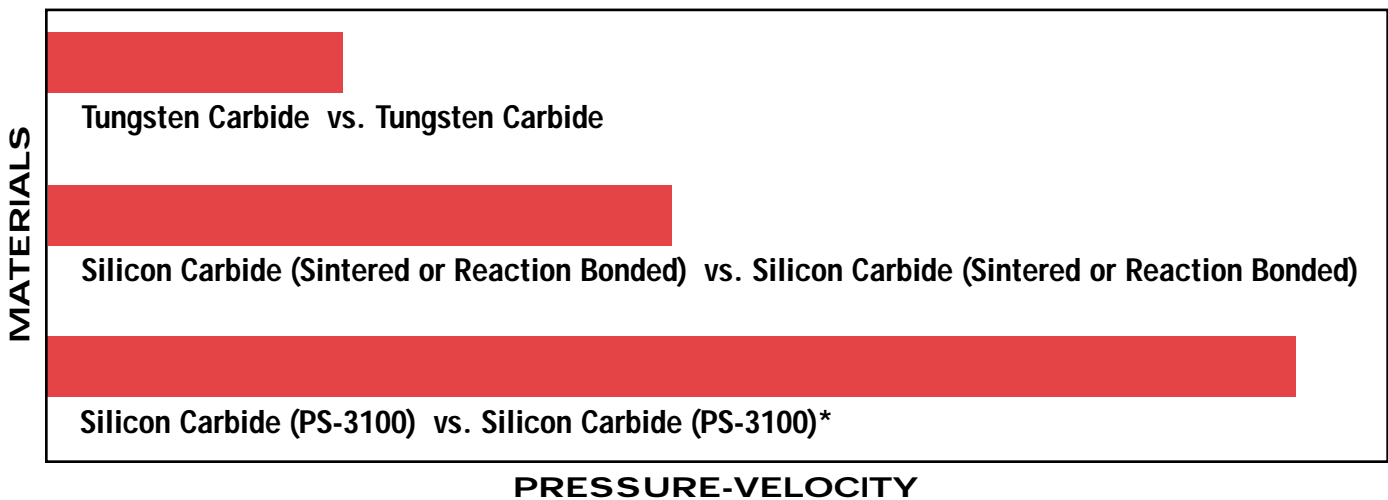
Replaces:

JOHN CRANE Type 21 / Type 2
SEALOL Type 43
US SEAL Type C

TYPICAL INSTALLATIONS



RELATIVE PRESSURE-VELOCITY CAPABILITY FOR HARD-FACE SEALS

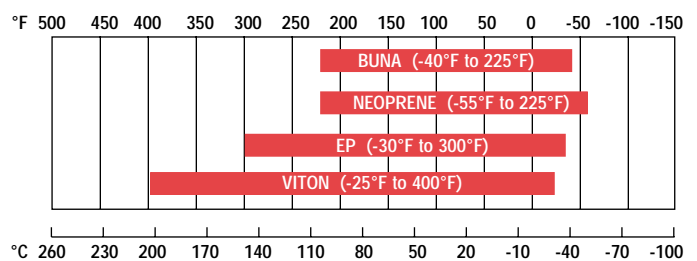


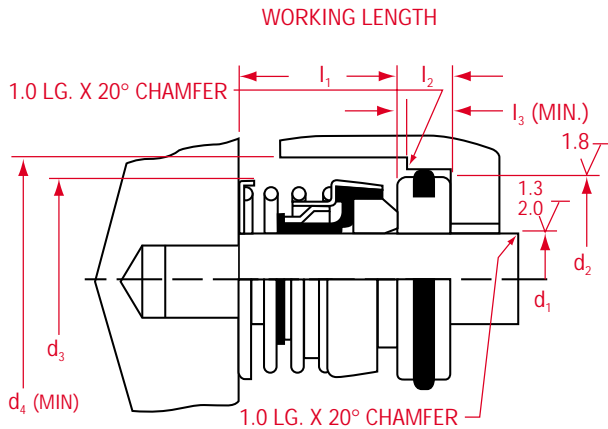
*PS-3100 is the advanced graphite-loaded sintered Silicon Carbide selected as the standard grade in Pac-Seal Type 31 Seals

