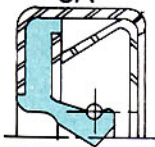
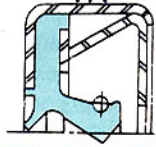
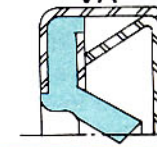
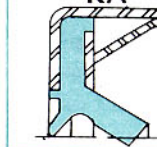
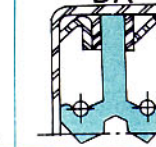
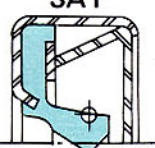
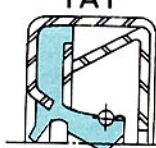

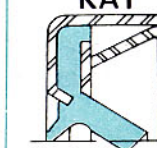



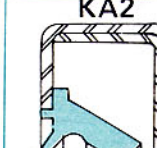
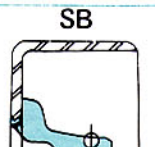
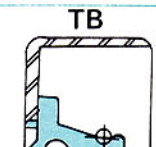
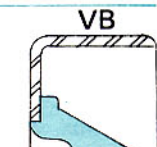
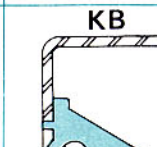
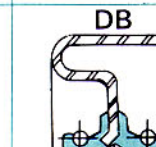
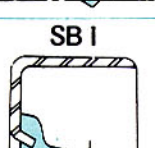
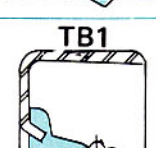
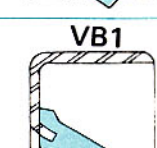
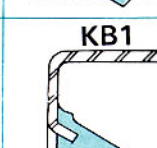
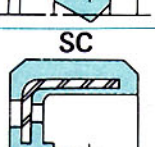
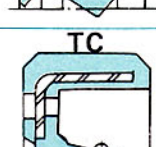
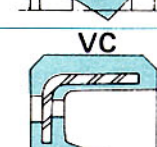
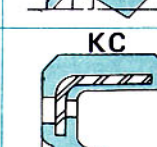
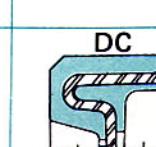
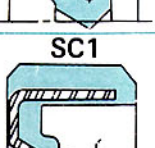
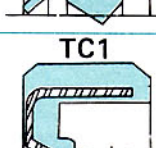
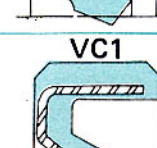
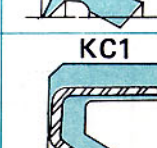


4. STANDARD SEAL DESIGNS

Table 1 illustrates the 31 MFC standard designs, usually used for a variety of application conditions.

TABLE 1. MFC Standard seals

		S	T	V	K	D
	<p>Lip Symbol</p> <p>Body Symbol</p>	With single lip design for general nonpressure fluid sealing applications and heavy grease sealing conditions	With dust lip added capable are the same as S. type and dust lip can exclude light foreign materials	With single lip non-spring loaded design for sealing grease or viscous fluid	Dust lip added capable functions are the same as V type and dust lip can exclude light foreign materials	With double garter spring loaded lips specially designed for the separation of two different fluids.
A	These are assembled type, Metal O.D. reinforced with an inner case for greater structural rigidity.					
A ₁	An auxiliary metal rings to prevent the root of the lip against deformation due to high pressure, others the same as A type.					
A ₂	Semi-assembled type Design for special packing materials or heavy duty outer cases necessary.					
B	Metal O.D. This is one of the popular designs. The root of sealing lip is bonded to the I.D. of the metal case.					
B ₁	An auxiliary ring to prevent the root of the lip against deformation due to high pressure, others the same as B type.					
C	Rubber O.D. and an inner metal components design for excellent O.D. sealing ability.					
C ₁	An auxiliary ring to prevent the root of the lip against deformation due to high pressure, others the same as C type.					

NOTE:
Metal encased seals are most suitable for steel or cast iron housing materials, with low coefficient of thermal expansion and fine bore finishes.

Rubber covered O.D. seals are most suitable for soft alloy or plastic housing materials and also suitable for steel or cast iron housings materials, with high coefficient of thermal expansion and rough bore finishes.

Selection of an oil seal design is dependent on whether the operating conditions exceed the limits of the design. The three operating parameters that mainly affect the design's

ability to function are eccentricity, pressure, and shaft speed. In this section, these limits are reviewed.

5.1 "S" AND "T" LIP DESIGNS

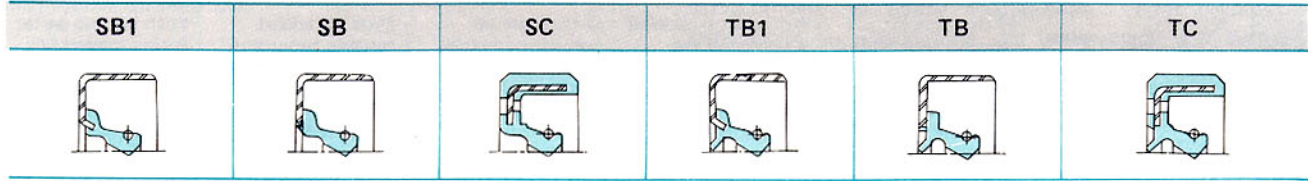


Table 5.1 illustrates standard seal designs, beginning with "S" and "T" lip symbols for general nonpressure applications. The "S" design is a single lip oil seal with a garter spring to provide a consistent radial load against the shaft.

The "T" design uses the same primary lip configuration, with an auxiliary dust lip to provide effective light duty dust exclusion. Below is a table listing approximate limits of the "S" and "T" lip designs.

TABLE 2.

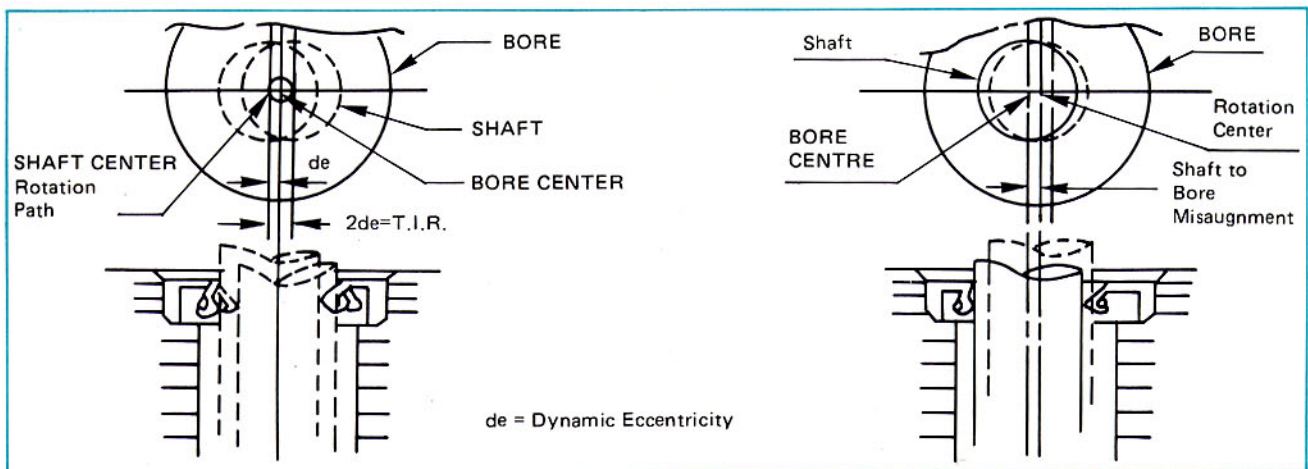
SHAFT DIAMETER	NITRILE LIP MAXIMUM CONTINUOUS SHAFT SPEED 1.	MAXIMUM CONTINUOUS PRESSURE 2.	MAXIMUM TOTAL ECCENTRICITY 3.
General	3,500 rpm	5 psi	.020"
.500	8,000 rpm	5 psi	.004"
1.000	7,000 rpm	5 psi	.006"
2.000	4,500 rpm	5 psi	.010"
3.000	3,800 rpm	5 psi	.013"
4.000	2,750 rpm	5 psi	.017"

- Notes:
- Higher shaft speeds possible using high temperature materials such as polyacrylate, silicone or fluoroelastomer.
 - Slightly higher continuous pressure possible for shaft speeds below 200 ft./min.

- Higher eccentricity is allowable if shaft speed is reduced.

Total eccentricity consists of two components, shaft runout and shaft to bore misalignment (offset). The eccentricity is determined as follows:

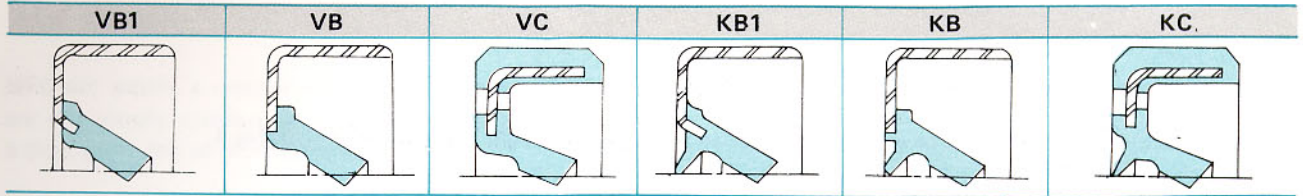
Figure 1. Eccentricity



Combining the two results in maximum eccentricity which the seal lip must follow to function effectively. As

eccentricity increases or shaft speed increases, it becomes more difficult for the lip to follow.

5.2 "V" AND "K" LIP DESIGNS



The "V" and "K" type designs are low cost seals designed primarily for retention of grease or similar viscous fluids.

The "V" type is a single lip seal. The "K" type has an auxiliary lip for light dust exclusion.

TABLE 3.

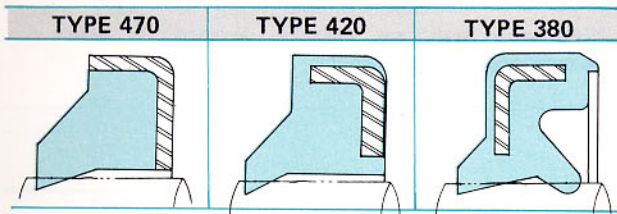
SHAFT DIAMETER	MAXIMUM SHAFT SPEED	MAXIMUM CONTINUOUS PRESSURE	MAXIMUM TOTAL ECCENTRICITY 1.
General	2,000 rpm	4 psi	.005"
.500	4,000 rpm	4 psi	.003"
1.000	3,000 rpm	4 psi	.005"
2.000	2,300 rpm	4 psi	.006"
3.000	1,700 rpm	4 psi	.008"
4.000	1,400 rpm	4 psi	.010"

Note: 1. Higher eccentricity is allowable if maximum shaft speed is reduced.

In comparison with the "S" and "T" lip design, the major reduction in design limits of the "V" and "K" type is the result of the absence of a garter spring. However, for

grease applications where lubricant's ability to flow is reduced, these nongarter spring seals are very cost effective designs to use.

5.3 WIPER SEALS DESIGNS



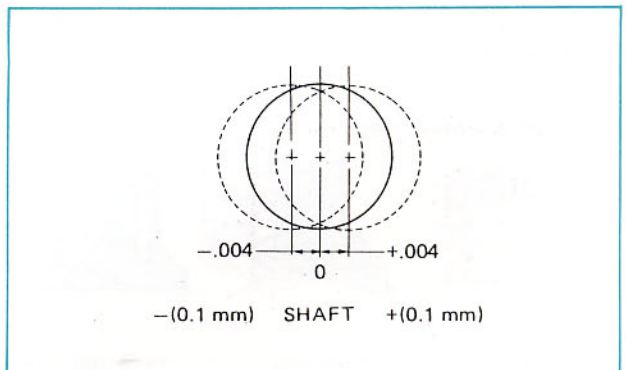
WIPER SEAL design was developed as a dust wiper (scraper) for reciprocating applications such as hydraulic cylinder rods. As a result, the operating limits for the design are slightly different from "V" and "K" types.

Maximum shaft motion is linear velocity of 200 ft./min. (1M/sec.).

Maximum pressure capability is 4 psi (.28 Kg/cm²). Stroke length should be limited to 78 inches (1.98m) maximum.

Eccentricity considerations involve only shaft-to-bore misalignment. Maximum allowable is ± 0.004 inch (0.1 mm).

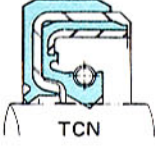
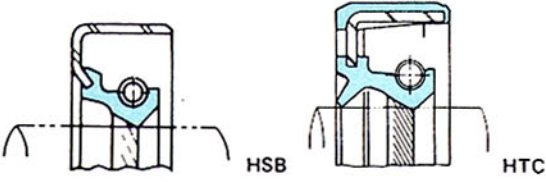

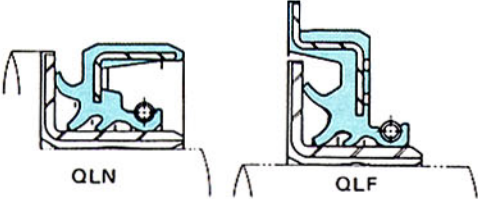

Figure 2. MISALIGNMENT



5.4 NONSTANDARD DESIGNS

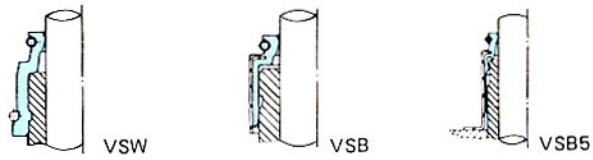
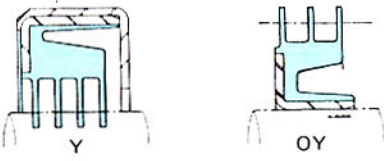
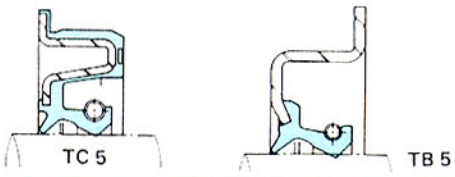
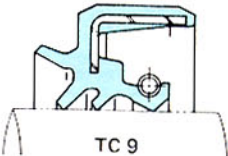
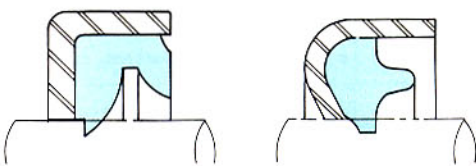
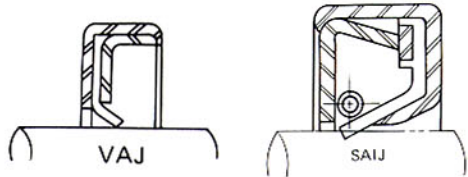
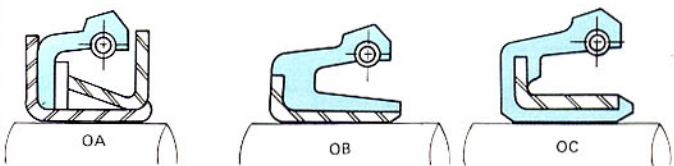
Special applications which cannot be adequately satisfied by standard designs are illustrated on Table 4.

TABLE 4.

SPECIAL DESIGN	DESIGN CHARACTERISTICS
<p>"TCN" (High Pressure)</p>  <p>TCN</p>	<p>Type "TCN" is designed for high pressure applications where continuous pressure may reach 150 psi (10.6 Kg/cm²). Maximum pressure limit is dependent on shaft speed.</p>
<p>"H" Style</p>  <p>HSB HTC</p>	<p>The helical ribs added on air side of sealing lips can help slight oil leakage pump back. Under the seal lip, the main lip design is the same as standard seal. H style lips designs are available for both clockwise and counter clockwise directions.</p>
<p>"T4" (Reciprocating)</p>  <p>TB4 TC4</p>	<p>"T4" style seals are specially designed for severe reciprocating shaft applications.</p>
<p>"QL" (Sleeve Oil Seals)</p>  <p>QLN QLF</p>	<p>The "QL" seals are specially designed for application in the environment as mud or very dirty fluid. But maximum shaft speed should be limited under 10 ft/sec (3M/sec).</p>
<p>WIPER SEALS (Reciprocating)</p>  <p>TYPE 470 TYPE 420 TYPE 380</p>	<p>Dust wiper for hydraulic cylinders. Not recommended for pressures above 5 psi (.35 Kg/cm²).</p>

MFC can supply a number of other special seals which are not usually standard in application nature. Table 5 illustrates a few of these designs.

TABLE 5.

DESIGN TYPE	APPLICATION	EXAMPLE
VS	Valve Stem Seal	
Y	Special Mud Seal	
"5"	Flange Seals	
"9"	Side Lip Seals	
"UJ"	Universal Joint Seals	
"RJ"	PTFE Seals	
"O"	Rotating Bore	

9. LISTINGS OF AVAILABLE TYPES AND SIZES

9.1 SHAFT SIZE LISTING (INCH SIZE)

TABLE 12. BORE DIAMETER IN INCH SIZES

BORE DIAMETER	BORE TOLERANCE	NOMINAL PRESSFIT		O. D. — TOLERANCE (1)	ECCENTRICITY (2)	
		SEALS WITH METAL O.D.	SEALS WITH RUBBER O.D.	SEALS O.D.	SEALS WITH METAL O.D.	SEALS WITH RUBBER O.D.
Up to 1.000	±.001	BORE DIA +.004	BORE DIA +.006	±.002	.005	.010
1.001 — 2.000	±.001	BORE DIA +.004	BORE DIA +.007	±.002	.005	.010
2.001 — 3.000	±.001	BORE DIA +.004	BORE DIA +.008	±.002	.008	.015
3.001 — 4.000	±.0015	BORE DIA +.005	BORE DIA +.010	±.002	.010	.020
4.001 — 6.000	±.0015	BORE DIA +.005	BORE DIA +.010	+ .003 - .002	.010	.020
6.001 — 8.000	±.002	BORE DIA +.006	BORE DIA +.010	+ .003 - .002	.012	.025
8.001 — 10.000	±.002	BORE DIA +.008	BORE DIA +.010	+ .004 - .002	.015	.030
10.001 — 20.000	±.002	BORE DIA +.008	BORE DIA +.010	+ .006 - .002	.020	.040

(1) Seal O.D. — The average of minimum three measurements to be taken at equally spaced positions.

(2) Eccentricity — The maximum variance between any of readings used in determining Seal O.D.

LISTINGS OF AVAILABLE TYPES AND SIZES

9.2 SHAFT SIZE LISTING (METRIC SIZE)


















TABLE 13. BORE DIAMETER IN METRIC SIZES

BORE DIAMETER	BORE TOLERANCE	NOMINAL PRESSFIT		O.D. TOLERANCE		ECCENTRICITY	
		METAL O.D.	RUBBER O.D.	METAL O.D.	RUBBER O.D.	METAL O.D.	RUBBER O.D.
6.1 – 50	±0.025	+0.15	+0.23	±0.05	±0.07	0.12	0.25
50.1 – 80	±0.025	+0.18	+0.28	±0.05	±0.07	0.18	0.35
80.1 – 120	±0.040	+0.20	+0.28	±0.05	±0.07	0.25	0.50
120.1 – 180	±0.040	+0.23	+0.35	±0.05	±0.10	0.33	0.65
180.1 – 300	±0.050	+0.25	+0.35	±0.05	±0.10	0.40	0.80
300.1 – 500	±0.070	+0.29	+0.43	±0.06	±0.12	0.50	1.00

(1) Seal O.D. – The average of minimum three measurements to be taken at equally spaced positions.


















(2) Eccentricity – The maximum variance between any of the readings used in determining Seal O. D.




















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
30.00	55.00	10.0	TC	BF030UU10	 VB  VB1  VC  VC1  KA  KA1  KA2  KB  KB1  KC  KC1  DA  DB  DC  470  420  380
	55.00	11.0	SC	AF030UU11	
	55.00	11.0	TC	BF030UU11	
	55.00	12.0	TC	BF030UU12	
	56.00	8.0	SC	AF030UL08	
	57.00	8.0	SC	AF030UC08	
	62.00	7.0	SB	AD030LR07	
	62.00	7.0	SC	AF030LR07	
	62.00	7.0	TB	BD030LR07	
	62.00	7.0	TC	BF030LR07	
	62.00	8.0	TB	BD030LR08	
	62.00	8.0	TC	BF030LR08	
	62.00	10.0	SA2	AC030LR10	
	62.00	10.0	SC	AF030LR10	
	62.00	10.0	TC	BF030LR10	
	65.00	8.0	TC	BF030LU08	
	65.00	10.0	TC	BF030LU10	
	72.00	8.0	SB	AD030CR08	
	72.00	8.0	SC	AF030CR08	
	72.00	8.0	TB	BD030CR08	
72.00	10.0	SC	AF030CR10		
72.00	10.0	TB	BD030CR10		
72.00	10.0	TC	BF030CR10		
75.00	8.0	TC	BF030CU08		
75.00	10.0	TC	BF030CU10		
80.00	8.0	TC	BF030BZ08		
80.00	10.0	TC	BF030BZ10		
31.00	47.00	7.0	SC	AF031HC07	
	47.00	9.5	SB	AD031HC95	
32.00	52.00	6.0	SC	AF031UR06	
	52.00	7.0	SC	AF031UR07	
32.00	24.00	10.0	TC	BF032RH10	
	37.00	7.0	SB	AD032SC07	
	40.00	8.0	SC	AF032HZ08	
	41.00	7.0	TB	BD032HE07	
	42.00	5.0	TC	BF032HR05	
	42.00	7.0	SC	AF032HR07	
	42.00	8.0	TC	BF032HR08	
	42.00	7/10	SB	AD32HR10P	
	44.00	9.0	TC	BF032HH09	
	44.00	8/9.5	SC1	AG32HH10P	
	44.00	8/9.5	TC1	BG032HHEZ	
	44.53	9.0	TC	BF32HHU09	
	45.00	6.0	SC	AF032HU06	
	45.00	7.0	SC	AF032HU07	
	45.00	7.0	TC	BF032HU07	
	45.00	8.0	SC	AF032HU08	
	45.00	8.0	TC4	BFH32HU08	
	45.00	4/8	SA	AA032HUZB	
	45.00	10.0	TC	BF032U10	
	46.00	8.0	SC	AF032HL08	
46.00	8.0	TC	BF032HL08		
47.00	7.0	SB	AD032HC07		
47.00	7.0	SC	AF032HC07		

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	32.00	47.00	7.0	TC	BF032HC07
		47.00	8.0	SC	AF032HC08
SA1	32.00	47.00	10.0	SC	AF032HC10
		47.00	10.0	TC	BF032HC10
SA2	32.00	48.00	5.0	SC	AF032HB05
		48.00	7.0	SC	AF032HB07
SB	32.00	48.00	8.0	SC	AF032HB08
		48.00	8.0	TC	BF032HB08
SB1	32.00	48.00	10.0	SC	AF032HB10
		50.00	8.0	SC	AF032UZ08
SC	32.00	50.00	8.0	SC	AF032UZ10
		50.00	10.0	SC	AF032UZ10
SC1	32.00	50.00	10.0	TC	BF032UZ10
		52.00	5.0	VC	CF032UR05
TA	32.00	52.00	7.0	SC	AF032UR07
		52.00	7.0	TC	BF032UR07
TA1	32.00	52.00	8.0	HTC	HBF32UR08
		52.00	8.0	TC	BF032UR08
TA2	32.00	52.00	10.0	SC	AF032UR10
		52.00	10.0	TC	BF032UR10
TB	32.00	52.00	12.0	SC	AF032UR12
		54.00	10.0	SC	AF032UH10
TB1	32.00	54.00	10.0	TC	BF032UH10
		55.00	8.0	SC	AF032UU08
TC	32.00	56.00	10.0	SC	AF032UL10
		58.00	10.0	SC	AF032UB10
TC1	32.00	58.00	10.0	TC	BF032UB10
		58.00	12.0	TB3	BDS32UB12
VA1	32.00	58.00	12.0	TC3	BI032UB12
		62.00	10.0	SC	AF032LR10
VA2	32.00	62.00	10.0	TC	BF032LR10
		33.00	44.00	8.0	TB
VA1	33.00	45.00	7.0	SC	AF033HU07
		46.50	9.5	SB	AD33HLU95
VA2	33.00	46.50	9.5	TC	BF33HLU95
		50.00	6.0	SC	AF033UZ06
VA1	33.00	50.00	8.0	SC	AF033UZ08
		50.00	8.0	TC	BF033UZ08
VA2	33.00	50.00	12.0	SC	AF033UZ12
		52.00	7.0	TC	BF033UR07
VA1	33.50	52.00	10.0	SC	AF033UR10
		63.75	9.5	BHD	BH33ULS95
VA2	34.00	45.00	7.0	SC	AF034HU07
		46.00	8.0	SC	AF034HL08
VA1	34.00	46.00	10.0	TC	BF034HL10
		48.00	7.0	TC	BF034HB07
VA2	34.00	48.00	8.0	TC	BF034HB08
		50.00	10.0	SC	AF034UZ10
VA1	34.00	52.00	8.0	SC	AF034UR08
		52.00	10.0	SA2	AC034UR10
VA2	34.00	52.00	10.0	SC	AF034UR10
		52.00	11.0	SC	AF034UR11
VA1	34.00	52.00	11.0	TC	BF034UR11
		58.00	13.0	SC	AF034UB13
VA2	34.00	62.00	10.0	SC	AF034LR10

