

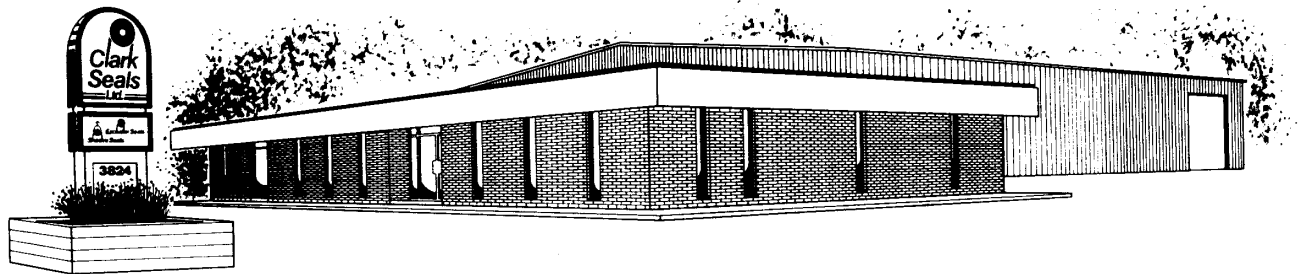
Clark Seals, Ltd.®

Since 1956, Clark Seals, Ltd.® has designed and manufactured Sheave® and Excluder Seals® to protect all types and sizes of roller bearings.

Clark is the industry leader in seals for tapered roller bearings. We continue to meet the design challenges of our customers. Clark is one of the pioneers in vacuum molded seal technology which consistently reduces premature seal failures.

For our customers, we inventory all types and sizes of seals for next day delivery.

We take pride in our ability to reduce the cost of quality for our customers.



Manufacturing Plant, Tulsa, Oklahoma

Applications

Applications:

- Sheaves
- Pulleys
- Cranes
- Hoists
- Cam Rollers
- Deep Water
- Agricultural
- Utility Trailer
- Fly-wheels
- Elevators
- Drag-lines
- Dam Gates
- Cargo Handling
- Paper Mills
- Traveling Blocks
- Mine Car Wheels
- Crown Blocks
- Roll Formers
- Idler Wheels
- Coil Processing
- Gear Reducers

Considerations:

- ★ Exclude dirt and moisture
- ★ Flush the bearing cavity of spent grease
- ★ Retain the grease and exclude dirt
- ★ Fit standard bearing sizes
- ★ Excessive thrust loads
- ★ Restricted space
- ★ Corrosive conditions
- ★ Excessive vibration
- ★ High temperature
- ★ High pressure
- ★ Under water
- ★ Unique seal geometry



For Application Considerations see page 40 in this catalog.

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Material Selection

Polymer Mechanical Properties and Compatibility

Base Polymer	Nitrile	Neoprene	Polyacrylate	Silicone	Florocarbon (Viton®)	
Material Code	-	N	P	S	V	
Mechanical Properties						
Temperature Range	-50°F to 250°F -45°C to 120°C	-40°F to 225°F -40°C to 105°C	-20°F to 300°F -30°C to 150°C	-80°F to 400°F -60°C to 200°C	-30°F to 400°F -35°C to 200°C	
Abrasion Resistance	G	E	F	P	G	
Compression Set	G	F	F	G	E	
Tear Resistance	F	G	F	P	F	
Resistance To:						
Cold	G	F	F	E	F	
Heat	G	G	E	E	E	
Oxidation	F	E	E	G	E	
Ozone	G	E	E	E	E	
Sunlight Aging	P	E	G	G	E	
Water	G	F	F	G	G	
Compatibility with Lubricants:						
Automatic Transmission Fluid	E	G	E	F	E	
E.P. Lubricants	G	G	E	P	E	
Grease	E	E	E	E	E	
Hydraulic Fluid	E	E	E	P	E	
Petroleum Base Lubricating Oils	E	G	E	F	E	
Engine Oil	SAE 30 wt. SAE 10 wt.	E E	G G	E E	E G	E E
Gear Oil	Super Gear Hypoid Gear	E G	G G	E G	F P	E E
Compatibility with Solvents:						
Aliphatic Hydrocarbons	G	G	P	P	E	
Aromatic Hydrocarbons	F	F	P	P	E	
Halogenated Solvents	P	P	P	P	G	
Ketones	P	P	P	P	P	
Compatibility with Acids:						
20% Hydrochloric Acid Solution	F	F	F	F	E	
30% Sulfuric Acid Solution	F	E	F	P	E	
Compatibility with Other Fluids:						
Alcohol	E	E	P	G	F	
Alkali	G	G	P	P	F	
Animal and Vegetable Oils	E	G	E	G	E	
Gasoline	F	F	P	P	E	
Water-Glycol	E	F	P	G	G	
Durometer Range:	65-90	65-85	65-85	65-80	65-90	

E - Excellent.
G - Good for most applications.
F - Fair, not recommended.
P - Poor, do not use.

Products

Sheave Seals[®] are specifically designed for use with Timken's[®] TNASW and TNASWE tapered roller bearing assemblies. The Sheave Seals[®] make the bearing assembly a "unitized" sealing unit.

Excluder Seals[®] are designed for tapered, cylindrical, and spherical roller bearings and for deep grooved, self-aligning, maximum capacity, and double-row ball bearings. They are designed to prevent dirt and debris from entering the bearing cavity. Spent grease can be flushed from the bearing cavity, promoting extended bearing life.

Full Face CO and CN Excluder Seals[®] are designed for radial ball bearings such as deep grooved, double row, maximum capacity, and angular contact as well as spherical and cylindrical roller bearings that already contain an integral seal or shield.

Labyrinth Grease Retainer Seals are designed to retain grease in the tapered roller bearing cavity.

Bore Plugs are designed to seal the housing bore and provide easy future access to the shaft. They retain grease and exclude contaminants.

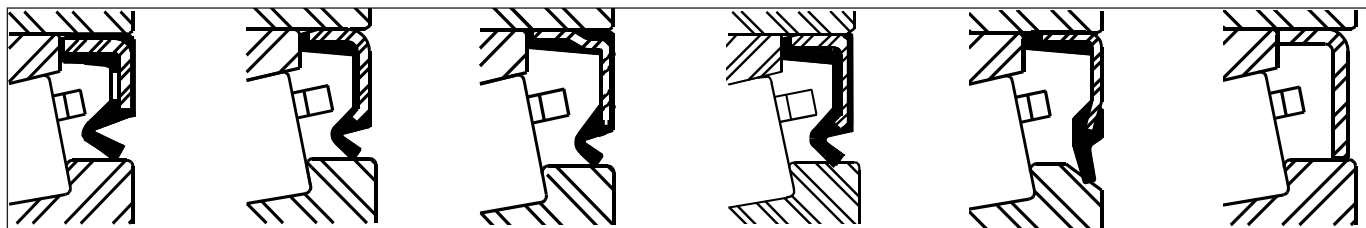
Excluder Seals[®] and Sheave Seals[®] are designed for grease lubricants. They are registered trademarks of Clark Seals Ltd.[®] and are designed for tapered roller bearings.

WARRANTY

Clark Seals, Ltd.[®] warrants its manufactured products to be free from defects in materials and workmanship for up to one full year from the date of purchase. The manufacturer's obligation under this warranty is limited to replacing any returned seal which, upon inspection by the manufacturer, proves to be defective. We will not replace any seal that is defective due to abuse, alteration by others, accident, misapplication, improper installation, or normal wear and tear. The customer shall be responsible for all return shipping costs. Under no circumstance shall Clark Seals, Ltd.[®] be liable for any amount in excess of the actual purchase price paid for the seals nor for cost of installation of replacement parts. This warranty is in lieu of all other warranties, expressed or implied, including warranty of merchantability. The manufacturer assumes no responsibility whatsoever for consequential damages resulting from the use of its products.

Seal Designs

The Clark Seals Product line is not limited to the seals shown in this catalog. We can provide virtually any size and type of bearing seals



CE
pg. 8 & 10

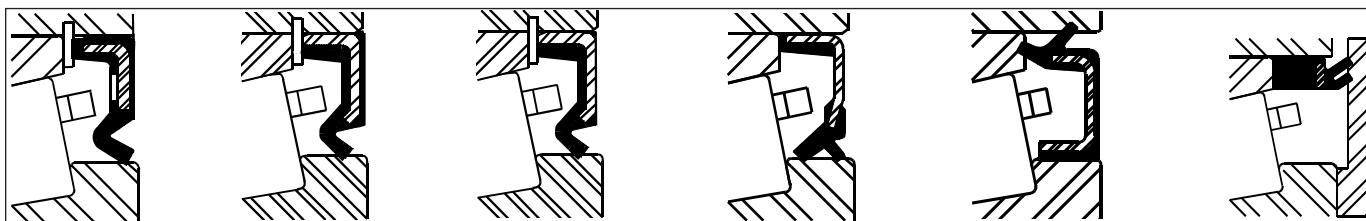
CS
pg. 8 & 11

CSL
pg. 8 & 10

CST
pg. 18

CB
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CA
pg. 8 & 12



CE-8000
pg. 13

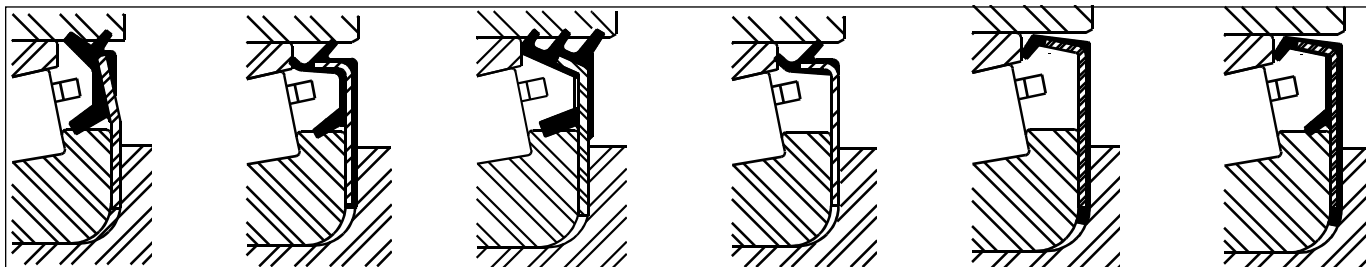
CST-8000
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CS-8000
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CS-2000
pg. 16

CV
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CF
pg. 11



CY
pg. 15

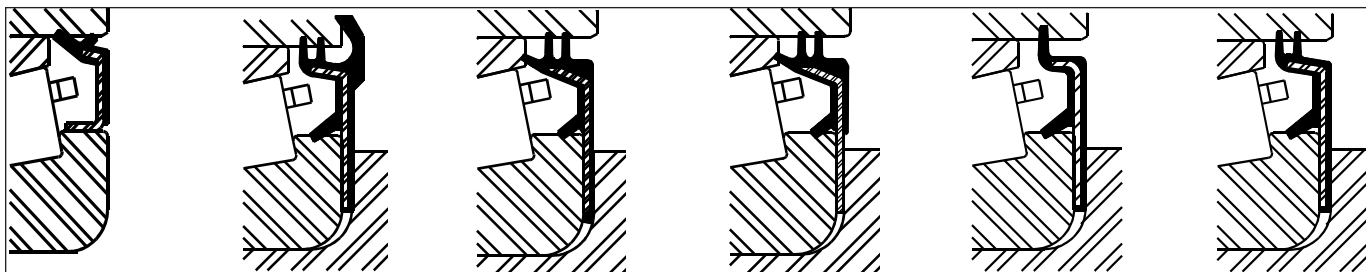
CYE
pg. 15

CY3
pg. 12

CT
pg. 16

CQ
pg. 19

CQ1
pg. 19



CY1
pg. 17

CW
pg. 14

CW1
pg. 14

CW2
pg. 14

CL
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CU
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Material Selection

Elastomer Selection

Clark uses elastomers that have been specially formulated to SAE and RMA standards to function in specific sealing environments. All types of standard elastomers

are available. Seventy (70) durometer Nitrile, sometimes referred to as NBR or BUNA-N, is the elastomeric compound used by Clark unless otherwise specified by the customer.

Metal Cases

Clark uses ASTM A 366 cold rolled steel sheets. Stainless steel is also available for deep-water applications. A CNC controlled laser cuts perfect circular rings from sheet steel. The rings are roll-formed to prevent the finished seals from distorting when fabricating stresses are relieved by installation, age and temperature forces. The formed ring is grit blasted to a near white

metal finish and coated with a premium bonding agent for maximum rubber adhesion. Machined metal O.D. seals are coated with a corrosion inhibitor. The CSL PREMIUM SHEAVE AND EXCLUDER SEALS® have a partial machined metal and partial rubber covered seal O.D. surface.

Seal Installation Requirements and Instructions

Installation Requirements

Clark's Sheave and Excluder Seals® are designed to seal primarily on the large cone rib diameter of a tapered roller bearing. The housing bore surface finish must be 63μ inch or better, and a sealing surface must have a minimum Rockwell hardness of C-30. The seal

must be installed without damage to the sealing lip. The seal must be perpendicular to the sealing surface. Hammering on the seal will cause distortion and prevent uniform sealing lip pressure.

Installation Instructions

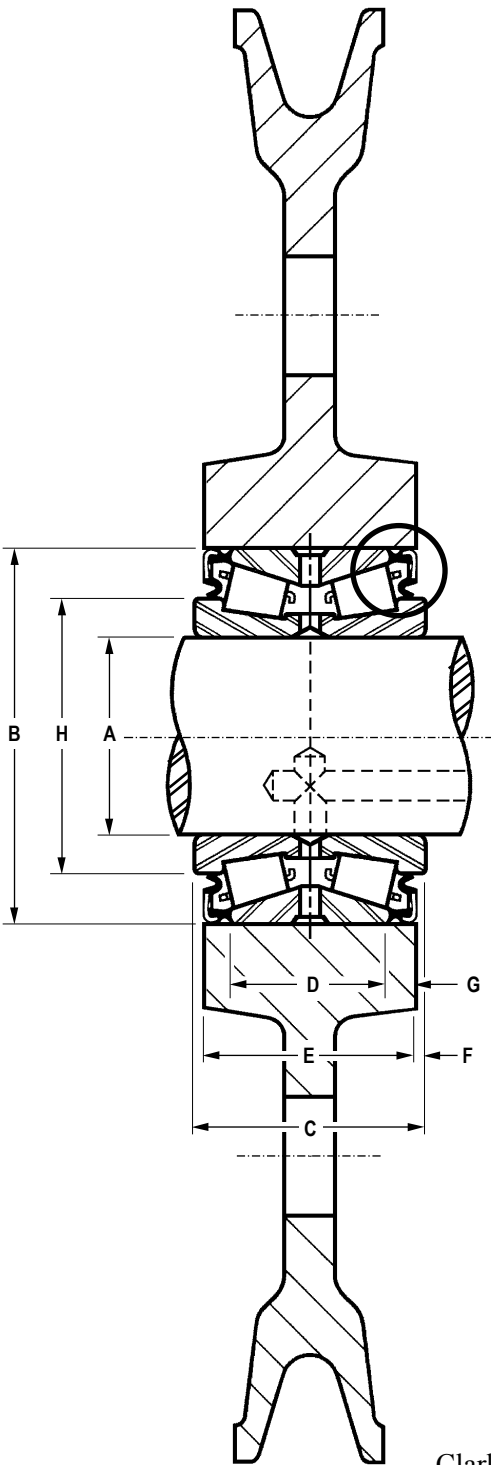
Improper seal installation is the major cause of premature seal failure. Extreme care should be taken when handling seals. The following steps are important.

1. The housing bore must have a smooth lead-in chamfer. It must be free of burrs, scratches, nicks, sharp edges. It must also have a minimum finish of 63μ inch.
2. Coat the sealing lip with grease. This will help the lip slide into place and protect it during the initial run-in phase.
3. An installation tool is recommended for correctly pressing the seal into the housing bore. Using a hammer will distort the seal's geometry and the sealing lip will not address the sealing surface properly.
4. If the seal must be installed from the fluid side, do not press on the inside of the metal case. This may cause the seal to deform. An installation tool should be designed so the installation face is on the nose of the seal.
5. An industrial bonding adhesive such as 3M® Scotch grip Rubber & Gasket Adhesive No. 847 can be used if the housing of the sheave is damaged or worn. 3M®'s customer service can be reached at 1-800-241-2976 (8 am-5 pm CST).



SheaveSeals® for two row Timken® TNASW & TNASWE assemblies

Note: Tables are arranged by cone bore size, -A-



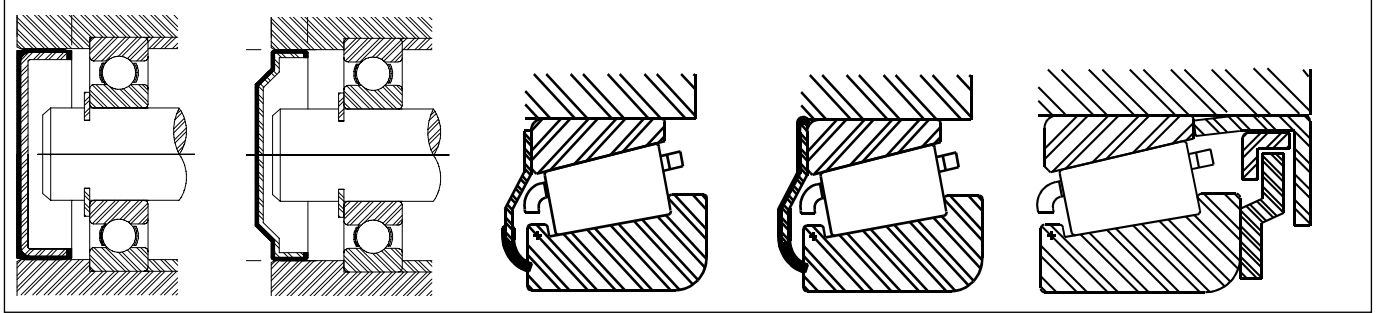
Clark Sheave Seals® Number				Seal Width	Seal Clearance	Width Over Seals
CA	CE	CS	CSL	-G-	-F-	-E-
-	-	CS-7001	-	.156	.036	1.304
CA-32	-	-	-	.100	.023	1.637
-	-	CS-7002	-	.234	.046	1.905
-	-	CS-7002	-	.234	.047	1.905
-	-	CS-7003	-	.324	.047	2.218
-	CE-7004	CS-7004	-	.343	.062	2.687
CA-34	-	-	-	.230	.020	2.522
CA-35	-	-	-	.287	.031	2.500
-	CE-7005	CE-7005	-	.343	.062	2.812
CA-37	CE-7037	-	-	.281	.031	3.062
-	CE-7038	-	-	.343	.031	3.687
-	-	CS-7039	-	.203	.015	2.531
CA-06	CE-7006	CS-7006	-	.343	.062	2.812
CA-07♦	CE-7007	CS-7007	-	.375	.062	3.500
CA-49•	-	-	-	.312	-	-
CA-07	CE-7007	CS-7007	-	.375	.062	3.500
-	-	CS-7027	-	.312	.062	2.750
CA-44	-	CS-7044	-	.375	.062	3.500
-	CE-7041	-	-	.312	.062	3.125
CA-08	CE-7008	CS-7008	-	.500	.062	3.500
-	-	CS-7042	CSL-7042	.312	.062	4.000
CA-09	CE-7009	CS-7009	CSL-7009	.437	.062	3.375
CA-44	-	CS-7044	-	.375	.062	3.500
CA-09	CE-7009	CS-7009	CSL-7009	.437	.062	3.375
CA-10	CE-7010	CS-7010	CSL-7010	.343	.062	3.562
CA-45	-	-	-	.437	.062	4.125
CA-11♦	CE-7011	CS-7011	CSL-7011	.343	.062	3.562
CA-12	CE-7012	-	-	.375	.062	3.500
CA-13♦	CE-7013♦	CS-7013	CSL-7013	.437	.031	3.625
CA-30♦	CE-7030	-	-	.343	.062	4.000
CA-14	CE-7014	-	-	.500	.062	4.125
CA-15	CE-7015	CS-7015	-	.437	.062	4.187
CA-25	CE-7025	-	-	.437	.062	3.625
CA-15	CE-7015	CS-7015	-	.437	.062	4.187
CA-16	CE-7016	CS-7016 _{SKF}	CSL-7016	.375	.062	3.625
CA-17	CE-7017	CS-7017	-	.500	.062	3.875
CA-18	-	-	-	.562	.062	4.125
CA-19	CE-7019 _{TOR}	CS-7019	CSL-7019	.656	.031	4.562
CA-26	-	-	-	.625	.062	4.500
-	CE-7020	CS-7020	-	.562	.062	5.125
CA-21	CE-7021	CS-7021 _{TOR}	CSL-7021	.562	.062	3.875
CA-23	CE-7023 _{TOR}	CS-7023	CSL-7023	.437	.062	4.125
CA-24♦	CE-7024 _{TOR,SKF}	CS-7024 _{TOR}	CSL-7024	.437	.062	4.125

Clark's Series 7000 seals are specifically designed for sheaves. The CSL Premium Seals are designed to fit all tapered roller bearing applications.



