



Pac-Seal Replacement Seal Catalog



Experience In Motion



Seal Excellence Starts with Superior Design

The peak performance of Flowserve Pac-Seal products begins in the design stage. The unique Flowserve designs are a direct result of years of experience with customers' varying shaft sealing applications. Today, utilizing the most sophisticated FEA and CAD equipment, we continue to analyze the most challenging problems and respond with a high-tech product line that meets our customers' demands for seal solutions. Look to Flowserve to be a source for unique, cost effective designs for the mechanical seal market.

We take pride in having premium products of robust design that are manufactured from the best materials. Unique design features such as the Interference Head, the Hex-Drive system and the Crimped Head create sealing systems that allow easier installation and system upset survivability. Superior face materials such as graphite loaded silicon carbide, reaction bonded silicon carbide, controlled porosity silicon carbide, 99.5% pure ceramic and high grade resin impregnated carbon combined with our advanced design elements create a worldclass mechanical seal.

Precise Manufacturing Brings Our Unique Seal Designs to Life

From the selection of raw material to final assembly, we bring quality to the manufacture of each Pac-Seal. In our modern 35,000 square foot plant, skilled workers and specialized machinery precisely perform primary and secondary machining such as stamping, turning, lapping, molding, grinding and spring winding. Our experience with diverse materials such as rubber, plastics, stainless and exotic alloys coupled with our unique designs make the Pac-Seal product line capable of meeting the most demanding application requirements.

From prototype to high-volume production, producing quality Pac-Seals to your exact specifications is our top priority.



Quality Assurance... Not Just a Process, a Promise

As a TS 16949 registered firm, we will not compromise the quality of Pac-Seal products. From incoming inspection of raw material, through in-process controls, to final assembly certification, our commitment to quality control is reflected in each of the Pac-Seal lines we manufacture.

For instance, the standard single spring mechanical seals go through no less than five quality control points to ensure total seal integrity.

Product Environment Testing Ensures Maximum Seal Performance

When customers encounter unusual operating conditions, seal material selection becomes critical to the success of the application. In these situations, Flowserve can provide monitored testing of customer equipment in our laboratory. By conducting a seal evaluation under simulated environments, we are able to make the appropriate product recommendations that ensure maximum seal performance.

Our Fast Delivery Keeps You Up and Running

We know that downtime is not only a frustration, it costs you money. That's why we maintain a large inventory of both complete products and individual components. This enables us to respond quickly to your needs, often with next day delivery. Flowserve has built a reputation meeting customers' special requirements with rapid prototype development or modifications to existing designs. The Flowserve value is on-time delivery of a quality product.

The Power of Flowserve Flow Solutions

As part of Flowserve Flow Solutions, Pac-Seal draws on the experience and knowledge of Flowserve associates around the world. Through this network of engineering and manufacturing expertise, you're connected to a sealing solution that exactly meets your specific requirements.

HOW TO USE THIS BOOK

Step 1

If you have the original manufacturer's P/N, use the OEM cross reference section to locate the seal. If you do not have the P/N or it is not listed, it will be necessary to identify the seal type and measure the seal.

Step 2

Refer to Seal Type listing beginning on page 2. Identify the seal type, seat type and material code. For further information on necessary dimensions, refer to seal size guide on page 4.

Step 3

Refer to Dimensions & Materials Code section to identify the seal. Using information gathered in step 2, locate seal by shaft size, seal type, working length, seat style and dimensions and material code.

The Flowserve Pac-Seal catalog lists the majority of popularly used seals. Many of these are supplied to the original pump or equipment manufacturer, assuring the material and dimensional listings are as specified by the original equipment manufacturer.

A number of other seals listed are manufactured, stocked and sold with either incomplete or no identification as to the pump manufacturer's or their part number. These seals have been developed from samples or from drawings and specifications provided by our distributors, their customers and our own investigations. Every effort has been made to verify the information developed. In those instances where variations do occur, Pac-Seal would appreciate being furnished with the information necessary to make the correction on future catalogs.


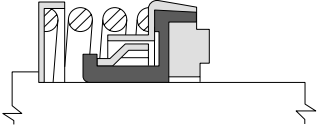

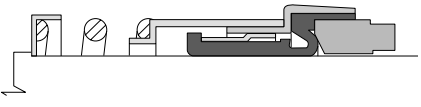

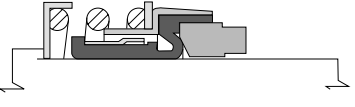

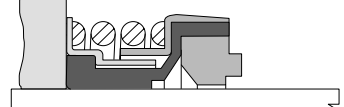

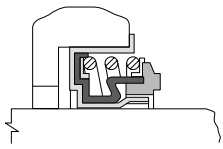

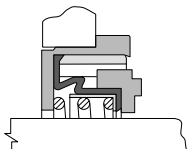



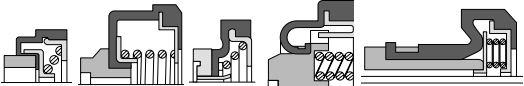

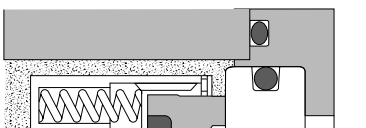

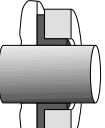
Listings can be developed from samples and all data listed on the pump nameplate. A copy of the pump components drawing is a further aid. If a seal requires special materials, as available in the material identification page, but is not listed, we would appreciate the opportunity to quote and to supply. Many of these components are carried in stock, offering a faster response to your needs.

Most replacement seal numbers are available utilizing any of the listed elastomers, with Buna being standard. To order, simply request the replacement seal number that meets your requirements as far as size, metallurgy and seal face requirements; and then add the appropriate elastomer identification letter at the end of the number that differs from Buna (B).

It is our intent to fill your seal requirements. With your help, we can do so.

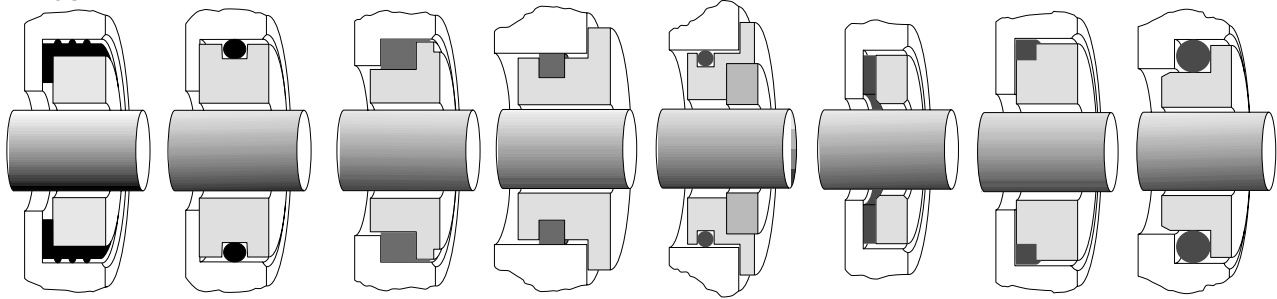
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21(31)			<p>US SEAL C CRANE 21 & 2 SEALOL 43 CU SHORT</p>
51			<p>US SEAL E CRANE 1 & 1A SEALOL 43 CE LONG</p>
52			<p>US SEAL D CRANE 2 SEALOL 43 CE SHORT & 43 BE BURGMANN M3, M377</p>
16			<p>US SEAL A CRANE 6 SEALOL 60L BURGMANN MG</p>
68			<p>US SEAL B CRANE 6A</p>
29			<p>US SEAL B CRANE 6A</p>
37			<p>BURGMANN M2 & M3</p>
40			<p>CRANE 11A</p>
8			<p>CRANE 8I & 8TI BURGMANN TF, M74, H74</p>
9			<p>CRANE 91 & 91T BURGMANN TF, M74, H74</p>

PAC-SEAL SEAL TYPES

BORE MOUNTED



TYPE 1
CUP MOUNT

TYPE 2
O-RING MOUNT

TYPE 3

TYPE 4

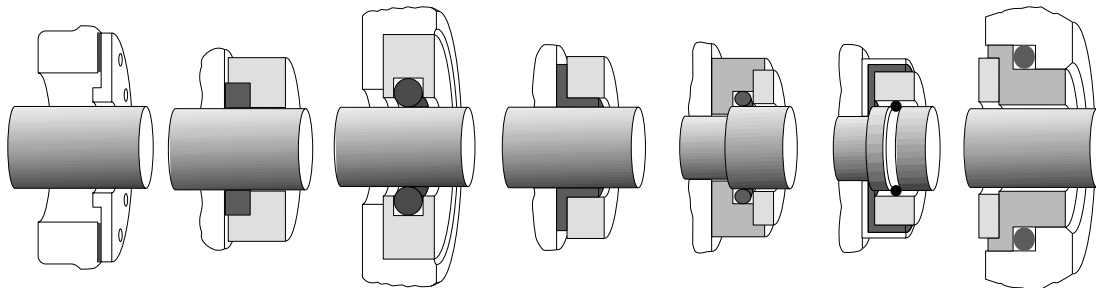
TYPE 15

TYPE 18

TYPE 23

DIN 24960
(AVAILABLE WITH ANTI-ROTATION NOTCHES)

SHAFT MOUNTED



TYPE 22
FLANGE MOUNT

TYPE 5

TYPE 5

TYPE 9

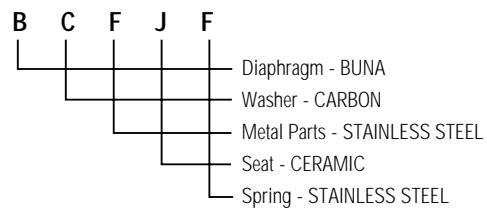
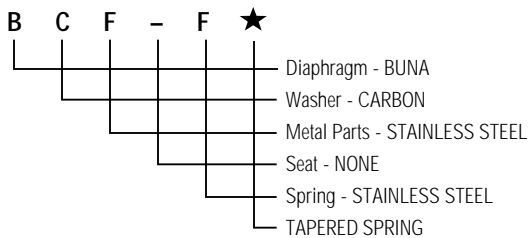
SPECIAL

TYPE 11

TYPE 25

PAC-SEAL MATERIAL CODES

EXAMPLES



PAC-SEAL MATERIAL CODE

ELASTOMER	WASHERS	METAL PARTS	SEATS	SPRINGS
B. Buna, UL	A. Bronze	D. Brass	A. Bronze	F. Stainless Steel
E. Ept*	C. Carbon	F. Stainless Steel	G. Cast Iron	L. Monel
N. Neoprene**	M. Phenolic	L. Monel	J. Ceramic	P. Plated Steel
T. Thiokol	S. ToolSteel	P. Plated Steel	K. Ni-Resist	R. 316 Stainless Steel
U. Buna, FDA	X. Silicon Carbide	R. 316 Stainless Steel	S. ToolSteel	
V. Viton	Z. Tungsten Carbide		X. Silicon Carbide	
P. Pac-Elast***			Z. Tungsten Carbide	

*White identification mark **Red identification mark ***Brown identification mark

PRESSURE AND HEAT LIMITATIONS

Seal	
21/31/51/52	= 250 psi unbalanced 350 psi balanced
29/68	= 75 psi unbalanced
37/40	= 30 psi unbalanced
8/9	= 300 psi unbalanced 500 balanced

MAX Temp
Buna – 200°
Viton – 400°
Neoprene – 175°
EPT – 300°

SEAL PARTS DESCRIPTION



A
Gasket



B
Seal
(Mating Ring)



C
Washer
(Seal Ring)



D
Diaphragm



E
Outer Shell



F
Drive Band



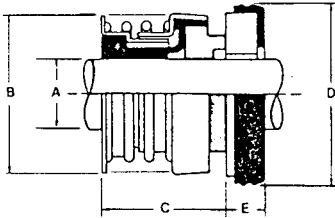
G
Spring



H
Spring Retainer

SEAL SIZE GUIDE

PAC-SEAL 16



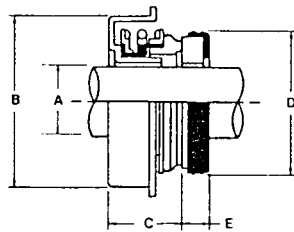
SEAL HEAD

1. Shaft size: Slightly compress rotary portion of seal to relieve spring tension on diaphragm. Measure the inside diameter of the diaphragm and add approximately .016" for rubber squeeze. (A)
2. Measure the seal O.D. (B)
3. Working length: Measure uncompressed length of rotary assembly and subtract approximately .100". (C)

SEAT AND GASKET

1. Measure O.D. of the gasket while assembled on mating ring and subtract approximately .016" for rubber squeeze to obtain counterbore dimension. (D)
2. Measure the combined seat and gasket thickness. (E)

PAC-SEAL 68



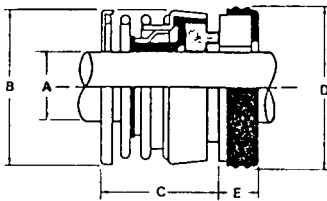
SEAL HEAD

1. Determine shaft size (A) by measuring seal O.D. (B) There is only one seal O.D. per shaft size in this seal type.
2. Working length is generally the same for all type 68 seals of the same shaft size. (C)

SEAT AND GASKET

1. Measure O.D. of the gasket while assembled on mating ring and subtract approximately .016 for the rubber squeeze to obtain counterbore dimension. (D)
2. Measure the combined seat and gasket thickness. (E)

PAC-SEAL 21 & 52



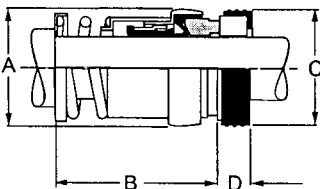
SEAL HEAD

1. Shaft size: Measure the inside diameter of the diaphragm. Add approximately .016 for rubber squeeze. (A)
2. Measure the seal O.D. (B)
3. Working length: Measure uncompressed length of rotary assembly and multiply by .34 and by .67. Within this range select common working length from catalog dimensional chart. (C)

SEAT AND GASKET

1. Measure O.D. of the gasket while assembled on mating ring and subtract approximately .016 for rubber squeeze to obtain counterbore dimension. (D)
2. Measure the combined seat and gasket thickness. (E)

PAC-SEAL 51



SEAL HEAD

1. Shaft size: Measure inside diameter of diaphragm. Add approximately .016 for rubber squeeze.
2. Measure seal O.D. (A)
3. Working length: Measure height of seal head without spring and add half the length of spring.

SEAT AND GASKET

1. Measure O.D. of the gasket while assembled on mating ring and subtract approximately .016 for rubber squeeze to obtain counterbore dimension. (C)
2. Measure the combined seat and gasket thickness. (D)

Pump Manufacturers Cross Reference Guide



Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

A.O. SMITH		
359		5/8

A.S.M. (PACER)		
601SS		3/4
601VSS		3/4

ACE ENGINEERING		
104	1443	5/8
633		5/8
362		3/4

ACE PUMP		
100	ACH-25, 33, 50, 75, 100 ACL-75 ACO-25, 33, 50, 75, 100 BCH-25, 33, 50, 75	5/8
100V	30210F	5/8
102	2C	5/8
202SS	BAC-7B	5/8
202VSS	BAC-7V T-40150	5/8
806125	BAC-7VC	5/8
806107SC	BAC-7VSC	5/8
103	3C	3/4
201	ACH-150, 200, 300, 500 ACXH-150 BCH-100, 200, 300	3/4
360		1

ADAMATION INC.		
3100	(Champion)	1

ADVANCE PUMP CO.		
198		5/8
200	6C Series	5/8
199		3/4
201	6C Series	3/4
466	6J Series	1-1/4
446	6J Series	1-3/4

ADVANTAGE ENGINEERING CORP (AEI)		
200	NC-10WJ-425RX-FBS	5/8
10693	TM420	5/8

AEROMOTOR		
200	SJ-45, 17038	5/8
487		5/8
487NX		5/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

AEROMOTOR (Cont)		
100		5/8
274		5/8
274NX		5/8
275		3/4
275NX		3/4
201	SJ-46, 17039	3/4

AGRO-CHEM		
360V	GL-7V	1
235	BM-7274	1
235V	BM-7274X	1
466	BM-7275	1-1/4
466V	BM-7275X	1-1/4
756V	101-000-124	1-1/4

AIR INJECTOR		
200		5/8

ALCO		
193	2250033-2	2

AG-RAIN		
10304	465-4868	3/8
118	465-3435	5/8

ALLEN SHERMAN HOFF		
11506	600-28-267	1-1/2
11711	6000-28-284	1-3/4

ALLIS CHALMERS		
150	45059207	1/2
200	52-104-969-00-803 52-104-969-00-813 52-104-969-00-823	5/8
642	52-105-071-01-801	5/8
118	0618834	
359	52-104-945-00-804	5/8
750	0618321	3/4
647	4386862	3/4
358	607986	3/4
703	4369006	7/8
360	52-104-969-00-806 52-104-969-00-816	1
227	52-102-530-00-802	1
791	52-104-870-00-809	1
357	52-113-094-00-802	1
754	52-110-870-01-809	1

* Spring retainer not needed

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
ALLIS CHALMERS (Cont)		
235	4367128	1
276	52-105-275-05-808	1
277	52-105-275-01-858	1
348	71725	1-1/8
356	52-104-945-00-806	1-1/8
355	52-104-946-00-803	1-1/8
605	52-104-945-06-803	1-1/8
604	4314565	1-1/8
204	08-216-526-02-001	1-1/8
08-115	52-110-621-801	1-1/4
185	52-113-592-01-801	1-1/4
466	181815	1-1/4
756		1-1/4
361	52-105-609-03-813	1-1/4
	52-104-609-03-817	
	52-114-605-805	
	52-114-605-807	
	52-114-890-807	
	52-104-870-00-807	
	52-105-382-00-807	
	2-52-024-867-001-8	
11239	52-114-901-807	1-1/4
11280	52-118-510-801	1-1/4
137	52-106-609-03-81	1-1/4
	52-106-609-03-817	
11315	52-117-037-801	1-3/8
08-159	52-111-323-803	1-3/8
177	52-115-605-801	1-3/8
354	52-111-322-801	1-3/8
	54-104-870	
	52-104-870-806	
210	52-114-713-1-801	1-3/8
382	52-104-945-06-801	1-1/2
758	52-112-870-2-801	1-1/2
320	177994-178243	1-1/2
371	52-104-946-00-801	1-1/2
	52-101-8748-082	
316	08-303-611-07-001	1-1/2
281		1-5/8
238	52-110-870-811	1-5/8
	52-114-043-805	
609	08-306-539-015-03	1-5/8
	08-303-611-07-001	
11623	52-118-570-802	1-5/8
11709	52-110-870-802	1-3/4
	52-117-037-802	
147	52-111-322-802	1-3/4
446	52-115-605-802	1-3/4

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
ALLIS CHALMERS (Cont)		
205	08-212-616-001	1-3/4
	52-114-901-801	
	52-104-870-802	
	52-114-890-802	
	52-115-315-802	
317	08-303-611-07-004	1-3/4
366	52-110-871-802	1-3/4
	52-104-870-802	
237	52-115-605-802	1-3/4
318	52-109-606	1-7/8
	52-110-280-03-801	
513	08-301-766-02-065	1-7/8
11813		1-7/8
523		1-7/8
593	52-114-713-805	1-7/8
319	08-212-617-001	2
477		2
478	52-110-871-803	2
12055	52-118-510-803	2
12056	618834	2
351	52-104-870-804	2-1/4
323	08-216-036-001	2-1/4
319	52-104-870-805	2-1/2
349		2-1/2
279		2-1/2
12508	52-104-870-805	2-1/2
322	52-109-719-05-802	2-3/4
321	08-216-035-001	2-3/4
838	08-210-902-045	2-3/4
12701V	52-111-322-804	2-3/4
284		3
324	08-210-902-04-037	3

ALL POWER MACHINE		
163		1/2

AMERICAN ARTOS		
371V		1-1/2

AMERICAN DISH SERVICE		
162		1/2
359V	104-C	5/8

AMERICAN MACHINE & TOOL		
200		5/8
642		5/8
201V	MS75V	3/4
356	287-15 B	1-1/8

AMERICAN PRODUCTS (KDI)		
1000	397012	5/8
219	395005	3/4

AMPCO METAL		
235	511-001	1
185	511-002	1-1/4
238	511-003	1-5/8

AMPRO POOL		
163	504	1/2
1000	304	5/8
60678		5/8

AMTROL		
(See Thrush Products)		

APPLICATION ENGINEERING (AEC)		
200	0101582	5/8
359V	101-103	5/8
10693	1007-HOSA	5/8
10693V	0103055	5/8
10850	101-233	7/8
553V	0103056	1-1/2
758	0100581	1-1/2
446	0104591	1-3/4

AQUA FLO		
200		5/8
1000SS		5/8

AQUA MASTER		
972V	261950	3/4
601SS	299122	3/4

ARBEE CORP		
235		1
351		2-1/4

ARMSTRONG		
401A	816706-001	1/2
750	16707-1	3/4
752*	Niresist Seat	3/4
402	825458-001	1-1/4
439	Niresist Seat	1-1/4
976	825458-001	1-1/4
977		1-1/4

* Spring retainer not needed



Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

ARMSTRONG (Cont)

978		1-1/4
979		1-1/4
514	Ceramic Seat	1-5/8
461	Niresist Seat	1-5/8

ARNESON POOL SWEEP

60643	A08H	5/8
200	A8	5/8
299	A08H	5/8

ATLANTIC FLUIDICS

1000		5/8
601		3/4
185		1-1/4
177		1-3/8

ATLAS

642	X-8	5/8
750		3/4

ATLAS PUMP

877		3/4
10780V	316SS & VITON	3/4
356		1-1/8
11177V	316SS & VITON	1-1/8
237		1-3/4
237V		1-3/4

AURORA

10304	712-0931-753	3/8
	712-0901-753	
10318	712-0931-749	3/8
	712-0901-749	
10304*	712-1001-753	3/8
10318*	712-1001-749	3/8
1002	712-0932-753	1/2
	712-0902-753	
10555	712-0932-749	1/2
	712-0902-749	
10506	712-0702-753 or 754	1/2
10589	712-0702-749 or 755	1/2
1002*	712-1002-753	1/2
10555*	712-1002-749	1/2
129	712-0703-753 or 754	.590
138N	712-2102-791	.590
100	712-7042-750	5/8
132	712-1003-750	5/8
359	712-0933-753	5/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

AURORA (Cont)

	712-0903-753	
10695	712-0933-749	5/8
	712-0903-749	
508	712-0704-753 or 754	5/8
106174	712-0704-749 or 755	5/8
359*	712-1003-753	5/8
10695*	712-1003-749	5/8
103	2JT3-LK53	3/4
112	712-1004-749	3/4
358	712-0934-753	3/4
	712-0904-753	
10767	712-0934-749	3/4
	712-0904-749	
358*	712-1004-753	3/4
752	712-0705-755	3/4
10767*	712-1004-749	3/4
135	712-0707-753 or 754	.787
139N	712-2106-793 or 754	.787
614	712-0707-755	.787
309	712-0935-753	7/8
	712-0905-753	
303	712-0935-749	7/8
	712-0905-749	
10873	712-0708-753 or 754	7/8
10889	712-0708-749 or 755	7/8
309*	712-1005-753	7/8
303*	712-1005-749	7/8
380	712-0936-753	1
	712-0906-753	
357	712-0936-749	1
	712-0906-749	
245	712-0709-753 or 754	1
	712-0711-753 or 754	
248	712-0709-749 or 755	1
	712-0711-749 or 755	
380*	712-1006-753	1
357*	712-1006-749	1
460	712-0709-755	1
356	712-0937-753	1-1/8
	712-0907-753	
355	712-0937-749	1-1/8
	712-0907-749	
11112	712-0712-753 or 754	1-1/8
11194	712-0712-749 or 755	1-1/8
356*	712-1007-753	1-1/8
355*	712-1007-749	1-1/8
136	712-0713-753 or 754	1.181
111830	712-0713-749 or 755	1.181
21313N	712-2110-795	1.181
306	712-0713-753 or 754	1-3/16

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

AURORA (Cont)

310	712-0305-753 or 754	1-3/16
137	712-0306-755	1-1/4
383	712-0908-749	1-1/4
	712-0938-749	
185	712-0938-753	1-1/4
	712-0908-753	
246	712-0715-753 or 754	1-1/4
249	712-0715-749 or 755	1-1/4
383*	712-1008-749	1-1/4
185*	712-1008-753	1-1/4
177	712-0939-753	1-3/8
	712-0909-753	
186	712-0939-749	1-3/8
	712-0909-749	
177*	712-1009-753	1-3/8
186*	712-1009-749	1-3/8
382	712-0940-753	1-1/2
	712-0910-753	
382V	712-0910-764	1-1/2
371	712-0940-749	1-1/2
	712-0910-749	
382*	712-1010-753	1-1/2
371*	712-1010-749	1-1/2
664*	712-0719-753 or 754	1-9/16
664	712-0310-753	1-9/16
238	712-0941-753	1-5/8
	712-0911-753	
239	712-0941-749	1-5/8
	712-0911-749	
238*	712-1011-753	1-5/8
239*	712-1011-749	1-5/8
446	712-0942-753	1-3/4
	712-0912-753	
448	712-0942-749	1-3/4
	712-0912-749	
446*	712-1012-753	1-3/4
448*	712-1012-749	1-3/4
340	712-0943-753	1-7/8
	712-0913-753	
593	712-0943-749	1-7/8
	712-0913-749	
340*	712-1013-753	1-7/8
593*	712-1013-749	1-7/8
267	712-0944-753	2
	712-0914-753	
332	712-1044-749	2
842	712-0944-749	2
	712-0914-749	
267*	712-1014-753	2
842*	712-1014-749	2

* Spring retainer not needed

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
AURORA (Cont)		
477	OJ617	2
338	712-0945-753	2-1/8
	712-0915-753	
336	712-0945-749	2-1/8
	712-0915-749	
338*	712-1015-753	2-1/8
336*	712-1015-749	2-1/8
846	712-0946-753	2-1/4
	712-0916-753	
941	712-0946-749	2-1/4
	712-0916-749	
846*	712-1016-753	2-1/4
941*	712-1016-749	2-1/4
268	712-0947-753	2-3/8
	712-0917-753	
492	712-0947-753	2-3/8
	712-0917-749	
268*	712-1017-753	2-3/8
492*	712-1017-749	2-3/8
269	712-0948-753	2-1/2
	712-0918-753	
853	712-0948-749	2-1/2
	712-0918-749	
269*	712-1018-753	2-1/2
853*	712-1018-749	2-1/2
12632	712-0949-753	2-5/8
	712-0919-753	
12610	712-0949-749	2-5/8
	712-0919-749	
12632*	712-1019-753	2-5/8
12610*	712-1019-749	2-5/8
836	712-0950-753	2-3/4
	712-0920-753	
483	712-0950-749	2-3/4
	712-0920-749	
836*	712-1020-753	2-3/4
483*	712-1020-749	2-3/4
270	712-0951-753	2-7/8
	712-0921-753	
839	712-0951-749	2-7/8
	712-0921-749	
270*	712-1021-753	2-7/8
839*	712-1021-749	2-7/8
761	712-0952-753	3
	712-0922-753	
465	712-0952-749	3
	712-0922-749	
761*	712-1022-753	3
465*	712-1022-749	3

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
BABSON BROTHERS		
107120	81575 & 81576	3/4
BAKER		
100	M1-29-3	5/8
BALDWIN-LIMA-HAMILTON		
371	600-28-267, 600-28-079	1-1/2
288	600-28-284, 600-28-069	1-3/4
BANBURY MIXER		
758	BB270	1-1/2
BANJO		
601SS		3/4
601VSS		3/4
245V	17028-VITON	1
BARNES, JOHN S.		
930	PA-4947	1/2
222	Y-1003	5/8
933	PA-2408	5/8
578	PA-2421	7/8
397	PA-1525	1
348	PA-4386	1-1/8
383	Y-42	1-1/4
461	Y-45	1-5/8
223	PA-3684	1-7/8
193	Y-44B	2
BARNES MFG.		
(See Peabody Barnes)		
BEACH RUSH		
10301		3/8
930		1/2
678		5/8
564		3/4
145		3/4
141		1
169		1-1/4
185		1-1/4
BEATTY BROTHERS		
60686	46761	5/8
BECKETT CO.		
10506	ZT058	1/2

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
BELL & GOSSETT (ITT)		
400	PZ-3118, PZ-4118	1/2
	118680	
392	118681, KIT#7	1/2
	186681	
393		1/2
400A	(Ceramic Seat Only)	1/2
401A	KIT#3, 118681	1/2
	186681	
401	PZ-3118, PZ-4118	1/2
	118680	
106184	DP 0302	5/8
437	186499, 186433	3/4
	KIT#2 (Ceramic Seat)	
399	PW2Z-3118	3/4
443	186499, 186433, KIT#2	3/4
	(Niresist Seat)	
110138	DP 0296	1
438	KIT#11, 186682	1
398	PW1Z-4118	1
397		1
311	KIT#1, 186682	1
348	PHD118A	1-1/8
384		1-1/8
368	KIT#4, 10, 186862	1-1/4
	186860	
402	KIT#1, 186862	1-1/4
	186860	
976	KIT#1, 186862	1-1/4
	186860	
978	KIT#4, 10, 186862	1-1/4
	186860	
416		1-1/4
439	KIT#1, w/Niresist Seat	1-1/4
597	KIT#4, 10 w/Niresist Seat	1-1/4
977	KIT#1 w/Niresist Seat	1-1/4
979	KIT#4, 10 w/Niresist Seat	1-1/4
186	P-77084, 186827	1-3/8
224		1-1/2
461		1-5/8
514	KIT#8, 186543, 186544	1-5/8
288	P-77033, 186826	1-3/4
594	186828 (Niresist Seat)	2-3/8
BENNET PUMP		
00-050001	541-M-1003	1/2
00-075001	541-N-1001	3/4

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

BERG		
200	Small Chiller Unit	5/8
758	Chiller Units up to 15 HP	1-1/2
446	Chiller Units 15 HP & Larger	1-3/4

BERKELEY		
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200	S-8019, S-20790	5/8
202	S-5053, S-5645 S-16488, S-20789	5/8
516	S-20788, S-20994	5/8
103	S-20780	3/4
201	S-5646, S-21961 S-20792	
219	S-20791	3/4
750	S-5647	3/4
851	S-21961	3/4
921	S-20793	
902	S-6405	3/4
972	S-20791, S-20794	3/4
972V	S-18662	3/4
360	S-8742, S-9583	1
754	S-14867, S-20763	1
236	S-20763, S-20764	1
460	S-20781, S-20782	1
204	S-7216	1-1/8
384	S-20995	1-1/8
604	S-16812	1-1/8
613	S-20783	1-1/8
866	S-20766	1-1/8
137	S-15368, S-20769	1-1/4
361	S-5648, S-20770	1-1/4
381	S-5649, S-20784 S-20785	1-1/4
383	S-20786	1-1/4
305	S-5650	1-1/2
374	S-15385	1-1/2
258V	S-15538	1-1/2
258	S-20773, S-20775	1-1/2
821	S-16656	1-5/8
205	S-7277, S-20777	1-3/4
366		1-3/4
288	S-16768	1-3/4
523	S-15213, S-20778	1-7/8
593	S-20787, S-20993	1-7/8
828	S-22310	1-7/8
479	S-13481	2
537	S-15894, S-15950	2-1/8
353	S-16076	2-1/8
848	S-11802	2-1/4
835	S-18337	2-1/2

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

BLACKMER		
144	333005, 333015	7/8
303	333030	7/8
11432	331825	1-7/16

BLAKESLEE		
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235V	32-036	1
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JOHN BLUE CO.		
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132V	S-3722	5/8
779V	S-3565-V	1
235V	S-3575-V	1
354V	S-3645-V	1-3/8

BORG-WARNER		
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200	05-11395-6	5/8
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BOWSER		
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564	27A09	3/4
466	28A09	1-1/4

BRADEN WINCH		
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201		3/4
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BRIDGEPORT MACHINE		
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360V	1-63-5206	1
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BROWN & SHARPE		
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358	466-142-1	3/4
235	466-137-1	1
185	213-744-274	1-1/4
186	466-143-1	1-3/8
237	213-752-274	1-3/4

BUCYRUS-ERIE		
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200	BE640/8053	5/8
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BUFFALO PUMP		
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132	CC-10900, Models BP/L/M/O	5/8
820	180384	3/4
235	CC-10901, Models BP/L/M/O	1
384	421788	1-1/8
137		1-1/4
354		1-3/8
677		1-3/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

BUFFALO PUMP (Cont)		
374		1-1/2
744	5SL, 4S	1-5/8
593	256145	1-7/8
350	6S, 6SU, Model D2	2-3/8
349	8SL	2-1/2

BURKS		
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1002	21727	1/2
1002V		1/2
290	8514	5/8
290V	9696	5/8
358V	9813	3/4
358	8991	3/4
812	8991	3/4
768V	20499	3/4
287	8797	7/8
309	8797	7/8
309V	9837	7/8
356	9346	1-1/8
356V	9843	1-1/8
246	9917	1-1/4

BURWITH PUMP		
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674		1-3/4
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BYRON JACKSON		
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200		5/8
775	D-30903	7/8
428	D-30904	7/8
512		3/4
789	D-30433	1
110125	D-30434	1
987		1
467		1-3/8
382		1-1/2

C.B.TOOL		
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150	4761	1/2
200	2661	5/8
201	1661	3/4
357		1

C.H.&E. MFG.		
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200	W105-7	5/8
863	P2010	5/8
145	W105-8	3/4
201	W105-1	3/4
358	HM100	3/4

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

C.H.&E. MFG. (Cont)

360	W105-2	1
380	W-105-10	1
110101	P1922B	1
654	W105-5	1-1/8
11152	W105-5A	1-1/8
495	W105-12A	1-3/8
862	P-2449	1-7/16
216	P-2271	1-1/2
432	W-105-6	1-1/2
659	HR-920A	1-1/2
541	W105-6A	1-1/2
11562	W105-6	1-1/2
213		1-3/4
449	W105-11A	1-3/4
11744	W105-11	1-3/4

CAMPBELL, SUPERIOR

202VSS	917513	5/8
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CAPITOL TEMPTRON CORP.

200	CAP101A, CAP101C, CAP102A	5/8
359V	CPCK-400	5/8
10693V	CAP101B, CAP102B	5/8

CARRIER

159	KT95PZ121	1
695NX	5F-20-276, 5F-20-317	1
695N	5F20-317	1
725N	KK-75XA802	1-3/8
868N	KK-75XA804	1-1/2

CARTER, RALPH B.