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

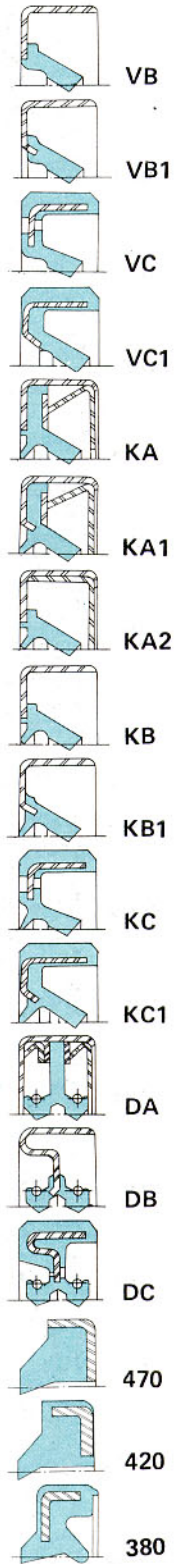
SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
35.00	42.80	4.5	VC	CF035HR04	 VB
	44.45	5.0	SC	AF35HHP05	
	45.00	6.0	SC	AF035HU06	 VB1
	45.00	7.0	SB	AD035HU07	
	45.00	7.0	SC	AF035HU07	 VC
	45.00	7.0	TC	BF035HU07	
	45.00	8.0	TC	BF035HU08	 VC1
	47.00	5.0	SC	AF035HC05	
	47.00	6.0	TC	BF035HC06	 KA
	47.00	7.0	SB	AD035HC07	
	47.00	7.0	SC	AF035HC07	 KA1
	47.00	7.0	TB	BD035HC07	
	47.00	7.0	TC	BF035HC07	 KA2
	47.00	8.0	SC	AF035HC08	
	47.00	8.0	TC	BF035HC08	 KB
	47.00	9.0	SC	AF035HC09	
	47.00	9.0	TC	BF035HC09	 KB1
	47.00	10.0	SC	AF035HC10	
	47.00	10.0	TC	BF035HC10	 KC
	47.00	10.5	TB4	BDH35HC10	
	48.00	8.0	SC	AF035HB08	 KC1
	48.00	8.0	TC	BF035HB08	
	48.00	10.0	SC	AF035HB10	 DA
	48.00	11.0/12.0	TC4Y	HY035HB12	
	50.00	7.0	SC	AF035UZ07	 DB
	50.00	7.0	TC	BF035UZ07	
	50.00	8.0	SC	AF035UZ08	 DC
	50.00	8.0	TC	BF035UZ08	
	50.00	10.0	SA2	AC035UZ10	 470
	50.00	10.0	SC	AF035UZ10	
	50.00	10.0	TC	BF035UZ10	 420
	50.00	11.0	HTC	HBF35UZ11	
	52.00	7.0	SB	AD035UR07	 380
	52.00	7.0	SC	AF035UR07	
	52.00	7.0	TC	BF025UR07	
	52.00	8.0	SC	AF035UR08	
	52.00	8.0	TC	BF035UR08	
	52.00	9.0	TC	BF035UR09	
	52.00	10.0	SC	AF035UR10	
	52.00	10.0	TC	BF035UR10	
	52.00	12.0	DC	EF035UR12	
	54.00	8.0	SC	AF035UH08	
55.00	8.0	SC	AF035UU08		
55.00	8.0	TC	BF035UU08		
55.00	9.0	TC	BF035UU09		
55.00	10.0	SC	AF035UU10		
55.00	10.0	TC	BF035UU10		
55.00	11.0	SC	AF035UU11		
55.00	11.0	TC	BF035UU11		
55.00	11.0	TCV	VBF35UU11		
56.00	10.0	SC	AF035UL10		
56.00	10.0	TC	BF035UL10		
58.00	8.0	SC	AF035UB08		
58.00	8.0	TC	BF035UB08		




















STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		35.00	58.00	10.0	SC	AF035UB10
			60.00	10.0	SC	AF035LZ10
SA1		35.00	60.00	12.0	TC	BF035LZ12
			62.00	5.0	SC	AF035LR05
SA2		35.00	62.00	7.0	SB	AD035LR07
			62.00	7.0	SC	AF035LR07
SB		35.00	62.00	7.0	TB	BD035LR07
			62.00	7.0	TC	BF035LR07
SB1		35.00	62.00	8.0	SC	AF035LR08
			62.00	10.0	DC	EF035LR10
SC		35.00	62.00	10.0	SC	AF035LR10
			62.00	10.0	SC1	AG035LR10
SC1		35.00	62.00	10.0	TC	BF035LR10
			62.00	12.0	SB	AD035LR12
TA		35.00	62.00	12.0	SC	AF035LR12
			62.00	12.0	TC	BF035LR12
TA1		35.00	64.00	11.0	TC	BF035LH11
			64.00	13.0	HTC3	HBS35LH13
TA2		35.00	65.00	10.0	SC	AF035LU10
			65.00	10.0	TC	BF035LU10
TB		35.00	65.00	12.0	TC	BF035LU12
			68.00	6.0	SC	AF035LB06
TB1		35.00	68.00	10.0	SC	AF035LB10
			68.00	14.0	DC	EF035LB14
TC		35.00	72.00	7.0	SC	AF035CR07
			72.00	8.0	TC	BF035CR08
TC1		35.00	72.00	10.0	SA2	AC035CR10
			72.00	10.0	TC	BF035CR10
VA1		35.00	72.00	12.0	SA2	AC035CR12
			72.00	12.0	SC	AF035CR12
VA2		35.00	72.00	12.0	TC	BF035CR12
			80.00	10.0	SC	AF035BZ10
VA1		35.00	80.00	10.0	TC	BF035BZ10
			80.00	12.0	SC	AF035BZ12
VA2		35.00	80.00	13.0	SC	AF035BZ13
			85.00	12.0	SC	AF035BU12
VA1		35.00	68.00	10.0	TB	BD35BLB10
			47.00	7.0	SC	AF036HC07
VA2		35.00	48.00	10.0	TC	BF036HB10
			50.00	7.0	SC	AF036UZ07
VA1		35.00	50.00	10.0	TB2	BDR36UZ10
			52.00	9.0	TC	BF036UR09
VA2		35.00	52.00	10.0	TB	BD036UR10
			56.00	9.0	SC	AF036UL09
VA1		35.00	83.00	12.0	SC	AF036BS12
			52.48	7.9	SC	AF36HUR79
VA2		35.00	57.15	9.52	SC	AF36HUC95
			41.75	3.0	VB	CD036HE03
VA1		35.00	52.00	7.0	SB	AD037UR07
			52.00	7.0	SC	AF037UR07
VA2		35.00	62.00	7.0	SC	AF037LR07
			62.00	10.0	SC	AF037LR10
VA1		35.00	55.50	9.0	SC	AF37HUU09
			48.00	4.0	SC	AF038HB04

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER


















STANDARD
DESIGNS





















SHAFT	BORE	HEIGHT	TYPE	CODE-NO
38.00	50.00	6.0	SC	AF038UZ06
	50.00	7.0	SC	AF038UZ07
	50.00	7.0	TC	BF038UZ07
	50.00	8.0	SC	AF038UZ08
	50.00	8.0	TC	BF038UZ08
	50.00	8.0	TC4	BFH38UZ08
	52.00	6.0	SC	AF038UR06
	52.00	7.0	SB	AD038UR07
	52.00	7.0	SC	AF038UR07
	52.00	7.0	TB	BD038UR07
	52.00	7.0	TC	BF038UR07
	52.00	8.0	SC	AF038UR08
	52.00	8.0	TC	BF038UR08
	52.00	9.0	SC	AF038UR09
	52.00	9.5	KC	DF038UR95
	52.00	9.5	SC	AF038UR95
	52.00	10.0	SB	AD038UR10
	52.00	10.0	TC	BF038UR10
	53.00	7.0	SC	AF038US07
	54.00	6.5	SC	AF038UH65
	54.00	10.0	SC	AF038UH10
	55.00	4.5	SC	AF038UU45
	55.00	6.0	SC	AF038UU06
	55.00	7.0	SC	AF038UU07
	55.00	8.0	SC	AF038UU08
	55.00	8.0	TC	BF038UU08
	55.00	9.0	TC	BF038UU09
	55.00	10.0	SC	AF038UU10
	55.00	10.0	TC	BF038UU10
	55.00	10.5	SC	AF38UU10H
	56.00	7.0	SC	AF038UL07
	56.00	10.0	SC	AF038UL10
	56.00	12.0	SC	AF038UL12
	58.00	9.0	HTC	HBF38UB09
	58.00	10.0	SC	AF038UB10
	58.00	10.0	TC	BF038UB10
	58.00	11.0	HTC	HBF38UB11
	58.00	11.0	TB3	BDS38UB11
	58.00	11.0	TC	BF038UB11
	58.00	10.0/11.0	TCY	BFY38UB11
60.00	10.0	SC	AF038LZ10	
60.00	10.0	TC	BF038LZ10	
62.00	7.0	SC	AF038LR07	
62.00	8.0	SC	AF038LR08	
62.00	10.0	SC	AF038LR10	
62.00	12.0	SC	AF038LR12	
65.00	9.0	TB	BD038LU09	
65.00	10.0	SC	AF038LU10	
72.00	12.0	SB	AD038CR12	
72.00	12.0	SC	AF038CR12	
72.00	12.0	TC	BF038CR12	
74.00	11.0	TC	BF038CH11	
39.00	65.00	9.0	SC	AF039LU09
39.70	62.00	12.0	TC3	BI039LR12




















STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		40.00	50.00	6.5	TC	BF040UZ65
			50.00	8.0	SC	AF040UZ08
SA1		40.00	50.00	6.5/8.0	TC	BF040UZ86
			52.00	10.0	SC	AF040UZ10
SA2		40.00	52.00	5.0	TC	BF040UR05
			52.00	6.0	SC	AF040UR06
SB		40.00	52.00	7.0	SC	AF040UR07
			52.00	7.0	TB	BD040UR07
SB1		40.00	52.00	7.0	TC	BF040UR07
			52.00	8.0	TC	BF040UR08
SC		40.00	52.00	10.0	SC	AF040UR10
			54.00	5.0	TB	BD040UH05
SC1		40.00	54.00	5.0	TC	BF040UH05
			54.00	7.0	TC	BF040UH07
TA		40.00	54.00	8.0	TC	BF040UH08
			55.00	7.0	SB	AD040UU07
TA1		40.00	55.00	7.0	SC	AF040UU07
			55.00	7.0	TC	BF040UU07
TA2		40.00	55.00	8.0	SC	AF040UU08
			55.00	8.0	TC	BF040UU08
TB		40.00	55.00	10.0	SC	AF040UU10
			56.00	7.0	SB	AD040UL07
TB1		40.00	56.00	7.0	SC	AF040UL07
			56.00	7.0	TB	BD040UL07
TC		40.00	56.00	7.0	TC	BF040UL07
			56.00	8.0	SC	AF040UL08
TC1		40.00	56.00	10.0	SC	AF040UL10
			56.00	12.0	SC	AF040UL12
VA1		40.00	57.00	7.0	SC	AF040UC07
			57.00	10.0	SC	AF040UC10
VA2		40.00	58.00	8.0	SB	AD040UB08
			58.00	8.0	SC	AF040UB08
AV		40.00	58.00	8.0	TC	BF040UB08
			58.00	9.0	SC	AF040UB09
VA1		40.00	58.00	10.0	SC	AF040UB10
			58.00	10.0	TC	BF040UB10
VA2		40.00	60.00	7.0	SC	AF040LZ07
			60.00	7.5	SC	AF040LZ75
VA1		40.00	60.00	7.5	TC	BF040LZ75
			60.00	8.0	SC	AF040LZ08
VA2		40.00	60.00	8.0	TC	BF040LZ08
			60.00	10.0	SC	AF040LZ10
VA1		40.00	60.00	10.0	TC	BF040LZ10
			60.00	12.0	TC	BF040LZ12
VA2		40.00	62.00	7.0	SB	AD040LR07
			62.00	7.0	SC	AF040LR07
VA1		40.00	62.00	7.0	SC	AF040LR07
			62.00	7.0	TC	BF040LR07
VA2		40.00	62.00	8.0	TC	BF040LR08
			62.00	10.0	SC	AF040LR10
VA1		40.00	62.00	10.0	TC	BF040LR10
			62.00	11.0	TCV	VBF40LR11
VA2		40.00	62.00	11.5	TC	BF40LR11U
			62.00	12.0	OA	OA040LR12

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
40.00	62.00	12.0	SA	AA040LR12	 VB
	62.00	12.0	TC	BF040LR12	
	62.00	10.0	TBY	BDY40LR12	 VB1
	62.00	14.0	DC	EF040LR14	
	64.00	12.0	TC	BF040LH12	 VC
	65.00	10.0	DC	EF040LU10	
	65.00	10.0	SC	AF040LU10	 VC1
	65.00	10.0	TC	BF040LU10	
	65.00	12.0	DC	EF040LU12	 KA
	65.00	12.0	TC	BF040LU12	
	68.00	7.0	SB	AD040LB07	 KA1
	68.00	10.0	SC	AF040LB10	
	70.00	10.0	SC	AF040CZ10	 KA2
	72.00	7.0	SC	AF040CR07	
	72.00	8.0	SC	AF040CR08	 KB
	72.00	9.0	SC	AF040CR09	
	72.00	10.0	SA2	AC040CR10	 KB1
	72.00	10.0	SC	AF040CR10	
	72.00	10.0	TC	BF040CR10	 KC
	75.00	12.0	SB	AD040CU12	
	75.00	12.0	SC	AF040CU12	 KC1
	75.00	12.0	TC	BF040CU12	
	80.00	8.0	TC	BF040BZ08	 DA
	80.00	10.0	SC	AF040BZ10	
	80.00	10.0	TC	BF040BZ10	 DB
	85.00	10.0	SC	AF040BU10	
	90.00	8.0	SC	AF040GZ08	 DC
	90.00	9.0	TC	BF040GZ09	
	90.00	10.0	SC	AF040GZ10	 470
	90.00	12.0	TC	BF040GZ12	
41.00	56.00	7.0	SB	AD041UL07	 420
	56.00	7.0	SC	AF041UL07	
	56.00	7.0	TB	BD041UL07	 380
	67.00	9.0	TC	BF041LC09	
42.00	67.00	9.0	TCY	BFY41LC09	
	52.00	8.0	TC	BF042UR08	
	55.00	5.0	TC	BF042UU05	
	55.00	7.0	SB	AD042UU07	
	55.00	7.0	SC	AF042UU07	
	55.00	7.0	TB	BD042UU07	
	55.00	7.0	TC	BF042UU07	
	55.00	8.0	SC	AF042UU08	
	55.00	8.0	TC	BF042UU08	
	56.00	5.0	SC	AF042UL05	
	56.00	5.0	TC	BF042UL05	
	56.00	6.0	SC	AF042UL06	
	56.00	7.0	SC	AF042UL07	
	56.00	7.0	TC	BF042UL07	
	56.00	10.0	SC	AF042UL10	
	58.00	7.0	SB	AD042UB07	
	58.00	8.0	TC	BF042UB08	
	58.00	10.0	SC	AF042UB10	
	58.00	10.0	TC	BF042UB10	
	60.00	7.0	SC	AF042LZ07	


















STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		42.00	60.00	7.0	TC	BF042LZ07
			60.00	7.0	VC	CF042LZ07
SA1		42.00	60.00	9.0	SC	AF042LZ09
			60.00	9.0	TC	BF042LZ09
SA2		42.00	60.00	10.0	SC	AF042LZ10
			60.00	12.0	TC	BF042LZ12
SB		42.00	62.00	7.0	SC	AF042LR07
			62.00	7.0	TB	BD042LR07
SB1		42.00	62.00	8.0	SB	AD042LR08
			62.00	8.0	SC	AF042LR08
SC		42.00	62.00	8.0	TC	BF042LR08
			62.00	10.0	SB	AD042LR10
SC1		42.00	62.00	10.0	SC	AF042LR10
			62.00	10.0	TC	BF042LR10
TA		42.00	62.00	12.0	TA2	BC042LR12
			62.00	12.0	TC	BF042LR12
TA1		42.00	65.00	6.0	SC	AF042LU06
			65.00	7.0	SC	AF042LU07
TA2		42.00	65.00	8.0	SC	AF042LU08
			65.00	9.5	TBY	BDY42LU12
TB		42.00	72.00	8.0	SC	AF042CR08
			72.00	10.0	SC	AF042CR10
TB1		42.00	72.00	10.0	TC	BF042CR10
			72.50	12.0	SC	AF42CRU12
TC		42.00	75.00	12.0	TC	BF042CU12
			55.00	8.0	KC	DF043UU08
TC1		43.00	60.00	7.0	SC	AF044LZ07
			60.00	10.0	SC	AF044LZ10
TA		44.00	62.00	8.0	TC	BF044LR08
			62.00	10.0	SC	AF044LR10
TA1		44.00	62.00	10.0	TC	BF044LR10
			64.00	9.0	TC	BF044LH09
TA2		44.00	72.00	8.0	SC	AF044CR08
			78.00	12.0	TC	BF044CB12
TB		44.45	63.50	9.52	SC	AF44PLS95
			63.63	12.7	TC	BF44ULH13
TB1		45.00	50.00	8.0	SB	AD045UZ08
			52.00	4.0	VC	CF045UR04
TC		45.00	52.00	7.0	SC	AF045UR07
			55.00	6.0	SC	AF045UU06
TC1		45.00	55.00	7.0	SC	AF045UU07
			57.00	7.5	TC	BF045UC75
AV		45.00	58.00	7.0	SC	AF045UB07
			58.00	7.0	TC	BF045UB07
VA1		45.00	58.00	7.0	TC4	BFH45UB07
			59.00	10.0	SC	AF045UG10
VA2		45.00	60.00	7.0	SC	AF045LZ07
			60.00	7.0	TC	BF045LZ07
VA1		45.00	60.00	8.0	SC	AF045LZ08
			60.00	8.0	TC	BF045LZ08
VA2		45.00	60.00	9.0	TC	BF045LZ09
			60.00	10.0	SB	AD045LZ10
VA2		45.00	60.00	10.0	SC	AF045LZ10

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
45.00	60.00	10.0	TB	BD045LZ10	 VB
	60.00	12.0	TC	BF045LZ12	
	62.00	5.0	VC	CF045LR05	 VB1
	62.00	7.0	SC	AF045LR07	
	62.00	7.0	TC	BF045LR07	 VC
	62.00	7.5	TC	BF045LR75	
	62.00	8.0	SB	AD045LR08	 VC1
	62.00	8.0	SC	AF045LR08	
	62.00	8.0	TC	BF045LR08	 KA
	62.00	9.0	SC	AF045LR09	
	62.00	9.0	TB2	BDR45LR09	 KA1
	62.00	9.0	TC	BF045LR09	
	62.00	10.0	SB	AD045LR10	 KA2
	62.00	10.0	SC	AF045LR10	
	62.00	10.0	TC	BF045LR10	 KB
	62.00	12.0	SC	AF045LR12	
	65.00	5.0	VC	CF045LU05	 KB1
	65.00	8.0	SA	AA045LU08	
	65.00	8.0	SA2	AC045LU08	 KC
	65.00	8.0	SC	AF045LU08	
	65.00	8.0	TC	BF045LU08	 KC1
	65.00	10.0	SC	AF045LU10	
	65.00	10.0	TC	BF045LU10	 DA
	65.00	12.0	TC	BF045LU12	
	68.00	8.0	SC	AF045LB08	 DB
	68.00	8.0	TC	BF045LB08	
	68.00	10.0	SC	AF045LB10	 DC
	68.00	12.0	TC	BF045LB12	
	68.00	12.0	TCV	VBF45LB12	 470
	70.00	5.0	VC	CF045CZ05	
	70.00	10.0	SC	AF045CZ10	 420
	70.00	12.0	TC	BF045CZ12	
	72.00	7.0	SC	AF045CR07	 380
	72.00	7.0	TB	BD045CR07	
	72.00	8.0	SC	AF045CR08	
	72.00	8.0	TC	BF045CR08	
	72.00	10.0	SC	AF045CR10	
	72.00	10.0	TC	BF045CR10	
	72.00	12.0	SC	AF045CR12	
	72.00	12.0	TB	BD045CR12	
	72.00	12.0	TB1	BE045CR12	
	72.00	12.0	TB4	BDH45CR12	
	72.00	12.0	TC	BF045CR12	
	74.50	12.0/14.5	TC	BF045CH14	
	75.00	7.0	SC	AF045CU07	
	75.00	7.0	TC	BF045CU07	
	75.00	10.0	SC	AF045CU10	
	75.00	10.0	TB	BD045CU10	
	75.00	10.0	TC	BF045CU10	
	75.00	12.0	TC	BF045CU12	
80.00	10.0	SC	AF045BZ10		
80.00	10.0	TC	BF045BZ10		
80.00	12.0	SC	AF045BZ12		
80.00	13.0	TC	BF045BZ13		

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER					
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
SA	45.00	85.00	10.0	SC	AF045BU10	
		85.00	10.0	TC	BF045BU10	
		90.00	10.0	TC	BF045GZ10	
SA1	46.00	62.00	8.0	SC	AF046LR08	
		62.00	8.0	TC	BF046LR08	
SA2	46.20	80.00	10.0	SC	AF46PBZ10	
		47.00	62.00	6.0	SC	AF047LR06
		65.00	8.0	SC	AF047LU08	
		65.00	10.0	SC	AF047LU10	
SB	48.00	58.00	7.0	TC	BF048UB07	
		62.00	7.0	TC	BF048LR07	
		62.00	8.0	SC	AF048LR08	
SB1		62.00	8.0	TC	BF048LR08	
		62.00	8.0	TCY	BFY48LR08	
		62.00	9.0	TB3	BDS48LR09	
SC		62.00	10.0	SC	AF048LR10	
		62.00	10.0	TC	BF048LR10	
		63.00	10.0	SC	AF048LS10	
SC1		65.00	7.0	SC	AF048LU07	
		65.00	7.0	TC	BF048LU07	
		65.00	8.0	HSC	AF048LU08	
TA		65.00	10.0	SC	AF048LU10	
		65.00	10.0	TC	BF048LU10	
		65.00	12.0	SC	AF048LU12	
TA1		68.00	10.0	SC	AF048LB10	
		68.00	10.0	TC	BF048LB10	
		70.00	9.0	SC	AF048CZ09	
TA2		70.00	9.0	TC	BF048CZ09	
		70.00	12.0	SC	AF048CZ12	
		70.00	12.0	TC	BF048CZ12	
TB		72.00	7.0	SC	AF048CR07	
		72.00	7.0	TC	BF048CR07	
		72.00	8.0	SC	AF048CR08	
TB1		72.00	10.0	SC	AF048CR10	
		72.00	12.0	TC	BF048CR12	
		80.00	10.0	SC	AF048BZ10	
TC	49.20	69.95	9.5	TC	BF49LGG95	
		50.00	58.00	4.0	VB	CD050UB04
		60.00	5.0/7.0	VCY	VCY50LZ75	
TC1		62.00	5.0	VB	CD050LR05	
		62.00	7.0	SC	AF050LR07	
		62.00	10.0	SC	AF050LR10	
AV		62.00	10.0	TC	BF050LR10	
		63.50	7.5	KCY	DFY50LS75	
		65.00	8.0	SB	AD050LU08	
VA1		65.00	8.0	SC	AF050LU08	
		65.00	8.0	SC	AF050LU08	
		65.00	8.0	TC	BF050LU08	
VA2		65.00	8.0	TC	BF050LU08	
		65.00	9.0	TC	BF050LU09	
		65.00	10.0	SB	AD050LU10	
		65.00	10.0	SC	AF050LU10	
		67.00	10.0	SC	AF050LC10	
		68.00	7.0	VC	CF050LB07	