♦ Widths may vary between styles; check with manufacturer.
 • Seal for this bearing combination available only in "CA" style.
 SKF = Also fits SKF bearing.
 TOR = Also fits Torrington bearing.

Seal Designs



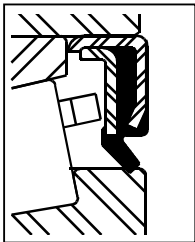
CPZ
pg. 38

CPE
pg. 38

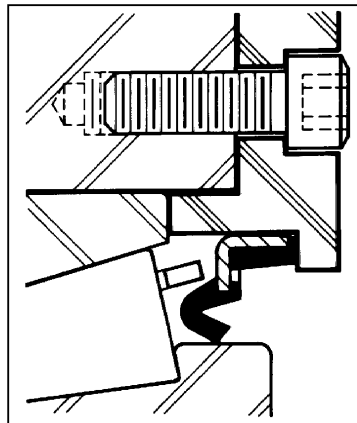
CJ
pg. 17

CJ1
pg. 17

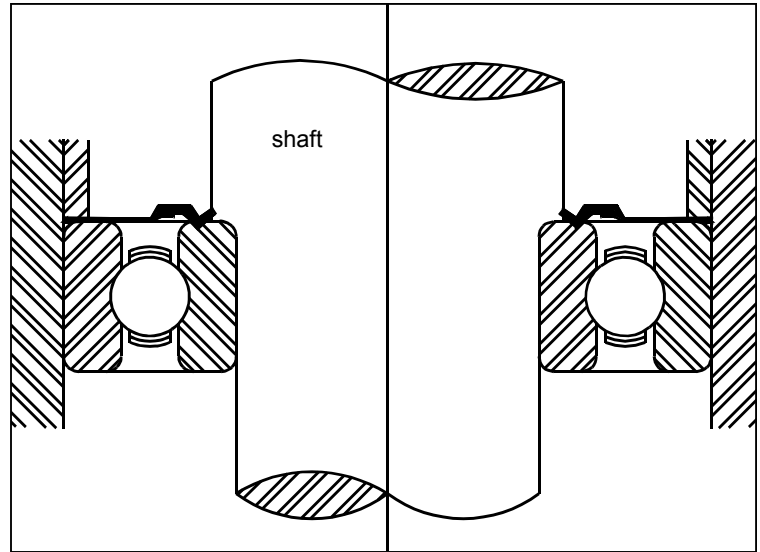
Labyrinth Grease Retainer
pg. 39



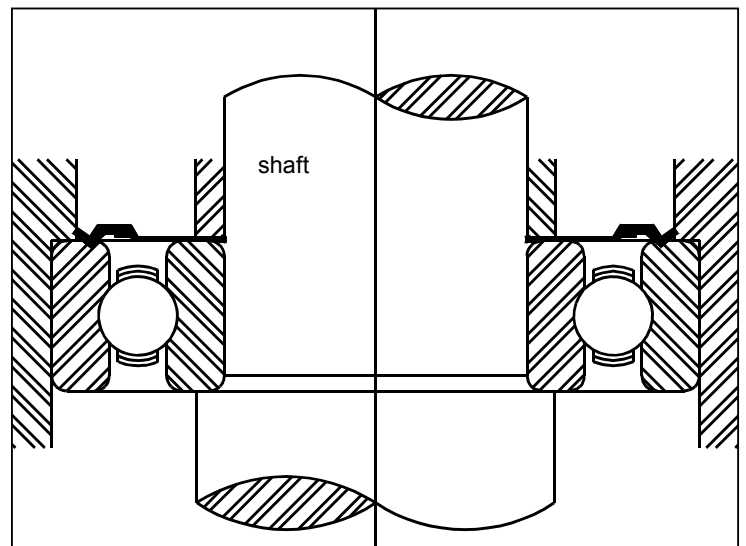
VA2Y
pg. 18



6000 Series
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CN
pg. 32-37



CO
pg. 32-37

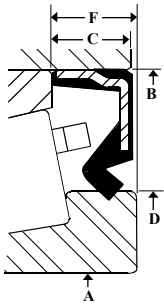
Quality Design

Clark's Sheave and Excluder Seals® are recommended by the Timken Company®. Clark Seals are designed and manufactured in the U.S.A. Seals are precision parts with specific application requirements. Clark reviews all new applications, and design seals to SAE and RMA standards. We take pride in our ability to meet the design challenges of our customers.

TIMKEN® is a registered trademark of The Timken Company®.

ExcluderSeals® for Tapered Roller Bearings

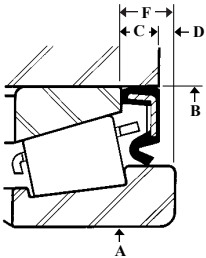
Note: Tables are arranged by cone bore size, -A-.



CSL Premium

The CSL Premium seal combines the benefits of a machined metal and elastomer O.D. The metal O.D. provides a heavy press fit and easy installation. The elastomer covers the outside face and seals against the housing bore for maximum protection. The CSL Premium seal has a nose gasket that seals against the cup front face. The SAE lip design reduces drag, increases seal life, excludes heavy contaminants, and allows spent grease to be flushed from the bearing cavity. The lead-in chamfer allows for easy, accurate installation and better concentricity between the housing bore and the sealing lip. CSL Premium seals are used in corrosive environments such as cargo handling equipment, drilling rigs, mine-car wheels, shipboard applications, hospital equipment, recreation equipment and utility trailers.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Large Cone Rib Dia. -D-	Bearing Standout -F-
	Cone	Cup		-B-	-F-			
CSL-7042	NA759SW	752D	3.500	6.375	0.312	4.722	0.375	
CSL-7009	NA56393SW	56650CD	3.937	6.500	0.437	5.425	0.496	
CSL-7009	NA56425SW	56650CD	4.000	6.500	0.437	5.425	0.496	
CSL-7010	NA48290SW	48220D	5.000	7.187	0.343	6.108	0.398	
CSL-7011	NA48685SW	48620D	5.625	7.875	0.343	6.772	0.404	
CSL-7013	NA46790SW	46720D	6.500	8.875	0.437	7.760	0.498	
CSL-7016	LM241149SW	LM211110D	8.000	10.875	0.375	9.471	0.437	
CSL-7019	NA8575SW	8520D	9.250	12.875	0.625	11.007	0.683	
CSL-7021	LM249747NW	LM249710CD	10.000	13.687	0.562	11.586	0.625	
CSL-7023	LM251649NW	LM251610D	10.500	13.875	0.437	12.199	0.500	
CSL-7024	L357049NW	L357010CD	12.000	15.500	0.437	13.797	0.528	



CE

The CE type seal has a rubber covered 16-gauge steel case for maximum protection against corrosion. It also has a nose gasket that seals against the cup front face. The lip design excludes heavy contaminants, extends bearing life and allows spent grease to be flushed from the bearing cavity. CE seals are used in corrosive environments such as cargo handling equipment, drilling rigs, mine-car wheels, shipboard applications, hospital equipment, recreation equipment and utility trailers.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Width -C-	Clearance -D-	Standout -F-
	Cone	Cup		-B-	-F-			
CE-LM48510	LM48548	LM48510	1.375	2.561	.173	-	.173	
CE-2720	2776	2720	1.500	3.000	.135	.053	.187	
CE-44348	44162	44348	1.625	3.484	.212	-	.313	
CE-532X	537	532X	2.000	4.248	.272	-	-	
CE-JM-511910	JM511946	JM511911	2.559	4.331	.194	-	-	
CE-472	484	472	2.756	4.724	.125	.094	.219	
CE-52375-637D	52375	52637D	3.750	6.375	-	-	.405	
CE-JM734410	JM734449	JM734410	170mm/6.693	240mm/9.449	.354	-	.354	
CE-JHM840410	JHM840449	JHM840410	200mm/7.874	300mm/11.811	.551	-	.551	
CE-LM451310-49	LM451349	LM451310	10.500	14.000	.437	.062	.500	
CE-LM757010-49	LM757049	LM757010	12.000	16.000	.562	.062	.625	
CE-HM 256810	HM256849	HM256810	11.813	16.625	.625	-	-	
CE-19.75-21.50-1.00†	N/A	N/A	N/A	21.500	1.000	-	-	
CE-1050	N/A	N/A	-	12.500	.500	-	-	
CE-LM665949	LM665949	LM665910	15.188	20.250	.570	.372	.750	

† CE-19.75-21.50-1.00 is similar to Johns-Manville JM9446RPD



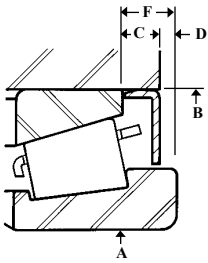
Sheave Seals® for two row Timken® TNASW & TNASWE assemblies

Bearing Part Number		Taper Set Type†	Cone Bore -A-	Cup O.D. -B-	Width		Large Cone Rib Dia. -H-
Cone	Cup				Through Cones -C-	Over Cups -D-	
NA05076SW	05185D	2	0.7500	1.8504	1.3750	0.9926	1.3040
NA26118SW	26284D	1	1.1811	2.8338	1.6835	1.4375	
NA15118SW	15251D	2	1.1810	2.5000	1.9981	1.4375	1.8017
NA15117SW	15251D	2	1.1813	2.5000	2.0001	1.4375	1.8017
NA24776SW	24720D	2	1.5000	3.0000	2.3125	1.5625	2.2933
NA435SW	432D	2	1.7500	3.7500	2.8126	2.0000	2.5598
NA3780SW	3729D	1	2.0000	3.6718	2.5625	2.0625	
NA455SW	452D	1	2.0000	4.2500	2.5626	2.1250	3.0777
NA456SW	452D	2	2.0000	4.2500	2.9376	2.1250	3.1141
NA558SW	552D	1	2.3750	4.8750	3.1250	2.5000	3.6050
NA643SW	632D	1	2.7500	5.3750	3.7500	3.0000	3.8720
NA484SW	472D	1	2.7559	4.7244	2.5626	2.1250	3.6440
NA483SW	472D	2	2.7559	4.7244	2.9376	2.1250	3.6540
NA575SW	572D	2	2.9990	5.5115	3.6250	2.6250	4.2980
NA495SW	493D	1	3.0000	5.3750	2.7500	2.1250	
NA580SW	572D	2	3.2500	5.5115	3.6250	2.6250	4.3229
NA497SW	493D	2	3.3750	5.3750	2.8750	2.1250	4.2828
NA678SW	672D	1	3.4990	6.6250	3.6250	2.7500	5.2350
NA593SW	592D	1	3.5000	6.0000	3.2500	2.5000	4.7830
NA596SW	592D	2	3.5000	6.0000	3.6250	2.5000	4.7630
NA759SW	752D	1	3.5000	6.3750	4.1250	3.3750	4.7220
NA56393SW	56650D	2	3.9370	6.5000	3.5000	2.5000	5.4249
NA691SW	672D	1	4.0000	6.6250	3.6250	2.7500	
NA56425SW	56650D	2	4.2500	6.5000	3.5000	2.5000	5.4249
NA48290SW	48220D	2	5.0000	7.1875	3.6874	2.8750	6.1075
NA798SW	792D	1	5.0000	8.1250	4.2500	3.2500	
NA48685SW	48620D	2	5.6250	7.8750	3.6876	2.8750	6.7717
NA48990SW	48920D	2	6.0000	8.3125	3.6250	2.7500	7.2085
NA46790SW	46720D	2	6.5000	8.8750	3.7500	2.7500	7.7600
NA67791SW	67720D	1	7.0000	9.7500	4.0625	3.3125	
NA87700SW	87112D	2	7.0000	11.1250	4.2500	3.1250	9.1816
NA67874SW	67820D	2	7.0866	10.5000	4.3125	3.3125	9.1444
LM637349NW	LM637310D	2	7.2500	9.5625	3.7500	2.7500	8.4803
NA67885SW	67820D	2	7.5000	10.5000	4.3125	3.3125	9.1444
LM241149NW	LM241110D	2	8.0000	10.8750	3.7500	2.8750	9.4709
LM446349NW	LM446310D	2	9.2500	12.2500	4.0000	2.8750	10.8156
LM246349NW	LM246310D	2	9.2500	12.8125	4.2500	3.0000	10.7786
NA8575SW	8520D	2	9.2500	12.8750	4.6250	3.2500	11.0065
NA8575SW	8522D	2	9.2500	12.9380	4.6250	3.2500	11.0065
NA127096SW	127136D	2	9.6250	13.7460	5.2500	4.0000	11.4351
LM249747NW	LM249710D	2	10.0000	13.6875	4.0000	2.7500	11.5860
LM251649NW	LM251610D	2	10.5000	13.8750	4.2500	3.2500	12.1994
L357049NW	L357010D	2	12.0000	15.5000	4.2500	3.2500	13.7970

† Taper Set Type: 1 Timken® Assembly Set Type "TNASW."
Un-ground cone rib O.D.
2 Timken® Assembly Set Type "TNASWE."
extended large ribs which are ground on the O.D.

ExcluderSeals® for Tapered Roller Bearings

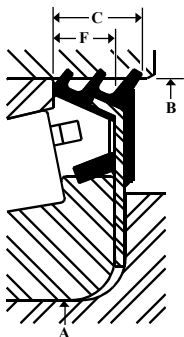
Note: Tables are arranged by cone bore size, -A-.



CA

This all metal seal is used to help retain grease and act as a shield. A heavy press fit retains the seal in the housing during bearing re-lubrication. Slight leakage of excess grease occurs during operation. It is often used where high temperatures prevent using an elastomer lip seal, such as overhead cranes in steel mills.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup					
CA-20247	-	20257	-	2.625	0.438	-	0.875
CA-20257	-	20257	-	2.625	0.438	-	0.990
CA-362A	365A	362A	1.625	3.500	0.197	-	0.162
CA-JLM506810	JLM506849	JLM506810	55mm/2.165	90mm/3.543	0.146	0.031	0.177
CA-45220	45291	45220	2.250	4.125	-	-	0.250
CA-JLM714110	JLM714149	JLM714110	75mm/2.952	115mm/4.527	0.216	0.020	0.236
CA-27620	27690	27620	3.281	4.938	0.200	0.019	0.219
CA-JM720210	JM720249	JM720210	100mm/3.937	155mm/6.102	0.290	-	0.290
CA-95975	95500	95975	5.000	9.750	0.500	0.062	0.562
CA-74851	74550	74851	5.500	8.500	0.437	0.062	0.500
CA-81962	81600	81962	6.000	9.625	0.500	0.062	0.562
CA-JM738210	JM738249	JM738210	190mm/7.480	260mm/10.236	0.341	0.033	0.374
CA-67920	67985	67920	8.125	11.125	0.344	0.031	0.375
CA-LM742710	LM742749	LM742710	8.500	11.250	0.385	0.053	0.438
CA-431575-SS	EE430888	431575	8.875	15.750	0.750	-	1.000
CA-431575-SS	EE430900	431575	9.000	15.750	0.750	-	1.000
CA-824163	NA824102W	824163XD	10.242	16.254	0.687	0.125	0.812
CA-HM259010	HM259049	HM259010	12.500	17.625	0.625	0.062	0.687
CA-HM259010-SS	HM259049	HM259010	12.500	17.625	0.625	0.062	0.687
CA-LM361610-SS	LM361649	LM361610	13.500	17.750	0.500	0.062	0.562
CA-L163110	L163149	L163110	14.000	17.500	0.437	0.062	0.500
CA-192201	EE192150	192201	15.000	20.000	0.750	0.250	1.000
CA-192201NW	EE192150	192201	15.000	20.000	-	0.250	1.000



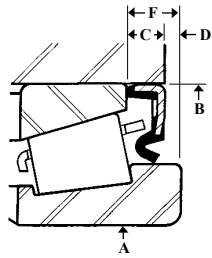
CY3

The CY3 has three excluder lips that provide maximum contaminant exclusion. The lips seal against the housing bore. The CY3 Excluder Seal® also features an elastomer locator lip that positions the seal onto the bearing cone for easy, accurate assembly. The partial rubber exterior aids in protecting the seal. This design provides a grease-flushing feature.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Bearing Standout -F-
	Cone	Cup				
CY3-L44610	L44649	L44610	1.062	1.980	0.188	0.140
CY3-LM67010	LM67048	LM67010	1.250	2.328	0.182	0.160

ExcluderSeals® for Tapered Roller Bearings

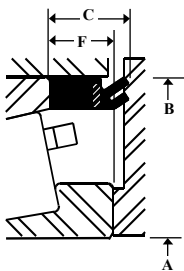
Note: Tables are arranged by cone bore size, -A-.