718		3/8
100	1S-5010	5/8
200	2S-5119, 1S-5005A, 1S-5054	5/8
200V		5/8
290	1S-5023, 1S-5035	5/8
201	1S-5039	3/4
360	2S-5119, 2S-5050, 2S-5089, 2S-5054, 2S-5112	1
61015		1
529	2S-5149	1-1/8
627		1-1/8
256	3S-5239	1-1/4
383	2S-5116	1-1/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

CARTER, RALPH B. (Cont)

681		1-1/4
186	4S-5151, 2S-5119, 4S-5106	1-3/8
919	3S-5259, 3S-5260	1-3/8
553	4S-5215	1-1/2
822		1-5/8
147	4S-5052	1-3/4
237		1-3/4
288	5S-5029	1-3/4
366	6S-5202	1-3/4
843	6S-538	2
12610	6S-520	2-5/8

CARVER

200	16-062-03	5/8
200V	16-062-15	5/8
471	16-062-04	5/8
473	16-075-03	3/4
358*	21-075-114	3/4
360	16-100-03	1
356	21-112-04	1-1/8
381	21-125-11	1-1/4
381V	21-125-17	1-1/4
472	21-125-11	1-1/4
466	21-125-05	1-1/4
466V	21-125-10	1-1/4
249	21-125-16	1-1/4
11209	21-125-09	1-1/4
11209V	21-125-19	1-1/4
112111	090-125-01-0102	1-1/4
112129	090-125-01-0104	1-1/4
112132	090-125-01-0107	1-1/4
112190	080-1250-010	1-1/4
112194	090-125-01-0110	1-1/4
11229	090-125-01-0303	1-1/4
112332	090-125-01-0246	1-1/4
112227	090-125-01-0201	1-1/4
112303	090-125-01-0201	1-1/4
11244	090-125-01-0114	1-1/4
11251	090-125-01-1004	1-1/4
11262	090-125-01-0815	1-1/4
11263	090-125-01-0105	1-1/4
11290	091-125-01-0416	1-1/4
31217	090-125-01-0919	1-1/4
31221	090-125-01-0142	1-1/4
31232	090-125-01-0117	1-1/4
31233	090-125-01-0609	1-1/4
31254	090-125-01-0136	1-1/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

CARVER (Cont)

31265	090-125-01-0136	1-1/4
31278	090-125-01-0627	1-1/4
31292	090-125-01-0130	1-1/4
31293	090-125-01-0431	1-1/4
31299	090-125-01-0132	1-1/4
312102	090-125-01-01AR	1-1/4
312115	090-125-01-0137	1-1/4
312132	091-125-01-1931	1-1/4
312143	090-125-01-0149	1-1/4
312138	090-125-01-0244	1-1/4
9T125226	090-125-01-2143	1-1/4
186	21-137-11	1-3/8
11509	090-150-01-2204	1-1/2
21627	091-162-02-2021	1-5/8
51643	091-162-02-0275	1-5/8
387	21-175-04	1-3/4
387V	21-175-02	1-3/4
11705	21-175-05	1-3/4
11705V	21-175-25	1-3/4
11717	090-175-01-0504	1-3/4
11770E	21-175-32	1-3/4
11770V	21-175-55	1-3/4
11761V	21-175-61	1-3/4
11770	090-175-01-0102	1-3/4
11771	090-175-01-0105	1-3/4
117123	090-175-01-0110	1-3/4
31716	090-175-01-1117	1-3/4
31716	090-175-01-0223	1-3/4
31725	090-175-01-0136	1-3/4
31769	090-175-01-0128	1-3/4
31773	090-175-01-0132	1-3/4
31781	090-175-01-1634	1-3/4
52091	091-200-02-1657	2
32123	091-212-01-1526	2-1/8

CATERPILLAR

642	4S-7805	5/8
10781	4N6556, w/2W9101, 2W2429, w/2W9101	3/4
80702	1N-9177	3/4
107147	4W-3864	3/4
107174	7C4958	3/4
31748	7C6522	1-3/4

* Spring retainer not needed



Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
CENTRAL SCIENTIFIC (CENCO)		
451	P-35332	5/8
931		3/4
441	P-35334	3/4
565		3/4
107141		3/4
547N	P-29538	1-3/8

CENTREX CORP.		
299		5/8
360	201-491, 201-493	1

CENTRI-FLOW		
276	A2500	1

CENTURY ELECTRIC		
10696	W-5887, A-0381-01	5/8
235	A-0868-01	1

CHAIN BELT (REXNORD)		
148		5/8
110		5/8
121		3/4
201		3/4
689		3/4
188	X203224	7/8
578	X203565	7/8
141	X6185	1
861	X624	1-1/8
137	X203691	1-1/4
154	X7387	1-1/4
169	X6186	1-1/4
185	X8023	1-1/4
177	X2059-1	1-3/8
172	X7389	1-3/8
209	X6187	1-3/8
593	2U59-6	1-7/8
223	X7235	1-7/8
196	X7380	2
12529N	X626	2-1/2

CHALLENGE		
642		5/8
647		3/4

CHAMPION DISHWASHER		
10767		3/4

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
CHICAGO CONDENSATE		
132	74-09095	5/8

CHICAGO PNEUMATIC		
116502V	PS-4756	42MM
12039N	PS-351	2

CHICAGO PUMP		
100	2665171	5/8
263	2666910	5/8
200	2658090	5/8
600	T-6A-NL1-1/4	5/8
118	2666910	5/8
265	2675337	3/4
750	2655888, 2663071	3/4
80790	C3-2-9	3/4
188	2663072, 2657110	7/8
229	2675338	7/8
250	2675339	7/8
251	2675340	1
252	2675341	1
380	2613940, 2663369	1
754	2655887	1
605	2655131	1-1/8
253	2675343	1-1/8
254	2675344	1-1/8
604	2658071	1-1/8
255	2675345	1-3/16
306	2655886	1-3/16
256	2675347	1-1/4
264	2675318	1-1/4
361	2657093, 2663048	1-1/4
11204	C3-2-57	1-1/4
11207	C3-2-57	1-1/4
31214	C3-2-72	1-1/4
11323	C3-2-51	1-3/8
354	2655089	1-3/8
257NX	2675350	1-3/8
258	2675351	1-1/2
259	2675352	1-1/2
868		1-1/2
11504	C3-2-58	1-1/2
315102	C3-2-122	1-1/2
31514	C3-2-73	1-1/2
262	2675354	1-3/4
117185	C3-2-59	1-3/4
11743	C3-2-43	1-3/4
11752	C3-2-93	1-3/4

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
CHICAGO PUMP (Cont.)		
387BZFZ	C2-2-74	1-3/4
387VTC	C3-2-96	1-3/4
445	C3-2-60	2
12092	04700050-00	2
32022	C3-2-94	2
12104	C3-2-83	2-1/8
1686VZFZ	C3-2-84	2-1/8
32214	C3-2-76	2-1/4
874	C3-2-61	2-1/4
32239	C3-2-95	2-1/4
12532	C3-2-53	2-1/2
12750	C3-2-87	2-3/4
32744	C3-2-88	2-3/4
13030	C3-2-45	3
13069	C3-2-85	3
33060	C3-2-155	3
33061	C2-45-1	3
33062	C3-2-86	3
232112	C3-2-89	3-1/4

CLAYTON MARK		
501	29304B	5/8
720	29304A	5/8

CLEAVOR BROOKS INDUSTRIAL COMBUSTION		
358	925-65	3/4

CLEVELAND WORM & GEAR		
937	56-158801	1
460	Z-1028B	1
348N		1-1/8
605	Z-1028C	1-1/8
326	Z-1028D	1-1/4
599N	Z-1028E	1-1/2
331	Z-1028F	1-5/8
12063	Z-1028G	2
196N		2
12508N	Z-1028H	2-1/2
337N	Z-1028N	2-3/4

CLIMAX ENGINE		
299	125-101	5/8
380		1

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

CLOW CORP.

200		5/8
200V		5/8
60650V		5/8
356	52-1-16	1-1/8
529V		1-1/8
255		1-3/16
383V	C3-2-12	1-1/4
185		1-1/4
185V		1-1/4
466		1-1/4
466V		1-1/4
186		1-3/8
677		1-3/8
382	52-2-16	1-1/2
553V		1-1/2
449		1-3/4
267	52-3-16	2
332V		2
887	C3-2-44-121	2-1/8

COKER

185		1-1/4
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COLECO LTD.

(See Doughboy)

COLT-AUTOSPAN

754	97049	1
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COLUMBUS PRODUCTS

(See Westinghouse)

CONAIR/THERMOLATOR

200	AE-Series 565	5/8
359E	921-003-94	5/8
10693E	921-003-12	5/8
813	Vacuum Pump	1
553V	921-003-22	1-1/2
758	921-019-08	1-1/2
446	921-019-41	1-3/4

CONSTRUCTION MACHINE

(See Enpo Pump)

CONTINENTAL MACHINE

10304	2930	3/8
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

COOPER ENERGY SERVICES (COOPER BESSEMER)

177	A-109-500	1-3/8
267	2-015-077-005	2
	GD-9-4536-4	2-1/2

COOPER INDUSTRIES

(See Gardner Denver)

R.S. CORCORAN

877		3/4
10780V	316SS & VITON	3/4
356		1-1/8
11177V	316SS & VITON	1-1/8
238		1-5/8
238V		1-5/8
237		1-3/4
237V		1-3/4

CORNELL PUMP

546		1-1/4
595		1-5/8
818		1-5/8
821		1-5/8
530		2
532		2
833		2
279		2-1/2
269		2-1/2
835		2-1/2
761		3

CRANE-DEMMING

420	006873,0010615	1/2
1002	0058125	1/2
106	0058216	1/2
200	0000015	5/8
	4910-63	5/8
	4357 & 4358	5/8
226	0006875, 0020444	5/8
359	0034427	5/8
501	4910, 4911, 4912, 4913	5/8
	4963, 4966, 4967	
900	0006876, 0006841	5/8
201	0000059	3/4
207	0006878	3/4
750		3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

CRANE-DEMMING (Cont)

208	0006880	7/8
428	0030894	7/8
687	0030887	7/8
703	0030876	7/8
790	0006899	7/8
870	0030895	7/8
878	0030895	7/8
	4001	
892	0030894	7/8
235	0030878	1
357	0030879	1
429	0030896	1
430	0030897	1
460		1
141	0004113	1
879	0030896	1
891	0030897	1
384	0029177	1-1/8
608	4012	1-1/8
185	0030880	1-1/4
381	0030880	1-1/4
383		1-1/4
426	0006903	1-1/4
756	0030881	1-1/4
883	0030898	1-1/4
890	0030899	1-1/4
186	0030882	1-1/4
209	0006905	1-3/8
334	0036636	1-7/16
382		1-1/2
431	0030900	1-1/2
432	0030901	1-1/2
541	0030900	1-1/2
659	0030885	1-1/2
758	0030884	1-1/2
884	0030901	1-1/2
239	8030887	1-5/8
238	0030886	1-5/8
514	0030889	1-5/8
213	0006906	1-3/4
237		1-3/4
449	40650999	1-3/4
858	0078877	1-3/4
312	0046390	1-7/8
336	425650999	2-1/8
353		2-1/8
12145	0045937	2-1/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

CREPACO (CREAMERY PACKAGING)

790	100-A-426	7/8
11246	01-52311-A	1-1/4
	100-A-639	
108	02-9119-A	1-1/4
326N	123-A-877	1-1/4
326	1-S-1924	1-1/4

CROWN

(See Enpo Pumps)

CURTIS (DIV. MILRECO)

605		1-1/8
529N		1-1/8
659		1-1/2
553N		1-1/2
288		1-3/4
436N		1-3/4

CUSTOM VACUUM

100	6-4599-001	5/8
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DAIRY EQUIPMENT

40604	8513776	5/8
10780	4014039	3/4

DAKON

150		1/2
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DAMROW BROTHERS

649	A6-72MR & A6-72MB	3/4
521N	A6-70MR & A6-70MB	1-1/8

DAVEY COMPRESSOR

547	A-43398	1-3/8
825	M250-RPV	1-3/4

DEAN BROTHERS

235V	SK1382 For PH201	1
858V	SK1382 For PH231	1-3/4
859V	6764540	1-3/4
	6765965	

DEAN HILL PUMP CO.

305		1-1/2
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

DECATUR PUMP

(See Burks)

DEFCO

359V	A-503V	5/8
429V	A-2517	1
495V	A-4524	1-3/8

DELAVAL

752	PP-046DP, PP-046DE	3/4
687	PP-046H	7/8
695	PP-046AH	1
236		1
357	PP-046JAZ	1
460	PP-046BH, PP-046FBV	1
156		1
159	21-100-58	1
356		1-1/8
605	PP-046L	1-1/8
384N	PP-046L1	1-1/8
255	PP-046BR	1-3/16
11246N	PP-046AE	1-1/4
756	PP-046BL, PP-046DD	1-1/4
	PP-046DDA, SB-5322	
154N	PP-046M	1-1/4
186	S-1146C, S-1146CB	1-3/8
	S-1446B	
467	046AL	1-3/8
371	PP-046DAA	1-1/2
	PP-046DAB	
659	PP-046JBK	1-1/2
11531N	PP-046GB	1-1/2
461	PP-046DR	1-5/8
239	SA-5409	1-5/8
11770N	PP-046P1	1-3/4
11799N	PP-046P	1-3/4
448	PP-046JAY	1-3/4
448N	SB-5328	1-3/4
436N		1-3/4
288	PP-046BM	1-3/4
593	PP-046DB	1-7/8
12039N	PP-046AD, S-2446-J	2
842	PP-046JBB	2
462	PP-046DC, PP-046BP	2
	PP-046DCA	
12148N	PP-046T	2-1/8
336N	PP-046T1	2-1/8
353	PP-0467	2-1/8
594	PP-046BN, SB-5339	2-3/8
	S-2375	

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

DELEVAN MFG. CO.

605615	34943	.562
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DEMMING CRANE CO.

(See Crane Demming Co.)

DEMPSTER

162		1/2
200	907-06030	5/8
260	68-062-16	5/8
250V	907-06034	7/8
250	907-06033	7/8
309	907-06033	7/8
309V	907-06034	7/8
358	907-06043	3/4
252	907-06037	1
440	907-06006	3/4
441	907-06001	3/4
598	907-06035	1-1/4
598V	907-06046	1-1/4

DENISON (ABEX CORP.)

201	622-03102	3/4
294		7/8
296	623-10795	1-1/8
	623-11278	1-1/8
297	622-03101	1-3/16
467		1-3/8
11356	623-00006	1-3/8
11357	623-00013	1-3/8
	623-11038	1-3/8
	623-10791	1-5/8
116801	623-12260	1-11/16
116801V	623-12263	1-11/16
353	623-10793	2-1/8
	M-800	2-1/8
351		2-1/4

DENTAL-EZE

100	6-4599-001	5/8
107153		3/4

DETROIT DIESEL

106145	5186751	5/8
71002	5198419	1

* Spring retainer not needed

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
DETROIT HARVESTER HOWELL		
298	3-6	1/2
100		5/8
299	4-6	5/8

DEVILBISS		
1002		1/2
508	QM-4507	5/8
10676T		5/8
358	QM-4509	3/4
752	QMW-4509	3/4
10752T		3/4

DIACLEAR		
142	35100W35101	1/2

DIXIE PUMP		
200		5/8
201		3/4

DOERR		
359		5/8
924		5/8

DOMESTIC AMES VACUUM PUMP		
358	AM903,50-VCD4	3/4

DOMESTIC PUMP (ITT)		
200	712-02250-00	5/8
516		5/8
924	712-02251-00	5/8
201		3/4
877	717-02253-00	3/4
309	717-02255-00	7/8
360		1
110104	717-02257-00	1
356	717-02259-00	1-1/8
177	717-02261-00	1-3/8

DOUGHBOY		
80304	306-1003W306-1004	3/8
260	306-1001	5/8
1000SS	306-1002W306-1005	5/8
60678	306-1006W306-1007	5/8
606104	R32546WR86560	5/8

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
DOUGLAS MOTOR CORP.		
201	47406	3/4
210	46154	1-3/8

DOWDELL CO., JR. (DOWCO PUMP)		
260	D1101S-5/8	5/8
440	D1101S-3/4	3/4

DRESSER IND. (ROOTS BLOWER)		
200	125-101,113-100	5/8
10836V	106282 (Old) 810-628-002 (New)	7/8
11212V	10859-1 (Old) 810-859-001 (New)	1-1/4
618	H125-775	1-1/4
11332V	125-188-2	1-3/8
436V	125-693-1	1-3/4
725601V	L-SC-P-170	2-9/16

DRUM ENGINEERING		
60764	505	3/4

DUNHAM, CA.		
508	614	5/8

DUNHAM, BUSH		
632	996 (Old)	1/2
106	996 (New)	1/2
118		5/8
508	614	5/8
633	472	5/8
487		5/8
60740	124820 (Old)	3/4
107125	124820 (New)	3/4
499	GA-1781-4	1
236		1
236-21	860	1
159	GA-1781-1	1
355	861	1-1/8
384-21	861	1-1/8
756	3179	1-1/4

DURIRON		
584		1-1/8
885		1-1/8
886		1-1/8
918		1-1/8

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
DURIRON (Cont)		
523		1-7/8
586		1-7/8
742		1-7/8
743		1-7/8

DURO		
(See Tru-Par)		

EAST SIDE MFG.		
100		5/8
200		5/8
1000	BTH	5/8
359		5/8
508		5/8
411	LH-30 Serial #48	5/8
201	LHK-50 Serial #QJ40	3/4
358		3/4
750	MF-1	3/4
360	D-28175	1

ECONO (VIKING INSTRUMENT)		
170		3/8

ECONOMY PUMP		
100		5/8
360		1
521NX		1-1/8

EDWARDS ENGINEERING		
511		3/8
174	C-316	7/16

ELECTROMOTIVE		
632	822832	1/2
602	5876888	7/8
115701V	8347607	40MM

ELKINGTON DISHWASHER		
3440		1

ENPAC CHILLER		
200	A.E. Series	5/8

*Spring retainer not needed



Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
ENPO PUMP		
447		5/8
965		5/8
201		3/4
197	M-3046	7/8
309	M-3824B	7/8
360		1
235	M-4292V	1
357	M-4292C	1
521		1-1/8
604	M-4274C	1-1/8
466	M-3957C	1-1/4
467	M-3983C	1-3/8
291	M-3983F	1-3/8
758		1-1/2
213	M-2653	1-3/4
237	M-3842C	1-3/4
449	001-03044	1-3/4
842	M4414C	2
12091		2
12329		2-3/8

ESSICK MFG. CO.		
358	9014009	3/4
175	9014225	3/4
141N	91401	1
185	9014025	1-1/4
176	9014029	1-1/4
177	9014027	1-3/8
495	9014149	1-3/8

ESSICK WATER PUMP		
175	2A10S/N54649	3/4

EVERITE		
150	1205	1/2
221	3327	1/2
200	2544	5/8
359	2584	5/8
501		5/8

EVAPCO		
200	51	5/8
758	KRE2561, 10-11P	1-1/2

FAIR BANKS MORSE		
511	8227760, 82716	3/8
504	82492	1/2
506	91352	1/2

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
FAIR BANKS MORSE (Cont)		
500	82467, 91339	9/16
	40092269	
200	8248075, 82723	5/8
501	S625, 8263560	5/8
	8270275	
507	8248060, 8276460	5/8
359		5/8
508	8248075	5/8
102	82698	5/8
201	40071108, 82738B	3/4
509	851, 8273860	3/4
116	8245960	3/4
502	82468	3/4
750	40088878	3/4
188	HYD1Q1	7/8
235	CND1726D, 1726C	1
987	ND1726A, 1726B1	1
356	HYD1AC	1-1/8
204	HYD1Q2	1-1/8
1103	HYD1S2	1-1/8
381	Westco 2G	1-1/4
510	HYD1E3	1-1/4
11298	HYD1AD2	1-1/4
112323	HYD1AC2	1-1/4
354	HYD1Q3	1-3/8
1104	HYD1S3	1-3/8
305	ND2502A1	1-1/2
515	HYD1A2	1-1/2
899	HYD1AA1	1-1/2
514	ND1246A4	1-5/8
516203	HYD1BG1	1-5/8
446	HYD1AC3	1-3/4
449	HYD1AD1	1-3/4
519		1-3/4
917	HYD1A4	1-3/4
31783	HYD1CM2	1-3/4
31791	HYDICD2	1-3/4
117127	HYD1AD7	1-3/4
117175	HYD1CR2	1-3/4
217100	HYD1CB2	1-3/4
55175VCRJ	HYD1BR1	1-3/4
513	HYD1Q4	1-7/8
523	HYD1Q4, HD1E4	1-7/8
554	HYD1AAAY	1-7/8
1105	HYD1S4	1-7/8
218152	HYD1DE1, HYD1CW1	1-7/8
888	HYD1AA5	2
12090	HYD-1AD8	2
32060	HYD1CK2	2
32062	HYD1CN2	2

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
FAIR BANKS MORSE (Cont)		
32068	HYD1CM1	2
32071	HYD1CD1	2
32077	HYD1DJ1	2
120152	HYD1CE2	2
120153	HYD1CB1	2
120154	HYD1CS2	2
120168	HYD1BX1	2
520203	HYD1BG2	2
8T20113	HYD1BN3	2
338	HYD1AC4	2-1/8
327	HYD1Q5	2-1/8
353	HYD1E4	2-1/8
887	HYD1AD3	2-1/8
1102	HYD1S5	2-1/8
1107	HYD1S	2-1/8
12252	HYD1AD9	2-1/4
12260	HYD1CE1	2-1/4
12285	HYD1CS1	2-1/4
32235	HYD1CK1	2-1/4
32236	HYD1CN1	2-1/4
32240	HYD1DP1	2-1/4
8T22113	HYD1BN4	2-1/4
916	HYD1AA6	2-1/2
12526	HYD1AD4	2-1/2
12551	HYD1AD10	2-1/2
12569	HYD1BX3	2-1/2
225152	HYD1DE2, HYD1CW2	2-1/2
525203	HYD1BG3	2-1/2
55250VCRJ	HYD1BR2	2-1/2
8T25113	HYD1BN5	2-1/2
328	HYD1Q6	2-5/8
1106	HYD1S6	2-5/8
12729	HYD1AD11	2-3/4
12748	HYD1CB3	2-3/4
32746	HYD1CM3	2-3/4
32750	HYD1CD3	2-3/4
329	HYD1Q7	2-7/8
897	HYD1AA7	3
893	HYD1S7	3
13067	HYD1CE3	3
13068	HYD1CB4	3
13078	HYD1BX4	3
33045	HYD1CK3	3
33046	HYD1CD4	3
33048	HYD1CN3	3
33049	HYD1CM4	3
230152	HYD1DE3, HYD1CW3	3
55300VCRJ	HYD1BR3	3

*Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

FAIR BANKS MORSE (Cont)

23281	HYD1CE4	3-1/4
23282	HYD1CN4	3-1/4
23283	HYD1CK4	3-1/4
13511	HYD1BX6	3-1/2
55350VCRJ	HYD1BR4	3-1/2
536152	HYD1CW4	3-5/8
23708	HYD1CY1	3-3/4
23709	HYD1CM5, HYD1CR5	3-3/4
23728	HYD1CD5	3-3/4
237153	HYD1DC1	3-3/4
24008	HYD1DD1	4
24023	HYD1CS5	4
24026	HYD1CE5	4
24028	HYD1CZ1	4
240153	HYD1DB1, HYD1CN5	4

FEDERAL PUMP

198		5/8
293	PRESS FIT STATOR	5/8
245		1
248		1
380		1
246		1-1/4
249		1-1/4
381		1-1/4
547		1-3/8
247		1-1/2
682		1-1/2
382		1-1/2
446		1-3/4
205		1-3/4

FLINT & WALLING

165	132891, 132892	1/2
800	AC-16,131100, 132377	5/8
201	126544, 126545	3/4
687	121224	7/8
357	129868	1
204	125056	1-1/8

FLOTEC

1002V	V20-4	1/2
359V	V20-5	5/8

FOLLETT

41019	202299	1
00-100094	203171	1
08-100044	204038	1

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

FOOTE BROTHERS

383		1-1/4
186		1-3/8
371		1-1/2
462		2

FORCE INDUSTRIES

100V	FV1-302	5/8
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FRANKLIN ELECTRC

447	292456101	5/8
110162	155069101, 155069102	1

FREDRICK PUMP & ENGINE

952		5/8
61004		1
		1-1/4

FRICK

12237N	1RR-131	2-1/4
337N		2-3/4

FRIGIDAIRE

80658	5431073	5/8
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FULTZ ENTERPRISES

103102V		5/16
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G&W ELECTRIC

235	A1340685000	1
235V	A1340759000	1

GALION

157		3/4
397		1

GARDNER DENVER

373NX	60AY-10	3/4
441	60BN-1	3/4
236	60AY-2, 16 & 18	1
370	60BT-1	1
384	60AY-11 & 13	1-1/8
605	60BC-10	1-1/8
383	60BC-3	1-1/4
186	60BC-14	1-3/8
354	60AY-14	1-3/8
11408V	60DD52	1-7/16

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

GARDNER DENVER (Cont)

371	60BC-1, 6, 7, 11, 18	1-1/2
374	60AY-21	1-1/2
382	60BC-1, 6, 7, 11, 18	1-1/2
461	60BC-2, 5	1-5/8
513	60AY-20	1-7/8
593	60BC-9, 12	1-7/8
351	60AY-15	2-1/4
463	60BC-8	2-1/2
12701	60DD54	2-3/4

GARWOOD INDUSTRIES

303	206556	7/8
227		1
110615	2039064	1-1/16
210	2016264	1-3/4
376	2039056	1-3/8

GEAR MASTER

10539	034-03970A000	1/2
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GEMI

552		5/8
771		3/4
11052		1

GENERAL ELECTRIC

508	121A605	5/8
204		1-1/8

GENERAL MOTORS CORP. (GMC)

642	5121751	5/8
933	5186571	5/8
752	5186113	3/4
192N	2399427	1-1/2

GENERAL PUMP

200		5/8
359		5/8
810N		5/8
201	1188305	3/4

GEORGIA PACIFIC

200	3112000	5/8
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* Spring retainer not needed



Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

GILBERT BARKER		
1000	K81159X	5/8
756	K74050X	1-1/4
461	K76638X	1-5/8
514	K76638X	1-5/8

GOLD-MARC INDUS.		
163		1/2

GORMAN RUPP		
150	S-8243-4	1/2
788		1/2
118	S-809	5/8
200	S-1531,S-765	5/8
359	S-765	5/8
507	S-217	5/8
516	15295002	5/8
552E	25271-821	5/8
200V	15294-5	5/8
80649SS	8243-12	5/8
122	S-1679	3/4
358	S-936	3/4
358V	25271-841	3/4
564NX	S-32	3/4
750	S-383	3/4
752	S-33	3/4
851	S-1190	3/4
235	S-1906	1
236NX	S-388	1
357	SO-1832	1
380	S-298, SO-1415	1
397	S-237	1
460	S-363, S-364	1
360	S-2147	1
137	S-350	1-1/4
361	S-335	1-1/4
383	S-37,S-493	1-1/4
256	S-321A	1-1/4
517V	25271-192	1-1/4
517	25271-493	1-1/4
756	S-1621	1-1/4
756V	25271-836	1-1/4
786	S-321	1-1/4
371	S-283, S-317, S-774	1-1/2
374	S-239	1-1/2
534	SO1934	1-1/2
659V	25271-903	1-1/2
758	S-1150	1-1/2

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

GOULDS		
631		1/2
1002	074207-0050	1/2
451	10K-5	5/8
493	10K-3	5/8
518	10K-6	5/8
518E	10K-18	5/8
600		5/8
680	10K-10	5/8
680V	10K-24	5/8
700	10K-7	5/8
701	72598-2062	5/8
	10K-1	
702	10K-2	5/8
900	10K-3	5/8
957	10K-10	5/8
750	10K-4	3/4
303	70470-4087	7/8
428V	10K-38	7/8
428VZFZ	10K-40	7/8
685E	10K-39	7/8
703	10K-8	7/8
236	69127-2100	1
754	70783-1100	1
355	10K-9	1-1/8
588		1-1/8
604	10K-21	1-1/8
185	10K-13	1-1/4
185V	10K-25	1-1/4
383E	10K-19	1-1/4
383VZFZ	10K-27	1-1/4
361		1-1/4
112207	3316-3405, 3316-3405S	1-1/4
112207V	3316-3405, 3316-3405S	1-1/4
354		1-3/8
677		1-3/8
864	3196ST	1-3/8
865	3196ST	1-3/8
705	70783-3143	1-7/16
305	70781-1150	1-1/2
374		1-1/2
238	10K-16	1-5/8
238V	10K-26	1-5/8
239E	10K-20	1-5/8
858	3196MT	1-3/4
554		1-7/8

GRAYMILLS CORP.		
165V	745-04245	1/2

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

GRISWALD		
382	10134807	1-1/2

GUSHER PUMP		
359		5/8
359N		5/8
359V		5/8
487		5/8
487N		5/8
185N		1-1/4
137N		1-1/4
361		1-1/4
361N		1-1/4
239		1-5/8
239N		1-5/8
237		1-3/4
237N		1-3/4

H&F MFG.		
1000		5/8

HAIGHT PUMP		
10545	E18M	1/2
10553	E18EM	1/2
10545N	E18AM	1/2
10545V	E186MV	1/2
10556	E186M	1/2
10567V	E18EMV	1/2
10571V	E18AMV	1/2
10693	F18M	5/8
10693V	F18MV	5/8
552	F18EM	5/8
10693	F18AM	5/8
106104	F186M	5/8
552V	F18EMV	5/8
106114V	F18AMV	5/8
106104V	F186MV	5/8
309	H18EM	7/8
309V	H18EMV	7/8
303	H18AM	7/8
303V	H18AMV	7/8
10869	H186M	7/8
10870V	H186MV	7/8
250	H18M	7/8
250V	H18MV	7/8
250N	H18MN	7/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

HAIGHT PUMP (Cont)		
548	AP18EM	1
251	AP18AM	1
11034	AP18M	1
110102V		1
11095V		1
11057V		1
256		1-1/4
259		1-1/2
436		1-3/4

HALE FIRE PUMP CO.		
516		5/8
201	296-5040-00-3	3/4
972	296-5040-00	3/4
61004	296-5010-00	1
110104	296-5240-00-3	1
11024	296-5060-00-3	1
11052	296-5050-00	1
235	25D-G444	1
356	296-5220-00	1-1/8
177	296-5250-99	1-3/8
495	296-5070-00	1-3/8
347	6D-58	1-1/2
378	296-5020-06	1-1/2
267	296-5210-00	2

HALL SCOTT		
200		5/8
750		3/4

HARMSCO		
201		3/4

HARTELL (MILTON ROY)		
10409		7/16
80507	900419	1/2
162	900179	1/2

HARVEY SID, INC.		
401		1/2

HAYWARD		
60678	SP1250XZ2	5/8
372	SP-125Z2	5/8
60758	SP1600KA	3/4
369		3/4
370		1

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

HEINECKS		
699		3/4

HOBART MFG.		
631	R-23682	1/2
40517	C-115710	1/2
508V	A-104329	5/8
754V	A-104330	1
235	R-79205	1
754		1
382	223422	1-1/2
41802	R-72955	1-7/8

HOFFMAN CONDENSATE		
235	HCD 4030-17	1

HOMART-SEARS		
162	259-043, W6476	1/2
100	42G2377W	5/8
508	759-31	5/8
447		5/8
405	20760	1

HOMELITE		
10582	42375	1/2
200	62729	5/8
680	A62861-2	5/8
60758	A-62694	3/4
201	A-75911	3/4
90711V	48299	3/4
90709	43303-A	3/4
360	A-62403	1
6467	A-62713 & 62713-1	1
6467V	A-62713-2	1
466	46150	1-1/4
185		1-1/4

HOT POINT		
150	503416	

HOWE ICE MACHINE		
12819	5L11	2-7/8

HOWELL ELECTRIC		
10688V	91037A	5/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

HUTSON (WHEELABRATOR)		
768	SEL244	3/4
61004		1
12213	H000716, straight spring	2-1/4
12228	taper spring	2-1/4

HYDRA BATH		
1000	SS	5/8

HYDRO		
201		3/4

HYDROMATIC		
40513	5484-000-1	1/2
516	83R-003-1	5/8
200	83-002-1	5/8
100	10674-000-1	5/8
359	01556-000-1	5/8
201	17048	3/4
750	100, 100-000-1	3/4
750V	744-000-1	3/4
902		3/4
235	300-000-1	1
185	4916-000-1	1-1/4
758	920-000-1	1-1/2
884		1-1/2
12245	8073-001-1	2-1/4
13055	3718-000-1	3

HYPRO PUMPS		
10555	2120-0006	1/2
10555V	2120-0007	1/2
516	2120-0008	5/8
10688V	2120-0003	5/8
200V	2120-0009	5/8
10614V	2120-0030	5/8
972	9501-18	3/4
201V	2120-001	3/4

ICE-O-MATIC		
41004	100030-1, 100030-2	1
41601	100002-1, 100002-2	1-5/8
72501		2-1/2

IDEAL PUMP CO.		
359		5/8

IMECO		
758	VAO-C, TAS, FE219R	1-1/2

* Spring retainer not needed



Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

INDUSTRIAL COMBUSTION

358 925-65 3/4

INGERSOLL RAND

164 W-49869 1/2
 200 CPM-6258C1, CPM-6252C1 5/8
 507V CPM-625271, CPM-625871 5/8
 600 CPM-10015 5/8
 615 5/8
 616 CPM-10029 5/8
 359 5/8
 107118E CPM-10610A 3/4
 601 CPM-10034 3/4
 606 CPM-10035 3/4
 851 CPM-10600A, CPM-10607A 3/4
 201 CPM-6252C1 3/4
 201V CPM-10606A 3/4
 60765 CPM-10603 3/4
 60765E CPM-10603A 3/4
 303 W-11448, W-20168 7/8
 602 CPM-10052 7/8
 603 CPM-10053 7/8
 987 W-11856 1
 344 CPM-10026 1-1/8
 521 W-31826 1-1/8
 604 CPM-10054 1-1/8
 605 CPM-10055 1-1/8
 608 CPM-10044, CPM-10087 1-1/8
 619 CPM-10217A 1-1/8
 636 CPM-10217B 1-1/8
 945 CPM-10220A 1-1/8
 948 CPM-10220B 1-1/8
 111127V CPM-104645B, CPM-10470B 1-1/8
 11154V CPM-10406B 1-1/8
 111126V CPM-10465A, CPM-10470A 1-1/8
 31132V CPM-10223C 1-1/8
 31135 CPM-10465C, CPM-10470C, CPM-10406C 1-1/8
 11162V CPM-10406A 1-1/8
 31130 CPM-10217C, CPM-10220C 1-1/8
 619V CPM-10223A 1-1/8
 636V CPM-10223B 1-1/8
 343 CPM-118S429X2 1-3/16

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

INGERSOLL RAND (Cont)

345 CPM-118S429X5 1-3/16
 723 CPM-118S429X4 1-3/16
 724 CPM-118S429X3 1-3/16
 185 CPM-10601A, CPM-10608A 1-1/4
 185V CPM-10613A 1-1/4
 756E CPM-10604A, CPM-10611A 1-1/4
 416 W-32652 1-1/4
 756 W-44104 1-1/4
 354 CPM-137S429X5 1-3/8
 467 W-28861, W-21642 1-3/8
 677 CPM-137S429X2 1-3/8
 725 CPM-137S429X4 1-3/8
 726 CPM-137S429X3 1-3/8
 224 CPM-10129 1-1/2
 305 CPM-10132 1-1/2
 371E CPM-10650 1-1/2
 620 CPM-10218A 1-1/2
 620V CPM-10224A 1-1/2
 629 CPM-10218B 1-1/2
 947 CPM-10221A 1-1/2
 950 CPM-10221B 1-1/2
 950V CPM-10224B 1-1/2
 11576V CPM-10466A, CPM-10471A, CPM-10473A 1-1/2
 11529V CPM-10466B, CPM-10471B, CPM-10473B 1-1/2
 31539 CPM-10367C, CPM-10368C 1-1/2
 31540V CPM-10369C 1-1/2
 395 CPM-10368A 1-1/2
 258 CPM-10368B 1-1/2
 395V CPM-10369A 1-1/2
 258V CPM-10369B 1-1/2
 31541 CPM-10473C 1-1/2
 31542V CPM-10466C, CPM-10471C 1-1/2
 31543 CPM-10221C, CPM-10281C 1-1/2
 346 CPM-10028 1-5/8
 609 CPM-10045 1-5/8
 610 CPM-10046 1-5/8
 238 CPM-10602A, CPM-10609A 1-5/8
 238V 1-5/8
 239E CPM-10605A, CPM-10612A 1-5/8
 366 CPM-10347 1-3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

INGERSOLL RAND (Cont)

674 CPM-10024 1-3/4
 719 CPM-177S429X2 1.771
 722 CPM-177S429X5 1.771
 727 CPM-177S429X4 1.771
 728 CPM-177S429X3 1.771
 586 CPM-10371B 1-7/8
 586V CPM-10372B 1-7/8
 829 CPM-10219A 1-7/8
 829V CPM-10225A 1-7/8
 831 CPM-10219B 1-7/8
 831V CPM-10225B 1-7/8
 946 CPM-10222A 1-7/8
 949 CPM-10222B 1-7/8
 11827 CPM-10370A, CPM-10371A 1-7/8
 11827V CPM-10372A 1-7/8
 11846V CPM-10408A 1-7/8
 11845V CPM-10408B 1-7/8
 11854V CPM-10467A, CPM-10472A 1-7/8
 11853V CPM-10472B, CPM-10467B 1-7/8
 31828 CPM-10370C, CPM-10371C, CPM-10467C, CPM-10472C 1-7/8
 31829V CPM-10372C, CPM-10408C 1-7/8
 31831 CPM-10219C, CPM-10222C 1-7/8
 31830V CPM-10225C 1-7/8
 342 CPM-10130 2
 479 CPM-10133 2
 477 CPM-200S429X1, CPM-200S429X2 2
 120107 CPM-10656 2
 611 CPM-10047 2-1/8
 612 CPM-10048 2-1/8
 279 CPM-10134 2-1/2
 349 CPM-2505429X2 2-1/2
 12512E CPM-10662 2-1/2
 321 CPM-10355 2-3/4
 475 3
 13043E CPM-10668 3

INSINGER

204E B-15 1-1/8
 356 UP-15, SSUP-15 1-1/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

INTERNATIONAL HARVESTER

10638	347228R91	5/8
80649	687644C91, 687645C91	5/8

JABSCO (ITT)

642	1/2" Motor Pump	1/2
10619	96080-6040	5/8
10619V	96080-6210	5/8
10713	96080-6280	3/4
10713V	96080-6290	3/4
71002	1816407, 1816408	1
00-100041	9023-6000	1
382	3200, 3200-01, 3200-21	1-1/2

JACKSON PRODUCTS

775V	5330-300-0627	7/8
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JACUZZI

60504	10-1414-06	1/2
162	10-563, 10-1207	1/2
420	10-49	1/2
631	10-564	1/2
1002	10-1201-37, 10-1201-29, 10-1201-11	1/2
200	10-476, 10-1436-00	5/8
359	10-478, 10-506	5/8
102	10-502	5/8
924	10-1202-36, 10-1202-10, 10-1202-28, 10-1202-02	5/8
201	10-477, 10-486	3/4
851	10-1390-04	3/4
358	10-479	3/4
683	10-100	3/4
750	10-503	3/4
877	10-1203-19, 10-1203-01, 10-1203-27, 10-1203-35, 10-1213-17, 10-1213-25	3/4
235	10-504, 10-1299-06, 10-1299-30	1
204	10-505	1-1/8
185	10-0369-03	1-1/4
361	10-1434-02	1-1/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

JACUZZI (Cont)

209	10-315, 10-328	1-3/8
11360		1-3/8
382	10-1348-07	1-1/2
11507	10-1043-05	1-1/2
205	10-370, 10-330, 10-1402-00, 10-0370-00	1-3/4
11710	10-0349-06	1-3/4
213	10-323	1-3/4
267	10-1403-09	2
874	10-0365-07, 10-1404-00, 10-365	2-1/4
848		2-1/4
269	10-1405-07	2-1/2
836	10-1406-06	2-3/4
761	10-1407-05	3

JAEGER

162		1/2
201		3/4
360		1
461	66319-1	1-5/8
876	66435-1	2

JAEGER SYKES (MP PUMPS, DIV. TECUMSEH PRODUCTS)

972	59889-1	3/4
11106	80237-1	1-1/8
176	82784-1 3790-1315	1-1/4
177	81031-1	1-3/8

JAMES CORP. (VACUUM PUMP)

60504		1/2
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JEITO MFG.

382		1-1/2
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JENNINGS

162		1/2
163	AE001A1	1/2
165		1/2
200		5/8
720		5/8
596	6A001A1	3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

JENSON BROS.