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
	68.00	8.0	SA	AA050LB08	 VB
	68.00	9.0	SC	AF050LB09	
	68.00	9.0	TC	BF050LB09	
	68.00	10.0	SC	AF050LB10	 VB1
	68.00	10.0	TC	BF050LB10	
	70.00	8.0	SC	AF050CZ08	 VC
	70.00	8.0	TC	BF050CZ08	
	70.00	9.0	TC	BF050CZ09	
	70.00	10.0	SC	AF050CZ10	 VC1
	70.00	10.0	TC	BF050CZ10	
	70.00	12.0	SC	AF050CZ12	 KA
	70.00	12.0	TC	BF050CZ12	
	72.00	8.0	SB	AD050CR08	 KA1
	72.00	8.0	SB	AD050CR08	
	72.00	10.0	SB	AD050CR10	 KA2
	72.00	10.0	SC	AF050CR10	
	72.00	10.0	TC	BF050CR10	 KB
	72.00	12.0	SC	AF050CR12	
	72.00	12.0	TC	BF050CR12	 KB1
	72.00	12.0	TCV	VB050CR12	
	73.00	9.0	TA2Y	BCY50CS09	 KC
	75.00	10.0	SC	AF050CU10	
	75.00	10.0	TC	BF050CU10	 KC1
	75.00	12.0	TC	BF050CU12	
	76.00	12.0	SA	AA050CL12	 DA
	80.00	8.0	SC	AF050BZ08	
	80.00	8.0	TC	BF050BZ08	 DB
	80.00	10.0	SC	AF050BZ10	
	80.00	10.0	TC	BF050BZ10	 DC
	80.00	12.0	TC	BF050BZ12	
	80.00	13.0	SA2	AC050BZ13	 470
	80.00	13.0	SC	AF050BZ13	
	82.00	12.0	HTC	HB050BR12	 420
	82.00	12.0	TC	BF050BR12	
	85.00	10.0	SC	AF050BU10	 380
	85.00	10.0	TC	BF050BU10	
	90.00	8.0	TC	BF050GZ08	
	90.00	10.0	SB	AD050GZ10	
	90.00	10.0	SC	AF050GZ10	
	90.00	10.0	TC	BF050GZ10	
	90.00	13.0	SC	AF050GZ13	
	58.00	5.0	VB	CD051UB05	
	47.00	7.0	TC	BF052HC07	
	68.00	7.0	SB	AD052LB07	
	68.00	7.0	TB	BD052LB07	
	68.00	8.0	SC	AF052LB08	
	68.00	10.0	HTC	HB052LB10	
	68.00	10.0	SC	AF052LB10	
	68.00	12.0	SC	AF052LB12	
	70.00	9.0	TC	BF052CZ09	
	72.00	8.0	SC	AF052CR08	
	72.00	10.0	SC	AF052CR10	
	72.00	10.0	TC	BF052CR10	
	72.00	12.0	SC	AF052CR12	

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER					
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
SA	52.00	72.00	12.0	TC	BF052CR12	
		75.00	12.0	SC	AF052CU12	
		80.00	10.0	SC	AF052BZ10	
SA1	52.00	80.00	13.0	SC	AF052BZ13	
		80.00	13.0	TC	BF052BZ13	
		85.00	10.0	SC	AF052BU10	
SA2	53.00	72.00	10.0	TC	BF053CR10	
		54.00	65.00	13.0	SC	AF054LU13
		70.00	8.0	SC	AF054CZ08	
SB	54.00	72.00	8.0	SC	AF054CR08	
		72.00	8.0	TC	BF054CR08	
		73.00	16.0	TC	BF054CS16	
SB1	54.40	76.00	8.0	TC	BF054CL08	
		80.00	8.2	LHD	LH54HBZ82	
		68.00	8.0	SC	AF055LB08	
SC	55.00	68.00	8.0	TC	BF055LB08	
		68.00	9.0	OC	OC055LB09	
		68.00	10.0	SC	AF055LB10	
SC1	55.00	68.00	12.0	TC	BF055LB12	
		70.00	8.0	SB	AD055CZ08	
		70.00	8.0	SC	AF055CZ08	
TA	55.00	70.00	8.0	TC	BF055CZ08	
		70.00	9.0	SC	AF055CZ09	
		70.00	10.0	HTC	HBF55CZ10	
TA1	55.00	70.00	10.0	SC	AF055CZ10	
		70.00	10.0	TC	BF055CZ10	
		70.00	16.0	HTC	HBF55CZ16	
TA2	55.00	72.00	8.0	SC	AF055CR08	
		72.00	8.0	TC	BF055CR08	
		72.00	9.0	TC	BF055CR09	
TB	55.00	72.00	10.0	SC	AF055CR10	
		72.00	10.0	TB	BD055CR10	
		72.00	10.0	TC	BF055CR10	
TB1	55.00	75.00	10.0	SC	AF055CU10	
		75.00	10.0	TC	BF055CU10	
		75.00	12.0	SC	AF055CU12	
TC	55.00	75.00	12.0	TC	BF055CU12	
		76.00	7.0	SC	AF055CL07	
		78.00	12.0	SB	AD055CB12	
TC1	55.00	80.00	8.0	SC	AF055BZ08	
		80.00	8.0	TB	BD055BZ08	
		80.00	8.0	TC	BF055BZ08	
AV	55.00	80.00	8.0	TC	BF055BZ08	
		80.00	9.0	TC	BF055BZ09	
		80.00	10.0	DC	EF055BZ10	
VA1	55.00	80.00	10.0	SC	AF055BZ10	
		80.00	10.0	TC	BF055BZ10	
		80.00	12.0	SC	AF055BZ12	
VA2	55.00	80.00	12.0	TC	BF055BZ12	
		80.00	13.0	TB1	BE055BZ13	
		80.00	13.0	TB	BD055BZ13	
VA2	55.00	82.00	12.0	SC	AF055BR12	
		85.00	10.0	SC	AF055BU10	
		85.00	10.0	TC	BF055BU10	
VA2	55.00	85.00	13.0	SC	AF055BU13	

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

STANDARD DESIGNS

55.00

BORE	HEIGHT	TYPE	CODE-NO
85.00	16.0	TB	BD055BU16
90.00	10.0	SC	AF055GZ10
90.00	10.0	TC	BF055GZ10
90.00	12.0	SC	AF055GZ12
100.00	10.0	SC	AF055ZZ10
100.00	10.0	TC	BF055ZZ10
100.00	12.0	TC	BF055ZZ12
100.00	13.0	SA	AA055ZZ13
100.00	13.0	SB	AD055ZZ13
100.00	13.0	SC	AF055ZZ13



VB



VB1



VC

56.00

BORE	HEIGHT	TYPE	CODE-NO
70.00	8.0	TC	BF056CZ08
72.00	8.0	SB	AD056CR08
72.00	8.0	TB	BD056CR08
80.00	12.0	TC	BF056BZ12



VC1

57.00

BORE	HEIGHT	TYPE	CODE-NO
106.00	14.0	SA	AA057ZL14



KA

57.10

BORE	HEIGHT	TYPE	CODE-NO
76.23	11.7	SC	AF57CL117



KA1

58.00

BORE	HEIGHT	TYPE	CODE-NO
68.00	10.0	SB	AD058LB10
72.00	8.0	SB	AD058CR08
72.00	8.0	SC	AF058CR08
72.00	8.0	TC	BF058CR08
72.00	9.0	TC	BF058CR09
72.00	10.0	TC	BF058CR10
75.00	9.0	TC	BF058CU09
80.00	8.0	SC	AF058BZ08
80.00	10.0	TC	BF058BZ10
80.00	12.0	SC	AF058BZ12
80.00	13.0	SC	AF058BZ13
80.00	13.0	TA2	BC058BZ13



KA2



KB

60.00

BORE	HEIGHT	TYPE	CODE-NO
80.00	13.0	TC	BF058BZ13
70.00	8.0	SC	AF060CZ08
70.00	8.0	TC	BF060CZ08
72.00	4.0	VC	CF060CR04
72.00	7.0	SB	AD060CR07
72.00	8.0	SB	AD060CR08
72.00	8.0	TB2	BDR60CR08
74.00	8.0	TB	BD060CH08
75.00	8.0	SA	AA060CU08
75.00	8.0	SB	AD060CU08
75.00	8.0	SC	AF060CU08
75.00	8.0	TC	BF060CU08
75.00	9.0	TC	BF060CU09
75.00	10.0	SB	AD060CU10
75.00	10.0	SB1	AE060CU10
75.00	10.0	TB	BD060CU10
78.00	9.0	SC	AF060CB09
78.00	9.0	TC	BF060CB09
78.00	10.0	SC	AF060CB10
80.00	8.0	SB	AD060BZ08
80.00	8.0	SC	AF060BZ08
80.00	8.0	TC	BF060BZ08
80.00	10.0	DC	EF060BZ10
80.00	10.0	SB	AD060BZ10
80.00	10.0	SA2	AC060BZ10
80.00	10.0	SC	AF060BZ10



KB1



KC



KC1



DA



DB



DC



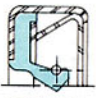

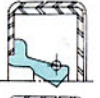
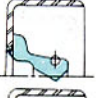
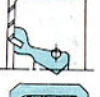
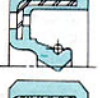
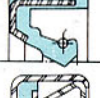
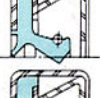
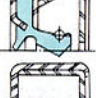
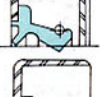
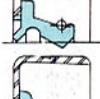
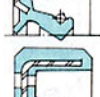
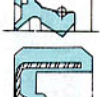
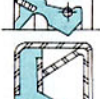
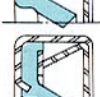
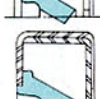


470



420




















380

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		80.00	10.0	TC	BF060BZ10
		80.00	12.0	SC	AF060BZ12
		80.00	13.0	SA2	AC060BZ13
SA1		80.00	13.0	SB1	AE060BZ13
		80.00	13.0	SC	AF060BZ13
		82.00	12.0	TC	BF060BR12
SA2		83.00	13.0	TA2	BC060BS13
		85.00	8.0	SC	AF060BU08
		85.00	8.0	TC	BF060BU08
SB		85.00	10.0	SC	AF060BU10
		85.00	10.0	TC	BF060BU10
		85.00	13.0	TA2	BC060BU13
SB1		90.00	8.0	SC	AF060GZ08
		90.00	8.0	TC	BF060GZ08
		90.00	10.0	SA2	AC060GZ10
SC		90.00	10.0	SC	AF060GZ10
		90.00	10.0	TB	BD060GZ10
		90.00	11.0	TC	BF060GZ11
SC1		90.00	13.0	SC	AF060GZ13
		95.00	10.0	SC	AF060GU10
		110.00	8.0	SB	AD060EZ08
TA		85.00	13.0	TB	BD061BU13
		80.00	10.0	SC	AF062BZ10
		85.00	10.0	SC	AF062BU10
TA1		85.00	13.0	SB	AD062BU13
		90.00	10.0	SC	AF062GZ10
		92.00	13.0	TC	BF062GR13
TA2		80.00	9.0	SB	AD063BZ09
		85.00	10.0	SA2	AC063BU10
		85.00	10.0	SC	AF063BU10
TB		80.00	8.0	SC	AF064BZ08
		80.00	8.0	SB	AD065BZ08
		80.00	8.0	SC	AF065BZ08
TB1		85.00	8.0	SC	AF065BU08
		85.00	10.0	SC	AF065BU10
		85.00	12.0	SA	AA065BU12
TC		85.00	12.0	SC	AF065BU12
		85.00	12.0	TC	BF065BU12
		88.00	10.0	SC	AF065BB10
TC1		88.00	12.0	TC	BF065BB12
		90.00	10.0	DB	ED065GZ10
		90.00	10.0	SA2	AC065GZ10
AV		90.00	10.0	SC	AF065GZ10
		90.00	10.0	TC	BF065GZ10
		90.00	12.0	SA	AA065GZ12
VA1		90.00	12.0	SC	AF065GZ12
		90.00	12.0	TC	BF065GZ12
		90.00	13.0	TA2	BC065GZ13
VA2		90.00	13.0	TC	BF065GZ13
		90.00	15.0	SC	AF065GZ15
		100.00	10.0	SC	AF065ZZ10
VA2		100.00	10.0	TC	BF065ZZ10
		100.00	12.0	SA2	AC065ZZ12
		100.00	13.0	TB	BD065ZZ13

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER





















STANDARD DESIGNS

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
65.00	120.00	10.0	SC	AF065RZ10	 VB
68.00	85.00	10.0	SC	AF068BU10	
	88.00	10.0	TC	BF068BB10	 VB1
	90.00	10.0	SA2	AC068GZ10	
	90.00	10.0	SC	AF068GZ10	 VC
	90.00	10.0	TB	BD068GZ10	
	90.00	10.0	TC	BF068GZ10	 VC1
	90.00	12.0	TC	BF068GZ12	
	90.00	13.0	TB	BD068GZ13	 KA
	90.00	13.0	TC	BF068GZ13	
	90.00	10/13	TB	BD068GZ14	 KA1
	90.00	13.0	TC	BF068E13	
70.00	110.00	13.0	TC	BF068E13	 KA2
	81.50	6.0	VC	CF070BE06	
	85.00	7.0	SC	AF070BU07	 KB
	85.00	8.0	SC	AF070BU08	
	85.00	8.0	TB	BD070BU08	 KB1
	85.00	8.0	TC	BF070BU08	
	85.00	15.0	DC	EF070BU15	 KC
	85.00	10.0	SC	AF070BU10	
	85.00	16.0	DC	EF070BU16	 KC1
	88.00	12.0	SC	AF070BB12	
	88.00	12.0	TC	BF070BB12	 DA
	90.00	10.0	HSC	AF070GZ10	
	90.00	10.0	SC	AF070GZ10	 DB
	90.00	10.0	TB	BD070GZ10	
	90.00	10.0	TC	BF070GZ10	 DC
	90.00	12.0	SC	AF070GZ12	
	90.00	12.0	TC	BF070GZ12	 470
	90.00	13.0	SC	AF070GZ13	
	90.00	13.0	TB	BD070GZ13	 420
	90.00	15.0	TC	BF070GZ15	
	92.00	12.0	TC	BF070GR12	 380
	95.00	10.0	SC	AF070GU10	
	95.00	13.0	SC	AF070GU13	
	95.00	13.0	TC	BF070GU13	
	100.00	10.0	SC	AF070ZZ10	
	100.00	10.0	TC	BF070ZZ10	
	100.00	15.0	OC	OC070ZZ15	
	106.00	14.0	SA	AA070ZL14	
	110.00	8.0	SC	AF070EZ08	
	110.00	10.0	SB	AD070EZ10	
	110.00	10.0	SC	AF070EZ10	
	110.00	12.0	SC	AF070EZ12	
	110.00	13.0	TC	BF070EZ13	
	112.00	12.0	TC	BF070ER12	
	112.00	14/20	TBY	BDY70ER20	
	115.00	14/20	TBY	BDY70EU20	
	120.00	10.0	TC	BF070RZ10	
	125.00	12.0	SC	AF070RU12	
	125.00	12.0	TC	BF070RU12	
72.00	90.00	10.0	SC	AF072GZ10	
	92.00	10.0	SC	AF072GR10	
	95.00	10.0	TC	BF072GU10	
	100.00	10.0	SC	AF072ZZ10	

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER					
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
SA	72.00	105.00	13.0	TA2	BC072ZU13	
		110.00	12.0	TC	BF072EZ12	
SA1	73.00	95.00	10.0	SC	AF073GU10	
		74.00	98.00	12.0	TC	BF074GB12
SA2	75.00	90.00	8.0	SC	AF075GZ08	
		90.00	10.0	SC	AF075GZ10	
SB		90.00	12.0	SC	AF075GZ12	
		95.00	10.0	SB	AD075GU10	
SB1		95.00	10.0	SC	AF075GU10	
		95.00	10.0	TC	BF075GU10	
SB2		95.00	12.0	BASC	BS075GU12	
		95.00	12.0	TC	BF075GU12	
SC		95.00	14.0	DC	EF075GU14	
		100.00	10.0	SA	AA075ZZ10	
SC1		100.00	10.0	SC	AF075ZZ10	
		100.00	10.0	TC	BF075ZZ10	
TA		100.00	12.0	TB	BD075ZZ12	
		100.00	12.0	TC	BF075ZZ12	
TA1		100.00	13.0	HTC	HBF75ZZ13	
		100.00	13.0	SB	AD075ZZ13	
TA2		100.00	13.0	TA2	BC075ZZ13	
		100.00	13.0	SC	AF075ZZ13	
TB		100.00	13.0	TB	BD075ZZ13	
		100.00	13.0	TC	BF075ZZ13	
TB1		106.00	14.0	SA	AA075ZL14	
		110.00	12.0	SC	AF075EZ12	
TB2		115.00	13.0	TA2	BC075EU13	
		125.00	12.0	SC	AF075RU12	
TC		125.00	12.0	TC	BF075RU12	
		76.00	96.00	10.0	SA	AA076GL10
TC1		78.50	120.00	13.0	SC	AF78HRZ13
		79.00	120.00	13.0	TB	BD079RZ13
VA1		120.00	13.0	TC	BF079RZ13	
		80.00	95.00	8.0	SC	AF080GU08
VA2		100.00	10.0	DC	EF080ZZ10	
		100.00	10.0	SA2	AC080ZZ10	
VA3		100.00	10.0	TA2	BC080ZZ10	
		100.00	10.0	SC	AF080ZZ10	
VA4		100.00	10.0	TC	BF080ZZ10	
		100.00	10.0	TC	BF080ZZ10	
VA5		100.00	12.0	HTC	HBF80ZZ12	
		100.00	12.0	SB	AD080ZZ12	
VA6		100.00	12.0	SA2	AC080ZZ12	
		100.00	12.0	TA2	BC080ZZ12	
VA7		100.00	12.0	SC	AF080ZZ12	
		100.00	12.0	TC	BF080ZZ12	
VA8		100.00	13.0	SC	AF080ZZ13	
		100.00	13.0	TC	BF080ZZ13	
VA9		105.00	13.0	TB	BD080ZU13	
		105.00	13.0	TC	BF080ZU13	
VA10		106.00	14.0	SA	AA080ZL14	
		110.00	10.0	SC	AF080EZ10	
VA11		110.00	10.0	TC	BF080EZ10	
		110.00	12.0	SC	AF080EZ12	




















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER




















STANDARD
DESIGNS

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
80.00	110.00	12.0	TC	BF080EZ12	 VB
	110.00	13.0	SB	AD080EZ13	
	110.00	13.0	SC	AF080EZ13	 VB1
	115.00	10.0	SC	AF080EU10	
	120.00	12.0	SC	AF080RZ12	
	120.00	13.0	SC	AF080RZ13	
	125.00	13.0	TC	BF080RU13	
81.00	100.00	13.0	SA2	AC081ZZ13	 VC
	82.00	100.00	SA2	AC082ZZ13	
82.50	105.00	12.0	SC	AF080ZU12	 VC1
	85.00	107.90	12.7	SB	
85.00	100.00	9.0	SB	AD085ZZ09	 KA
	100.00	13.0	SC	AF085ZZ13	
85.00	105.00	10.0	SB	AD085ZU10	 KA1
	105.00	10.0	TC	BF085ZU10	
85.00	105.00	12.0	SC	AF085ZU12	 KA2
	105.00	12.0	TC	BF085ZU12	
85.00	105.00	13.0	SB	AD085ZU13	 KB
	105.00	13.0	SC	AF085ZU13	
85.00	105.00	13.0	TC	BF085ZU13	 KB1
	110.00	10.0	TC	BF085EZ10	
85.00	110.00	12.0	SC	AF085EZ12	 KC
	110.00	12.0	TC	BF085EZ12	
85.00	110.00	13.0	TC	BF085EZ13	 KC1
	115.00	13.0	TB	BD085EU13	
85.00	120.00	12.0	TC	BF085RZ12	 DA
	125.00	13.0	SA2	AC085RU13	
85.00	130.00	12.0	SC	AF085SZ12	 DB
	130.00	12.0	TC	BF085SZ12	
85.00	150.00	12.0	SC	AF085UZ12	 DC
	150.00	12.0	TC	BF085UZ12	
87.17	117.47	11.9	OC	OC087EC12	 470
	88.00	110.00	TA2	BC088EZ13	
88.90	120.70	13.0	TC	BF088RZ13	 420
	90.00	120.70	14.28	TC	
90.00	100.00	8.0	SB	AD090ZZ08	 380
	110.00	10.0	SC	AF090EZ10	
90.00	110.00	12.0	SC	AF090EZ12	 HSC
	110.00	12.0	TC	BF090EZ12	
90.00	110.00	13.0	SC	AF090EZ13	 HSC
	110.00	13.0	TB	BD090EZ13	
90.00	110.00	13.0	TC	BF090EZ13	 HSC
	110.00	15.0	HTC3	HBS90EZ15	
90.00	110.00	15.0	TC	BF090EZ15	HSC
	115.00	9.0	SC	AF090EU09	
90.00	115.00	10.0	SC	AF090EU10	HSC
	115.00	13.0	SC	AF090EU13	
90.00	115.00	13.0	TC	BF090EU13	HSC
	120.00	12.0	TC	BF090RZ12	
90.00	120.00	13.0	TC	BF090RZ13	HSC
	125.00	13.0	SA2	AC085RU13	
90.00	130.00	13.0	SB	AD090SZ13	HSC
	133.00	14.0	SA	AA090SS14	
92.00	110.00	10.0	HSC	AF092EZ10	HSC

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	92.00	120.00	13.0	SC	AF092RZ13
	95.00	110.00	7.0	SB	AD095EZ07
SA1		110.00	9.0	SB	AD095EZ09
		110.00	11.0	TC	BF095EZ11
SA2		112.00	12.0	TC	BF095ER12
		115.00	12.0	TC	BF095EU12
SB		115.00	13.0	SB	AD095EU13
		115.00	13.0	SC	AF095EU13
SB1		115.00	13.0	TA2	BC095EU13
		120.00	12.0	SC	AF095RZ12
SC		120.00	13.0	TA2	BC095RZ13
		120.00	13.0	SC	AF095RZ13
SC1		120.00	13.0	TC	BF095RZ13
		120.00	13.0	TC	BF095RZ13
TA		125.00	12.0	SC	AF095RU12
		125.00	13.0	SC	AF095RU13
TA1		145.00	13.0	SC	AF095HU13
		145.00	13.0	TC	BF095HU13
TA2	100.00	120.00	10.0	SA2	AC100RZ10
		120.00	10.0	SC	AF100RZ10
TB		120.00	11.0	TC	BF100RZ11
		120.00	12.0	SA2	AC100RZ12
TB1		120.00	12.0	SB	AD100RZ12
		120.00	12.0	TA2	BC100RZ12
TC		120.00	12.0	SC	AF100RZ12
		120.00	13.0	TC	BF100RZ12
TC1		120.00	13.0	DC	EF100RZ13
		120.00	13.0	SC	AF100RZ13
TA2		120.00	13.0	TA2	BC100RZ13
		120.00	13.0	TC	BF100RZ13
TB		125.00	12.0	SC	AF100RU12
		125.00	13.0	TC	BF100RU13
TB1		130.00	12.0	DC	EF100SZ12
		130.00	12.0	SC	AF100SZ12
TC		130.00	12.0	TC	BF100SZ12
		140.00	13.0	SC	AF100HZ13
TC1		150.00	13.0	DB	ED100UZ13
		160.00	14.0	SC	AF100LZ14
TA2		160.00	14.0	TC	BF100LZ14
		180.00	12.0	SC	AF100BZ12
TB		180.00	12.0	TC	BF100BZ12
	104.00	130.00	15/33	TB	BD104SZSH
TC1	105.00	125.00	13.0	TA2	BC105RU13
		125.00	13.0	TC	BF105RU13
TA2		130.00	12.0	SC	AF105SZ12
		130.00	12.0	TC	BF105SZ12
TB		135.00	14.0	SC	AF105SU14
		140.00	13.0	TC	BF105HZ13
TC	110.00	125.00	13.0	SA2	AC110RU13
		128.00	9.0	TC	BF110RB09
TA2		130.00	8.0	SC	AF110SZ08
		130.00	12.0	SB	AD110SZ12
TB		130.00	12.0	SC	AF110SZ12
		130.00	12.0	TC	BF110SZ12

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	92.00	120.00	13.0	SC	AF092RZ13
	95.00	110.00	7.0	SB	AD095EZ07
SA1		110.00	9.0	SB	AD095EZ09
		110.00	11.0	TC	BF095EZ11
SA2		112.00	12.0	TC	BF095ER12
		115.00	12.0	TC	BF095EU12
SB		115.00	13.0	SB	AD095EU13
		115.00	13.0	SC	AF095EU13
SB1		115.00	13.0	TA2	BC095EU13
		120.00	12.0	SC	AF095RZ12
SC		120.00	13.0	TA2	BC095RZ13
		120.00	13.0	SC	AF095RZ13
SC1		120.00	13.0	TC	BF095RZ13
		120.00	13.0	TC	BF095RZ13
TA		125.00	12.0	SC	AF095RU12
		125.00	13.0	SC	AF095RU13
TA1		145.00	13.0	SC	AF095HU13
		145.00	13.0	TC	BF095HU13
TA2	100.00	120.00	10.0	SA2	AC100RZ10
		120.00	10.0	SC	AF100RZ10
TB		120.00	11.0	TC	BF100RZ11
		120.00	12.0	SA2	AC100RZ12
TB1		120.00	12.0	SB	AD100RZ12
		120.00	12.0	TA2	BC100RZ12
TC		120.00	12.0	SC	AF100RZ12
		120.00	13.0	TC	BF100RZ12
TC1		120.00	13.0	DC	EF100RZ13
		120.00	13.0	SC	AF100RZ13
TA2		120.00	13.0	TA2	BC100RZ13
		120.00	13.0	TC	BF100RZ13
TB		125.00	12.0	SC	AF100RU12
		125.00	13.0	TC	BF100RU13
TB1		130.00	12.0	DC	EF100SZ12
		130.00	12.0	SC	AF100SZ12
TC		130.00	12.0	TC	BF100SZ12
		140.00	13.0	SC	AF100HZ13
TC1		150.00	13.0	DB	ED100UZ13
		160.00	14.0	SC	AF100LZ14
TA2		160.00	14.0	TC	BF100LZ14
		180.00	12.0	SC	AF100BZ12
TB		180.00	12.0	TC	BF100BZ12
	104.00	130.00	15/33	TB	BD104SZSH
TC1	105.00	125.00	13.0	TA2	BC105RU13
		125.00	13.0	TC	BF105RU13
TA2		130.00	12.0	SC	AF105SZ12
		130.00	12.0	TC	BF105SZ12
TB		135.00	14.0	SC	AF105SU14
		140.00	13.0	TC	BF105HZ13
TC	110.00	125.00	13.0	SA2	AC110RU13
		128.00	9.0	TC	BF110RB09
TA2		130.00	8.0	SC	AF110SZ08
		130.00	12.0	SB	AD110SZ12
TB		130.00	12.0	SC	AF110SZ12
		130.00	12.0	TC	BF110SZ12