CS

The CS Excluder Seal® is a single lip seal with the same lip design as the CE style. The metal case of the CS design provides a heavy press fit into the housing bore. It also provides resistance to excessive bearing cavity pressures. The nose gasket seals against the cup front face.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup					
CS-LM11910	LM11949	LM11910	0.750	1.786	0.175	-	0.135
CS-K38958A	NA12581SW	K38958A	0.813	1.937•	0.169	-	0.169
CS-K33867A	NA15117SW	K33867A	1.181	2.398•	0.245	-	0.245
CS-2720†	2776	2720	1.500	3.000	0.135	0.053	0.200
CS-33821	NA33889SW	33821	2.000	3.749	0.235	0.031	0.313
CS-532X†	537	532X	2.000	4.250	0.215	0.094	0.312
CS-K106797	NA33889SW	K106797	2.000	5.000	0.275	-	-
CS-3920	3980	3920	2.375	4.438	0.250	-	0.250
CS-32014X	X32014X	Y32014X	2.756	4.337	0.220	-	-
CS-472†	484	472	2.756	4.724	0.125	0.094	0.235
CS-K88207	NA483SW	K88207	2.7559	6.2500	-	-	-
CS-JM515610	JM515649	JM515610	3.196	5.118	0.256	-	-
CS-42587/375-1	42375	42587	3.750	5.875	0.687	-	0.218
CS-JM720210	JM720249	JM720210	3.937	6.102	0.300	0.026	0.315
CS-932	938	932	4.500	8.375	0.437	0.062	-
CS-95925	95525	95925	5.250	9.250	0.500	0.062	0.562
CS-JHM534110	JHM534149	JHM534110	6.692	9.055	0.280	-	0.315
CS-HM535310	HM535349	HM535310	6.750	10.250	0.500	0.062	0.562
CS-JM736110	JM736149	JM736110	7.086	9.842	0.363	0.044	0.407
CS-M249710	M249749	M249710	10.000	14.125	-	-	0.676
CS-EE128160	EE128111	EE128160	11.031	16.000	0.562	0.062	0.625
CS-HM259010	HM259049	HM259010	12.500	17.625	0.625	0.062	0.687
CS-LM361610	LM361649	LM361610	13.500	17.750	0.500	0.062	0.562
CS-163110	L163149	L163110	14.000	17.500	0.437	0.062	0.500
CS-F212737	-	-	-	13.701	0.250	-	-
CS-K92648	-	K92648	-	-	0.235	-	-
CS-RZ-21SB	-	-	-	11.125	0.340	-	-
CS-EE231975/400	EE231400	231975	14.000	19.750	0.875	-	0.920
CS-268710-730	M268730	M268710	15.000	23.250	-	-	-
CS-95925	95500	95927CD	5.000	9.250	.500	.065	0.553



CF

The CF Excluder Seal® has two excluder lips that seal against a rotating flange or shaft shoulder. The CF style has a flat metal case to press fit the seal against the cup face and housing bore.

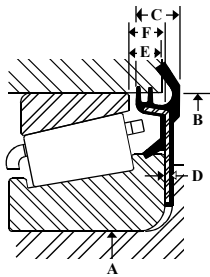
Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Durometer	Bearing Standout -F-
	Cone	Cup					
CF-13.5-.500 .01	M349549	M349510	10.135	13.500	0.500	70	0.488
CF-13.5-.500 .02	M349549	M349510	10.135	13.500	0.500	80	0.488

• Cup counter-bore O.D.

† Non-standard design.

ExcluderSeals® for Tapered Roller Bearings

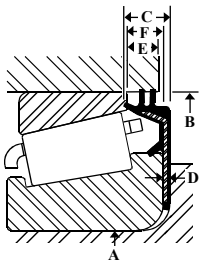
Note: Tables are arranged by cone bore size, -A-.



CW

The CW is an extra heavy-duty triple lipped seal used in deep water sheave applications. The heavy-gauge steel case is rubber covered for maximum corrosion protection. This exclusive lip design gives improved sealing at greater water depths. Rubber on the inside diameter of the metal case provides a positive seal against the shaft. The Excluder Seal® also features an elastomer locator lip that positions the seal onto the bearing cone for easy, accurate assembly. This seal is also used in dam gates and on irrigation and marine equipment.

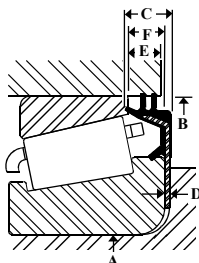
Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CW-25520	25590	25520	1.796	3.265	.208	-	-	.188
CW-27620	27690	27620	3.281	4.938	.248	.060	.220	.220
CW-48620	48685	48620	5.625	7.875	.435	.080	.260	.288
CW-19	NA8575SW	8520D	9.250	12.875	.655	.100	.687	.687



CW1

The CW1 is an extra heavy-duty triple lip design that gives superb bearing protection from contaminants. The three lips open during bearing re-lubrication to allow excess grease to be flushed from the bearing cavity. Two excluder lips contact the housing bore while one excluder lip seals on the cup front face. Rubber on the inside diameter of the metal case provides a positive seal against the shaft. The heavy-gauge steel case is rubber covered for maximum corrosion protection. For accurate assembly, the CW1 Excluder Seal® features an elastomeric locator lip to position the seal onto the bearing cone.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CW1-LM67010	LM67048	LM67010	1.250	2.328	.230	.060	.140	.160
CW1-74850	74550	74850	5.500	8.500	.500	.080	.500	.500
CW1-32040X*	NA93800	93127CD	8.000	12.500	.849	-	-	.688
CW1-275155/105	EE275105	275155	10.500	15.500	1.050	.060	.900	.937



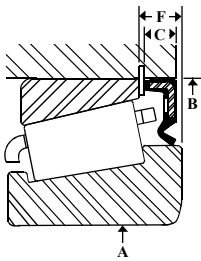
CW2

The CW2 is the same as the CW1 except that the outside seal face is partially rubber covered for heavy clamping pressure and limited space applications.

* Also fits Timken's metric bearing X32040-Y32040

ExcluderSeals® for Tapered Roller Bearings

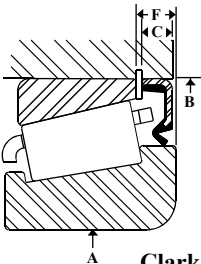
Note: Tables are arranged by cone bore size, -A-.



CE-8000

The 8000 series seals are narrower than the 7000 series seals. They are used in applications where a snap ring is required to positively retain the bearing cup in the housing. This series is used in crown and traveling blocks, and in mine-car wheels. Clark recommends all seals installed in damaged housings be bonded into the housing with an industrial adhesive.

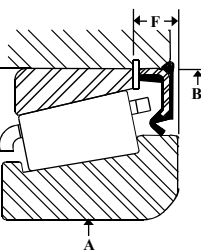
Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Bearing Standout -F-
	Cone	Cup		-B-	-B-		
CE-8037	NA558SW	552D	2.375	4.875	-	0.312	
CE-8038	NA643SW	632D	2.750	5.375	-	0.368	
CE-8027	NA497SW	493D	3.375	5.375	0.250	0.375	
CE-8030	NA497SW	493D	3.375	5.375	0.250	0.368	
CE-8010	NA48290SW	48220D	5.000	7.188	-	0.396	
CE-8011	NA48685SW	48620D	5.625	7.875	-	0.404	
CE-8024	L357049NW	L357010CD	12.000	15.500	-	0.528	



CS-8000

The CS style is the same as the CE-8000 except that it has an exposed metal exterior and metal O.D. for a heavy press fit and easy, accurate installation.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Bearing Standout -F-
	Cone	Cup		-B-	-B-		
CS-8003	NA24776SW	24720D	1.500	3.000	0.235	0.375	
CS-8009	NA56425SW	56650D	4.250	6.500	0.197	0.375	
CS8-HH437510	HH437549	HH437510	6.500	13.25	0.625	0.875	
CS-8013	NA46790SW	46920CD	6.500	8.875	-	0.499	
CS-8016	LM241149NW	LM241110D	8.000	10.875	-	0.437	
CS-8021	LM249747NW	LM24970CD	10.000	13.688	-	0.625	
CS-8023	LM251649NW	LM251610D	10.500	13.875	-	0.500	
CS-8024	L357049NW	L357010CD	12.000	15.500	-	0.528	



CST-8000

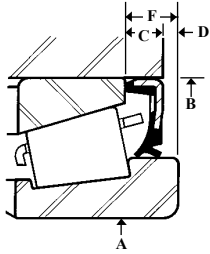
The CST style is the same as the CE-8000 except that it has a rubber covered exterior that extends to seal against the housing chamfer. This style is used in salt water and corrosive environments. The metal O.D. gives a heavy press fit and easy, accurate installation.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Bearing Standout -F-
	Cone	Cup		-B-	-B-	
CST-8037*	NA558SW	552D	2.375	4.875	0.312	
CST-8042	NA759SW	752D	3.500	6.375	0.375	
CST-8009	NA56393SW	56650CD	3.936	6.500	0.496	
CST-8011	NA48685SW	48620D	5.625	7.875	0.404	
CST-8013	NA46790SW	46720D	6.500	8.875	0.498	
CST-8015*	NA67874SW	67820CD	7.087	10.500	0.500	
CST-8016	LM241149SW	LM211110D	8.000	10.875	0.437	
CST-8019	NA8575SW	8520D	9.250	12.875	0.683	
CST-8021	LM249747NW	LM249710CD	10.000	13.687	0.625	
CST-8023	LM251649NW	LM251610D	10.500	13.875	0.500	
CST-8024	L357049NW	L357010CD	12.000	15.500	0.528	

* Check for availability

ExcluderSeals® for Tapered Roller Bearings

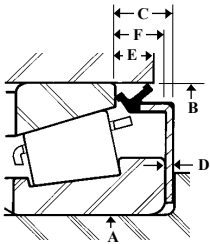
Note: Tables are arranged by cone bore size, -A-



CS-2000

The 2000 series has a double lip for grease retention and for maximum bearing protection from contaminants. These seals are designed to prevent the excess grease from escaping during re-lubrication. The application design must include pressure relief of excess grease.

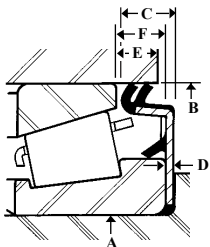
Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup					
CS2000-LM12749-11	LM12749	LM12711	.866	1.810	-	-	.135
CS2000-M86610	M86649	M86610	1.188	2.531	.188	-	-
CS2000-29620	29675	29620	2.750	4.438	-	-	.250
CS2000-K100019	NA483SW	K100019	2.756	4.755•	.370	.030	.402
CS2000-JW7010M	JW7049M	JW7010	2.756	5.512	-	-	.472
CS2000-37625	37425	37625	4.250	6.250	.295	-	.281
CS2000-892	898	897	5.500	9.000	.437	.062	.500



CT

The CT style is a double lip Excluder Seal® that provides extra protection from contaminants. The excluder lips seal on the housing bore and cup face. The air side of the metal case is rubber covered and clamps between the cone back face and the shaft shoulder. This seal is used in front-end loaders and roll formers for seamless tubing.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CT-JLM710910	JLM710949	JLM710910	65mm/2.559	105mm/4.133	.236	.030	.198	.216
CT-64700-450	64450	64700	4.500	7.000	.520	.050	.325	.437
CT-67720-87	67787	67720	6.875	9.750	.425	.050	.300	.375
CT-M268710-730	M268730	M268710	15.000	23.250	1.062	.062	.725	1.000



CU

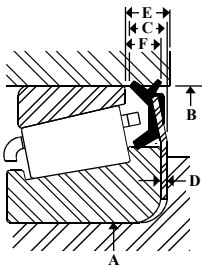
The CU style is a double excluder lipped seal for added protection in extremely dirty or wet environments. The two lips open during bearing re-lubrication to allow excess grease to be flushed from the bearing cavity. This seal features an elastomer locator lip that positions the seal onto the bearing cone for easy, accurate assembly. Rubber on the seal I.D. provides a positive seal against the shaft. The heavy-gauge steel case is clamped between the cone back face and the shaft shoulder. The face can be rubber covered unless heavy clamping pressure precludes using rubber on the seal outside face or where space is limited. This seal is generally used in agricultural equipment.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CU-HM803110	HM803149	HM803110	1.750	3.500	.230	.030	.281	.281
CU-JM738249-210	JM738249	JM738210	7.480	10.236	.405	-	-	.374
CU-JHM840410	JHM840449	JHM840410	200mm/7.874	300mm/11.811	.520	.076	.400	.551

• Cup counter bore O.D.

ExcluderSeals® for Tapered Roller Bearings

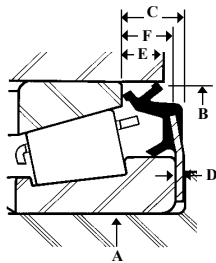
Note: Tables are arranged by cone bore size, -A-.



CY

The CY seal features a grease retaining lip to retain grease. The excluder lip functions to prevent dirt and debris from entering the bearing cavity. The bearing lubricating system must include pressure relief of excess grease. A heavy-gauge steel case is securely clamped between the cone back face and shaft shoulder. This Sheave Seal® features an elastomer locator lip that positions the seal onto the bearing cone for easy, accurate assembly. The CY style is used on agricultural equipment, hoists and cam rollers.

Clark Seal Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CY-32005XJ*	32005XJ*	32005XJ*	26mm/1.023	47mm/1.850	.122	-	-	.160
CY-32005X▲	32005X▲	32005X▲	26mm/1.023	47mm/1.850	.122	-	-	.138
CY-M320/28*	M320/28*	M320/28*	28mm/1.102	52mm/2.047	.169	-	-	.157
CY-305115*	305115*	305115*	30mm/1.181	51mm/2.007	.158	-	-	.157
CY-32006JR*	32006JR*	32006JR*	30mm/1.181	55mm/2.165	.158	-	-	.157
CY-27620	27690	27620	3.281	4.938	.220	.050	.219	.219
CY-09	NA56425SW	56650D	4.250	6.500	.437	.060	.500	.500
CY-14	NA87700SW	87112D	7.000	11.125	.500	.060	.562	.562
CY-17	LM446349	LM446310D	9.250	12.250	.500	.060	.562	.562
CY-23	LM251649	LM251610D	10.500	13.875	.437	.060	.500	.500
CY-24	L357049NW	L357010D	12.000	15.500	.437	.060	.500	.500
CY-87712DKSS	NA87700SW	87112D	7.000	11.125	.500	-	.562	-



CYE

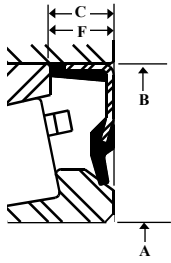
CYE style seals are designed for applications requiring less drag than other types of tapered roller bearing seals. The two excluder lips provide excellent contaminant exclusion. The lips seal against the bearing cup's front face and the housing bore. This design provides a grease-flushing feature that removes spent grease and improves bearing life. The heavy-gauge steel case is clamped between the cone back face and the shaft shoulder. The CYE Excluder Seal® also features an elastomer locator lip that positions the seal onto the bearing cone for easy, accurate assembly.

Clark Seal Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Seal Flange Width -D-	Min. Hsg. Depth -E-	Bearing Standout -F-
	Cone	Cup						
CYE-LM11910	LM11949	LM11910	.750	1.781	.175	.030	.175	.135
CYE-07196	07100	07196	1.000	1.968	.200	.040	.281	.156
CYE-15245	15100	15245	1.000	2.440	-	-	-	.188
CYE-L44610	L44649	L44610	1.062	1.980	.190	.040	.210	.140
CYE-LM67010	LM67048	LM67010	1.250	2.328	.195	.030	.161	.161
CYE-LM48510	LM48548	LM48510	1.375	2.562	.230	.038	.185	.173
CYE-L68111	L68149	L68111	1.378	2.361	.210	.030	.125	.167
CYE-25520	25590	25520	1.796	3.265	.208	.030	.150	.185
CYE-HM803110	HM803149	HM803110	1.750	3.500	.290	.030	.311	.281
CYE-JLM104910	JLM104948	JLM104910	50mm/1.968	82mm/3.228	.236	.030	.188	.188
CYE-LM104911	LM104949	LM104911	2.000	3.250	.300	.038	.210	.220
CYE-32011X	32011X	YKB32010X	55mm/2.165	82mm/3.228	.290	.045	.230	.216
CYE-JLM506810	JLM506849	JLM506810	55mm/2.165	90mm/3.543	.215	.030	.177	.177
CYE-394-L	399A	394A	2.688	4.331	.215	.030	.120	.140
CYE-HM237510	HM237535	HM237510	6.500	11.375	.690	.060	.600	.625
CYE-L540010	L540049	L540010D	7.750	10.000	.312	.060	.312	.281

▲ KBC Korean bearings
* MCI Japanese bearings

ExcluderSeals® for Tapered Roller Bearings

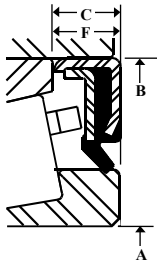
Note: Tables are arranged by cone bore size, -A-.



CB

The CB is an excluder that seals against a chamfered large cone rib diameter. It has a nose gasket to improve O.D. sealing.

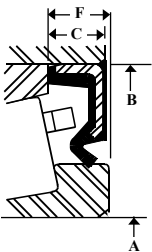
Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup		-B-	-B-			
CB-2720	2776	2720	1.500	3.000	0.185	-	0.187	
CB-K33867A	NA15117SW	K33867A	1.181	2.398	0.250	-	0.245	
CB-JLM813010	JLM813049	JLM813010	2.756	4.331	0.188	-	0.217	



VA2Y

The VA2Y is a double metal case, single excluder lip seal with a grease flushing feature. It has a ground metal O.D. with an inner metal case for a heavy press fit with greater structural rigidity.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup		-B-	-B-			
VA2Y-14276-14136♦	14136A	14276	1.375	2.717	-	-	.4373	



CST

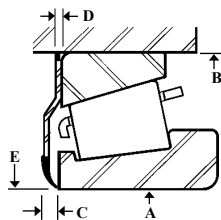
The CST is a grease flushing seal with a rubber covered seal face which has a rubber ridge that seals against the housing radius to protect the bearing in a corrosive environment. The metal O.D. provides a heavy press fit with a nose seal for added O.D. sealing.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D.		Seal Width -C-	Seal Clearance -D-	Bearing Standout -F-
	Cone	Cup		-B-	-B-			
CST-7009	NA56393SW	56650CD	3.936	6.500	0.437	-	0.496	
CST-7011	NA48685SW	48620D	5.625	7.875	0.343	-	0.404	
CST-7013	NA46790SW	46720D	6.500	8.875	0.437	-	0.498	
CST-7015♦	NA67874SW	67820CD	7.087	10.500	0.437	-	0.500	
CST-7016	LM241149SW	LM211110D	8.000	10.875	0.375	-	0.437	
CST-7019	NA8575SW	8520D	9.250	12.875	0.625	-	0.683	
CST-7021	LM249747NW	LM249710CD	10.000	13.687	0.562	-	0.625	
CST-7023	LM251649NW	LM251610D	10.500	13.875	0.437	-	0.500	
CST-7024	L357049NW	L357010CD	12.000	15.500	0.437	-	0.528	
CST-7037♦	NA558SW	552D	2.375	4.875	0.281	-	0.312	
CST-7042	NA759SW	752D	3.500	6.375	0.312	-	0.375	

♦ Check for availability

ExcluderSeals® for Tapered Roller Bearings

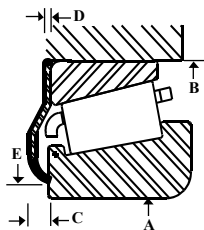
Note: Tables are arranged by cone bore size, -A-



CJ

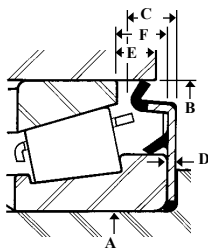
CJ style seals are utilized in applications where the bearing can only be sealed by using the cone's front face. The application requires a shoulder or other means of clamping the seal in place against the cup. This seal retains grease and protects against contaminants while allowing excess grease to escape. This seal is used on heavy equipment with rollers, such as paper-mills.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Thickness -D-	Seal I. D. -E-
	Cone	Cup					
CJ-32011X	X32011X	YKB32010X	55mm/2.165	90mm/3.543	.140	.030	2.270
CJ-JLM508710	JLM508748	JLM508710	2.362	3.741	.130	.030	2.455



CJ1

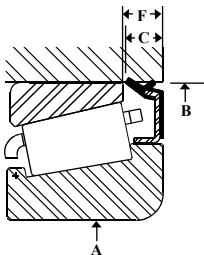
The CJ1 series is the same as the CJ except that the CJ1 has a rubber covered exterior to protect the metal case.



