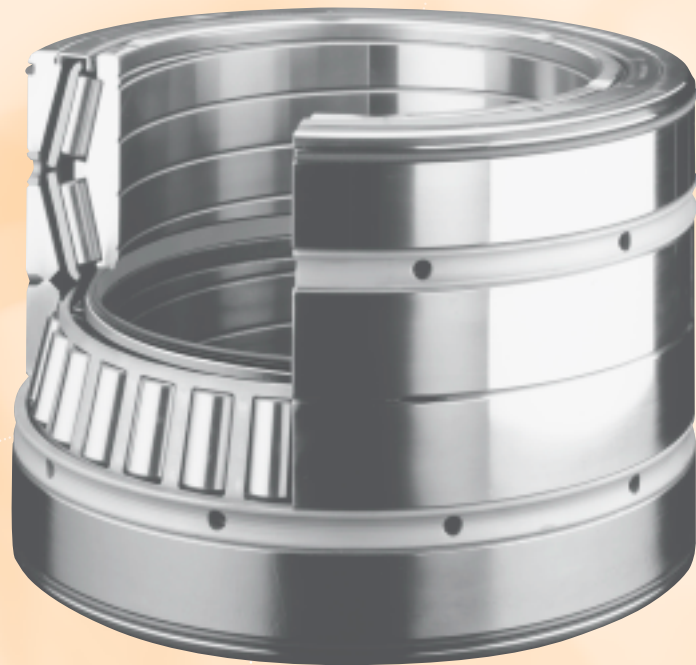


**TIMKEN®**

# SEALED ROLL NECK BEARINGS



**THE TIMKEN COMPANY**

# SEALED ROLL

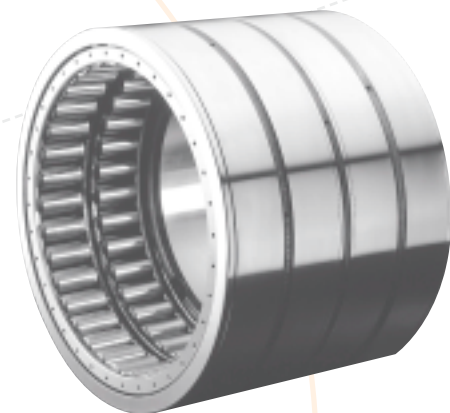
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Rolling mills need bearings to perform effectively at high speeds, under heavy loads and in severely contaminated environments. At the same time, there's constant pressure to increase production while reducing cost-per-ton rolled. Maintenance budgets are often times being reduced, allowing for less time and resources available for bearing maintenance.

Timken has a complete line of sealed roll neck bearings that meet the demands of these environments and provide added value to mill operators.

Timken® Sealed Roll Neck Bearings (SRNBs) reflect the strengths of the Timken brand: superior materials, proven bearing designs and the latest in bearing and seal technology.

For more than a century, Timken continues to lead the world in bearing design and manufacturing. Our tapered, spherical, cylindrical, needle and thrust bearing configurations reduce friction in a wide range of applications and keep machines running efficiently to provide longer maintenance intervals. We combine the best bearing designs with innovative seal technology to reduce contamination ingress and extend bearing life.



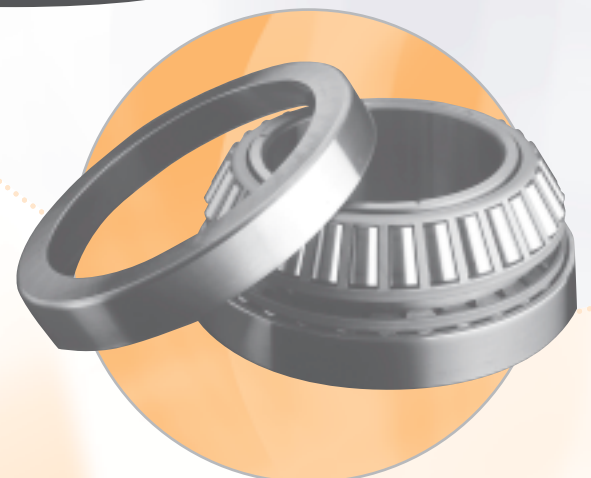
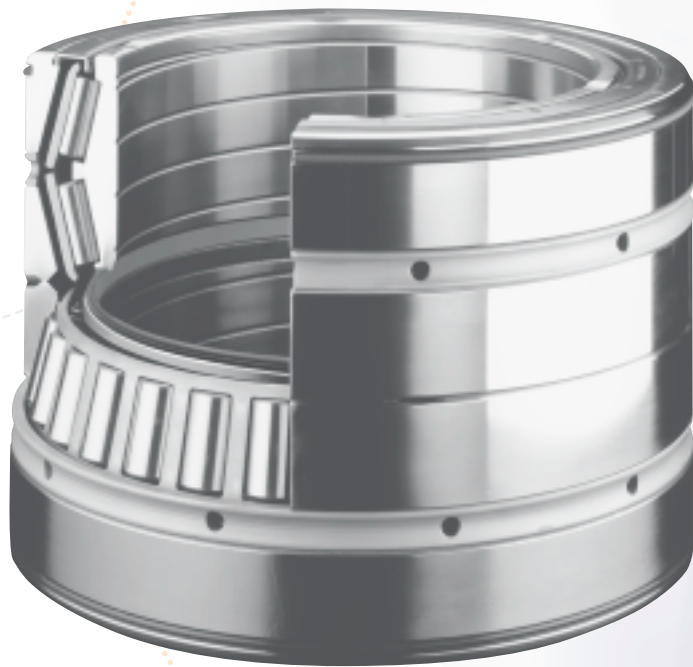
# LL NECK BEARINGS

## the latest technology

Timken SRNBs start with a proven Timken bearing design, then we incorporate advanced sealing technologies to provide an assembly that improves mill performance without changing the bearing envelope dimensions. Sealed bearings offer numerous benefits for mill operators. Ultimately, these benefits result in a lower cost-per-ton rolled.

- > The seals reduce the risk of contamination ingress and related damage, which increases bearing reliability and life.
- > Maintenance costs are minimized through reductions in lubrication consumption and disposal charges.
- > The risk of strip staining and rolling solution contamination is dramatically reduced.
- > Through field testing, maintenance intervals often can be extended, reducing the number of inspections required per year.