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER					STANDARD DESIGNS		
SHAFT	BORE	HEIGHT	TYPE	CODE-NO			
110.00	132.00	12.0	SB	AD110SR12		VB	
	140.00	12.0	SB	AD110HZ12			
	140.00	13.0	TA2	BC110HZ13		VB1	
	140.00	14.0	TC	BF110HZ14			
	150.00	13.0	DB	ED110UZ13		VC	
	150.00	13.0	SA2	AC110UZ13			
	150.00	13.0	SC	AF110UZ13			
	150.00	15.0	SC	AF110UZ15			
	200.00	13.0	SC	AF110ZZ13			
	200.00	13.0	TC	BF110ZZ13			
113.00	160.00	12.0	SA2	AC113LZ12		VC1	
115.00	140.00	12.0	SC	AF115HZ12			
118.00	140.00	12.0	TC	BF115HZ12		KA	
	140.00	13.0	TC	BF115HZ13			
	140.00	16.0	SC	AF115HZ16			
120.00	140.00	13.0	SC	AF118HZ13		KA1	
	152.00	14.6	TC	BF118UR14			
120.00	140.00	12.0	TB	BD120HZ12		KA2	
	140.00	13.0	SA2	AC120HZ13			
	140.00	13.0	TA2	BC120HZ13		KB	
	140.00	13.0	SC	AF120HZ13			
	140.00	15.0	TB	BD120HZ15			
	145.00	13.0	TA2	BC120HU13		KB1	
	145.00	15.0	SA	AA120HU15			
	145.00	15.0	SA2	AC120HU15		KC	
	150.00	12.0	SC	AF120UZ12			
	150.00	13.0	SA	AA120UZ13		KC1	
	150.00	14.0	TC	BF120UZ14			
	150.00	15.0	TA2	BC120UZ15		DA	
	150.00	15.0	TC	BF120UZ15			
	160.00	12.0	SB	AD120LZ12		DB	
	160.00	12.0	TC	BF120LZ12			
	120.80	160.00	15.0	SA	AA120LZ15		DC
		152.40	12.7	OC	OC120UR12		
122.00		150.00	12.0	SC	AF122UZ12		470
125.00		140.00	10.0	TB	BD125HZ10		
126.80		150.00	12.0	SC	AF125UZ12		420
		150.00	12.0	TC	BF125UZ12		
		150.00	13.0	SA2	AC125UZ13		380
		150.00	13.0	SB	AD125UZ13		
		150.00	12/14.59	TC	BF125UZ15		420
		160.00	15.0	OC	OC125LZ15		
	160.00	15.0	TC	BF125LZ15		420	
	170.00	13.0	SA2	AC125CZ13			
	128.00	146.00	13.5	SC	AF128HL3H		420
	146.00	13.50	TC	BF128HL13			
130.00	150.00	15.0	SC	AF128UZ15		420	
	150.00	15.0	TC	BF128UZ15			
	155.00	10.0	SA2	AC130UU10		420	
	159.00	12.35	SB	AD130UG12			
	160.00	12.0	SB	AD130LZ12		420	
	160.00	12.0	SC	AF130LZ12			

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA 	130.00	160.00	14.0	TC	BF130LZ14
		160.00	15.0	TC	BF130LZ15
		170.00	12.0	SC	AF130CZ12
SA1 	132.00	170.00	15.0	SC	AF130CZ15
		230.00	14.0	SC	AF130SZ14
SA2 	135.00	230.00	14.0	TC	BF130SZ14
		160.00	13.0	SA2	AC132LZ13
SB 	136.39	160.00	13.0	TA2	BC135LZ13
		170.00	12.0	SB	AD135CZ12
		170.00	12.0	SC	AF135CZ12
SB1 	137.00	158.85	14.2	SA	AA136UB14
		200.00	50.0	SC	AF137ZZ50
		160.00	12.0	TC	BF140LZ12
SC 	140.00	160.00	13.0	SA	AA140LZ13
		170.00	12.0	SC	AF140CZ12
SC1 	145.00	170.00	15.0	SA2	AC140CZ15
		170.00	15.0	SB	AD140CZ15
TA 	148.00	170.00	15.0	SC	AF140CZ15
		170.00	15.0	TB	BD140CZ15
TA1 	150.00	170.00	15.0	TC	BF140CZ15
		180.00	15.0	TC	BF140BZ15
TA2 	155.00	175.00	13.0	TA2	BC145CU13
		175.00	13.0	TB	BD145CU13
TB 	160.00	170.00	14.5	TA2	BC148CZ14
		170.00	15.0	TA2	BC150CZ15
TB1 	165.00	172.00	18.00	SC	AF150CR18
		180.00	12.0	SC	AF150BZ12
TC 	170.00	180.00	13.0	SA2	AC150BZ13
		180.00	13.0	TC	BF150BZ13
TC1 	175.00	180.00	15.0	SA2	AC150BZ15
		180.00	15.0	SB	AD150BZ15
VA1 	178.00	180.00	15.0	SC	AF150BZ15
		200.00	10.0	SB	AD150ZZ10
VA2 	180.00	200.00	15.0	SB	AD150ZZ15
		180.00	15.0	SC	AF155BZ15
AV 	180.00	190.00	17.0	TB	BD155GZ17
		180.00	14.0	SC	AF160BZ14
VA1 	180.00	180.00	15.0	DB	ED160BZ15
		180.00	15.0	SA2	AC160BZ15
VA2 	180.00	190.00	15.0	TA2	BC160GZ15
		190.00	15.0	TC	BF160GZ15
AV	180.00	200.00	15.0	TC	BF160ZZ15
		190.00	13.0	SA2	AC165GZ13
VA1	180.00	190.00	13.0	SC	AF165GZ13
		190.00	13.0	SC	AF165GZ13
VA2	180.00	195.00	31.0	TB	BD170GU31
		200.00	15.0	SA2	AC170ZZ15
VA1	180.00	200.00	15.0	SC	AF170ZZ15
		200.00	15.0	TC	BF170ZZ15
VA2	180.00	200.00	15.0	SA2	AC175ZZ15
		200.00	15.0	TA2	BC175ZZ15
VA1	180.00	200.00	15.0	TB	BD178ZZ15
		210.00	15.0	SC	AF180EZ15
VA2	180.00	210.00	15.0	SC	AF180EZ15
		210.00	15.0	TC	BF180EZ15

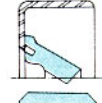
OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

STANDARD
DESIGNS

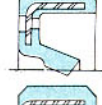
SHAFT	BORE	HEIGHT	TYPE	CODE-NO
180.00	215.00	16.0	TC	BF180EU16
185.00	210.00	15.0	TA2	BC185EZ15
187.00	250.00	31.0	SC	AF187UZ31
190.00	220.00	12.0	TC	BF190RZ12
	220.00	15.0	DB	ED190RZ15
	220.00	15.0	SC	AF190RZ15
200.00	230.00	15.0	DC	EF200SZ15
	230.00	15.0	SA2	AV200SZ15
	230.00	15.0	SC1	AG200SZ15
	230.00	15.0	SC	AF200SZ15
	250.00	15.0	SA2	AC200UZ15
220.00	250.00	15.0	DB	ED220UZ15
230.00	260.00	15.0	SC	AF230LZ15
	260.00	15.0	TC	BF230LZ15
	262.00	16.0	SC	AF230LR16
	270.00	16.0	SB	AD230CZ16
	280.00	15.0	SC	AF230BZ15
240.00	270.00	15.0	SA2	AC240CZ15
	270.00	15.0	SA	AA240CZ15
	270.00	15.0	SC	AF240CZ15
	270.00	15.0	TC	BF240CZ15
	290.00	16.0	SC	AF240GZ16
245.00	270.00	16.0	SB	AD245CZ16
250.00	270.00	16.0	SA2	AC250CZ16
260.00	190.00	16.0	TA2	BC260GZ16
	280.00	16.0	TC	BF260BZ16
270.00	310.00	16.0	SA2	AC270EZ16
280.00	310.00	16.0	SA2	AC280EZ16
285.00	310.00	16.0	TA2	BC285EZ16
300.00	332.00	16.0	SA2	AC300SR16
	340.00	20.0	SA2	AC300HZ20
	340.00	20.0	SB	AD300HZ20
330.00	370.00	18.0	SA2	AC330CZ18
340.00	372.00	16.0	SA2	AC340CR16
	380.00	20.0	SC	AF340BZ20
	400.00	25.0	SC	AF340ZZ25
350.00	380.00	16.0	SB	AD350BZ16
	380.00	16.0	TC	BF350BZ16
355.00	380.00	13.0	OC	OC355BZ13
360.00	400.00	18.0	SB	AD360ZZ18
	400.00	20.0	DC	EF360ZZ20
	400.00	20.0	SC	AF360ZZ20
390.00	430.00	18.0	SA2	AC390SZ18
394.00	420.00	16.0	TC	BF394RZ16
420.00	460.00	20.0	SB	AD420LZ20
	470.00	20.0	SC	AF420CZ20
440.00	480.00	20.0	SB	AD440BZ20
514.00	550.00	18/14	OC	OC514UZ18
10	16	3/4.5	470	CZ010EL48
10	18	5.5/7	383	BS010EB75
12	18	5.5/5	470	CZ012EB55
	20	4/6	470	CZ012RZ64
	22	5/8	470	CZ012RR85
	22	5/8	420	RZ012RR85



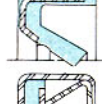
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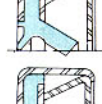
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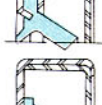
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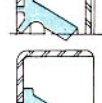
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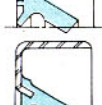
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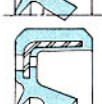
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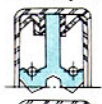
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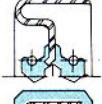
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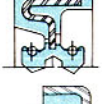
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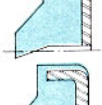
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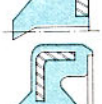
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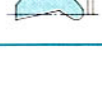
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DC




















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














420



380

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA 	12	22	6.5/8	380	BZ012RR86
	13	18	3/4.8	470	CZ013EB48
	135	150	9/12	470	CZ135EU12
	14	20	5/7	470	CZ014RZ75
SA1 		22	3/4	470	CZ014RR43
	140	155	9/12	470	CZ140UU12
	16	13	3/4.5	470	CZ016ES48
SA2 		22	3/4	470	CZ016RR43
		26	5/8	470	CZ016RL85
	175	28	7/10	470	CZ018RB10
SB 	18	28	5/7	470	CZ018RB75
		28	5/8	470	CZ018RB85
		28	6.5/8	383	BS018RB86
		28	6.5/8	380	BZ018RB86
SB1 		26	5/8	420	RZ019RL85
	19	26	5/8	470	CZ019RL85
		28	3.5/4.5	470	CZ020RB48
SC 	20	28	3.5/5	470	CZ020RB53
		30	7/10	470	CZ020SZ10
		30	4/6	470	CZ020SZ64
		28	5/8	470	CZ022RB85
SC1 	22	32	7/10	470	CZ022SR10
		32	5/7	470	CZ022SR75
		32	6.5/8	380	BZ022SR86
		35	5/8	470	CZ022SU85
TA 	25	35	7/10	470	CZ025SU10
		35	5/8	470	CZ025SU85
TA1 	275	500	12/16	470	CZ275ZZ16
	28	38	5/8	470	CZ028SB85
		40	7/10	470	CZ028HZ10
TA2 	30	40	7/10	470	CZ030HZ10
		40	5/8	470	CZ030HZ85
		40	6.5/8	380	BZ030HZ86
TB 	31.8	38	5/8	420	RZ031SB85
	32	45	7/10	470	CZ032HU10
		45	5/8	470	CZ032HU85
TB1 	35	45	7/10	470	CZ035HU10
		45	7/9	470	CZ035HU97
	36	45	5/7	470	CZ036HU75
TC 	40	54	7/10	470	CZ036UH10
		50	7/10	470	CZ040UZ10
		50	5/8	470	CZ040UZ85
TC1 		50	6.5/8	380	BZ040UZ86
	42	52	5/8	470	CZ040UR85
	45	50	7/10	470	CZ042UZ10
AV 		55	7/10	470	CZ045UU10
		55	7/10	470	CZ045UU10
		55	5/7	470	CZ045UU75
VA1 	50	60	7/10	470	CZ045LZ10
		56	5/7	470	CZ050UL75
		60	7/10	470	CZ050LZ10
VA2 		60	5/7	470	CZ050LZ75
	55	60	6.5/8	380	BZ050LZ86
		63	7/10	470	CZ055LS10

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
55	65	7/10	470	CZ055LU10	 VB
56	65	7/10	470	CZ056LU10	
6	12	5/6.5	383	BS006ER07	 VB1
60	70	7/10	470	CZ060CZ10	
65	75	7/10	470	CZ065CU10	 VC
67	83	7/10	470	CZ067BS10	
70	80	7/10	470	CZ070BZ10	 VC1
	80	5/8	470	CZ070BZ85	
75	85	7/10	470	CZ075BU10	 KA
78	88	7/10	470	CZ078BB10	
8	14	4/5	380	BZ008EH54	 KA1
80	90	7/10	470	CZ080GZ10	
90	100	7/10	470	CZ090ZZ10	 KA2
10	16	4/5	SL	SL010EL54	
175	44	8/9.5	SL	SL032HH10	 KB
31.8	12	4/5	SL	SL006ER54	
6	75	7/8	SL	SL065CU87	 KB1
8	14	4/5	SL	SL008EH54	
					 KC
					 KC1
					 DA
					 DB
					 DC
					 470
					 420
					 380

U-Seals



Loaded U-Seal Standard Lip

Max Pressure: 5000 psi

Standard lip loaded U-seals are designed to be used in rod and piston seal applications. Available in square and deep sizes.

Materials Available: Molythane, Polymyte, Fluoromyte, Urethane, and Viton



Loaded U-Seal B-Lip

Max Pressure: 5000 psi

B-lip loaded U-seals are designed to be used in single acting rod and piston seal applications. The bevelled lip ensures constant sealing. Available in square and deep sizes.

Materials Available: Molythane, Polymyte, Fluoromyte, Urethane, and Viton



Type 605 Rod Seal

Max Pressure: 6000 psi

Type 605 U-seals are designed to be used as a dedicated rod seal. The twin lip design improves sealing, primary lip protection and stability.

Materials Available: Hythane



Type 606 Piston Seal

Max Pressure: 6000 psi

Type 606 U-seals are designed to be used as a dedicated piston seal. Ideal high performance seal for one piece or split pistons.

Materials Available: Hythane



Type 621 High Pressure

Max Pressure: 10,000 psi

Type 621 U-seals are designed to be used as a high pressure rod seal. This seal combines the performance of the twin lip design and an anti-extrusion ring for high pressure applications.

Materials Available: Hythane



Type CU Clear Urethane

Max Pressure: 5000 psi

Type CU U-seals are designed to be used in rod and piston seal applications. The bevelled lip design improves seal performance. The CU U-seal can be used in low and high pressure environments.

Materials Available: Garthane



UP Hydraulic U-Seal

Max Pressure: 5000 psi

Type UP U-seals are designed for general hydraulic sealing applications. Covering a large range of pressures, these seals can be filled with various energizer materials to improve performance.

Materials Available: Buna/Fabric, Urethane, and Leather



Type T18 Fluid Rod Seal

Max Pressure: 7500 psi

Type T18 U-seals are designed to be used as a dedicated fluid rod seal. Molded energizer provides a medium to heavy use seal.

Materials Available: Buna/Fabric



HU Homogeneous


















Max Pressure: 800 psi


















Type HU U-seals are designed for general pneumatic and very low pressure hydraulic sealing applications. A large variety of materials are available for various applications.

Materials Available: Buna, Viton, Silicone, EPR, and Teflon













STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA SA1 SA2 SB SB1 SC SC1 TA TA1 TA2 TB TB1 TC TC1 AV VA1 VA2		24.00	37.00	9.0	SA2	AC024SC09
			38.00	8.0	TC	BF024SB08
			38.00	10.0	SC	AF024SB10
			40.00	7.0	SC	AF024HZ07
			40.00	8.0	SC	AF024HZ08
			40.00	8.0	TC	BF024HZ08
			42.00	7.0	TC	BF024HR07
			42.00	8.0	SC	AF024HR08
			42.00	10.0	SC	AF024HR10
			45.00	7.0	SC	AF024HU07
			47.00	7.0	SC	AF024HC07
			47.00	7.0	TC	BF024HC07
			47.00	10.0	SC	AF024HC10
			52.00	7.0	TC	BF024UR07
SC SC1 TA TA1 TA2 TB TB1 TC TC1 AV VA1 VA2		25.00	30.00	7.0	SC	AF025SZ07
			32.00	5.0	SB	AD025SR05
			32.00	6.0	SC	AF025SR06
			32.00	7.0	TB	BD025SR07
			33.00	4.0	SC	AF025SS04
			33.00	6.0	SC	AF025SS06
			35.00	5.0	SC	AF025SU05
			35.00	5.0	TC	BF025SU05
			35.00	6.0	SB	AD025SU06
			35.00	6.0	SC	AF025SU06
			35.00	6.0	TC	BF025SU06
			35.00	7.0	DC	EF025SU07
			35.00	7.0	SB	AD025SU07
			35.00	7.0	SC	AF025SU07
35.00	7.0	TB	BD025SU07			
35.00	7.0	TC	BF025SU07			
35.00	8.0	SC	AF025SU08			
35.00	8.0	TC	BF025SU08			
36.00	5.0	SC	AF025SL05			
36.00	6.0	SC	AF025SL06			
36.00	6.0	TB1	BE025SL06			
36.00	7.0	SC	AF025SL07			
36.00	7.0	TC	BF025SL07			
36.00	8.0	TC	BF025SL08			
37.00	6.0	SC	AF025SC06			
37.00	7.0	SC	AF025SC07			
37.00	7.0	TC	BF025SC07			
37.00	8.0	SC	AF025SC08			
37.00	8.0	TC	BF025SC08			
38.00	7.0	SC	AF025SB07			
38.00	7.0	TC	BF025SB07			
38.00	8.0	TB	BD025SB08			
38.00	8.0	TC	BF025SB08			
40.00	5.0	SC	AF025HZ05			
40.00	6.0	SB	AD025HZ06			
40.00	6.0	TC	BF025HZ06			
40.00	7.0	SC	AF025HZ07			
40.00	7.0	TB	BD025HZ07			

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
25.00	40.00	7.0	TC	BF025HZ07	 VB
	40.00	8.0	DC	EF025HZ08	
	40.00	8.0	SC	AF025HZ08	 VB1
	40.00	8.0	TC	BF025HZ08	
	40.00	10.0	SC	AF025HZ10	 VC
	40.00	10.0	TC	BF025HZ10	
	41.00	7.0	TC	BF025HE07	 VC1
	41.20	6.0	TC	BF025HE06	
	42.00	3.0	VC	CF025HR03	 KA
	42.00	6.0	SC	AF025HR06	
	42.00	6.0	TC	BF025HR06	 KA1
	42.00	7.0	SC	AF025HR07	
	42.00	7.0	TC	BF025HR07	 KA2
	42.00	8.0	SC	AF025HR08	
	42.00	8.0	TC	BF025HR08	 KB
	42.00	9.0	TC	BF025HR09	
	42.00	10.0	SC	AF025HR10	 KB1
	42.00	10.0	TC	BF025HR10	
	43.00	10.0	TC	BF025HS10	 KC
	44.00	7.0	TC	BF025HH07	
	45.00	7.0	SC	AF025HU07	 KC1
	45.00	7.0	TC	BF025HU07	
	45.00	10.0	SB	AD025HU10	 DA
	45.00	10.0	SC	AF025HU10	
	45.00	10.0	TC	BF025HU10	 DB
	46.00	7.0	TC	BF025HL07	
	47.00	7.0	SB	AD025HC07	 DC
	47.00	7.0	SC	AF025HC07	
	47.00	7.0	TB	BD025HC07	 470
	47.00	7.0	TC	BF025HC07	
	47.00	8.0	SC	AF025HC08	 420
	47.00	8.0	TB1	BE025HC08	
	47.00	8.0	TC	BF025HC08	 380
	47.00	10.0	SC	AF025HC10	
	47.00	10.0	TB2	BDR25HC10	
	47.00	10.0	TC	BF025HC10	
	48.00	7.0	TC	BF025HB07	
	48.00	8.0	SC	AF025HB08	
	48.00	8.0	TC	BF025HB08	
	48.50	7.0	TC	BF25HBU07	
	50.00	10.0	SC	AF025UZ10	
	50.00	12.0	SC	AF025UZ12	
	52.00	4.0	KC	DF025UR04	
	52.00	7.0	DC	EF025UR07	
	52.00	7.0	KC	DF025UR07	
	52.00	7.0	SB	AD025UR07	
	52.00	7.0	SC	AF025UR07	
52.00	7.0	TB	BD025UR07		
52.00	7.0	TC	BF025UR07		
52.00	8.0	SC	AF025UR08		
52.00	8.0	TC	BF025UR08		
52.00	10.0	KC	DF025UR10		
52.00	10.0	SB	AD025UR10		
52.00	10.0	SC	AF025UR10		

STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		25.00	52.00	10.0	TC	BF025UR10
			52.00	10.0	VC	CF025UR10
			52.00	15.0	TC	BF025UR15
			52.00	12/14	TB	BD025UREU
SA1		25.00	55.00	9.0	TC	BF025UU09
			62.00	7.0	SC	AF025LR07
			62.00	7.0	TC	BF025LR07
SA2		25.00	62.00	8.0	SC	AF025LR08
			62.00	8.0	TB	BD025LR08
			62.00	8.0	TC	BF025LR08
SB		25.30	62.00	10.0	SC	AF025LR10
			100.00	9.0	SB	AD025ZZ09
			38.45	9.5	KC6	DFL25SB95
SB1		26.00	31.00	3.0	VB	CD026SE03
			36.00	7.0	SC	AF026SL07
			36.00	10.0	TC	BF026SL10
SC		25.00	37.00	7.0	SC	AF026SC07
			37.00	7.0	TC	BF026SC07
			38.00	5.0	TC	BF026SB05
SC1		25.00	38.00	7.0	TC	BF026SB07
			38.00	10.0	TC4	BFH26SB10
			40.00	6.0	SC	AF026HZ06
TA		25.00	42.00	8.0	TC	BF026HR08
			47.00	10.0	SC	AF026HC10
			47.00	10.0	TC	BF026HC10
TA1		27.00	50.00	10.0	SC	AF026UZ10
			37.00	6.0	SC	AF027SC06
			37.00	7.5/9.5	TC4Y	HY027SC95
TA2		27.00	38.00	5.0	VB	CD027SB05
			39.00	10.5	TB4	BDH27SG10
			40.00	6.0	SC	AF027HZ06
TB		27.00	40.00	6.0	TB	BD027HZ06
			40.00	7.0	SC	AF027HZ07
			43.00	9.0	SC	AF027HS09
TB1		27.00	45.00	6.0	SC	AF027HU06
			45.00	6.0	TC	BF027HU06
			45.00	9.0	SC	AF027HU09
TC		27.50	47.00	10.0	SC	AF027HC10
			37.00	6.9	SC	AF27HSC69
			44.53	9.5	TC	BF27CHH95
TC1		27.70	35.00	5.0	SC	AF028SU05
			35.00	5.0	TC	BF028SU05
			35.00	7.0	TC	BF028SU07
AV		28.00	37.00	6.0	SB	AD028SC06
			38.00	7.0	SB	AD028SB07
			38.00	7.0	SC	AF028SB07
VA1		28.00	38.00	7.0	TB	BD028SB07
			38.00	7.0	TC	BF028SB07
			39.00	7.0	TC4	BFH28SG07
VA2		28.00	40.00	6.0	SC	AF028HZ06
			40.00	7.0	SC	AF028HZ07
			40.00	7.0	TC	BF028HZ07
			40.00	8.0	TC	BF028HZ08
			40.00	7/8.5	TB	BD028HZZG