CL

The CL Excluder Seal® features a single excluder lip that seals against the housing bore, and an elastomer locator lip to position the seal on the large cone rib diameter of the bearing for easy, accurate assembly. The heavy-gauge steel case is clamped between the cone back face and the shaft shoulder. The outside seal face is rubber covered unless heavy clamping pressure prevents using rubber or where space is limited. Rubber on the seal I.D. provides a positive seal against the shaft. Coordinating the CL and the CJ series will create a complete sealing system.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Thickness -D-	Min. Hsg. Bearing	
	Cone	Cup					Depth -E-	Standout -F-
CL-32011X	32011X	YKB32010X	55mm/2.165	90mm/3.543	.195	.050	.240	.216
CL-JLM508710	JLM508748	JLM508710	60mm/2.362	95mm/3.740	.200	.060	.170	.195
CL-39521-90	39590	39521	2.625	4.437	.275	.125	-	.250
CL-752-759	752	759	3.500	6.375	.300	.075	.313	.375
CL-JM719113-149	JM719149	JM719113	95mm/3.740	150mm/5.905	.375	.064	.200	.315
CL-52375-637	52375	52637	3.750	6.375	.377	.030	.315	.406
CL-JHM534110-149	JHM534149	JHM534110	170mm/6.692	230mm/9.055	.286	.030	-	.315



CY1

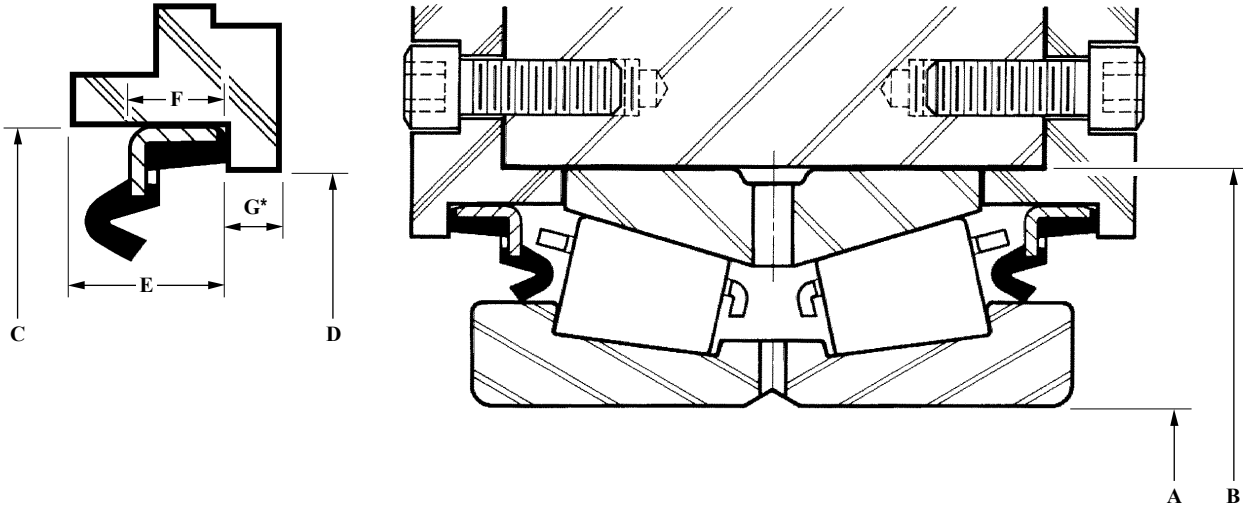
The CY1 seal features a grease retaining lip to retain grease. The excluder lip functions to prevent dirt and debris from entering the bearing cavity. The bearing lubricating system must include pressure relief of excess grease. The metal case press fits onto the large cone rib diameter and the air side is flush with the cone back face.

Clark Seal® Number	NTN® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Bearing Standout -F-
	Cone	Cup				
CY1-4T320/28X	4T320/28X	4T320/28X	28mm/1.102	52mm/2.047	.110	.165

ExcluderSeals® 6000 Series Dimensions Specifications

The 6000 series seals are used in applications where excessive thrust load (fleet angle) could exceed the press fit of the bearing cup in the housing (sheave) bore. A machined metal ring provides a shoulder to positively retain the cup. The 6000 series seal is designed to work with the machined ring to

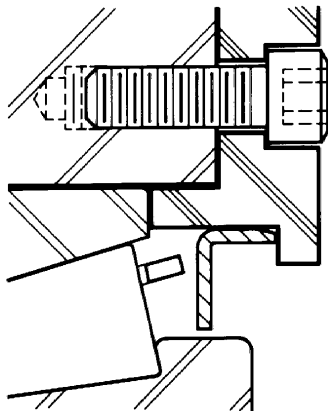
retain bearing grease and provide maximum protection from contaminants. The 6000 series Sheave Seal® is available in CA, CE, and CS types. These seals are used on marine docks and aboard ships where the heavy loads swivel and shift.



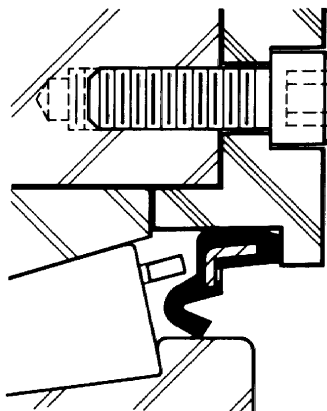
Note: Listed by cone bore size, -A-

Clark Seal® Number	Timken® Part Number Cone	Timken® Part Number Cup	Cone Bore -A-	Cup O.D. -B-	Seal Hsg. -C-	Max. Shoulder Dia. -D-	Counter Bore Depth -E-	Seal Heel Width -F-
CE-6009	NA56425SW	56650D	4.2500	6.5000	6.250	6.000	.812	.375
CA-6011	NA48685SW	48620D	5.6250	7.8750	7.600	7.350	.593	.313
CE-6016	LM241149NW	LM241110D	8.0000	10.8750	10.500	10.250	.690	.375
CS-6021	LM249747NW	LM249710D	10.0000	13.6875	13.100	12.850	1.000	.625
CA-6024	L357049NW	L357010D	12.0000	15.5000	14.950	14.700	.812	.437

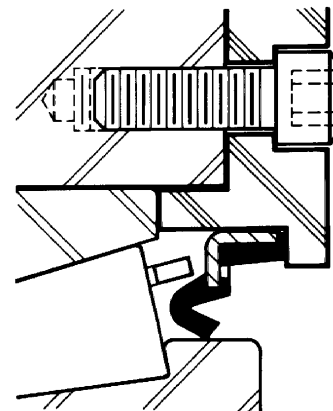
* -G- Minimum Shoulder Width: .125"



CA-6000



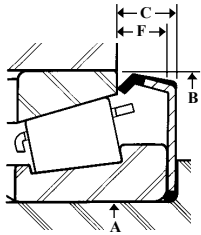
CE-6000



CS-6000

ExcluderSeals® for Tapered Roller Bearings

Note: Tables are arranged by cone bore size, -A-.

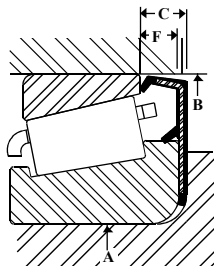


CQ

The CQ is a grease retaining seal for vertical shaft applications. The steel case is clamped between the cone back face and the shaft shoulder. The seal can be rubber covered on the air side unless heavy clamping pressure precludes using rubber or where space is limited. The sealing lip contacts the cup front face. These seals are specially designed to retain grease in the bottom bearing of vertical shaft applications. Rubber on the seal I.D. provides a positive seal against the shaft. It is used in the rotary table of drilling rigs.

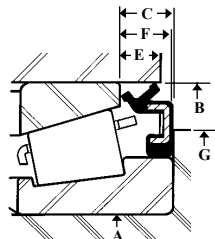
This seal was originally designed to retain grease in the upper bearing of the vertical shaft in a large gear box where the bearing had failed due to the lack of lubrication.

Clark Seal® Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Bearing Standout -F-
	Cone	Cup				
CQ-25520♦	25590	25520	1.960	3.265	-	.188
CQ-8520-78J	EE8578	8520	9.500	12.875	.760	.625



CQ1

CQ1 features the same design as the CQ with the added feature of an elastomeric locator lip to position the seal on the large cone rib diameter of the bearing for easy, accurate assembly.



CV

The CV style is a double lipped Excluder Seal® that provides extra protection from contaminants. The excluder lips seal against the bearing cup front face and the housing bore. The seal inside diameter is rubber covered and pressed onto the large cone rib diameter. The seal must be retained with a spacer or shaft shoulder.

Clark Seal® Seal Number	Timken® Bearing Number		Cone Bore -A-	Cup O.D. -B-	Seal Width -C-	Min. Hsg. Depth -E-	Bearing Standout -F-	Minimum Shoulder Dia. -G-
	Cone	Cup						
CV-L44610	L44643	L44610	1.000	1.980	.155	.140	.140	1.750
CV-JLM104910	JLM104948	JLM104910	1.969	3.228	-	-	.177	-
CV-28521	28584	28521	2.063	3.625	-	-	.188	-
CV-JLM506810	JLM506849	JLM506810	55mm/2.165	90mm/3.543	.200	.157	.177	3.250
CV-45220	45291	45220	2.250	4.125	.285	.226	.250	3.450
CV-JLM382/387A	387A	382	2.250	3.875	-	-	.125	-
CV-JLM710910	JLM710949	JLM710910	65mm/2.559	105mm/4.133	.232	.196	.217	3.750
CV-JLM710910/949C	JLM710949C	JLM710910	65mm/2.559	105mm/4.133	.232	.196	.217	3.750
CV-JLM714110	JLM714149	JLM714110	75mm/2.952	115mm/4.527	.256	.216	.236	4.130
CV-34301	34478	34301	3.000	4.781	.316	-	.281	-
CV-73875†	73562	73875	5.625	8.750	.450	.408	.437	-

† Non-standard design

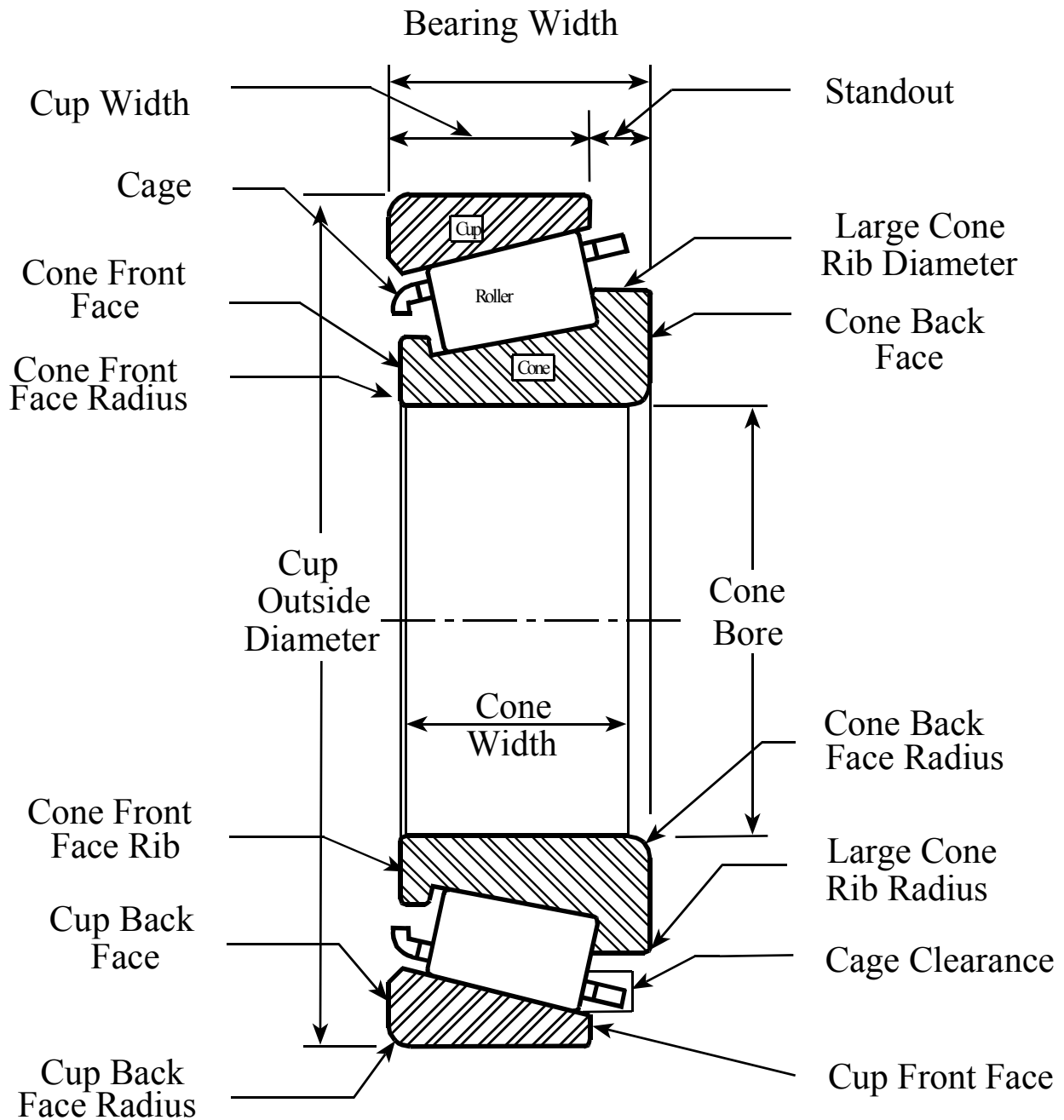
♦ Check for availability.

Seal Selection By Cone Number

Timken [®] Bearing Number				Clark Seals [®]	Page
Cone	Cup	Cone Bore	Cup O.D.	Part Number	Number
365A	362A	2.0000	4.2500	CA-362A	12
387A	382	2.2500	3.8750	CV-JLM382/387A	19
399A	394A	2.6875	4.3307	CYE-394-L	15
484	472	2.7560	4.7240	CE-472	10
"	"	"	"	CS-472	11
537	532X	2.0000	4.2480	CE-532X	10
"	"	"	"	CS-532X	11
759	752	3.5000	6.3750	CL-752-759	17
898	897	5.5000	9.0000	CS2000-892	16
938	932	4.5000	8.3750	CS-932	11
2776	2720	1.5000	3.0000	CB-2720	18
"	"	"	"	CE-2720	10
"	"	"	"	CS-2720	11
3980	3920	2.3750	4.4375	CS-3920	11
07100	07196	1.0000	1.9687	CYE-07196	15
14117A	14276	1.1811	2.7170	CA-14276	12
14136A	14276	1.3750	2.7170	VA2Y-14276-14136	18
15100	15245	1.0000	2.4419	CYE-15245	15
25590	25520	1.7960	3.2650	CQ-25520	19
"	"	"	"	CW-25520	14
"	"	"	"	CYE-25520	15
27690	27620	3.2810	4.9380	CA-27620	12
"	"	"	"	CW-27620	14
"	"	"	"	CY-27620	15
28584	28521	2.0630	3.6250	CV-28521	19
29685	29620	2.8750	4.4375	CS2000-29620	16
305115	305115	1.181/30mm	2.007/51mm	CY-305115	15
32005X	32005X	1.023/26mm	1.850/47mm	32005X	15
32005XJ	32005XJ	1.023/26mm	1.850/47mm	32005XJ	15
32006JR	32006JR	1.181/30mm	2.165/55mm	32006JR	15
34301	34478	3.0000	4.7812	CV-34301	19
37425	37625	4.2500	6.2500	CS2000-37625	16
39590	39521	2.6250	4.4370	CL-39521-90	17
4T320/28X	4T320/29X	1.102/28mm	2.047/52mm	CY1-4T320/28	17
42375	42587	3.7500	5.8750	CS-42587/375-1	11
44162	44348	1.6250	3.4843	CE-44348	10
45291	45220	2.2500	4.1250	CA-45220	12
"	"	"	"	CV-45220	19
48685	48620	5.6250	7.8750	CW-48620	14
52375	52635D	3.7500	6.3750	CE-52375-637D	10
"	"	"	"	CL-52375-637	17
52375	52637	3.7500	6.3750	CL-52375-637D	17
64450	64700	4.5000	7.0000	CT-64700-450	16
67780	67720	6.8750	9.7500	CT-67720-87J	16
67985	67920	8.1250	11.1250	CA-67920	12
73562	73875	5.6250	8.7500	CV-73875	19
74550	74851	5.5000	8.5000	CA-74851	12
"	"	"	"	CW1-74850	14
81600	81962	6.0000	9.6250	CA-81962	12
95500	95975	5.0000	9.7500	CA-95975	12
95525	95925	5.2500	9.2500	CS-95925	11
EE8578	8520	9.5000	12.8750	CQ-8520-78J	19
EE128111	EE128160	11.0312	16.0000	CS-EE128160	11
EE192150	192201	15.0000	20.0000	CA-192201	12
"	"	"	"	CA-192201-NW	12
EE231400	231975	14.0000	19.7500	CS-EE231975-400	11
EE275105	275155	10.5000	15.5000	CW1-275105/155	14

Note: Tables are arranged by cone number.

Bearing Nomenclature



TAPERED ROLLER BEARING ASSEMBLY

Seal Selection By Cone Number

Timken® Bearing Number		Clark Seals®			Page
Cone	Cun	Cone Bore	Cun O.D.	Part Number	Number
L540049	L540010D	7.7500	10.0000	CYE-L540010	15
LM11949	LM11910	0.7500	1.7810	CS-LM11910	11
"	"	"	"	CYE-LM11910	15
LM12749	LM12711	0.8660	1.8100	CS2000-LM12749-11	16
LM48548	LM48510	1.3750	2.5625	CE-LM48510	10
"	"	"	"	CYE-LM48510	15
LM67048	LM67010	1.2500	2.3280	CW1-LM67010	14
LM67048	LM67010	1.2500	2.3280	CYE-LM67010	15
"	"	"	"	CY3-LM67010	12
LM104949	LM104911	2.0000	3.2500	CYE-LM104911	15
LM241149NW	LM241110D	8.0000	10.8750	CA-16	8
"	"	"	0.0000	CE-6016	20
"	"	"	"	CE-7016	8
"	"	"	"	CS-7016SKF	8
"	"	"	"	CS-8016	13
"	"	"	"	CSL-7016	10
"	"	"	"	CST-7016	18
LM246349NW	LM246310D	9.2500	12.8125	CA-18	8
LM249747NW	LM249710CD	10.0000	13.6875	CA-21	8
"	"	"	"	CE-7021	8
"	"	"	"	CS-6021	20
"	"	"	"	CS-7021	8
"	"	"	"	CSL-7021	10
"	"	"	"	CST-7021	18
"	"	"	"	CS-8021	13
LM251649NW	LM251610D	10.5000	13.8750	CA-23	8
"	"	"	"	CE-7023TOR/SKF	8
"	"	"	"	CS-7023	8
"	"	"	"	CSL-7023	10
"	"	"	"	CST-7023	18
"	"	"	"	CS-8023	13
"	"	"	"	CY-23	15
LM361649	LM361610	13.5000	17.7500	CA-LM361610-SS	12
"	"	"	"	CS-LM361610	11
LM446349NW	LM446310D	9.2500	12.2500	CA-17	8
"	"	"	"	CE-7017	8
"	"	"	"	CS-7017	8
"	"	"	"	CY-17	15
LM451349	LM451310	10.5000	14.0000	CE-LM451310-49	10
LM637349NW	LM637310D	7.2500	9.5625	CA-25	8
"	"	"	"	CE-7025	8
LM665949	LM6655910	15.1875	20.2500	CE-665949	10
LM742749	LM742710	8.5000	11.2500	CA-LM742710	12
LM757049	LM757010	12.0000	16.0000	CE-LM757010-49	10
LM78349A	LM78310A	1.3775	2.4399	CE-LM78310A	10
M249710	M249749	10.0000	14.1250	CS-M249710	11
M268730	M268710	15.0000	23.2500	CS-M268710-730	11
"	"	"	"	CT-M268710-730	16
M349549	M349510	10.1250	13.5000	CF-13.5-.500.01	11
"	"	"	"	CF-13.5-.500.02	11
M86649	M86610	1.1875	2.5312	CS2000-M86610	16
NA435SW	432D	1.7500	3.7500	CE-7004	8
"	"	"	"	CS-7004	8
NA455SW	452D	2.0000	4.2500	CA-35	8
NA456SW	452D	2.0000	4.2500	CE-7005	8
"	"	"	"	CS-7005	8
NA483SW	472D	2.7559	4.7244	CA-06	8
"	"	"	"	CE-7006	8
NA483SW	472D	2.7559	4.7244	CS-7006	8

Note: Tables are arranged by cone number.