501	29304B	5/8
358		3/4

JET CRAFT

356		1-1/8
382		1-1/2
237		1-3/4
267		2

JET LINE

1000		5/8
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JOHNSON EXTRUDERS

10693	JCP-75T	5/8
10693V	JCP-75, HTC100, HTC200	5/8
756V	HTC300, HTC500, HTC750, DSC200, DSC300, DSC500	1-1/4

JOY MFG. (COMPRESSOR)

112115V	519056-24	1-1/4
517V	519056-0008	1-1/4
11349V	519056-25	1-3/8
534V	OA 222599	1-1/2
147	519056-0018	1-3/4
436V	519056-0006	1-3/4
12150V	519056-1	2-1/8
475V	519056-2, 519056-15	3

KENCO

10590	AE022A1 w/A6026A1	1/2
162		1/2
163		1/2
165		1/2
200		5/8
516	AE01481 w/A6015A1	5/8
851	AE020A1 w/A6022A2	3/4
107142	AE021A1 w/A6025A1	3/4

KINNEY VACUUM PUMP

358	KC2.5-15, KCS-13, C-5, KC-8 (491)	3/4
651	VSM-556	3/4
197	SK-549	7/8
357	KS-27-47	1

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

KINNEY VACUUM PUMP (Cont)

215		1-1/8
355	KC-46	1-1/8
654	MB-230	1-1/8
676		1-1/8
659	KD-110, KDH-130	1-1/2
366	KD-220, KDH-220	1-3/4
462		2
658	KBM-1200, MB-17	2

KOBE

11727	0-84349	1-3/4
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KRAISEL

150		1/2
155		1/2

LANCASTER PUMP

150	476-1	1/2
1002	1061	1/2
151	2461	5/8
200		5/8
493	525-6	5/8
516		5/8
900	525-6	5/8
1000	523-6	5/8
1005A	2561	5/8
201	1661	3/4
358	1361	3/4
703	429-7/8"	7/8
360	7561	1
360V		1
355		1-1/8
381	909-61	1-1/4
371		1-1/2

LECOURTENAY CO.

584		1-1/8
546	11481	1-1/4
808		1-3/8
595	11485-8	1-5/8
535	11483-4	1-3/4
523		1-7/8
530	11393	2
327	23305, 15168-9	2-1/8
848	11479-80, 23300, 23304	2-1/4
328	15165-7, 23301	2-5/8
329		2-7/8
324	11489-93	3

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

LEHIGH

107	D-811	3/4
108	D-854	1-1/4

LEROI DIV.

299	125-101	5/8
467	12-188-2	1-3/8
436V		1-3/4

LINK BELT

121	WB-30	3/4
357	WB-35	1
355	WB-40	1-1/8
461	WB-60	1-5/8
288	WB-70	1-3/4

LITTLE GIANT

80304	926027 w/926028	3/8
165	108112	1/2
80507	926024	1/2
720	A-C009	5/8
601SS		3/4

LOCKWOOD PUMP

301		3/4
360		1

LOGANSPOUT

930	P-9509	1/2
106	P-17251	1/2
109	P-14883	5/8
110	P-17581	5/8
564	P-9518	3/4

LOMART PUMP

150	40-027 w/40-029	1/2
149		1/2
142	W-1532	1/2
163SS	W-1531	1/2
1000		5/8

LOUIS PUMP

370		1
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LUITWEILER PUMP

201		3/4
361		1-1/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

MP PUMPS (DIV. TECUMSEH PRODUCTS)

165		1/2
113	13385	5/8
447V	21580	5/8
924V	22510	5/8
128V	22640	3/4
128N	24898	3/4
107143N	22615	3/4
112	15112	3/4
358	15151	3/4
703	9524	7/8
245	14233	1
245V	22272, 22273	1
248V	25460	1
248N	24943	1
380		1
604		1-1/8
382		1-1/2
347	14424, 14421	1-1/2
11558V	22361, 22362	1-1/2
237V	26685	1-3/4

MTH TOOL

774	12-1068-01-457, w/Ceramic Seat	7/8
774V	Viton Rotary w/ Ceramic Seat	7/8
774E	12-1068-01-504, w/Ceramic Seat	7/8
617	12-1068-01-457, w/Niresist Seat	7/8
617V	Viton Rotary w/Niresist Seat	7/8
617E	12-1068-01-457, w/Niresist Seat	7/8
805	Buna Rotary w/Ceramic Seat	1-3/8
805V	Viton Rotary w/Ceramic Seat	1-3/8
805E	12B-1169-02-504, w/Ceramic Seat	1-3/8
547	Buna Rotary w/Niresist Seat	1-3/8
547V	Viton Rotary w/Niresist Seat	1-3/8
547E	12B-1169-01-504, w/Ceramic Seat	1-3/8
113212		1-3/8

* Spring retainer not needed

placement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
MANITOWAC EQUIPMENT (ICE MACHINES)		
360	3705011	1

MARLOW (ITT)		
406	26661-00, 26469-00	5/8
409	23732-00	5/8
410	23702-00	5/8
411	25353-00, 23736-00, 26467-00	5/8
411P	27678-00, 29-163-00	5/8
414	25471-00	5/8
488	31389-00	5/8
219	38592-00	3/4
412	20124-00	3/4
415	25354-00, 26470-00	3/4
419	26471-00	3/4
413	25355-00, 20760-00	1
405	26473-00	1
416	27452-00, 278453-00	1-1/4
416A	27224-00, 27223-00, 27225-00	1-1/4
923	27452-00	1-1/4
978		1-1/4
979		1-1/4
404	25356-00, 26477-00	1-3/8
929	25481-00	1-3/8
11647	28146-00	1-5/8
434	25357-00	1-3/4
435	25358-00	2
478		2

MASSEY FERGUSON		
646		5/8
647		3/4

McDONALD, A-Y		
148	5MCD3	5/8
166	5MCD1	5/8
501	5MCD4	5/8
201	5MCD5	3/4
521	5MCD2	1-1/8

MECHANICAL EQUIPMENT		
10536V	100864	1/2
10762V	100796	3/4
10847V	100653	7/8
11136V	100772	1-1/8
816V	100853	1-1/2

MEGATOR CORP.		
633	5079	5/8
362	5479	3/4
687	5679	7/8
355	5879	1-1/8
756	5779	1-1/4
659	5979	1-1/2

MEMPHIS PUMP		
100		5/8
508		5/8
201		3/4

MEMPHIS RUBBER		
118		5/8
118V		5/8
10767V		3/4
10713V		3/4
235V		1

METAL MASTER		
160	6023	3/8
170	6025	3/8
150	12515	1/2
151		5/8
153		5/8
200		5/8
680	19023	5/8
702	15110	5/8

MIDCO MFG.		
600		5/8
601		3/4

MIDLAND PUMP CO.		
201	6070-0	3/4
360	6007	1
177	6368	1-3/8
805	63680	1-3/8
550	64120	1-3/4

MISSION (TRW)		
32517	22451-1, 648414308	2-1/2

MODERN FLO TROL		
160		3/8
170		3/8

MOKON		
248V	034-008	1

MONARCH		
200	240160	5/8
200V	240136	5/8
201	240170	3/4
201V	240344	3/4
851	240260	3/4
703	240030	7/8
185	240080	1-1/4
185V	240359	1-1/4
756	240070	1-1/4
758	240090	1-1/2

MONTGOMERY WARD		
280		1/2

MULTI-DUTY		
1000SS		5/8
1000VSS		5/8

MULTI-QUIP		
109806	201-5200	25MM
109806V	201-5202	25MM
111809	301-5200	30MM
111809V	301-5202	30MM

MURPHY DIESEL		
358	MD-4090	3/4
208	MD-7980B1	7/8

MUSKIN		
163		1/2
(See Lomart Pump)		

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

MYERS, FE

40513	21607A	1/2
200	14525A10, 16275A, 14525A	5/8
359	20285D200	5/8
508	10840A1	5/8
101	11416A, A2, A3, 11416A10	3/4
101A	11416A	3/4
703	11716A, 21576A10	7/8
204	8824A-1	1-1/8
381	15218A	1-1/4
185	21181A16	1-1/4
382	22922A	1-1/2
237	22883A	1-3/4

NASH-JENNINGS

100		5/8
100V	MD 330-CSI, PK389	5/8
600	PK339	5/8
764	PK482, PK10	3/4
944		3/4
204	PK295	1-1/8
354	PK475	1-3/8
177	PK874	1-3/8
305	PK678	1-1/2
382	PK624	1-1/2
817	PK-0306	1-1/2
884		1-1/2
550	AT-94, PK-900	1-3/4
523	PK334	1-7/8
340	PK893	1-7/8
874	PK479	2-1/4
761	AD-303	3

NATIONAL ELECTRIC REFRIGERATION

100		5/8
359		5/8
900		5/8

NELSON MFG.

441		3/4
236	60AY12	1
371	60BC11	1-1/2
593	60BC12	1-7/8

NEPTUNE

150		1/2
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

NORDSON

162V	273718	1/2
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NORGE

2607517	33-5373	3/4
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NORTH AMERICAN MARINE JET

11507		1-1/2
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NORTH AMERICAN PHILLIPS

684V		3/4
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OBERDORFER

80304	32373	3/8
10322	32759	3/8
60523	A-32592	1/2
10508		1/2
105109	32772	1/2
10599	32584	1/2
10599V	32585	1/2
105		1/2
359	A-5939	5/8
600		5/8
642	A-6019, A-5377	5/8

OHLER

140		7/8
141		1
235		1
357		1
861		1-1/8
185		1-1/4
209		1-3/8
186		1-3/8

ONAN

511	1310220	3/8
165	131A169	1/2

ORLY

601VSS	714.13	3/4
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OSBORNE ENGINEERING

162		1/2
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OSCAR MAYER

72504		2-3/8
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

PACER

601SS	P00714-11	3/4
601VSS	P00714-14	3/4
601ESS	P00714-12	3/4

PACIFIC FABRICATION (PAC-FAB)

200		5/8
201	35-002-354894	3/4

PACO (PACIFIC PUMPING CO.)

200	SL-7101, SL-7741	5/8
516	14009931 w/14008631	5/8
508	SL-7100	5/8
359	14010237 w/14008631	5/8
10693	14010237 w/14008629	5/8
201	SL-7777	3/4
851	14009936 w/14008647	3/4
750	14032301 w/14008647, 14009933 w/14008647, 14009934 w/14008647	3/4
265	14003231 w/14008676, 14009933 w/14008676, 14009934 w/14008676	3/4
752	SL-7104	3/4
703	SL-7098, 14032321 w/14008677, 14009940 w/14008677, 14009941 w/14008677	7/8
250	14032321 w/14008955, 14009940 w/14008955, 14009941 w/14008955	7/8
188	14009939 w/14008677, 14009942 w/14008677	7/8
229	14009939 w/14008955, 14009942 w/14008955	7/8
235	SL-7735	1
380	SL-7087	1
460	SL-7106	1
754	SL-7521, 14032302 w/14009646, 14009944 w/14009646, 14009948 w/14009646	1
791	14032302 w/14010236, 14009944 w/14010236, 14009948 w/14010236	1
791V	14014168 w/14015888, 14016579 w/14015888	1
879	14032323 w/(2) 14009646	1
110124	14032323 w/(2) 14010236	1
429	14011144 w/(2) 14009646	1

* Spring retainer not needed

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
PACO (PACIFIC PUMP) (Cont)		
110126	14011144 w/(2) 14010236	1
204	SL-7770	1-1/8
185	14032143 w/14008753, 14009952 w/14008753, 14009953 w/14008753	1-1/4
598	14032143 w/14008717, 14009952 w/14008717, 14009953 w/14008717	1-1/4
598V	14032324 w/14011672	1-1/4
361	SL-7083, SL-7099, 14009951 w/14008753, 14009954 w/14008753, 14011010 w/14008753	1-1/4
264	14009951 w/14008717, 14009954 w/14008717, 14011010 w/14008717	1-1/4
264V	14013207 w/14011672, 14014873 w/14011672, 14015432 w/14011672	1-1/4
137	SL-8102	1-1/4
756	SL-7094	1-1/4
11377	14032316 w/14008717, 14032305 w/14008717, 14010214 w/14008717, 14010215 w/14008717, 14010246 w/14008717	1-3/8
758	SL-7107, 14032144 w/14010218, 14032307 w/14010218	1-1/2
553	14032144 w/14010243, 14032307 w/14010243	1-1/2
553V	14032304 w/Viton "O" Niresist Seat	1-1/2
305	SL-8223	1-1/2
371	SL-7107	1-1/2
237	14032145 w/14008651	1-3/4
436	14032145 w/14008650	1-3/4
205	SL-7090, 14032309 w/14008651, 14009965 w/14008651, 14009966 w/14008651	1-3/4
262	14032309 w/14008650, 14009965 w/14008650, 14009966 w/14008650	1-3/4
262V	14032308 w/14012004, 14013208 w/14012004, 14015431 w/14012004	1-3/4
366	SL-8393	1-3/4
449	14032355 w/14008651, 14011050 w/14008651	1-3/4
11795	14032355 w/14008650, 14011050 w/14008650	1-3/4

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
PACO (PACIFIC PUMP) (Cont)		
477	14010222 w/14015593, 14015299 w/14015593, 14032310 w/14015593	2
477V	14015293 w/14015296, 14015300 w/14015296, 14032521 w/14015296	2
479	14010222 w/14032158, 14015299 w/14032158, 14032310 w/14032158	2
267	14032146 w/14032158	2
332	14032146 w/14015593	2
323	SL-7709, 1400-1709, 14009969 w/14009977, 14009970 w/14009977, 14032520 w/14009977	2-1/4
849	14009969 w/14015628, 14009970 w/14015628, 14032520 w/14015628	2-1/4
849V	14013450 w/14015274, 14015520 w/14015274, 14032311 w/14015274	2-1/4
846	14032147 w/14009977	2-1/4
847	14032147 w/14015628	2-1/4
12237	14032526 w/14009977	2-1/4
12236	14032526 w/14015628	2-1/4
321	14032312 w/14015625, 14013495 w/14015625, 14013602 w/14015625, 14014285 w/14015625, 14015622 w/14015625	2-3/4
321V	14015621 w/14015624, 4013451 w/14015624, 14032522 w/14015624	2-3/4
838	14032312 w/14013180, 4013495 w/14013180, 14013602 w/14013180, 14014285 w/14013180, 14015622 w/14013180	2-3/4
12718	14032525 w/14013180	2-3/4
322	14032525 w/14015625	2-3/4
324	14010908 w/14010914, 4010916 w/14010914, 14032523 w/14010914,	3
475	14010908 w/14010913, 4010916 w/14010913, 14032523 w/14010913	3
475V	14032524 w/14015628, 4013452 w/14015628, 14015623 w/14015628	3
13036	14032356 w/14010914	3
13035	14032356 w/14010913	3

PAHLENS FABRIKER	
200	5/8
1000SS	5/8
201	3/4
360	1
235	1

PAUL PUMP	
102	5/8
10695	5/8

PEABODY BARNES		
163		1/2
163VSS	18189	1/2
10553	68988	1/2
80516	61070	1/2
150		1/2
165	29726	1/2
200	12703, 35582	5/8
359N	18873	5/8
359V	19076	5/8
552	23701	5/8
359	5080	5/8
600E	69383	5/8
10611	39018	5/8
80647	72233	5/8
201	71893 (Old)	3/4
972	71893 (New)	3/4
201V	71893-D	3/4
358	67562	3/4
877	64118	3/4
877N	15344	3/4
10759	63599	3/4
1604	63924	3/4
601ESS	71861	3/4
107121	67562D	3/4
30722	74407	3/4
309	67563, 10562	7/8
10828	58985	7/8
31022	62435J	1
235V	19077	1
11090	59655	1
11052	62435	1
11052V	G2435-X	1
429	63206, 64434	1
11086	64434H, 71796	1
235N	18004, 71877	1
11024	53754	1

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

PEABODY BARNES (Cont)

110613	17205, 97403	1-1/16
356	70712	1-1/8
756	19146	1-1/4
185N	22197	1-1/4
598V	24635	1-1/4
11299	27898	1-1/4
11299V		1-1/4
426	39485	1-1/4
185	71562, 70713	1-1/4
185TC	71557	1-1/4
31229	53498	1-1/4
246V	68670	1-1/4
177V	52601D	1-3/8
177N	52601	1-3/8
11309	57867	1-3/8
11422	68734C	1-7/16
382	24998, 71563	1-1/2
382*	65963	1-1/2
31522	72261	1-1/2
758TC	71558	1-1/2
758TC	65963	1-1/2
11516	31000	1-1/2
237	71556	1-3/4
237TC	71559	1-3/4
674	57961	1-3/4
318	51938C	1-7/8
31821	67025	1-7/8
832	53626	2
12063	36551	2
276TC	66351	2
32024	71560	2
12118	68687	2-1/8
874	71220	2-1/4
941TC	71561	2-1/4

PEERLESS

162	2665554	1/2
100	2665171	5/8
102	2680496, 2668219	5/8
200	181377, 2655924, V12271A	5/8
263	2675336	5/8
300	2655294, V1227A, 1181377, 2665624	5/8
508	266910, 2658090	5/8
734	2680496	5/8
966	P-15195	5/8
265	2675337	5/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

PEERLESS (Cont)

301	2655293, 1181383	3/4
750	1655888, 2663071, 2650131	3/4
188	2663072, 2657110	7/8
229	2675338	7/8
250	2675339	7/8
303	2655239, 2664873	7/8
251	2765340, 2656324	1
252	2675341	1
380	2613940, 2663369, 1181386, 1181226, 2655887, 2663073	1
584	2675317, 2687625	1-1/8
253	2675343	1-1/8
254	2675344, 2655131	1-1/8
604	2658071, 2600518, 2655240, 2664885, 2664886	1-1/8
255	2675345	1-3/16
306	2655886, 2663074, 1181227	1-3/16
256	2675347, 2675305	1-1/4
264	2675318, 2687626	1-1/4
361	2657093, 2663048, 2653631	1-1/4
185	2664892, 2664893	1-1/4
394	2687626, 2687165	1-1/4
257	2675350	1-3/8
177	2655889, 1181228, 2663075, 2655089	1-3/8
354	2659998, 2663368	1-3/8
809	2675349	1-3/8
258	2675351, 2691073	1-1/2
259	2687166	1-1/2
305	2675108, 2663008	1-1/2
382	2656981, 2664865, 2664864, 2653632, 2606398	1-1/2
205	2663044, 2657091, 2653795	1-3/4
262	2675354, 2675355	1-3/4
436	2675319	1-3/4
825	2675356	1-3/4
586	2676205	1-7/8
332	2675320	2

PELLERIN MILNOR

358N	245020	3/4
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

PENBERTHY

162	D-1104	1/2
165		1/2

PENWALT

12118	018080	2-1/8
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PERFECTED PUMP

359	732015	5/8
356	732049	1-1/8
177	732057	1-3/8

PESCO

507		5/8
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PILOT PUMPS

601VSS	714.73	3/4
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PIONEER

(See Detroit Harvester Howell)

PIONEER PUMP

200		5/8
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PLANET PRODUCTS

162	DRM-2	1/2
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POOL SWEEP

(See Arneson)

POWER PRODUCTS

(See Tecumseh)

PRECISION SCIENTIFIC

10539	342005	1/2
732	342003	5/8
113	342027	3/4
499	342012	1

PREMIER PUMP

1000SS	P19-0, 31-813	5/8
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* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

PRICE PUMP CO.

1002V		1/2
359V		5/8
447		5/8
1000		5/8
1000SS		5/8
219		3/4
601		3/4
758		1-1/2

PROCON

10409	1034-A7	7/16
10409V	1034-A2	7/16
10409E	1034-A4	7/16

PROSSER

359	2-31001	5/8
359V	2-31001-1	5/8
10658	9-50134-00	5/8
358	2-31007	3/4
358V	2-31007-1	3/4
687	9-16034-1	7/8
309	2-31006	7/8
309V	2-31006-1	7/8
756	2-31020, 9-26032-3	1-1/4
756V	2-31020-1	1-1/4

PUREX

372	P28128	5/8
501	P28322	5/8
60667		5/8
08-533	P28290	5/8
851	P28300	3/4
360	P28175	1
851	P28320	1-1/4

QUEEN PRODUCTS

(See Scotsman)

QUINCY COMPRESSOR

436V		1-3/4
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RAPID DAYTON

(See Tait)

RALSTON PURINA

11624		1-5/8
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

REARS MFG.

200V		5/8
118V		5/8
877		3/4
361		1-1/4

RED JACKET

106	540	1/2
100	C76-98A&C, C76-78A, 176-037-1	5/8
102	530	5/8
518	C76-183	5/8
896	C76-182	5/8
701	C76-134	5/8
896	C76-182	5/8
900	500	5/8
901	500A	5/8
201	76-129, 76-189	3/4
750	560	3/4
902	555, C76-99A	3/4
905	525	3/4
370	76-132	1
460	545	1

REDA PUMP

508	17197A	5/8
188	13131A	7/8
703	14011A	7/8
380	13977A	1
382	15114A	1-1/2

REECO

200	RCD4375A	5/8
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REINCO

177		1-3/8
541		1-1/2
382		1-1/2
12113		2-1/8
12124		2-1/8

RELIANCE ELECTRIC MFG.

381	642628A	1-1/4
185	64262-12-A	1-1/4
382	642628B	1-1/2
758	64262-12B	1-1/2
237	642628C, 64262-12-C	1-3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

RELIANCE ELECTRIC MFG. (Cont)

267	64262-12-D	2
846	64262-12-E	2-1/4
761	64262-12-G	3

REXNORD CONST.

102	X203414-2-9366	5/8
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RICE

200	21-024	5/8
116	74-086, 21-027	3/4
201	12-023	3/4
315	121-016	3/4
750	9330-9-6	3/4

ROBBINS & MEYERS (MOYNO)

10312	32-05969	3/8
1002	32-04215-000	1/2
631	32-04215	1/2
200	POD-3054	5/8
850	32-02424	5/8
924	32-02423-000 POD-2423	5/8
201	POD-1625, 32-01625	3/4
851	U8-56C	3/4
358	32-03945-000	3/4
360	EC-67	1
380	32-01750-000	1

ROMAR FILTER

200	618-001	5/8
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ROOTS BLOWER

(See Dresser Industries)

ROPER

930	G14-222, G14-263, G14-262	1/2
400V	G14-32	1/2
10545	G4-57	1/2
10693	G4-102	5/8
109	G14-116	5/8
10775	G3-30	3/4
157	G14-117, G14-428	3/4
768E	G14-173	3/4
157N	G14-441	3/4
157E	G14-443	3/4
768V	G14-471	3/4
157V	G14-506	3/4
768	G14-226	3/4

* Spring retainer not needed

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
ROPER (Cont)		
936	G14-119	7/8
250	G14-227	7/8
208	G14-324	7/8
208E	G14-445	7/8
250V	G14-475	7/8
208V	G14-507	7/8
141	G3-38	1
11001V	G14-51	1
937	G14-120,G14-248	1
252V	G14-172	1
499E	G14-312	1
11001	G14-320	1
499	G14-338	1
11001E	G14-433	1
11001N	G14-522	1
110608	G4-101	1-1/16
110608V	G4-140	1-1/16
796	G14-489	1-1/16
796V	G14-504	1-1/16
11131	G4-11	1-1/8
11121	G4-12	1-1/8
11121V	G4-16	1-1/8
348	G14-278	1-1/8
348V	G3-10	1-1/4
598V	G4-1	1-1/4
154	G14-121, G14-429	1-1/4
11246	G14-122, G14-518	1-1/4
598	G14-229	1-1/4
598E	G14-399	1-1/4
154E	G14-439	1-1/4
11246E	G14-543	1-1/4
11332V	G4-9	1-3/8
547	G14-248	1-3/8
547V	G14-492	1-3/8
172V	G14-510	1-3/8
172	G14-512	1-3/8
11332	G14-579	1-3/8
11424	G4-112	1-7/16
11424V	G4-142	1-7/16
939V	G3-19,G14-511	1-1/2
553E	G4-2	1-1/2
11531	G14-123	1-1/2
553V	G14-175, G14-475	1-1/2
553	G14-230	1-1/2
939	G14-430	1-1/2
11611V	G4-19	1-5/8
11611	G4-20	1-5/8
819	G4-43	1-5/8
819V	G4-45	1-5/8
11601	G14-503	1-5/8

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
ROPER (Cont)		
332	G4-42	2
12026	G14-582	2
12101	G3-14	2-1/8
12101V	G4-41	2-1/8
847V	G14-33	2-1/4
12209	G14-125	2-1/4
847	G14-233	2-1/4
849V	G14-421	2-1/4

ROTH PUMP		
1002	F8A030VF w/F8A035VL	1/2
118	F8B015VL w/F8B086VL	5/8
10614	F8B086UT	5/8
649	FG1C081VA	3/4
1514	F8C001VF w/F8C002VL	3/4
309	F8C003VE w/F8C084VL	7/8
204	F8E001VF w/F8E263VL	1-1/8
11106	F8E001VF w/F8E002VL	1-1/8
914N	F8E311NE w/F8E307NM	30MM
111831	F8E270VA w/F8F037VL	30MM
361	F8E036VF w/F8G038VL	1-1/4
11314	F8G014VF	1-3/8

RUTH BERRY		
102	610	5/8
201	601A	3/4
750	620	3/4
908	601	3/4

RUTHMAN MACHINERY		
164	906	1/2
1002		1/2
359		5/8
447		5/8
451		5/8
441		3/4
360		1
380		1
11238		1-1/4

SPP PUMPS		
356		1-1/8
529V		1-1/8
382		1-1/2
553V		1-1/2
267		2
332V		2

Replacement Seal No.	Manufacturers Seal Part No.	Shaft Size Inches
SALVAJOR CO.		
41013	5008	1
42001	9012	2

SAN ANGELO CO., INC.		
358		3/4

SCHAUB ENGINEERING (MAGNETROL)		
138N	RFO 750, 012-3103-001	15MM
10606E	012-3113-001	5/8
21026N	RFO 1050	3/4
139N	RFO 1000, 012-3106-001	20MM
	012-3105-001	
11006E	012-3113-002	1
913N	012-3104-001, RFO 1125	1
914N	012-3102-001, RFO 1375	30MM
11224E	012-3113-003	1-1/4

SCHNACKE GRASSO		
332N	2105	2

SCHRAMM INC.		
201	GOH2859-B/GOH2859-2	3/4

SCHWITZER		
298	354182	1/2
642	457805	5/8
647	IN9117	3/4

SCOTSMAN ICE MACHINE (QUEEN PRODUCTS)		
380	2-383	1
41002	02-1300-00	1
41701	02-0929-00	1-3/4
72502	02-0776-00	2-1/2

SCOT PUMP		
200	101.000.110	5/8
359		5/8
1000SS	101.000.169	5/8
552V	101.000.103	5/8
951V	101.000.120	5/8
201	101.000.102	3/4
201V	101.000.115	3/4
768	101.000.158	3/4
768E	101.000.161	3/4
10884	101.000.156	7/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

SCOT PUMP (Cont)

360	101.000.159	1
883	101.000.152	1-1/4
228V	101.000.164	1-1/4
185	101.000.104	1-1/4
	101.000.122	
618V	101.000.124	1-1/4
598	101.000.125	1-1/4
382	101.000.168	1-1/2
382V	101.000.191	1-1/2
553V	101.000.175,	1-1/2
	101.000.184	
237	101.000.196	1-3/4
237V	101.000.216	1-3/4

SEARS

(See Homart)

SERFILCO

358		3/4
358V		3/4
309		7/8
309V		7/8
185		1-1/4
185V		1-1/4
382		1-1/2
382V		1-1/2

SHERWOOD BRASS (LEAR SIEGLER)

631	5789	1/2
1002	11367	1/2
1002V	14081	1/2
447V	13286	5/8
1000VSS	12966, 13263	5/8
1000SS	13265	5/8
447	12859	5/8
200	10159	5/8
109	10523	5/8
188	9791	7/8
578	8570	7/8
703	8578	7/8

SHERWOOD SPECIALTIES

359		5/8
358		3/4

SHETLER

200		5/8
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

SI HI

106343		5/8
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SIERRA ELECTRIC

80304	40-096001	3/8
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SIMMONS

200		5/8
451		5/8

SKIDMORE (WEBSTER ELEC.)

10507	37403	1/2
100	51294	5/8
10658	50625-1	5/8
10658V	50625-6	5/8
536	53497	5/8
10826	50625-2	7/8
10826V	50625-7	7/8
356	50625-3	1-1/8
356V	50625-8	1-1/8
205	50625-5	1-3/4

SMITH, A.O.

162	64135, 55831	1/2
506	9708-4, 9708-1	1/2
359		5/8
103		3/4

SMITH-LOVELESS

1103		1-1/8
1104		1-3/8
1105	28A100A, F60A119A	1-7/8
11847	H87A28A	1-7/8
1102		2-1/8
1107	28A101A, F60A120A	2-1/8
12149	H87A97A	2-1/8
1106		2-5/8
13031	28A238A, F60A121A	3

SOUTHERN INDUSTRIES

200		5/8
201		3/4

SPERRY VICKERS

12612	322897	2-5/8
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

STA-RITE INDUSTRIES

80301	U109-173	3/8
60310	U109-264	3/8
117N	U109-95	7/16
80529	U109-68, U109-214	1/2
163	U109-84	1/2
80516	U109-321	1/2
80523	U109-333	1/2
60523	U109-103	1/2
10553	U109-181	1/2
663	U109-100	1/2
100	U109-6A	5/8
896	U109-93SS	5/8
	U109-83SS	
957	U109-48SS	5/8
118	U109-308, U109-102,	
	U109-118	5/8
536V	U109-101	5/8
118V	U109-91SS	5/8
	U109-87, U109-326SS	
	U109-326	
60618	U109-83SS	5/8
	U109-93SS	
1000	U109-136	5/8
1000SS	U109-136SS	5/8
947N	U109-106SS	5/8
201	U109-122	3/4
771	U109-81	3/4
128	U109-99	3/4
877	U109-267	3/4
774	U109-170	7/8
774V	U109-222	7/8
380	U109-47	1
866	U109-96	1-1/8
	U109-96SS, U109-305	
866V	U109-307	1-1/8
381	U109-220	1-1/4
546	U109-329	1-1/4
546V	U109-330	1-1/4
535	U109-251	1-3/4
535V	U109-306	1-3/4
327	U109-252	2-1/8
838	U109-302	2-3/4

STERLING MACHINERY

863	6696	5/8
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* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

STERLING MACHINERY (Cont)

145		3/4
175		3/4
201		3/4
358	1616	3/4
564		3/4
861	6697	1-1/8
176		1-1/4
185	1636	1-1/4
177	1706	1-3/8
178		1-3/8
209		1-3/8
862	7006	1-7/16
216		1-1/2
213		1-3/4
217		1-3/4

STERLING PUMP

60813V	081-00024	7/8
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STEVENS PUMP

200		5/8
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STOW

60758	7971-406	3/4
777	7971-407	1

STRANCO

60504		1/2
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SUNDSTRAND

1002	Logan Pump 385373	1/2
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SUNSET EQUIPMENT

299		5/8
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SUPERIOR EQUIPMENT

202VSS		5/8
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SUPERIOR INDUSTRIES

60650		5/8
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SWIMQUIP

201	37407-0019	3/4
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Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

TACO

160	120-125	3/8
170	120-029	3/8
106	131-013	1/2
163	106-031	1/2
1002	121-008	1/2
200	172-009, 172-017	5/8
200V	172-006	5/8
633	170-102RP	5/8
752	142-043	3/4
360	170-021, 170-095	1
754	900-021	1
204	900-024	1-1/8
264	840-011	1-1/4
305	862-029	1-1/2
659		1-1/2
479		2

TAIT

162	W6476	1/2
920	24722	5/8
922	24798	5/8
200		5/8
516	1195A1	5/8
201	25062	3/4
972	1195A2	3/4
921	24820	3/4
10713	16519	3/4
703	24584	7/8
380	24963	1
460		1
598	W-16524	1-1/4
805	16538	1-3/8
267		2

TECUMSEH

350	K-509-9	2-3/8
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TEEL

359		5/8
447		5/8
201	1P831	3/4

TERRA PRODUCTS

(See Banjo)

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

THERMO KING

522	TX-060-000	5/8
159	22-203,22-378	1
517N	1210A02G01	1-1/4

THRUSH (AMTROL, INC.)

10426	TX-012000 w/TX-019000 w/AT-050000	7/16
10553	TX-018000 w/TX-019000	1/2
106		1/2
163		1/2
552V	TX-022000 w/TX-023000	5/8
10693V	TX-022000 w/TX-024000	5/8
132		5/8
600	AA-190, AA-199	5/8
774V	TX-026000 w/TX-027000	7/8
617V	TX-026000 w/TX-028000	7/8
687		7/8
801V	TX-030000 w/TX-031000	1-1/8
529V	TX-030000 w/TX-032000	1-1/8
355		1-1/8
618V	TX-052000 w/TX-053000	1-1/4
598V	TX-052000 w/TX-054000	1-1/4
805V	TX-034000 w/TX-035000	1-3/8
547V	TX-034000 w/TX-036000	1-3/8
210		1-3/8
816V	TX-038000 w/TX-039000	1-1/2
553V	TX-038000 w/TX-040000	1-1/2
818V	TX-056000 w/TX-057000	1-5/8
544V	TX-056000 w/TX-058000	1-5/8
550V	TX-048000 w/TX-049000	1-3/4
436V	TX-048000 w/TX-050000	1-3/4

TOLDEO

909	A14067	5/8
912	SA-18953	1

TRANE

190	100630	1/2
344N	X10060019	1-1/4
192	100634-00	1-1/2
193	100635-00	2

TRANSICOLD (CARRIER)

695	SF20-317	1
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* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

TRANSLAND (SPRAYERS)

358V		3/4
548V		1

TRICLOVER

157	1S-400-25	3/4
11195		1-1/8
939		1-1/2

TRIPLEX HEATING

10301		3/8
10408		7/16
165		1/2
420		1/2
260		5/8
452		5/8

TRI-ROTOR

10794	GJ-6191	3/4
11280V	GJ-3997	1-1/4

TRUPAR (DURO)

102	P-11048, B-170	5/8
451	B-2883	5/8
508	5485	5/8
507	P-1190	5/8
200		5/8
201		3/4
972E		3/4

TUTHILL

10443	1LA9	7/16
10447	1LA9-7	7/16
10410N	2LPF9-7010	7/16
10405	1LA9-5	7/16
10449	1LA9-8	7/16
30407	1LA9-78910	7/16
552	2C1B9	5/8
552V	2C1B9-7	5/8
552N	2C1B9-5	5/8
552E	2C1B9-8	5/8
106232	2C1B9-78910	5/8
9T-062-227	2C1B9-6	5/8
768	3C1B9	3/4
768V	3C1B9-7	3/4
768N	3C1B9-5	3/4
768E	3C1B9-8	3/4
30761	3C1B9-59336	3/4
107210	3C1B9-78910	3/4
107271	3CM6-5577	3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

TUTHILL (Cont)

107274	3CM6557X	3/4
9T-075-226	3C1B9-6	3/4
499	5C1B9	1
499V	5C1B9-7	1
499N	5C1B9-5	1
499E	5C1B9-8	1
31059	5C1B9-59336	1
110236	5CMG5577	1
110238	5CMG557X	1

U.S. MOTOR

358	PUL-2112	3/4
549		1-1/8
320		1-1/2

UNIFLOW

200		5/8
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UNIMAC INC.

42701		2-3/4
43201		3-1/4
43701		3-3/4

UNIVERSAL ELECTRIC

165	24P3-1, 24P3-2	1/2
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VAUGHN PUMP

31704		1-3/4
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VIC CLEANING MACHINE

162	22-907	1/2
701	42-607	5/8

VICAN (VIKING CANADA)

1002		1/2
1002V		1/2
10695		3/4
10695V		3/4
358		3/4
358V		3/4
10767		3/4
10765V		3/4
235		1
235V		1
357		1
357V		1

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

VICAN (VIKING CANADA) (Cont)

356		1-1/8
356V		1-1/8
355		1-1/8
355V		1-1/8
185		1-1/4
185V		1-1/4
246		1-1/4
246V		1-1/4
756		1-1/4
756V		1-1/4
249		1-1/4
249V		1-1/4
177		1-3/8
177V		1-3/8
186		1-3/8
186V		1-3/8
11417		1-7/16
11417V		1-7/16
11427		1-7/16
237		1-3/4
288		1-3/4

VICO

360		1
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VIKING PUMP (HOUDAILLE)

170		3/8
164	F-566, 2-471-008-999	1/2
632		1/2
10533	2-471-006-999	1/2
474		5/8
10655	2-472-014-999	5/8
10655V	2-472-015-999	5/8
112	H-865	3/4
10708	2-473-008-999	3/4
10708N	2-473-009-999	3/4
10708V	2-473-018-999	3/4
460	2-475-002-999	1
11028	2-475-001-999	1
11028N	2-475-005-999	1
11028V	2-475-010-999	1
11022	2-475-004-999	1
11022V	2-475-009-999	1
11113	2-476-001-999	1-1/8
11113V	2-476-012-999	1-1/8
11116V	2-476-028-999	1-1/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

VIKING PUMP (HOUDAILLE) (Cont)

383		1-1/4
11235	2-477-015-999	1-1/4
11235V	2-477-020-999	1-1/4
11410	2-477-032-999	1-7/16
11410N	2-477-037-999	1-7/16
11410V	2-477-038-999	1-7/16
11412	2-477-006-999	1-7/16
11412V	2-477-036-999	1-7/16
11606	2-478-011-999	1-5/8
11606V	2-478-008-999	1-5/8
72008	2-480-009-999	2
12428	2-480-001-999	2-7/16

VULCAN HART DISHWASHER

508	106410	5/8
236	94049	1
360	97505	1
604	97522	1-1/8

WACKER CORP.

185	51757	1-1/4
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WATTS

680		5/8
1000		5/8

WAUKESHA MOTORS

642	120320	5/8
1522	810350	3/4
201	152243-B	3/4
10767		3/4
752		3/4
685	108025	7/8

WAYNE HOME EQUIPMENT

377	15668	3/8
298	16715	1/2
40513	16718	1/2
150	16712, 16722	1/2
80511	16850	1/2
163	56108	1/2
162	15717, 56106	1/2
165	15611 w/16712	1/2
163V	56111	1/2
500	15288-15488	9/16

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

WAYNE HOME EQUIPMENT (Cont)

1000	56109, 16727	5/8
200	56104	5/8
642	16727	5/8
970	15301	5/8
971	15529	5/8
60611	16723	5/8
1522	16725	3/4
60711	16800	3/4
201	56105	3/4
201V	56112	3/4

WAYNE PUMP

10767		3/4
399		3/4

WEBSTER ELECTRIC

10507	151-37403	1/2
105613	151-49487	9/16
218		5/8
10718	151-27486A	3/4
10716	151-27486	3/4
	152-20199	
604V	140246	1-1/8
467	151-26815	1-3/8

WEBTROL

200	70X102-M	5/8
516		5/8
200V		5/8
924		5/8
924V	70X103-M	5/8
201	70X107-M	3/4
201V	70X108-M	3/4
185	70X105-M	1-1/4
185V	70X123-M	1-1/4
237	70X124-M	1-3/4
237V	70X125-M	1-3/4

WEIL PUMP CO.