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
28.00	42.00	7.0	SC	AF028HR07	 VB
	42.00	7.0	TC	BF028HR07	
	42.00	8.0	TC	BF028HR08	 VB1
	42.00	10.0	SC	AF028HR10	
	42.00	10.0	TC	BF028HR10	 VC
	43.00	8.0	SC	AF028HS08	
	44.50	8.0	SC	AF28HHU08	 VC1
	45.00	7.0	TC	BF028HU07	
	45.00	8.0	SC	AF028HU08	 KA
	45.00	8.0	TC	BF028HU08	
	45.00	10.0	TC	BF028HU10	 KA1
	47.00	7.0	SC	AF028HC07	
	47.00	7.0	TC	BF028HC07	 KA2
	47.00	10.0	SC	AF028HC10	
	47.00	10.0	TC	BF018HC10	 KB
	48.00	7.0	SC	AF028HB07	
	50.80	10.0	TB	BD028UZ10	 KB1
	52.00	6.0	TC	BF028UR06	
	52.00	7.0	SC	AF028UR07	 KC
	52.00	7.0	TC	BF028UR07	
52.00	10.0	TC	BF028UR10	 KC1	
62.00	12.0	SA2	AC028LR12		
72.00	10.0	SC	AF028CR10	 DA	
28.50	44.53	10.0	TC		BF28UHH10
			28.60	43.60	5.0
43.60	5.0	TB3			
		29.00	40.00	7.0	SC
43.00	8.0				TC
		45.00	10.0	SC	AF029HU10
30.00	35.00			2.9	SB
		35.00	2.9		VB
40.00	5.0			SC	AF030HZ05
		40.00	7.0	SB	AD030HZ07
40.00	7.0			SC	AF030HZ07
		40.00	7.0	TC	BF030HZ07
40.00	8.0			DC	EF030HZ08
		40.00	8.0	SC	AF030HZ08
40.00	8.0			TC	BF030HZ08
		40.00	6.5/8.0	TC	BF030HZ87
42.00	4.5			SC	AF030HR45
		42.00	5.0	TC	BF030HR05
42.00	6.0			TC	BF030HR06
		42.00	7.0	DC	EF030HR07
42.00	7.0			SC	AF030HR07
		42.00	7.0	TB	BD030HR07
42.00	7.0			TC	BF030HR07
		42.00	8.0	SC	AF030HR08
42.00	8.0			TC	BF030HR08
		42.00	10.0	SC	AF030HR10
42.00	10.5			TC4	BFH30HR10
		44.53	10.0	TC	BF30HHU10
45.00	5.0			SC	AF030HU05
		45.00	7.0	SC	AF030HU07
45.00	7.0			TC	BF030HU07

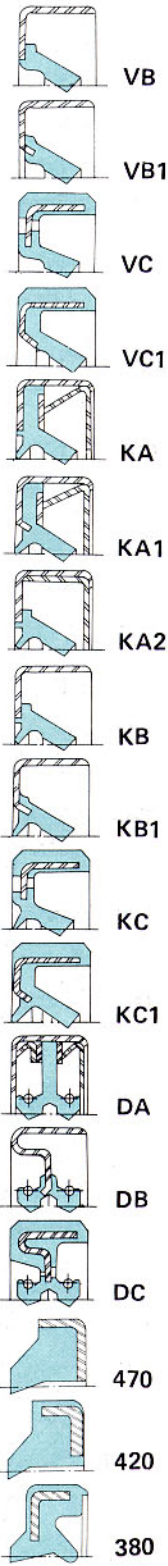
STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	30.00	45.00	8.0	SC	AF030HU08
		45.00	8.0	TC	BF030HU08
45.00		9.5	SC	AF030HU95	
SA1		45.00	10.0	SC	AF030HU10
		45.00	10.0	TC	BF030HU10
SA2		45.00	11.0	TC	BF030HU11
		46.00	12.0	DC	EF030HU12
SB		46.00	5.0	TC	BF030HL05
		46.00	7.0	SC	AF030HL07
SB1		46.00	7.0	TC	BF030HL07
		46.00	8.0	TC	BF030HL08
SC		47.00	5.0	SC	AF030HC05
		47.00	6.0	TC	BF030HC06
SC1		47.00	7.0	SB	AD030HC07
		47.00	7.0	SC	AF030HC07
TA		47.00	7.0	TC	BF030HC07
		47.00	8.0	SC	AF030HC08
TA1		47.00	8.0	TC	BF030HC08
		47.00	10.0	DC	EF030HC10
TA2		47.00	10.0	SA2	AC030HC10
	47.00	10.0	SC	AF030HC10	
TB	47.00	10.0	TB	BD030HC10	
	48.00	8.0	SC	AF030HB08	
TB1	48.00	8.0	TC	BF030HB08	
	48.00	10.0	TC	BF030HB10	
TC	50.00	7.0	SC	AF030UZ07	
	50.00	8.0	SC	AF030UZ08	
TC1	50.00	8.0	TC	BF030UZ08	
	50.00	8.0	TC4	BFH30UZ08	
VA1	50.00	10.0	SA2	AC030UZ10	
	50.00	10.0	SC	AF030UZ10	
VA2	50.00	10.0	TC	BF030UZ10	
	50.00	11.0	TC	BF030UZ11	
VA3	50.00	11.0	TC4	BFH30UZ11	
	50.00	12.0	SC	AF030UZ12	
VA4	50.00	12.0	TC	BF030UZ12	
	52.00	5.0	SC	AF030UR05	
VA5	52.00	7.0	SC	AF030UR07	
	52.00	7.0	TB	BD030UR07	
VA6	52.00	7.0	TC	BF030UR07	
	52.00	8.0	SC	AF030UR08	
VA7	52.00	8.0	TB	BD030UR08	
	52.00	8.0	TC	BF030UR08	
VA8	52.00	10.0	SB	AD030UR10	
	52.00	10.0	SC	AF030UR10	
VA9	52.00	10.0	TB	BD030UR10	
	52.00	10.0	TC	BF030UR10	
VA10	52.00	12.0	SC	AF030UR12	
	52.00	12.0	TC	BF030UR12	
VA11	53.60	10.0	TC	BF30USL10	
	55.00	6.0	SC	AF030UU06	
VA12	55.00	7.0	SC	AF030UU07	
	55.00	7.0	TC	BF030UU07	
VA13	55.00	10.0	SC	AF030UU10	

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

STANDARD DESIGNS




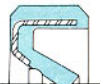

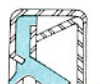



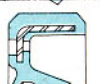

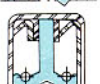
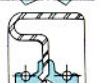




16.00

SHAFT	BORE	HEIGHT	TYPE	CODE-NO
	30.00	7.0	SC	AF016SZ07
	30.00	7.0	TC	BF016SZ07
	30.00	8.0	SC	AF016SZ08
	30.00	8.0	TC	BF016SZ08
	30.00	10.0	SC	AF016SZ10
	32.00	6.5	TC	BF016SR65
	32.00	7.0	SB	AD016SR07
	32.00	7.0	SC	AF016SR07
	32.00	9.0	VC	CF016SR09
	32.00	9.0	VB	CD016SR09
	35.00	7.0	SC	AF016SU07
	35.00	7.0	TC	BF016SU07
	35.00	8.0	SC	AF016SU08
	38.00	7.0	TC	BF016SB07
	40.00	8.0	SC	AF016HZ08
	40.00	10.0	SC	AF016HZ10
	42.00	8.0	TC	BF016HR08
	47.00	7.0	SC	AF016HC07
16.20	34.10	3.96	TC	BF16PSH3G
16.50	27.00	8.0	SC	AF16HRC08
16.90	28.00	5.0	SC	AF16PRB05
17.00	25.00	4.0	SC	AF017RU04
	26.00	6.0	SC	AF017RL06
	28.00	5.0	TB	BD017RB05
	28.00	6.0	SC	AF017RB06
	28.00	6.0	TC	BF017RB06
	28.00	7.0	DC	EF017RB07
	28.00	7.0	SB	AD017RB07
	28.00	7.0	SC	AF017RB07
	28.00	7.0	TB	BD017RB07
	28.00	7.0	TC	BF017RB07
	28.00	8.0	TC	BF017RB08
	28.50	6.0	SC	AF17RBU06
	28.65	7.0	TC	BF17RBL07
	29.00	5.0	SC	AF017RG05
	29.00	5.0	TC	BF017RG05
	30.00	6.5	SC	AF017SZ06
	30.00	6.0	TC	BF017SZ06
	30.00	7.0	SB	AD017SZ07
	30.00	7.0	SC	AF017SZ07
	30.00	7.0	TC	BF017SZ07
	30.00	8.0	TC	BF017SZ08
	32.00	7.0	SC	AF017SR07
	32.00	7.0	TC	BF017SR07
	32.00	7.5	SB	AD017SR75
	34.00	7.0	SC	AF017SH07
	35.00	5.0	SC	AF017SU05
	35.00	6.0	SC	AF017SU06
	35.00	7.0	SC	AF017SU07
	35.00	7.0	TB	BD017SU07
	35.00	7.0	TC	BF017SU07
	35.00	8.0	SC	AF017SU08
	35.00	8.0	TC	BF017SU08
	35.00	10.0	SC	AF017SU10



































STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	17.00	37.00	7.0	SC	AF017SC07
		37.00	8.0	TC	BF017SC08
SA1	17.00	37.00	10.0	TB	BD017SC10
		38.00	7.0	SC	AF017SB07
SA2	17.00	38.00	7.0	TC	BF017SB07
		40.00	7.0	SC	AF017HZ07
SB	17.00	40.00	7.0	TC	BF017HZ07
		40.00	8.0	SC	AF017HZ08
SB1	17.00	40.00	8.0	TC	BF017HZ08
		40.00	10.0	SC	AF017HZ10
SB2	17.00	47.00	8.0	SC	AF017HC08
		47.00	8.0	TC	BF017HC08
SB3	17.00	47.00	10.0	SC	AF017HC10
		24.00	3.0	TB	BD018RH03
SB4	18.00	24.00	3.0	VC	CF018RH03
		24.00	4.0	SB	AD018RH04
SB5	18.00	24.00	4.0	VB	CD018RH04
		24.00	4.0	VB	CD018RH04
SB6	18.00	25.00	6.0	SB	AD018RU06
		27.00	5.0	SC	AF018RC05
SB7	18.00	27.00	5.0	VC	CF018RC05
		28.00	4.0	SC	AF018RB04
SB8	18.00	28.00	5.0	SC	AF018RB05
		28.00	6.0	SC	AF018RB06
SB9	18.00	28.00	7.0	SB	AD018RB07
		28.00	7.0	TC	BF018RB07
SB10	18.00	28.00	8.0	SC	AF018RB08
		28.00	8.0	TC	BF018RB08
SB11	18.00	28.00	6.5/8.0	TC	BF018RB86
		30.00	7.0	SC	AF018SZ07
SB12	18.00	30.00	7.0	TC	BF018SZ07
		30.00	8.0	TC	BF108SZ08
SB13	18.00	32.00	5.0	SB	AD018SR05
		32.00	7.0	SC	AF018SR07
SB14	18.00	32.00	7.0	TC	BF018SR07
		32.00	8.0	SC	AF018SR08
SB15	18.00	32.00	7/8	TC	BF018SR87
		35.00	7.0	SC	AF018SU07
SB16	18.00	35.00	7.0	TC	BF018SU07
		35.00	8.0	SC	AF018SU08
SB17	18.00	35.00	8.0	TC	BF018SU08
		35.00	10.0	SC	AF018SU10
SB18	18.00	35.00	10.0	TC	BF018SU10
		37.00	8.0	SC	AF018SC08
SB19	18.00	38.00	5.0	SC	AF018SB05
		38.00	7.0	TC	BF018SB07
SB20	18.00	40.00	7.0	SC	AF018HZ07
		47.00	10.0	TC	BF018HC10
SB21	18.50	32.00	9.0	VC	CF018SR09
		30.00	5.0	SC	AF18PSZ05
SB22	18.90	31.37	11.5	TCY	BFY18SE11
		27.00	6.0	SC	AF019RC06
SB23	19.00	30.00	7.0	SC	AF019SZ07
		30.00	8.0	SC	AF019SZ08
SB24	19.00	31.00	8.5/12	TCY	BFY19SE12




















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
19.00	32.00	7.0	SC	AF019SR07	 VB
	32.00	7.0	TC	BF019SR07	
	35.00	7.0	SC	AF019SU07	 VB1
	35.00	7.0	TC	BF019SU07	
	35.00	8.0	TC	BF019SU08	 VC
	35.00	10.0	SC	AF019SU10	
	38.00	7.0	TC	BF019SB07	 VC1
	40.00	10.0	SC	AF019HZ10	
	47.00	7.0	SC	AF019HC07	 KA
	47.00	7.0	TC	BF019HC07	
19.05	47.00	10.0	SC	AF019HC10	 KA1
	47.00	10.0	SC	AF019HC10	
20.00	25.40	3.18	VB	CD019RU03	 KA2
	45.26	8.0	SC	AF19HHU08	
	45.26	8.0	TC	BF19PHU08	 KB
	26.00	4.0	VC	CF020RL04	
	28.00	4.0	SC	AF020RB04	 KB1
	28.00	4.0	TB1	BE020RB04	
	28.00	6.0	SC	AF020RB06	 KC
	28.00	7.0	SC	AF020RB07	
	30.00	4.3	SC	AF020SZ43	 KC1
	30.00	4.5	SC	AF020SZ45	
	30.00	4.7	DB	ED020SZZH	 DA
	30.00	4.7	SC	AF020SZ47	
	30.00	5.0	SC	AF020SZ05	 DB
	30.00	5.0	TC	BF020SZ05	
	30.00	6.0	SC	AF020SZ06	 DC
	30.00	6.0	TC	BF020SZ06	
	30.00	7.0	SB	AD020SZ07	 470
	30.00	7.0	SC	AF020SZ07	
	30.00	7.0	TB	BD020SZ07	 420
	30.00	7.0	TC	BF020SZ07	
	30.00	7.0	TC	BF020SZ07	 380
	30.00	7/8	TB	BD020SZ08	
	30.00	10.0	DC	EF020SZ10	
	30.00	10.0	SC	AF020SZ10	
	32.00	5.0	SC	AF020SR05	
	32.00	7.0	SC	AF020SR07	
	32.00	7.0	TC	BF020SR07	
	32.00	8.0	TC	BF020SR08	
	33.33	10.0	TC	BF20SSP10	
	34.00	7.0	SC	AF020SH07	
	34.00	7.0	TC	BF020SH07	
	35.00	5.0	SC	AF020SU05	
	35.00	5.0	TC	BF020SU05	
	35.00	5.5	SC	AF020SU55	
	35.00	6.0	SC	AF020SU06	
	35.00	6.0	TC	BF020SU06	
	35.00	7.0	DC	EF020SU07	
	35.00	7.0	SC	AF020SU07	
35.00	7.0	TC	BF020SU07		
35.00	8.0	SA	AA020SU08		
35.00	8.0	DC	EF020SU08		
35.00	8.0	SC	AF020SU08		
35.00	8.0	TC	BF020SU08		
35.00	10.0	SC	AF020SU10		



















STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
	20.00	35.00	10.0	TC	BF020SU10
		37.00	7.0	SC	AF020SC07
		37.00	7.0	TC	BF020SC07
		37.00	8.0	SC	AF020SC08
		37.00	10.0	SC	AF020SC10
		38.00	7.0	TC	BF020SB07
		38.00	8.0	SC	AF020SB08
		40.00	6.0	SC	AF020HZ06
		40.00	6.0	TC	BF020HZ06
		40.00	7.0	SC	AF020HZ07
		40.00	7.0	TC	BF020HZ07
		40.00	8.0	SC	AF020HZ08
		40.00	8.0	TC	BF020HZ08
		40.00	10.0	SC	AF020HZ10
		40.00	10.0	SC1	AG020HZ10
		40.00	10.0	TB	BD020HZ10
42.00	7.0	TC	BF020HZ10		
42.00	7.0	SB	AD020HR07		
42.00	7.0	SC	AF020HR07		
42.00	7.0	TC	BF020HR07		
42.00	8.0	TC	BF020HR08		
42.00	10.0	SC	AF020HR10		
45.00	7.0	SC	AF020HU07		
45.00	8.0	TC	BF020HU08		
46.00	8.0	TC	BF020HL08		
46.00	5.0/10.0	TCY	BFY20HL10		
47.00	7.0	SC	AF020HC07		
47.00	7.0	TC	BF020HC07		
47.00	8.0	TC	BF020HC08		
47.00	8.5	SC	AF020HC85		
47.00	10.0	KC	DF020HC10		
47.00	10.0	SC	AF020HC10		
47.00	10.0	TC	BF020HC10		
47.00	12.0	SC	AF020HC12		
47.00	12.0	TC	BF020HC12		
52.00	7.0	SB	AD020UR07		
52.00	7.0	SC	AF020UR07		
52.00	7.0	TC	BF020UR07		
52.00	8.0	SC	AF020UR08		
52.00	8.0	TC	BF0205208		
52.00	10.0	SC	AF020UR10		
52.00	10.0	TC	BF020UR10		
52.00	10.0	TC4	BFH20UR10		
20.55	31.97	6.3	TC	BF20USE63	
21.00	31.00	4.0	SC	AF021SE04	
AV	33.00	8/9.5	TC1	BG021SSEZ	
	35.00	7.0	TC	BF021SU07	
VA1	37.00	7.0	TC	BF021SC07	
	40.00	7.0	TC	BF021HZ07	
VA2	21.20	38.20	6.2	SC1	AG21PSB62
	22.00	30.00	4.0	VC	CF022SZ04
	32.00	4.0	SC	AF022SR04	
	32.00	5.0	SC	AF022SR05	
	32.00	5.5	SC	AF022SR55	


















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS	
22.00	32.00	5.6	SC1	AG022SR56		
	32.00	7.0	SC	AF022SR07		VB
	32.00	7.0	TC	BF022SR07		
	32.00	7.5	TC4	BFH22SR75		
	32.00	6.5/8.0	TC	BF022SR86		VB1
	35.00	5.0	TC	BF022SU05		
	35.00	6.0	SC	AF022SU06		
	35.00	7.0	SC	AF022SU07		VC
	35.00	7.0	TC	BF022SU07		
	35.00	8.0	SC	AF022SU08		
	35.00	8.0	TC	BF022SU08		VC1
	36.00	7.0	SC	AF022SL07		
	37.00	7.0	SC	AF022SC07		
	37.00	7.0	TC	BF022SC07		
	37.00	8.0	SC	AF022SC08		KA
	38.00	7.0	SC	AF022SB07		
	38.00	8.0	SC	AF022SB08		
	38.00	8.0	TC	BF022SB08		KA1
	40.00	7.0	SC	AF022HZ07		
	40.00	7.0	TC	BF022HZ07		
	40.00	8.0	SC	AF022HZ08		KA2
	40.00	8.0	TC	BF022HZ08		
	40.00	10.0	SB	AD022HZ10		
	40.00	10.0	SC	AF022HZ10		
	40.00	16.0	TC	BF022HZ16		KB
	42.00	7.0	TC	BF022HR07		
	42.00	10.0	SC	AF022HR10		
	42.00	11.0	TB	BD022HR11		KB1
	42.00	16.0	TCY	BFY22HR16		
	45.00	7.0	TC	BF022HU07		
	47.00	7.0	SC	AF022HC07		KC
	47.00	7.0	TC	BF022HC07		
47.00	10.0	SC	AF022HC10			
47.00	10.0	TB	BD022HC10		KC1	
50.00	10.0	SC	AF022UZ10			
55.00	10.0	SC	AF022UU10			
23.00	32.00	7.0	SC	AF023SR07		
	35.00	6.0	SC	AF023SU06		DA
	35.00	7.0	SC	AF023SU07		
	35.00	7.0	TC	BF023SU07		
	40.00	6.0	TC	BF023HZ06		DB
	40.00	8.0	SC	AF023HZ08		
	40.00	10.0	SC	AF023HZ10		
	42.00	10.0	SC	AF023HR10		DC
23.80	53.18	55.6	BMSF	BM023US55		
24.00	35.00	6.0	SC	AF024SU06		
	35.00	7.0	SB	AD024SU07		470
	35.00	7.0	SC	AF024SU07		
	35.00	7.0	TC	BF024SU07		
	35.00	8.0	TC	BF024SU08		420
	36.00	6.0	SC	AF024SL06		
	36.00	7.0	SC	AF024SL07		
	36.00	7.0	TC	BF024SL07		380
	37.00	7.0	SC	AF024SC07		

STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		3.00	10.00	6.0	VC	CF003EZ06
		3.80	9.30	3.5	VC	CF003GS35
SA1		4.00	9.50	3.5	VC	CF003GU35
			5.00	5.00	0.4375	DB
SA2		5.00	11.00	6.0	SC	ED004ZURB
			12.00	6.0	SC	AF004EE06
SB		5.00	13.00	4.0	VC	AF004ER06
			15.00	6.0	SC	CF004ES04
SB1		5.50	15.00	7.0	SC	AF005EU06
			16.00	7.0	SC	AF005EU07
SC		6.00	16.00	7.0	SC	AF005EL07
			18.00	7.0	SB	AD005EB07
SC1		6.00	18.00	7.0	SC	AF005EB07
			22.00	7.0	TC	BF005EB07
TA		7.00	16.00	7.0	SC	BF005RR07
			16.00	8.0	KC	AF05HEL07
TA1		7.00	12.00	5.5	SC	DF005EL08
			14.00	4.0	VC	AF006ER5H
TA2		7.00	15.00	4.0	SC	CF006EH04
			15.00	4.0	VC	AF006EU04
TB		7.00	15.00	7.0	SC	CF006EU04
			16.00	7.0	SC	AF006EU07
TB1		7.00	16.00	7.0	SC	AF006EL07
			16.00	7.0	TC	BF006EL07
TC		8.00	18.00	7.0	TC	DJ006EB07
			18.00	7.0	KC4	DFH06EB07
TC1		8.00	18.00	7.0	KC4	DFH06EB07
			18.00	7.0	SC	AF006EB07
VA1		8.00	19.00	6.0	SC	AF006EG06
			19.00	7.0	SC	AF006EG07
VA2		8.00	22.00	7.0	SC	AF006EG07
			22.00	7.0	SC	AF006RR07
VA2		8.00	22.00	7.0	VC	CF006RR07
			24.00	7.0	SC	AF006RH07
VA2		8.00	22.00	7.0	TC	BF6P3RR07
			17.00	7.0	VC	CF007EC07
VA2		8.00	17.20	8.0	VC	CF007EC08
			19.00	6.0	SC	AF007EG06
VA2		8.00	22.00	7.0	SC	AF007RR07
			22.00	7.0	TC	BF007RR07
VA2		8.00	12.00	6.0	VC	CF008ER06
			15.00	5.0	SC	AF008EU05
VA2		8.00	16.00	5.0	SC	AF008EL05
			16.00	6.0	SC	AF008EL06
VA2		8.00	16.00	7.0	SA	AA008EL07
			16.00	7.0	SC	AF008EL07
VA2		8.00	16.00	7.0	TC	BF008EL07
			18.00	5.0	SC	AF008EB05
VA2		8.00	18.00	8.0	VCY	VCY08EB08
			20.00	5.0	TC	BF008RZ05
VA2		8.00	22.00	6.5	TC	BF008RR65
			22.00	7.0	SC	AF008RR07
VA2		8.00	22.00	7.0	TC	BF008RR07
			22.00	8.0	SC	AF008RR08
VA2		8.00	22.00	8.0	TC	BF008RR08
			25.00	5.0	TC	BF008RU05


















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER





















SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
8.00	25.00	8.0	TC	BF008RU08	 VB
9.00	16.00	3.0	VB	CD009EL03	
	16.00	7.0	TC	BF009EL07	 VB1
	18.00	5.0	SC	AF009EB05	
	20.00	5.0	SC	AF009RZ05	 VC
	22.00	7.0	SC	AF009RR07	
	22.00	8.0	SC	AF009RR08	 VC1
9.53	24.00	7.0	SC	AF009RH07	
10.00	14.29	2.39	VB	CD009EH02	 VC1
	14.00	3.0	VA2	CC010EH03	
	15.00	3.0	VC	CF010EU03	 KA
	16.00	4.0	SB	AD010EL04	
	16.00	4.0	SC	AF010EL04	 KA1
	16.00	4.0	VB	CD010EL04	
	16.00	4.0	VC	CF010EL04	 KA2
	17.50	8.0	VC	CF010EC08	
	18.00	4.0	SC	AF010EB04	 KB
	18.00	5.0	SC	AF010EB05	
	18.00	5.0	TC	BF010EB05	 KB1
	18.00	6.0	SC	AF010EB06	
	18.00	6.0	TC	BF010EB06	 KC
	19.00	7.0	DB	ED010EG07	
	19.00	7.0	SB	AD010EG07	 KC1
	19.00	7.0	SC	AF010EG07	
	19.00	7.0	TC	BF010EG07	 DA
	20.00	5.0	TC	BF010RZ05	
	20.00	6.0	SC	AF010RZ06	 DB
	20.00	7.0	TC	BF010RZ07	
	21.00	5.0	SC	AF010RE05	 DC
	22.00	6.0	SC	AF010RR06	
	22.00	7.0	SC	AF010RR07	 470
	22.00	7.0	TC	BF010RR07	
	22.00	8.0	SA	AA010RR08	 420
	22.00	8.0	SC	AF010RR08	
	24.00	7.0	SC	AF010RH07	 380
	25.00	7.0	TC	BF010RU07	
	25.00	8.0	SC	AF010RU08	
	26.00	7.0	SC	AF010RL07	
	26.00	7.0	TC	BF010RL07	
	28.00	7.0	SC	AF010RB07	
	30.00	7.0	SC	AF010SZ07	
	30.00	10.00	SC	AF010SZ10	
11.00	17.00	4.0	SC	AF011EC04	
	17.00	4.0	VC	CF011EC04	
	19.00	7.0	SC	AF011EG07	
	22.00	7.0	SC	AF011RR07	
	22.00	7.0	TC	BF011RR07	
	26.00	7.0	SC	AF011RL07	
11.11	17.60	3.4	VB	CD11ECL34	
11.60	24.00	7.0	SC	AF11PRH07	
	24.00	10.0	SC	AF11PRH10	
12.00	16.00	4.50	SC	AF012EL45	
	18.00	4.50	SC	AF012EB4H	
	18.00	4.5	TB	BD012EB45	