Seal Selection By Cone Number

Timken® Bearing Number				Clark Seals®	Page
Cone	Cup	Cone Bore	Cup O.D.	Part Number	Number
EE430900	431575	8.8750	15.7500	CA-431575-SS	12
"	"	"	"	CA-431575-SSs	12
HH437549	HH437510	6.5000	13.2500	CS8-HH437510	13
HM237510	HM237505	6.5000	11.3750	CYE-HM237510	15
HM256849	HM256810	11.8125	16.6250	CE-HM256810	10
HM259049	HM259010	12.5000	17.6250	CA-HM259010	12
"	"	"	"	CA-HM259010 SS	12
"	"	"	"	CS-HM259010	11
"	"	"	"	CS-HM259010-SS	11
HM535349	HM535310	6.7500	10.2500	CS-HM535310	11
HM803149	HM803110	1.7500	3.5000	CU-HM803110	16
"	"	"	"	CYE-HM803110	15
JHM534149	JHM534110	6.6920	9.0550	CL-JHM534110-149	17
JHM534149	JHM534110	6.6920	9.0550	CS-JHM534110	11
JHM840449	JHM840410	7.8740	11.8110	CE-JHM840410	10
"	"	"	"	CU-JHM840410	16
JLM104948	JLM104910	1.9680	3.2283	CYE-JLM104910	15
"	"	"	"	CV-JLM104910	19
JLM506849	JLM506810	2.1650	3.5430	CA-JLM506810	12
"	"	"	"	CV-JLM506810	19
"	"	"	"	CV-JLM506810V	19
"	"	"	"	CYE-JLM506810	15
JLM508748	JLM508710	2.3620	3.7402	CJ-JLM508710	17
"	"	"	"	CL-JLM508710	17
JLM710949	JLM710910	2.5590	4.1330	CT-JLM710910	16
JLM710949C	JLM710910	2.5590	4.1330	CV-JLM710910-949C	19
JLM714149	JLM714110	2.9528	4.5276	CA-JLM714110	12
"	"	"	"	CV-JLM714110	19
JLM813049	JLM813010	2.7559	4.3307	CB-JLM813010	18
JM511946	JM511910	2.5591	4.3307	CE-JM511910	10
JM515649	JM515610	3.1960	5.1181	CS-JM515610	11
JM719149	JM719113	3.7400	5.9055	CL-JM719113-149	17
JM720249	JM720210	3.9370	6.1020	CA-JM720210	12
"	"	"	"	CS-JM720210	11
JM734449	JM734410	6.6930	9.4490	CE-JM734410	10
JM736149	JM736110	7.0866	9.8425	CS-JM736110	11
JM738249	JM738210	7.4803	10.2362	CA-JM738210	12
"	"	"	"	CU-JM738249-210	16
JW7049M	JW7010	2.7560	5.5120	CS2000-JW7010M	16
L44649	L44610	1.0625	1.9800	CV-L44610	19
"	"	"	"	CY3-L44610	12
"	"	"	"	CYE-L44610	15
L68149	L68111	1.3775	2.3612	CYE-L68111	15
L163149	L163110	14.0000	17.5000	CA-L163110	12
"	"	"	"	CS-163110-149	11
L357049NW	L357010CD	12.0000	15.5000	CA-24	12
L357049NW	L357010D	12.0000	15.5000	CA-6024	20
L357049NW	L357010CD	12.0000	15.5000	CE-7024TOR/SKF	8
"	"	"	"	CE-8024	13
"	"	"	"	CSL-7024	10
"	"	"	"	CST-7024	18
"	"	"	"	CS-7024TOR	8
"	"	"	"	CS-8024	13
"	"	"	"	CY-24	8

Note: Tables are arranged by cone number.

Seal Selection By Cone Number

Timken® Bearing Number				Clark Seals®	Page
Cone	Cun	Cone Bore	Cun O.D.	Part Number	Number
"	"	"	"	CE-8010	13
"	"	"	"	CS-7010	8
"	"	"	"	CSL-7010	10
NA48685SW	48620D	5.6250	7.8750	CA-11	8
NA48685SW	48620D	5.6250	7.8750	CA-6011	20
"	"	"	"	CE-7011	8
"	"	"	"	CE-8011	13
"	"	"	"	CS-7011	8
"	"	"	"	CSL-7011	10
"	"	"	"	CST-7011	18
NA48990SW	48920D	6.0000	8.3125	CA-12	8
"	"	"	"	CE-7012	8
NA56393SW	56650CD	3.9360	6.5000	CA-09	8
"	"	"	"	CE-7009	8
"	"	"	"	CS-7009	8
"	"	"	"	CS-8009	13
"	"	"	"	CSL-7009	10
"	"	"	"	CST-7009	18
NA56425SW	56650CD	4.2500	6.5000	CA-09	8
"	"	"	"	CE-6009	20
"	"	"	"	CE-7009	8
"	"	"	"	CS-8009	13
"	"	"	"	CY-09	15
NA67791SW	67720D	7.0000	9.7500	CA-30	8
"	"	"	"	CE-7030	8
"	"	"	"	CE-8030	13
NA67874SW	67820CD	7.0866	10.5000	CA-15	8
"	"	"	"	CE-7015	8
"	"	"	"	CS-7015	8
"	"	"	"	CST-7015	18
NA67885SW	67820D	7.5000	10.5000	CA-15	8
"	"	"	"	CE-7015	8
NA87700SW	87112D	7.0000	11.1250	CA-14	8
"	"	"	"	CE-7014	8
"	"	"	"	CY-14	15
NA93800	32040X	7.8740	12.2047	CW1-32040X	14
NA127096SW	127136D	9.6250	13.7460	CE-7020	8
NA824102W	824163XD	10.2420	16.2540	CA-824163	12
M320/28	M320/29	1.102/28mm	2.054/52mm	CY-M320/28	15
X32011X	Y32011X	2.1650	3.5430	CJ-32011X	17
"	"	"	"	CL-32011X	17
"	"	"	"	CYE-32011X	15
X32014X	Y32014X	2.7559/70mm	4.9213/125mm	CS-32014X	11
	20247		2.6250	CA-20247	12
	20257		2.6250	CA-20257	12
			13.7010	CS-F212737	11
				CS-K92648	11
			11.1250	CS-RZ-21SB	11
	LM67010	1.2500	2.3280	CY3-LM67010	12
			21.5000	CE-19.75-21.50-1.00	10

Note: Tables are arranged by cone number.

Seal Selection By Cone Number

Timken[®] Bearing Number	Cun	Cone Bore	Cun O.D.	Clark Seals[®] Part Number	Page Number
NA483SW	K100019	2.7559	5.8750	CS2000-K100019	16
NA483SW	K88207	2.7559	6.2500	CS-K88207	11
NA484SW	472D	2.7559	4.7244	CS-7039	8
NA495SW	493D	3.0000	5.3750	CA-49	8
NA497SW	493D	3.3750	5.3750	CE-8027	13
NA497SW	493D	3.3750	5.3750	CS-7027	8
NA558SW	552D	2.3750	4.8750	CA-37	8
"	"	"	"	CE-7037	8
"	"	"	"	CE-8037	13
"	"	"	"	CST-7037	18
NA575SW	572D	2.9990	5.5115	CA-07	8
"	"	"	"	CE-7007	8
"	"	"	"	CS-7007	8
NA580SW	572D	3.2500	5.5115	CA-07	8
"	"	"	"	CE-7007	8
"	"	"	"	CS-7007	8
NA593SW	592D	3.5000	6.0000	CE-7041	8
NA596SW	592D	3.5000	6.0000	CA-08	8
"	"	"	"	CE-7008	8
"	"	"	"	CS-7008	8
NA596SW	K516773	3.5000	6.0000	CE-7008	8
NA596SW	K516773	3.5000	6.0000	CS-7008	8
"	"	"	"	CE-7008	8
NA643SW	632D	2.7500	5.3750	CE-7038	8
"	"	"	"	CE-8038	13
NA678SW	672D	3.4990	6.6250	CA-44	8
"	"	"	"	CS-7044	8
"	"	"	"	CA-44	8
"	"	"	"	CE-7044	8
NA759SW	752D	3.5000	6.3750	CSL-7042	10
"	"	"	"	CST-7042	18
"	"	"	"	CS-7042TOR	8
NA798SW	792D	5.0000	8.1250	CA-45	8
NA3780SW	3729D	2.0000	3.6718	CA-34	8
NA05076SW	05185D	0.7500	1.8504	CS-7001	8
NA8575SW	8522D	9.2500	12.9380	CA-26	8
"	"	"	"	CE-7019 TOR	8
"	"	"	"	CS-7019	8
"	"	"	"	CSL-7019	10
"	"	"	"	CST-7019	18
NA8575SW	8720D	9.2500	12.8750	CW-19	14
NA12581SW	K38958A	0.8130	1.9370	CS-K38958A	11
NA15117SW	K33867A	1.1810	2.3980	CB-K33867A	18
"	"	"	"	CS-K33867A	11
NA15117SW	15251D	1.1810	2.5000	CS-7002	8
NA24776SW	24720	1.5000	3.0000	CS-7003	8
NA24776SW	24720D	1.5000	3.0000	CS-8003	13
NA26118SW	26284D	1.1806	2.8338	CA-32	8
NA33889SW	33821D	2.0000	3.7500	CS-33821	11
NA33889SW	K106797	2.0000	5.0000	CS-K106767	11
NA46790SW	46720CD	6.5000	8.8750	CA-13	8
"	"	"	"	CE-7013	8
"	"	"	"	CS-7013	8
"	"	"	"	CSL-7013	10
"	"	"	"	CST-7013	18
"	"	"	"	CS-8013	13
NA48290SW	48220D	5.0000	7.1875	CA-10	8
"	"	"	"	CE-7010	8

Note: Tables are arranged by cone number.

Seal Selection By Cone Bore

Cone	Cun	Timken® Bearing Number		Clark Seals® Part Number	Page Number
		Cone Bore	Cun O.D.		
2.0000	3.7500	NA33889SW	33821D	CS-33821	11
2.0000	5.0000	NA33889SW	K106797	CS-K106767	11
2.0630	3.6250	28584	28521	CV-28521	19
2.1650	3.5430	JLM506849	JLM506810	CA-JLM506810	12
"	"	"	"	CV-JLM506810	19
"	"	"	"	CV-JLM506810V	19
"	"	"	"	CYE-JLM506810	15
2.1650	3.5430	X32011X	Y32011X	CJ-32011X	17
"	"	"	"	CL-32011X	17
2.1650	3.2280	X32011X	YKB32010X	CYE-32011X	15
2.2500	3.8750	387A	JLM382	CV-JLM382/387A	19
2.2500	4.1250	45291	45220	CA-45220	12
"	"	"	"	CV-45220	19
2.3620	3.7402	JLM508748	JLM508710	CJ-JLM508710	17
"	"	"	"	CL-JLM508710	17
2.3750	4.4375	3980	3920	CS-3920	11
2.3750	4.8750	NA558SW	552D	CA-37	8
"	"	"	"	CE-7037	8
"	"	"	"	CE-8037	13
"	"	"	"	CST-7037	18
2.5590	4.1330	JLM710949	JLM710910	CT-JLM710910	16
2.5590	4.1330	JLM710949C	JLM710910	CV-JLM710910-949C	19
2.5591	4.3307	JM511946	JM511910	CE-JM511910	10
2.6250	4.4370	39590	39521	CL-39521-90	17
2.6875	4.3307	399A	394A	CYE-394-L	15
2.7559/70mm	4.9213/125mm	X32014X	Y32014X	CS-32014X	11
2.7500	5.3750	NA643SW	632D	CE-7038	8
"	"	"	"	CE-8038	13
2.7559	4.7240	484	472	CS-472	11
2.7559	4.3307	JLM813049	JLM813010	CB-JLM813010	18
2.7559	4.7244	NA483SW	472D	CA-06	8
"	"	"	"	CE-7006	8
2.7559	5.8750	NA483SW	K100019	CS2000-K100019	16
2.7559	4.7244	NA483SW	472D	CS-7006	8
2.7559	6.2500	NA483SW	K88207	CS-K88207	11
2.7559	4.7244	NA484SW	472D	CS-7039	8
2.7560	4.7240	484	472	CE-472	10
2.7560	5.5120	JW7049M	JW7010	CS2000-JW7010M	16
2.8750	4.4375	29685	29620	CS2000-29620	16
2.9520	4.5270	JLM714149	JLM714110	CV-JLM714110	19
"	"	"	"	CA-JLM714110	12
2.9990	5.5115	NA575SW	572D	CA-07	8
"	"	"	"	CE-7007	8
"	"	"	"	CS-7007	8
3.0000	4.7812	34301	34478	CV-34301	19
3.0000	5.3750	NA495SW	493D	CA-49	8
3.1960	5.1181	JM515649	JM515610	CS-JM515610	11
3.2500	5.5115	NA580SW	572D	CA-07	8
"	"	"	"	CE-7007	8
"	"	"	"	CS-7007	8
3.2810	4.9380	27690	27620	CA-27620	12
"	"	"	"	CW-27620	14
"	"	"	"	CY-27620	15
3.3750	5.3750	NA497SW	493D	CE-8027	13
"	"	"	"	CS-7027	8
"	"	"	"	CS-7027	8
3.4990	6.6250	NA678SW	672D	CA-44	8
3.4990	6.6250	NA678SW	672D	CS-7044	8
3.5000	6.3750	759	752	CL-752-759	17

Note: Tables are arranged by cone bore.

Seal Selection By Cone Bore

Cone	Cup	Timken® Bearing Number		Clark Seals®	Page Number
		Cone Bore	Cup O.D.	Part Number	
	2.6250		20247	CA-20247	12
	2.6250		20257	CA-20257	12
	13.7010			CS-F212737	11
				CS-K92648	11
	11.1250			CS-RZ-21SB	11
	21.5000			CE-19.75-21.50-1.00	10
0.984/25mm	1.850/47mm	32005XJ	32005XJ	CY-32005XJ	15
0.7500	1.7810	LM11949	LM11910	CS-LM11910	11
"	"	"	"	CYE-LM11910	15
0.7500	1.8504	NA05076SW	05185D	CS-7001	8
0.8130	1.9370	NA12581SW	K38958A	CS-K38958A	11
0.8660	1.8100	LM12749	LM12711	CS2000-LM12749-11	16
1.0000	1.9687	07100	07196	CYE-07196	15
1.0000	2.4419	15100	15245	CYE-15245	15
1.0000	1.9800	L44649	L44610	CY3-L44610	12
"	"	"	"	CYE-L44610	15
"	"	"	"	CV-L44610	19
1 023/26mm	1 850/47mm	32005X	32005X	CY-32005X	15
1 102/28mm	2 047/52mm	M320/28	M320/28	CY-M320/28	15
1 102/28mm	2 047/52mm	4T320/28X	4T320/28X	CY1-4T320/28X	17
1.1806	2.8338	NA26118SW	26284D	CA-32	8
1.181/30mm	2.167/55mm	32006JR	32006JR	CY-32006JR	15
1.181/30mm	2.167/55mm	305115	305115	CY-305115	15
1.1810	2.3980	NA15117SW	K33867A	CB-K33867A	18
"	"	"	"	CS-K33867A	11
1.1811	2.7170	14117A	14276	CA-14276	12
1.1813	2.5000	NA15117SW	15251D	CS-7002	8
1.1875	2.5312	M86649	M86610	CS2000-M86610	16
1.2500	2.3280	LM67048	LM67010	CW1-LM67010	14
"	"	"	"	CYE-LM67010	15
"	"	"	"	CY3-LM67010	12
1.3750	2.7170	14136A	14276	VA2Y-14276-14136	18
1.3750	2.5625	LM48548	LM48510	CE-LM48510	10
"	"	"	"	CYE-LM48510	15
1.3775	2.3612	L68149	L68111	CYE-L68111	15
1.3775	2.4399	LM78349A	LM78310A	CE-LM78310A	10
1.5000	3.0000	2776	2720	CB-2720	18
"	"	"	"	CE-2720	10
"	"	"	"	CS-2720	11
1.5000	3.0000	NA24776SW	24720	CS-7003	8
"	"	"	"	CS-8003	13
1.6250	3.4843	44162	44348	CE-44348	10
1.7500	3.5000	HM803149	HM803110	CU-HM803110	16
"	"	"	"	CYE-HM803110	15
1.7500	3.7500	NA435SW	432D	CE-7004	8
"	"	"	"	CS-7004	8
1.7960	3.2650	25590	25520	CQ-25520	19
"	"	"	"	CW-25520	14
"	"	"	"	CYE-25520	15
1.9680	3.2283	JLM104948	JLM104910	CYE-JLM104910	15
"	"	"	"	CV-JLM104910	19
2.0000	4.2500	365A	362A	CA-362A	12
2.0000	4.2480	537	532X	CE-532X	10
"	"	"	"	CS-532X	11
2.0000	3.2500	LM104949	LM104911	CYE-LM104911	15
2.0000	4.2500	NA455SW	452D	CA-35	8
"	"	"	"	CE-7005	8
2.0000	4.2500	NA456SW	452D	CS-7005	8
2.0000	3.6718	NA3780SW	3729D	CA-34	8

Note: Tables are arranged by cone bore.

