

Oil Seal Information

The next few pages contain a listing of popular inch and metric oil seals. Most are low pressure nitrile seals. These seals are primarily used to seal grease and lubricating oils up to 10 PSI at temperatures from -40° F to 250° F. Seals should be lubricated during installation for best results.

Application parameters

For the best results from these shaft seals, we must consider the shaft material, hardness, roughness, eccentricity and tolerance according to the following points.

Shaft

Shaft Material - Seals perform best on a medium carbon steel or stainless steel shaft. Heat treatment or nitriding is especially recommended. To seal water at low surface velocity, stainless steel is more suitable.

Shaft Hardness - In the area where the sealing lip contacts the shaft, we recommend that the minimum hardness is 45 HRc. Where lubrication is doubtful, abrasive matter is present or shaft speed is greater than 2,750 fpm, 55 HRc is preferred.

Shaft Roughness - We recommend the shaft be machined to a surface roughness of Ra = 10 to 20 (Ra = 0.2 to 0.8 µm).

In the area of the contact surface, any rifling marks are not permitted.

Shaft Eccentricity - Two types of shaft eccentricity affect seal performance. They are dynamic runout (double dynamic eccentricity) and offset (shaft to bore misalignment or static eccentricity). The allowable eccentricity decreases as shaft size increases.

Shaft Speed - The shaft speed limitation decreases as shaft size increases.

Shaft Tolerance in Inch:

Nominal shaft diameter	Tolerance
Up to 4.000	+/- .003
Over 4.000 to 6.000	+/- .004

INCH EXAMPLE: 05082TC			
Inside Diameter	Outside Diameter	Height	Style
05	08	2	TC
1/2" (.5)	7/8" (.875)	1/4" (.25)	DBL LIP

Housing - For optimum seal performance, consideration must also be given to the housing:

Housing Material - Steel and cast iron provide a good surface for both rubber and metal O.D. seals. For soft alloy (aluminum) housings, seals with rubber O.D. provide a better sealing capacity.

Housing Roughness - The housing inside diameter roughness is 32 to 64 Ra for metal O.D. seals and 100 to 200 Ra for rubber covered O.D.

Housing Tolerance in Inch:

Bore diameter	Bore tolerance
Up to 3.000	+/- 0.001
3.001 to 6.000	+/- 0.0015

METRIC EXAMPLE: MOS-17X35X7-BABSL							
Prefix	Inside Diameter		Outside Diameter		Height		Style
MOS-	17	x	35	x	7	-	BABSL
	17mm		35mm		7mm		MED PRS/ DBL LIP

Seal Tolerance:

Seal Outside Diameter Tolerances - Inch

Bore Diameter	Press-fit Allowance		Tolerance	
	Metal Case	Rubber Covered Case	Metal Case	Rubber Covered Case
up to 1.000	+ 0.004	+ 0.006	+/- 0.002	+/- 0.003
1.001 to 2.000	+ 0.004	+ 0.007	+/- 0.002	+/- 0.003
2.001 to 3.000	+ 0.004	+ 0.008	+/- 0.002	+/- 0.003
3.001 to 4.000	+ 0.005	+ 0.010	+/- 0.002	+/- 0.004
4.001 to 6.000	+ 0.005	+ 0.010	+0.003/-0.002	+/- 0.004