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
	12.00				
SA		19.00	5.0	SC	AF012EG05
		20.00	4.0	SC	AF012RZ04
		20.00	5.0	SB	AD012RZ05
		20.00	5.0	SC	AF012RZ05
SA1		20.00	5.0	TB	BD012RZ05
		20.00	5.0	TC	BF012RZ05
		20.00	7.0	SC	AF012RZ07
SA2		21.00	4.0	SC	AF012RE04
		21.00	5.0	SC	AF012RE05
		21.00	7.0	TC	BF012RE07
SB		22.00	4.0	SC	AF012RR04
		22.00	5.0	SC	AF012RR05
		22.00	5.0	TC	BF012RR05
		22.00	7.0	BAFU2TC	BF012RR07
SB1		22.00	7.0	SC	AF012RR07
		22.00	7.0	TC	BF012RR07
		22.00	6.5/8.0	TC	BF012RR8L
SC		24.00	6.0	TC	BF012RH06
		24.00	7.0	SB	AD012RH07
		24.00	7.0	TC	BF012RH07
SC1		25.00	4.5	TC	BF012RU45
		25.00	5.0	SC	AF012RU05
		25.00	7.0	TC	BF012RU07
TA		25.00	8.0	SC	AF012RU08
		25.00	7/8.5	TC	BF012RU92
		26.00	7.0	SC	AF012RL07
TA1		26.00	7.0	TC	BF012RL07
		26.00	8.0	SC	AF012RL08
		27.00	5.0	TC	BF012RC05
TA2		28.00	7.0	SB	AD012RB07
		28.00	7.0	SC	AF012RB07
		28.00	7.0	TC	BF012RB07
TB		28.00	8.0	TC	BF012RB08
		30.00	5.0	SB	AD012SZ05
		30.00	5.0	SC	AF012SZ05
		30.00	6.0	TC	BF012SZ06
TB1		30.00	7.0	SC	AF012SZ07
		30.00	8.0	SC	AF012SZ08
		32.00	5.0	SB	AD012SR05
TC		32.00	7.0	SC	AF012SR07
		32.00	7.0	TC	BF012SR07
		32.00	10.0	TC	BF012SR10
TC1		35.00	7.0	SC	AF012SU07
		35.00	7.0	TC	BF012SU07
		35.00	10.0	SC	AF012SU10
AV		52.00	5.0	SC	AF012UR05
		12.70 13.00	17.46	2.38	VB
VA1		19.00	3.0	VC	CF013EG03
		22.00	5.0	SC	AF013RR05
		22.00	6.0	SC	AF013RR06
		25.00	7.0	TC	BF013RL07
VA2		26.00	7.0	SC	AF013RL07
		28.00	7.0	TC	BF013RB07
		30.00	7.0	SC	AF013SZ07

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER




















STANDARD
DESIGNS

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
13.00	30.00	8.0	SC	AF013SZ08	
	32.00	9.0	VC	CF013SR09	
13.70	32.00	9.5	VB	CD013SR09	 VB
	24.00	5.0	VC	CF013RH05	
14.00	20.00	3.0	VC	CF014RZ03	
	20.00	5.0	SC	AF014RZ05	 VB1
	20.00	5.0	VB	CD014RZ05	
	22.00	4.0	SC	AF014RR04	
	22.00	4.0	VC	CF014RR04	 VC
	22.00	7.0	SC	AF014RR07	
	24.00	4.0	SC	AF014RH04	
	24.00	5.0	SC	AF014RH05	
	24.00	6.0	SC	AF014RH06	 VC1
	24.00	7.0	SA	AA014RH07	
	24.00	7.0	SC	AF014RH07	
	24.00	7.0	TC	BF014RH07	 KA
	24.00	8.0	SB	AD014RH08	
	24.00	11.0	SC	AF014RH11	
	25.00	5.0	SC	AF014RU05	 KA1
	25.00	7.0	TC	BF014RU07	
	26.00	7.0	SC	AF014RL07	
	26.00	7.0	TC	BF014RL07	 KA2
	27.00	10.0	DC	EF014RC10	
	28.00	7.0	TC	BF014RB07	
	28.00	8.0	TC	BF014RB08	 KB
	30.00	7.0	SC	AF014SZ07	
	30.00	10.0	TC	BF014SZ10	
	32.00	5.0	SC	AF014SR05	 KB1
	32.00	7.0	SC	AF014SR07	
	35.00	7.0	SC	AF014SU07	
14.30	19.05	2.18	VB	CD014EG02	 KC
	38.10	6.3	SC	AF14PSB63	
14.60	21.00	4.0	TB	BD015RE04	
	22.00	7.0	SC	AF015RR07	 KC1
15.00	23.00	5.0	SC	AF015RS05	
	24.00	4.0	SC	AF015RH04	
	24.00	5.0	SC	AF015RH05	
	24.00	7.0	DB	ED015RH07	 DA
	24.00	7.0	DC	EF015RH07	
	24.00	7.0	SB	AD015RH07	
	24.00	7.0	SC	AF015RH07	 DB
	24.00	7.0	TC	BF015RH07	
	24.00	7.0	TB	BD015RH07	
	25.00	5.0	SC	AF015RU05	
	25.00	6.0	SC	AF015RU06	 DC
	25.00	6.0	TC	BF015RU06	
	25.00	7.0	SC	AF015RU07	 470
	25.00	7.0	TC	BF015RU07	
	25.50	4.6	SC	AF15RUU46	
	26.00	6.0	SC	AF015RL06	 420
	26.00	6.0	TB	BD015RL06	
	26.00	6.0	TC	BF015RL06	
	26.00	7.0	SB	AD015RL07	
	26.00	7.0	SC	AF015RL07	 380

STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		15.00	26.00	7.0	TB	BD015RL07
			26.00	7.0	TC	BF015RL07
SA1			27.00	7.0	TC	BF015RC07
			27.00	7.0/12.0	Y	YY015RC12
SA2			28.00	3.0	VB	CD015RB03
			28.00	6.0	SC	AF015RB06
SB			28.00	7.0	DC	EF015RB07
			28.00	7.0	SC	AF015RB07
SB1			28.00	7.0	TC	BF015RB07
			30.00	4.5	SC	AF015SZ45
SC			30.00	7.0	SB	AD015SZ07
			30.00	7.0	SC	AF015SZ07
SC1			30.00	7.0	TC	BF015SZ07
			30.00	7.0	TB	BD015SZ07
TA			30.00	8.0	SC	AF015SZ08
			30.00	8.0	TC	BF015SZ08
TA1			30.00	10.0	SC	AF015SZ10
			30.00	10.0	TC	BF015SZ10
TA2			32.00	7.0	SC	AF015SR07
			32.00	7.0	TC	BF015SR07
TB			32.00	9.0	SC	AF015SR09
			35.00	7.0	SB	AD015SU07
TB1			35.00	7.0	SC	AF015SU07
			35.00	7.0	TC	BF015SU07
TC			35.00	7.0	VC	CF015SU07
			35.00	8.0	SC	AF015SU08
TC1			35.00	8.0	TC	BF015SU08
			35.00	10.0	SC	AF015SU10
TA2			35.00	10.0	TC	BF015SU10
			37.00	10.0	SC	AF015SC10
TB			40.00	8.0	TC	BF015HZ08
			40.00	10.0	SC	AF015HZ10
TB1			40.00	10.0	TC	BF015HZ10
			42.00	7.0	SC	AF015HR07
TC			42.00	7.0	TC	BF015HR07
			42.00	8.0	SC	AF015HR08
TC1			42.00	8.0	TC	BF015HR08
			42.00	10.0	SC	AF015HR10
VA1			48.00	8.0	TC	BF15HB08
			60.00	7.0	SB	AD015LZ07
VA2			28.75	6.3	SC	AF15PRB63
		15.80	28.70	6.35	SC	AF15RBC64
VA1			19.00	8.0	VC	CF016EG08
		15.88	22.00	4.0	SC	AF016RR04
VA2			22.00	4.0	VB	CD016RR04
		16.00	24.00	4.0	SC	AF016RH04
VA1			24.00	7.0	SC	AF016RH07
			26.00	7.0	SC	AF016RL07
VA2			26.00	7.0	TC	BF016RL07
			28.00	7.0	SC	AF016RB07
VA1			28.00	7.0	TC	BF016RB07
			28.65	7.0	TC	BF16RBL07
VA2			30.00	4.0	SC	AF016SZ04
			30.00	6.0	TC	BF016SZ06


















STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	3.0625	4.1250	0.5	SC	AFS04ZB32
		4.1250	0.5	TC	BFS04ZB32
		4.1360	0.5	SC	AFS04PE32
SA1	3.1250	4.2500	0.5	SC	AFS12EL32
		3.7500	0.4375	SC	AFS08HB28
		3.8750	0.375	SC	AFS08UL24
		3.8750	0.5	SC	AFS08UL32
		4.0000	0.5	SC	AFS08ZZ32
SA2	3.1400	4.1250	0.5	SC	AFS08ZB32
		4.2500	0.5	TB	BDS08EL32
		3.9300	0.39	TC	BFSP1PGP4
SB	3.2500	4.0000	0.5	SC	AFS16ZZ32
		4.2500	0.3125	SC	AFS16EL20
SB1	3.2500	4.2500	0.5	SB	ADS16EL32
		4.2500	0.5	SC	AFS16EL32
		4.2500	0.5	SC	AFS16SR32
SC	3.3750	4.5000	0.5	SB	ADS16SR32
		5.0000	0.5	SB	ADS16ZZ32
		3.9480	0.375	TC	BFS24PG24
SC1	3.4375	4.3750	0.5	SC	AFS24RH32
		4.5000	0.5	TC	BFS28SR32
		4.7500	0.5	TB	BDS28HB32
TA	3.5000	4.7500	0.5	SC	AFS28HB32
		4.0000	0.252	VB	CDS32ZZ16
		4.1250	0.3125	SC	AFS32ZB20
TA1	3.5000	4.1250	0.5	SC	AFS32ZB32
		4.3750	0.375	SA3	ASS32RH24
		4.5000	0.5	SC	AFS32SR32
TA2	3.5625	4.5000	0.5	TC	BFS32SR32
		4.7500	0.5	SC	AFS32HB32
		4.7500	0.625	SC	AFS32HB40
TB	3.6250	5.3750	0.5	SC	AFS32RH32
		4.6250	0.5	SC	AFS36HZ32
		4.1360	0.5	SC	AFS40PE32
TB1	3.6250	4.3750	0.375	SB	ADS40RH24
		4.5000	0.5	SC	AFS40SR32
		4.5000	0.625	TB	BDS40SR40
TC	3.6750	4.6250	0.5	OC	OCS40HZ32
		4.6250	0.5	SC	AFS40HZ32
		4.6250	0.5	TC	BFS40HZ32
TC1	3.7500	5.0000	0.4375	TA2	BCS40ZZ28
		4.5250	0.38	SC	AFS06PUP3
		5.1250	0.5	TB	BDS44ZB32
AV	3.8125	4.5000	0.5	SC	AFS48SR32
		4.7500	0.5	SC	AFS48HB32
		4.7500	0.5	TC	BFS48HB32
VA1	3.8750	5.0000	0.5	TC	BFS48ZZ32
		5.2500	0.625	SC	AFS48EL40
		4.8750	0.5	SC	AFS52UL32
VA2	4.0000	4.8750	0.5	TC	BFS52UL32
		4.8750	0.5	SC	AFS56UL32
		5.0000	0.5	SC	AFS60ZZ32
VA2	4.0000	5.0000	0.5	SB	ADH00ZZ32
		5.0000	0.5	SC	AFH00ZZ32

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER					STANDARD DESIGNS
SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
4.0000	5.0000	0.5	TC	BFH00ZZ32	 VB
	5.0000	0.6	TB	BDH00ZZP6	
	5.1250	0.5156	SC	AFH00ZB33	 VB1
	5.2500	0.375	SC	AFH00EL24	
	5.2500	0.5	SA	AAH00EL32	 VC
	5.2500	0.5	TC	BFH00EL32	
	5.2500	0.625	SC	AFH00EL40	 VC1
	5.2540	0.625	SC	AFH00PR40	
	5.5000	0.5	SC	AFH00SR32	 KA
	5.5000	0.5	TB	BDH00SR32	
4.1250	3.5000	0.5	SC	AFH08SR32	 KA1
4.1875	5.2500	0.5	SC	AFH12EL32	
4.2500	4.7300	0.375	SC	AFS16PC24	 KA2
	5.2500	0.5	SC	AFH16EL32	
4.3125	5.3750	0.5	SC	AFH20RH32	 KB
4.3750	5.3750	0.5	OC	OCH24RH32	 KB1
	5.3750	0.5	SC	AFH24RH32	
	5.7500	0.5625	TB	BDH24HB36	 KC
	6.0000	0.5	SC	AFH24ZZ32	
	6.0000	0.5	TC	BFH24ZZ32	 KC1
	6.0000	0.5	TB	BDH24ZZ32	
4.4370	5.5060	0.562	SA2	ACH28SR36	 DA
	4.4375	5.5000	SC	AFH28SR32	
4.5000	5.2500	0.375	SA3	ASH32EL24	 DB
	5.5000	0.5	SC	AFH32SR32	
	5.7500	0.375	OC	OCH32HB24	 DC
	5.7500	0.5625	SC	AFH32HB36	
	6.0000	0.5	VCY	VYH32ZZ32	 470
6.1250	0.5625	SC	AFH32ZB36		
4.7500	5.7500	0.5	SC	AFH48HB32	 420
	6.0000	0.563/0.063	TCY	BYH48ZZ36	
	6.0000	0.625	TB	BDH48ZZ40	 380
4.8400	5.5625	0.39	SC	AFHP8PUP4	
4.8750	5.7500	0.4375	TB	BDH56HB28	 470
	5.7500	0.473	SC	AFH56HBP4	
	5.8750	0.437	SC	AFH56ULP4	 420
	6.0000	0.5625	TC	BFH56ZZ36	
4.9375	6.0000	0.625	TB	BDH56ZZ40	380
	6.0000	0.5	SC	AFH60ZZ32	
5.0000	6.0000	0.5	SC	AFU00ZZ32	
5.0625	6.1250	0.5	SC	AFU04ZB32	
5.1250	6.1250	0.5	SC	AFU08ZB32	
	6.1250	0.5	TC	BFU08ZB32	
5.2500	6.2500	0.5	SC	AFU16EL32	
	6.2500	0.5	TB	BDU16EL32	
5.3750	4.3750	0.5	OC	OCU24RH32	
	6.3750	0.5	SC	AFU24RH32	
5.5000	6.5000	0.5	SC	AFU32SR32	
5.5625	4.8125	0.406	SC	AFUP5URP4	
5.6250	6.6250	0.5	SC	AFU40HZ32	
5.7500	6.7500	0.5	SC	AFU48HB32	
	6.7500	0.5	TC	BFU48HB32	

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	5.7500	7.1875	0.625	SA	AAU48ER40
	5.8750	6.8750	0.5	SC	AFU56UL32
	6.0000	7.0000	0.5	SB	ADL00ZZ32
SA1	6.1250 6.2500	7.0000	0.5	SC	AFL00ZZ32
		7.1250	0.5	SC	AFL08ZB32
		7.1875	0.625	SC	AFL16ER40
SA2	6.3750 6.4375 6.5000	7.2500	0.5	SC	AFL16EL32
		7.2500	0.5	TC	BFL16EL32
		7.8750	0.625	SC	AFL16UL40
SB	6.3750 6.4375 6.5000	7.3750	0.5	SC	AFL24RH32
		7.5000	0.5	SC	AFL28SR32
		7.5000	0.5	SC	AFL32SR32
SB1	6.7500 6.8750 6.9375 7.0000	7.5000	0.5	TC	BFL32SR32
		7.5000	0.5	SC	AFL32ZZ32
		8.0000	0.5	SC	AFL32ZZ32
SC	7.3750 7.5000	8.0000	0.75	TB	BDL32ZZ48
		8.0000	0.75	TB	BDL48HB48
		8.0000	0.5	SC	AFL56UL32
SC1	7.6250 7.7500 8.1250	8.0000	0.5	SC	AFL60ZZ32
		8.0000	0.5	SC	AFC00ZZ32
		8.0000	0.75	SC	AFC00ZZ48
TA	7.3750 7.5000	8.8750	0.5625	SC	AFC24UL36
		8.5000	0.5	SC	AFC32SR32
		9.0000	0.5625	SC	AFC32ZZ36
TA1	7.6250 7.7500 8.1250	9.1250	0.5625	SC	AFC40ZB36
		9.2500	0.5625	SC	AFC48EL36
		8.7500	0.375	TC	BFB08HB24
TA2	10.0000 12.7500 39.8500 44.8400	11.5000	0.5625	SC	AFT00SR36
		13.6250	0.5625	TC	BFQ48HZ36
		66.6800	11.5	TC	BFEP5HZP4
TB	44.8400	61.4700	0.375	SC	AFE76PH24
TB1					
TC					
TC1					
AV					
VA1					
VA2					

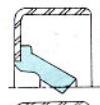
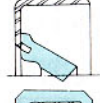
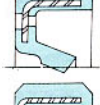
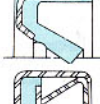
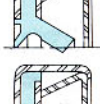
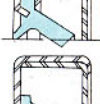
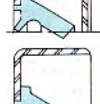
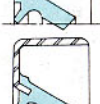
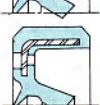

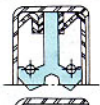
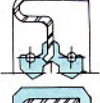
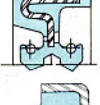
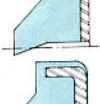
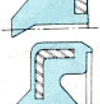
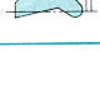

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER




















SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
1.3750	2.6250	0.5	TC	BFE24HZ32	 VB
1.4375	2.0000	0.3125	SC	AFE28ZZ20	
	2.0060	0.1875	TC	BFE28PL12	 VB1
	2.0625	0.3125	SC	AFE28ZH20	
	2.0660	0.3125	SC	AFE28PZ20	 VC
1.4688	2.1250	0.25	SC	AFE28ZB16	
	2.0625	0.3125	TC	BFE30ZH20	
	2.0625	0.5	SC	AFE20ZH32	 VC1
	2.0625	0.5	TC	BFE30ZH32	
1.5000	2.0660	0.5	TC	BFEP4LL32	 KA
	1.8750	0.1875	VB	CDE32UL12	
	1.8750	0.25	SC	AFE32UL16	 KA1
	2.0000	0.25	SB	ADE32ZZ16	
	2.0000	0.25	SC	AFE32ZZ16	 KA2
	2.0004	0.25	SB	ADE32ZP16	
	2.0625	0.219	VCY	VYE32ZH14	 KB
	2.0625	0.25	SC	AFE32ZH16	
	2.1290	0.375	TB	BDE32ZB24	 KB1
	2.2500	0.3125	SC	AFE32EL20	
	2.2500	0.375	SB	ADE32EL24	 KC
	2.2500	0.375	SC	AFE32EL24	
	2.2500	0.375	TC	BFE32EL24	 KC1
	2.2500	0.5	SC	AFE32EL32	
	2.3280	0.3125	SC	AFE32PS20	 DA
	2.3750	0.25	SC	AFE32RH16	
	2.3750	0.375	VCY	VYE32RH24	 DB
	2.3750	0.375	TC	BFE32RH24	
	2.3750	0.5	SC	AFE32RH32	 DC
	2.3750	0.5625	TB	BDE32RH36	
	2.3780	0.5	TC	BFE32RH32	 470
	2.5000	0.3125	SC	AFE32SR20	
	2.5000	0.375	SB	ADE32SR24	 420
	2.5000	0.375	SC	AFE32SR24	
	2.5000	0.375	TC	BFE32SR24	 380
	2.5000	0.5	SC	AFE32SR32	
	2.5060	0.375	TC	BFE32PU24	
	2.8750	0.4375	SC	AFE32UL28	
1.5625	2.6875	0.375	TC	BFE36HH24	
	2.1250	0.4375	SC	AFE36ZB28	
	2.3125	0.375	SC	AFE36RZ24	
	2.3260	0.375	TC	BFE31PS24	
	2.3750	0.375	SC	AFE36RH24	
	2.5000	0.5	SC	AFE36SR32	
	2.6875	0.375	SC	AFE36HH24	
	2.6875	0.5	SC	AFE36HH32	
	2.6970	0.375	SC	AFE36LG24	
1.6250	1.9375	0.25	TB	BDE40LZ16	
	2.1250	0.1875	SB	ADE40ZB12	
	2.1250	0.25	SB	ADE40ZB16	
	2.1875	0.2813	SC	AFE40ER18	
	2.1875	0.375	SC	AFE40ER24	
	2.2500	0.3125	SC	AFE40EL20	
	2.3750	0.3125	SC	AFE40RH20	
	2.3750	0.375	SC	AFE40RH24	

STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA	1.6250	2.3750	0.375	TC	BFE40RH24
		2.5000	0.3125	SC	AFE40SR20
SA1	1.6250	2.5000	0.4688	SC	AFE40SR30
		2.5000	0.5	SC	AFE40SR32
		2.6250	0.4375	TB	BDE40HZ28
SA2	1.6250	2.6250	0.5	SB	ADE40HZ32
		2.6250	0.5	SC	AFE40HZ32
SA2	1.6560	2.7500	0.5	SC	AFE40HB32
		2.8750	0.6250	DC	EFE40UL40
SB	1.6875	2.6330	0.394	TCY	BYE42HE25
		2.5000	0.375	SC	AFE44SR24
SB	1.6875	2.6250	0.5	TB	BDE44HZ32
		2.6875	0.5	SC	AFE44HH32
SB1	1.7500	2.1250	0.1875	VCY	VYE48ZB12
		2.1875	0.5	SC	AFE48ER32
		2.2500	0.3125	SC	AFE48EL20
SC	1.7500	2.2500	0.375	SC	AFE48EL24
		2.2500	0.5	TB	BDE48EL32
		2.3125	0.25	SC	AFE48RZ16
SC1	1.7500	2.3750	0.25	SB	ADE48RH16
		2.3750	0.375	SC	AFE48RH24
SC1	1.7500	2.3750	0.375	TC	BFE48RH24
		2.3750	0.5	SC	AFE48RH32
TA	1.7500	2.3750	0.625	SC	AFE48RH40
		2.3800	0.5	TC	BFE48PS32
TA1	1.7500	2.4130	0.394	HTB	BDE48RC25
		2.4375	0.375	SC	AFE48RB24
TA1	1.7500	2.4410	0.312	TB	BDE48PHP3
		2.5000	0.3125	SC	AFE48SR20
TA2	1.7500	2.5000	0.375	SB	ADE48SR24
		2.5000	0.3750	DC	EFE48SR24
TA2	1.7500	2.5000	0.375	SC	AFE48SR24
		2.5000	0.5	SC	AFE48SR32
TB	1.7500	2.5000	0.5	TB	BDE48SR32
		2.5050	0.5	TB	BDE48PU32
TB1	1.7500	2.7500	0.375	SC	AFE48HB24
		2.7500	0.5	SC	AFE48HB32
TB1	1.7500	2.7500	0.5	SC	AFE48HB32
		2.7500	0.5	TB	BDE48HB32
TC	1.7500	2.7540	0.5	TC	BFE48PC32
		2.8750	0.375	SC	AFE48UL24
TC	1.7500	2.8750	0.5	SC	AFE48UL32
		2.8750	0.5	SC	AFE48UL32
TC1	1.7500	2.8750	0.5	TC	BFE48UL32
		2.8850	0.5	TC	BFE48PB32
AV	1.7620	3.1875	0.5	SC	AFE48ER32
		2.4160	0.375	TB	BDEP7PS24
VA1	1.7656	2.4219	0.375	SC	AFE49RC24
		2.2580	0.375	TC	BFEP7EL24
VA1	1.7810	2.3750	0.25	SC	AFE52RH16
		2.5000	0.375	SC	AFE52SR24
VA2	1.8125	2.6406	0.4375	SC	AFE52HE28
		2.7188	0.2813	SC	AFE52HL18
VA2	1.8200	2.6250	0.375	SC	AFE82HZ24