AVAILABLE MATERIALS

Seal Ring	Mating Ring Seat	Elastomer	Metal Components
Silicon Carbide	Silicon Carbide	Viton	302/304 Stainless
Tungsten Carbide	Tungsten Carbide	Buna (FDA & U.L.)	316 Stainless
Carbon		EP	Monel
		Neoprene	
		Aflas	

TEMPERATURE LIMITS FOR ELASTOMERS





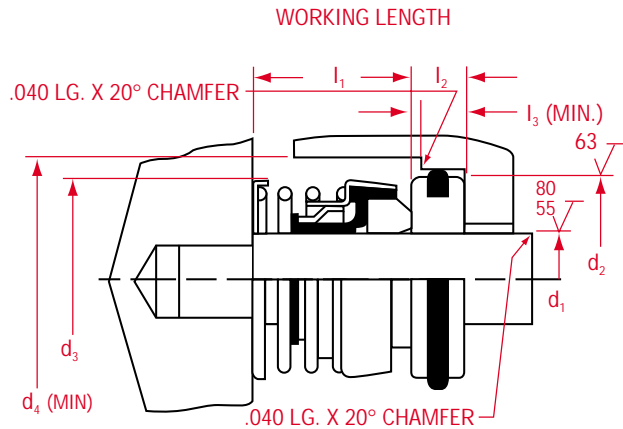
Dimensions in Millimeters

STYLE: 31-800002 UK

Replaces: JOHN CRANE Type 21 & Type 2
SEALOL Type 43
US SEAL TYPE C

d1	d2	d3	d4*	I1	I2	I3*
All Dimensions in Millimeters						
8	24.6	23.3	27	25.4	8.7	7.5
10	24.6	23.3	31	25.4	8.7	7.5
12	27.8	23.3	31	25.4	8.7	7.5
14	30.95	30.1	34	25.4	10.3	9.0
16	30.95	30.1	34	25.4	10.3	9.0
18	34.15	33.1	38	25.4	10.3	9.0
20	35.7	36.3	41	25.4	10.3	9.0
22	37.3	36.3	41	25.4	10.3	9.0
24	40.5	39.4	44	25.4	10.3	9.0
25	40.5	39.4	44	25.4	10.3	9.0
28	47.65	44.4	51	33.3	11.9	10.5
30	50.8	47.6	54	33.3	11.9	10.5
32	50.8	47.6	54	33.3	11.9	10.5
33	54.0	50.8	57	33.3	11.9	10.5
35	54.0	50.8	57	33.3	11.9	10.5
38	57.15	54.0	61	33.3	11.9	10.5
39	60.35	54.0	61	33.3	11.9	10.5
40	60.35	60.3	64	33.3	11.9	10.5
43	63.5	60.3	64	40.5	11.9	10.5
45	63.5	66.7	73	40.5	11.9	10.5
48	66.7	66.7	73	40.5	11.9	10.5
50	69.85	66.7	73	40.5	13.5	12.0
53	73.05	74.6	80	40.5	13.5	12.0
55	76.2	74.6	80	40.5	13.5	12.0
58	79.4	82.0	86	40.5	13.5	12.0
60	79.4	82.0	86	40.5	13.5	12.0
63	82.55	86.1	96	40.5	13.5	12.0
65	92.1	86.1	96	49.0	15.9	14.5
68	95.25	88.9	99	49.0	15.9	14.5
70	95.25	88.9	99	49.0	15.9	14.5
75	101.6	96.5	105	52.0	15.9	14.5