100	SA-840, 17-60743	5/8
	17-30009-005	
702		5/8
600	SA-894	5/8
668		5/8
989	SA-743	5/8
990	SA-714, 17-40714-008	5/8

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

WEIL PUMP CO. (Cont)

991	X1397, X2372	3/4
	17-61397, 17-62372	
509	17-62372-008	3/4
617	X3452	7/8
997	X2827, 17-62827	7/8
998		7/8
380	X2373, 17-62373	1
	X992, 17-60992	
548	17-62427-000	1
754	X993, 17-60993	1
987	SE-861, SA-753	1
204	X1117, 17-61117	1-1/8
204	17-61117-008	1-1/8
384	17-60217	1-1/8
	PNX217UKYL	
604	X2428, 17-62428	1-1/8
381	X2174, X242-9UKYL	1-1/4
	17-62174, 17-60242	
995	SA-801, 17-30003-008	1-1/4
11253	17-05511-001	1-1/4
210		1-3/8
561		1-3/8
926	SA-772	1-1/2
514		1-5/8
11794	17-05514-005	1-3/4
523		1-7/8
11824	17-62968-003	1-7/8
847	17-62550-009	2-1/4

WEINMAN

501		5/8
952	Q26-77-Y2, Y3	5/8
952V	Q26-77-Y6, Y6	5/8
309	Q26-294-Y2, Y3	7/8
687	Q26-294-Y34, Y35	7/8
687V	Q26-294-Y6, Y7	7/8
188	Q26-177-Y2, Y7	7/8
229	Q26-177-Y34, Y35	7/8
229V	Q26-177-Y6, Y7	7/8
245	Q26-201-Y2, Y3	1
248	Q26-201-Y34, Y35	1
248V	Q26-201-Y6, Y6	1
204	Q26-184-Y2, Y3	1-1/8
384	Q26-184-Y34, Y35	1-1/8

* Spring retainer not needed

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

WEINMAN (Cont)

361	Q26-243-Y2, Y3	1-1/4
137	Q26-243-Y34, Y35	1-1/4
137V	Q26-243-Y6, Y7	1-1/4
185	Q26-395-Y2, Y3	1-1/4
756	Q26-395-Y34, Y35	1-1/4
756V	Q26-395-Y6, Y7	1-1/4
246	Q26-166-Y2, Y3	1-1/4
249	Q26-166-Y34, Y35	1-1/8
249V	Q26-166-Y6, Y7	1-1/4
305	Q26-178-Y2, Y3	1-1/2
374	Q26-178-Y34, Y35	1-1/2
374V	Q26-178-Y6, Y7	1-1/2
347	Q26-167-Y2, Y3	1-1/2
378	Q26-167-Y34, Y35	1-1/2
378V	Q26-167-Y6, Y7	1-1/2
745	Q26-240-Y2, Y3	1-5/8
744	Q26-240-Y34, Y35	1-5/8
744V	Q26-240-Y6, Y7	1-5/8
238	Q26-373-Y2, Y3	1-5/8
239	Q26-373-Y34, Y35	1-5/8
239V	Q26-373-Y6, Y7	1-5/8
205	Q26-217-Y2, Y3	1-3/4
366	Q26-217-Y34, Y35	1-3/4
366V	Q26-217-Y6, Y7	1-3/4
535	Q26-179-Y2, Y3	1-3/4
262	Q26-179-Y34, Y35	1-3/4
262V	Q26-179-Y6, Y7	1-3/4
479	Q26-180-Y2, Y3	2
843	Q26-180-Y34, Y35	2
843V	Q26-180-Y6, Y7	2
278	Q26-181-Y2, Y3	2-3/8
350	Q26-181-Y34, Y35	2-3/8
350V	Q26-181-Y6, Y7	2-3/8
279	Q26-182-Y2, Y3	2-1/2
349	Q26-182-Y34, Y35	2-1/2
349V	Q26-182-Y6, Y7	2-1/2
324	Q26-199-Y2, Y3	3
475	Q26-199-Y34, Y35	3
475V	Q26-199-Y6, Y7	3

WELCH MFG.

60751		3/4
110161V	41-1401F	1

WESTINGHOUSE

663	69782	1/2
358V	65046	3/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

WET INSTITUTE

1000SS		5/8
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WHEELER

218		5/8
702		5/8

WHITE PUMP

200		5/8
203		5/8

WMC

200		5/8
201		3/4

WORTHINGTON

558		9/16
928		9/16
200	43008	5/8
200V	55016	5/8
359	50675	5/8
507		5/8
528	PO-2098	5/8
626	PO-2099	5/8
933	55955	5/8
951	PO-2752	5/8
157		3/4
201		3/4
564	24439	3/4
565	26493	3/4
578		7/8
936	24440	7/8
560	26456	15/16
560	31446	15/16
370		1
282	51610, 53129	1-1/8
529	PO-2885 w/PO-2893	1-1/8
529V	PO-2889 w/PO-2893	1-1/8
801	PO-2885 w/PO-2897	1-1/8
801V	PO-2889 w/PO-2897	1-1/8
866*	PO-2869 w/PO-2897	1-1/8
867*	PO-2869 w/PO-2893	1-1/8
394	31448	1-1/4

Replacement Seal No. Manufacturers Seal Part No. Shaft Size Inches

WORTHINGTON (Cont)

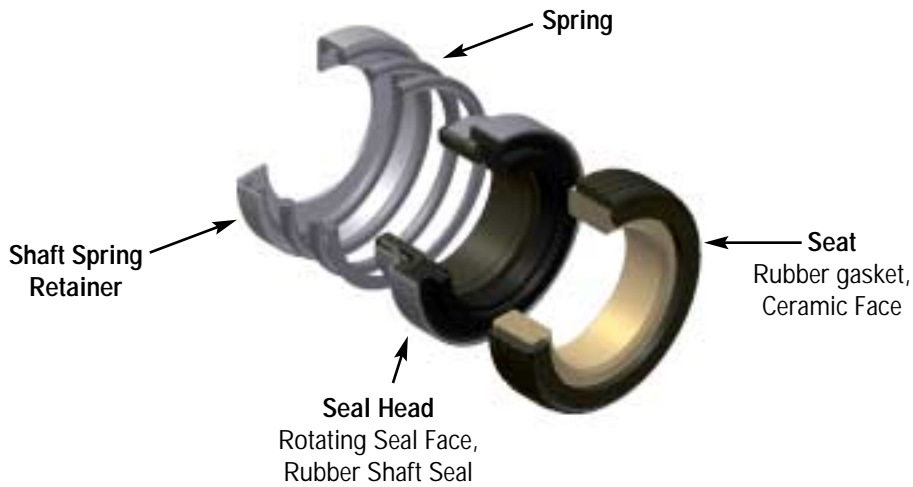
547	PO-2886 w/PO-2894	1-3/8
547V	PO-2890 w/PO-2894	1-3/8
561	26457	1-3/8
561	50498	1-3/8
805	PO-2886 w/PO-2898	1-3/8
805V	PO-2890 w/PO-2898	1-3/8
864*	PO-2870 w/PO-2898	1-3/8
865*	PO-2870 w/PO-2894	1-3/8
258	51611 w/53130	1-1/2
395	51708 w/53130	1-1/2
822	51613,	1-5/8
	516132	1-5/8
436	PO-2887	1-3/4
	PO-2895	1-3/4
550	PO-2887 w/PO-2899	1-3/4
555	26458	1-3/4
555	50499	1-3/4
568	VR-3292B	1-3/4
858*	PO-2871 w/PO-2899	1-3/4
859*	PO-2871 w/PO-2895	1-3/4
513	31449	1-7/8
743		1-7/8
456	51614 w/53133	2
477	31450	2
576	SEL-105	2
582	SEL-157	2
556	26459	2-1/8
556	50500	2-1/8
570	VR-4292B	2-1/8
854	PO-2888 w/PO-2900	2-1/8
855	PO-2888 w/PO-2896	2-1/8
856*	PO-2872 w/PO-2900	2-1/8
857*	PO-2872 w/PO-2896	2-1/8
481	32745	2-1/2
571	VR-5292B	2-5/8
475	55426 w/55425	3

ZOELLER

160		3/8
165	34-035	1/2

* Spring retainer not needed

Type 21, 31, 16 Mechanical Shaft Seal Replacement Instructions



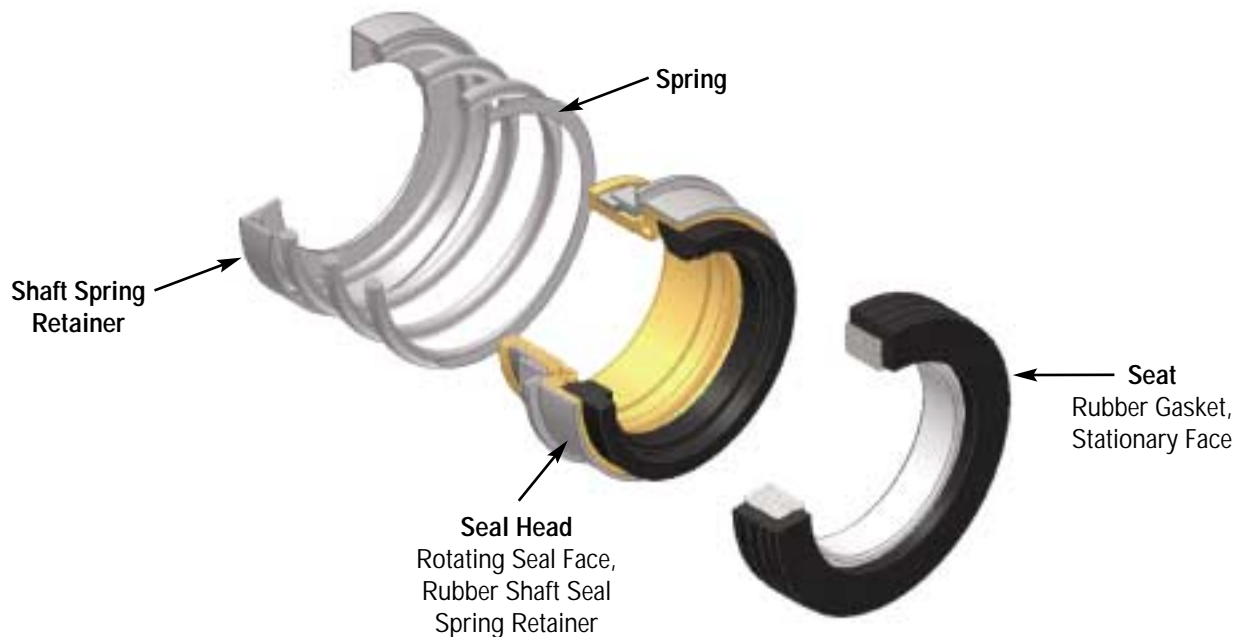
NOTE: Protect precision lapped faces of the seal seat and seal ring from DAMAGE, DIRT, and FINGER MARKS.

1. Disassemble pump housing to expose defective seal: NOTE HOW OLD SEAL IS ASSEMBLED. TO BE SURE REPLACEMENT SEAL IS INSTALLED IN IDENTICAL MANNER.
2. Carefully remove old seal head and seat, taking care not to scratch shaft or seal counterbore.
3. Clean shaft and counterbore surfaces using fine emery cloth or equivalent. Remove rust, burrs, and wipe clean. Avoid making flat spots or reducing shaft diameter.
4. Lubricate the shaft, rubber inner diameter (ID) of the rotating seal head and rubber seat outer diameter (OD) of the stationary seal seat with a water-based lubricant. Seal faces should not be lubricated.

NOTE: NEVER use grease or heavy oil as an installation lubricant. Any oil or grease on the seal faces may cause the seal to leak.

5. Press seal firmly into counter bore ensuring it is bottomed out and squared to the shaft. This can be hand pressed or driven into place taking care to protect the sealing face from direct blow with any metal object. Use a piece of Plastic between the face and any driving force.
6. Check both seal surfaces to assure they are free of any foreign matter. Slide rotating seal head by hand pressure along shaft to a completely parallel contact with the stationary seat. Avoid extreme installation pressure or hammering of seal. Make sure spring correctly engages shoulder of seal head and impeller shoulder or shaft spring retainer.
7. Re-assemble impeller and pump housing.
8. DO NOT RUN PUMP DRY. ALWAYS PRIME PUMP BEFORE STARTING. IN CASE OF SELF-PRIMING MODELS THE PUMP CASING MUST BE FILLED.

Type51, 52 Mechanical Shaft Seal Replacement Instructions



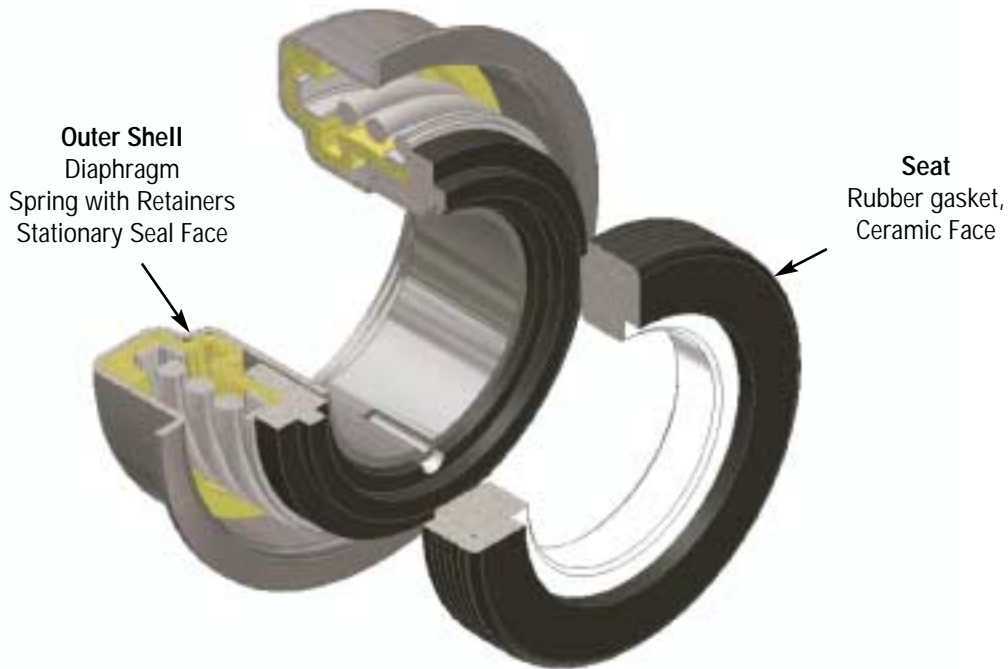
NOTE: Protect precision lapped faces of the seal seat and seal ring from DAMAGE, DIRT, and FINGER MARKS.

1. Disassemble pump housing to expose defective seal: NOTE HOW OLD SEAL IS ASSEMBLED. TO BE SURE REPLACEMENT SEAL IS INSTALLED IN IDENTICAL MANNER.
2. Carefully remove old seal head and seat, taking care not to scratch shaft or seal counterbore.
3. Clean shaft and counterbore surfaces using fine emery cloth or equivalent. Remove rust, burrs, and wipe clean. Avoid making flat spots or reducing shaft diameter.
4. Lubricate the shaft, rubber inner diameter (ID) of the rotating seal head and rubber seat outer diameter (OD) of the stationary seal seat with a water-based lubricant. Seal faces should not be lubricated.

NOTE: NEVER use grease or heavy oil as an installation lubricant. Any oil or grease on the seal faces may cause the seal to leak.

5. Press seal firmly into counter bore ensuring it is bottomed out and squared to the shaft. This can be hand pressed or driven into place taking care to protect the sealing face from direct blow with any metal object. Use a piece of Plastic between the face and any driving force.
6. Check both seal surfaces to assure they are free of any foreign matter. Slide rotating seal head by hand pressure along shaft to a completely parallel contact with the stationary seat. Avoid extreme installation pressure or hammering of seal. Make sure spring correctly engages shoulder of seal head and impeller shoulder or shaft spring retainer.
7. Re-assemble impeller and pump housing.
8. DO NOT RUN PUMP DRY. ALWAYS PRIME PUMP BEFORE STARTING. IN CASE OF SELF-PRIMING MODELS THE PUMP CASING MUST BE FILLED.

Type 68 Mechanical Shaft Seal Replacement Instructions



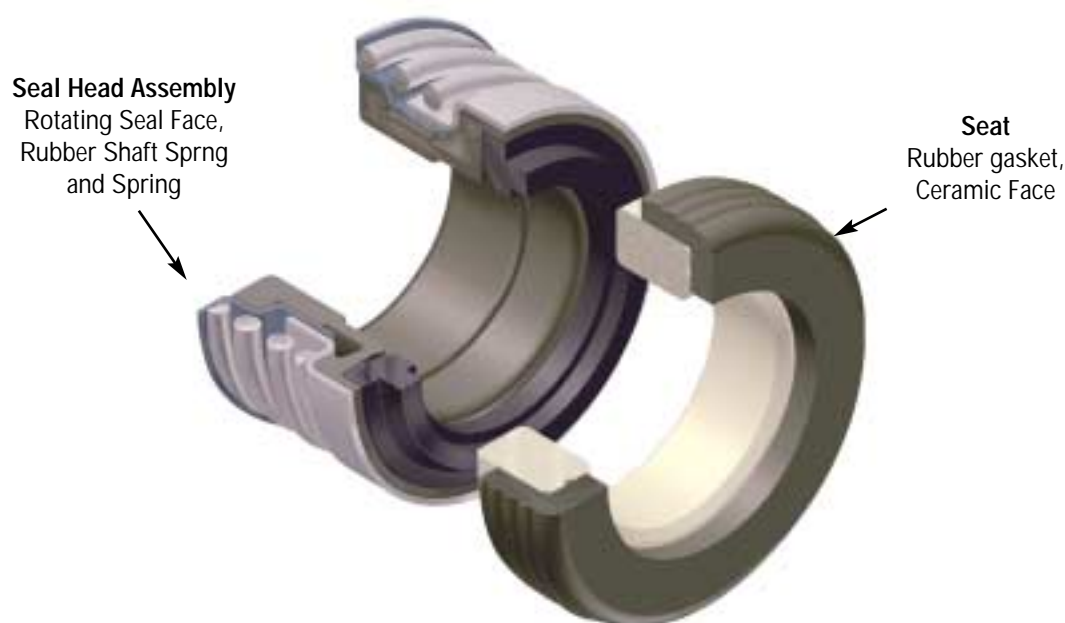
NOTE: Protect precision lapped faces of the seal seat and seal ring from DAMAGE, DIRT, and FINGER MARKS.

1. Disassemble pump housing to expose defective seal: NOTE HOW OLD SEAL IS ASSEMBLED TO BE SURE REPLACEMENT SEAL IS INSTALLED IN IDENTICAL MANNER.
2. Carefully remove old seal head and seat, taking care not to scratch shaft or seal counterbore.
3. Clean shaft and counterbore surfaces using fine emery cloth or equivalent. Remove rust, burrs, and wipe clean. Avoid making flat spots or reducing shaft diameter.
4. Lubricate the shaft, rubber inner diameter (ID) of the rotating seal head and rubber seat outer diameter (OD) of the stationary seal seat with a water-based lubricant. Seal faces should not be lubricated.

NOTE: NEVER use grease or heavy oil as an installation lubricant. Any oil or grease on the seal faces may cause the seal to leak.

5. Press seal firmly into counter bore ensuring it is bottomed out and squared to the shaft. This can be hand pressed or driven into place taking care to protect the sealing face from direct blow with any metal object. Use a piece of Plastic between the face and any driving force.
6. Check both seal surfaces to assure they are free of any foreign matter. Slide rotating seal head by hand pressure along shaft to a completely parallel contact with the stationary seat. Avoid extreme installation pressure or hammering of seal. Make sure spring correctly engages shoulder of seal head and impeller shoulder or shaft spring retainer.
7. Re-assemble impeller and pump housing.
8. DO NOT RUN PUMP DRY. ALWAYS PRIME PUMP BEFORE STARTING. IN CASE OF SELF-PRIMING MODELS THE PUMP CASING MUST BE FILLED.

Type 16 Mechanical Shaft Seal Replacement Instructions



NOTE: Protect precision lapped faces of the seal seat and seal ring from DAMAGE, DIRT, and FINGER MARKS.

1. Disassemble pump housing to expose defective seal: NOTE HOW OLD SEAL IS ASSEMBLED TO BE SURE REPLACEMENT SEAL IS INSTALLED IN IDENTICAL MANNER.
2. Carefully remove old seal head and seat, taking care not to scratch shaft or seal counterbore.
3. Clean shaft and counterbore surfaces using fine emery cloth or equivalent. Remove rust, burrs, and wipe clean. Avoid making flat spots or reducing shaft diameter.
4. Lubricate the shaft, rubber inner diameter (ID) of the rotating seal head and rubber seat outer diameter (OD) of the stationary seal seat with a water-based lubricant. Seal faces should not be lubricated.

NOTE: NEVER use grease or heavy oil as an installation lubricant. Any oil or grease on the seal faces may cause the seal to leak.

5. Press seal firmly into counter bore ensuring it is bottomed out and squared to the shaft. This can be hand pressed or driven into place taking care to protect the sealing face from direct blow with any metal object. Use a piece of Plastic between the face and any driving force.
6. Check both seal surfaces to assure they are free of any foreign matter. Slide rotating seal head by hand pressure along shaft to a completely parallel contact with the stationary seat. Avoid extreme installation pressure or hammering of seal. Re-assemble impeller and pump housing.
7. DO NOT RUN PUMP DRY. ALWAYS PRIME PUMP BEFORE STARTING. IN CASE OF SELF-PRIMING MODELS THE PUMP CASING MUST BE FILLED.

Pool and Spa Pump Manufacturers Cross Reference Guide



Seal Type	Replacement Seal No.	Shaft Diameter
16	896	5/8"
	60675	5/8"
	60678	5/8"
	60758	3/4"

Seal Type	Replacement Seal No.	Shaft Diameter
68	411	5/8"

Seal Type	Replacement Seal No.	Shaft Diameter
21	359	5/8"
	877	3/4"
	309	7/8"
	380	1"
	381	1-1/4"

Seal Type	Replacement Seal No.	Shaft Diameter
16	60643	5/8"
	606104	5/8"
	100	5/8"
	200	5/8"
	372	5/8"
	501	5/8"
	201	3/4"
	360	1"

Seal Type	Replacement Seal No.	Shaft Diameter
68	80304	3/8"
	142	1/2"
	163	1/2"
	1000	5/8"

Manufacturers Seal Part No. Standard Replacement Number Alternate Replacement Number

AMERICAN PRODUCTS

395005	201	
397012	1000	

AMPRO

304	1000	
504	163	
	60678	200

AQUA FLO

RS 1000SS	1000	
92500000	10874	
92500051	806234	
92500060	1000V	
92500150	606152	200

AQUA VAC SYSTEMS

1811	80622*1	
1811A	08-547*2	

ARNESON POOLSWEEP

A-8	60643	200
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CARETAKER

0021130550	601SS	
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COLECO

R32546 w/R86560	606104	
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DIACLEAR

36100 w/35101	142	
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DOUGHBOY

306-1006 w/306-1007	60678	200
306-1003 w/306-1004	80304	
306-1002w/306-1005	1000	
60703		

G.G. INDUSTRIES

1000	1000	
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HAUGHS

1184078	80316	
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Manufacturers Seal Part No. Standard Replacement Number Alternate Replacement Number

HAYWARD

SP1600Z2	60758	201
SP1250XZ2	60678	200
SP1500KA	60678*3	200
SP1500KA	2131*4	
SP1500KA	4702*5	

HYDRA-BATH

	1000	
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JACUZZI

10-478, 10-506	359	
10-486, 10-487	201	
10-1202-36	924	
10-1203-01	877	

LOMART

40-027, 029	163	
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MARLOW

38592-00	201	
25353-00	411	

MUSKIN

09-2001	163	
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PAC. FAB.

	200	
35-002-354894	201	

PREMIER

P19-0, 31-813	1000	
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PREMIER SPRING WATER

31-812	201	
31-813	1000	

PUREX-TRITON

P28128	372	
P28322	501	
P28300	851	201
P28175	360	

POLARIS

	1000	
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Manufacturers Seal Part No. Standard Replacement Number Alternate Replacement Number

STA-RITE

U109-6A	100	
U109-93SS	896	100
U109-136SS	1000	
U109-47	380	
U109-220	381	
U109-170	774	309
U9358-SS	60799	201

SWIM-QUIP

37407-0009	201	201
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SWIM-RITE

60-828-813	1000	
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VICO

	201	
	201V	
	2011*6	

WATERWAY

	1000	
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WET INSTITUTE

1000	1000	
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WMC

4SS1600Z	60703	
4JS1702	80603	
	60603	200

*1 Should be used in conjunction with 08-547
 *2 Should be used in conjunction with 80622
 *3 Plastic Insert Must Be Reused
 *4 Includes Plastic Insert, Style Type 1 Stationary
 *5 Includes Plastic Insert, Style Type 2 Stationary
 *6 Includes Plastic Insert and Rubber Adapter

Dimensions and Material Codes



HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
.250 Shaft Size								
21	.687	.562	1	.875	.160	BCFJF	10212	10212
	.687	.562	1	.750	.270	BCFKF	10213	10213
	.687	.562	-	-	-	BCF-F	10214	10214

.312 Shaft Size								
21	.690	.656	1	1.000	.312	BCFJF	103113	114
	.690	.640	-	-	-	BCF-F	103102	103102
	.690	.640	1	.750	.250	BCFRF	103103	103103

.315 Shaft Size (8 mm)
See Metric Section - Pages 57-62

.375 Shaft Size								
16	.917	.625	-	-	-	BMF-F	60309	377
	.917	.625	1	.875	.218	BMFKF	60306	511
	.917	.625	-	-	-	BCF-F	60301	60301
	.917	.625	1	.875	.281	BMFJF	60303	60303
	.917	.625	1	.875	.281	BCFJF	60304	60304
	.917	.656	1	1.000	.312	BMFJF	60310	60310
21	.917	.750	-	-	-	BCF-F	10301	10301
	.917	.750	-	-	-	NCF-F	10302	10302N
	.917	.750	1	.875	.284	BCFJF	10304	10304
	.917	.750	1	1.000	.250	BCFJF	10312	10312
	.917	.750	1	.875	.284	BCFKF	10318	10318
37	.874	.437	1	1.000	.375	BMDJ	70301	160
	.874	.437	1	1.000	.375	BMDK	70302	170
68	1.125	.375	1	.875	.240	BCDRF	80309	671
	1.125	.375	8	SHAFT MTD.240		BCDKF	80307	718
	1.125	.375	-	-	-	BMD-F	80301	80301
	1.125	.375	-	-	-	BCD-F	80302	80302
	1.125	.375	-	-	-	BCA/D-F	80303	80303
	1.125	.375	1	.875	.160	BCDJF	80304	80304
	1.125	.375	1	.875	.160	BCA/DJF	80308	80308
	1.125	.375	1	.875	.160	BMDJF	80310	80310

.394 Shaft Size (10 mm)
See Metric Section - Pages 57-62

.437 Shaft Size								
16	.917	.656	-	-	-	BMF-F	60401	60401
	.917	.656	1	1.000	.312	BMFJF	60403	60403
21	.917	1.250	2	1.000	.312	NCFJF	10419	117N
	.917	1.250	1	1.175	.265	BCFJF	10414	174
	.917	.750	2	1.000	.312	BCFJF	10426	244
	.917	.750	-	-	-	BCF-F	10401	10401
	.917	.750	-	-	-	NCF-F	10402	10402N
	.917	.750	1	1.181	.254	NCFJF	10403	10403N
	.917	.750	1	1.000	.312	BCFJF	10404	10404

.437 Shaft Size (Cont)								
21	.917	.750	1	1.181	.254	UCFJF	10409	10409
	.917	.750	2	1.181	.250	BCFKF	10410	10410
	.917	.690	-	-	-	BCF-F	10411	10411
	.917	.750	1	1.181	.254	ECFJF	10415	10409E

.472 Shaft Size (12 mm)
See Metric Section - Pages 57-62

.500 Shaft Size								
	.917	.750	2	1.181	.250	NCFKF	10418	10418N
16	.917	.656	1	1.000	.312	BMFJF	60503	162
	.917	.656	1	1.000	.290	BMFKF	60505	506
	.917	.656	2	.875	.218	BMFKF	60525	670
	.917	.656	-	-	-	BCF-F	60502	60502
	.917	.656	1	1.000	.312	BCFJF	60504	60504
	.917	.656	2	1.000	.312	BCFJF	60523	60523
21	.917	.812	1	1.000	.290	BCFKF	10528	106
	.917	.831	1	1.000	.312	BCFJF	10504	168
	.917	.812	2	1.500	.296	BCFKF	10588	190
	.917	.718	3	1.375	.187	BMFKF	10551	221
	.917	.718	1	.938	.237	BCFJF	10543	392
	.917	.718	1	.938	.237	BCFKF	10558	393
	.917	.718	-	-	-	BCF-F	10593	400
	.917	.812	-	-	-	BCF-F	10593	401
	.917	.812	1	.938	.237	BCFJF	10543	401A
	.917	.812	1	1.000	.312	BMFJF	10552	631
	.917	.812	1	1.000	.290	BCFKF	10581	632
	.917	.831	1	1.000	.290	BCFKF	10581	666
	.917	.831	-	-	-	BCF-F	10501	930
	.917	.812	1	1.000	.312	BCFJF	10504	1002
	.917	.812	1	.938	.237	BCFJF	10543	1012
	.917	.718	1	1.000	.237	BMFJF	10523	1043
	.917	.812	-	-	-	BCF-F	10593	1050
	.917	.625	1	1.000	.312	BCFJF★	10506	10506
	.917	.718	2	1.000	.312	BCFJF	10508	10508
	.917	.625	2	1.000	.312	BCFKF	10517	10517
	.917	1.095	25	1.250	.576	BCFKF	10533	10533
	.917	.703	3	1.093	.190	VCLXL	10536	10536V
	.917	.692	1	1.000	.203	BCFKF	10539	10539
	.917	.812	2	1.000	.312	BCFKF	10545	10545
	.917	.812	2	1.000	.312	BCFJF	10553	10553
	.917	.812	1	1.000	.312	BCFKF	10555	10555
	.917	1.187	-	-	-	BCF-F	10580	10580
	.917	.625	1	1.000	.312	BCFKF★	10589	10589
	.917	.530	2	1.000	.312	BCFK	10590	10590

* Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

.500 Shaft Size (Cont)								
21D	.917	1.125	1	1.000	.312	BCFJF	10582	10582
	.917	1.125	1	1.000	.312	BCFKF	10583	10583
	.917	1.437	1	1.000	.312	BCFJF	10584	10584
	.917	1.437	1	1.000	.312	BCFKF	10585	10585
	.917	1.125	-	-	-	BCF-F	10586	10586
	.917	1.437	-	-	-	BCF-F	10587	10587
40	1.125	.390	1	1.000	.312	BMFJF	40514	663
	1.125	.390	-	-	-	BMD-F	40510	40510
	1.125	.390	1	1.000	.312	ECFJF	40517	40517E
68	1.125	.537	1	1.000	.232	BMDFD	80531	142
	1.125	.537	8	SHAFT MTD.	.062	BMDFF	80521	149
	1.125	.537	-	-	-	BMD-F	80501	150
	1.125	.537	8	SHAFT MTD.	.125	BMDKF	80535	155
	1.125	.537	1	1.000	.312	BMDJF	80503	163
	1.125	.537	1	1.000	.312	BMFJF	80527	163SS
	1.125	.537	5	SHAFT MTD.	.312	BMDKF	80513	164
	1.125	.537	5	SHAFT MTD.	.312	BMDJF	80504	165
	1.125	.537	1	1.000	.290	BMDKF	80522	788
	1.125	.537	-	-	-	BCD-F	80502	80502
	1.125	.537	-	-	-	BCF-F	80506	80506
	1.125	.537	5	SHAFT MTD.	.312	BCDJF	80507	80507
	1.125	.537	5	SHAFT MTD.	.312	BCFJF	80516	80516
	1.125	.537	1	1.000	.312	BCFJF	80523	80523
	1.125	.537	-	-	-	BMF-F	80526	80526
1.125	.537	1	1.000	.312	BCFJF	80529	80529	
21	1.110	.812	2	1.000	.290	NCFKF	105614	558N

.551 Shaft Size (14 mm)

See Metric Section - Pages 57-62

.562 Shaft Size

1.110	.812	-	-	-	NCF-F	105621	928N
1.110	.812	1	1.187	.343	BCFJF	105607	105607
1.110	.875	-	-	-	BCF-F	105610	105610
1.110	.800	2	1.125	.410	BCFSF	105613	105613

.590 Shaft Size

21	1.185	.875	1	1.250	.406	BCDJF★	105906	129
	1.185	.875	-	1.250	-	BCF-F	105902	105902
	1.185	.875	1	1.250	.406	BCFKF★	105907	105907

.625 Shaft Size

16	1.185	.718	1	1.187	.343	BMFJF	60611	100
	1.185	.718	2	1.125	.500	BMFKF	60626	148
	1.185	.812	1	1.250	.375	BMFKF	60624	153
	1.185	.812	1	1.187	.343	BMFJF	60622	166
	1.185	.718	8	SHAFT MTD.	.125	BMFKF	606105	198
	1.185	.718	1	1.250	.406	BMFJF	60603	200

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

.625 Shaft Size (Cont)								
16	1.185	.718	-	-	-	BCF-F	60602	218
	1.185	.718	2	1.207	.250	BMFKF	60616	232
	1.187	.718	Press Fit	1.125	.312	BMFKF	606215	293
	1.185	.718	-	-	-	BMF-F	60601	299
	1.185	.718	1	1.250	.406	BMF/DJF	60629	300
	1.185	.718	1	1.250	.250	BMFJF	60620	372
	1.185	.812	1	1.250	.406	BMFJF	60606	425
	1.185	.812	1	1.250	.406	BMFJF	60606	501
	1.185	.718	1	1.250	.375	BMFKF	60645	507
	1.185	.718	1	1.250	.406	BCFJF	60604	516
	1.185	.718	1	1.187	.288	BCFKF	60680	518
	1.185	.718	1	1.250	.375	BCFKF	60694	524
	1.185	.718	1	1.375	.562	BMFJF	60653	528
	1.185	.718	1	1.250	.283	BMFJF	60695	551
	1.185	.718	2	1.250	.375	BMFKF	606106	628
	1.185	.718	2	1.250	.406	BMFJF	60678	637
	1.185	.718	1	1.187	.281	BCFJF	60670	680
	1.185	.718	1	1.187	.281	BMFKF	60623	701
	1.185	.718	1	1.187	.281	BMFJF	60607	702
	1.185	.718	2	1.187	.343	BMFJF	60627	711
	1.185	.718	2	1.187	.343	BMFJF	60627	896
	1.185	.812	1	1.250	.406	BMFJF	60606	909
	1.185	.718	1	1.141	.312	BMFKF	60639	920
	1.185	.812	1	1.250	.406	BCFJF	60605	952
	1.185	.812	1	1.187	.343	BCFJF	60696	953
	1.185	.812	1	1.250	.375	BCFKF	60697	954
	1.185	.812	1	1.187	.281	BCFKF	60698	955
	1.185	.718	1	1.187	.343	BCFJF	60612	957
	1.185	.718	1	1.187	.343	BMFKF	606186	1150
	1.185	.812	-	-	-	BCF-F	60619	60619
	1.185	.812	-	-	-	BMF-F	60630	60630
	1.185	.718	Spec 1	1.096	.312	BMFJF	60643	60643
	1.185	.718	1	1.250	.406	BCFKF	60650	60650
	1.185	.718	1	1.250	.250	BMFKF	60658	60658
	1.185	.718	1	1.250	.406	BXFJF	60672	60672
	1.185	.718	2	1.250	.406	BMFJF	60678	60678
	1.185	.718	1	1.320	.343	BMFJF	60686	60686
	1.185	.718	1	1.187	.343	BXFZF	60687	60687
	1.185	.718	2	1.250	.406	BMFKF	60699	60699
	1.185	.718	2	1.250	.406	BCFKF	606100	606100
	1.185	.718	1	1.250	.406	BMFKF	606101	606101
	1.185	.796	1	1.250	.406	BMFJF	606104	606104
21	1.185	.875	1	1.250	.375	BCFKF★	106108	102
	1.185	.875	-	-	-	BCF-F	10601	109
	1.185	.875	2	1.125	.500	BCFKF	10641	110
	1.185	.812	1	1.187	.343	BCFJF	10609	118
	1.185	.718	1	1.250	.406	BMFJF	10673	132
	1.185	.875	2	1.125	.500	BCFKF	106134	222
	1.185	.875	1	1.187	.281	BCFKF	10644	226
	1.185	.875	1	1.187	.343	BCFKF	106118	263
	1.185	1.312	1	1.250	.406	BCFJF	10685	274
	1.110	.875	1	1.250	.406	BCFJF	106300	290
	1.185	.875	1	1.250	.406	BCFJF	10604	359
	1.185	.875	1	1.250	.406	BCFJF	10604	471