## proven designs



## superior materials

# INNOVATIVE BEARI



Effective SRNBs help combat the extremes of the rolling mill environment. Each application is unique in its performance characteristics and design needs. To meet these various requirements, Timken developed several SRNB designs by combining advanced seal technology with industry-leading tapered roller bearing designs.

While customer-specific requirements can be incorporated into bearing seals and designs, four standard design types are available for mills.

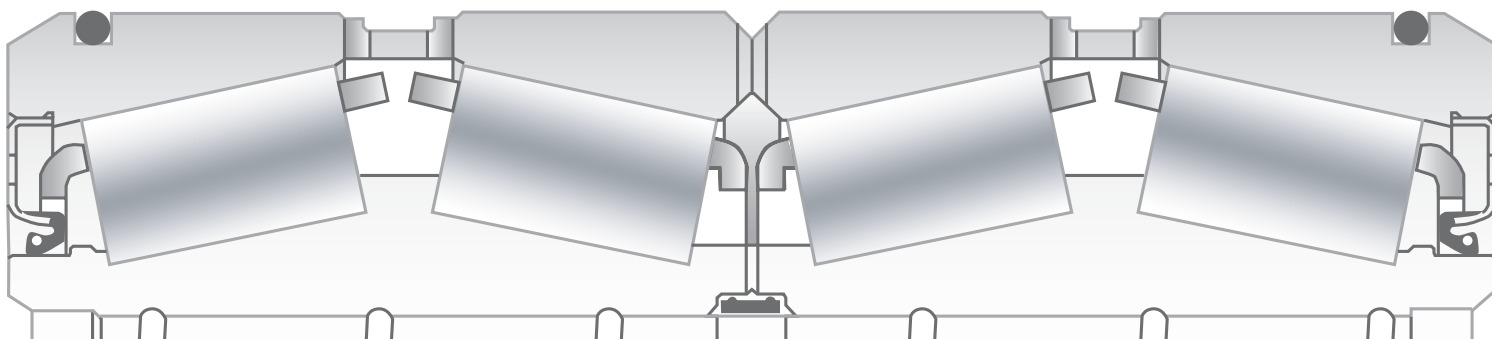
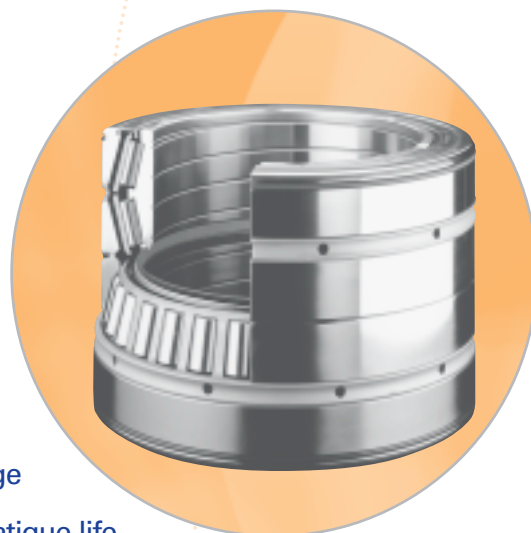


combat the extremes  
of rolling mill conditions

## design features

While each of the four standard design types have their own unique features, these are common features found on all Timken SRNBs:

- > Four single cups for optimum load sharing
- > Cup spacers available with or without lube groove and holes
- > Improved surface finishes to enhance lubrication performance
- > Inboard and outboard cone face slots that reduce cone face wear
- > Spiral bore grooves with blended radii to eliminate roll neck damage
- > Case-carburized components to improve toughness and increase fatigue life
- > Patented seal designs with improved contact geometry for enhanced sealing
- > Enhanced roller profiling for even load distribution, which reduces edge stress
- > No central cone or cup spacers to minimize number of components to be handled
- > Effective sealing at cup outer diameter (OD) to seal contaminants away from bearing OD and chock bore





# TYPE 1 SRNB

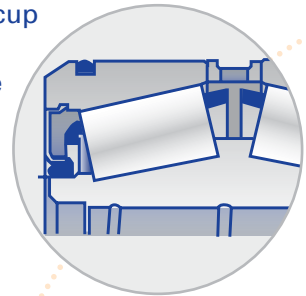
## Bearing Features: Type 1 SRNB

Type 1 SRNBs feature four single cups and two cup spacers, no central cone or cup spacers, and slotted cups and cup spacers for relubrication. Type 1 SRNBs also have spiral bore grooves, inboard and outboard cone face slots, enhanced internal geometry, and relieved seal seats.

### *type 1 main seal features*

This design features optimized seal contact geometry for reduced operating temperatures, reduced seal torque and improved sealing. The seal lip position has also been optimized to handle increased deflection and misalignment in operation. A reduced seal profile allows for longer rollers, which increases bearing capacity. All garter springs are molded in to the seal lips to eliminate concerns of spring rollout. This seal is offered exclusively in fluoroelastomer material for maximum chemical and temperature resistance.

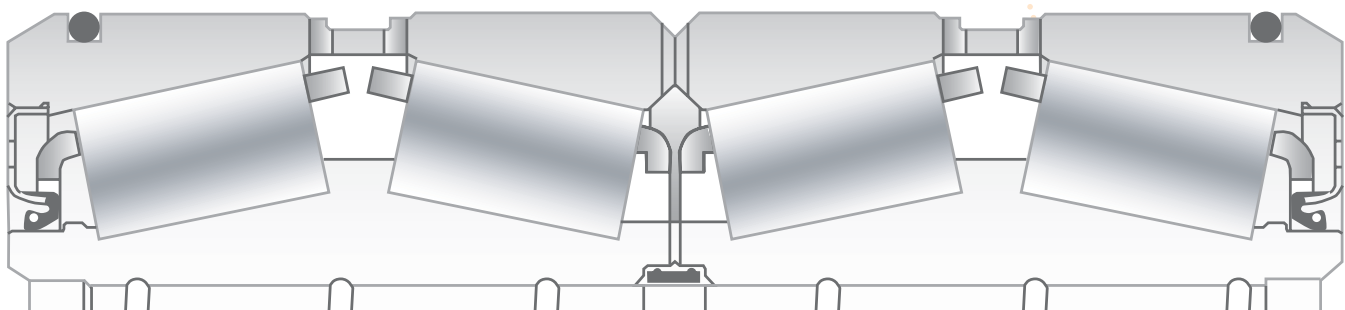
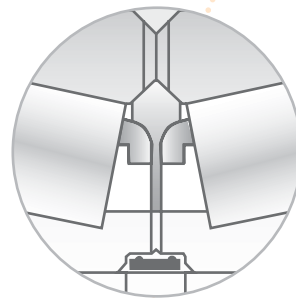
- > Optimized seal contact geometry for increased seal performance
- > High deflection and misalignment capability
- > Reduced seal profile allows for maximum bearing capacity
- > Seal pressed into cup and staked into place for positive seal retention
- > O-ring sealing at cup OD