Oil Seals - Inch

TA Profile Oil Seal
5 PSI - Double Lip



TB Profile Oil Seal
5 PSI - Double Lip



TC / AS - Profile Oil Seal - 7 PSI
BABSL - Medium Pressure - 50 PSI
Double Lip



SA / C Profile Oil Seal
5 PSI - Single Lip



SB Profile Oil Seal
5 PSI - Single Lip



SC / A Profile Oil Seal
7 PSI - Single Lip



SM Profile Oil Seal
7 PSI - Single Lip



Part Number	Shaft Dia. d	Bore Dia. D	Height L ₁	Style	
01072SC	0.187	0.750	0.250	SC	
03061VM	0.375	0.687	0.156	VM	
03072SC	0.375	0.750	0.250	SC	
03082VM	0.375	0.875	0.250	VM	
04092TC	0.434	0.999	0.250	TC	
04082SM	0.438	0.875	0.250	SM	
0506809VC	0.500	0.687	0.093	VC	
050681VM	0.500	0.685	0.125	VM	
050716TC	0.500	0.749	0.165	TC	
11124 SS H1/L5	0.500	0.750	0.140	HS	
05082TB	0.500	0.875	0.250	TB	
05082TC	0.500	0.875	0.250	TC	
05083TBY	0.500	0.875	0.312	TBY	
05092SB	0.500	0.999	0.250	SB	
05092TB	0.500	0.999	0.250	TB	
050102TC	0.500	1.000	0.250	TC	
051083TC	0.500	1.089	0.375	TC	
05112TB	0.500	1.124	0.250	TB	
05112VTB	0.500	1.124	0.250	VTB	
05112SC	0.500	1.125	0.250	SC	
05122TC	0.500	1.250	0.250	TC	
05132TB-H	0.500	1.375	0.250	TB-H	
05630875-188 SBYP2	0.563	0.875	0.187	SBYP2	
05092TC	0.562	0.999	0.250	TC	
056112TB	0.563	1.124	0.250	TBY	
06091VB	0.625	0.937	0.187	VB	
06092TB	0.625	0.999	0.250	TB	
061062SL-H	0.625	1.063	0.250	SL-H	
061118VL	0.625	1.125	0.093	VL	
06112SB	0.625	1.124	0.250	SB	
06112TB	0.625	1.124	0.250	TB	
06112VTB	0.625	1.124	0.250	VTB	
06112TC	0.625	1.125	0.250	TC	
06122TC	0.625	1.250	0.250	TC	
06132TB	0.625	1.375	0.250	TB	
0615731TB-H	0.625	1.575	0.312	TB	
0680918VM	0.687	0.999	0.187	VM	
068112SB	0.687	1.125	0.250	TC	
068112TC	0.687	1.125	0.250	TC	
06111SB	0.687	1.187	0.188	SB	
071061TB	0.750	1.062	0.187	TB	
071061VCY	0.750	1.062	0.187	VCY	
07111VM	0.750	1.124	0.156	VM	
071118SM-H	0.750	1.124	0.187	SM-H	
07111SB	0.750	1.124	0.125	SB	
07111TB	0.750	1.124	0.188	TB	
07112TB-H	0.750	1.125	0.250	TB-H	
07112SB	0.750	1.187	0.250	SB	
07112SC	0.750	1.187	0.250	SC	
07122TC-G	0.750	1.250	0.250	TCG	
07123TC	0.750	1.250	0.312	TC	

Oil Seals - Inch, cont'd.

Part Number	Shaft Dia. d	Bore Dia. D	Height L ₁	Style		Part Number	Shaft Dia. d	Bore Dia. D	Height L ₁	Style	
07123VTC	0.750	1.250	0.312	VTC		9057-14	1.062	1.475	0.125		
07132TB	0.750	1.312	0.250	TB		106202TB-H	1.062	2.004	0.250	TB-H	
07132A	0.750	1.375	0.250	A		11141SM	1.125	1.500	0.187	SB	
075132TB	0.750	1.375	0.250	TB		11152SB	1.125	1.562	0.250	SB	
07132SB-H	0.750	1.375	0.250	SB-H		11162TB	1.125	1.625	0.250	TB	
07142TB-H	0.750	1.499	0.250	TB-H		11172VSB-H	1.125	1.750	0.250	VSB-H	
07142SB	0.750	1.499	0.250	SB		11172TB	1.125	1.752	0.250	TB	
07153SA-H	0.750	1.561	0.375	SA-H		11174VB	1.125	1.780	0.469	VB	
07162TB	0.750	1.624	0.250	TB		11182VH	1.125	1.828	0.250	VH	
071731TZ	0.750	1.750	0.312	TZ		111872TB	1.125	1.875	0.250	TB	
078122TB-H	0.781	1.250	0.250	TB-H		111872TB-H	1.125	1.875	0.250	TB-H	
081101VC	0.813	1.063	0.125	VC		11195VB	1.125	1.938	0.562	VB	
081133SB-H	0.813	1.375	0.375	SB-H		111992TEC	1.125	1.998	0.252	TEC	
081142TL	0.813	1.500	0.250	TL		11202SB	1.125	2.000	0.250	SB	
08122SC	0.875	1.250	0.250	SC		11203TC	1.125	2.000	0.375	TC	
08122TC	0.875	1.250	0.250	TC		11213SB	1.125	2.125	0.312	SB	
08132TC	0.875	1.375	0.250	TC		118172SB	1.187	1.752	0.250	SB	
08132VSB	0.875	1.375	0.250	VSB		11182TF	1.187	1.875	0.250	TF	
081442WPBY	0.875	1.442	0.250	WPBY		118202TB	1.187	2.000	0.250	TB	
08142TB-H	0.875	1.500	0.250	TB-H		1182062TB	1.187	2.062	0.250	TB	
08153TC	0.875	1.500	0.312	TC		121618SB	1.250	1.625	0.187	SB	
08162TB	0.875	1.625	0.250	TB		121622TC	1.250	1.625	0.250	TC	
08172TB-H	0.875	1.752	0.250	TB-H		12162TC	1.250	1.687	0.250	TC	
08183TB	0.875	1.828	0.375	TB		121752TB	1.250	1.750	0.250	TB	
08182SB	0.875	1.874	0.250	SB		12182TB	1.250	1.874	0.250	TB	
08202SB-H	0.875	2.000	0.250	SB-H		12202TB	1.250	2.000	0.250	TB	
093152SB-H	0.937	1.500	0.250	SB-H		12203TC	1.250	2.000	0.312	TC	
093162SAY	0.938	1.624	0.250	SAY		12212TB	1.250	2.125	0.250	TB	
09162TB-H	0.969	1.624	0.250	TB-H		12223TC	1.250	2.250	0.375	TC	
091683TC	0.968	1.688	0.312	TC		9057-9	1.312	1.818	0.156		
09181WPB	0.984	1.828	0.187	WPB		131204TB	1.312	2.062	0.437	TB	
10121VM	1.000	1.250	0.125	VM		132231SB	1.328	2.227	0.312	SB	
10132TBY	1.000	1.375	0.250	TBY		13172TB	1.375	1.750	0.219	TB	
100142SC	1.000	1.437	0.250	SC		13183SB	1.375	1.828	0.312	SB	
100142TC	1.000	1.438	0.250	TC		131831UVM	1.375	1.834	0.187	UVM	
10142SB-H	1.000	1.499	0.250	SB-H		131872VTCN	1.375	1.875	0.250	VTCN	
10142TC	1.000	1.499	0.250	TC		13192TB	1.375	1.938	0.250	TB	
10142TB-H	1.000	1.500	0.250	TB-H		13203TB	1.375	2.000	0.312	TB	
101503TC	1.000	1.500	0.312	TC		132031TCN2	1.375	2.000	0.312	TCN2	
101562TB	1.000	1.561	0.250	TB		132123TB	1.375	2.125	0.312	TB	
101572TB-H	1.000	1.575	0.250	TB-H		132123TC	1.375	2.125	0.312	TC	
10162TC	1.000	1.624	0.250	TC		13223TB	1.375	2.250	0.312	TB	
10162VB	1.000	1.629	0.250	VB		13233TB	1.375	2.374	0.312	TB	
101682TB	1.000	1.686	0.250	TB		132537TB	1.375	2.500	0.375	TB	
101572TC	1.000	1.752	0.250	TC		470989	1.375	3.000	0.500	TB	
10202TB	1.000	2.000	0.250	TB		139222TB-H	1.399	2.250	0.250	TB-H	
10205TC	1.000	2.000	0.500	TC		151715VB	1.500	1.750	0.156	VB	
102042TB	1.000	2.047	0.250	TB		15182TB	1.500	1.875	0.250	TB	
1061311VCY	1.062	1.312	0.125	VCY		150202SC	1.500	2.000	0.250	SC	
9057-1	1.062	1.330	0.156			15213TB	1.500	2.125	0.312	TB	
1061431SM	1.062	1.438	0.187	SM		152223TB	1.500	2.222	0.312	TB	