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER


















STANDARD DESIGNS

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
1.8500	2.3750	0.25	SC	AFE85RH16	 VB
1.8750	2.2500	0.3125	SB	ADE56EL20	
	2.3750	0.25	SC	AFE56RH16	 VB1
	2.3970	0.25	SC	AFE56PH16	
	2.5000	0.3125	SC	AFE56SR20	 VC
	2.5000	0.375	SC	AFE56SR24	
	2.5000	0.5	SC	AFE56SR32	 VC1
	2.6250	0.375	SB	ADE56HZ24	
	2.6250	0.375	SC	AFE56HZ24	 KA
	2.6250	0.4531	SC	AFE56HZ29	
	2.7500	0.375	SC	AFE56HB24	 KA1
	2.7500	0.375	TC	BFE56HB24	
	2.7500	0.5	SC	AFE56HB32	 KA2
	2.7812	0.5313	TC	BFE56UZ34	
	2.8750	0.375	SC	AFE56UL24	 KB
	2.8750	0.375	TC	BFE56UL24	
	2.8750	0.5	SC	AFE56UL32	 KB1
	2.8850	0.375	SC	AFE56BB24	
	3.0000	0.5	SC	AFE56ZZ32	 KC
	3.1250	0.5	TC	BFE56ZB32	
	3.1875	0.5	SC	AFE56ER32	 KC1
1.8900	2.4460	0.312	TCY	BYE57RG20	
1.9375	2.5000	0.3125	SB	ADE60SR20	 DA
	2.5000	0.375	SC	AFE60SR24	
	2.5625	0.375	SB	ADE60SL24	 DB
	2.7500	0.375	SC	AFE60HB24	
	2.7540	0.375	TC	BFE60PC24	 DC
	3.1250	0.5	SC	AFE60ZB32	
2.0000	1.3750	0.3125	SB	ADR00RH20	 470
	2.3750	0.1875	VB	CDR00RH12	
	2.3750	0.25	VB	CDR00RH16	 420
	2.5625	0.5	SC	AFR00SL32	
	2.6230	0.613	TB	BDR00HZP6	 380
	2.6250	0.3125	TB	BDR00HZ20	
	2.6875	0.5	SC	AFR00HH32	
	2.7500	0.25	SC	AFR00HB16	
	2.7500	0.25	TC	BFR00HB16	
	2.7500	0.375	SB	ADR00HB24	
	2.7500	0.375	SC	AFR00HB24	
	2.7500	0.5	SC	AFR00HB32	
	2.7500	0.5	TC	BFR00HB32	
	2.7590	0.5	SC	AFR00CU32	
	2.7600	0.375	SC	AFR00CL24	
	2.8750	0.375	SB	ADR00UL24	
	2.8750	0.375	SC	AFR00UL24	
	2.8750	0.5	SC	AFR00UL32	
	2.8750	0.5	TC	BFR00UL32	
	2.8850	0.5	TC	BFR00PB32	
	3.0000	0.375	SC	AFR00ZZ24	
	3.0000	0.5	DC	EFR00ZZ32	
	3.0000	0.5	SC	AFR00ZZ32	
	3.0625	0.5	TC	BFR00ZH32	
2.0625	2.8750	0.375	SC	AFR04UL24	
	2.9375	0.3438	SC	AFR04LZ22	



















STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		2.0625	2.9375	0.3438	TC	BFR04LZ22
			3.0000	0.375	SC	AFR04ZZ24
SA1		2.1250	2.6920	0.3125	SC	AFR08LG20
			2.8750	0.375	SC	AFR08UL24
SA2			2.8750	0.4375	SC	AFR08UL28
			2.8750	0.5	SC	AFR08UL32
SB			3.0000	0.375	SC	AFR08ZZ24
			3.0000	0.5	SC	AFR08ZZ32
SB1			3.0000	0.5	TC	BFR08ZZ32
			3.1875	0.375	TB	BDR08ER24
SC			3.2500	0.5	SC	AFR08EL32
			3.2500	0.577	SC	AFR08ELP5
SC1		2.1800	3.1940	0.698	TC	BFRP1PRP6
		2.1875	3.0000	0.375	SC	AFR12ZZ24
TA		2.2343	3.1300	0.3583	SB	ADR15ZG23
		2.2400	3.1940	0.646	TB	BDR16PRP6
TA1		2.2500	3.0000	0.375	SC	AFR16ZZ24
			3.0000	0.5	SC	AFR16ZZ32
TA2			3.0000	0.5	TC	BFR16ZZ32
			3.1250	0.5	SC	AFR16ZB32
TB			3.2500	0.2813	SC	AFR16EL18
			3.2500	0.5	SC	AFR16EL32
TB1			3.2500	0.5	SC	AFR16SR32
			3.3750	0.5	SC	AFR16RH32
TC		2.3125	3.0050	0.5	SA2	ACR20ZZ32
			3.0625	0.375	SC	AFR20ZH24
TC1			3.1250	0.375	SC	AFR20ZB24
			3.1620	0.5	SC	AFR20PE32
TA2			3.3438	0.3125	SB	ADR20RR20
			3.3550	0.3125	SB	ADR20RS20
TB			3.3550	0.3125	TC	BFR20PS20
		2.3300	3.0050	0.375	SB	ADR21ZZ24
TB1		2.3750	2.8750	0.2080	VCY	VYR24UL13
			2.8750	0.375	SC	AFR24UL24
TC			3.0000	0.375	SB	ADR24ZZ24
			3.0130	0.437	SB	ADR24ZE28
TA2			3.1250	0.375	SC	AFR24ZB24
			3.1250	0.375	TC	BFR24ZB24
TB			3.2560	0.4	SB	ADR24EL26
			3.3750	0.3125	SC	AFR24RH20
TB1			3.3750	0.375	OC	OCR24RH24
			3.3750	0.5	SC	AFR24RH32
TC			3.3750	0.5	SC	AFR24RH32
			3.6250	0.4375	SC	BFR24RH32
TC1			3.7500	0.9	SC	AFR24HZ28
			3.7500	0.9	SC	AFR24HB90
TA2		2.4375	3.0625	0.5	SC	AFR28ZH32
			3.2500	0.375	SC	AFR28EL24
TB			3.2610	0.375	SC	AFR28PR24
			3.0000	0.375	TC	BFR32ZZ24
TB1		2.5000	3.0000	1.5	SC	AFR32ZZ32
			3.0000	0.375	TC	BFR32ZZ32
TC			3.2500	0.375	TB	BDR32EL24
			3.2500	0.375	SC	AFR32EL24
TA2			3.2500	0.375	SC	AFR32EL32
			3.2500	0.5	SC	AFR32EL32
TB			3.3750	0.5	DC	EFR32RH32
			3.3750	0.5	DC	EFR32RH32

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

















STANDARD
DESIGNS


















SHAFT	BORE	HEIGHT	TYPE	CODE-NO		
2.5000	3.3750	0.5	SC	AFR32RH32	 VB	
	3.5000	0.375	SC	AFR32SR24		
	3.5000	0.5	DC	EFR32SR32	 VB1	
	3.5000	0.5	SC	AFR32SR32		
	3.5000	0.5	TC	BFR32SR32	 VC	
	3.5000	0.75	TB	BDR32SR48		
	3.5469	0.4688	TC	BFR32SU30	 VC1	
	3.5530	0.4688	TC	BFR32PU30		
	3.6250	0.4688	SC	AFR32HZ30	 KA	
	3.7500	0.5	SC	AFR32HB32		
2.5625	3.3750	0.375	SC	AFR36RH24	 KA1	
	3.5000	0.5	TC	BFR36SR32		
	3.6250	0.5625	TC	BFR36HZ36	 KA2	
2.6250	3.3750	0.375	SC	AFR40RH24		 KB
	3.5000	0.5	SC	AFR40SR32		
	3.5000	0.5	TC	BFR40SR32	 KB1	
	3.5000	0.5313	TB	BDR40SR34		
	3.7500	0.5	SC	AFR40HB32	 KC	
	4.0000	0.5	TC	BFR40ZZ32		
	2.6875	3.7500	0.5	SC	AFR44HB32	 KC1
		3.7500	0.5	TC	BFR48RH32	
	2.7500	3.3750	0.375	SC	AFR48SR24	 DA
		3.5000	0.375	TC	BFR48SR24	
3.5000		0.5	TC	BFR48SR32	 DB	
3.6250		0.4375	SA2	ACR48HZ28		
3.7500		0.3125	SC	AFR48HB20	 DC	
3.7500		0.5	SC	AFR48HB32		
3.7500		0.625	TB	BDR48HB40	 470	
3.8750		0.4375	SC	AFR48UL28		
3.8750		0.5	TC	BFR48UL32	 420	
4.0000		0.5	SC	AFR48ZZ32		
2.8125	3.6250	0.375	SC	AFR52HZ24	 380	
	3.6360	0.375	SC	AFR52PL24		
2.8725	3.6250	0.375	TC	BFR52HZ24		
	2.8750	3.3750	0.1875	SC	AFR56RH12	
3.3750		0.25	VB	CDR56RH12		
3.6250		0.3125	SC	AFR56HZ20		
3.6250		0.375	SC	AFR56HZ24		
3.7500		0.4688	SC	AFR56HB30		
4.0000		0.5	SC	AFR56ZZ32		
4.0000		0.5625	SC	AFR56ZZ36		
2.9000		3.9620	0.415	TC	BFRP9PGP4	
2.9375		3.7500	0.375	SC	AFR60HB24	
2.9375		3.7500	0.375	TC	BFR60HB24	
3.0000	3.7500	0.375	SC	AFS00HB24		
	3.7500	0.5	SC	AFS00HB32		
	3.7610	0.375	SC	AFS00CL24		
	4.0000	0.25	SC	AFS00ZZ16		
	4.0000	0.5	SB	ADS00ZZ32		
	4.0000	0.5	SC	AFS00ZZ32		
	4.0000	0.5	TC	BFS00ZZ32		
	4.1250	0.5625	TC	BFS00ZB36		
	4.2500	0.5	TC	BFS00SR32		
	4.5000	0.4375	SC	AFS00SR28		

INCH SIZE SORT SHAFT


















STANDARD DESIGNS	OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
	BORE	HEIGHT	TYPE	CODE-NO	
SA 	0.2500	0.5000	0.125	VCY	VYZ16SR08
		0.7500	0.25	SC	AFZ16HB16
		0.7500	0.25	TC	BFZ16HB16
		1.7813	0.5	TC	BFZ16CB32
SA1 	0.3120 0.3125	0.5750	0.187	VB	CDZ20SC12
		0.7500	0.25	SC	AFZ20HB16
		0.8750	0.25	SC	AFZ20UL16
SA2 	0.3750	1.3750	0.375	SB	ADZ20RH24
		1.3750	0.375	SC	AFZ20RH24
		0.6290	0.125	VCY	VYZ24HZ08
SB 	0.3750	0.7500	0.25	SC	AFZ24HB16
		0.8750	0.25	SC	AFZ24UL16
		0.8750	0.5	SC	AFZ24UL32
SB1 	0.3750	1.0000	0.25	SC	AFZ24ZZ16
		1.0000	0.375	SC	AFZ24ZZ24
		1.2500	0.2969	SC	AFZ24EL19
SC 	0.4375	1.5000	0.25	SC	AFZ24SR16
		1.0000	0.25	SC	AFZ28ZZ16
		1.0000	0.25	SB	ADZ28ZZ16
SC1 	0.4380 0.4890 0.5000	0.6250	0.125	VCY	VYZ28HZ08
		0.8720	0.187	SC	AFZP4BCP1
		0.7500	0.125	VCY	VYZ32HB08
TA 	0.4380 0.4890 0.5000	0.7500	0.125	VA2	CCZ32HB08
		0.7500	0.125	VA2	CCZ32HB08
		0.8540	0.25	SB	ADZ32UU16
TA1 	0.4380 0.4890 0.5000	0.8630	0.188	SC	AFZ32ULP2
		0.8750	0.25	SC	AFZ32UL16
		0.8790	0.125	VCY	VYZ32UC08
TA2 	0.4380 0.4890 0.5000	1.0000	0.25	SC	AFZ32ZZ16
		1.0000	0.25	TC	BFZ32ZZ16
		1.1250	0.25	SC	AFZ32ZB16
TB 	0.4380 0.4890 0.5000	1.1250	0.25	VCY	VYZ32ZB16
		1.1250	0.3125	SC	AFZ32ZB20
		1.1250	0.375	SC	AFZ32ZB24
TB1 	0.5625	1.1340	0.25	SC	AFZ32PE16
		1.2500	0.3125	SC	AFZ32EL20
		1.2500	0.4375	SB	ADZ32EL28
TC 	0.6250	1.1250	0.25	SC	AFZ36ZB16
		1.1250	0.375	SC	AFZ36ZB24
		1.3750	1.25	SC	AFZ36RH16
TC1 	0.6250	0.7500	0.25	VCY	VYZ40HB16
		0.7500	0.25	VA2	CCZ40HB16
		0.9375	0.1875	SB	ADZ40LZ12
AV 	0.6250	0.9375	0.1875	SC	AFZ40LZ12
		0.9375	0.1875	VCY	VYZ40LZ12
		1.0000	0.1875	SC	AFZ40ZZ12
VA1 	0.6250	1.0000	0.1875	TC	BFZ40ZZ12
		1.0000	0.25	SC	AFZ40ZZ16
		1.1250	0.25	SC	AFZ40ZB16
VA2 	0.6250	1.1250	0.25	TC	BFZ40ZB16
		1.1250	0.3125	SC	AFZ40ZB20
		1.1250	0.375	SC	AFZ40ZB24
VA2 	0.6250	1.1280	0.375	SC	AFZ40PE24
		1.1280	0.375	TC	BFZ40ZB24




















OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

SHAFT	BORE	HEIGHT	TYPE	CODE-NO	STANDARD DESIGNS
0.6250	1.2500	0.25	SC	AFZ40EL16	 VB
	1.2500	0.3125	SC	AFZ40EL20	
	1.2500	0.375	SC	AFZ40EL24	 VB1
	1.3125	0.25	SC	AFZ40RZ16	
	1.3594	0.25	SC	AFZ40RS16	
	1.3750	0.3125	SC	AFZ40RH20	 VC
	1.3790	0.25	TC	BFZ40RH16	
	1.5000	0.25	SC	AFZ40SR16	
	1.5000	0.375	SC	AFZ40SR24	
	0.6600	1.1100	0.27	SC	AFZ66PEP2
1.1250		0.25	SC	AFZ44ZB16	
0.6875	1.1875	0.32	TB	BDZ44ERP3	 KA
	1.2500	0.25	SC	AFZ44EL16	
0.6900	1.2500	0.3125	DB	EDZ44EL20	 KA1
	1.2500	0.31	SC	AFZ69ELP3	
0.7500	1.0000	0.125	VCY	VYZ48ZZ08	 KA2
	1.1250	0.25	SC	AFZ48ZB16	
	1.2500	0.1875	SC	AFZ48EL12	 KB
	1.2500	0.25	SC	AFZ48EL16	
	1.2500	0.25	TB	BDZ48EL16	 KB1
	1.2500	0.25	TC	BFZ48EL16	
	1.2500	0.25	TC	BFZ48EL16	
	1.2500	0.3125	SC	AFZ48EL20	 KC
	1.2500	0.375	SC	AFZ48EL24	
	1.2540	0.125	VCY	VYZ48EL08	 KC1
	1.2640	0.375	KC4	DHZ48EC24	
	1.3125	0.25	SB	ADZ48RZ16	 DA
	1.3750	0.25	SC	AFZ48RH16	
	1.3750	0.375	SC	AFZ48RH24	 DB
	1.3840	0.25	SC	AFZ48PS16	
	1.4375	0.25	SC	AFZ48RB16	 DC
	1.5000	0.25	SC	AFZ48SR16	
	1.5000	0.3125	SC	AFZ48SR20	 470
	1.5000	0.3125	TC	BFZ48SR20	
	1.5000	0.375	SC	AFZ48SR24	 420
	1.5000	0.375	TB	BDZ48SR24	
	1.5000	0.375	TC	BFZ48SR24	 380
1.5000	0.3906	TC	BFZ48SR25		
1.6250	0.375	SC	AFZ48HZ24		
1.7560	0.3125	TB	BDZ48HB20		
0.8125	1.1875	0.25	SC	AFZ52ER16	
	1.2500	0.3125	SC	AFZ52EL20	
	1.2500	0.375	SC	AFZ52EL24	
0.8750	1.3750	0.25	SC	AFZ52RH16	
	1.3750	0.375	SC	AFZ52RH24	
	1.1250	0.125	SC	AFZ56ZB08	
	1.2500	0.25	SC	AFZ56EL16	
	1.2500	0.375	SC	AFZ56EL24	
	1.3750	0.25	SC	AFZ56RH16	
	1.3750	0.25	TC	BFZ56RH16	
	1.3750	0.3125	SC	AFZ56RH20	
	1.3750	0.3125	TC	BFZ56RH20	
	1.3750	0.375	SC	AFZ56RH24	
1.3750	0.375	TC	BFZ56RH24		
1.3840	0.25	SC	AFZ56PS16		

STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		0.8750	1.5000	0.25	SC	AFZ56SR16
			1.5000	0.375	SC	AFZ56SR24
			1.5000	0.375	TB	BDZ56SR24
			1.5000	0.375	TC	BFZ56SR24
SA1		0.8750	1.5000	0.3906	SC	AFZ56SR25
			1.6250	0.25	SC	AFZ56HZ16
			1.6250	0.375	SC	AFZ56HZ24
SA2		0.9110 0.9375	1.6250	0.375	TC	BFZ56HZ24
			1.3750	0.25	SC	AFZ91RH16
SB		1.0000	1.3880	0.25	TC	BFZP9PS16
			1.5000	0.375	SC	AFZ60SR24
			1.5000	0.375	TB	BDZ60SR24
SB1		1.0000	1.6250	0.375	SC	AFZ60HZ24
			1.2500	0.125	VCY	VYE00EL08
			1.3250	6.0	TB	BDE00PS16
SC		1.0000	1.3750	0.1875	SC	AFE00RH12
			1.3750	0.25	SC	AFE00RH16
			1.3750	0.5625	TB	BDE00RH36
			1.4375	0.25	SC	AFE00RB16
SC1		1.0000	1.4990	0.25	TC	BFE00PH16
			1.5000	0.1875	SB	ADE00SR12
			1.5000	0.1875	SC	AFE00SR12
			1.5000	0.25	SC	AFE00SR16
TA		1.0000	1.5000	0.25	TC	BFE00SR16
			1.5000	0.3125	SC	AFE00SR20
TA1		1.0000	1.5000	0.3125	TB	BDE00SR20
			1.5000	0.375	SC	AFE00SR24
			1.5000	0.375	TC	BFE00SR16
			1.5030	0.25	TC	BFE00PU16
TA2		1.0000	1.5030	0.39	SA2	ACE00SR25
			1.5040	0.312	TC	BFE00PUP3
			1.5625	0.375	SC	AFE00SL24
TB		1.0000	1.5670	0.1875	VCY	VYE00SC12
			1.6250	0.25	SC	AFE00HZ16
			1.6250	0.2969	TB	BDE00HZ19
TB1		1.0000	1.6250	0.3125	SC	AFE00HZ20
			1.6250	0.375	SC	AFE00HZ24
			1.7500	0.25	SC	AFE00HB16
TC		1.0000	1.7500	0.375	SC	AFE00HB24
			1.7590	0.375	SC	AFE00CU24
			1.7800	0.439	SA2	ACE00UZ28
			1.8280	0.4375	SC	AFE00BR28
TC1		1.0000	1.8750	0.25	SC	AFE00UL16
			2.0000	0.25	SC	AFE00ZZ16
			2.0000	0.375	SA2	ACE00ZZ24
AV		1.0000	2.0000	0.375	SC	AFE00ZZ24
			2.0000	0.375	TB	BDE00LH24
			2.0000	0.5	SC	AFE00ZZ32
VA1		1.0625	2.0625	0.1875	SC	AFE00ZH12
			1.5000	0.25	SC	AFE04SR16
VA2		1.0625	1.5625	0.3125	SC	AFE04SL20
			1.6250	0.375	SB	ADE04HZ24
			1.6250	0.375	SC	AFE04HZ24
			1.7500	0.4375	SC	AFE04HB28

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER

OIL SEAL SIZES AND TYPE BY SHAFT DIAMETER					STANDARD DESIGNS
SHAFT	BORE	HEIGHT	TYPE	CODE-NO	
1.0625	2.0000	0.4375	SA2	ACE04ZZ28	 VB
	2.1875	0.4375	SC	AFE04ER28	
1.1250	1.3750	0.25	SC	AFE08RH16	 VB1
	1.5000	0.25	SC	AFE08SR16	
	1.5125	0.312	TC	BFE08PUP3	 VC
	1.5625	0.25	SC	AFE08SL16	
	1.5625	0.375	SA2	ACE08SL24	 VC1
	1.5625	0.375	SC	AFE08SL24	
	1.6250	0.25	SC	AFE08HZ16	 KA
	1.6250	0.3125	SC	AFE08HZ20	
	1.6250	0.3125	TB	BDE08HZ20	 KA1
	1.6250	0.375	SC	AFE08HZ24	
	1.7500	0.375	SB	ADE08HB24	 KA2
	1.7500	0.375	SC	AFE08HB24	
	1.7500	0.4375	SC	AFE08HB28	 KB
	1.8500	0.3125	SA	AAE08UU20	
	1.8750	0.25	SC	AFE08UL16	 KB1
	1.8750	0.375	SC	AFE08UL24	
	1.8750	0.375	TC	BFE08UL24	 KC
	2.0000	0.25	SC	AFE08ZZ16	
	2.0000	0.25	SC	AFE08ZZ32	 KC1
	2.0000	0.375	SC	AFE08ZZ24	
	2.0000	0.4375	SC	AFE08ZZ28	 DA
	2.0625	0.4531	SC	AFE08ZH29	
	2.1875	0.5	SC	AFE08ER32	 DB
	2.2500	0.375	SC	AFE08EL24	
	2.2813	0.25	SC	AFE08EB16	 DC
	2.4410	0.9843	DC	EFE08RG64	
	2.5000	0.5	SC	AFE08SR32	 470
1.1875	1.6875	0.1875	SB	ADE12HH12	
	1.7188	0.4375	SC	AFE12HL28	 420
	1.7188	0.5313	TB	BDE12HL34	
	1.8750	0.375	SC	AFE12UL24	 380
	1.8750	0.375	TC	BFE12UL24	
	2.0000	0.375	SC	AFE12ZZ24	
1.2500	1.6875	0.3125	SC	AFE16HH20	
	1.4375	0.4375	TC	BFE16RB28	
	1.6875	0.1875	KC	DFE16HH12	
	1.6875	0.1875	VB	CDE16HH12	
	1.6875	0.25	SC	AFE16HH16	
	1.6875	0.25	TC	BFE16HH16	
	1.6875	0.3125	SB	ADE16HH20	
	1.6900	0.312	SB	ADE16HP20	
	1.7500	0.25	SC	AFE16HB16	
	1.7500	0.25	SC	AFE16HB16	
	1.7500	0.25	VCY	VYE16HB16	
	1.7500	0.375	SC	AFE16HB24	
	1.7500	0.3750	TB	BDE16HB24	
	1.7500	0.375	TC	BFE16HB24	
	1.8750	0.25	SC	AFE16UL16	
	1.8750	0.3125	SC	AFE16UL20	
	1.8750	0.375	SC	AFE16UL24	
	1.8750	0.375	TC	BFE16UL24	
	1.8750	0.4375	SC	AFE16UL28	

STANDARD DESIGNS		OIL SEAL SIZES AND TYPES BY SHAFT DIAMETER				
		SHAFT	BORE	HEIGHT	TYPE	CODE-NO
SA		1.2500	1.8750	0.4375	TC	BFE16UL28
			1.9375	0.4375	SC	AFE16LZ28
SA1		1.2500	1.9830	0.25	VA2	CCE16LS16
			2.0000	0.25	SB	ADE16ZZ16
SA2		1.2500	2.0000	0.375	SC	AFE16ZZ24
			2.0000	0.437	TA3	BSE16ZZ28
SB		1.2500	2.0000	0.4375	SB	ADE16ZZ28
			2.0000	0.4375	SC	AFE16ZZ28
SB1		1.2500	2.0000	0.5	SC	AFE16ZZ32
			2.1250	0.3125	SC	AFE16ZB20
SC		1.2500	2.1875	0.3125	SC	AFE16ER20
			2.1875	0.375	SC	AFE16ER24
SC1		1.2500	2.1875	0.375	TC	BFE16ER24
			2.1960	0.375	TC	BFE16PR24
TA		1.3125	2.2500	0.25	SC	AFE16EL16
			2.2500	0.3125	SC	AFE16EL20
TA1		1.3125	2.2500	0.375	SC	AFE16EL24
			2.2500	0.375	TC	BFE16EL24
TA2		1.3125	2.2500	0.5	SC	AFE16EL32
			1.9370	0.5/0.2638	TCY	BYE20LZ32
TB		1.3281	1.8594	0.25	SC	AFE20UU16
			1.8750	0.25	SC	AFE20UL16
TB1		1.3281	2.1250	0.375	SC	AFE20ZB24
			2.0625	0.375	SC	AFE21ZH24
TC		1.3438	2.0625	0.375	SC	AFE21ZH24
			2.0625	0.375	TC	BFE21ZH24
TC1		1.3750	2.2344	0.5	SA	AAE21EU32
			2.6875	0.375	SC	AFE21HH24
VA1		1.3750	2.0625	0.5	TC	BFE22ZH32
			1.8750	0.3125	SB	ADE24UL20
VA2		1.3750	1.8750	0.3125	SC	AFE24UL20
			1.8750	0.375	SC	AFE24UL24
VA3		1.3750	1.8750	0.4375	TB	BDE24UL28
			1.9669	0.3307	SB	ADE24LR21
VA4		1.3750	2.0000	0.3125	SB	ADE24ZZ20
			2.0000	0.3125	SC	AFE24ZZ20
VA5		1.3750	2.0000	0.3125	SC	AFE24ZZ20
			2.0000	0.3125	TC	BFE24ZZ20
VA6		1.3750	2.0000	0.375	SC	AFE24ZZ24
			2.0000	0.5	SC	AFE24ZZ32
VA7		1.3750	2.0625	0.25	SC	AFE24ZH16
			2.0625	0.625	TC	BFE24ZH40
VA8		1.3750	2.1250	0.3125	SC	AFE24ZB20
			2.1250	0.375	SB	ADE24ZB24
VA9		1.3750	2.1250	0.375	SC	AFE24ZB24
			2.1250	0.375	TC	BFE24ZB24
VA10		1.3750	2.1350	0.3125	SC	AFE24PE20
			2.2500	0.375	SC	AFE24EL24
VA11		1.3750	2.2500	0.5	SC	AFE24EL32
			2.2590	0.375	SC	AFE24PR24
VA12		1.3750	2.3750	0.375	SC	AFE24RH24
			2.3750	0.5	SC	AFE24RH32
VA13		1.3750	2.5000	0.5	SC	AFE24SR32
			2.5000	0.6875	TB	BDE24SR44

7. SHAFT AND HOUSING RECOMMENDATION

7.1 SHAFT

Four main conditions make the seal and shaft more compatible and assist in providing optimal seal performance.