### *type 1 bore seal features*

All of the founding concepts of the original Timken cone bore seal have been captured and now improved upon with this second-generation bore seal design.

- > Increased flexibility for easier installation
- > Modified elastomer properties for improved sealing
- > Optimized interference fit for improved bearing venting
- > Minimized seal cross-section for reduced intrusion into bearing



# TYPE 2 SRNB

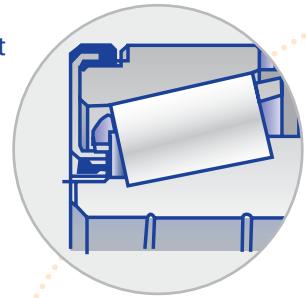
## Bearing Features: Type 2 SRNB

Type 2 SRNBs feature spiral bore grooves, no central cone or cup spacers and inboard and outboard cone face slots. Similar to Type 1, these bearings also have four single cups and two cup spacers. The cups and cup spacers are slotted for relubrication.

### *type 2 main seal features*

The narrow seal footprint allows for maximizing the bearing capacity in the available envelope by utilizing the space underneath the bearing cage to provide an optimum seal design. This seal wraps around the cup backface and also provides static sealing at the cup OD to prevent water from entering via the chock bore. The flexible seal lip at the cup OD also allows for variation in chock bore shape and size. Due to the cup wrap-around, the seal will automatically be clamped up in the chock for positive seal retention. This SRNB is offered exclusively in fluoroelastomer material for maximum chemical and temperature resistance.

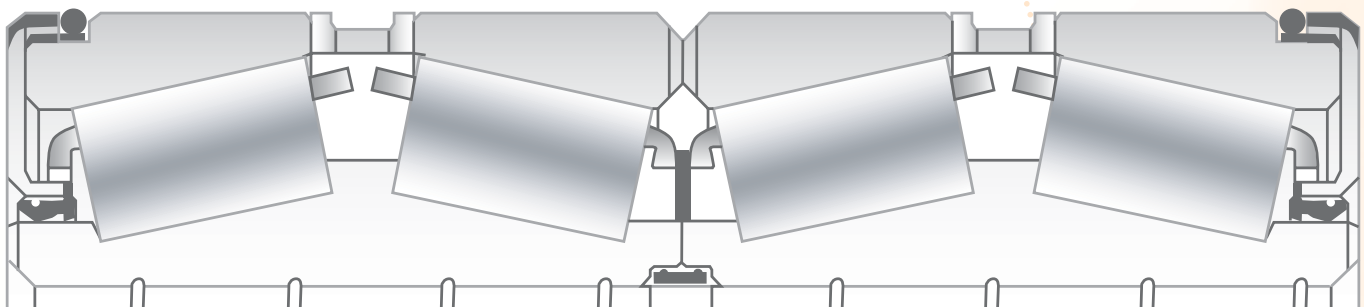
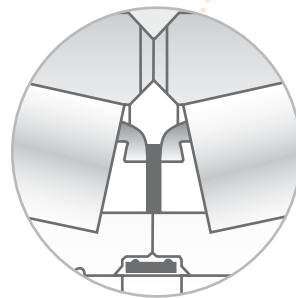
- > Narrow seal footprint allows bearing capacity and component sections to be maintained
- > Integrated 2-in-1 sealing package
- > Flexible seal lip at cup OD to seal chock bore
- > Light press-on fit to cup shoulder for easy installation



### *type 2 bore seal features*

Type 2 SRNBs feature the original concept for the Timken bore seal. It is designed to be installed from the cone bore after the bearing is mounted in the chock. The seal is mounted by bending into a heart shape and releasing into the bore seal groove, eliminating a blind seal installation. Having the seal on the cone bore side of the bearing, allows lubrication to effectively reach the inboard cone faces (via the slots provided) to maintain adequate lubrication to these wear surfaces.

- > Simple, effective and economic design
- > Allows lubrication to inboard cone faces
- > Can be installed after bearing is mounted in chock
- > Installation from cone bore, eliminates blind seal assembly



# TYPE 3 SRNB

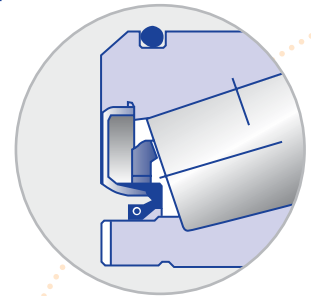
## Bearing Features: Type 3 SRNB

The Type 3 SRNBs have spiral bore grooves, outboard cone face slots and relieved seal seats. This design also incorporates enhanced internal geometry, no central cone or cup spacers and is available with or without provisions for relubrication. Similar to the previous types, Type 3 SRNBs also have four single cups and two cup spacers.

### *type 3 main seal features*

This design features improved seal contact geometry that provides for enhanced seal durability and performance. Type 3 SRNBs are designed to handle higher deflection and misalignment in operation. A reduced seal profile allows for longer rollers, which increases bearing capacity. Typically features molded in garter springs to eliminate spring rollout. This design is offered in either Hydrogenated Nitrile rubber (HNBR) or fluoroelastomer materials.