*Minimum



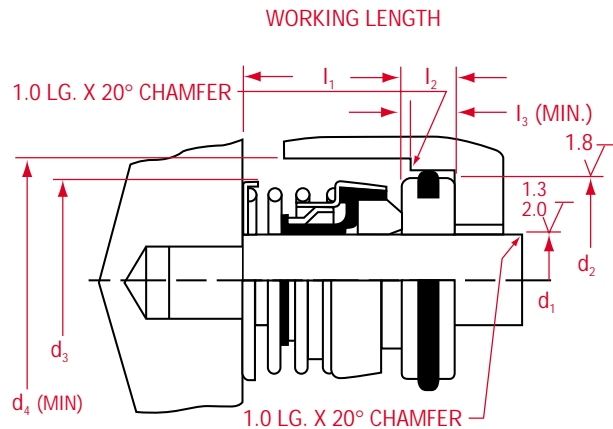
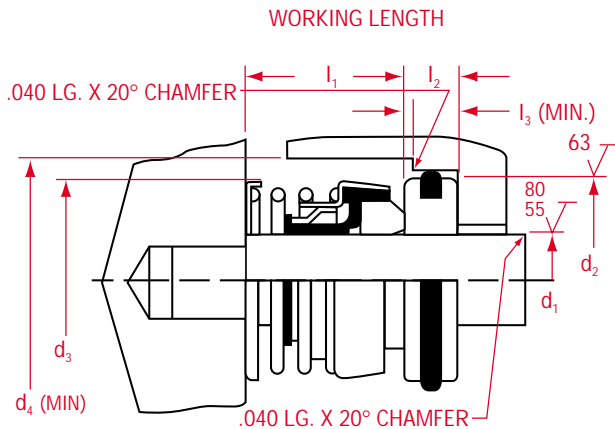
Dimensions in Inches

STYLE: 31-800003 UK

Replaces: JOHN CRANE Type 21 & Type 2
SEALOL Type 43
US SEAL TYPE C

d1	d2	d3	d4*	I1	I2	I3*
All Dimensions in Inches						
.375	.968	.917	1.250	1.000	.344	.294
.500	1.094	.917	1.250	1.000	.344	.294
.625	1.218	1.185	1.375	1.000	.406	.353
.750	1.344	1.302	1.500	1.000	.406	.353
.875	1.468	1.429	1.625	1.000	.406	.353
1.000	1.594	1.552	1.750	1.000	.406	.353
1.125	1.875	1.750	2.000	1.299	.469	.412
1.250	2.000	1.875	2.125	1.299	.469	.412
1.375	2.125	2.000	2.250	1.299	.469	.412
1.500	2.250	2.125	2.375	1.299	.469	.412
1.625	2.375	2.375	2.625	1.299	.469	.412
1.750	2.500	2.375	2.625	1.615	.469	.412
1.875	2.625	2.515	2.750	1.615	.469	.412
2.000	2.750	2.625	2.875	1.615	.531	.471
2.125	2.875	2.938	3.125	1.615	.531	.471
2.250	3.000	2.938	3.125	1.615	.531	.471
2.375	3.125	3.230	3.375	1.615	.531	.471
2.500	3.250	3.390	3.750	1.615	.531	.471
2.625	3.625	3.390	3.750	1.937	.625	.562
2.750	3.750	3.500	3.875	1.937	.625	.562
2.875	3.875	3.800	4.125	2.062	.625	.562
3.000	4.000	3.800	4.125	2.062	.625	.562