- **SHAFT HARDNESS**

Normally seal contact area of the shaft should be Rockwell C 45 minimum.

It is important factor to prevent excessive wear, deformation, scratches or nicks, and to allow for easy machining for proper roughness.

- **SHAFT SURFACE ROUGHNESS**

We recommend shaft surface roughness is as follow.

Rotating: 10 to 20 μ inch AA (.25 μ m to .50 μ m AA).

Reciprocating: 5 to 10 μ inch AA (.13 μ m to .25 μ m AA).

This is very critical as greatly influence the amount of lip Heat, thus this finish should not be overlooked.

- **GRINDING**

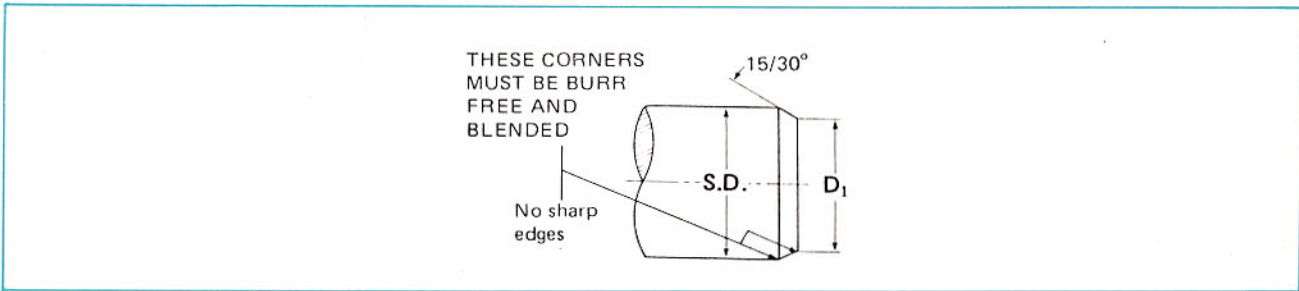
Rotating Shaft: plunge grinding is recommended, Reciprocating shaft: centerless grinding is acceptable. Cast iron or stainless steel shafts for rotating applications and for steel shafts with reciprocating applications, we suggest with hard chrome plating.

All above finishes are required surface with no machine lead, otherwise it may actually pump fluid from wider the seal lip.

- **SHAFT CHAMFER**

Without Proper chamfer on shaft, the seal lip may be damaged or distorted resulting in dislodged garter spring, we suggest chamfer as table to assist in the installation process.

TABLE 9. SHAFT CHAMFER BE RECOMMENDED BY US



INCHES				MILLIMETERS			
S.D.	D ₁	S.D.	D ₁	S.D.	D ₁	S.D.	D ₁
Up to 1.000	S.D. - .094	4.001 to 5.000	S.D. - .220	Up to 25.00	S.D. - 2.4	100.01 to 125.00	S.D. - 5.6
1.001 to 2.000	S.D. - .140	5.001 to 6.000	S.D. - .260	25.01 to 50.00	S.D. - 3.6	125.01 to 150.00	S.D. - 6.6
2.001 to 3.000	S.D. - .166	6.001 to 10.000	S.D. - .276	50.01 to 75.00	S.D. - 4.2	150.01 to 250.00	S.D. - 7.0
3.001 to 4.000	S.D. - .196	-	-	75.01 to 100.00	S.D. - 5.0	-	-

- **SHAFT TOLERANCES** recommended for general applications are listed in Table 10 below. The tolerance range should be decreased for high speed or pressure applications.

TABLE 10. RECOMMENDED SHAFT TOLERANCE

DIAMETER INCH	TOLERANCE	DIAMETER METRIC	TOLERANCE
Up to 4.000"	±.003	Up to 100 mm	±0.08
4.001" to 6.000"	±.004	100.10 to 150.00	±0.10
6.001" to 10.000"	±.005	150.10 to 250.00	± 0.13

7.2 HOUSING

The different material of bores is to be recommended using in rubber covered and metal O.D. seals as follows:
 Rubber covered O.D.: steel and cast iron, soft alloy, aluminum alloy, plastic or nylon.

Metal O.D.: Steel and cast iron.

If in aluminum or other soft alloy bores, metal O.D.

(1) BORE CHAMFER

To assist in installation of the seal, a bore chamfer is necessary. If without or improper chamfer will distort seal case and will require more assembly force craving is our recommendation of the chamfer.

(2) SURFACE ROUGHNESS

Excessively rough bore finishes may allow paths for fluid to leak between seal O.D. and bore. Following is recommended maximum roughness.

TABLE 11. HOUSING BORE ROUGHNESS

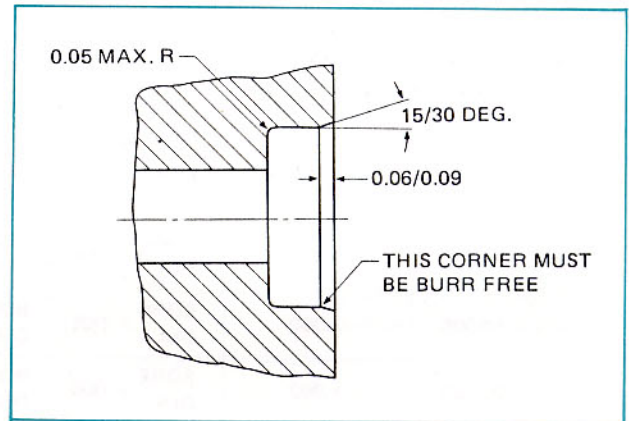
	METAL O.D.	RUBBER O.D.
MAXIMUM	100 μ inch AA	150 μ inch AA
ROUGHNESS	2.50 μ M AA	3.75 μ M AA

The rubber O.D. seal is capable of functioning with a rougher finish.

seals occasionally back out of the bore due to thermal expansion of the soft alloy.

Rubber, having a higher coefficient of thermal expansion than carbon steel, will tighten in the bore as temperature rises. Plastic or nylon are not recommended because they typically expand at a high rate causing a major problem for metal OD seals.

Figure 3. RECOMMENDED BORE LEAD CORNER



(3) BORE DIAMETER TOLERANCE

The recommended housing bore diameter, bore tolerance nominal pressfit are indicated in Table 12 and Table 13.

TABLE 12. BORE DIAMETER IN INCH SIZES

BORE DIAMETER	BORE TOLERANCE	NOMINAL PRESSFIT		O. D. – TOLERANCE (1)	ECCENTRICITY (2)	
		SEALS WITH METAL O.D.	SEALS WITH RUBBER O.D.	SEALS O.D.	SEALS WITH METAL O.D.	SEALS WITH RUBBER O.D.
Up to 1.000	±.001	BORE DIA + .004	BORE DIA + .006	±.002	.005	.010
1.001 – 2.000	±.001	BORE DIA + .004	BORE DIA + .007	±.002	.005	.010
2.001 – 3.000	±.001	BORE DIA + .004	BORE DIA + .008	±.002	.008	.015
3.001 – 4.000	±.0015	BORE DIA + .005	BORE DIA + .010	±.002	.010	.020
4.001 – 6.000	±.0015	BORE DIA + .005	BORE DIA + .010	+0.003 –.002	.010	.020
6.001 – 8.000	±.002	BORE DIA + .006	BORE DIA + .010	+0.003 –.002	.012	.025
8.001 – 10.000	±.002	BORE DIA + .008	BORE DIA + .010	+0.004 –.002	.015	.030
10.001 – 20.000	±.002	BORE DIA + .008	BORE DIA + .010	+0.006 –.002	.020	.040

(1) Seal O. D. – The average of minimum three measurements to be taken at equally spaced positions.

(2) Eccentricity – The maximum variance between any of the readings used in determining Seal O. D.

TABLE 13. BORE DIAMETER IN METRIC SIZES

BORE DIAMETER	BORE TOLERANCE	NOMINAL PRESSFIT		O.D. TOLERANCE		ECCENTRICITY	
		METAL O.D.	RUBBER O.D.	METAL O.D.	RUBBER O.D.	METAL O.D.	RUBBER O.D.
6.1 – 50	±0.025	+0.15	+0.23	±0.05	±0.07	0.12	0.25
50.1 – 80	±0.025	+0.18	+0.28	±0.05	±0.07	0.18	0.35
80.1 – 120	±0.040	+0.20	+0.28	±0.05	±0.07	0.25	0.50
120.1 – 180	±0.040	+0.23	+0.35	±0.05	±0.10	0.33	0.65
180.1 – 300	±0.050	+0.25	+0.35	±0.05	±0.10	0.40	0.80
300.1 – 500	±0.070	+0.29	+0.43	±0.06	±0.12	0.50	1.00

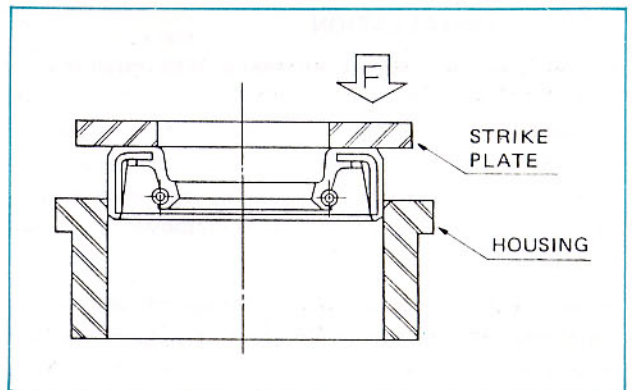
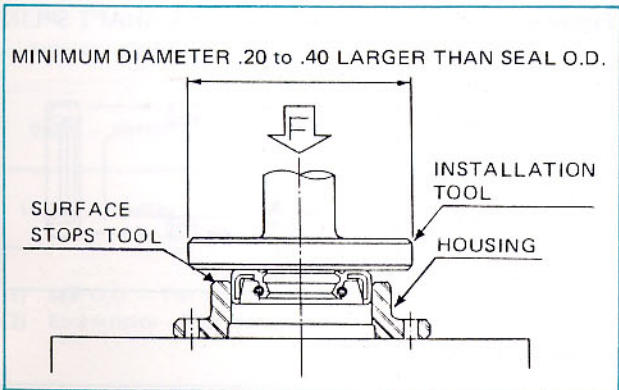
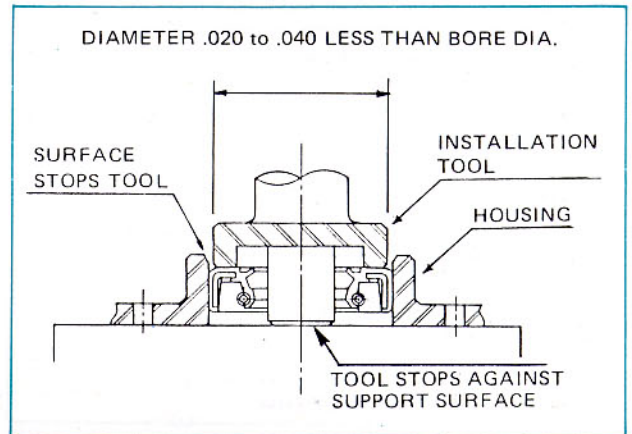
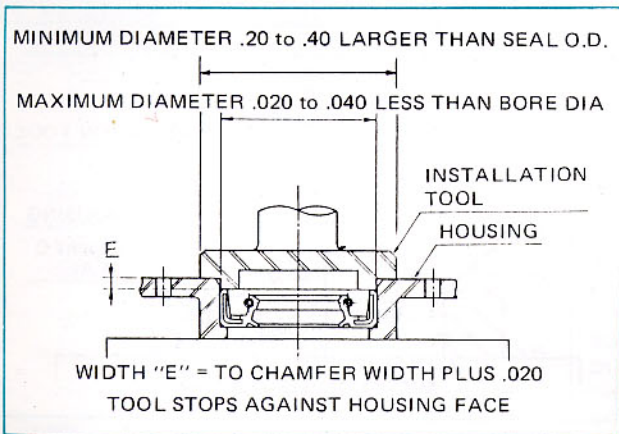
(1) Seal O.D. – The average of minimum three measurements to be taken at equally spaced positions.

(2) Eccentricity – The maximum variance between any of the readings used in determining Seal O. D.

The subject of installation represents an area commonly overlooked when selecting an oil seal for an application. Studies have shown this area to be one of the major causes of premature seal failure. To assist the installation, the oil seal should be prelubricated with grease or oil to reduce sliding friction of contact surfaces. This will also help protect the seal lips during initial run-in. Section 7 expands on recommended procedures for installation.

An installation tool should always be used when installing an oil seal. The use of a tool improves ease of installation and reduces the possibility of seal cocking (non-perpendicular to shaft). A hydraulic or pneumatic press is advised to supply necessary force to install the seal. Following are examples of both recommended and improper installation methods.

Figure 4. ACCEPTABLE METHOD



In each preferred method, installation load is absorbed by either housing or bottom plate to prevent seal damage and to assist in locating the seal properly within the bore.

Figure 5. IMPROPER METHOD

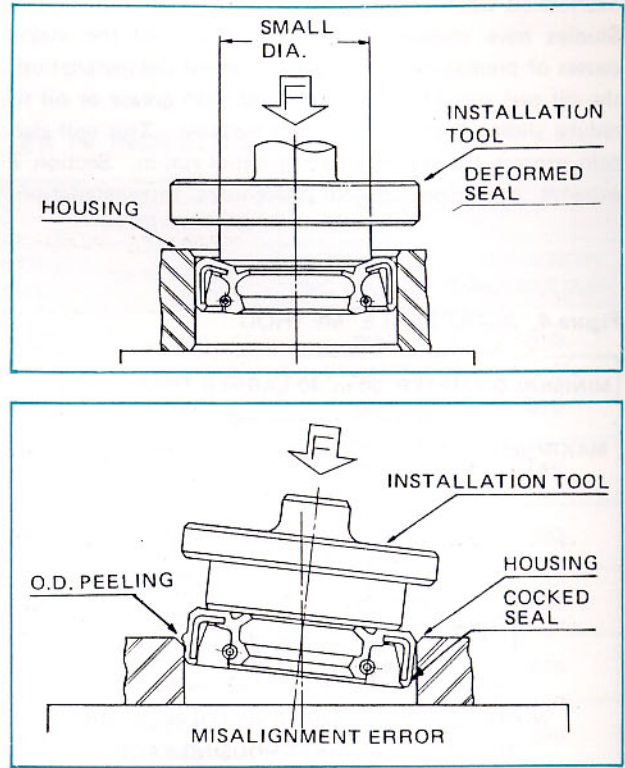
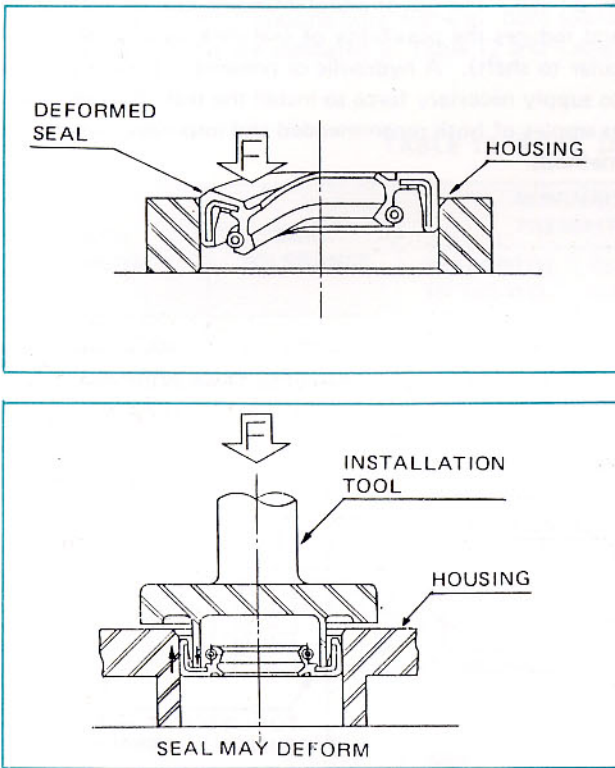


Figure 6. SEAL INSTALLATION OVER SHAFT SPLINES

B. SHAFT INSTALLATION

The advisable sequence of installation is to install the seal over the shaft and then into the housing bore. Care should be exercised not to damage or deform the seal lip. The proper chamfer angle will minimize this problem (reference figure 6). When installing over a keyway or spline, a sleeve or bullet should be employed to protect the seal lip from cuts.

Where the shaft must be installed through the seal, centering guides for the shaft will prevent lip deformation and dislodging of the spring. When possible, the shaft should be rotated as it passes through the seal to reduce sliding friction.

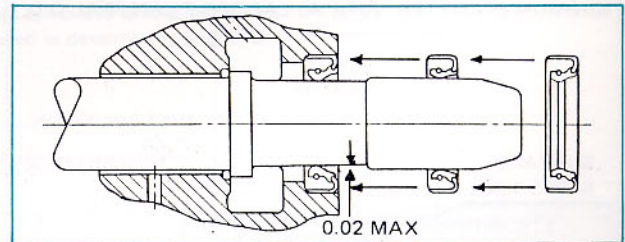
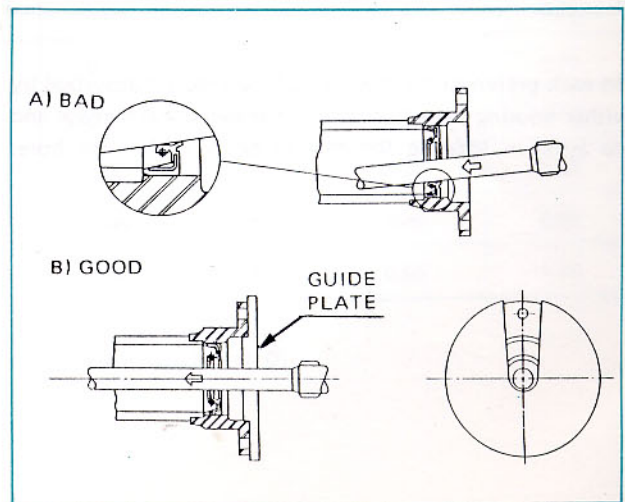
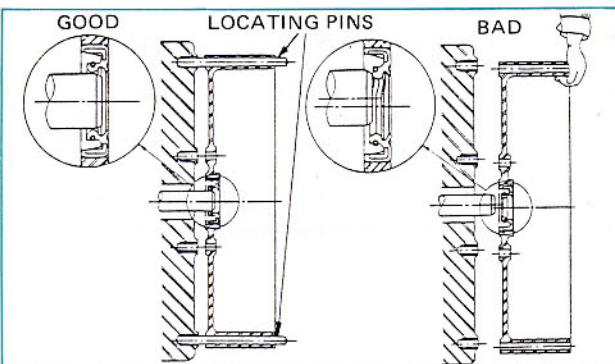


Figure 8. LONG SHAFT

Figure 7. HEAVY WEIGHT HOUSING



6. MATERIAL SELECTION

The most important component of the oil seal is the elastomer material. It must consider about the environmental conditions and the function of the seal as follows:

- Good chemical resistance
- Good resistance to heat and low temperature
- Good resistance to ozone and weathering

- High resistance to water
- Low compression set
- Good elasticity
- Raw material cost

In order to satisfy various sealing conditions, MFC has many compounds available for your choice.

TABLE 6. GENERAL ELASTOMER INFORMATION

BASE POLYMER	NITRILE	POLYACRYLATE	SILICONE	FLUROELASTOMER
Material Code	A	P	S	F
Temperature* Range	-40°F ~ 250°F -35°C ~ 120°C	-20°F ~ 300°F -30°C ~ 150°C	-80°F ~ 400°F -60°C ~ 200°C	-30°F ~ 400°F -35°C ~ 200°C
Oil Resistance	●	●	●	●
Acid Resistance	○	○	○	●
Alkali Resistance	○	x	x	○
Water Resistance	●	○	●	●
Heat Resistance	○	●	●	●
Cold Resistance	○	○	●	○
Wear Resistance	●	●	○	●
Ozone Resistance	○	●	●	●

	Advantages:	Disadvantages:
NITRILE	<ul style="list-style-type: none"> ● Commonly referred to as Buna-N or NBR and is copolymer of Butadiene and Acrylonitrile. ● Low cost. ● Good resistance to petroleum oils, water silicone oils, greases, glycol base fluids. ● Good abrasion resistance, cold flow, tear resistance. 	<ul style="list-style-type: none"> ● Poor resistance to ozone and weather aging.
POLYACRYLATE	<ul style="list-style-type: none"> ● Polymerised acrylic acidesters or PA and ACM. ● Good resistance to mineral oils, hypoid gear oils E.P. additives, greases, aging and flex cracking. ● Higher temperature limit than Nitrile. 	<ul style="list-style-type: none"> ● Poor cold temperature limit, dry running ability, water resistance. ● Lower mechanical strength. ● Cost slightly higher than Nitrile.
FLUROELASTMER	<ul style="list-style-type: none"> ● Good temperature resistance. ● Compatible with wide range of fluids. ● Commonly chosen as high temperature replacement for Nitrile or Polyacrylate. 	<ul style="list-style-type: none"> ● Fair resistance to water, day running. ● Low temperature resistance is fair. ● Cost is high.
SILICONE	<ul style="list-style-type: none"> ● Broad temperature range. ● Good ozone resistance. ● Resistant to compression set. 	<ul style="list-style-type: none"> ● Low resistance to hydrocarbon fluids like gasoline or paraffin fluids or steam above to 50 psi. ● Cost is higher than Polyacrylate.

1. ● Very good.
 - Good for most applications.
 - Fair, can be used if no other materials available but otherwise not recommended.
 - x Not recommended.
2. Phosphate Ester and Water Glycol hydraulic fluids are not included in the Table.
3. Water resistance includes steam.
 - No material is ideally compatible as lubricity of water is very poor.
4. PTFE, Ethylene Acrylate, and other elastomers are available.

TABLE 7. FLUID COMPATIBILITY

TYPE OF FLUID TO BE SEALED	LIP MATERIAL			
	NITRILE	POLYACRYLATE	SILICONE	FLUOROELASTOMER
Engine Oil	●	●	⊙	●
Gear Oil	⊙	⊙	x	●
Turbine Oil No. 2	⊙	⊙	⊙	●
Machine Oil No. 2	⊙	⊙	○	●
Automatic Transmission Fluid	●	●	○	●
Petroleum Base Lubricating Oil	●	●	○	●
Gasoline	○	x	x	●
Light Oil/Kerosene	○	x	x	⊙
Cutting Oil	●	⊙	○	●
Grease	●	●	●	●
E.P. Lubricants	⊙	●	x	●
Water-Glycol	●	x	⊙	⊙
Alcohol	●	x	⊙	○
20% Hydrochloric Acid Solution	○	○	○	●
30% Sulfuric Acid Solution	○	○	x	●

*Special Compound Available

- Very Good.
- ⊙ Good for most applications.
- Fair, can be used if no other materials available but otherwise not recommended.
- x Not recommended.

6.2 METAL CASE AND SPRING

The other major components of an oil seal are the metal case and garter spring. Table 8 lists the material specification MFC uses for its components.

TABLE 8. CASE AND SPRING SPECIFICATION

CASE				
SAE NO.	AISI NO.	APPLICATION	COST	SUGGESTION
1008 ~ 1010	1008 ~ 1010	GENERAL	Low	
SAE 30304.	304	Special corrosion. Resistance condition	High	By using a fully rubber covered design with carbon steel case can reduce cost.
SPRING				
SAE NO.	AISI NO.	APPLICATION	COST	
1070 ~ 1080	1070 ~ 1080	GENERAL	Low	
30304	304	Special corrosion Resistance condition	High	
C521OR	C5210	Special corrosion & aging resistance	Higher	

The metal case generally is produced from carbon steel for general applications in oil or grease. For special applications when sealing sea water or corrosive fluids or gases, stainless steel can be applied at an increase in price. With water applications, cost may be reduced by

using a rubber covered design with carbon steel case. For the garter spring, piano wire is used for general applications. Where corrosion resistance or extreme heat resistance is required, stainless steel is available.