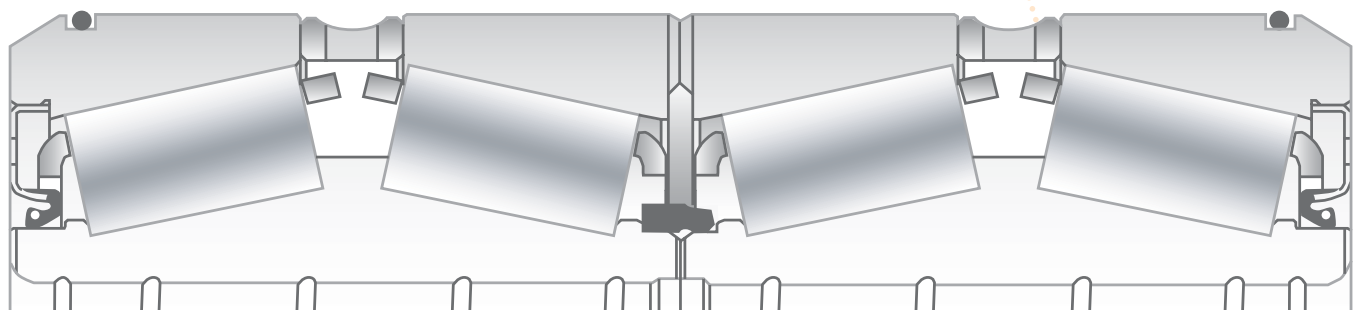
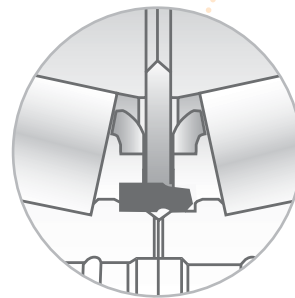
- > High deflection and misalignment capability
- > Reduced seal profile allows for maximum bearing capacity
- > Seal pressed into cup and staked into place for positive seal retention
- > O-ring sealing at cup OD



### *type 3 bore seal features*

This design features a linear contact on one side of the seal for positive seal retention and a flexible seal lip on the other making only point contact with the opposite cone. The flexible lip allows for more deflection and relative rotation between the two cones in the bearing assembly. The seal is also mounted inside the bearing and protected from the external environment.

- > Linear contact on one side of seal for positive seal retention
- > Flexible lip on opposite side for increase deflection capability
- > Mounted inside the bearing and protected from external environment





# TYPE 4 SRNB

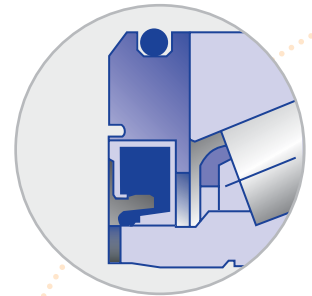
## Bearing Features: Type 4 SRNB

This design is used when customers prefer to compromise bearing capacity to maximize sealing or when additional bearing width is permissible. The wider seal dimensions either mean a reduction in internal geometry dimensions to stay within the existing envelope or increasing the bearing width while maintaining the existing bearing design. These designs feature many of the options available on the other SRNB types, but are typically customized to meet the needs of a specific mill.

### ***type 4 main seal features***

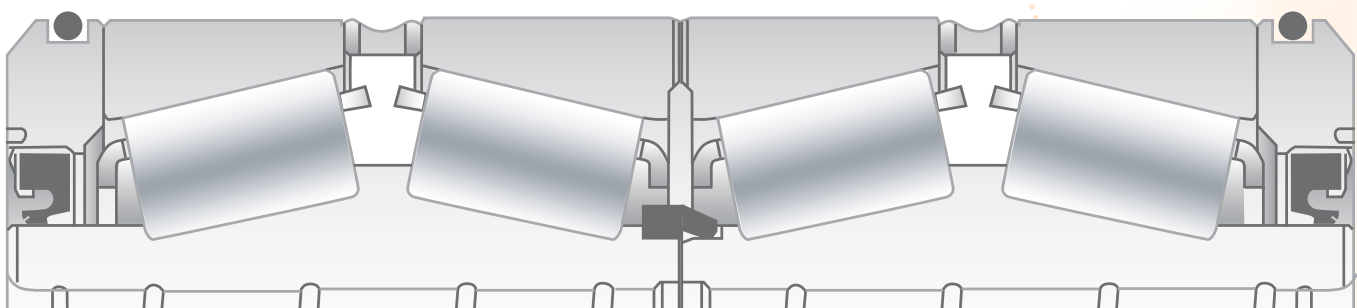
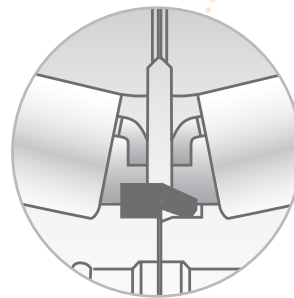
Using proven chock-sealing technology, this design features a heavy-duty, all-metal case seal designed for severe rolling mill service. Features a stainless-steel finger spring to eliminate concerns of spring rollout and nearly eliminates the possibility of lip rollover during installation. Robust design features provide maximum sealing protection and durability in the available envelope. Typically offered in HNBR material for maximum abrasion resistance and good temperature capability. The seal also can be supplied in other material as required.

- > Seals pressed into seal carrier
- > Heavy-duty metal case seal
- > High deflection and misalignment capability
- > Molded in finger spring eliminates spring rollout
- > O-ring sealing at cup OD

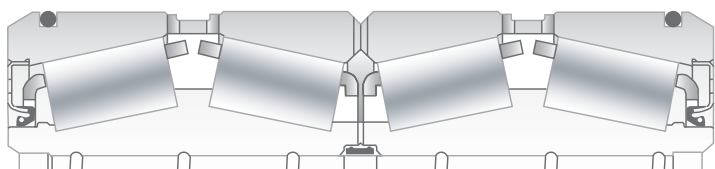


### ***type 4 bore seal features***

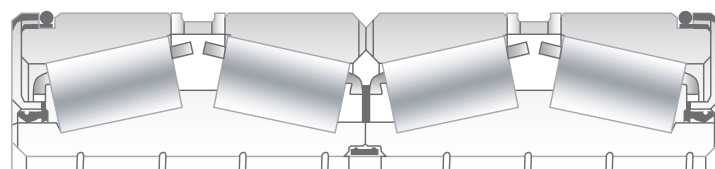
- > Type 4 SRNBs are offered with one of the three bore seal designs previously described.