*Minimum



Dimensions in Inches

STYLE: 31-800004 US

Replaces: JOHN CRANE Type 21 & Type 2
SEALOL Type 43
US SEAL TYPE C

d1	d2	d3	d4*	l1	l2	l3*
All Dimensions in Inches						
.250	.750	.687	.875	.562	.250	.218
.375	.875	.917	1.125	.812	.284	.250
.437	1.000	.917	1.125	.812	.312	.281
.500	1.000	.917	1.125	.812	.312	.281
.562	1.250	1.110	1.375	.875	.406	.344
.625	1.250	1.185	1.375	.875	.406	.344
.750	1.375	1.302	1.500	.875	.406	.344
.875	1.500	1.429	1.625	.937	.406	.344
1.000	1.625	1.552	1.750	1.000	.437	.375
1.125	1.750	1.750	1.875	1.062	.437	.375
1.250	1.875	1.875	2.000	1.062	.437	.375
1.375	2.000	2.000	2.125	1.125	.437	.375
1.437	2.125	2.125	2.250	1.125	.437	.375
1.500	2.125	2.125	2.250	1.125	.437	.375
1.625	2.375	2.375	2.625	1.375	.500	.437
1.750	2.500	2.375	2.625	1.375	.500	.437
1.875	2.625	2.625	2.750	1.500	.500	.437
2.000	2.750	2.625	2.875	1.500	.500	.437
2.125	3.000	2.938	3.250	1.687	.562	.500
2.250	3.125	2.938	3.250	1.687	.562	.500
2.375	3.250	3.230	3.375	1.812	.562	.500
2.437	3.250	3.230	3.375	1.812	.562	.500
2.500	3.375	3.390	3.500	1.812	.562	.500
2.625	3.375	3.390	3.500	1.937	.625	.562
2.750	3.500	3.500	3.625	1.937	.625	.562
2.875	3.750	3.800	4.000	2.062	.625	.562
3.000	3.875	3.800	4.000	2.062	.625	.562

*Minimum

Dimensions in Millimeters

STYLE: 31-800006 US

Replaces: JOHN CRANE Type 21 & Type 2
SEALOL Type 43
US SEAL TYPE C

d1	d2	d3	d4*	l1	l2	l3*
All Dimensions in Millimeters						
8	25.4	23.3	25.4	19.0	7.9	7.1
10	25.4	23.3	25.4	19.0	7.9	7.1
12	25.4	23.3	25.4	19.0	7.9	7.1
14	31.75	30.1	32.0	22.5	10.3	8.7
16	31.75	30.1	32.0	22.5	10.3	8.7
18	34.92	33.1	35.0	22.5	10.3	8.7
20	38.1	36.3	38.5	24.0	10.3	8.7
22	38.1	36.3	38.5	24.0	10.3	8.7
24	41.27	39.4	41.5	25.4	11.1	9.5
25	41.27	39.4	41.5	25.4	11.1	9.5
28	44.45	44.45	46.0	27.0	11.1	9.5
30	47.62	47.62	49.5	27.0	11.1	9.5
32	47.62	47.62	49.5	27.0	11.1	9.5
33	50.8	50.8	52.5	28.5	11.1	9.5
35	50.8	50.8	52.5	28.5	11.1	9.5
38	53.98	53.98	55.5	28.5	11.1	9.5
39	60.32	60.32	62.0	35.0	12.7	11.1
40	60.32	60.32	62.0	35.0	12.7	11.1
43	63.5	60.32	65.0	35.0	12.7	11.1
45	66.68	69.19	68.5	38.0	12.7	11.1
48	69.85	69.19	71.5	38.0	12.7	11.1
50	69.85	69.19	71.5	38.0	12.7	11.1
53	76.2	74.6	78.0	43.0	14.3	12.7
55	79.38	74.6	81.0	43.0	14.3	12.7
58	82.55	82.0	84.5	46.0	14.3	12.7
60	82.55	82.0	84.5	46.0	14.3	12.7
63	85.72	86.1	89.0	46.0	14.3	12.7
65	85.72	86.1	89.0	49.0	15.9	14.3
68	88.9	88.9	92.0	49.0	15.9	14.3
70	88.9	88.9	92.0	49.0	15.9	14.3
73	95.25	96.52	100.0	52.5	15.9	14.3
75	98.42	96.52	102.0	52.5	15.9	14.3

*Minimum