Seal Selection By Cone Bore

Cone	Cun	Timken® Bearing Number		Clark Seals® Part Number	Page Number
		Cone Bore	Cun O.D.		
6.5000	8.8750	NA46790SW	46720CD	CA-13	8
"	"	"	"	CE-7013	8
"	"	"	"	CS-7013	8
"	"	"	"	CSL-7013	10
"	"	"	"	CST-7013	18
"	"	"	"	CS-8013	13
6.6920	9.0550	JHM534149	JHM534110	CL-JHM534110-149	17
6.6920	9.0550	JHM534149	JHM534110	CS-JHM534110	11
6.6930	9.4490	JM734449	JM734410	CE-JM734410	10
6.7500	10.2500	HM535349	HM535310	CS-HM535310	11
6.8750	9.7500	67780	67720	CT-67720-87J	16
7.0000	9.7500	NA67791SW	67720D	CA-30	8
"	"	"	"	CE-7030	8
"	"	"	"	CE-8030	13
7.0000	11.1250	NA87700SW	87112D	CA-14	8
"	"	"	"	CE-7014	8
"	"	"	"	CY-14	16
7.0866	9.8425	JM736149	JM736110	CS-JM736110	11
7.0866	10.5000	NA67874SW	67820CD	CA-15	8
"	"	"	"	CE-7015	8
"	"	"	"	CS-7015	8
"	"	"	"	CST-7015	17
7.2500	9.5625	LM637349NW	LM637310D	CA-25	8
"	"	"	"	CE-7025	8
7.4803	10.2362	JM738249	JM738210	CA-JM738210	12
"	"	"	"	CU-JM738249-210	16
7.5000	10.5000	NA67885SW	67820D	CA-15	8
"	"	"	"	CE-7015	8
7.7500	10.0000	L540049	L540010D	CYE-L540010	15
7.8740	11.8110	JHM840449	JHM840410	CE-JHM840410	10
"	"	"	"	CU-JHM840410	16
7.8740	12.2047	NA93800	32040X	CW1-32040X	14
8.0000	10.8750	LM241149NW	LM241110D	CA-16	8
"	"	"	"	CE-6016	20
"	"	"	"	CE-7016	8
"	"	"	"	CS-7016SKF	8
"	"	"	"	CS-8016	13
"	"	"	"	CSL-7016	10
"	"	"	"	CST-7016	18
8.1250	11.1250	67985	67920	CA-67920	12
8.5000	11.2500	LM742749	LM742710	CA-LM742710	12
8.8750	15.7500	EE430900	431575	CA-431575-SS	12
"	"	"	"	CA-431575-SSs	12
9.2500	12.8125	LM246349NW	LM246310D	CA-18	8
9.2500	12.2500	LM446349NW	LM446310D	CA-17	8
"	"	"	"	CE-7017	8
"	"	"	"	CS-7017	8
"	"	"	"	CY-17	15
9.2500	12.9380	NA8575SW	8522D	CA-26	8
9.2500	12.8750	NA8575SW	8520CD	CE-7019 TOR	8
"	"	"	"	CS-7019	8
"	"	"	"	CSL-7019	10
"	"	"	"	CST-7019	18
9.2500	12.8750	NA8575SW	8720D	CW-19	16
9.5000	12.8750	EE8578	8520	CQ-8520-78J	19
9.6250	13.7460	NA127096SW	127136D	CE-7020	8
10.0000	13.6875	LM249747NW	LM249710CD	CA-21	8
"	"	"	"	CE-7021	8
"	"	"	"	CS-6021	20

Note: Tables are arranged by cone bore.

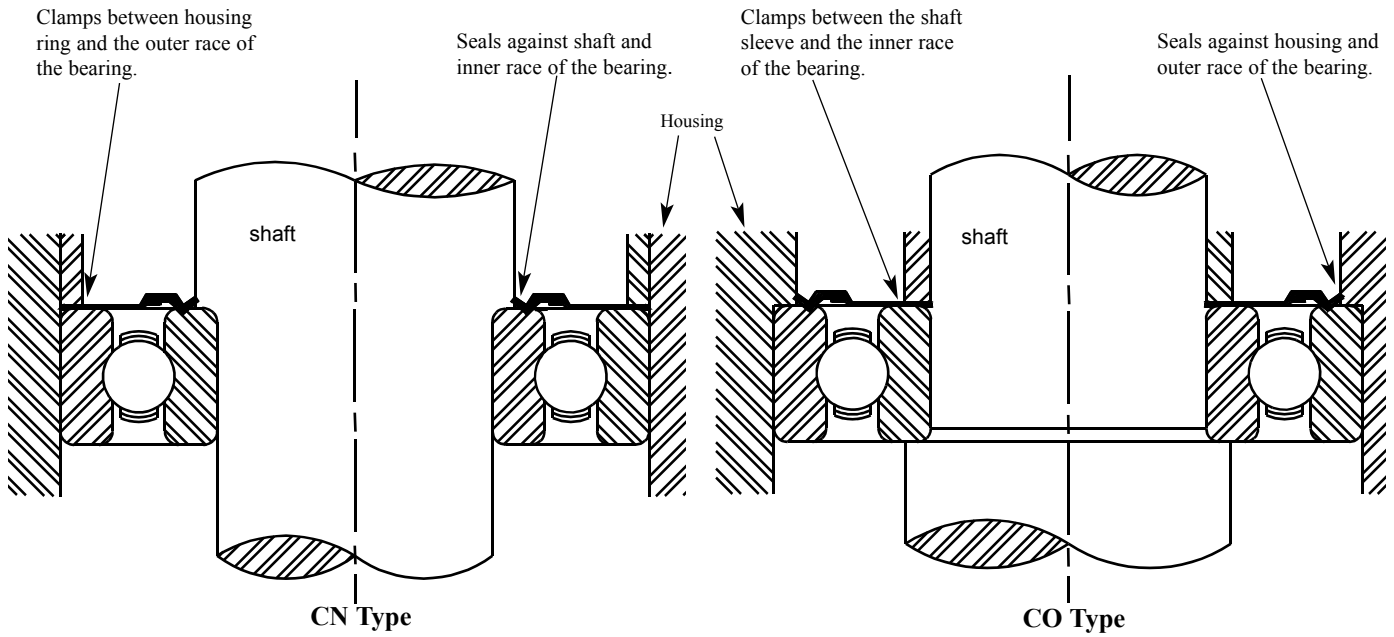
Seal Selection By Cone Bore

Cone	Cun	Timken [®] Bearing Number		Clark Seals [®] Part Number	Page Number
		Cone Bore	Cun O.D.		
3.5000	6.0000	NA593SW	592D	CE-7041	8
3.5000	6.0000	NA596SW	592D	CA-08	8
"	"	"	"	CE-7008	8
"	"	"	"	CS-7008	8
3.5000	6.0000	NA596SW	K516773	CE-7008	8
"	"	"	"	CS-7008	8
3.5000	6.0000	NA596SW	K101989	CE-7008	8
3.5000	6.3750	NA759SW	752D	CSL-7042	10
"	"	"	"	CST-7042	18
"	"	"	"	CS-7042TOR	8
3.7400	5.9055	JM719149	JM719113	CL-JM719113-149	17
3.7500	5.8750	42375	42587	CS-42587/375-1	11
3.7500	6.3750	52375	52635D	CE-52375-637D	10
3.7500	6.3750	52375	52637	CL-52375-637	17
"	"	"	"	CL-52375-637D	17
3.9360	6.5000	NA56393SW	56650CD	CA-09	8
"	"	"	"	CE-7009	8
"	"	"	"	CS-8009	13
"	"	"	"	CSL-7009	10
"	"	"	"	CST-7009	18
3.9370	6.1020	JM720249	JM720210	CA-JM720210	12
"	"	"	"	CS-JM720210	11
3.9370	6.5000	NA56393SW	56650CD	CS-7009	8
4.0000	6.6250	NA691SW	672D	CA-44	8
"	"	"	"	CE-7044	8
"	"	"	"	CS-7044	8
4.2500	6.2500	37425	37625	CS2000-37625	16
4.2500	6.5000	NA56425SW	56650CD	CA-09	8
"	"	"	"	CE-6009	20
"	"	"	"	CE-7009	8
"	"	"	"	CS-8009	13
"	"	"	"	CY-09	15
4.5000	8.3750	938	932	CS-932	11
4.5000	7.0000	64450	64700	CT-64700-450	16
5.0000	9.7500	95500	95975	CA-95975	12
5.0000	8.1250	NA798SW	792D	CA-45	8
5.0000	7.1875	NA48290SW	48220D	CA-10	8
"	"	"	"	CE-7010	8
"	"	"	"	CE-8010	13
"	"	"	"	CS-7010	8
"	"	"	"	CSL-7010	10
5.2500	9.2500	95525	95925	CS-95925	11
5.5000	9.0000	898	897	CS2000-892	16
5.5000	8.5000	74550	74851	CA-74851	12
5.5000	8.5000	74550	74850	CW1-74850	14
5.6250	7.8750	48685	48620	CW-48620	14
5.6250	8.7500	73562	73875	CV-73875	19
5.6250	7.8750	NA48685SW	48620D	CA-11	8
"	"	"	"	CA-6011	20
"	"	"	"	CE-7011	8
"	"	"	"	CE-8011	13
"	"	"	"	CS-7011	8
"	"	"	"	CSL-7011	10
"	"	"	"	CST-7011	18
6.0000	9.6250	81600	81962	CA-81962	12
6.0000	8.3125	NA48990SW	48920D	CA-12	8
6.0000	8.3125	NA48990SW	48920D	CE-7012	8
6.5000	13.2500	HH437549	HH437510	CS8-HH437510	13
6.5000	11.3750	HM237510	HM237505	CYE-HM237510	15

Note: Tables are arranged by cone bore.

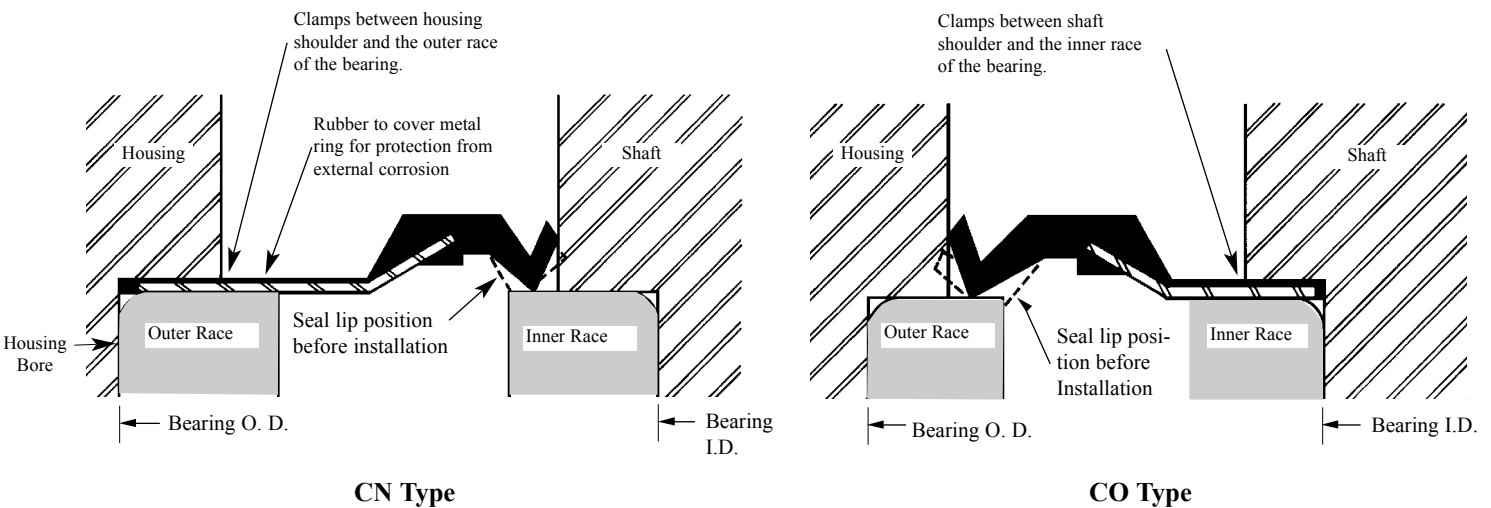
CN and CO Type Excluder Seals®

Installation Details for Series 200 and 300 Seals



Full Face Seals for Radial Ball Bearings, Spherical and Cylindrical Roller Bearings

Full face "CN" and "CO" type seals cover the bearing face from I.D. to O.D. as shown below. Check with the manufacturer for availability of the size to meet your design requirements.



CN and CO type Excluder Seals® are proprietary Clark Seal designs protected under U.S. Pat. No. 5 017 024.

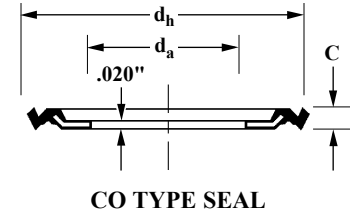
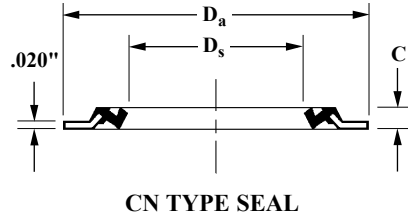
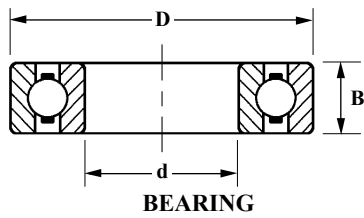
Seal Selection By Cone Bore

Cone	Cun	Timken® Bearing Number		Clark Seals® Part Number	Page Number
		Cone Bore	Cun O.D.		
"	"	"	"	CS-7021	8
"	"	"	"	CSL-7021	10
"	"	"	"	CST-7021	18
"	"	"	"	CS-8021	13
10.0000	14.1250	M249710	M249749	CS-M249710	11
10.1250	13.5000	M349549	M349510	CF-13.5-.500.01	11
"	"	"	"	CF-13.5-.500.02	11
10.2420	16.2540	NA824102W	824163XD	CA-824163	12
10.5000	15.5000	EE275105	275155	CW1-275155/105	14
10.5000	13.8750	LM251649NW	LM251610D	CA-23	8
"	"	"	"	CE-7023TOR/SKF	8
"	"	"	"	CS-7023	8
10.5000	14.8750	LM251649NW	LM251611	CSL-7023	10
"	"	"	"	CST-7023	18
10.5000	13.8750	LM251649NW	LM251610D	CS-8023	13
"	"	"	"	CY-23	15
10.5000	14.0000	LM451349	LM451310	CE-LM451310-49	10
11.0312	16.0000	EE128111	EE128160	CS-EE128160	11
11.8125	16.6250	HM256849	HM256810	CE-HM256810	10
12.0000	15.5000	L357049NW	L357010CD	CA-24	12
"	"	"	"	CA-6024	20
"	"	"	"	CE-7024TOR/SKF	8
"	"	"	"	CE-8024	13
"	"	"	"	CSL-7024	10
"	"	"	"	CST-7024	18
"	"	"	"	CS-7024TOR	8
"	"	"	"	CS-8024	13
"	"	"	"	CY-24	8
12.0000	16.0000	LM757049	LM757010	CE-LM757010-49	10
12.5000	17.6250	HM259049	HM259010	CA-HM259010	12
"	"	"	"	CA-HM259010 SS	12
"	"	"	"	CS-HM259010	11
"	"	"	"	CS-HM259010-SS	11
13.5000	17.7500	LM361649	LM361610	CA-LM361610-SS	12
"	"	"	"	CS-LM361610	11
14.0000	19.7500	EE231400	231975	CS-EE231975-400	11
14.0000	17.5000	L163149	L163110	CA-L163110	12
"	"	"	"	CS-163110-149	11
15.0000	20.0000	EE192150	192201	CA-192201	12
"	"	"	"	CA-192201-NW	12
15.0000	23.2500	M268730	M268710	CS-M268710-730	11
"	"	"	"	CT-M268710-730	16
15.1875	20.2500	LM665949	LM665910	CE-665949	10

Note: Tables are arranged by cone bore.

ExcluderSeals® for Radial Ball, Spherical and Cylindrical Roller Bearings

CO & CN type seals can be used on single and double row Radial Ball, Max. types, Spherical and Cylindrical Roller bearings.



Part No.	Bearing			Clark Seal® Number	Seal I.D. - D_s -	Seal O.D. - D_a -	Seal Width -C-	Clark Seal® Number	Seal I.D. - d_a -	Seal O.D. - d_h -	Seal Width -C-
	-d-	-D-	-B-								
208	40mm 1.575"	80mm 3.150"	18mm .709"	CN-208	47mm 1.850"	80mm 3.150"	3.5mm .138"	CO-208*	40mm 1.575"	73mm 2.874"	3.5mm .138"
210	50mm 1.969"	90mm 3.543"	20mm .787"	CN-210	57mm 2.244"	90mm 3.543"	3.5mm .138"	CO-210*	50mm 1.969"	83mm 3.268"	3.5mm .138"
212	60mm 2.362"	110mm 4.331"	22mm .866"	CN-212*	69mm 2.717"	110mm 4.331"	3.5mm .138"	CO-212*	60mm 2.362"	102mm 4.016"	3.5mm .138"
213	65mm 2.559"	120mm 4.724"	23mm .906"	CN-213	74mm 2.913"	120mm 4.724"	3.5mm .138"	CO-213*	65mm 2.559"	112mm 4.409"	3.5mm .138"
214	70mm 2.756"	125mm 4.921"	24mm .945"	CN-214	79mm 3.091"	125mm 4.921"	3.5mm .138"	CO-214	70mm 2.756"	117mm 4.587"	3.5mm .138"
215	75mm 2.953"	130mm 5.118"	25mm .984"	CN-215	84mm 3.307"	130mm 5.118"	3.5mm .138"	CO-215*	75mm 2.953"	122mm 4.803"	3.5mm .138"
216	80mm 3.150"	140mm 5.512"	26mm 1.024"	CN-216	90mm 3.543"	140mm 5.512"	3.5mm .138"	CO-216*	80mm 3.150"	130mm 5.118"	3.5mm .138"
217	85mm 3.346"	150mm 5.906"	28mm 1.102"	CN-217	95mm 3.740"	150mm 5.906"	3.5mm .138"	CO-217*	85mm 3.346"	140mm 5.512"	3.5mm .138"
218	90mm 3.543"	160mm 6.299"	30mm 1.181"	CN-218	100mm 3.937"	160mm 6.299"	3.5mm .138"	CO-218*	90mm 3.543"	150mm 5.906"	3.5mm .138"
219	95mm 3.740"	170mm 6.693"	32mm 1.260"	CN-219	107mm 4.213"	170mm 6.693"	3.5mm .138"	CO-219*	95mm 3.740"	158mm 6.220"	3.5mm .138"
220	100mm 3.937"	180mm 7.087"	34mm 1.339"	CN-220	112mm 4.409"	180mm 7.087"	4.0mm .157"	CO-220*	100mm 3.937"	168mm 6.614"	4.0mm .157"
221	105mm 4.134"	190mm 7.480"	36mm 1.417"	CN-221	117mm 4.606"	190mm 7.480"	4.0mm .157"	CO-221	105mm 4.134"	178mm 7.008"	4.0mm .157"
222	110mm 4.331"	200mm 7.874"	38mm 1.496"	CN-222*	122mm 4.803"	200mm 7.874"	4.0mm .157"	CO-222*	110mm 4.331"	188mm 7.402"	4.0mm .157"
224	120mm 4.724"	215mm 8.465"	40mm 1.575"	CN-224	132mm 5.197"	215mm 8.465"	4.0mm .157"	CO-224	120mm 4.724"	203mm 7.992"	4.0mm .157"
226	130mm 5.118"	230mm 9.055"	40mm 1.575"	CN-226*	144mm 5.669"	230mm 9.055"	4.0mm .157"	CO-226*	130mm 5.118"	216mm 8.504"	4.0mm .157"
228	140mm 5.512"	250mm 9.842"	42mm 1.654"	CN-228	154mm 6.063"	250mm 9.842"	4.0mm .157"	CO-228*	140mm 5.512"	236mm 9.291"	4.0mm .157"
230	150mm 5.905"	270mm 10.630"	45mm 1.772"	CN-230	164mm 6.457"	270mm 10.630"	4.0mm .157"	CO-230*	150mm 5.905"	256mm 10.079"	4.0mm .157"
232	160mm 6.299"	290mm 11.417"	48mm 1.890"	CN-232	174mm 6.850"	290mm 11.417"	5.0mm .197"	CO-232	160mm 6.299"	276mm 10.866"	5.0mm .197"
234	170mm 6.693"	310mm 12.205"	52mm 2.047"	CN-234	188mm 7.402"	310mm 12.205"	5.0mm .197"	CO-234	170mm 6.693"	292mm 11.496"	5.0mm .197"
236	180mm 7.087"	320mm 12.598"	52mm 2.047"	CN-236	198mm 7.795"	320mm 12.598"	5.0mm .197"	CO-236	180mm 7.087"	302mm 11.890"	5.0mm .197"
238	190mm 7.480"	340mm 13.386"	55mm 2.165"	CN-238	208mm 8.189"	340mm 13.386"	5.0mm .197"	CO-238	190mm 7.480"	322mm 12.677"	5.0mm .197"
240	200mm 7.874"	360mm 14.173"	58mm 2.283"	CN-240	218mm 8.583"	360mm 14.173"	5.0mm .197"	CO-240	200mm 7.874"	342mm 13.465"	5.0mm .197"
244	220mm 8.661"	400mm 15.748"	65mm 2.559"	CN-244	238mm 9.370"	400mm 15.748"	5.0mm .197"	CO-244	220mm 8.661"	382mm 15.039"	5.0mm .197"
248	240mm 9.449"	440mm 17.323"	72mm 2.835"	CN-248	258mm 10.157"	440mm 17.323"	5.0mm .197"	CO-248	240mm 9.449"	422mm 16.614"	5.0mm .197"

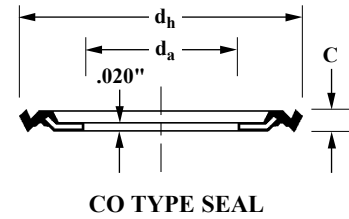
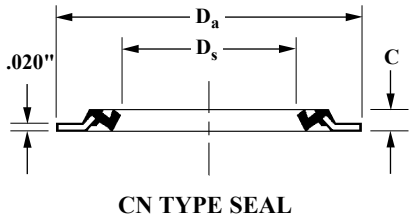
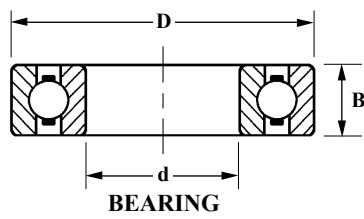
PLEASE NOTE: CO & CN type seals are used to replace metal rings. Metal rings, which come in contact with the bearing face, will grind down the ring causing fine metal particles to reach the inside of the bearing leading to premature bearing failure.