# PRODUCT OFFERING



TYPE 1 SRNB

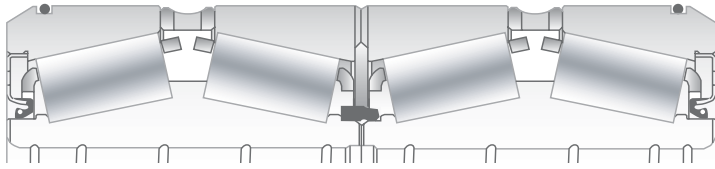


TYPE 2 SRNB

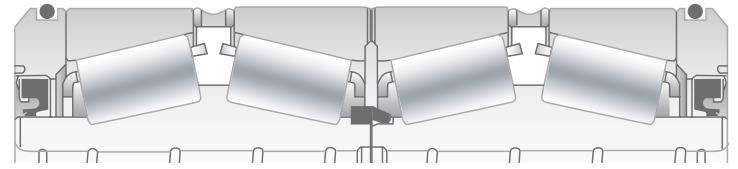
Basic Part No.	Design Type	Bore IN/MM	OD IN/MM	Width over Cups IN/MM	Width over Cones IN/MM	Dynamic Rating C(90) - 4 Lbf/ KN	Dynamic Rating C(1) - 4 Lbf/ KN	K-Factor	Max. Shaft Radius IN/MM	Cone Backing Diameter IN/MM	Max. Housing Radius IN/MM	Cup Backing Diameter IN/MM	Weight* Lb/ Kg
NP764003	1	8.6875	12.3750	9.4375	9.4375	138600	534000	2.07	0.06	9.25	0.06	11.54	122
		220.663	314.325	239.713	239.713	616	2375		1.5	235.0	1.5	293.1	56
NP759868	4	9.4488	12.5984	11.5748	11.5748	105000	404000	1.44	0.06	10.04	0.25	11.93	109
		240.000	320.000	294.000	294.000	467	1797		1.5	255.0	6.4	303.0	50
NP210270	1	9.5070	13.7460	9.0000	9.0000	110000	424000	1.66	0.06	10.41	0.13	12.57	170
		241.478	349.148	228.600	228.600	489	1886		1.5	264.4	3.3	319.3	77
NP167500	4	9.6460	13.5830	12.2047	12.2047	133400	514000	1.52	0.06	10.35	0.06	12.8	196
		245.008	345.008	310.000	310.000	593	2286		1.5	262.9	1.5	325.1	89
NP208884	1	9.7500	15.5000	10.6250	10.6250	173800	670000	1.49	0.06	11.77	0.08	14.17	282
		247.650	393.700	269.875	269.875	773	2980		1.5	299.0	2.0	359.9	128
NP253163	1	10.0000	14.1250	10.6250	10.6250	182800	704000	1.91	0.06	10.71	0.25	13.31	177
		254.000	358.775	269.875	269.875	813	3131		1.5	272.0	6.4	338.1	80
NP403499	1	10.5000	14.0000	8.8426	9.0000	132400	510000	1.62	0.06	11.06	0.06	13.03	129
		266.700	355.600	224.602	228.600	589	2268		1.5	280.9	1.5	331.0	58
M252546DGW	1	10.6250	15.0000	11.1250	11.1250	192200	740000	1.76	0.13	11.33	0.13	13.94	216
		269.875	381.000	282.575	282.575	855	3292		3.3	287.8	3.3	354.1	98
NP436351	2	10.7500	14.9960	9.6250	9.6250	145600	562000	1.76	0.06	11.5	0.22	13.98	173
		273.050	380.898	244.475	244.475	648	2500		1.5	292.1	5.6	355.1	78
NP501231	1	10.8750	15.5000	10.6250	10.6250	173800	670000	1.49	0.125	11.77	0.08	14.17	224
		279.400	393.700	269.875	269.875	773	2980		3.2	299.0	2.0	359.9	101
NP386298	1	11.0000	15.5000	10.6250	10.6250	173800	670000	1.49	0.125	11.77	0.08	14.17	224
		279.400	393.700	269.875	269.875	773	2980		3.2	299.0	2.0	359.9	101
NP386298	1	11.0000	15.5000	12.4408	12.5984	173800	670000	1.49	0.125	11.77	0.08	14.17	256
		279.400	393.700	315.996	320.000	773	2980		3.2	299.0	2.0	359.9	116
NP229649	1	11.0226	14.9586	11.4173	11.4180	170800	658000	1.56	0.125	11.77	0.25	13.82	193
		279.974	379.948	290.000	290.017	760	2927		3.2	299.0	6.4	351.0	88
LM254346DGW	2	11.2500	14.9960	9.6250	9.6250	145600	562000	1.76	0.06	11.85	0.22	13.98	150
		285.750	380.898	244.475	244.475	648	2500		1.5	301.0	5.6	355.1	68
NP163219	2	11.6142	15.3524	8.6614	8.6614	147600	570000	1.71	0.06	12.2	0.06	14.41	143
		295.000	389.951	220.000	220.000	657	2535		1.5	309.9	1.5	366.0	65
M257644DGW	2	11.9940	17.2460	11.0000	11.0626	228000	882000	1.75	0.13	12.91	0.06	16.02	286
		304.648	438.048	279.400	280.990	1014	3923		3.3	327.9	1.5	406.9	130
NP300389	1	12.0000	16.5000	10.6250	10.6250	193200	746000	1.83	0.13	12.91	0.06	15.51	234
		304.800	419.100	269.875	269.875	859	3318		3.3	327.9	1.5	394.0	106

Part numbers listed correspond with design type diagrams shown above and noted on the previous pages.

Please check back pocket for the most current product offering.