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
.625 Shaft Size (Cont)								
21	1.185	.875	1	1.250	.375	BCFKF	106115	474
	1.185	1.312	1	1.187	.343	BCFJF	106149	485
	1.185	1.312	1	1.187	.288	BCFJF	106150	486
	1.185	1.312	1	1.250	.375	BCFKF	10686	487
	1.185	.875	1	1.187	.281	BCFKF	10644	493
	1.185	.875	1	1.250	.406	BCFJF★	10650	508
	1.185	.875	1	1.187	.288	BCFJF	106121	531
	1.185	.875	2	1.187	.343	BCFJF	106140	536
	1.185	.875	1	1.250	.406	BCFJF	10674	552
	1.185	.875	1	1.375	.406	VCFJF	106176	626V
	1.185	.875	1	1.250	.375	BCFKF	106115	633
	1.185	.875	2	1.250	.375	BCFKF	106152	732
	1.185	.875	1	1.187	.288	BCFJF	106121	733
	1.185	.875	2	1.250	.375	BCFKF	106152	734
	1.185	.875	1	1.250	.406	BCFJF	10627	735
	1.185	.875	1	1.187	.288	BCFJF	106121	736
	1.185	.875	1	1.187	.343	BCFJF	10683	737
	1.185	1.312	2	1.250	.375	BCFKF	106154	738
	1.185	1.312	2	1.187	.343	BCFJF	106153	748
	1.100	1.312	1	1.148	.312	BCFJF	106175	800
	1.185	.765	1	1.250	.406	NCFJF	106155	810N
	1.185	.812	1	1.250	.406	BCFJF	10627	850
	1.185	.875	1	1.141	.312	BCFKF	10665	922
	1.185	.750	1	1.250	.406	BCFJF	10627	924
	1.185	.875	-	-	-	BCF-F	10601	933
	1.185	.875	2	1.375	.406	VCFKF	106146	951V
	1.185	.875	1	1.187	.281	BCFJF	106121	971
	1.185	.765	1	1.187	.281	NCFJF★	106116	989N
	1.185	.875	1	1.187	.343	BCFKF	10609	1154
	1.185	.875	1	1.187	.288	BCFJF	106121	1155
	1.185	.875	1	1.250	.406	BCFKF	10695	1156
	1.185	.875	1	1.312	.250	BCFJF	106159	1505
	1.185	.750	2	1.187	.343	ECFKF	10606	10606E
	1.185	.875	1	1.250	.406	BCF/PJF	10611	10611
	1.185	.718	1	1.250	.406	BCFJF	10619	10619
	1.185	.672	2	1.250	.343	BCFKF	10655	10655
	1.185	.875	1	1.250	.406	BCFJF	10658	10658
	1.185	.985	1	1.250	.406	TCFJF	10676	10676T
	1.185	.875	2	1.250	.312	VCFKF	10688	10688V
	1.185	.875	2	1.250	.406	BCFKF	10693	10693
	1.185	.875	1	1.250	.406	BCFKF	10695	10695
	1.185	.906	1	1.142	.312	BCFJF	10696	10696
	1.185	.687	-	-	-	BCF-F★	106145	106145
	1.185	.875	1	1.375	.406	BCFKF	106157	106157
	1.185	1.312	2	1.250	.406	BCFKF	106158	106158
	1.185	1.312	2	1.250	.406	BCFJF	106161	106161
	1.185	1.312	2	1.250	.406	BCFKF	106162	106162
	1.185	1.312	-	-	-	BCF-F	106163	106163
	1.185	.765	-	-	-	NCF-F★	106164	106164
	1.185	.875	1	1.250	.406	BCFKF★	106174	106174

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
.625 Shaft Size (Cont)								
21D	1.185	1.187	-	-	-	BCF-F	106120	678
	1.185	1.187	-	-	-	NSF-F	10620	863N
	1.185	1.625	-	-	-	BCF-F	106165	106165
	1.185	1.187	1	1.250	.406	BCFJF	106166	106166
	1.185	1.187	1	1.250	.406	BCFKF	106167	106167
	1.185	1.187	2	1.250	.406	BCFJF	106168	106168
	1.185	1.187	2	1.250	.406	BCFKF	106169	106169
	1.185	1.625	1	1.250	.406	BCFJF	106170	106170
	1.185	1.625	1	1.250	.406	BCFKF	106171	106171
	1.185	1.625	2	1.250	.406	BCFJF	106172	106172
	1.185	1.625	2	1.250	.406	BCFKF	106173	106173
29	1.435	.265	1	1.250	.406	BMMJF	90607	90607
	1.435	.265	1	1.250	.406	BCMJF	90608	90608
	1.435	.265	1	1.250	.406	VCMJF	90648	90608V
	1.435	.265	1	1.250	.406	VCMJF	90636	90636V
	1.435	.265	1	1.250	.406	VXMXF	90641	90641V
	1.435	.265	1	1.250	.406	VCMJF	90648	90648
	1.435	.265	2	1.250	.406	VCMJF	90649	90649V
40	1.500	.556	1	1.187	.343	UCFJF	40604	40604
	1.500	.556	-	-	-	UCF-F	40606	40606
68	1.437	.615	1	1.093	.218	BMFKF	80634	113
	1.437	.615	1	1.375	.181	BMFKF	80606	151
	1.437	.615	1	1.250	.283	BMFJF	80673	200A
	1.437	.615	11	SHAFT MTD.	.375	BMFJ/FF	80692	202SS
	1.437	.615	1	1.312	.250	BMFKF	80638	233
	1.437	.615	11	SHAFT MTD.	.375	BMFJ/GF	80616	260
	1.437	.615	11	SHAFT MTD.	.486	BMFJ/GF	80612	406
	1.437	.615	5	SHAFT MTD.	.187	BMFKF	80610	409
	1.437	.615	-	SHAFT MTD.	.187	BMFKF	806224	410
	1.437	.615	11	SHAFT MTD.	.486	BMFJ/GF	80612	411
	1.437	.615	11	SHAFT MTD.	.486	B/VMEJ/GF	80617	411P
	1.437	.615	11	SHAFT MTD.	.328	BMFKF	80633	414
	1.437	.615	9	SHAFT MTD.	.213	BCFJF	80687	447
	1.437	.615	5	SHAFT MTD.	.320	BMFKF	80619	451
	1.437	.615	5	SHAFT MTD.	.215	BCFKF	80632	453
	1.437	.615	11	SHAFT MTD.	.486	BMFJ/GF	80642	488
	1.437	.615	1	1.187	.288	BCFKF	80645	522
	1.437	.615	1	1.187	.343	BMFJF	80608	600
	1.437	.615	1	1.187	.288	BMFKF	80646	615
	1.437	.615	1	1.187	.288	BMFKF	80646	616
	1.437	.615	-	-	-	BMF-F	80601	642
	1.437	.615	-	-	-	BMF-F	80601	646
	1.437	.615	1	1.250	.406	BMFJF	80604	668
	1.437	.615	1	1.187	.288	BMFJF	80620	700
	1.437	.615	2	1.250	.375	BMFKF	80677	712
	1.437	.615	2	1.250	.375	BMFKF	80677	714
	1.437	.615	2	1.187	.343	BMFJF	80679	717
	1.437	.615	5	SHAFT MTD.	.343	BMFKF	80630	720
	1.437	.615	-	-	-	BCF-F	80649	882
	1.437	.615	1	1.250	.406	BCFJF	80680	961
	1.437	.615	1	1.187	.288	BCFKF	80645	962
	1.437	.615	1	1.187	.343	BCFJF	80663	963
	1.437	.615	1	1.250	.375	BCFKF	80681	964

* Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

.625 Shaft Size (Cont)								
68	1.437	.615	1	1.250	.406	BCFJF	80682	965
	1.437	.615	1	1.187	.343	BCFJF	80683	966
	1.437	.615	1	1.250	.375	BCFKF	80681	967
	1.437	.615	1	1.250	.406	BMFJF	806244	1000
	1.437	.615	1	1.375	.375	BMFKF	80605	1005A
	1.437	.615	1	1.078	.210	BMFJF	80611	80611
	1.437	.615	9	SHAFT MTD.	.225	BMFFF	80613	80613

.630 Shaft Size (16 mm)
See Metric Section - Pages 57-62

.709 Shaft Size (18 mm)
See Metric Section - Pages 57-62

.750 Shaft Size

16	1.300	.812	1	1.437	.406	BMFJF	60707	101
	1.300	.718	8	SHAFT MTD.	.125	BMFJF	60747	199
	1.300	.718	1	1.375	.406	BMFJF	60703	201
	1.300	.718	2	1.312	.406	BMFKF	60727	231
	1.300	.978	1	1.375	.270	BMF/PJF	60728	301
	1.300	.718	1	1.312	.250	BMFJF	60748	315
	1.300	.718	2	1.375	.375	BCFKF	60738	412
	1.300	.718	15	1.375	.375	BCFJ/GF	60770	415
	1.300	.718	15	1.375	.375	BMFJ/GF	60716	419
	1.300	.812	1	1.375	.375	BCFKF	60773	494
	1.300	.843	1	1.375	.406	BMFJF	60715	509
	1.300	.718	2	1.375	.375	BMFKF	60722	512
	1.300	.812	2	1.375	.406	BMFKF	60733	596
	1.300	.718	2	1.250	.343	BMFKF	60742	689
	1.300	.718	1	1.437	.406	BMFJF	60713	699
	1.300	.812	2	1.375	.406	BMFJF	60774	760
	1.300	.812	2	1.375	.406	BMFKF	60733	762
	1.300	.812	1	1.375	.250	BCFJF	60776	764
	1.300	.718	1	1.375	.406	BCFJF	60704	851
	1.300	.658	1	1.375	.406	BMFJF	60744	908
	1.300	.718	1	1.375	.375	BMFKF	60720	921
	1.300	.718	1	1.437	.406	BCFJF	60739	968
	1.300	.718	1	1.437	.406	BCFJF	60739	969
	1.300	.718	1	1.375	.375	BCFKF	60763	973
	1.300	.718	-	-	-	BCF-F	60702	974
	1.300	.718	-	-	-	BMF-F	60701	1522
	1.300	.718	1	1.500	.235	BCFJF	60777	1525
	1.300	.718	1	1.437	.406	BCFKF	-	2118
	1.300	.718	22	2.873	.343	BCFKF	60740	60740
	1.300	.718	1	1.355	.406	BMFJF	60751	60751
	1.300	.718	1	1.375	.250	BCFJF	60757	60757
	1.300	.718	2	1.375	.406	BMFJF	60758	60758
	1.300	.718	1	1.375	.406	ECFKF	60765	60765E
	1.300	.718	-	-	-	NCF-F	60769	974N
	1.300	.718	2	1.375	.406	BCFKF	60778	60778

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

.750 Shaft Size (Cont)								
21	1.300	.875	3	1.375	.406	BCFKF	10714	103
	1.300	.875	3	1.375	.406	BCFKF	10714	107
	1.300	.875	1	1.375	.375	BCFKF	10724	112
	1.300	.875	2	1.312	.375	BCFKF	107108	116
	1.300	.875	2	1.250	.343	BCFKF	10776	121
	1.300	.843	1	1.375	.406	BCFJF*	10753	128
	1.300	.875	-	-	-	BCF-F	10701	157
	1.300	.875	2	1.312	.375	BCFKF	107108	207
	1.300	.875	2	1.375	.406	BCFKF	10754	265
	1.300	1.312	1	1.375	.406	BCFJF	10766	275
	1.300	.875	1	1.375	.406	BCFJF	10704	358
	1.300	.875	3	1.375	.406	BCFKF	10714	362
	1.300	1.312	1	1.375	.375	BCFKF	10765	373
	1.300	.875	-	-	-	BCF-F	10701	399
	1.300	.875	1	1.275	.290	BCFJF	107135	437
	1.300	.875	1	1.275	.290	BCFKF	107122	443
	1.300	.875	2	1.437	.375	NCFKF	107136	444N
	1.300	.875	3	1.312	.406	BCFAF	10710	502
	1.300	1.312	-	-	-	BCF-F	107113	564
	1.300	1.312	2	1.375	.406	BCFKF	10763	565
	1.300	.875	2	1.312	.406	BCFKF	10751	649
	1.300	.875	1	1.500	.235	BCFJF	10795	683
	1.300	.875	1	1.375	.406	BCFJF	10704	750
	1.300	.875	1	1.375	.375	BCFKF	10724	752
	1.300	.875	2	1.375	.406	BCFJF	10783	767
	1.300	.875	2	1.375	.406	BCFKF	10754	768
	1.300	.875	2	1.375	.406	BCFJF	10783	769
	1.300	1.312	2	1.375	.406	BCFJF	10764	771
	1.300	1.312	2	1.375	.406	BCFKF	10763	773
	1.300	.844	1	1.375	.406	BCFJF	10704	812
	1.300	.875	1	1.625	.437	NCFKF	10778	820N
	1.300	.812	1	1.375	.406	BCFJF	10707	877
	1.300	.875	2	1.187	.375	BCFKF	10723	905
	1.300	.718	1	1.375	.265	BCFJF	107128	944
	1.300	.875	1	1.375	.406	BCFJF	10704	991
	1.300	.875	1	1.375	.265	BCFJF	107132	1510
	1.300	.875	1	1.312	.406	BCFJF	10741	1514
	1.300	1.312	1	1.375	.406	BCFJF	10766	3430
	1.300	.875	2	1.375	.250	BCFKF	10708	10708
	1.300	.718	1	1.375	.406	BCFJF	10713	10713
	1.300	.750	4	1.250	.406	BCFKF	10718	10718
	1.300	1.000	1	1.375	.406	TCFJF	10752	10752T
	1.300	.875	2	1.375	.406	BCF/PJF	10759	10759
	1.300	.906	2	1.375	.406	VCLXL	10762	10762V
	1.300	.875	1	1.375	.406	BCFKF	10767	10767
	1.300	.812	1	1.375	.406	VCRJR	10780	10780V
	1.300	.688	1	1.287	.250	BCFJF	10781	10781
	1.199	.875	2	1.312	.375	VCFKF	10794	10794V
	1.300	.812	1	1.375	.406	NCFJF	107100	107100N
	1.300	.812	1	1.375	.406	BCFKF	107118	107118
	1.300	.875	1	1.375	.406	UCFJF	107120	107120
	1.300	.718	22	2.873	.343	BCFKF	107125	107125

* Spring retainer not needed

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
.750 Shaft Size (Cont)								
21	1.300	.812	1	1.375	.235	BCFJF	107127	107127
	1.300	.875	1	1.437	.406	BCFJF	107141	107141
	1.300	.593	3	1.125	.406	BCFK	107142	107142
	1.300	.843	2	1.375	.406	NCFKF★	107143	107143N
21D	1.300	1.625	-	-	-	BCF-F	10770	145
	1.300	1.185	1	1.500/1.375	.235	BCFJF	10793	175
	1.300	1.625	1	1.375	.406	BCFKF	107110	651
	1.300	1.700	1	1.375	.406	BCFJF	10796	1604
	1.300	1.187	-	-	-	BCF-F	10775	10775
	1.300	1.625	1	1.375	.406	BCFJF	10796	10796
	1.300	1.625	1	1.375	.406	BCFKF	107138	107138
	1.300	1.187	1	1.375	.406	BCFJF	107139	107139
	1.300	1.187	1	1.375	.406	BCFKF	107140	107140
	29	1.576	.235	1	1.375	.406	BMMJF	90710
1.576		.235	1	1.375	.406	BCMJF	90711	90711
68	1.575	.615	2	1.207	.250	BMDKF	80714	369
	1.575	.615	11	SHAFT MTD.	.437	BMDJF	80712	440
	1.575	.615	5	SHAFT MTD.	.312	BMDKF	80708	441
	1.575	.615	5	SHAFT MTD.	.312	BMFKF	80721	441SS
	1.575	.615	1	1.375	.406	BMFJF	80703	601
	1.575	.615	1	1.375	.406	BMFJF	80720	601SS
	1.575	.615	1	1.375	.375	BMDKF	80710	606
	1.575	.615	-	-	-	BMD-F	80701	647
	1.575	.615	2	1.375	.406	BMDJF	80730	765
	1.575	.615	2	1.375	.406	BMDKF	80729	766
	1.575	.615	5	SHAFT MTD.	.281	BMDKF	80709	902
1.575	.615	-	-	-	BCF-F	80702	80702	

.787 Shaft Size (20 mm)

21	1.429	.937	1	1.500	.406	BCFJF★	107801	135
	1.429	.937	1	1.500	.406	BCFKF★	107804	614
	1.429	.937	-	-	-	BCF-F★	107803	107803

For Additional Selections: See Metric Section - Pages 57-62

.866 Shaft Size (22 mm)

See Metric Section - Pages 57-62

.875 Shaft Size

16	1.429	.812	-	-	-	BCF-F	60802	60802
	1.429	.812	1	1.500	.406	BCFJF	60804	60804
	1.429	.812	1	1.500	.406	BCFKF	60805	60805
	1.429	.812	2	1.437	.265	VCFKF	60813	60813V
21	1.429	.937	2	1.625	.406	BCFKF	10858	144
	1.429	1.375	1	1.500	.406	BCFJF	10844	188
	1.429	.937	-	-	-	BCF-F	10801	208
	1.429	1.375	2	1.500	.406	BCFKF	10859	229
	1.429	.937	2	1.500	.406	BCFKF	10845	250
	1.429	.844	1	1.500	.406	BCFJF	10877	287

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
.875 Shaft Size (Cont)								
21	1.429	.937	1	1.562	.406	BCFKF	10815	294
	1.429	.937	1	1.500	.406	BCFKF	10810	303
	1.429	.937	1	1.500	.406	BCFJF	10804	309
	1.429	.937	-	-	-	BCF-F	10801	578
	1.429	.937	1	1.562	.406	BCFJF	10814	602
	1.429	.937	1	1.562	.406	BCFKF	10815	603
	1.429	.937	2	1.500	.406	BCFKF	10845	617
	1.429	.937	1	1.500	.406	BCFKF	10810	687
	1.429	.937	1	1.500	.406	BCFJF	10804	703
	1.429	.937	2	1.500	.406	BCFJF	10878	774
	1.429	.937	2	1.500	.406	BCFJF	10878	775
	1.429	1.375	2	1.500	.406	BCFJF	10882	776
	1.429	.921	1	1.437	.265	BCFKF	10817	790
	1.429	1.375	1	1.500	.406	BCFKF	10861	935
	1.429	1.375	-	-	-	BCF-F	10843	936
	1.429	1.375	2	1.625	.406	BCFJF	10883	997
	1.429	1.375	2	1.625	.406	BCFKF	10848	998
	1.429	.937	1	1.500	.406	BCFJF	10826	10826
	1.429	1.031	2	1.500	.406	VCXLX	10847	10847V
	1.429	.937	2	1.437	.265	BCFKF	10854	10854
1.429	.937	1	1.562	.406	BCFJF★	10873	10873	
1.429	.937	2	1.500	.406	BCFJF	10874	10874	
1.429	.937	1	1.500	.406	BCFKF	10889	10889	
21D	1.429	1.625	-	-	-	BCF-F	10840	140
	1.429	1.250	-	-	-	BCF-F	10839	197
	1.429	1.625	1	1.500	.406	BCFJF	10841	428
	1.429	1.625	1	1.500	.406	BCFKF	10862	685
	1.429	1.250	1	1.500	.406	BCFKF	10863	878
	1.429	1.250	1	1.500	.406	BCFJF	10860	892
	1.429	1.437	2	1.500	.468	VCFKF	10836	10836V
	1.429	1.250	2	1.500	.406	BCFJF	10884	10884
	1.429	1.250	2	1.500	.406	BCFKF	10885	10885
	1.429	1.625	2	1.500	.406	BCFJF	10886	10886
	1.429	1.625	2	1.500	.406	BCFKF	10887	10887

.937 Shaft Size

51	1.449	1.656	1	1.562	.406	BCFKF	509111	560
	1.449	1.656	2	1.562	.406	BCFKF	50936	823
	1.449	1.656	-	-	-	BCF-F	50901	10903

.945 Shaft Size (24 mm)

See Metric Section - Pages 57-62

.984 Shaft Size (25 mm)

21	1.548	1.000	1	1.625	.437	BCFJF	109804	109804
	1.548	.866	1	1.732	.335	VCFJF	109805	109805V
	1.548	.866	1	1.720	.335	BCFJF	109806	109806
	1.548	.866	1	1.693	.335	BCFJF	109807	109807
	1.548	.866	-	-	-	BCF-F	109809	109809
	1.548	1.000	2	1.625	.437	BCFJF	109811	109811
21D	1.548	1.875	1	1.720	.335	BCFJF	109808	109808

For Additional Selections: See Metric Section - Pages 57-62

* Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.000 Shaft Size

16	1.552	.812	1	1.625	.437	BMFJF	61003	360
	1.552	.812	1	1.625	.437	BMFKF	61007	370
	1.552	.812	15	1.625	.625	BMF/GJF	61012	405
	1.552	.812	2	1.625	.437	BMFJF	61013	777
	1.552	.812	2	1.625	.437	BCFKF	61011	778
	1.552	.812	-	-	-	BMF-F	61001	975
	1.552	.812	2	2.000	.406	BMFJF	61023	6467
	1.552	.812	-	-	-	BCF-F	61002	61002
	1.552	.812	1	1.625	.437	BCFJF	61004	61004
	1.552	.812	1	1.625	.437	BCFKF	61015	61015
21	1.552	1.00	2	1.625	.437	NCFGF	11088	159N
	1.552	1.062	1	1.750	.437	BCFKF	110130	227
	1.552	1.000	1	1.625	.437	BCFJF	11004	235
	1.552	1.562	1	1.625	.437	BCFKF	11049	236-21
	1.552	1.000	1	1.625	.437	BCFJF★	11050	245
	1.552	1.000	1	1.625	.437	BCFKF★	11059	248
	1.552	1.187	2	1.625	.437	BCFKF	11047	251
	1.552	1.062	2	1.625	.437	BCFKF	11047	252
	1.552	1.062	18	1.700	.370	BCFKF★	11099	311
	1.552	1.000	1	1.625	.437	BCFKF	11026	357
	1.552	1.062	1	1.625	.437	BCFJF	11004	380
	1.552	1.000	-	-	-	BCF-F★	110100	397
	1.552	1.062	-	-	-	BCF-F★	110100	398
	1.552	1.000	15	1.625	.625	BCFJF	11048	413
	1.552	1.062	18	1.700	.370	BCFKF★	11099	438
	1.552	1.062	1	1.625	.437	BCFKF	11026	460
	1.552	1.000	2	1.625	.437	BCFKF	11047	499
	1.552	1.625	1	1.625	.437	BCFJF	110245	539
	1.552	1.000	2	1.625	.437	BCFJF	11060	548
	1.552	1.562	2	1.625	.437	BCFJF	110121	557-21
	1.552	1.562	1	1.625	.406	NCFKF	110122	695N-21
	1.552	1.562	1	1.625	.437	BCFJF	11014	754-21
	1.552	1.625	1	1.625	.437	BCFKF	11049	779
	1.552	1.062	2	1.625	.437	BCFJF	11060	789
	1.552	1.562	2	1.625	.437	BCFKF	11051	791-21
	1.552	.938	1	1.625	.437	BCFJF	11004	813
	1.552	1.562	1	1.500	.375	BCFKF	11076	912-21
	1.552	1.562	-	-	-	BCF-F	11058	937-21
	1.552	1.062	2	1.875	.375	BCFKF★	11072	987
	1.552	1.000	1	1.750	.437	BCFJF	110111	3440
	1.552	1.000	-	-	-	BCF-F	11001	11001
	1.552	1.062	-	-	-	BCF-F	11001	11001
	1.552	.781	2	1.625	.437	ECFKF	11006	11006E
	1.552	.843	1	1.625	.437	BCFJF	11024	11024
	1.552	1.000	2	1.625	.312	BCFKF★	11028	11028
	1.552	1.000	2	1.625	.312	NCFKF★	11030	11028N
	1.552	.781	2	1.625	.437	BCFJF	11052	11052
	1.552	.875	1	1.625	.437	BCFJF	110104	110104
21D	1.552	1.875	-	-	-	BCF-F	11097	141
	1.552	2.312	1	1.625	.437	BCFJF	11074	276-21
	1.552	2.312	1	1.625	.437	BCFKF	11075	277-21
	1.552	1.875	1	1.625	.437	BCFJF	11013	429
	1.552	1.875	1	1.625	.437	BCFKF	11036	430
	1.552	1.625	1	1.625	.437	BCFJF	11013	879
	1.552	1.625	1	1.625	.437	BCFKF	11036	891

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.000 Shaft Size (Cont)

21D	1.552	1.938	2	1.625	.313	NCFKF	11022	11022
	1.552	1.625	-	-	-	BCF-F	11069	11069
	1.552	1.875	1	1.625	.437	BC/ZFJ/ZF	11086	11086
	1.552	1.625	1	1.625	.437	BCLZL	11090	11090
	1.552	1.500	-	-	-	BCF-F	110101	110101
	1.552	1.625	2	1.625	.437	BCFJF	110123	110123
	1.552	1.625	2	1.625	.437	BCFKF	110124	110124
	1.552	1.875	2	1.625	.437	BCFJF	110125	110125
	1.552	1.875	2	1.625	.437	BCFKF	110126	110126
	1.552	2.312	2	1.625	.437	BCFJF	110127	110127
	1.552	2.312	2	1.625	.437	BCFKF	110128	110128
	1.552	2.312	-	-	-	BCF-F	110129	110129
51	1.449	1.562	1	1.625	.437	BCRKR	51031	236
	1.449	1.562	2	1.625	.437	BCRJR	51008	557
	1.449	1.562	1	1.625	.406	NCRKR	51033	695N
	1.449	1.562	1	1.625	.437	BCRJR	51004	754
	1.449	1.562	2	1.625	.437	BCRKR	51036	791
	1.449	1.562	1	1.500	.375	BCRKR	510111	912
	1.449	1.562	-	-	-	BCR-R	51001	937
52D	1.515	2.312	1	1.625	.437	BCRJR	210085	276
	1.515	2.312	1	1.625	.437	BCRKR	210086	277
22	1.837	1.187	-	-	-	NCD-F	221104	221104N
37	1.500	.475	1	1.546	.325	BCDJF	71002	71002
40	1.906	.465	-	-	-	BCD-F	41001	41001
	1.875	.465	5	SHAFT MTD.	.312	BMDAF	41002	41002
	1.625	.806	5	SHAFT MTD.	.312	NMDAF	41004	41004N
	1.875	.465	-	-	-	NMD-F	41012	41012
	1.906	.465	3	1.760	.182	BCDKF	41013	41013
	1.875	.465	-	-	-	BCD-F	41019	41019
	1.906	.465	1	1.750	.160	BCDJF	41021	41021
	1.906	.465	-	-	-	BMD-F	41032	41032
	1.710	1.320	-	-	-	UC--	00-100041	00-100041

1.062 Shaft Size

21	1.750	1.062	1	1.750	.437	BCFKF	110611	127
	1.750	1.593	1	1.750	.437	BCFKF	110612	498-21
	1.750	1.593	1	1.750	.437	BCFJF	110609	710-21
	1.750	1.062	2	1.750	.437	BCFKF	110603	796
	1.750	1.062	2	1.750	.437	BCFJF	110616	797
	1.750	1.593	2	1.750	.437	BCFJF	110617	798-21
	1.750	1.593	2	1.750	.437	BCFKF	110610	799-21
	1.620	1.157	2	1.750	.345	BCFKF	110608	110608
	1.620	1.000	1	1.750	.375	BCFKF	110613	110613
	1.750	1.062	-	-	-	BCF-F	110615	110615
	1.750	1.593	-	-	-	BCF-F	110618	110618
	1.620	1.000	-	-	-	BCF-F	110619	110619
	1.620	1.593	-	-	-	BCF-F	110620	110620
51	1.562	1.593	1	1.750	.437	BCRKR	510631	498
	1.562	1.593	1	1.750	.437	BCRJR	510604	710
	1.562	1.593	2	1.750	.437	BCRJR	510608	798
	1.562	1.593	2	1.750	.437	BCRKR	510636	799

*Spring retainer not needed

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.103 Shaft Size (28 mm)

21	1.825	1.062	1	1.969	.250	BCFKF	111005	111005
	1.825	1.062	1	1.969	.250	BXFXF	311001	311001

For Additional Selections: See Metric Section - Pages 57-62

1.125 Shaft Size

21	1.750	1.625	1	1.750	.437	BCFJF	11108	204-21
	1.750	1.187	2	1.750	.437	BCFKF	11122	253
	1.750	1.062	2	1.750	.437	BCFKF	11122	254
	1.620	1.687	2	1.750	.437	BCFKF	11171	282-21
	1.750	1.062	1	1.750	.437	BCFJF	11104	344
	1.750	1.062	-	-	-	BCF-F	11101	348
	1.750	1.062	1	1.750	.437	BCFKF	11111	355
	1.750	1.062	1	1.750	.437	BCFJF	11104	356
	1.750	1.625	1	1.750	.437	BCFKF	11119	384-21
	1.750	1.062	3	1.875	.562	BCFKF	11124	521
	1.750	1.062	2	1.750	.437	BCFKF	11122	529
	1.750	1.062	2	1.750	.437	BCFKF	11192	549
	1.750	1.625	2	1.750	.437	BCFJF	11172	584-21
	1.750	1.062	2	1.750	.437	BCFKF★	11147	588
	1.750	1.062	1	1.750	.437	BCFJF	11104	604
	1.750	1.062	1	1.750	.437	BCFKF	11111	605
	1.620	1.625	2	1.687	.437	BCFJF	11111	607-21
	1.620	1.625	2	1.687	.437	BCFKF	11166	608-21
	1.750	1.062	1	1.750	.437	BCFKF	11111	613
	1.750	2.000	2	1.812	.437	BCFJF	11163	619-21
	1.750	1.406	2	1.750	.437	BCFJF★	11173	627
	1.750	2.000	2	1.812	.437	BCFKF	11164	636-21
	1.750	1.062	2	1.750	.437	BCFJF	11161	801
	1.750	1.062	2	1.750	.437	BCFJF	11161	802
	1.750	.983	1	1.750	.437	BCFJF	11104	814
	1.750	1.937	2	1.750	.437	BCFJF	11178	866-21
	1.750	1.937	2	1.750	.437	BCFKF	11179	867-21
	1.750	1.625	2	1.750	.437	BCFKF	11128	885-21
	1.750	2.000	2	1.812	.437	BCFJF	11163	945-21
	1.750	2.000	2	1.812	.437	BCFKF	11164	948-21
	1.750	1.472	1	1.937	.468	BCFJF	11106	11106
	1.750	1.062	1	1.750	.437	BCFJF★	11112	11112
	1.750	1.263	2	2.000	.448	BCFKF	11113	11113
	1.750	1.125	2	2.000	.375	VCFKF	11116	11116V
	1.750	1.062	2	1.875	.687	BCFGF	11121	11121
	1.750	1.062	2	1.875	.750	BCFGF	11131	11131
	1.750	1.093	2	1.750	.437	VCLXL	11136	11136V
	1.750	1.625	2	1.812	.437	BCFKF	11154	11154
	1.750	1.625	2	1.812	.437	BCFJF	11162	11162
	1.750	1.062	1	1.750	.437	VCRJR	11177	11177V
	1.750	1.625	-	-	-	BCF-F	11180	11180
	1.605	1.625	-	-	-	VCF-F	111102	11180V
	1.750	2.000	-	-	-	BCF-F	11181	11181
	1.750	1.062	-	-	-	BCF-F★	11193	11193
	1.750	1.062	1	1.750	.437	BCFKF★	11194	11194
	1.750	1.250	-	-	-	BCF-F	11195	11195

21D	1.750	1.625	-	-	-	BCF-F	11134	215
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HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.125 Shaft Size (Cont)

	1.750	1.875	1	1.750	.437	BCFKF	11153	654
	1.750	1.875	1	1.750	.437	BCFJF	11135	676
	1.750	1.625	-	-	-	NSF-F	11133	861N
	1.750	2.375	2	1.750	.437	BCFJF	11184	886-21
	1.750	2.375	2	1.750	.437	BCFKF	11185	918-21
	1.605	1.500	1	1.765	.375	BCFJF	11190	1103
	1.750	1.625	1	1.750	.437	BCFJF	11152	11152
	1.750	1.875	2	1.750	.437	BCFKF	11158	11158
	1.750	2.375	1	1.750	.437	BCFKF	11182	11182
	1.750	2.375	1	1.750	.437	BCFJF	11183	11183
	1.750	1.625	1	1.750	.437	BCFKF	11186	11186
	1.750	1.625	2	1.750	.437	BCFJF	11187	11187
	1.750	1.625	2	1.750	.437	BCFKF	11188	11188
	1.750	1.875	2	1.750	.437	BCFJF	11189	11189
	1.750	1.500	1	1.765	.375	BCFKF	11191	11191
51	1.562	1.625	1	1.750	.437	BCRJR	51104	204
	1.562	1.688	2	1.750	.437	BCRKR	51136	282
	1.562	1.625	1	1.750	.437	BCRKR	51131	384
	1.562	1.625	2	1.750	.437	BCRJR	51108	584
	1.562	1.625	2	1.687	.437	BCRJR	51109	607
	1.562	1.625	2	1.687	.437	BCRKR	51139	608
	1.562	2.000	2	1.812	.437	BCRJR	51108	619
	1.562	2.000	2	1.812	.437	BCRKR	51118	636
	1.562	1.937	2	1.750	.437	BCRJR	51101	866
	1.562	1.937	2	1.750	.437	BCRKR	51111	867
	1.562	1.625	2	1.750	.437	BCRKR	51136	885
	1.562	2.000	2	1.812	.437	BCRJR	51108	945
	1.562	2.000	2	1.812	.437	BCRKR	51118	948
	1.562	1.625	-	-	-	BCR-R	51101	2103
52D	1.656	2.375	2	1.750	.437	BCRJR	211285	886
	1.656	2.375	2	1.750	.437	BCRKR	211286	918

21	1.875	1.187	2	1.875	.437	BCFKF	111814	255
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1.181 Shaft Size (30 mm)

21	1.875	1.062	1	1.875	.437	BCFJF	111810	136
	1.875	1.062	-	-	-	BCF-F	111802	111802
	1.875	.980	1	1.969	.437	BCFJF	111809	111809
	1.875	1.062	1	1.875	.437	BCFKF	111830	111830
	1.875	1.062	1	1.937	.437	BCFJF	111831	111831

For Additional Selections: See Metric Section - Pages 57-62

1.187 Shaft Size

	1.875	1.000	1	1.875	.437	NCFJF	111812	297N
	1.875	1.187	1	1.875	.437	BCFJF	111811	306
	1.875	1.625	1	1.875	.437	BCFJF	111817	310-21
	1.875	1.625	1	1.875	.437	BCFKF	111821	343-21

* Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.187 Shaft Size (Cont)								
21	1.875	1.625	1	1.875	.437	BCFJF	111817	345-21
	1.875	1.000	2	1.875	.437	NCFKF	111822	589N
	1.875	1.000	-	-	-	BCF-F	111818	111818
	1.875	1.187	-	-	-	BCF-F	111818	111818
	1.875	1.625	-	-	-	BCF-F	111823	111823
21D	1.875	2.375	1	1.875	.437	BCFJF	111815	723-21
	1.875	2.375	1	1.875	.437	BCFKF	111808	724-21
	1.875	2.375	2	1.875	.437	BCFKF	111824	111824
	1.875	2.375	2	1.875	.437	BCFJF	111825	111825
	1.875	2.375	-	-	-	BCF-F	111826	111826
	1.875	1.625	-	-	-	BCF-F	111827	111827
	1.875	1.625	1	1.875	.437	BCFJF	111828	111828
51	1.687	1.625	1	1.875	.437	BCRJR	511804	310
	1.687	1.625	1	1.875	.437	BCRKR	511831	343
	1.687	1.625	1	1.875	.437	BCRJR	511804	345
52D	1.734	2.375	1	1.875	.437	BCRJR	211885	723
	1.734	2.375	1	1.875	.437	BCRKR	211886	724

1.240 Shaft Size (31.5 mm)

21	1.875	1.062	-	-	-	BCF-F	112403	112403
	1.875	1.062	1	1.875	.437	BCFJF	112404	112404

For Additional Selections: See Metric Section - Pages 57-62

1.250 Shaft Size

21	1.875	1.542	1	1.875	.437	NCFKF	11256	108N-21
	1.875	1.625	1	1.875	.437	BCFKF	11266	137-21
	1.875	1.062	-	-	-	BCF-F	11201	154
	1.875	1.062	1	1.875	.437	BCFJF	11204	185
	1.875	1.062	1	1.875	.437	BCFJF★	11211	246
	1.875	1.062	1	1.875	.437	BCFKF★	11216	249
	1.875	1.062	2	1.875	.437	BCFKF	11232	256
	1.875	1.625	2	1.875	.437	BCFKF	11257	264-21
	1.875	1.000	1	1.937	.437	BCFKF	11281	326
	1.875	1.625	1	1.875	.437	BCFJF	11213	361-21
	1.875	1.062	1	1.768	.367	BCFJF★	112119	368
	1.875	1.062	1	1.875	.437	BCFJF★	11211	381
	1.875	1.062	1	1.875	.437	BCFKF	11270	383
	1.875	1.625	2	1.875	.437	BCFKF	11257	394-21
	1.875	1.062	1	1.768	.367	BCFJF★	112119	402
	1.875	1.062	-	-	-	BCF-F★	112128	416
	1.875	1.062	25	2.250	.625	BCFJF★	11255	416-A
	1.875	1.062	18	1.687	.360	BCFJF	112108	439
	1.875	1.062	1	2.000	.437	BCFJF	11205	466
	1.875	1.062	1	1.875	.437	BCFJF★	11211	472
	1.875	1.062	1	2.000	.437	BCFJF	11205	510
	1.875	1.062	2	1.875	.437	BCFKF	11232	517
	1.875	1.062	2	1.875	.437	BCFKF★	11257	525-21
	1.875	1.625	2	1.875	.437	BCFJF	11297	546-21
	1.875	1.062	1	1.768	.367	BCFKF★	112120	597
	1.875	1.062	2	1.875	.437	BCFKF	11232	598
	1.875	1.062	2	1.875	.437	BCFJF	11260	618