Oil Seals - Inch, cont'd.

Part Number	Shaft Dia. d	Bore Dia. D	Height L ₁	Style	
15223TB	1.500	2.250	0.312	TB	
152375SA	1.500	2.374	0.500	SA	
15253TB	1.500	2.500	0.312	TB	
15253SB	1.500	2.502	0.312	SB	
152723TC	1.500	2.721	0.325	TC	
156213SB	1.563	2.125	0.312	SB	
152623TB	1.563	2.623	0.312	TB	
16202SB	1.625	2.000	0.250	SB	
16212SB-H	1.625	2.125	0.250	SB-H	
16212VB	1.625	2.125	0.250	VB	
16233TB	1.625	2.374	0.312	TB	
16232SB	1.625	2.375	0.250	SB	
162337VTEC	1.625	2.375	0.375	VTEC	
16243VTB-H	1.625	2.437	0.312	VTB-H	
1625031SB	1.625	2.500	0.312	SB	
162564VHY	1.625	2.562	0.437	VHY	
16263TB	1.625	2.623	0.312	TB	
16303SA	1.625	3.000	0.312	SA	
168213KC	1.688	2.166	0.312	KC	
168255TC	1.688	2.561	0.500	TC	
17221VSB	1.750	2.250	0.188	VSB	
172231SB	1.750	2.250	0.312	SB	
172231TC	1.750	2.250	0.312	TC	
172373TB	1.750	2.374	0.312	TB	
175223SA	1.750	2.250	0.312	SA	
17252VH	1.750	2.502	0.250	VH	
17253TB	1.750	2.502	0.312	TB	
17253TC	1.750	2.502	0.375	TC	
172753SC	1.750	2.756	0.375	SC	
17393TB	1.750	3.937	0.312	TB	
17293TC	1.766	2.950	0.312	TC	
181243SB	1.812	2.437	0.315	SB	
18263TC	1.875	2.625	0.250	TC	
18273TB	1.875	2.750	0.312	TB	
19242TB-H	1.937	2.437	0.250	TB-H	
19262TCN	1.937	2.675	0.250	TCN	
19273TB-H	1.937	2.750	0.312	TB-H	
20252TC	2.000	2.502	0.250	TC	
202562VB	2.000	2.563	0.227	VB	
20263TB	2.000	2.623	0.312	TB	
202683SB	2.000	2.686	0.375	SB	
20273TB	2.000	2.750	0.312	TB	
202843VSEC	2.000	2.843	0.375	VSEC	
20283TA	2.000	2.875	0.312	TA	
202883TB	2.000	2.875	0.375	TB	
202874SA	2.000	2.875	0.500	SA	
20303TB	2.000	3.000	0.312	TB	
203031TC	2.000	3.000	0.312	TC	
21294SA	2.125	2.997	0.437	SA	
2229943SA-H	2.250	2.996	0.437	SA-H	
22302VHY	2.250	3.000	0.250	VHY	