TYPE 3 SRNB

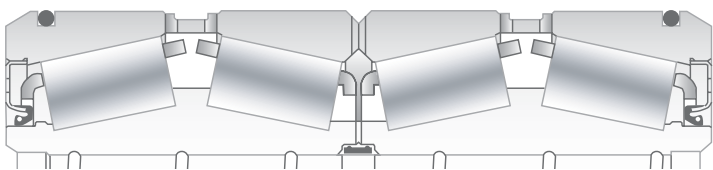


TYPE 4 SRNB

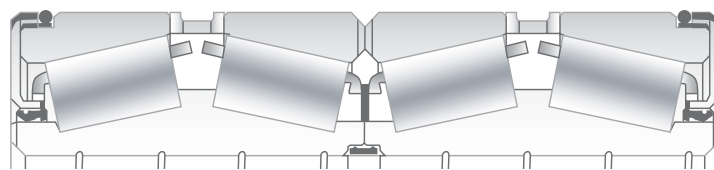
Basic Part No.	Design Type	Bore	OD	Width over Cups	Width over Cones	Dynamic Rating C(90) - 4	Dynamic Rating C(1) - 4	K-Factor	Max. Shaft Radius	Cone Backing Diameter	Max. Housing Radius	Cup Backing Diameter	Weight*
		IN/MM	IN/MM	IN/MM	IN/MM	Lbf/ KN	Lbf/ KN		IN/MM	IN/MM	IN/MM	IN/MM	Lb/ Kg
LM257143DGW	2	12.0040	16.2460	10.5000	10.5000	190400	734000	1.76	0.13	12.52	0.06	15.2	213
		304.902	412.648	266.700	266.700	847	3265		3.3	318.0	1.5	386.1	97
M257645DGW	2	12.0079	17.2460	11.0000	11.0626	228000	882000	1.75	0.13	12.91	0.06	16.02	286
		305.000	438.048	279.400	280.990	1014	3923		3.3	327.9	1.5	406.9	130
LM258447DGW	2	12.5000	16.6250	10.6250	10.6250	193200	746000	1.83	0.13	13.23	0.06	15.55	215
		317.500	422.275	269.875	269.875	859	3318		3.3	336.0	1.5	395.0	97
130TQS562	1	13.0040	17.2450	10.0000	9.7500	156000	602000	1.19	0.06	13.66	0.13	16.09	216
		330.302	438.023	254.000	247.650	694	2678		1.5	347.0	3.3	408.7	98
NP267192	1	13.4375	17.9960	10.0000	10.0000	182200	702000	1.24	0.06	14.13	0.1	16.69	241
		341.313	457.098	254.000	254.000	810	3122		1.5	358.9	2.5	423.9	109
NP187931	1	13.5060	17.9960	10.0000	10.0000	182200	702000	1.24	0.06	14.21	0.1	16.69	237
		343.052	457.098	254.000	254.000	810	3122		1.5	360.9	2.5	423.9	108
NP187931	1	13.5060	17.9960	11.5079	11.7717	182200	702000	1.24	0.06	14.13	0.1	16.69	265
		343.052	457.098	292.301	299.000	810	3122		1.5	358.9	2.5	423.9	120
NP504704	1	13.5060	17.9960	10.0000	10.0000	154000	594000	0.82	0.03	14.21	0.13	17.09	242
		343.052	457.098	254.000	254.000	685	2642		0.8	360.9	3.3	434.1	110
NP974481	1	14.0000	18.0000	9.9375	9.9375	160400	618000	1.48	0.06	14.69	0.06	17.01	211
		355.600	457.200	252.413	252.413	713	2749		1.5	373.1	1.5	432.1	96
NP744640	1	14.0000	18.0000	9.9375	12.7500	160400	618000	1.48	0.06	14.69	0.06	17.01	220
		355.600	457.200	252.413	323.850	713	2749		1.5	373.1	1.5	432.1	100
NP631856	1	14.0000	19.0000	10.4676	10.6250	210000	806000	1.29	0.06	14.72	0.08	17.72	293
		355.600	482.600	265.877	269.875	934	3585		1.5	373.9	2.0	450.1	133
NP096778	1	14.0000	19.2500	10.2800	10.4374	210000	806000	1.29	0.06	14.72	0.08	17.56	307
		355.600	488.950	261.112	265.110	934	3585		1.5	373.9	2.0	446.0	139
NP587863	1	14.0000	19.2500	12.5000	12.5000	268000	1032000	1.76	0.06	14.72	0.08	17.95	374
		355.600	488.950	317.500	317.500	1192	4590		1.5	373.9	2.0	455.9	170
151TQSHL8641	4	15.1250	21.5000	15.7500	15.7500	321000	1240000	1.76	0.13	16.18	0.25	19.91	692
		384.175	546.100	400.050	400.050	1428	5516		3.3	411.0	6.4	505.7	314
T-6241-A	4	15.3540	20.0787	13.7790	13.7790	227000	878000	1.4	0.06	16.18	0.12	18.86	417
		389.992	510.000	349.987	349.987	1010	3905		1.5	411.0	3.0	479.0	189
155TQS8645	3	15.5512	21.4567	11.3750	10.5625	164000	633000	0.82	0.16	16.53	0.35	20.08	441
		395.000	545.000	288.925	268.288	729	2816		4.1	419.9	8.9	510.0	200
NP041977	1	16.0000	21.5000	11.3750	11.3750	256000	988000	1.37	0.06	16.73	0.12	19.96	397
		406.400	546.100	288.925	288.925	1139	4395		1.5	424.9	3.0	507.0	180

\*Assembly weight does not include seals, springs or auxiliary components.