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* Tooling available for these sizes.

ExcluderSeals® for Radial Ball, Spherical and Cylindrical Roller Bearings

CO & CN type seals can be used on single and double row Radial Ball, Max. types, Spherical and Cylindrical Roller bearings.



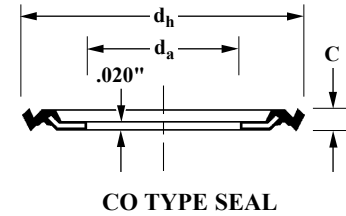
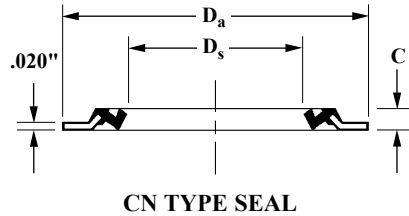
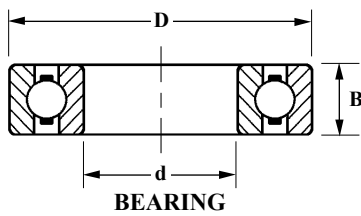
Part No.	Bearing			Clark Seal® Number	Seal I.D. -D _s -	Seal O.D. -D _a -	Seal Width -C-	Clark Seal® Number	Seal I.D. -d _a -	Seal O.D. -d _h -	Seal Width -C-
	-d-	-D-	-B-								
018	90mm 3.543"	140mm 5.512"	24mm .945"	CN-018	98.5mm 3.878"	140mm 5.512"	3.5mm .138"	CO-018	90mm 3.543"	131.5mm 5.177"	3.5mm .138"
019	95mm 3.740"	145mm 5.709"	24mm .945"	CN-019	103.5mm 4.075"	145mm 5.709"	3.5mm .138"	CO-019	95mm 3.740"	136.5mm 5.374"	3.5mm .138"
020	100mm 3.937"	150mm 5.905"	24mm .945"	CN-020	108.5mm 4.272"	150mm 5.905"	4.0mm .157"	CO-020	100mm 3.937"	141.5mm 5.571"	4.0mm .157"
021	105mm 4.134"	160mm 6.299"	26mm 1.024"	CN-021	115mm 4.528"	160mm 6.299"	4.0mm .157"	CO-021	105mm 4.134"	150mm 5.905"	4.0mm .157"
022	110mm 4.331"	170mm 6.693"	28mm 1.102"	CN-022	120mm 4.724"	170mm 6.693"	4.0mm .157"	CO-022	110mm 4.331"	160mm 6.299"	4.0mm .157"
024	120mm 4.724"	180mm 7.087"	28mm 1.102"	CN-024	130mm 5.118"	180mm 7.087"	4.0mm .157"	CO-024	120mm 4.724"	170mm 6.693"	4.0mm .157"
026	130mm 5.118"	200mm 7.874"	33mm 1.299"	CN-026	140mm 5.512"	200mm 7.874"	4.0mm .157"	CO-026	130mm 5.118"	190mm 7.480"	4.0mm .157"
028	140mm 5.512"	210mm 8.268"	33mm 1.299"	CN-028	150mm 5.905"	210mm 8.268"	4.0mm .157"	CO-028*	140mm 5.512"	200mm 7.874"	4.0mm .157"
030	150mm 5.905"	225mm 8.858"	35mm 1.378"	CN-030	162mm 6.378"	225mm 8.858"	4.0mm .157"	CO-030	150mm 5.905"	213mm 8.386"	4.0mm .157"
032	160mm 6.229"	240mm 9.449"	38mm 1.496"	CN-032	172mm 6.772"	240mm 9.449"	5.0mm .197"	CO-032	160mm 6.229"	228mm 8.976"	5.0mm .197"
034	170mm 6.693"	260mm 10.236"	42mm 1.654"	CN-034	182mm 7.165"	260mm 10.236"	5.0mm .197"	CO-034	170mm 6.693"	248mm 9.764"	5.0mm .197"
036	180mm 7.087"	280mm 11.024"	42mm 1.811"	CN-036	192mm 7.559"	280mm 11.024"	5.0mm .197"	CO-036	180mm 7.087"	268mm 10.551"	5.0mm .197"
038	190mm 7.480"	290mm 11.417"	46mm 1.811"	CN-038	202mm 7.953"	290mm 11.417"	5.0mm .197"	CO-038	190mm 7.480"	278mm 10.945"	5.0mm .197"
040	200mm 7.874"	310mm 12.205"	51mm 2.008"	CN-040	212mm 8.346"	310mm 12.205"	5.0mm .197"	CO-040	200mm 7.874"	298mm 11.732"	5.0mm .197"
044	220mm 8.661"	340mm 13.386"	56mm 2.205"	CN-044	234mm 9.213"	340mm 13.386"	5.0mm .197"	CO-044	220mm 8.661"	326mm 12.835"	5.0mm .197"
048	240mm 9.449"	360mm 14.173"	56mm 2.205"	CN-048	254mm 10.000"	360mm 14.173"	5.0mm .197"	CO-048	240mm 9.449"	346mm 13.622"	5.0mm .197"
052	260mm 10.236"	400mm 15.748"	65mm 2.559"	CN-052	278mm 10.945"	400mm 15.748"	5.0mm .197"	CO-052	260mm 10.236"	382mm 15.039"	5.0mm .197"
056	280mm 11.024"	420mm 16.535"	65mm 2.559"	CN-056	298mm 11.732"	420mm 16.535"	5.0mm .197"	CO-056	280mm 11.024"	402mm 15.827"	5.0mm .197"
060	300mm 11.811"	460mm 18.110"	74mm 2.913"	CN-060	318mm 12.520"	460mm 18.110"	5.0mm .197"	CO-060	300mm 11.811"	442mm 17.402"	5.0mm .197"
064	320mm 12.598"	480mm 18.898"	74mm 2.913"	CN-064	338mm 13.307"	480mm 18.898"	5.0mm .197"	CO-064	320mm 12.598"	462mm 18.189"	5.0mm .197"

PLEASE NOTE: CO & CN type seals are used to replace metal rings. Metal rings, which come in contact with the bearing face, will grind down the ring causing fine metal particles to reach the inside of the bearing leading to premature bearing failure.

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* Tooling available for these sizes.

CO & CN type seals can be used on single and double row Radial Ball, Max. types, Spherical and Cylindrical Roller bearings.

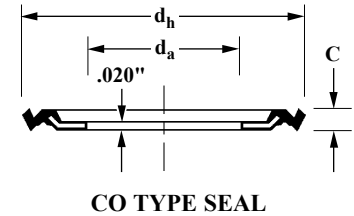
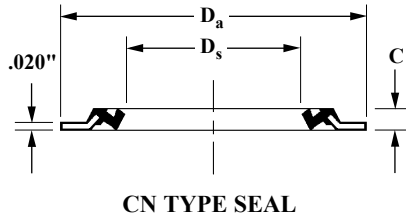
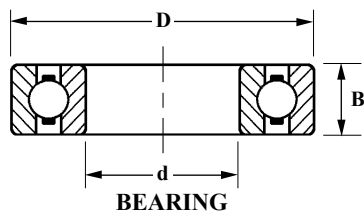


Part No.	Bearing			Clark Seal® Number	Seal I.D. -D _s -	Seal O.D. -D _a -	Seal Width -C-	Clark Seal® Number	Seal I.D. -d _a -	Seal O.D. -d _h -	Seal Width -C-
	-d-	-D-	-B-								
818	90mm 3.543"	115mm 4.528"	13mm .512"	CN-818	96mm 3.780"	115mm 4.528"	3.5mm .138"	CO-818	90mm 3.543"	109mm 4.291"	3.5mm .138"
819	95mm 3.740"	120mm 4.724"	13mm .512"	CN-819	101mm 3.976"	120mm 4.724"	3.5mm .138"	CO-819	95mm 3.740"	114mm 4.488"	3.5mm .138"
820	100mm 3.937"	125mm 4.921"	13mm .512"	CN-820	106mm 4.173"	125mm 4.921"	4.0mm .157"	CO-820	100mm 3.937"	119mm 4.685"	4.0mm .157"
821	105mm 4.134"	130mm 5.118"	13mm .512"	CN-821	111mm 4.370"	130mm 5.118"	4.0mm .157"	CO-821	105mm 4.134"	124mm 4.882"	4.0mm .157"
822	110mm 4.331"	140mm 5.512"	16mm .630"	CN-822	116mm 4.567"	140mm 5.512"	4.0mm .157"	CO-822	110mm 4.331"	134mm 5.276"	4.0mm .157"
824	120mm 4.724"	150mm 5.905"	16mm .630"	CN-824	126mm 4.961"	150mm 5.905"	4.0mm .157"	CO-824	120mm 4.724"	144mm 5.669"	4.0mm .157"
826	130mm 5.118"	165mm 6.496"	18mm .709"	CN-826	137mm 5.394"	165mm 6.496"	4.0mm .157"	CO-826	130mm 5.118"	158mm 6.220"	4.0mm .157"
828	140mm 5.512"	175mm 6.890"	18mm .709"	CN-828	147mm 5.787"	175mm 6.890"	4.0mm .157"	CO-828	140mm 5.512"	168mm 6.614"	4.0mm .157"
830	150mm 5.905"	190mm 7.480"	20mm .787"	CN-830	157mm 6.181"	190mm 7.480"	4.0mm .157"	CO-830	150mm 5.905"	183mm 7.205"	4.0mm .157"
832	160mm 6.299"	200mm 7.874"	20mm .787"	CN-832	167mm 6.575"	200mm 7.874"	5.0mm .197"	CO-832	160mm 6.299"	193mm 7.598"	5.0mm .197"
834	170mm 6.693"	215mm 8.465"	20mm .787"	CN-834	177mm 6.968"	215mm 8.465"	5.0mm .197"	CO-834	170mm 6.693"	208mm 8.189"	5.0mm .197"
836	180mm 7.087"	225mm 8.858"	22mm .866"	CN-836	187mm 7.362"	225mm 8.858"	5.0mm .197"	CO-836	180mm 7.087"	218mm 8.583"	5.0mm .197"
838	190mm 7.480"	240mm 9.449"	24mm .945"	CN-838	198.5mm 7.815"	240mm 9.449"	5.0mm .197"	CO-838	190mm 7.480"	231.5mm 9.114"	5.0mm .197"
840	200mm 7.874"	250mm 9.842"	24mm .945"	CN-840	208.5mm 8.209"	250mm 9.842"	5.0mm .197"	CO-840	200mm 7.874"	241.5mm 9.508"	5.0mm .197"
844	220mm 8.661"	270mm 10.630"	24mm .945"	CN-844	228.5mm 8.996"	270mm 10.630"	5.0mm .197"	CO-844	220mm 8.661"	261.5mm 10.295"	5.0mm .197"
848	240mm 9.449"	300mm 11.811"	28mm 1.102"	CN-848	250mm 9.842"	300mm 11.811"	5.0mm .197"	CO-848	240mm 9.449"	290mm 11.417"	5.0mm .197"
852	260mm 10.236"	320mm 12.598"	28mm 1.102"	CN-852	270mm 10.630"	320mm 12.598"	5.0mm .197"	CO-852	260mm 10.236"	310mm 12.205"	5.0mm .197"
856	280mm 11.024"	350mm 13.779"	33mm 1.299"	CN-856	290mm 11.417"	350mm 13.779"	5.0mm .197"	CO-856	280mm 11.024"	340mm 13.386"	5.0mm .197"
860	300mm 11.811"	380mm 14.961"	38mm 1.496"	CN-860	312mm 12.283"	380mm 14.961"	5.0mm .197"	CO-860	300mm 11.811"	368mm 14.488"	5.0mm .197"

PLEASE NOTE: CO & CN type seals are used to replace metal rings. Metal rings, which come in contact with the bearing face, will grind down the ring causing fine metal particles to reach the inside of the bearing leading to premature bearing failure.

ExcluderSeals® for Radial Ball, Spherical and Cylindrical Roller Bearings

CO & CN type seals can be used on single and double row Radial Ball, Max. types, Spherical and Cylindrical Roller bearings.



Part No.	Bearing			Clark Seal® Number	Seal I.D. -Ds-	Seal O.D. -Da-	Seal Width -C-	Clark Seal® Number	Seal I.D. -da-	Seal O.D. -dh-	Seal Width -C-
	-d-	-D-	-B-								
310	50mm 1.968"	110mm 4.331"	27mm 1.063"	CN-310	60mm 2.362"	110mm 4.331"	3.0mm .118"	CO-310	50mm 1.968"	100mm 3.937"	3.0mm .118"
311	55mm 2.165"	120mm 4.724"	29mm 1.142"	CN-311	65mm 2.559"	120mm 4.724"	3.0mm .118"	CO-311	55mm 2.165"	110mm 4.331"	3.0mm .118"
312	60mm 2.362"	130mm 5.118"	31mm 1.220"	CN-312	72mm 2.835"	130mm 5.118"	3.0mm .118"	CO-312	60mm 2.362"	118mm 4.646"	3.0mm .118"
313	65mm 2.559"	140mm 5.512"	33mm 1.299"	CN-313	77mm 3.031"	140mm 5.512"	3.0mm .118"	CO-313	65mm 2.559"	128mm 5.039"	3.0mm .118"
314	70mm 2.756"	150mm 5.905"	35mm 1.138"	CN-314	82mm 3.228"	150mm 5.905"	3.5mm .138"	CO-314*	70mm 2.756"	138mm 5.433"	3.5mm .138"
315	75mm 2.953"	160mm 6.299"	37mm 1.457"	CN-315	87mm 3.425"	160mm 6.299"	3.5mm .138"	CO-315	75mm 2.953"	148mm 5.827"	3.5mm .138"
316	80mm 3.150"	170mm 6.693"	39mm 1.535"	CN-316	92mm 3.622"	170mm 6.693"	3.5mm .138"	CO-316	80mm 3.150"	158mm 6.220"	3.5mm .138"
317	85mm 3.346"	180mm 7.087"	41mm 1.614"	CN-317	99mm 3.898"	180mm 7.087"	3.5mm .138"	CO-317	85mm 3.346"	166mm 6.535"	3.5mm .138"
318	90mm 3.543"	190mm 7.480"	43mm 1.693"	CN-318	104mm 4.094"	190mm 7.480"	3.5mm .138"	CO-318	90mm 3.543"	176mm 6.929"	3.5mm .138"
319	95mm 3.740"	200mm 7.874"	45mm 1.772"	CN-319	109mm 4.291"	200mm 7.874"	3.5mm .138"	CO-319	95mm 3.740"	186mm 7.323"	3.5mm .138"
320	100mm 3.937"	215mm 8.465"	47mm 1.850"	CN-320	114mm 4.488"	215mm 8.465"	4.0mm .157"	CO-320	100mm 3.937"	201mm 7.913"	4.0mm .157"
321	105mm 4.134"	225mm 8.858"	49mm 1.929"	CN-321	119mm 4.685"	225mm 8.858"	4.0mm .157"	CO-321	105mm 4.134"	211mm 8.307"	4.0mm .157"
322	110mm 4.331"	240mm 9.449"	50mm 1.968"	CN-322	124mm 4.882"	240mm 9.449"	4.0mm .157"	CO-322	110mm 4.331"	226mm 8.898"	4.0mm .157"
324	120mm 4.724"	260mm 10.236"	55mm 2.165"	CN-324	134mm 5.276"	260mm 10.236"	4.0mm .157"	CO-324	120mm 4.724"	246mm 9.685"	4.0mm .157"
326	130mm 5.118"	280mm 11.024"	58mm 2.283"	CN-326	148mm 5.827"	280mm 11.024"	4.0mm .157"	CO-326	130mm 5.118"	262mm 10.315"	4.0mm .157"
328	140mm 5.512"	300mm 11.811"	62mm 2.441"	CN-328	158mm 6.220"	300mm 11.811"	4.0mm .157"	CO-328	140mm 5.512"	282mm 11.102"	4.0mm .157"
330	150mm 5.905"	320mm 12.598"	65mm 2.559"	CN-330	168mm 6.614"	320mm 12.598"	4.0mm .157"	CO-330	150mm 5.905"	302mm 11.890"	4.0mm .157"
332	160mm 6.299"	340mm 13.386"	68mm 2.677"	CN-332	178mm 7.008"	340mm 13.386"	5.0mm .197"	CO-332	160mm 6.299"	322mm 12.677"	5.0mm .197"
334	170mm 6.693"	360mm 14.173"	72mm 2.835"	CN-334	188mm 7.402"	360mm 14.173"	5.0mm .197"	CO-334	170mm 6.693"	342mm 13.465"	5.0mm .197"
336	180mm 7.087"	380mm 14.961"	75mm 2.953"	CN-336	198mm 7.795"	380mm 14.961"	5.0mm .197"	CO-336	180mm 7.087"	362mm 14.252"	5.0mm .197"
338	190mm 7.480"	400mm 15.748"	78mm 3.071"	CN-338	212mm 8.346"	400mm 15.748"	5.0mm .197"	CO-338	190mm 7.480"	378mm 14.882"	5.0mm .197"
340	200mm 7.874"	420mm 16.535"	80mm 3.150"	CN-340	222mm 8.740"	420mm 16.535"	5.0mm .197"	CO-340	200mm 7.874"	398mm 15.669"	5.0mm .197"

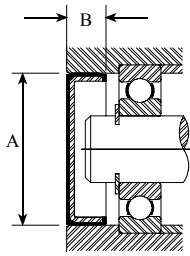
PLEASE NOTE: CO & CN type seals are used to replace metal rings. Metal rings, which come in contact with the bearing face, will grind down the ring causing fine metal particles to reach the inside of the bearing leading to premature bearing failure.