TA Profile Oil Seal
 5 PSI - Double Lip

TB Profile Oil Seal
 5 PSI - Double Lip

TC / AS - Profile Oil Seal - 7 PSI
BABSL - Medium Pressure - 50 PSI
 Double Lip

SA / C Profile Oil Seal
 5 PSI - Single Lip

SB Profile Oil Seal
 5 PSI - Single Lip

SC / A Profile Oil Seal
 7 PSI - Single Lip

SM Profile Oil Seal
 7 PSI - Single Lip


Oil Seals - Inch, cont'd.

TA Profile Oil Seal
5 PSI - Double Lip



TB Profile Oil Seal
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TC / AS - Profile Oil Seal - 7 PSI
BABSL - Medium Pressure - 50 PSI
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SA / C Profile Oil Seal
5 PSI - Single Lip



SB Profile Oil Seal
5 PSI - Single Lip



SC / A Profile Oil Seal
7 PSI - Single Lip



SM Profile Oil Seal
7 PSI - Single Lip



Part Number	Shaft Dia. d	Bore Dia. D	Height L ₁	Style	
22303TC	2.250	3.000	0.375	TC	
22304TA	2.250	3.000	0.437	TA	
223184TA-H	2.250	3.189	0.437	TA-H	
22323SB	2.250	3.250	0.375	SB	
231355SA	2.312	3.500	0.500	SA	
232831TC	2.375	2.875	0.312	TC	
23302VH	2.375	3.000	0.250	VH	
23354TA-H	2.375	3.500	0.437	TA-H	
25323TC	2.500	3.250	0.375	TC	
25324SA	2.500	3.250	0.437	SA	
25324TA	2.500	3.251	0.437	TA	
25353TA	2.500	3.500	0.375	TA	
25354TA	2.500	3.505	0.437	TA	
455147	2.500	3.505	0.500	SA	
253544SA	2.500	3.543	0.437	SA	
415001	2.500	3.548	0.500	TA	
25363SA-H	2.500	3.623	0.375	SA-H	
25374SA	2.500	3.750	0.437	SA	
26353TB	2.625	3.500	0.375	TB	
26363TB	2.625	3.623	0.375	TB	
26373TA	2.625	3.751	0.375	TA	
26434TA	2.625	4.370	0.437	TA	
27352VB	2.750	3.500	0.250	VB	
27374TA	2.750	3.751	0.437	TA	
30373TB	3.000	3.751	0.375	TB	
324003SB-H	3.250	4.003	0.375	SB-H	
32424TA	3.250	4.250	0.437	TA	
32465TA-H	3.250	4.626	0.500	TA-H	
33436SA	3.375	4.376	0.625	SA	
35004000-250SB	3.500	4.000	0.250	SB	
354505SA	3.500	4.501	0.500	SA	
35454SA	3.500	4.506	0.437	SA	
35465TA-H	3.500	4.625	0.500	TA-H	
35472VH	3.500	4.750	0.250	VH	
35494SA	3.500	4.999	0.437	SA	
36475TA-H	3.625	4.751	0.500	TA-H	
38534SA-H	3.875	5.375	0.437	SA-H	
40004500-250VB	4.000	4.500	0.250	VB	
39933	4.000	4.999	0.437	SA	
40494TA	4.000	4.999	0.437	TA	
4049946	4.000	4.999	0.468	SA	
40524SA	4.000	5.251	0.437	SA	
45005000-250SC	4.500	5.000	0.250	SC	
455502VL	4.500	5.500	0.250	VL	
9170 LUP	4.500	5.500	0.500	LUP	
45555TA	4.500	5.500	0.500	TA	
45625TA-H	4.500	6.250	0.500	TA-H	
55655TA-H	5.500	6.500	0.562	TA-H	
56685TA	5.625	6.880	0.500	TA	
58715TA-H	5.875	7.125	0.500	TA-H	