# PRODUCT OFFERING



TYPE 1 SRNB

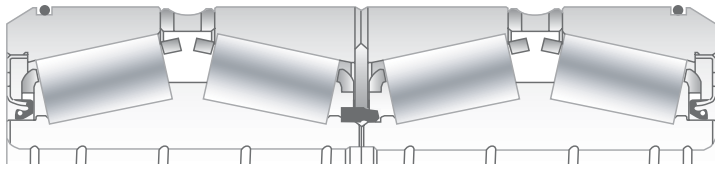


TYPE 2 SRNB

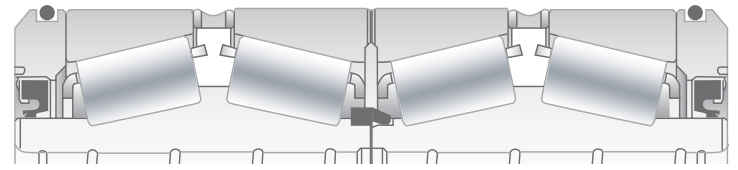
Basic Part No.	Design Type	Bore IN/MM	OD IN/MM	Width over Cups IN/MM	Width over Cones IN/MM	Dynamic Rating C(90) - 4 Lbf/ KN	Dynamic Rating C(1) - 4 Lbf/ KN	K-Factor	Max. Shaft Radius IN/MM	Cone Backing Diameter IN/MM	Max. Housing Radius IN/MM	Cup Backing Diameter IN/MM	Weight* Lb/ Kg
NP706368	1	16.0000	21.5000	12.9921	12.9921	260000	1006000	1.23	0.06	17.05	0.1	19.72	509
		406.400	546.100	329.999	329.999	1156	4475		1.5	433.1	2.5	500.9	231
NP607311	1	16.0000	22.1260	15.0000	15.0000	370000	1424000	1.76	0.13	16.26	0.25	21.02	583
		406.400	562.000	381.000	381.000	1646	6334		3.3	413.0	6.4	533.9	265
W-3550-B	4	16.1250	21.5000	13.1875	13.1875	205100	791800	0.97	0.13	17	0.31	19.94	394
		409.575	546.100	334.963	334.963	912	3522		3.3	431.8	7.9	506.5	179
S-21290-C	3	16.3750	23.2500	17.1260	17.1260	348000	1342000	1.04	0.13	17.71	0.25	21.26	408
		415.925	590.550	435.000	435.000	1548	5969		3.3	449.8	6.4	540.0	185
E-21080-A	3	16.9291	22.4409	14.9902	14.9090	304000	1174000	1.41	0.06	-	0.175	-	606
		430.000	570.000	380.751	378.689	1352	5222		1.5	-	4.4	-	275
169TQS8679	spcl	16.9291	22.6378	14.9705	14.9705	319000	1231000	1.34	0.06	-	0.175	-	640
		430.000	575.000	380.251	380.251	1419	5475		1.5	-	4.4	-	290
173TQS950M	3	17.3228	23.2283	18.8976	18.8976	455000	1757000	1.74	0.12	18.19	0.25	21.57	856
		440.000	590.000	480.000	480.000	2024	7815		3.0	462.0	6.4	547.9	388
NP550623	1	17.7145	23.4232	14.4882	14.4882	368000	1424000	1.96	0.08	18.94	0.24	22.32	584
		449.948	594.949	368.000	368.000	1637	6334		2.0	481.1	6.1	566.9	265
NP550623	1	17.7145	23.4232	15.7095	15.9055	368000	1424000	1.96	0.08	18.94	0.24	22.32	636
		449.948	594.949	399.021	404.000	1637	6334		2.0	481.1	6.1	566.9	289
L670847DGW	2	18.0000	23.5000	11.0000	10.8750	258000	994000	1.43	0.06	19.11	0.13	22.09	418
		457.200	596.900	279.400	276.225	1148	4421		1.5	485.4	3.3	561.1	189
NP445689	1	18.1082	24.6033	16.5748	16.5748	434000	1678000	1.76	0.08	19.13	0.354	23.15	796
		459.948	624.924	421.000	421.000	1930	7464		2.0	485.9	9.0	588.0	361
NP101279	1	19.0000	24.2500	13.0000	13.0000	324000	1246000	1.76	0.25	19.96	0.25	23.03	501
		482.600	615.950	330.200	330.200	1441	5542		6.4	507.0	6.4	585.0	227
NP488963	1	19.0000	24.2500	13.0000	16.0000	324000	1246000	1.76	0.25	19.96	0.25	23.03	539
		482.600	615.950	330.200	406.400	1441	5542		6.4	507.0	6.4	585.0	245
NP802806	1	19.0000	24.2500	14.8750	16.0000	336000	1298000	1.76	0.16	19.96	0.25	22.91	584
		482.600	615.950	377.825	406.400	1495	5774		4.1	507.0	6.4	581.9	265
NP216529	4	19.0000	24.2500	15.7500	15.7500	352000	1360000	1.76	0.25	19.84	0.25	22.91	620
		482.600	615.950	400.050	400.050	1566	6049		6.4	503.9	6.4	581.9	281
NP630107	4	19.0000	24.2500	15.7500	16.5000	324000	1246000	1.76	0.16	19.96	0.25	23.03	614
		482.600	615.950	400.050	419.100	1441	5542		4.1	507.0	6.4	585.0	278
NP101279	1	19.0000	24.2500	16.5354	16.5354	324000	1246000	1.76	0.25	19.96	0.25	23.03	576
		482.600	615.950	420.000	420.000	1441	5542		6.4	507.0	6.4	585.0	261

Part numbers listed correspond with design type diagrams shown above and noted on the previous pages.

Please check back pocket for the most current product offering.