CN and CO type Excluder Seals® are proprietary Clark Seal designs protected under U.S. Pat. No. 5 017 024.

* Tooling available for these sizes.

ExcluderSeals® Bore Plugs

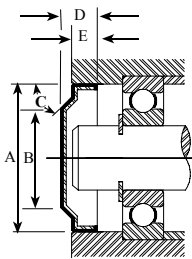
Note: Tables are arranged by housing bore size, -A-.



CPZ

Bore Plugs are designed to seal the open housing bore and provide easy future access to the shaft. Greases are retained, and contaminants are excluded. The rubber covered outside diameter permits use in housing bores of varying finish.

Clark Seal® Part Number	Housing Bore -A-	Plug Width -B-	Clark Seal® Part Number	Housing Bore -A-	Plug Width -B-
CPZ-.503-.100	.503/12.78 mm	.100/2.54 mm	CPZ-3.375-.080	3.375/85.73 mm	.080/2.03 mm
CPZ-.750-.125†	.750/19.05 mm	.125/3.17 mm	CPZ-3.375-.125	3.375/85.73 mm	.125/3.17 mm
CPZ-.875-.125†	.875/22.22 mm	.125/3.17 mm	CPZ-3.500-.375	3.375/85.73 mm	.375/9.53 mm
CPZ-1.000-.125†	1.000/25.40 mm	.115/3.17 mm	CPZ-30-8	30.00 mm/1.181	8.00 mm/.315
CPZ-1.250-.250	1.250/31.75 mm	.250/6.35 mm	CPZ-35-3.5	35.00 mm/1.378	3.50 mm/.138
CPZ-1.250-.188	1.250/31.75 mm	.188/4.78 mm	CPZ-38-10	38.00 mm/1.496	10.0 mm/.394
CPZ-1.500-.187	1.500/38.10 mm	.187/4.75 mm	CPZ-40-2.54	40.00 mm/1.575	2.54 mm/.100
CPZ-1.500-.250	1.500/38.10 mm	.250/6.35 mm	CPZ-40-7	40.00 mm/1.575	7.00 mm/.276
CPZ-1.562-.250	1.562/39.67 mm	.250/6.35 mm	CPZ-40-8	40.00 mm/1.575	8.00 mm/.315
CPZ-1.783-.250	1.783/45.29 mm	.250/6.35 mm	CPZ-47-5	47.00 mm/1.850	5.00 mm/.197
CPZ-1.810-.250	1.810/45.97 mm	.250/6.35 mm	CPZ-47-8	47.00 mm/1.850	8.00 mm/.315
CPZ-2.000-.250	2.000/50.80 mm	.250/6.35 mm	CPZ-47-10	47.00 mm/1.850	10.00 mm/.394
CPZ-2.125-.312	2.125/53.98 mm	.312/7.92 mm	CPZ-52-6.35	52.00 mm/2.047	6.35 mm/.250
CPZ-2.312-.313	2.312/58.72 mm	.313/7.95 mm	CPZ-52-8	52.00 mm/2.047	8.00 mm/.315
CPZ-2.441-.250	2.441/62.00 mm	.250/6.35 mm	CPZ-52-10	52.00 mm/2.047	10.00 mm/.394
CPZ-2.441-.375	2.441/62.00 mm	.375/9.53 mm	CPZ-72-9	72.00 mm/2.835	9.00 mm/.354
CPZ-2.501-.312	2.501/63.53 mm	.312/7.92 mm	CPZ-80-12	80.00 mm/3.150	12.00 mm/.472
CPZ-2.623-.313	2.623/66.62 mm	.313/7.95 mm	CPZ-90-12	90.00 mm/3.543	12.00 mm/.472
CPZ-2.756-.312	2.756/70.00 mm	.312/7.92 mm	CPZ-150-18	150.00 mm/5.906	18.00 mm/.709
CPZ-3.254-.250	3.254/82.65 mm	.250/6.35 mm			



CPE

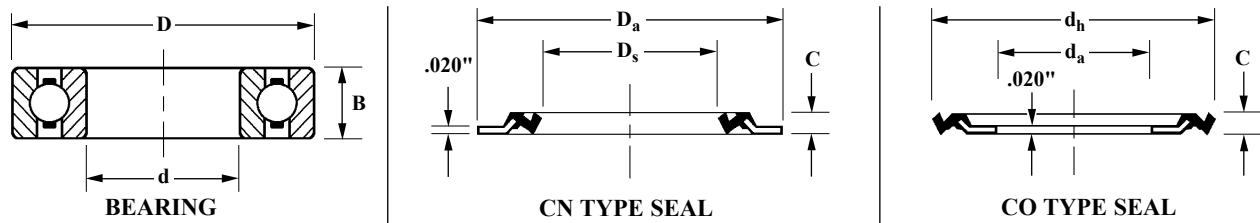
The CPE offers the same features as the standard CPZ Bore Plugs with the additional feature to accommodate extended shafts.

Clark Seal® Part Number	Housing Bore -A-	Top Dia. -B-	Top Angle -C-	Seal Width -D-	Width at O.D. -E-
CPE-1.000-.630	1.000/25.40 mm	.750	10° max.	.630/16.00 mm	.250/6.35 mm
CPE-1.250-.630	1.250/31.75 mm	1.000	5° max.	.630/16.00 mm	.250/6.35 mm
CPE-1.499-.750	1.499/38.07 mm	1.250	5° max.	.750/19.05 mm	.375/9.53 mm
CPE-1.625-.750	1.625/41.28 mm	1.375	5° max.	.750/19.05 mm	.375/9.53 mm
CPE-1.875-.750	1.875/47.63 mm	1.433	15° max.	.750/19.05 mm	.375/9.53 mm
CPE-2.000-.750	2.000/50.80 mm	1.625	10° max.	.750/19.05 mm	.375/9.53 mm
CPE-2.250-.750	2.250/57.15 mm	1.940	10° max.	.750/19.05 mm	.375/9.53 mm
CPE-2.374-.750	2.374/60.30 mm	1.940	5° max.	.750/19.05 mm	.375/9.53 mm
CPE-2.502-.750	2.502/63.55 mm	2.062	10° max.	.750/19.05 mm	.375/9.53 mm
CPE-2.875-.880	2.875/73.03 mm	2.448	15° max.	.880/22.35 mm	.500/12.70 mm
CPE-3.124-.880	3.124/79.35 mm	2.690	5° max.	.880/22.35 mm	.500/12.70 mm
CPE-3.150-.750	3.150/80.01 mm	2.606	45° max.	.750/19.05 mm	.375/9.53 mm

† Non-Standard Size

ExcluderSeals® for Radial Ball, Spherical and Cylindrical Roller Bearings

CO & CN type seals can be used on single and double row Radial Ball, Max. types, Spherical and Cylindrical Roller bearings.



Part No.	Bearing			Clark Seal® Number	Seal I.D. -D _s -	Seal O.D. -D _a -	Seal Width -C-	Clark Seal® Number	Seal I.D. -d _a -	Seal O.D. -d _h -	Seal Width -C-
	-d-	-D-	-B-								
918	90mm 3.543"	125mm 4.921"	18mm .709"	CN-918	97mm 3.819"	125mm 4.921"	3.5mm .138"	CO-918	90mm 3.543"	118mm 4.646"	3.5mm .138"
919	95mm 3.740"	130mm 5.118"	18mm .709"	CN-919	102mm 4.016"	130mm 5.118"	3.5mm .138"	CO-919	95mm 3.740"	123mm 4.842"	3.5mm .138"
920	100mm 3.937"	140mm 5.512"	20mm .787"	CN-920	107mm 4.213"	140mm 5.512"	4.0mm .157"	CO-920	105mm 3.937"	138mm 5.236"	4.0mm .157"
921	105mm 4.134"	145mm 5.709"	20mm .787"	CN-921	112mm 4.409"	145mm 5.709"	4.0mm .157"	CO-921	105mm 4.134"	138mm 5.433"	4.0mm .157"
922	110mm 4.331"	150mm 5.905"	20mm .787"	CN-922	117mm 4.606"	150mm 5.905"	4.0mm .157"	CO-922	110mm 4.331"	143mm 5.630"	4.0mm .157"
924	120mm 4.724"	165mm 6.496"	22mm .866"	CN-924	127mm 5.000"	165mm 6.496"	4.0mm .157"	CO-924	120mm 4.724"	158mm 6.220"	4.0mm .157"
926	130mm 5.118"	180mm 7.087"	24mm .945"	CN-926	138.5mm 5.453"	180mm 7.087"	4.0mm .157"	CO-926	130mm 5.118"	171.5mm 6.752"	4.0mm .157"
928	140mm 5.512"	190mm 7.480"	24mm .945"	CN-928	148.5mm 5.846"	190mm 7.480"	4.0mm .157"	CO-928*	140mm 5.512"	181.5mm 7.146"	4.0mm .157"
930	150mm 5.905"	210mm 8.268"	28mm 1.102"	CN-930	160mm 6.299"	210mm 8.268"	4.0mm .157"	CO-930	150mm 5.905"	200mm 7.874"	4.0mm .157"
932	160mm 6.299"	220mm 8.661"	28mm 1.102"	CN-932	170mm 6.693"	220mm 8.661"	5.0mm .197"	CO-932	160mm 6.299"	210mm 8.268"	5.0mm .197"
934	170mm 6.693"	230mm 9.055"	28mm 1.102"	CN-934	180mm 7.087"	230mm 9.055"	5.0mm .197"	CO-934	170mm 6.693"	220mm 8.661"	5.0mm .197"
936	180mm 7.087"	250mm 9.842"	33mm 1.299"	CN-936	190mm 7.480"	250mm 9.842"	5.0mm .197"	CO-936	180mm 7.087"	240mm 9.449"	5.0mm .197"
938	190mm 7.480"	260mm 10.236"	33mm 1.299"	CN-938	200mm 7.874"	260mm 10.236"	5.0mm .197"	CO-938	190mm 7.480"	250mm 9.842"	5.0mm .197"
940	200mm 7.874"	280mm 11.024"	38mm 1.496"	CN-940	212mm 8.346"	280mm 11.024"	5.0mm .197"	CO-940	200mm 7.874"	268mm 10.551"	5.0mm .197"
944	220mm 8.661"	300mm 11.811"	38mm 1.496"	CN-944	232mm 9.134"	300mm 11.811"	5.0mm .197"	CO-944	220mm 8.661"	288mm 11.339"	5.0mm .197"
948	240mm 9.449"	320mm 12.598"	38mm 1.496"	CN-948	252mm 9.921"	320mm 12.598"	5.0mm .197"	CO-948	240mm 9.449"	308mm 12.126"	5.0mm .197"
952	260mm 10.236"	360mm 14.173"	46mm 1.811"	CN-952	272mm 10.709"	360mm 14.173"	5.0mm .197"	CO-952	260mm 10.236"	348mm 13.701"	5.0mm .197"
956	280mm 11.024"	380mm 14.961"	46mm 1.811"	CN-956	292mm 11.496"	380mm 14.961"	5.0mm .197"	CO-956	280mm 11.024"	368mm 14.488"	5.0mm .197"
960	300mm 11.811"	420mm 16.535"	56mm 2.205"	CN-960	314mm 12.362"	420mm 16.535"	5.0mm .197"	CO-960	300mm 11.811"	406mm 15.984"	5.0mm .197"
964	320mm 12.598"	440mm 17.323"	56mm 2.205"	CN-964	334mm 13.150"	440mm 17.323"	5.0mm .197"	CO-964	320mm 12.598"	426mm 16.772"	5.0mm .197"

PLEASE NOTE: CO & CN type seals are used to replace metal rings. Metal rings, which come in contact with the bearing face, will grind down the ring causing fine metal particles to reach the inside of the bearing leading to premature bearing failure.

CN and CO type Excluder Seals® are proprietary Clark Seal designs protected under U.S. Pat. No. 5 017 024.
* Tooling available for these sizes.

Seal Selection Considerations

Date: _____

Customer information

Company _____
 Address _____
 Contact _____
 Phone _____
 Fax _____

Customer request

Catalogs yes no
 Quantity required _____
 Delivery date required _____
 E-mail _____

Note: Clark's Excluder[®] and Sheave Seals[®] are designed to protect tapered roller bearing using a grease lubricant.

Application Considerations:

Type of equipment: _____	Type of lubricant _____
Preferred seal design: <u>CSL CE CS CA</u> _____	Max. temperature _____
Bearing Cup Number _____	Corrosive Atmosphere _____
Bearing Cone Number _____	Vibration _____
Cone Bore _____	Thermal expansion of housing _____
Cup O.D. _____	Maximum cavity pressure _____
Preferred sealing surface _____	Heavy dust exclusion _____
Grease flushing feature req'd _____	Light dust exclusion _____

Lip design options:

- 1.) A single lip to prevent debris from entering the bearing cavity and to allow excessive grease to escape.
- 2.) A single lip to retain the grease in the bearing cavity.
- 3.) A dual lip to prevent debris from entering the bearing cavity and to allow excessive grease to escape.
- 4.) A dual lip to retain the grease in the bearing cavity and exclude debris from entering the bearing cavity.
- 5.) A locator lip to allow the seals to be pre-assembled and positioned onto the bearing cone prior to installation.
- 6.) Multiple lip seals for heavy duty exclusion of dirt, mud and moisture.

Seal design options:

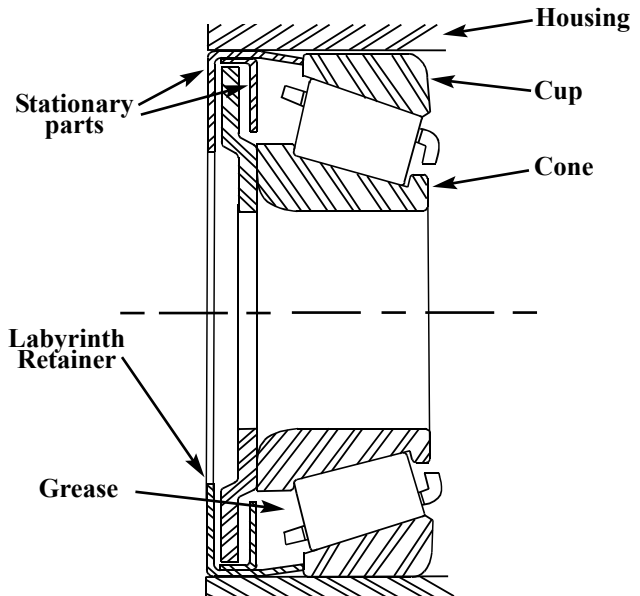
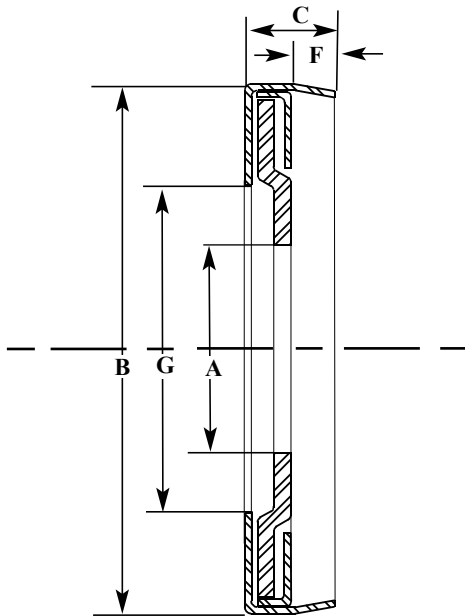
- 1.) Seal with partial metal and rubber O.D. Clark's Unique Premium Series Seals.
- 2.) Seal with rubber covering and a machined metal O.D. for maximum corrosion protection and a heavy press fit.
- 3.) Seal completely rubber covered for applications where thermal expansion and corrosion are a problem.
- 4.) Seal with a metal O.D. without a rubber covering for a heavy press fit to resist pressure and vibrations.
- 5.) Seal retained between the cone and shaft shoulder for high pressure, temperature and vibration.

Sealing surface options:

- | | |
|-----------------------------|------------------------|
| 1.) Housing bore | 5.) Cone front face |
| 2.) Cup front face | 6.) Housing face |
| 3.) Cup back face | 7.) Bearing inner race |
| 4.) Cone large rib diameter | 8.) Bearing outer race |

Contact Clark for help in the seal selection process.

Note: Tables are arranged by retainer bore size, -A-



Labyrinth Grease Retainers

Labyrinth Grease Retainers are all metal seals designed for use in high speed, extreme heat and dirty environments.

Timken's® Bearing Number		Labyrinth Bore	Labyrinth O.D.	Labyrinth width	Bearing Standout	Backing Diameter	Clark Seals® Part Number	Timken's® Part Number
Cone	Cup	-A-	-B-	-C-	-F-	-G-		
14137A	14274	1.385	2.718	0.556	0.156	1.765	L-14274	T-58699
2788	2720	1.510	3.001	0.587	0.187	2.015	T-58681/L-2720*	T-58681
3578	3520	1.760	3.314	0.650	0.250	2.265	L-3520	T-58682
3780	3720	2.010	3.673	0.650	0.250	2.515	L-3720	T-58683
455	453A	2.010	4.251	0.619	0.219	2.890	L-453A	K-326066
3979	3920	2.253	4.440	0.625	0.200	3.220	L-3920-3979	-----
28682	28622	2.260	3.845	0.603	0.203	2.765	L-64395	T-64395
462	452A	2.260	4.251	0.619	0.219	2.890	T-59690/L-452A*	T-58690
390	3920	2.260	4.439	0.525	0.125	3.265	-----	T-58684
3982	3920	2.510	4.439	0.650	0.250	3.265	L-3920-3982	T-58685
477	472A	2.510	4.726	0.619	0.219	3.265	L-472A-477	T-58691
5584	5520	2.510	4.736	0.713	0.327	3.390	L-5520	T-58692
3984	3920	2.635	4.439	0.650	0.250	3.265	L-3920-3984	T-58698
480	472A	2.697	4.726	0.619	0.219	3.265	L-472A-480	T-58686
33275	33462	2.760	4.626	0.650	0.250	3.327	L-33462	T-63515
566	563	2.760	5.001	0.713	0.312	3.640	L-563-566	T-58687
643	632	2.760	5.376	0.775	0.375	3.515	L-632	T-58697
567	563	2.885	5.001	0.713	0.312	3.640	L-563-567	T-58688
575	572	3.010	5.513	0.713	0.312	3.890	L-572	T-58689
5760	5720	3.010	5.597	0.775	0.375	3.890	L-5720	T-58693
7485	742	3.010	5.910	0.713	0.312	4.265	L-742-748S	T-62274
659	652	3.010	6.001	0.625	0.375	4.265	L-652 NW*	T-58696
659	652	3.010	6.001	0.775	0.375	4.265	L-652*	T-58696
42690	42620	3.072	5.001	0.713	0.312	3.640	L-42620	K-84580
749	742	3.357	5.910	0.713	0.312	4.265	L-742-749	T-58694
759	752	3.510	6.376	0.775	0.375	4.515	L-752	T-58695

* Tooling currently available

Notes