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.250 Shaft Size (Cont)								
21	1.875	2.406	1	1.875	.437	BCFJF	112156	681-21
	1.875	1.062	1	1.875	.437	BCFKF	11270	756
	1.875	1.062	1	1.875	.437	BCFJF	11204	786
	1.875	1.062	2	1.875	.437	BCFJF	11260	804
	1.875	1.062	1	2.000	.437	BCFJF	11205	815
	1.875	1.062	25	2.250	.625	BCFJF★	11255	923
	1.875	1.062	1	1.768	.367	BCFJF★	112119	976
	1.875	1.062	1	1.768	.367	BCFKF★	112120	977
	1.875	1.062	1	1.768	.367	BCFJF★	112119	978
	1.875	1.062	1	1.768	.367	BCFKF★	112120	979
	1.875	1.031	2	2.125	.375	BCFKF★	11292	995
	1.875	1.062	2	1.875	.437	ECFKF	11224	11224E
	1.875	1.000	2	1.875	.375	BCFKF★	11235	11235
	1.875	1.625	-	-	-	BCF-F	11246	11246
	1.875	1.062	2	2.000	.437	BCFKF	11280	11280
	1.875	1.062	1	2.000	.437	BCFKF	112111	112111
	21D	1.875	.850	2	1.875	.250	VCFGF	112115
1.875		1.625	-	-	-	BCF-F	11230	169
1.875		1.600	1	1.875/2.000	.200	BCFJF	112101	176
1.875		1.625	2	1.875	.437	BCFKF	11259	228
1.875		2.375	2	1.875	.437	NCFKF	112148	308N-21
1.875		1.875	1	1.875	.437	BCFJF	11231	426
1.875		1.625	1	1.875	.437	BCFJF	11298	883
1.875		1.625	1	1.875	.437	BCFKF	11261	890
1.875		1.625	2	2.000	.375	BCFKF	11209	11209
1.875		1.750	3	1.895	.562	VCFKF	11212	11212V
1.875		1.750	3	1.875	.562	BCFKF	11215	11215
1.875		1.625	2	1.875	.437	BCFJF	11249	11249
1.875		1.875	1	1.875	.437	BCFKF	11250	11250
1.875		1.875	2	1.875	.437	BCFJF	11251	11251
1.875		1.875	2	1.875	.437	BCFKF	11252	11252
1.875		2.375	1	1.875	.437	BCFJF	11253	11253
1.875		2.375	1	1.875	.437	BCFKF	11254	11254
1.875		1.875	1	1.875	.437	BC/SFJ/SF	11299	11299
1.875		2.375	2	1.875	.437	BCFKF	112135	112135
1.875		2.375	2	1.875	.437	BCFJF	112155	112155
51		1.687	1.542	1	1.875	.437	NCRKR	51233
	1.687	1.625	1	1.875	.437	BCRKR	51231	137
	1.687	1.625	2	1.875	.437	BCRKR	51236	264
	1.687	1.625	1	1.875	.437	BCRJR	51204	361
	1.687	1.625	2	1.875	.437	BCRKR	51236	394
	1.687	1.625	2	1.875	.437	BCRJR	51208	546
	1.687	2.406	1	1.875	.437	BCRJR	512101	681
	1.687	1.625	-	-	-	BCR-R	51201	1015
	52	1.734	1.062	1	1.875	.437	BCRKR	212546
1.734		1.062	-	-	-	BCR-R	212501	212501
52D	1.734	2.375	2	1.875	.437	NCRKR	212587	308N
	1.734	2.375	1	1.875	.437	NCRJR	212586	1187

1.260 Shaft Size (32 mm)

See Metric Section - Pages 57-62

*Spring retainer not needed

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.299 Shaft Size (33 mm)

See Metric Section - Pages 57-62

1.375 Shaft Size

21	2.000	1.125	-	-	-	BCF-F	11301	172
	2.000	1.125	1	2.000	.437	BCFJF	11304	177
	2.000	1.125	1	2.000	.437	BCFKF	11311	186
	2.000	1.125	1	2.000	.437	BCFKF	11311	210
	2.000	1.187	1	2.125	.437	BCFJF	11335	291
	2.000	1.687	1	2.000	.437	BCFJF	11312	354-21
	2.000	1.125	-	-	-	BCF-F	11301	376
	2.000	1.093	25	2.000	.565	BCFJF	11326	404
	2.000	1.187	3	2.125	.437	BCFKF	11325	467
	2.000	1.125	1	2.000	.437	BCFJF	11304	491
	2.000	2.125	1	2.000	.437	BCFKF	11381	561-21
	2.000	1.687	1	2.000	.437	BCFKF	11316	677-21
	2.000	1.125	2	2.000	.437	BCFJF	11369	805
	2.000	1.125	2	2.000	.437	BCFJF	11369	806
	2.000	1.687	2	2.000	.437	BCFJF	11370	808-21
	2.000	1.687	2	2.000	.437	BCFKF	11371	809-21
	2.000	2.000	2	2.000	.437	BCFJF	11372	864-21
	2.000	2.000	2	2.000	.437	BCFKF	11373	865-21
	2.000	1.125	1	2.000	.437	BCFKF★	11324	919
	2.000	.900	25	2.000	.565	BCFJF	11326	929
	2.000	.875	-	-	-	BCF-F	11310	11310
	2.000	1.562	1	2.375	.437	BCFJF	11314	11314
	2.000	1.687	-	-	-	BCF-F	11315	11315
	2.000	1.125	2	2.125	.625	BCFGF	11332	11332
	2.000	.850	2	2.000	.250	VCFGF	11349	11349V
	2.000	.825	3	2.187	.437	BCFGF	11356	11356
	2.000	.825	3	2.187	.375	BCFJF	11357	11357
	2.000	1.407	2	1.875	.437	BCFKF	11377	11377
21D	2.000	2.187	1	2.000	.437	BCFJF	11352	178
	2.000	1.625	-	-	-	BCF-F	11306	209
	2.000	1.625	1	2.000	.437	BCFJF	11350	495
	2.000	1.625	1	2.000	.437	BCFKF	11334	540
	2.000	2.437	1	2.000	.437	BCFJF	11337	725-21
	2.000	2.437	1	2.000	.437	BCFKF	11338	726-21
	2.000	1.875	1	2.140	.437	BCFJF	11341	1104
	2.000	1.750	1	2.000	.437	BCLZL	11309	11309
	2.000	1.625	1	2.140	.437	BCFKF	11342	11342
	2.000	1.625	22	3.090	.320	BCFKF	11360	11360
	2.000	2.437	-	-	-	BCF-F	11366	11366
	2.000	1.875	-	-	-	BCF-F	11382	11382
	2.000	1.625	2	2.000	.437	BCFJF	11383	11383
	2.000	1.625	2	2.000	.437	BCFKF	11384	11384
	2.000	1.875	1	2.000	.437	BCFJF	11385	11385
	2.000	1.875	1	2.000	.437	BCFKF	11386	11386
	2.000	1.875	1	2.000	.437	BCFJF	11387	11387
	2.000	1.875	1	2.000	.437	BCFKF	11388	11388
	2.000	2.437	2	2.000	.437	BCFJF	11389	11389
	2.000	2.437	2	2.000	.437	BCFKF	11390	11390

1.375 Shaft Size (Cont)

51	1.820	1.687	1	2.000	.437	BCRJR	51304	354
	1.820	2.125	2	2.000	.500	BCRKR	513118	561
	1.820	1.687	1	2.000	.437	BCRKR	51331	677
	1.820	1.687	2	2.000	.437	BCRJR	51308	808
	1.820	1.687	2	2.000	.437	BCRKR	51336	809
	1.820	2.000	1	2.000	.437	BCRJR	513104	864
	1.820	2.000	2	2.000	.437	BCRKR	513114	865
	1.820	1.687	-	-	-	BCR-R	51301	2104
52	1.859	1.125	-	-	-	BCR-R	213701	172-52
	1.859	1.187	2	2.000	.437	BCRKR	213791	257
	1.859	1.125	2	2.000	.437	BCRKR	213791	547
	1.859	1.125	2	2.000	.437	BCRKR	213791	807
	1.859	1.125	-	-	-	BCR-R	213701	213701
52D	1.859	2.437	1	2.000	.437	BCRJR	213785	725
	1.859	2.437	1	2.000	.437	BCRKR	213786	726

1.378 Shaft Size (35 mm)

See Metric Section - Pages 57-62

1.437 Shaft Size

21	2.125	1.625	3	2.062	.437	BCFKF	11423	334-21
	2.125	1.687	2	2.062	.437	BCFKF	11417	705-21
	2.125	1.516	2	2.312	.359	NCFKF	11421	943N-21
	2.125	1.125	-	-	-	BCF-F	11401	11401
	2.125	1.125	1	2.125	.437	BCFJF	11404	11404
	2.125	1.125	23	2.700	.687	VCFGF	11408	11408V
	2.125	1.516	2	2.312	.359	BCFKF	11410	11410
	2.125	1.125	2	2.125	.437	BCFKF	11420	11420
	2.125	1.125	2	2.125	.437	BCFJF	11422	11422
	2.125	1.125	2	2.250	.625	BCFGF	11424	11424
	2.125	1.125	1	2.125	.437	NCFKF	11426	11426N
	2.125	1.468	23	2.718	.654	VCFGF	11428	11428V
	2.125	1.687	-	-	-	BCF-F	11430	11430
	2.125	1.125	1	2.250	.437	BCFKF	11432	11432
21D	2.125	1.738	-	-	-	NSF-F	11419	862N
	2.125	2.125	2	2.187	.375	NCFKF	11412	11412N
	2.125	2.062	2	2.062	.437	BCFKF	11427	11427
	2.125	2.125	-	-	-	NCF-F	11431	11431N
51	1.949	1.625	3	2.062	.437	BCRKR	514119	334
	1.949	1.687	2	2.062	.437	BCRKR	51436	705
52	2.062	1.516	2	2.312	.359	NCRKR	214383	943N

1.496 Shaft Size (38 mm)

See Metric Section - Pages 57-62

* Spring retainer not needed



HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
1.500 Shaft Size								
21	2.125	1.437	2	2.125	.437	NCFKF	11537	192N
	2.125	1.687	2	2.125	.437	NCFKF	11537	224N-21
	2.125	1.125	1	2.156	.437	BCFKF★	11550	247
	2.125	1.687	2	2.125	.437	BCFKF	11567	258-21
	2.125	1.187	2	2.125	.437	BCFKF	11505	259
	2.125	1.125	1	2.156	.437	BCFJF	11594	283
	2.125	1.187	1	2.250	.437	BCFJF	11552	292
	2.125	1.687	1	2.125	.437	BCFJF	11508	305-21
	2.125	1.687	2	2.000	.437	BCFKF	11555	316-21
	2.125	1.125	1	2.250	.437	BCFJF	11552	320
	2.125	1.125	1	2.125	.437	BCFJF★	11527	347
	2.125	1.125	1	2.125	.437	BCFKF	11525	371
	2.125	1.687	1	2.125	.437	BCFKF	11513	374-21
	2.125	1.125	1	2.125	.437	BCFKF★	11568	378
	2.125	1.125	1	2.125	.437	BCFJF	11504	382
	2.125	1.687	2	2.125	.437	BCFJF	11560	395-21
	2.125	1.687	2	2.250	.437	BCFJF	11556	515-21
	2.125	1.125	2	2.125	.437	BCFKF	11505	534
	2.125	1.125	2	2.125	.437	BCFKF	11505	553
	2.125	1.000	2	2.187	.437	NCFKF	11581	599N
	2.125	2.062	2	2.312	.437	BCFJF	11579	620-21
	2.125	2.062	2	2.312	.437	BCFKF	11580	629-21
	2.125	1.125	1	2.125	.437	BCFKF	11525	659
	2.125	1.125	1	2.156	.437	BCFJF★	11551	682
	2.125	1.125	1	2.156	.437	BCFJF	11504	758
	2.125	1.125	2	2.125	.437	BCFJF	11520	816
	2.125	1.125	2	2.125	.437	BCFJF	11520	817
	2.125	1.562	2	2.125	.437	BCFJF	11560	899-21
	2.125	1.125	2	2.312	.437	BCFJF	11578	926
	2.125	1.125	-	-	-	BCF-F	11501	939
	2.125	2.062	2	2.312	.437	BCFJF	11579	947-21
	2.125	2.062	2	2.312	.437	BCFKF	11580	950-21
	2.125	1.187	3	2.145	.562	NCFKF	11506	11506N
	2.125	1.094	2	2.125	.437	BCFJF	11507	11507
	2.125	1.687	2	2.312	.437	BCFKF	11529	11529
	2.125	1.687	-	-	-	BCF-F	11531	11531
	2.125	.843	2	2.125	.312	VCFGF	11538	11538V
	2.125	1.093	1	2.125	.437	VCFJF★	11558	11558V
	2.125	1.687	2	2.312	.437	BCFJF	11576	11576
	2.125	1.125	2	2.312	.437	BCFKF	11577	11577
21D	2.125	1.625	-	-	-	BCF-F	11536	216
	2.125	1.875	1	2.125	.437	BCFJF	11583	431
	2.125	1.875	1	2.125	.437	BCFKF	11584	432
	2.125	1.625	1	2.125	.437	BCFJF	11534	541
	2.125	2.437	1	2.125	.437	BCFJF	11585	868-21
	2.125	1.625	1	2.125	.437	BCFKF	11535	884
	2.125	1.565	1	2.125/2.250	.437	BCFJF	11559	11559
	2.125	2.437	1	2.125	.437	BCFKF	11586	11586
	2.125	1.875	-	-	-	BCF-F	11596	11596
	2.125	2.437	-	-	-	BCF-F	11597	11597
	2.125	1.625	2	2.125	.437	BCFJF	11598	11598
	2.125	1.625	2	2.125	.437	BCFKF	11599	11599
	2.125	1.875	2	2.125	.437	BCFJF	115100	115100

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
1.500 Shaft Size (Cont)								
21D	2.125	1.875	2	2.125	.437	BCFKF	115101	115101
	2.125	2.437	2	2.125	.437	BCFJF	115102	115102
	2.125	2.437	2	2.125	.437	BCFKF	115103	115103
51	1.949	1.687	2	2.125	.437	NCRKR	51538	224N
	1.949	1.687	2	2.125	.437	BCRKR	51536	258
	1.949	1.687	1	2.125	.437	BCRJR	51504	305
	1.949	1.687	2	2.000	.437	BCRKR	515114	316
	1.949	1.687	1	2.125	.437	BCRKR	51531	374
	1.949	1.687	2	2.125	.437	BCRJR	51508	395
	1.949	1.687	2	2.250	.437	BCRJR	515108	515
	1.949	2.062	2	2.312	.437	BCRJR	515109	620
	1.949	2.062	2	2.312	.437	BCRKR	515118	629
	1.949	1.562	2	2.125	.437	BCRJR	51508	899
	1.949	2.062	2	2.312	.437	BCRJR	515109	947
	1.949	2.062	2	2.312	.437	BCRKR	515118	950
	1.949	1.687	-	-	-	BCR-R	51501	2106
52D	2.062	2.437	1	2.125	.437	BCRJR	215085	868

1.535 Shaft Size (39 mm)
See Metric Section - Pages 57-62

1.562 Shaft Size								
21	2.375	1.687	2	2.375	.500	BCFJF	115602	664-21
	2.375	1.687	2	2.375	.500	BCFKF	115601	115601
21D	2.375	2.125	1	2.375	.500	BCFKF	115607	115607
	2.375	2.875	2	2.375	.500	BCFKF	115608	115608
	2.375	2.875	2	2.375	.500	BCFJF	115609	115609
	2.375	2.875	1	2.375	.500	BCFKF	115610	115610
	2.375	2.875	1	2.375	.500	BCFJF	115611	115611
51	2.125	1.687	2	2.375	.500	BCRJR	515608	664
	2.125	1.687	2	2.375	.500	BCRKR	515636	1193
	2.125	1.687	1	2.375	.500	BCRKR	515631	1194

1.575 Shaft Size (40 mm)
See Metric Section - Pages 57-62

1.625 Shaft Size								
21	2.375	1.375	1	2.375	.500	BCFJF	11604	238
	2.375	1.375	1	2.375	.500	BCFKF	11612	239
	2.375	1.125	2	2.437	.500	NCFKF	11631	331N
	2.375	2.000	1	2.312	.500	BCFJF	11636	346-21
	2.375	1.375	1	2.375	.500	BCFKF	11612	461
	2.375	2.000	1	2.312	.500	BCFKF	11615	484-21
	2.375	1.375	1	2.375	.500	BCFJF★	116102	514
	2.375	1.375	2	2.375	.500	BCFKF	11603	544
	2.375	2.000	2	2.375	.500	BCFJF	11629	595-21
	2.375	2.000	1	2.312	.500	BCFJF	11636	609-21
	2.375	2.000	1	2.312	.500	BCFKF	11615	610-21
	2.375	2.000	1	2.375	.500	BCFKF	11632	744-21
	2.375	2.000	1	2.375	.500	BCFJF	11609	745-21
	2.375	2.000	1	2.375	.500	BCFKF	11632	746-21

*Spring retainer not needed

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
1.625 Shaft Size (Cont)								
21	2.375	2.000	1	2.375	.500	BCFJF	11609	747-21
	2.375	1.375	2	2.375	.500	BCFJF	11640	818
	2.375	1.375	2	2.375	.500	BCFKF	11603	819
	2.375	1.375	2	2.375	.500	BCFJF	11640	821
	2.375	2.000	2	2.375	.500	BCFKF	11641	822-21
	2.375	1.375	1	2.375	.500	BCFJF	-	2055
	2.375	1.375	1	2.375	.500	BCFKF	-	2056
	2.375	1.375	-	-	-	BCF-F	11602	11602
	2.375	1.375	2	2.375	.500	BCFKF★	11606	11606
	2.375	1.375	2	2.375	.375	BCFKF	11611	11611
	2.375	1.375	2	2.625	.500	BCFKF	11623	11623
	2.375	1.375	1	2.500	.500	VCFKF	11624	1162V
	2.375	1.375	1	2.625	.500	BCFJF	11638	11638
	2.375	1.375	15	2.500	.750	BCF/KJF	11647	11647
	2.375	2.000	-	-	-	BCF-F	11648	11648
	2.375	2.000	-	-	-	BCF-F	11664	11664
21D	2.375	2.125	2	2.375	.500	BCFKF	11613	281
	2.375	2.125	1	2.375	.500	BCFKF	-	1195
	2.375	2.125	-	-	-	BCF-F	11637	11637
	2.375	2.875	-	-	-	BCF-F	11649	11649
	2.375	2.125	2	2.375	.500	BCFJF	11630	11650
	2.375	2.125	1	2.375	.500	BCFJF	11651	11651
51	2.125	2.000	1	2.312	.500	BCRJR	516101	346
	2.125	2.093	2	2.375	.500	BCRKR	51636	458
	2.125	2.000	1	2.312	.500	BCRKR	516111	484
	2.125	2.000	2	2.375	.500	BCRJR	51608	595
	2.125	2.000	1	2.312	.500	BCRJR	51601	609
	2.125	2.000	1	2.312	.500	BCRKR	516111	610
	2.125	2.000	1	2.375	.500	BCRKR	51631	744
	2.125	2.000	1	2.375	.500	BCRJR	51604	745
	2.125	2.000	1	2.375	.500	BCRKR	51631	746
	2.125	2.000	1	2.375	.500	BCRJR	51604	747
	2.125	2.000	2	2.375	.500	BCRKR	51636	822
	2.125	2.000	2	2.375	.500	BCRJR	51608	1683
	2.125	2.000	2	2.375	.500	BCRKR	51636	1699
	2.125	2.000	1	2.375	.500	BCRJR	51604	2057
	2.125	2.000	1	2.375	.500	BCRKR	51631	2058
40	2.500	.988	-	-	-	NMD-F	41603	41603N
1.653 Shaft Size								
21	2.375	1.250	2	2.375	.500	VCFKF	116502	116502V
1.686 Shaft Size								
21	2.937	.950	2	2.500	.250	BCFKF★	11680	116801
1.693 Shaft Size (43 mm)								
See Metric Section - Pages 57-62								

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
1.750 Shaft Size								
21	2.375	1.375	-	-	-	BCF-F	11701	147
	2.375	2.000	1	2.500	.500	BCFJF	11708	205-21
	2.375	1.375	1	2.500	.500	BCFJF	11706	237
	2.375	2.000	2	2.500	.500	BCFKF	11734	262-21
	2.375	1.375	1	2.500	.500	BCFKF	11712	288
	2.375	2.000	1	2.500	.500	BCFKF	11713	366-21
	2.375	1.375	1	2.625	.500	BCFJF	11704	387
	2.375	1.046	15	2.500	.750	BCFJF	11726	434
	2.375	1.375	2	2.500	.500	BCFKF	11731	436
	2.375	1.375	1	2.500	.500	BCFJF	11706	446
	2.375	1.375	1	2.500	.500	BCFKF	11712	448
	2.375	2.500	2	2.500	.500	BCFJF	11782	519-21
	2.375	2.000	2	2.500	.500	BCFJF	11783	535-21
	2.375	1.375	2	2.500	.500	BCFJF	11784	550
	2.375	2.500	1	2.500	.500	BCFKF	11780	555-21
	2.375	1.781	2	2.456	.500	NCFKF	11785	568N
	2.375	1.375	2	2.500	.500	BCFKF	11731	825
	2.375	1.375	2	2.500	.500	BCFJF	11784	826
	2.375	2.312	2	2.500	.500	BCFJF	11782	858-21
	2.375	2.312	2	2.500	.500	BCFKF	11781	859-21
	2.375	2.437	2	2.500	.500	BCFJF	11782	917-21
	2.375	1.125	1	2.500	.500	BCFKF	-	1068
	2.375	2.000	1	2.500	.500	BCFKF	11713	1674
	2.375	1.375	-	-	-	BCF-F	-	2108
	2.375	1.375	1	2.500	.500	BCFJF	11706	2059
	2.375	1.375	1	2.500	.500	BCFKF	11712	2060
	2.375	1.375	2	2.500	.500	BCFJF	11784	2061
	2.375	1.375	2	2.500	.500	BCFKF	11731	2062
	2.375	2.000	-	-	-	BCF-F	11709	11709
	2.375	1.125	1	2.500	.500	BCFJF	11710	11710
	2.375	1.437	2	2.500	.625	NCFKF★	11711N	11711N
	2.375	1.000	2	2.500	.500	BCFKF	11727	11727
	2.375	1.375	1	2.625	.500	BCFKF	11770	11770
	2.375	2.500	1	2.500	.500	BCFKF	11780	11780
	2.375	2.000	1	2.625	.500	NCFKF	11799	11799N
21D	2.375	2.125	-	-	-	BCF-F	11756	213
	2.375	2.125	1	2.500	.500	BCFKF	11757	217
	2.375	2.125	1	2.500	.500	BCFJF	11743	449
	2.375	2.875	1	2.500	.500	BCFJF	11733	674-21
	2.375	2.875	1	2.500	.500	BCFKF	11742	675-21
	2.375	2.125	1	2.500	.500	BCFKF	-	1197
	2.375	1.750	2	2.625	.375	BCFKF	11705	11705
	2.375	1.550	1	2.625	.500	VCFJF	11761	11761V
	2.375	2.125	2	2.500	.500	BCFJF	11794	11794
	2.375	2.125	2	2.500	.500	BCFKF	11795	11795
	2.375	2.875	2	2.500	.500	BCFJF	11796	11796
	2.375	2.875	2	2.500	.500	BCFKF	11797	11797
	2.379	2.875	-	-	-	BCF-F	11798	11798

* Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.750 Shaft Size (Cont)								
51	2.300	2.000	1	2.500	.500	BCRJR	51704	205
	2.300	2.000	2	2.500	.500	BCRKR	51736	262
	2.300	2.000	1	2.500	.500	BCRKR	51731	366
	2.300	2.500	2	2.500	.500	BCRJR	517104	519
	2.300	2.000	2	2.500	.500	BCRJR	517108	535
	2.300	2.500	1	2.500	.500	BCRKR	517111	555
	2.300	2.312	2	2.500	.500	BCRJR	517109	858
	2.300	2.312	2	2.500	.500	BCRKR	517127	859
	2.300	2.437	2	2.500	.500	BCRJR	517104	917
	2.300	2.000	2	2.500	.500	VCRKR	-	1031V
	2.300	2.000	1	2.500	.500	BCRKR	51731	1032
	2.300	2.000	2	2.500	.500	BCRKR	51736	1033
	2.300	2.500	1	2.500	.500	BCRJR	517101	1042
	2.300	2.500	1	2.500	.500	BCRJR	517101	1196
	2.300	2.500	2	2.500	.500	BCRKR	517114	1199
	2.300	2.000	-	-	-	BCR-R	-	2109
	2.300	2.000	2	2.625	.500	BCRJR	-	2130
52D	2.359	2.875	1	2.500	.500	BCRJR	217586	674
	2.359	2.875	1	2.500	.500	BCRKR	217587	675

1.771 Shaft Size								
21	2.375	2.125	-	-	-	BCF-F	117701	117701
	2.375	2.125	1	2.625	.500	BCFKF	117705	719-21
	2.375	2.125	1	2.625	.500	BCFJF	117706	722-21
21D	2.375	3.000	1	2.625	.500	BCFJF	117707	727
	2.375	3.000	1	2.625	.500	BCFKF	117708	728
51	2.300	2.125	1	2.625	.500	BCRKR	517731	719
	2.300	2.125	1	2.625	.500	BCRJR	517704	722

1.772 Shaft Size (45 mm)
See Metric Section - Pages 57-62

1.875 Shaft Size								
21	2.515	1.500	-	-	-	BCF-F	11801	223
	2.515	1.500	2	2.625	.500	BCFKF	11825	312
	2.515	1.500	1	2.625	.500	BCFJF	11814	340
	2.515	2.125	1	2.625	.500	BCFKF	11816	513-21
	2.515	2.125	1	2.625	.500	BCFJF	11823	523-21
	2.515	2.437	1	2.625	.500	BCFJF	11832	538-21
	2.515	2.437	2	2.500	.500	BCFKF	11836	554-21
	2.515	2.125	2	2.625	.500	BCFKF	11826	586-21
	2.515	1.500	1	2.625	.500	BCFKF	11807	593
	2.515	1.500	2	2.625	.500	BCFKF	11825	827
	2.515	1.500	1	2.625	.500	BCFJF	11814	828
	2.515	2.437	2	2.687	.500	BCFJF	11829	829-21
	2.515	2.437	2	2.687	.500	BCFKF	11828	831-21
	2.515	2.437	2	2.687	.500	BCFJF	11829	946-21
	2.515	2.437	2	2.687	.500	BCFKF	11828	949-21
	2.515	1.500	1	2.625	.500	BCFKF	11807	1097
	2.515	1.500	1	2.625	.500	BCFKF	11807	1608

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.875 Shaft Size (Cont)								
21	2.515	1.500	2	2.625	.500	BCFJF	11824	1620
	2.515	1.500	1	2.625	.500	BCFJF	11814	2065
	2.515	1.500	1	2.625	.500	BCFKF	11807	2066
	2.515	1.500	2	2.625	.500	BCFJF	11824	2067
	2.515	1.500	2	2.625	.500	BCFKF	11825	2068
	2.515	1.500	2	2.625	.500	BCFJF	11824	11824
	2.515	2.125	2	2.625	.500	BCFJF	11827	11827
	2.515	2.125	-	-	-	BCF-F	11835	11835
	2.515	2.125	2	2.687	.500	BCFKF	11845	11845
	2.515	2.125	2	2.687	.500	BCFJF	11846	11846
	2.515	1.500	1	2.640	.406	BCFJF	11847	11847
21D	2.515	2.125	1	2.625	.500	BCFJF	11809	318
	2.515	3.000	1	2.625	.500	BCFJF	11830	742-21
	2.515	3.000	1	2.625	.500	BCFKF	11831	743-21
	2.515	2.000	1	2.640	.406	BCFJF	11834	1105
	2.515	2.125	1	2.625	.500	BCFKF	-	1693
	2.515	2.515	1	2.640	.406	BCFKF	11813	11813
	2.515	3.000	1	2.625	.500	VCFJF	11820	11820V
	2.515	2.125	-	-	-	BCF-F	11837	11837
	2.515	3.000	-	-	-	BCF-F	11838	11838
	2.515	2.125	1	2.625	.500	BCFKF	11840	11840
	2.515	2.125	2	2.625	.500	BCFJF	11841	11841
	2.515	2.125	2	2.625	.500	BCFKF	11842	11842
	2.515	3.000	2	2.625	.500	BCFKF	11843	11843
51	2.437	2.125	1	2.625	.500	BCRKR	51831	513
	2.437	2.125	1	2.625	.500	BCRJR	51804	523
	2.437	2.437	1	2.625	.500	BCRJR	518101	538
	2.437	2.437	2	2.500	.500	BCRKR	518118	554
	2.437	2.125	2	2.625	.500	BCRKR	51836	586
	2.437	2.437	2	2.687	.500	BCRJR	518109	829
	2.437	2.437	1	2.687	.500	BCRKR	518119	831
	2.437	2.437	2	2.500	.500	BCRJR	518110	898
	2.437	2.437	2	2.687	.500	BCRJR	518109	946
	2.437	2.437	2	2.687	.500	BCRKR	518119	949
	2.437	2.125	2	2.625	.500	BCRJR	51808	1654
	2.437	2.125	2	2.625	.500	BCRJR	51808	1656
	2.437	2.125	2	2.625	.500	BCRKR	51836	1657
	2.437	2.062	2	2.625	.500	VCRJR	-	1659V
	2.437	2.062	2	2.625	.500	VCRKR	-	1660V
	2.437	2.125	2	2.687	.500	B/VCRJR	-	1662
	2.437	2.125	2	2.687	.500	B/VCRKR	-	1663
	2.437	2.125	2	2.687	.500	B/VCRJR	-	1664
	2.437	2.125	2	2.687	.500	B/VCRKR	-	1665
	2.437	2.125	1	2.625	.500	BCRJR	51804	2069
	2.437	2.125	1	2.625	.500	BCRKR	51831	2070
	2.437	2.125	2	2.625	.500	BCRJR	51808	2071
	2.437	2.125	2	2.625	.500	BCRKR	51836	2072
	2.437	2.125	-	-	-	BCR-R	51801	2110
52D	2.500	3.000	1	2.625	.500	BCRJR	218785	742
	2.500	3.000	1	2.625	.500	BCRKR	218786	743
	2.500	3.000	2	2.687	.500	VCRJR	2187184	1653V

* Spring retainer not needed

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

1.890 Shaft Size (48 mm)

See Metric Section - Pages 57-62

1.969 Shaft Size (50 mm)

See Metric Section - Pages 57-62

2.000 Shaft Size

HEAD TYPE	SEAL O.D.	W.L.	SEAT TYPE	SEAT O.D.	SEAT THICK	MATERIAL CODE	SPEC. NO.	REPL. SEAL NO.
21	2.625	1.500	2	2.750	.500	NCPGP	12066	193N
	2.625	1.500	-	-	-	BCF-F	12001	196
	2.265	1.500	1	2.750	.500	BCFJF	12004	267
	2.625	2.125	2	2.687	.500	BCFKF	12079	319-21
	2.625	1.500	2	2.750	.500	BCFKF	12032	322
	2.625	1.125	2	2.812	.500	NCFKF	12076	333N
	2.625	2.125	2	2.750	.500	NCFKF	12034	342N-21
	2.625	2.500	2	2.750	.500	BCFKF	12074	385A-21
	2.625	2.500	2	2.812	.500	BCFKF	12077	386-21
	2.625	1.218	15	2.750	.750	BCFJ/KF	12033	435
	2.625	1.500	1	2.750	.500	BCFJF	12004	445
	2.625	2.218	2	2.750	.500	BCFKF	12035	456-21
	2.625	1.500	1	2.750	.500	BCFKF	12007	462
	2.625	2.125	2	2.750	.500	BCFKF	12035	477-21
	2.625	2.500	2	2.687	.500	BCFKF	12078	478-21
	2.625	2.125	1	2.750	.500	BCFJF	12036	479-21
	2.625	2.125	2	2.750	.500	BCFJF	12085	530-21
	2.625	1.500	2	2.750	.500	BCFJF	12086	532
	2.625	1.231	2	3.060	.250	NCFKF	12081	576N
	2.625	1.125	2	3.000	.500	BCFKF	12080	582
	2.625	1.500	2	2.750	.500	BCFKF	12032	832
	2.625	1.500	2	2.750	.500	BCFJF	12086	833
	2.625	1.500	1	2.750	.500	BCFKF	12007	842
	2.625	2.125	1	2.750	.500	BCFKF	12006	843-21
	2.625	1.500	2	2.625	.500	BCFKF	12011	876
	2.625	2.437	2	2.625	.500	BCFKF	12087	888-21
	2.625	2.125	1	2.750	.500	BCFKF	12006	1017
	2.625	1.500	2	3.000	.500	BCFKF	12061	1020
	2.625	1.250	1	2.750	.500	BCFKF	12062	1028
	2.625	1.500	1	2.750	.500	BCFJF	12004	2073
	2.625	1.500	1	2.750	.500	BCFKF	12007	2074
	2.625	1.500	2	2.750	.500	BCFJF	12086	2075
	2.625	1.500	2	2.750	.500	BCFKF	13032	2076
	2.625	1.500	2	2.750	.562	BCFGF	12026	12026
	2.625	2.125	-	-	-	BCF-F	12039	12039
	2.625	2.125	2	2.687	.500	BCFKF	12047	12047
	2.625	1.500	2	3.000	.500	BCFKF	12055	12055
	2.625	1.500	2	2.750	.500	NCFKF	12056	12056N
	2.625	1.125	1	2.750	.500	BCFJF	12063	12063
21D	2.625	2.125	1	2.750	.500	BCFKF	12075	658
	2.625	2.125	2	2.750	.500	BCFKF	12091	1040
	2.625	2.125	1	2.750	.500	BCFJF	12090	1610
	2.625	2.125	-	-	-	BCF-F	12088	12088
	2.625	3.000	-	-	-	BCF-F	12089	12089
	2.625	2.125	1	2.750	.500	BCFJF	12090	12090

2.000 Shaft Size (Cont)

21D	2.625	2.125	2	2.750	.500	BCFKF	12091	12091
	2.625	2.125	2	2.750	.500	BCFJF	12092	12092
	2.625	3.000	1	2.750	.500	BCFKF	12093	12093
	2.625	3.000	1	2.750	.500	BCFJF	12094	12094
	2.625	3.000	2	2.750	.500	BCFKF	12095	12095
	2.625	3.000	2	2.750	.500	BCFJF	12096	12096
51	2.562	2.125	2	2.687	.500	BCRKR	520114	319
	2.562	2.125	2	2.750	.500	NCRKR	52038	342N
	2.562	2.500	2	2.750	.500	BCRKR	520127	385A
	2.562	2.500	2	2.812	.500	BCRKR	520118	386
	2.562	2.218	2	2.750	.500	BCRKR	52036	456
	2.562	2.125	2	2.750	.500	BCRKR	52036	477
	2.562	2.500	2	2.687	.500	BCRKR	520132	478
	2.562	2.125	1	2.750	.500	BCRJR	52004	479
	2.562	2.125	2	2.750	.500	BCRJR	52008	530
	2.562	2.125	1	2.750	.500	BCRKR	52031	843
	2.562	2.437	2	2.625	.500	BCRKR	520134	888
	2.562	2.125	1	2.750	.500	BCRJR	-	2077
	2.562	2.125	1	2.750	.500	BCRKR	-	2078
	2.562	2.125	2	2.750	.500	BCRKR	-	2079
	2.562	2.125	-	-	-	BCR-R	52001	2112

2.087 Shaft Size (53 mm)

See Metric Section - Pages 57-62

2.125 Shaft Size (2-1/8")

21	2.938	2.375	2	3.000	.562	BCFJF	12132	327-21
	2.938	1.687	1	3.000	.562	BCFKF	12114	336
	2.938	1.687	2	3.000	.562	BCFJF	12131	338
	2.938	2.375	2	3.000	.562	BCFKF	12115	353-21
	2.938	2.375	1	3.000	.625	BCFJF	12162	537-21
	2.938	1.687	1	3.000	.625	BCFKF	12134	543
	2.938	2.375	1	3.000	.562	BCFKF	12130	556-21
	2.938	2.693	2	2.844	.468	NCFKF	12120	570N
	2.938	2.375	2	2.812	.437	BCFJF	12128	611-21
	2.938	2.250	2	2.812	.437	BCFKF	12129	612-21
	2.938	1.687	1	3.000	.625	BCFJF	12104	844
	2.938	1.687	2	2.875	.562	BCFJF	12135	854
	2.938	1.687	2	2.875	.562	BCFKF	12136	855
	2.938	2.875	2	2.875	.562	BCFJF	12126	856-21
	2.938	2.875	2	2.875	.562	BCFKF	12127	857-21
	2.938	1.687	2	3.000	.562	B/VCFKF	-	1057
	2.938	1.687	1	3.000	.562	BCDJF	-	1686
	2.938	1.687	1	3.000	.562	BCDKF	-	1687
	2.938	1.687	1	3.000	.562	BCFJF	-	2087
	2.938	1.687	2	3.000	.562	BCFJF	-	2089
	2.938	1.687	2	3.000	.562	BCFKF	-	2090
	2.938	1.687	2	3.000	.562	BCDJF	-	2093
	2.938	1.687	2	3.000	.562	BCDKF	-	2102
	2.938	1.687	3	3.000	.562	BCDKF	-	2125
	2.938	1.687	-	-	-	BCF-F	12101	12101
	2.938	2.375	-	-	-	BCF-F	12105	12105

*Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

2.125 Shaft Size (Cont)								
21D	2.938	2.125	1	3.000	.625	BCFJF	12140	887
	2.938	2.562	1	3.140	.562	BCFJF	12142	1102
	2.938	2.250	1	3.187	.562	BCFJF	12133	1107
	2.938	2.000	1	3.000	.562	BCFKF	12113	12113
	2.938	2.562	1	3.140	.562	BCFKF	12116	12116
	2.938	2.250	1	3.187	.562	BCFKF	12117	12117
	2.938	2.000	2	3.000	.562	BCFKF	12124	12124
	2.938	2.125	-	-	-	BCF-F	12137	12137
	2.938	2.375	-	-	-	BCF-F	12138	12138
	2.938	3.375	-	-	-	BCF-F	12139	12139
	2.938	2.125	1	3.000	.625	BCFKF	12141	12141
	2.938	2.375	2	3.000	.562	BCFJF	12143	12143
	2.938	2.375	2	3.000	.562	BCFKF	12144	12144
	2.938	3.375	2	3.000	.562	BCFJF	12145	12145
	2.938	3.375	2	3.000	.562	BCFKF	12146	12146
	2.938	3.375	1	3.000	.562	BCFKF	12147	12147
51	2.687	2.375	2	3.000	.562	BCRJR	52108	327
	2.687	2.375	2	3.000	.562	BCRKR	52136	353
	2.687	2.375	1	3.000	.562	BCRJR	521101	537
	2.687	2.375	1	3.000	.562	BCRKR	52131	556
	2.687	2.375	2	2.812	.437	BCRJR	521104	611
	2.687	2.250	2	2.812	.437	BCRKR	521118	612
	2.687	2.875	2	2.875	.562	BCRJR	521109	856
	2.687	2.875	2	2.875	.562	BCRKR	521132	857
	2.687	2.250	2	2.812	.437	BCRKR	521118	1612
	2.687	2.375	2	3.000	.562	BCRJR	52108	1617
	2.687	2.375	2	3.000	.562	BCRKR	52136	1666
	2.687	2.375	1	3.000	.562	BCFJF	-	2084
	2.687	2.375	1	3.000	.562	BCFKF	-	2085

2.165 Shaft Size (55 mm)

See Metric Section - Pages 57-62

2.250 Shaft Size (2-1/4")

21	2.938	2.375	2	3.125	.562	BCFJF	12230	323-21
	2.938	2.375	1	3.125	.562	BCFKF	12218	351-21
	2.938	1.687	2	3.125	.562	BCFJF	12229	846
	2.938	1.687	2	3.125	.562	BCFKF	12207	847
	2.938	2.375	2	3.125	.562	BCFJF	12230	848-21
	2.938	2.375	2	3.125	.562	BCFKF	12221	849-21
	2.938	1.687	1	3.125	.562	BCFJF	12204	874
	2.938	1.687	1	3.125	.562	BCFKF	12214	941
	2.938	1.687	-	-	-	BCF-F	12201	942
	2.938	1.437	1	3.125	.562	BCFJF	12245	1087
	2.938	1.687	2	3.125	.562	BCFKF	12207	1676
	2.938	1.687	2	3.125	.562	BCFJF	12229	1678
	2.938	1.687	1	3.125	.562	BCFJF	12204	1679
	2.938	1.687	1	3.125	.562	BCFKF	12214	1680
	2.938	1.687	1	3.125	.562	BCFJF	12204	2087
	2.938	1.687	1	3.125	.562	BCFKF	12214	2088
	2.938	1.688	2	3.125	.562	BCFJF	12229	2089
	2.938	1.688	2	3.125	.562	BCFKF	12207	2090

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

2.250 Shaft Size (Cont)								
21	2.938	1.312	2	3.125	.562	BCFKF	12213	12213
	2.938	2.375	1	3.125	.562	BCFKF	12218	12218
	2.938	2.375	2	3.125	.562	BCFKF	12221	12221
	2.938	2.375	2	3.125	.562	BCFJF	12230	12230
	2.938	2.375	-	-	-	BCF-F	12233	12233
21D	2.938	2.375	1	3.125	.562	BCFKF	12225	12225
	2.938	2.375	-	-	-	BCF-F	12234	12234
	2.938	3.375	-	-	-	BCF-F	12235	12235
	2.938	2.375	2	3.125	.562	BCFKF	12236	12236
	2.938	2.375	2	3.125	.562	BCFJF	12237	12237
	2.938	3.375	2	3.125	.562	BCFKF	12238	12238
	2.938	3.375	2	3.125	.562	BCFJF	12239	12239
	2.938	3.375	1	3.125	.562	BCFKF	12241	12241
51	2.812	2.375	2	3.125	.562	BCRJR	52208	323
	2.812	2.375	1	3.125	.562	BCRKR	52231	351
	2.812	2.375	2	3.125	.562	BCRJR	52208	848
	2.812	2.375	2	3.125	.562	BCRKR	52236	849
	2.812	2.375	2	3.125	.562	BCRJR	52208	1688
	2.812	2.375	1	3.125	.562	BCRJR	52204	2091
	2.812	2.375	1	3.125	.562	BCRKR	52231	2092
	2.812	2.375	2	3.125	.562	BCRKR	52236	2094
	2.812	2.375	-	-	-	BCR-R	52201	2113

2.283 Shaft Size (58 mm)

See Metric Section - Pages 57-62

21	3.230	1.813	2	3.250	.562	BCFJF	12313	268
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2.362 Shaft Size (60 mm)

See Metric Section - Pages 57-62

2.375 Shaft Size (2-3/8")

	3.230	2.500	2	3.250	.562	BCFJF	12312	278-21
	3.230	2.500	2	3.250	.562	BCFKF	12311	350-21
	3.230	1.813	2	3.250	.562	BCFKF	12302	492
	3.230	1.813	2	3.250	.562	BCFKF	12302	594
	3.230	1.813	2	3.250	.562	BCFJF	12313	834
	3.230	1.813	1	3.250	.562	BCFKF	12301	12301
	3.230	1.813	-	-	-	BCF-F	120303	12303
	3.230	2.500	-	-	-	BCF-F	12306	12306
	3.230	2.500	1	3.250	.562	BCFKF	12307	12307
	3.230	2.500	2	3.250	.562	BCFKF	12311	12311
51	2.937	2.500	2	3.250	.562	BCRJR	52308	278
	2.937	2.500	2	3.250	.562	BCRKR	52336	350

2.437 Shaft Size

21	3.230	1.813	1	3.250	.562	BCFKF	12404	12404
	3.230	2.500	1	3.250	.562	BCFKF	12408	12408
	3.230	2.500	2	3.250	.562	BCFKF	12409	12409
	3.230	1.813	2	3.250	.562	BCFKF	12410	12410

* Spring retainer not needed

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

2.437 Shaft Size (Cont)

21	3.230	1.813	-	-	-	BCF-F	12415	12415
	3.230	2.500	-	-	-	BCF-F	12416	12416
21D	3.230	2.375	2	3.250	.562	BCFKF	12411	12411
	3.230	2.375	2	3.250	.562	BCFKF	12412	12412
	3.230	3.500	2	3.250	.562	BCFKF	12414	12414
	3.230	2.375	-	-	-	BCF-F	12417	12417
	3.230	3.500	-	-	-	BCF-F	12418	12418

2.480 Shaft Size (63 mm)

See Metric Section - Pages 57-62

2.500 Shaft Size (2-1/2")

21	3.390	1.813	2	3.375	.562	BCFJF	12521	269
	3.390	2.500	2	3.375	.562	BCFJF	12520	279-21
	3.390	1.250	2	3.375	.562	NCFKF	12553	335N
	3.390	2.500	2	3.375	.562	BCFKF	12514	349-21
	3.390	1.813	2	3.375	.562	BCFKF	12515	463
	3.390	1.813	2	3.375	.562	VCFKF	12557	463V
	3.625	1.813	2	3.250	.437	BCFJF	12542	468
	3.390	1.813	2	3.250	.437	BCFKF	12523	469
	3.390	1.750	2	3.500	.562	NCFSF	12522	481N
	3.390	1.813	2	3.375	.562	BCFJF	12521	835
	3.390	1.813	2	3.375	.562	BCFKF	12515	853
	3.390	2.500	2	3.375	.562	BCFJF	12520	916-21
	3.344	1.813	2	3.375	.562	B/VCFKF	-	1058
	3.390	2.500	1	3.375	.562	BCFKF	12508	12508
	3.390	1.813	1	3.250	.437	BCFKF	12509	12509
	3.390	1.813	1	3.375	.562	BCFKF	12512	12512
	3.390	2.500	2	3.375	.562	BCFKF	12514	12514
	3.390	1.813	-	-	-	BCF-F	12517	12517
	3.390	2.500	-	-	-	BCF-F	12519	12519
	3.390	2.500	2	3.375	.562	BCFJF	12520	12520
21D	3.390	2.187	2	3.375	.531	NCFKF	12524	889N
	3.390	2.562	2	3.375	.531	NCFKF	12516	12516N
	3.390	2.375	-	-	-	BCF-F	12529	12529
	3.390	3.500	-	-	-	BCF-F	12530	12530
	3.390	2.375	2	3.375	.562	BCFJF	12532	12532
	3.390	2.375	2	3.375	.562	BCFKF	12533	12533
	3.390	3.500	2	3.375	.562	BCGJF	12534	12534
	3.390	2.375	1	3.375	.562	BCFKF	12536	12536
	3.390	3.500	2	3.375	.562	BCFKF	12537	12537
51	3.062	2.500	2	3.375	.562	BCRJR	52508	279
	3.062	2.500	2	3.375	.562	BCRKR	52536	349
	3.062	2.500	2	3.375	.562	BCRJR	52508	916

2.559 Shaft Size (65 mm)

See Metric Section - Pages 57-62

HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

2.625 Shaft Size (2-5/8")

21	3.390	2.750	2	3.375	.625	BCFJF	12620	328-21
	3.390	2.750	2	3.375	.625	BCFKF	12617	542-21
	3.390	2.732	2	3.336	.531	NCFGF	12616	571N
	3.390	1.937	-	-	-	BCF-F	12604	12604
	3.390	2.750	-	-	-	BCF-F	12605	12605
	3.390	1.937	2	3.375	.625	BCFKF	12610	12610
	3.390	1.055	2	4.000	.500	BCFKF	12612	12612
	3.390	2.750	2	3.375	.625	BCFKF	12617	12617
	3.390	2.750	2	3.375	.625	BCFJF	12620	12620
	3.390	1.937	2	3.375	.625	BCFJF	12621	12621
	3.390	1.937	1	3.375	.625	BCFKF	12630	12630
	3.390	2.750	1	3.375	.625	BCFKF	12631	12631
21D	3.390	2.562	1	3.643	.562	BCFJF	12611	1106
	3.390	2.562	1	3.643	.562	BCFKF	12618	12618
	3.390	2.500	-	-	-	BCF-F	12618	12622
	3.390	3.375	-	-	-	BCF-F	12623	12623
	3.390	2.500	2	3.375	.625	BCFJF	12624	12624
	3.390	2.500	2	3.375	.625	BCFKF	12625	12625
	3.390	3.375	2	3.375	.625	BCFJF	12626	12626
	3.390	3.375	2	3.375	.625	BCFKF	12627	12627
	3.390	2.500	1	3.375	.625	BCFKF	12628	12628
	3.390	3.375	1	3.375	.625	BCFKF	12629	12629
51	3.187	2.750	2	3.375	.625	BCRJR	52608	328

2.677 Shaft Size (68 mm)

See Metric Section - Pages 57-62

2.750 Shaft Size (2-3/4")

	3.187	2.750	2	3.375	.625	BCRKR	52636	542
21	3.500	2.750	2	3.500	.625	BCFKF	12711	321
	3.500	1.937	2	3.750	.625	NCFKF	12722	337N
	3.500	1.937	2	3.500	.625	BCFKF	12713	464
	3.500	1.937	2	3.500	.625	BCFKF	12713	483
	3.500	1.937	2	3.500	.625	BCFJF	12712	836
	3.500	2.750	2	3.500	.625	BCFJF	12710	838
	3.500	1.687	3	4.390	.812	VCFGF	12701	12710V
	3.500	1.937	1	3.500	.625	BCFKF	12704	12704
	3.500	1.937	-	-	-	BCF-F	12705	12705
	3.500	2.750	1	3.500	.625	BCFKF	12709	12709
	3.500	2.750	-	-	-	BCF-F	12720	12720
21D	3.500	3.750	2	3.500	.625	BCFKF	12715	322
	3.500	3.750	1	3.500	.625	BCFKF	12706	12706
	3.500	3.750	-	-	-	BCF-F	12707	12707
	3.500	2.500	2	3.500	.625	BCFKF	12716	12716
	3.500	2.500	1	3.500	.625	BCFKF	12717	12717
	3.500	3.750	1	3.500	.625	BCFJF	12718	12718
	3.500	2.500	2	3.500	.625	BCFJF	12719	12719

2.756 Shaft Size (70 mm)

See Metric Section - Pages 57-62

*Spring retainer not needed



HEAD SEAL W.L. SEAT SEAT SEAT MATERIAL SPEC. REPL.
TYPE O.D. TYPE O.D. THICK CODE NO. SEAL NO.

2.874 Shaft Size (73 mm)

See Metric Section - Pages 57-62

2.875 Shaft Size (2-7/8")

21	3.800	2.062	2	3.750	.625	BCFJF	12809	270
	3.800	2.875	2	3.750	.625	BCFKF	12806	329
	3.800	2.062	2	3.750	.625	BCFKF	12808	839
	3.800	2.875	2	3.750	.625	BCFKF	12806	841
	3.800	2.062	-	-	-	BCF-F	12802	12802
	3.800	2.062	1	3.750	.625	BCFKF	12804	12804
	3.800	2.875	1	3.750	.625	BCFKF	12805	12805
	3.800	2.875	-	-	-	BCF-F	12816	12816
	3.800	2.062	1	3.875	.625	NCFKF	12819	12819N
21D	3.800	3.875	2	3.750	.625	BCFJF	12810	12810
	3.800	3.875	2	3.750	.625	BCFJF	12811	12811
	3.800	3.875	1	3.750	.625	BCFKF	12812	12812
	3.800	2.750	2	3.750	.625	BCFKF	12813	12813
	3.800	2.750	2	3.750	.625	BCFJF	12814	12814
	3.800	2.750	1	3.750	.625	BCFKF	12815	12815
	3.800	2.750	-	-	-	BCF-F	12817	12817
	3.800	3.875	-	-	-	BCF-F	12818	12818

2.953 Shaft Size (75 mm)

See Metric Section - Pages 57-62

3.000 Shaft Size

21	3.800	2.813	2	3.875	.625	BCFJF	13026	324
	3.800	2.062	2	3.875	.625	BCFKF	13025	465
	3.800	2.813	2	3.875	.625	BCFKF	13017	475
	3.800	2.062	2	3.875	.625	BCFJF	13024	761
	3.800	3.375	2	3.875	.625	BCFJF	13037	897
	3.800	2.750	2	3.875	.625	B/VCFKF	-	1059
	3.800	2.062	2	3.875	.625	BCFJF	-	1696
	3.800	2.062	2	3.875	.625	BCFKF	13025	2115
	3.800	2.062	2	3.875	.625	BCFJF	-	2116
	3.800	2.062	-	-	-	BCF-F	13001	13001
	3.800	2.062	1	3.875	.625	BCFKF	13014	13014
	3.800	2.813	-	-	-	BCF-F	13018	13018
	3.800	2.813	1	3.875	.625	BCFKF	13019	13019

3.000 Shaft Size (Cont)

21D	3.800	2.750	2	3.875	.625	BCFKF	13023	284
	3.800	2.750	1	4.250	.562	BCFJF	13032	893
	3.800	2.750	1	4.250	.562	BCFKF	13015	13015
	3.800	2.750	1	4.125	.562	BCFKF	13020	13020
	3.800	2.750	-	-	-	BCF-F	13028	13028
	3.800	2.750	1	3.875	.625	BCFKF	13029	13029
	3.800	2.750	2	3.875	.625	BCFJF	13030	13030
	3.800	2.062	1	4.125	.562	BCFJF	13031	13031
	3.800	3.875	-	-	-	BCF-F	13033	13033
	3.800	3.875	1	3.875	.625	BCFKF	13034	13034
	3.800	3.875	2	3.875	.625	BCFKF	13035	13035
	3.800	3.875	2	3.875	.625	BCFJF	13036	13036

3.150 Shaft Size (80 mm)

See Metric Section - Pages 57-62

3.250 Shaft Size

52	4.162	1.562	2	4.125	.781	BCRKR	23281	23281
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Call Factory for Listing of Sizes Available for Sizes Larger Than 3.250"

*Spring retainer not needed

Reemplazo de Sello para Eje Mecánico

Los componentes de este sello han sido doblados con herramientas mecánicas para permitir un ensamble y rendimiento sin problemas.

NOTA: Proteja las caras pulimentadas con precisión del nuevo asiento del sello y del anillo del sello contra DAÑOS, SUCIEDAD e IMPRESIONES DIGITALES.

TIPO 16

- Desensamble la caja de la bomba para ubicar el sello defectuoso. FUESE EN LA MANERA EN QUE EL SELLO VIEJO HA SIDO ENSAMBLADO PARA ASEGURARSE DE INSTALAR EL SELLO DE REEMPLAZO DE MANERA IDENTICA.
- Quite cuidadosamente el cabezal y el asiento del sello viejo, asegurándose de no rayar el eje o la superficie de contradiámetro del sello.
- Limpie las superficies del eje y la superficie de contradiámetro usando un trapo de tela esmerilada o algún material similar. Elimine la corrosión, las rebabas y limpie. Evite crear marcas en las áreas planas o reducir el diámetro del eje.
- Lubrique el eje, el diámetro interior (I.D.: inner diameter) de hule del cabezal rotativo del sello y el diámetro exterior (O.D.: outer diameter) de hule del asiento fijo del sello con un aceite ligero de usos múltiples. Las caras de sellado no deben ser lubricadas.

NOTA: NUNCA use grasa o aceite pesado como lubricante durante la instalación. El aceite o la grasa en las caras del sello pueden crear derrames en el mismo.

- Oprima firmemente el asiento del sello adentro del contradiámetro. Se puede oprimir manualmente o protegiendo la cara de sellado contra los impactos directos de cualquier objeto metálico que utilice. Use un pedazo de plástico entre la cara y cualquier herramienta de impacto.
- Revise las dos superficies del sello para asegurarse de que no contengan partículas foráneas. Deslice el cabezal rotativo del sello presionando con la mano a lo largo del eje hasta que entre en contacto paralelamente con el asiento fijo. Evite usar una presión de instalación excesiva o martillar el sello. El hecho de instalar de nuevo el impulsor hará que se posicione el sello a una distancia de trabajo correcta.
- Ensamble nuevamente el impulsor y la caja de la bomba.
- NO HAGA FUNCIONAR LA BOMBA EN SECO. SIEMPRE CEBE LA BOMBA ANTES DE ARRANCARLA. EN EL CASO DE LOS MODELOS DE AUTOCEBADO, LA CAJA DE LA BOMBA DEBE ESTAR LLENA.

TIPO 21

- Desensamble la caja de la bomba para ubicar el sello defectuoso. FUESE EN LA MANERA EN QUE EL SELLO VIEJO HA SIDO ENSAMBLADO PARA ASEGURARSE DE INSTALAR EL SELLO DE REEMPLAZO DE MANERA IDENTICA.
- Quite cuidadosamente el cabezal y el asiento del sello viejo, asegurándose de no rayar el eje o la superficie de contradiámetro del sello.
- Limpie las superficies del eje y la superficie de contradiámetro usando un trapo de tela esmerilada o algún material similar. Elimine la corrosión, las rebabas y limpie. Evite crear marcas en las áreas planas o reducir el diámetro del eje.
- Lubrique el eje, el diámetro interior (I.D.: inner diameter) de hule del cabezal rotativo del sello y el diámetro exterior (O.D.: outer diameter) de hule del asiento fijo del sello con un aceite ligero de usos múltiples. Las caras de sellado no deben ser lubricadas.

NOTA: NUNCA use grasa o aceite pesado como lubricante durante la instalación. El aceite o la grasa en las caras del sello pueden crear derrames en el mismo.

- Oprima firmemente el asiento del sello adentro del contradiámetro. Se puede oprimir manualmente o protegiendo la cara de sellado contra los impactos directos de cualquier objeto metálico que utilice. Use un pedazo de plástico entre la cara y cualquier herramienta de impacto.
- Revise las dos superficies del sello para asegurarse de que no contengan partículas foráneas. Deslice el cabezal rotativo del sello presionando con la mano a lo largo del eje hasta que entre en contacto paralelamente con el asiento fijo. Evite usar una presión de instalación excesiva o martillar el sello. Asegúrese de que el resorte enganche correctamente el hombro del cabezal del sello y el hombro del impulsor o retén de resorte del eje.
- Ensamble nuevamente el impulsor y la caja de la bomba.
- NO HAGA FUNCIONAR LA BOMBA EN SECO. SIEMPRE CEBE LA BOMBA ANTES DE ARRANCARLA. EN EL CASO DE LOS MODELOS DE AUTOCEBADO, LA CAJA DE LA BOMBA DEBE ESTAR LLENA.

TIPO 68

- Desensamble la caja de la bomba para ubicar el sello defectuoso. FUESE EN LA MANERA EN QUE EL SELLO VIEJO HA SIDO ENSAMBLADO PARA ASEGURARSE DE INSTALAR EL SELLO DE REEMPLAZO DE MANERA IDENTICA.
- Quite cuidadosamente el cabezal y el asiento del sello viejo, asegurándose de no rayar el eje o la superficie de contradiámetro del sello.
- Limpie las superficies del eje y la superficie de contradiámetro usando un trapo de tela esmerilada o algún material similar. Elimine la corrosión, las rebabas y limpie. Evite crear marcas en las áreas planas o cambiar de una manera u otra las dimensiones del eje o del diámetro.
- Aplique una capa de sellador Permatex en el contradiámetro del sello. No se recomienda aplicar pasta lubricante. Oprima el cabezal del sello adentro del contradiámetro hasta que se encuentre contra el casco. Empuje contra el casco del sello solamente. Se recomienda usar una herramienta como una presa para que la instalación resulte bien cuadrada.

- Lubrique el eje y/o el diámetro interior de hule del asiento si está instalado en el eje o instalado en el cas lubricifique el diámetro exterior (O.D.) del asiento fijo del sello con un aceite ligero para máquinas como aceite 3 en 1 o lubricante de caucho soluble en agua. No use grasa WD-40 o silicona.

NOTA: NUNCA use grasa o aceite pesado como lubricante durante la instalación. El aceite o la grasa en las caras del sello pueden crear derrames en el mismo.

- Revise las dos superficies del sello para asegurarse de que no contengan partículas foráneas. Si el asiento está instalado en el eje, deslice el asiento con la mano a lo largo del eje hasta que entre en contacto paralelamente con el cabezal fijo del sello. Evite usar una presión de instalación excesiva o martillar el sello. Sostenga el caucho del sello al instalar el dispositivo para evitar que se mueva. Si se puede instalar el asiento en el diámetro, oprima firmemente el asiento del sello adentro del contradiámetro. Se puede oprimir manualmente o protegiendo la cara de sellado contra los impactos directos de cualquier objeto metálico que utilice. Use un pedazo de plástico entre la cara y cualquier herramienta de impacto.
- Ensamble nuevamente el impulsor y la caja de la bomba.
- NO HAGA FUNCIONAR LA BOMBA EN SECO. SIEMPRE CEBE LA BOMBA ANTES DE ARRANCARLA. EN EL CASO DE LOS MODELOS DE AUTOCEBADO, LA CAJA DE LA BOMBA DEBE ESTAR LLENA.

Remplacement de la Garniture Mécanique pour Arbre

Les éléments de la garniture sont mécaniquement sertis pour un montage et un rendement sans problèmes techniques.

REMARQUE: Veillez à protéger les faces se chevauchant avec précision de la nouvelle garniture contre tout DOMMAGE, SALETÉ et toutes TRACES DE DOIGTS.

TYPE 16

- Démontez le corps de pompe afin d'accéder à la garniture défectueuse: NOTEZ LA FAÇON DONT EST MONTÉE LA VIELLE GARNITURE AFIN DE MONTER LA NOUVELLE GARNITURE DE LA MÊME MANIÈRE.
- Retirez la vieille tête du joint ainsi que le siège en veillant à ne pas rayer l'arbre ou le trou taraudé.
- Nettoyez l'arbre et les surfaces taraudées à l'aide d'une fine toile émeri ou d'une matière similaire. Retirez toute rouille, ébarbure et nettoyez en essuyant. Évitez de créer des dépressions ou de réduire le diamètre de l'arbre.
- Lubrifiez le diamètre intérieur en caoutchouc de l'arbre (D.I.) de la tête du joint rotatif et le diamètre extérieur en caoutchouc (O.D.) du siège du joint fixe avec une huile légère tous usages.
- REMARQUE: NE JAMAIS utiliser de graisse ou d'huile visqueuse en tant que lubrifiant d'installation. Toute présence de graisse sur les faces du joint risque d'entraîner une fuite de ce dernier.
- Appuyez fermement sur le siège du joint dans l'alésage afin de vous assurer qu'il est bien assis en angles droits par rapport à l'arbre. Ce dernier peut être enfoncé à la main ou introduit en place en veillant à ce qu'aucun coup avec un objet métallique ne soit porté par mégarde à la face étanche. Placez un morceau de plastique entre la face et toute force exercée.
- Vérifiez les surfaces du joint afin de vous assurer qu'elles ne comportent pas de débris. Glissez la tête du joint rotatif à la main le long de l'arbre afin que le contact avec le siège du joint fixe soit parfaitement parallèle. Évitez d'exercer toute pression excessive ou d'appliquer de coups de marteau sur le joint. Installez à nouveau la roue mobile afin de placer le joint à bonne distance de travail.
- Remontez le corps de pompe.
- NE PAS FAIRE FONCTIONNER LA POMPE À VIDE. VEILLER À TOUJOURS AMORCER LA POMPE AVANT DE L'UTILISER. POUR LES MODÈLES À AUTO-AMORÇAGE, LE CORPS DE POMPE DOIT ÊTRE REMPLI.

TYPE 21

- Démontez le corps de pompe afin d'accéder à la garniture défectueuse: NOTEZ LA FAÇON DONT EST MONTÉE LA VIELLE GARNITURE AFIN DE MONTER LA NOUVELLE GARNITURE DE LA MÊME MANIÈRE.
- Retirez la vieille tête du joint ainsi que le siège en veillant à ne pas rayer l'arbre ou le trou taraudé.
- Nettoyez l'arbre et les surfaces taraudées à l'aide d'une fine toile émeri ou d'une matière similaire. Retirez toute rouille, ébarbure et nettoyez en essuyant. Évitez de créer des dépressions ou de réduire le diamètre de l'arbre.
- Lubrifiez le diamètre intérieur en caoutchouc de l'arbre (D.I.) de la tête du joint rotatif et le diamètre extérieur en caoutchouc (O.D.) du siège du joint fixe avec une huile légère tous usages.
- REMARQUE: NE JAMAIS utiliser de graisse ou d'huile visqueuse en tant que lubrifiant d'installation. Toute présence de graisse sur les faces du joint risque d'entraîner une fuite de ce dernier.
- Appuyez fermement sur le siège du joint dans l'alésage afin de vous assurer qu'il est bien assis en angle droit par rapport à l'arbre. Ce dernier peut être enfoncé à la main ou introduit en place en veillant à ce qu'aucun coup avec un objet métallique ne soit porté par mégarde à la face étanche. Placez un morceau de plastique entre la face et toute force exercée.
- Vérifiez les surfaces du joint afin de vous assurer qu'elles ne comportent pas de débris. Glissez la tête du joint rotatif à la main le long de l'arbre afin que le contact avec le siège du joint fixe soit parfaitement parallèle. Évitez d'exercer toute pression excessive ou d'appliquer de coups de marteau sur le joint. Veillez à ce que le ressort enclenche correctement l'épaulement de la tête du joint ainsi que l'épaulement de la roue mobile ou de la coudelle du ressort de l'arbre.
- Remontez la roue mobile et le corps de pompe.
- NE PAS FAIRE FONCTIONNER LA POMPE À VIDE. VEILLER À TOUJOURS AMORCER LA POMPE AVANT DE L'UTILISER. POUR LES MODÈLES À AUTO-AMORÇAGE, LE CORPS DE POMPE DOIT ÊTRE REMPLI.

TYPE 68

- Démontez le corps de pompe afin d'accéder à la garniture défectueuse: NOTEZ LA FAÇON DONT EST MONTÉE LA VIELLE GARNITURE AFIN DE MONTER LA NOUVELLE GARNITURE DE LA MÊME MANIÈRE.
- Retirez la vieille tête du joint ainsi que le siège en veillant à ne pas rayer l'arbre ou le trou taraudé.
- Nettoyez l'arbre et les surfaces taraudées à l'aide d'une fine toile émeri ou d'une matière similaire. Retirez toute rouille, ébarbure et nettoyez en essuyant. Évitez de créer des dépressions ou de modifier en quoi que ce soit les dimensions de l'arbre et de l'alésage.
- Appliquez une légère couche d'agent d'étanchéité tel que du Permatex sur l'alésage de la garniture. Il n'est pas recommandé d'utiliser de la pâte lubrifiante. Appuyez sur la tête du joint afin de l'enfoncer dans l'alésage jusqu'à ce qu'il soit bien assis contre la coquille. Appuyez uniquement contre la coquille du joint. Il est recommandé d'utiliser un outil d'assemblage tel qu'une presse à mandriner afin que l'installation soit bien carrée.
- Lubrifiez l'arbre et/ou le diamètre intérieur en caoutchouc du siège si le ce dernier a été monté sur l'arbre ou lubrifiez le diamètre externe (O.D.) du siège du joint fixe avec une huile légère pour machines telle que 3 en 1 ou un lubrifiant en caoutchouc soluble dans l'eau. N'utilisez pas de graisse WD-40 ni de silicone.
- REMARQUE: NE JAMAIS utiliser de graisse ou d'huile visqueuse en tant que lubrifiant d'installation. Toute présence de graisse sur les faces du joint risque d'entraîner une fuite de ce dernier.
- Vérifiez les surfaces du joint afin de vous assurer qu'elles ne comportent pas de débris. Si la garniture a été montée sur l'arbre, glissez le joint à la main le long de l'arbre afin que le contact avec le siège du joint fixe soit parfaitement parallèle. Soutenez le caoutchouc du siège pendant l'installation afin d'éviter qu'il ne bouge. Si le siège peut être monté dans l'alésage, appuyez fermement sur le siège du joint dans l'alésage afin de vous assurer qu'il est bien assis en angles droits par rapport à l'arbre. Ce dernier peut être enfoncé à la main ou introduit en place en veillant à ce qu'aucun coup avec un objet métallique ne soit porté par mégarde à la face étanche. Placez un morceau de plastique entre la face et toute force exercée.
- Remontez la roue mobile et le corps de pompe.
- NE PAS FAIRE FONCTIONNER LA POMPE À VIDE. VEILLER À TOUJOURS AMORCER LA POMPE AVANT DE L'UTILISER. POUR LES MODÈLES À AUTO-AMORÇAGE, LE CORPS DE POMPE DOIT ÊTRE REMPLI.

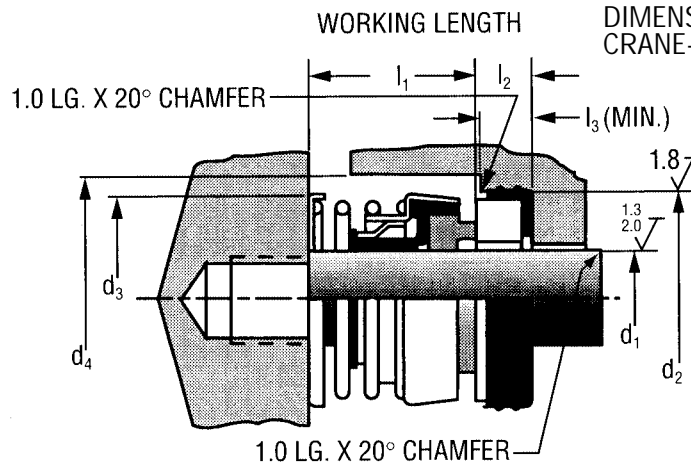
*Metric Dimensions and
Material Codes*



STYLE: 21-800002

MATERIAL: BCFJF

DIMENSIONS CONFORM TO:
CRANE-UK Type 2



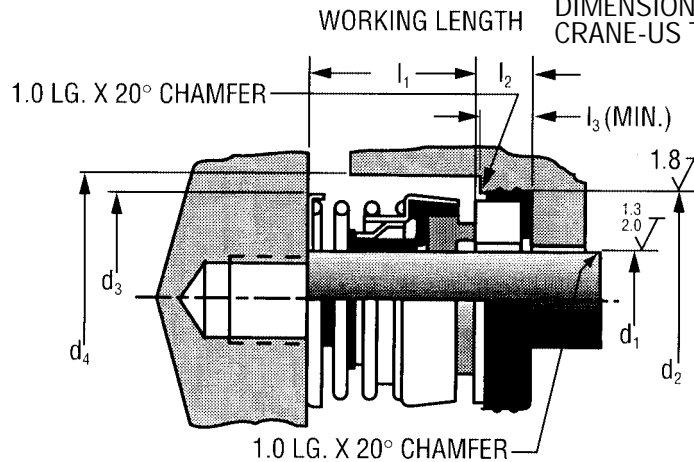
METRIC SHAFT SIZE	d_1	d_2	d_3	d_4 (Min) Dimensions in Inches	l_1	l_2	l_3 (Min)	Replaceme Seal No.
8	0.315	0.969	0.917	1.063	1.000	0.343	0.295	103120
10	0.394	0.969	0.917	1.220	1.000	0.343	0.295	103910
12	0.472	1.094	0.917	1.220	1.000	0.343	0.295	104710
14	0.551	1.219	1.185	1.339	1.000	0.406	0.354	105510
16	0.630	1.219	1.185	1.339	1.000	0.406	0.354	106223
18	0.709	1.344	1.303	1.496	1.000	0.406	0.354	107110
20	0.787	1.406	1.429	1.614	1.000	0.406	0.354	107810
22	0.866	1.469	1.429	1.614	1.000	0.406	0.354	108610
24	0.945	1.594	1.551	1.732	1.000	0.406	0.354	109410
25	0.984	1.594	1.551	1.732	1.000	0.406	0.354	109810
28	1.103	1.876	1.748	2.008	1.311	0.469	0.413	111010
30	1.181	2.000	1.874	2.126	1.311	0.469	0.413	111850
32	1.260	2.000	1.874	2.126	1.311	0.469	0.413	112610
33	1.299	2.126	2.000	2.244	1.311	0.469	0.413	113010
35	1.378	2.126	2.000	2.244	1.311	0.469	0.413	113150
38	1.496	2.250	2.126	2.402	1.311	0.469	0.413	115152
39	1.535	2.376	2.126	2.402	1.311	0.500	0.413	115310
40	1.575	2.376	2.374	2.520	1.311	0.469	0.413	115704
43	1.693	2.500	2.374	2.520	1.594	0.469	0.413	116810
45	1.772	2.500	2.626	2.874	1.594	0.469	0.413	117720
48	1.890	2.626	2.626	2.874	1.594	0.469	0.413	118910
50	1.969	2.750	2.626	2.874	1.594	0.531	0.472	119604
53	2.087	2.876	2.937	3.150	1.594	0.531	0.472	120810
55	2.165	3.000	2.937	3.150	1.594	0.531	0.472	121610
58	2.283	3.126	3.228	3.386	1.594	0.531	0.472	122810
60	2.362	3.126	3.228	3.386	1.594	0.531	0.472	123610
63	2.480	3.250	3.390	3.780	1.594	0.531	0.472	124810
65	2.559	3.626	3.390	3.780	1.929	0.626	0.571	125610
68	2.677	3.750	3.500	3.898	1.929	0.626	0.571	126710
70	2.756	3.750	3.500	3.898	1.929	0.626	0.571	12780
75	2.953	4.000	3.799	4.134	2.047	0.626	0.571	129510

Center O-Ring Groove Style Available in Ni-Resist Only. Call Factory for Part Number.
(To Convert to Millimeters multiply by 25.4)

STYLE: 21-800006

MATERIAL: BCFJF

DIMENSIONS CONFORM TO:
CRANE-US Type 21



METRIC SHAFT SIZE	d ₁	d ₂	d ₃	d ₄ (Min)	l ₁	l ₂	l ₃ (Min)	Replaceme Seal No.
Dimensions in Inches								
8	0.315	1.000	0.917	1.000	0.748	0.311	0.280	103134
10	0.394	1.000	0.917	1.000	0.748	0.311	0.280	103901
12	0.472	1.000	0.917	1.000	0.748	0.311	0.280	104704
14	0.551	1.250	1.185	1.260	0.886	0.406	0.343	105504
16	0.630	1.250	1.185	1.260	0.886	0.406	0.343	10604
18	0.709	1.375	1.303	1.378	0.886	0.406	0.343	107104
20	0.787	1.500	1.429	1.516	0.945	0.406	0.343	107808
22	0.866	1.500	1.429	1.516	0.945	0.406	0.343	108604
24	0.945	1.625	1.551	1.634	1.000	0.437	0.374	109404
25	0.984	1.625	1.551	1.634	1.000	0.437	0.374	109804
28	1.103	1.750	1.750	1.811	1.063	0.437	0.374	111004
30	1.181	1.875	1.875	1.949	1.063	0.437	0.374	111804
32	1.260	1.875	1.875	1.949	1.063	0.437	0.374	112604
33	1.299	2.000	2.000	2.067	1.122	0.437	0.374	113004
35	1.378	2.000	2.000	2.067	1.122	0.437	0.374	1137804
38	1.496	2.125	2.125	2.185	1.122	0.437	0.374	114904
39	1.535	2.375	2.375	2.441	1.378	0.500	0.437	115304
40	1.575	2.375	2.375	2.441	1.378	0.500	0.437	115704
43	1.693	2.500	2.375	2.559	1.378	0.500	0.437	116804
45	1.772	2.625	2.625	2.697	1.496	0.500	0.437	117704
48	1.890	2.750	2.625	2.815	1.496	0.500	0.437	118904
50	1.969	2.750	2.625	2.815	1.496	0.500	0.437	119604
53	2.087	3.000	2.937	3.071	1.693	0.563	0.500	120804
55	2.165	3.125	2.937	3.189	1.693	0.563	0.500	121604
58	2.283	3.250	3.228	3.327	1.811	0.563	0.500	122804
60	2.362	3.250	3.228	3.327	1.811	0.563	0.500	123604
63	2.480	3.375	3.390	3.504	1.811	0.563	0.500	124804
65	2.559	3.375	3.390	3.504	1.929	0.626	0.563	125504
68	2.677	3.500	3.500	3.622	1.929	0.626	0.563	126704
70	2.756	3.500	3.500	3.622	1.929	0.626	0.563	1275604
73	2.874	3.750	3.800	3.937	2.067	0.626	0.563	1287404
75	2.953	3.875	3.800	4.016	2.067	0.626	0.563	129504

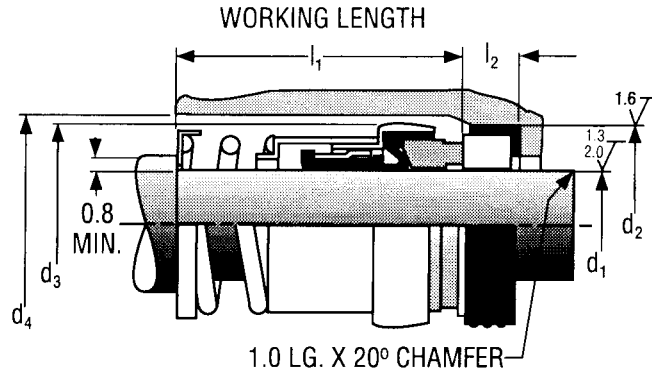
Center O-Ring Groove Style Available. Call Factory for Part Number.
(To Convert to Millimeters multiply by 25.4)

* Spring retainer not needed

STYLE: 51-800003

MATERIAL: BCRJR

DIMENSIONS CONFORM TO:
CRANE-UK Type 1A

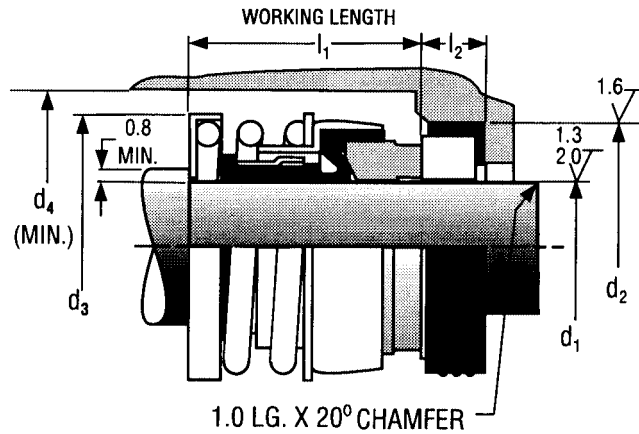


METRIC SHAFT SIZE	d_1	d_2	d_3	$d_{4(Min)}$	l_1	l_2	Replacement Seal No.
Dimensions in Inches							
16	0.630	1.219	1.035	1.220	1.732	0.413	50610
18	0.709	1.344	1.197	1.378	1.732	0.413	507110
20	0.787	1.406	1.323	1.417	1.732	0.413	507810
22	0.866	1.469	1.323	1.496	1.732	0.413	508610
24	0.945	1.594	1.449	1.614	1.732	0.413	509410
25	0.984	1.594	1.449	1.614	1.732	0.413	509810
28	1.103	1.876	1.563	1.890	2.362	0.472	511010
30	1.181	2.000	1.685	2.008	2.362	0.472	511810
32	1.260	2.000	1.819	2.008	2.362	0.472	512610
33	1.299	2.126	1.819	2.126	2.362	0.472	512910
35	1.378	2.126	1.819	2.126	2.362	0.472	51310
38	1.496	2.250	1.949	2.283	2.362	0.472	51510
40	1.575	2.376	2.126	2.402	2.362	0.472	515710
43	1.693	2.500	2.299	2.520	2.795	0.472	516910
45	1.772	2.500	2.437	2.520	2.795	0.472	517710
48	1.890	2.626	2.563	2.638	2.795	0.472	518910
50	1.969	2.750	2.563	2.756	2.795	0.531	519610
53	2.087	2.876	2.685	2.913	2.795	0.531	520810
55	2.165	3.000	2.811	3.031	2.795	0.531	521610
58	2.283	3.126	2.937	3.150	2.795	0.531	522810
60	2.362	3.126	2.937	3.150	2.795	0.531	523610
63	2.480	3.250	3.063	3.268	2.795	0.531	524810
65	2.559	3.626	3.189	3.661	2.756	0.630	525610
68	2.677	3.750	3.437	3.780	2.756	0.630	526710
70	2.756	3.750	3.437	3.780	2.756	0.630	52710
75	2.953	4.000	3.685	4.016	2.874	0.630	529510
80	3.150	4.500	3.937	4.291	3.110	0.787	

(To Convert to Millimeters multiply by 25.4)

STYLE: 52-800002
MATERIAL: BCRJR

DIMENSIONS CONFORM TO:
 CRANE-UK Type 2

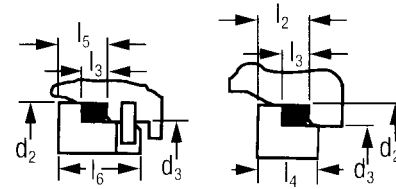
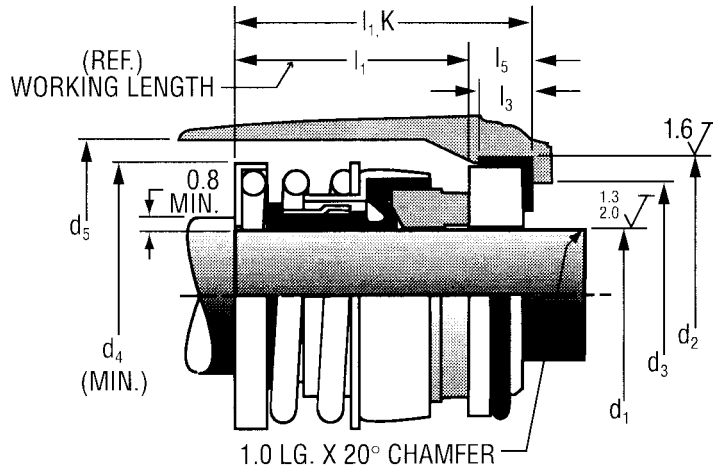


METRIC SHAFT SIZE	d_1	d_2	d_3	d_4 (Min)	l_1	l_2	Replacement Seal No.
	Dimensions in Inches						
16	0.630	1.219	1.039	1.220	1.000	0.413	20610
18	0.709	1.344	1.268	1.358	1.000	0.413	207110
20	0.787	1.406	1.358	1.535	1.000	0.413	207810
22	0.866	1.469	1.358	1.535	1.000	0.413	208610
24	0.945	1.594	1.516	1.614	1.000	0.413	209410
25	0.984	1.594	1.516	1.614	1.000	0.413	209810
28	1.103	1.876	1.657	1.890	1.311	0.472	211010
30	1.181	2.000	1.732	2.008	1.311	0.472	211810
32	1.260	2.000	1.858	2.008	1.311	0.472	212610
33	1.299	2.126	1.858	2.126	1.311	0.472	212910
35	1.378	2.126	1.858	2.126	1.311	0.472	21310
38	1.496	2.250	2.063	2.264	1.311	0.472	21510
40	1.575	2.376	2.217	2.382	1.311	0.472	215710
43	1.693	2.500	2.358	2.500	1.594	0.472	216910
45	1.772	2.500	2.500	2.579	1.594	0.472	217710
48	1.890	2.626	2.626	2.756	1.594	0.472	218910
50	1.969	2.750	2.626	2.756	1.594	0.531	219610
53	2.087	2.876	2.768	2.894	1.594	0.531	220810
55	2.165	3.000	2.890	3.012	1.594	0.531	221610
58	2.283	3.126	3.079	3.189	1.594	0.531	222810
60	2.362	3.126	3.079	3.189	1.594	0.531	223610
63	2.480	3.250	3.217	3.327	1.594	0.531	224810
65	2.559	3.626	3.343	3.642	1.929	0.630	225610
68	2.677	3.750	3.531	3.760	1.929	0.630	226710
70	2.756	3.750	3.531	3.760	1.929	0.630	22710
75	2.953	4.000	3.890	4.016	2.047	0.630	229510
80	3.150	4.500	4.161	4.488	2.205	0.787	

(To Convert to Millimeters multiply by 25.4)

STYLE: 52-800004
MATERIAL: BCRJR

DIMENSIONS CONFORM TO:
 DIN-24960 Standard



Alternate Seat Configurations

METRIC SHAFT SIZE	d_1	d_2	d_3	d_4	d_5 (Min)	l_{1K}	$l_{1(Ref)}$	l_2	l_3	l_4	l_5	l_6	Replacement Seal No.
	Dimensions in Inches												
16	0.630	1.063	0.906	1.039	1.102	1.378	1.039	0.339	0.217	0.433	0.339	0.591	20670
18	0.709	1.299	1.063	1.268	1.339	1.476	1.043	0.433	0.276	0.551	0.413	0.669	207170
20	0.787	1.378	1.142	1.358	1.417	1.476	1.043	0.433	0.276	0.551	0.413	0.669	207870
22	0.866	1.457	1.220	1.358	1.496	1.476	1.043	0.433	0.276	0.551	0.413	0.669	208670
24	0.945	1.535	1.299	1.516	1.575	1.575	1.142	0.433	0.276	0.551	0.413	0.669	209470
25	0.984	1.575	1.339	1.516	1.614	1.575	1.142	0.433	0.276	0.551	0.413	0.669	209870
28	1.103	1.693	1.457	1.657	1.732	1.673	1.240	0.433	0.276	0.551	0.413	0.669	211070
30	1.181	1.772	1.535	1.732	1.811	1.673	1.240	0.433	0.276	0.551	0.413	0.669	211870
32	1.260	1.890	1.654	1.858	1.890	1.673	1.240	0.433	0.276	0.551	0.413	0.669	212670
33	1.299	1.890	1.654	1.858	1.929	1.673	1.240	0.433	0.276	0.551	0.413	0.669	212970
35	1.378	1.969	1.732	1.858	2.008	1.673	1.240	0.433	0.276	0.551	0.413	0.669	21370
38	1.496	2.205	1.929	2.063	2.283	1.772	1.319	0.453	0.315	0.551	0.453	0.709	21570
40	1.575	2.283	2.008	2.217	2.362	1.772	1.319	0.453	0.315	0.551	0.453	0.709	215770
43	1.693	2.402	2.126	2.358	2.480	1.772	1.319	0.453	0.315	0.551	0.453	0.709	216970
45	1.772	2.480	2.205	2.500	2.559	1.772	1.319	0.453	0.315	0.551	0.453	0.709	217770
48	1.890	2.598	2.323	2.626	2.677	1.772	1.319	0.453	0.315	0.551	0.453	0.709	218970
50	1.969	2.756	2.441	2.626	2.756	1.870	1.398	0.472	0.335	0.551	0.531	0.787	219670
53	2.087	2.874	2.559	2.768	2.874	1.870	1.398	0.472	0.335	0.551	0.531	0.787	220870
55	2.165	2.953	2.638	2.890	2.953	1.870	1.398	0.472	0.335	0.551	0.531	0.787	221670
58	2.283	3.071	2.756	3.079	3.268	2.067	1.516	0.551	0.335	0.709	0.531	0.787	222870
60	2.362	3.150	2.835	3.079	3.346	2.067	1.516	0.551	0.335	0.709	0.531	0.787	223670
63	2.480	3.268	2.953	3.217	3.465	2.067	1.516	0.551	0.335	0.709	0.531	0.787	224870
65	2.559	3.346	3.031	3.343	3.543	2.067	1.516	0.551	0.335	0.709	0.531	0.787	225670
68	2.677	3.543	3.189	3.531	3.661	2.067	1.496	0.571	0.374	0.709	0.610	0.787	226770
70	2.756	3.622	3.268	3.531	3.740	2.362	1.791	0.571	0.374	0.709	0.610	0.866	22770
75	2.953	3.819	3.465	3.890	4.094	2.362	1.791	0.571	0.374	0.709	0.610	0.866	229570
80	3.150	4.134	3.740	4.161	4.488	2.362	1.791	0.571	0.374	0.709	0.610	0.866	

(To Convert to Millimeters multiply by 25.4)

*Recommended
Seal Material*



Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Acetaldehyde								A
Acetyl Chloride				A		A		A
Acetylene	A			A		A		A
Acid								
Arsenic				A		A		
Benzoic				A				
Carbolic				A		A		
Carbonic	A			A		A		
Citric	A			A		A		
Cresylic				A		A		
Fatty				A				
Fruit	A		A	A		A		
Fumaric				A				
Gallic				A		A		
Hydrocyanic	A		A	A		A		
Maleic				A				
Napthenic	A	A		A	A	A		
Nitric; 0-50%				A				
Nitric; 50-100%				A				
Nitrous; 10%				A				
Palmitic				A				
Phosphoric (Air Free)				A				
Picric, H2O Solution				A				
Stearic	A		A	A				
Sulfuric, Concentrate				A				
Sulfuric, 20% Oleam				A				
Tannic	A		A	A		A		
Tartaric	A		A	A				A
Alcohols (Ethyl & Methyl)	A		A	A	A	A		
Alcohol, Lub Oil	A	A	A	A	A	A		
Alkanes	A	A		A	A	A		
Alkyl - Arylsulphonics		A		A		A		
Alkyl Benzene				A		A		
Allyl Alcohol	A			A	A	A		
Allyl Amine	A	A		A		A		
Aluminum Hydroxide	A		A	A	A	A		
Ammonia Anhydrous (Liquid)	A	A		10%		10%		
Ammonium								
Bicarbonate (Aqueous)	A		A	A		A		
Carbonate				A		A		
Chloride	A		A	A				
Flouride				A				
Hydroxide			A	10%		10%		
Persulfate (Aqueous)				A		A		
Phosphate Di-Basic				A		A		
Phosphate Mono-Basic				A		A		
Phosphate Tri-Basic				A		A		
Sulfate (Liquid)				A				
Sulfate (W/Sulfuric Acid)				A				
Sulfide				A		A		
Thiocyanate			A	A		A		
Amyl Alcohol	A	A	A	A	A	A		
Aniline	A			A		A		
Anti-Freeze, Water, Alcohol or Glycols	A	A		A	A	A		

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Argon Gas	A	A			A	A	A	
Arochlor								
1248					A		A	
1254					A		A	
1260					A		A	
Aromatic Fuels, 50%					A		A	
Barium								
Chloride, (Liquid 20%)					A			
Hydroxide					A		A	
Nitrate Solution	A							
Sulfide					A		A	
Beer	A	A	A	A	A	A	A	
Beer Wort	A	A	A	A	A	A	A	
Beet								
Juice	A	A	A	A	A	A	A	
Pulp	A	A	A	A	A	A	A	
Sugar Solution	A	A			A	A	A	
Benzene								
Coal Tar Product					A		A	
Petroleum Ether					A		A	
Benzoic Acid Solution	A	A			A		A	
Benzol					A		A	
Benzophenone					A		A	
Benzyl Chloride								
Borax Solution, (Sodium Borate)A				A	A		A	
Brine								
Calcium PH-8	A	A			A	A	A	
Chloride PH-8	A	A			A	A	A	
Calcium & Magnesium Chloride	A	A			A	A	A	
Calcium & Sodium ChlorideA	A	A			A	A	A	
Sea Water (To 190°F)	A	A			A	A	A	
Sodium Chloride	A	A			A	A	A	
Bromo Methane (Methyl Bromide)					A			
Bunker "C" Fuel Oil	A	A			A	A	A	
Butadiene	A	A			A	A	A	
Butanol	A	A			A	A	A	
Butyl								
Alcohol	A	A	A	A	A	A	A	
Amine	A							
Benzozate					A		A	
Stearate					A		A	
Butylene	A	A			A	A	A	
Calcium								
Bisulfide	A				A		A	
Carbonate	A	A	A	A	A	A	A	
Chloride Brine	A	A			A	A	A	
Chromate	A	A			A	A	A	
Magnesium Chloride (Brine)A	A	A			A	A	A	
Nitrate					A			
Oxide					A		A	
Phosphate	A	A			A	A	A	
Sulfide					A		A	
Calgon (Tri-Sodium Phosphate)	A	A					A	

A. Indicates Acceptance of Code for Liquid Indicated. **C.** Indicates Use with Caution. **Blank.** Indicates Not Recommended.

Note: The above chart is a guide to the selection of mechanical seal components. Prior to actual use, it is suggested that a compatibility test be run.

For Material Code Identification Chart, See Page 3.

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Cane Juice	A	A		A	A	A		
Carbinol (Methanol)	A	A	A	A	A	A		
Carbon								
Bisulfide				A		A		
Dioxide (Dry)	A	A		A	A	A		
Dioxide (Wet)	A		A			A		
Disulfide				A		A		
Monoxide								
Tetrachloride (Anhydrous>10%)				A				
Catsup			A					
Caustic								
Chloride of Sodium		A						
Cyanogen		A						
Soda (Sodium Hydroxide)		A						
Chlorobenzene				A		A		
Chlorobromomethane				A		A		
Chloroform				A		A		
Chloronaphthalene				A		A		
Chlorophenol				A		A		
Chlorotoluene				A				
Chrome Alum				A				
Cocoa Butter	A	A		A	A	A		
Copper								
Carbonate				A		A		
Cyanide				A		A		
Nitrate				A				
Sulfate				A		A		
Creosote				A		A		
Cumene				A		A		
Cupric Sulfate (Blue Vitriol)				A				
Cyclohexane				A		A		
Cyclohexanol				A		A		
DDT Solutions								
Toluene Solvent				A		A		
Kerosene Solvent	A			A		A		
De-Butanizer Reflux	A	A		A	A	A		
De-Ethanizer Charge	A	A		A	A	A		
De-Propanizer Reflux	A	A		A	A	A		
Diamylamine	A							
Dibutyl Sebacate				A				
Dichlorobenzene				A		A		
Dichlorobutane				A		A		
Dichlorodifluoromethane (Freon 12)		A	A	A		A		
Dichloroethane (Ethylene Di-Chloride)				A				
Diesel Fuel	A	A		A	A	A		
Diethy Benzene				A				
Diethylene Glycol	A	A	A	A	A	A		
Dimethyl Tera Phthalate				A				
Diocetyl-Amine	A							
Diphenyl Oxide				A		A		
Dish Water	A	A	A	A	A	A		
Dow Corning Silicone Fluid				A		A		
Dowtherm "A"					A	A		
Ethane	A	A	A	A	A	A		

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Ethanol (Alcohol, Ethyl)	A	A	A	A	A	A	A	
Ethyl								
Alcohol					A		A	
Benzene					A		A	
Benzoate					A		A	
Chloride					A			
Chlorocarbonate					A		A	
Formate					A		A	
Mercaptan					A		A	
Silicate					A		A	
Ethylene		A	A		A	A	A	
Chloride or Di-Chloride	A				A			
Glycol		A	A	A	A	A	A	
Ferric								
Chloride	A				A			
Sulfate					A			
Formaldehyde	A				A		A	
Formalin	A				A		A	
Freon & Refrigeration Oil								
Freon 11	A		A	A	A	A	A	
Freon 12			A	A	A	A	A	
Freon 22			A	A				
Freon 113			A	A				
Freon 114			A	A				
Freon Liquid			A	A				
Fruit Juices	A	A	A	A	A	A	A	
Gas Oil	A	A	A	A	A	A	A	
Gasoline								
Aromatic					A		A	
Auto Grades	A	A			A	A	A	
Hi-Test with Mercaptan with H2S						A	A	
Glaubers Salt (Solution Sulfate)	A	A			A	A	A	
Glucose	A	A	A	A	A	A	A	
Glue	A	A	A	A	A	A	A	
Glue Sizing	A	A	A	A	A	A	A	
Glycerol (Glycerine)	A	A	A	A	A	A	A	
Grape Juice	A		A		A			
Grease	A	A	A	A	A	A	A	
Green Liquor					A	A	A	A
Hepthane	A	A	A	A	A	A	A	A
Hexane	A	A	A	A	A	A	A	A
Hydrogen Proxide					A			
Hydrogen Sulfide					A			
Hydroquinone					A	A	A	
Insecticides								
Aromatic					A	A	A	
Non-aromatic	A	A			A	A	A	
Iodine					A			
ISO								
Butane	A	A	A	A	A		A	
Butyl Alcohol	A	A	A	A	A	A	A	
Butylene	A	A			A	A	A	
Butylene Glycol	A	A			A		A	
Octane					A	A	A	

A. Indicates Acceptance of Code for Liquid Indicated.

C. Indicates Use with Caution.

Blank. Indicates Not Recommended.

Note: The above chart is a guide to the selection of mechanical seal components. Prior to actual use, it is suggested that a compatibility test be run.

For Material Code Identification Chart, See Page 3.

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
ISO (Cont)								
Pentane	A	A			A	A	A	
Propanol					A	A	A	
Proyl-Alcohol	A	A	A	A	A	A	A	
Proyl-Amine	A	A			A	A	A	
JP								
JP3	A	A			A	A	A	
JP4	A	A			A	A	A	
JP5	A	A			A		A	
JP6	A	A			A	A	A	
JPX	A	A						
Kerosene	A	A			A	A	A	
Lard	A	A	A	A	A	A	A	
Lead								
Acetate (Liquid)								A
Nitrate	A		A					A
Light Petroleum Gas (LPG)	A	A	A		A	A	A	A
Lime Water			A	A	A	A	A	A
Lithium Bromide Brine	A					A		
Magnesium								
Hydroxide	A	A	A	A	A	A	A	A
Sulfate (Epsom, Salts)	A	A	A	A	A	A	A	A
Maleic Anhydride					A			
Mash, Anti-Biobic, Fermentation (No Solvent)								
Mayonnaise	A				A			A
Mea (No Copper Sulfate)	A							A
Mercury	A		A		A			A
Mercury Salts	A		A					A
Methanol	A	A	A	A				A
Methyl								
Alcohol	A	A	A	A				A
Bromide					A			A
Chloride (Dry)					A			A
Dichloride					A	A		A
Ethyl Ketone								A
Formate			A					
Milk	A		A		A			A
Milk of Lime					A			A
MIL								
F-2558 (RJ-1)	A		A		A			A
L-7808	A				A			A
H-5606 (HFA)	A		A		A			A
H-5605 (J43)	A		A		A			A
O-8515			A		A			A
O-8200 (HYDR)			A		A			A
Mineral Spirits	A	A	A	A	A	A		A
Mine Water					A	A		A
Miscella, 20% Soya Oil	A	A			A	A		A
Molasses	A	A	A	A	A	A		A
Monochlorobenzene					A			A
Monoethanolamine								A
Naphtha	A	A			A	A		A
Naphtha Crude	A				A			A
Naphthalene					A	A		A

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Nickel								
Chloride						A		
Sulfate	A		A		A			A
Nitro								
Benzene						A		A
Ethane			A					A
Propane								A
Nitrogen Gas	A	A	A	A	A	A	A	A
Octyl Alcohol					A			A
Oil								
& Ammonia			A	A				
Animal, Bone	A	A	A	A	A	A	A	
Animal, Cod	A	A	A	A	A	A	A	
Animal, Menhadden	A	A			A	A	A	
Animal, Neatsfoot	A	A	A	A	A	A	A	A
Animal, Sperm	A	A	A	A	A	A	A	A
Animal, Whale	A	A	A	A	A	A	A	A
Bunker "C"	A	A			A	A	A	
Creosote, Sweet					A	A	A	
Crude, Cold Sweet	A				A	A	A	
Diesel #2D	A	A			A	A	A	
Diesel #3D	A	A			A	A	A	
Diesel #4D	A	A			A	A	A	
Diesel #5D	A	A			A	A	A	
Essential	A	A	A	A	A	A	A	A
Fuel #1	A	A	C	C	A	A	A	
Fuel #2	A	A	C	C	A	A	A	
Fuel #3	A	A	C	C	A	A	A	
Fuel #5A	A	A	C	C	A	A	A	
Fuel #5B	A	A	C	C	A	A	A	
Fuel #6	C	C			A	A	A	
Insulating	A				A	A	A	
Kerosene	A	A	C	C	A	A	A	
Linseed (Raw)	A	A	C	C	A	A	A	
Lubricating #8	A	A	C	C	A	A	A	
Fed. Spec. #10	A	A	C	C	A	A	A	
Fed. Spec. #20	A	A	C	C	A	A	A	
Fed. Spec. #30	A	A	C	C	A	A	A	
Fed. Spec. #9110	A	A	C	C	A	A	A	
Fed. Spec. #9170	A	A	C	C	A	A	A	
Fed. Spec. #9250	A	A	C	C	A	A	A	
Fed. Spec. #9370	A	A	C	C	A	A	A	
Fed. Spec. #9500	A	A	C	C	A	A	A	
Mineral, Lard Cutting								
Mineral SAE 10	A	A	C	C	A	A	A	
Mineral SAE 90	A	A	C	C	A	A	A	
SAE 20	A	A	C	C	A	A	A	
SAE 30	A	A	C	C	A	A	A	
SAE 40	A	A	C	C	A	A	A	
SAE 50	A	A	C	C	A	A	A	
SAE 60	A	A	C	C	A	A	A	
SAE 70	A	A	C	C	A	A	A	
SAE 140	A	A	C	C	A	A	A	
SAE 250	A	A	C	C	A	A	A	
Federal Spec. #1	A	A	C	C	A	A	A	

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Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Oil (Cont)								
Federal Spec. #2	A	A	C	C	A	A	A	
Navy Spec. Navy II	A	A	C	C	A	A	A	
Quenching	A	A	C	C	A	A	A	
Rich	A	A			A	A	A	
Turbine Lube	A	A	C	C	A	A	A	
Vegetable, Castor	A	A	C	C	A	A	A	A
Vegetable, China Wood	A	A	C	C	A	A	A	
Vegetable, Coconut	A	A			A	A	A	A
Vegetable, Corn	A	A	C	C	A	A	A	
Vegetable, Linseed (Raw)	A	A	C	C	A	A	A	
Vegetable, Olive	A	A	C	C	A	A	A	C
Vegetable, Palm	A	A	C	C	A	A	A	C
Vegetable, Peanut	A	A	C	C	A	A	A	
Vegetable, Rape Seed	C	C	C	C	A	A	A	A
Vegetable, Rosin	A	A			A	A	A	
Vegetable, Sesame	A	A			A	A	A	
Vegetable, Soya Bean	A	A	C	C	A	A	A	
Olefin, Crude			A					
Oleums					A			
Orthodichloro Benzene					A		A	
OS 45 Type IV	C		A		A		A	
Oxygen, Liquid		C		A		A	A	
Paracymene	A							
Paraffin, Liquid	A	A			A	A	A	
Para-Dichlorobenzene					A			
Pectin Liquor	A				A		A	
Penicillin (Liquid)					A		A	
Pentachlorophenol								
Pentane	A	A	A	A	A	A	A	
Perchlorethylene	A	A			A	A	A	
Peroxide of Hydrogen					C			
Petrolatum	A	A	C	C	A	A	A	
Petroleum Ether	A	A	C	C	A	A	A	
Phenol (Carbolic Acid)								C
Phenol Formaldehyde Mix								
Phosphoric Acid			C		C			
Phosphoric Trichloride (Dry)				C			C	
Photographic Developers					A		A	
Phthalic Anhydride	C	C						
Plating Solutions								
Chrome								
Others								
Poly Glycols	A	A	A	A	A	A	A	A
Poly Vinyl Acetate								
Potash Alum								
Aqueous	A				A		A	
Sulfide	A				A		A	
Potassium								
Acetate								
Bicarbonate	A							
Bichromate (Aqueous)	A							
Bromide	A				A		A	
Carbonate (Aqueous)	A	A	A	A	A	A	A	
Chlorate	A	A	A	A	A	A	A	

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Potassium (Cont)								
Chloride (Aqueous)	A	A	A	A	A	A	A	A
Cyanides	A	A	A	A	A	A	A	A
Dichromate	A	A	A	A	A	A	A	A
Hydroxide (<50%)	C		C					A
Hydroxide (>50%)	C		C					A
Nitrate (Aqueous)	A		A		A		A	A
Persulfate					A		A	
Sulfate	A	A	A	A	A	A	A	A
Propane	A				A		A	
Propyl Alcohol								
Propylene					A	A	A	
Propylene Glycol					A	A	A	
Pyridine								C
Raffinate	A							
Rosin	A	A						
Sal Ammonia (Ammonium Chloride)	A	A	A	A	A	A	A	A
Salt Cake (Sodium Sulfate)	A	A	A	A	A	A	A	A
Salt Water, Sea Water								
Sewage	A				A		A	A
Silicone Oils & Greases	A	A	A	A				A
Silver Nitrate (10%)			A		A		A	A
Skydrol								
500								A
7000								A
Soap								
Liquors	A		C		A		A	A
Solutions	A		C		A		A	A
Soda Ash (Cold)	A	A	A	A	A	A	A	A
Sodium Acetate								
Anhydrous	C	C	C	C				A
Aluminate	A	A			A	A	A	
Benzonate						C		
Bicarbonate (Aqueous)	A	A	A	A	A	A	A	A
Bisulfate	A		A		A		A	A
Bisulfite	A		A		A		A	A
Borate (Borox Solution)	C	C			A	A	A	A
Carbonate (Aqueous)	C	C	C	C	C	C	C	C
Chlorate					A		A	
Chloride Solution	A	A	A	A	A	A	A	A
Cyanide (Aqueous)	A		A		A		A	A
Ferricyanide					A			
Hydrosulfite	C		A		A		A	A
Hydroxide (<50% @ 150°F)			A	A				A
Hypochlorite 20%	C				A			C
Iodide					A			
Metaphosphate	A				A		A	A
Metasilicate	A	A	C	C	A	A	A	A
Nitrate (Aqueous)								A
Perborate	C	C	C	C	A	A	A	A
Peroxide Solution	C		C		A		A	A
Phosphate (Aqueous)	A	A	C	C	A	A	A	A
Mono, Dibasic, Triasic, Meba								
Plumbite (Aqueous)					A		A	

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For Material Code Identification Chart, See Page 3.

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Sodium Acetate (Cont)								
Silicate (Aqueous)	A	A	A	A	A	A	A	A
Sulfate (Aqueous)			C	C	A	A	A	C
Sulfide	A	A	A	A	A	A	A	A
Sulfite (Aqueous)								
Tetraborate	C	C			A	A	A	A
Thosulfate	C				A		A	A
Solvasol								
1, 2, 3	A	A	C	C	A	A	A	
73, 74	C	C	C	C	A	A	A	
Starch	A	A	A	A	A	A	A	A
Steam								A
Stoddard Solvent	A	A	C	C	A	A	A	
Styrene (Monomer)					C	C	C	
Sugar (Aqueous)	A	A	C	C	A	A	A	A
Sulfur Chloride								
(Cold) (Aqueous)					C	C	C	
Dioxide (Dry)					A	A	A	A
Dioxide (Wet)			C	C	A	A	A	
Dioxide & Water			C	C	A	A	A	A
Trioxide (Dry)					A	A		C
Trioxide (Wet)					A	A		C
Sulphonated								
Fatty Alcohol	A	A			A	A	A	
Vegetable Oils	A	A			A	A	A	
Syrup (Sucrose Solution)	A		C		A		A	A
Tall Oil	C							
Tallow	A	A	A	A	A	A	A	C
Tanning Liquors	A	A	C	C	A	A	A	A
Tar & Ammonia (In Water)	C	C			C	C	C	
Tar								
Pine	C	C	A	A				A
Bituminous	C	C			A	A	A	
Tetrachloroethane					A		C	
Tetrachloroethylene					A		C	
Tetra Ethyl Lead	C		C		A		A	
Tetrahydrofuran								C
Therminol					A	A	A	
Titanium Tetrachloride	C				A			
Toluene (Toluol)					A	A	A	
Tomato Pulp	A	C			A	C	A	
Toxaphene					A			
Trichlorobenzene								
Trichloroethane								
(Dry)					C		C	
(Wet)					C			
Trichloroethylene								
(Dry)					A	A	A	
(Wet)					A	A	A	
Tricresyl Phosphate								A
Triethanolamine								
Triethylamine	A	A			A	A	A	
Trifluorovinylchloride								
Trisodium Phosphate	A	A			A	A	A	
Turpentine	A	A			A	A	A	

Liquid	BCF JF	BCFKF	NCFKF	NCF JF	VCF JF	VCFKF	VCFZF	ECF JF
Urea								
(Anhydrous) 100%	A	A			A	A	A	
(Wet) All Concentrations					A		A	
& Phenolic Resins	A				A		A	
Urine	A				A		A	
Varnish								
Aromatic					A	A	A	
Non-Aromatic	C	C			A	A	A	
Vegetable Juices	C	C			A	C	A	
Vetrocoke Solution (Wet)					A		A	
Vinegar					A	A	A	A
Vinyl Chloride					C		C	
Vitriole, White	A		A		A		A	A
Water								
Boiler Feed	A	A	C	C	A	A	A	A
Brackish					A	A	A	
Clean Untreated	A	A	C	C	A	A	A	A
Cooling Tower	A	A	C	C	A	A	A	A
Condensate	A	A	C	C	A	A	A	A
Distilled	A	A	C	C	A	A	A	A
Fresh	A	A	C	C	A	A	A	A
Heavy	A	A			A	A	A	A
Hot	A	A	C	C	A	A	A	A
Mine					A	A	A	
River	A	A	C	C	A	A	A	A
Salt & Sea Solution	A	A	A	A	A	A		A
Soapy	A	A	C	C	A	A	A	A
with Soluble Oil	A	A			A	A	A	A
Waterflood Service	A		A		A		A	
Whiskey	A	C	A	C	A	C	A	A
White Liquor	C	C	C	C	A	A	A	C
White Water, Paper Mill	C	C	C	C	A	A	A	C
Wine	A	C	A	C	A	C	A	A
Wood Pulp (Stock)								
Wood Vinegar								C
Wort, (Beef Wort)	A	A	A	A	A	A	A	A
Xylene					A	A	A	
Yeast								
Zeolite Treated Water (De-ionized)	A	A	A	A	A	A	A	A
Zinc								
Cyanide	A	A			A	A	A	
Chloride (Wet)	A				A			A
Chloride (Dry)	A				A			
Nitrate					A	A	A	
Phosphate							A	
Sulphate	A	A	A	A	A	A	A	A

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Troubleshooting Guide

For an evaluation of seal failure, return entire seal with note of operating conditions to your local distributor.

Trouble	Possible Cause	Remedy
Cracked or broken stationary seat (ceramic).*	Seal ran dry and heated up. When liquid reached seal faces it was cooler, causing thermal cracks.	Check to insure seal chamber is full of liquid before starting pump. On high temperature application insure proper flushing at seal faces.
Carbon washer scored and grooved.*	Dirty system.	Have system cleaned and flushed. Consider use of Tungsten Carbide or Silicon Carbide Rings.
Carbon washer worn unevenly.*	Seal improperly installed.	Check installation instructions for proper assembly.
Flexible Diaphragm broken.*	Coupling misalignment.	Realign pump and motor.
Short seal life in treated systems.	Treatment level and temperature higher than anticipated.	Advise factory of pump temperature and PPM Treatment Level, for alternate seal recommendation.
Buna Diaphragm hard and brittle. Rapid carbon wear.	Temperature too high.	Use Viton Elastomers, High Temperature Carbon, Ni Resist Tungsten Carbide or Silicon Carbide Seat.
Diaphragm soft and sticky; appears to be dissolving.	Bellows not compatible with material being pumped.	Consult factory for recommendation advising of pumpage and temperature.

*In all of the above cases of trouble, make sure the seal when fully compressed is not longer than the length of the seal cavity in which it is installed. Over compression is a major cause of failure.

Warranty

Pac-Seal warrants that the material and workmanship of our products will provide satisfactory service only if the buyer has selected the correct materials and the end user makes a proper installation. As it is beyond our means to assure the correct selection of material or correct installation, we assume no responsibility for any damage after our products have been put into service.

Any of our products found to be defective prior to being used will be replaced at no charge, or the purchase price refunded at our option. This shall be our maximum liability. The sale of Pac-Seal products under any other warranty or guarantee, expressed or implied, is not authorized by Flowserve corporation.

Elastomers

Buna-N (Nitrile Rubber)

This copolymer of butadiene and acrylonitrile has good resistance to weak and strong acids as well as alkalis. It offers superior resistance to aliphatic hydrocarbons, petroleum, mineral and vegetable oils. It has excellent water swell resistance, and its mechanical properties actually improve at higher temperatures. Buna-N is not recommended for use with high polar solvents such as acetone, MEK and chlorinated hydrocarbons. Tear resistance is not the best.

Viton® (DuPont)

Viton is a synthetic elastomer with the best proven fluid resistant characteristics of any commercial rubber. It has excellent resistance to oils, fuels, lubricants and most mineral acids. This fluorelastomer resists many aliphatic and aromatic hydrocarbons that act as solvents in other rubbers. It is not recommended for low molecular weight esters and ethers, ketones, certain amines, hot and hydrous hydrofluoric acid, chlorosulfonic acids and caustics.

Ethylene Propylene (NORDEL® -DuPont) EPT/EPDM

EPDM is a synthetic elastomer which affords excellent low and high temperature characteristics. It resists attack by a wide range of acids and strong alkalis, detergents, phosphates, ketones, alcohol and glycols. EPDM does not tend to absorb fluid or swell.

It is not recommended for use with aromatic hydrocarbons. This material is frequently used in preference to Neoprene.

Neoprene

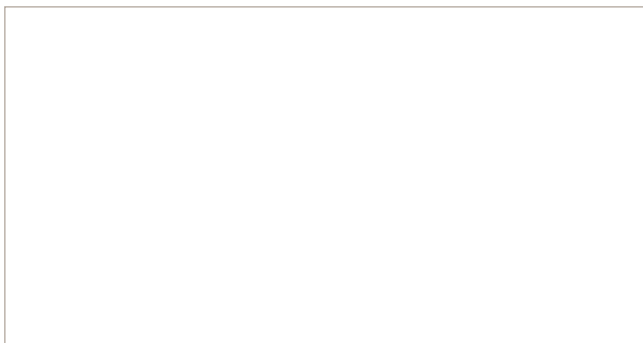
This is a synthetic elastomer with excellent resistance to dilute acids and weak and strong alkalis. It has good resistance to concentrated acids, oil and petroleum. It is not recommended for strong oxidizing acids, esters, ketones or chlorinated aromatic hydrocarbons. It has a tendency to absorb water.



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