**TYPE 3 SRNB**



**TYPE 4 SRNB**

Basic Part No.	Design Type	Bore IN/MM	OD IN/MM	Width over Cups IN/MM	Width over Cones IN/MM	Dynamic Rating C(90) - 4 Lbf/ KN	Dynamic Rating C(1) - 4 Lbf/ KN	K-Factor	Max. Shaft Radius IN/MM	Cone Backing Diameter IN/MM	Max. Housing Radius IN/MM	Cup Backing Diameter IN/MM	Weight* Lb/ Kg
NP026923	1	19.0000	24.2500	19.6850	19.6850	324000	1246000	1.76	0.25	19.96	0.25	23.03	749
		482.600	615.950	500.000	500.000	1441	5542		6.4	507.0	6.4	585.0	340
A-6962-A	4	19.0000	24.2500	14.9606	14.9606	260000	1005000	1.76	0.16	19.94	0.25	22.81	630
		482.600	615.950	380.000	380.000	1156	4470		4.1	506.5	6.4	579.4	286
LM372847DGW	2	19.2530	24.9950	12.6250	12.6250	326000	1254000	1.71	0.13	20.2	0.08	23.5	541
		489.026	634.873	320.675	320.675	1450	5578		3.3	513.1	2.0	596.9	245
NP626935	2	19.2530	24.9950	14.3750	14.3750	314000	1213000	1.24	0.13	20.13	0.13	23.38	649
		489.026	634.873	365.125	365.125	1397	5395		3.3	511.3	3.3	593.9	294
NP571192	2	20.0787	25.7874	14.9213	14.9213	404000	1558000	1.79	0.06	20.91	0.1	24.45	676
		510.000	655.000	379.000	379.000	1797	6930		1.5	531.1	2.5	621.0	307
230TQS9771	4	23.0625	30.3750	18.8750	18.8750	546000	2107000	1.76	0.19	24.5	0.25	28.55	1425
		585.788	771.525	479.425	479.425	2429	9372		4.8	622.3	6.4	725.2	646
234TQS8770	spcl	23.4375	33.2500	24.2500	24.2500	838000	3234000	1.76	0.06	25.28	0.25	30.7	2480
		595.313	844.550	615.950	615.950	3727	14385		1.5	642.1	6.4	779.8	1125
L480249DGW	2	24.0000	31.0000	14.2500	14.2500	406000	1568000	1.58	0.25	25.28	0.06	29.06	978
		609.600	787.400	361.950	361.950	1806	6974		6.4	642.1	1.5	738.1	444
267TQS9798	4	26.750	35.500	21.750	21.750	717000	2769000	1.72	0.13	28.28	0.25	33.31	2162
		679.450	901.700	552.450	552.450	3189	12317		3.3	718.3	6.4	846.1	981
267TQUS798	4	26.750	35.500	24.250	26.750	882000	3406000	1.71	0.13	28.25	0.25	33.16	2521
		679.450	901.700	615.950	679.450	3923	15150		3.3	717.6	6.4	842.3	1144
NP891876	1	26.9882	33.9370	14.7638	14.7638	478000	1846000	1.76	0.13	28.11	0.08	32.95	1045
		685.500	862.000	375.000	375.000	2126	8211		3.3	714.0	2.0	836.9	474
NP145790	1	27.0000	34.5000	14.0000	14.0000	478000	1846000	1.76	0.13	28.11	0.08	32.83	1084
		685.800	876.300	355.600	355.600	2126	8211		3.3	714.0	2.0	833.9	492
NP026261	1	27.0000	34.5000	16.8750	16.8750	476000	1838000	1.37	0.13	28.31	0.25	32.56	1209
		685.800	876.300	428.625	428.625	2117	8175		3.3	719.1	6.4	827.0	548
277TQS9801	3	27.7500	36.0000	21.7500	21.7500	693000	2674000	1.36	0.13	29.06	0.25	33.72	2150
		704.850	914.400	552.450	552.450	3082	11894		3.3	738.1	6.4	856.5	975
NP555756	1	27.9528	35.4331	16.1417	16.1417	496000	1910000	1.11	0.03	29.17	0.25	33.54	1319
		710.000	900.000	410.000	410.000	2206	8496		0.8	740.9	6.4	851.9	598
280TQUS815	4	28.0000	36.0000	15.2500	16.7500	375000	1449000	1.55	0.31	29.91	0.25	34.16	1350
		711.200	914.400	387.350	425.450	1668	6445		7.9	759.7	6.4	867.7	612
NP921305	4	28.000	36.000	15.354	15.354	446000	1720000	1.36	0.14	29.29	0.25	34.37	1135
		711.200	914.400	390.000	390.000	1984	7651		3.6	744.0	6.4	873.0	515
NP839885	4	28.2500	37.2500	25.9843	25.9843	928000	3580000	1.76	0.13	29.65	0.25	35.43	2893
		717.550	946.150	660.000	660.000	4128	15924		3.3	753.1	6.4	899.9	1312

\*Assembly weight does not include seals, springs or auxiliary components.

# SEALED TDIKS

Part Number	Bore	OD IN/MM	Width over Cups IN/MM	Width over Cones IN/MM	C(90) Radial Rating Lbf/ KN	C(1) Radial Rating Lbf/ KN	C(90) Axial Rating Lbf/ KN	C(1) Axial Rating Lbf/ KN	K-Factor	Spring Loaded	Max. Shaft Radius IN/MM	Cone Backing Diameter IN/MM	Max. Housing Radius Lb/ Kg	Cup Backing Diameter Lb/ Kg	Weight*
<b>G-3729-A</b>	11.8110	18.8976	8.6614	8.6614	224000	866000	143000	552000	0.90	Y	0.16	12.84	0.16	16.29	335
	300.000	480.000	220.000	220.000	996	3852	636	2455			4.1	326.1	4.1	413.8	152
<b>JHM957540DE</b>	11.8110	18.8976	8.6614	8.6614	136000	523000	109000	420000	0.71	N	0.10	13.03	0.06	16.93	270
	300.000	480.000	220.000	220.000	605	2326	485	1868			2.5	331.0	1.5	430.0	122
<b>HM959739DW</b>	12.0092	20.8465	7.8740	7.8750	135000	521000	115000	444000	0.67	Y	0.25	13.62	-	17.83	369
	305.034	529.501	200.000	200.025	600	2317	512	1975			6.4	345.9	-	452.9	167
<b>D-3640-A</b>	14.1732	21.6535	8.1496	5.8270	160000	617000	116000	448000	0.79	Y	0.16	15.63	0.16	19.50	362
	360.000	550.000	207.000	148.006	712	2744	516	1993			4.1	397.0	4.1	495.3	164
<b>E-21081-A</b>	14.9606	22.0670	7.8750	7.8750	257000	992000	157000	606000	0.94	N	0.12	-	0.16	-	397
	380.000	560.502	200.025	200.025	1143	4412	698	2695			3.0	-	4.1	-	180
<b>JM268730DW</b>	14.9606	23.2283	10.2362	10.2362	248000	955000	81000	312000	1.76	N	0.06	16.46	0.12	21.38	509
	380.000	590.000	260.000	260.000	1103	4248	360	1388			1.5	418.1	3.0	543.1	231
<b>JM966740DW</b>	14.9606	23.2283	10.2362	10.2362	175000	677000	126000	487000	0.80	N	0.14	16.38	0.25	20.20	572
	380.000	590.000	260.000	260.000	778	3011	560	2166			3.6	416.1	6.4	513.1	260
<b>JLM966849DW</b>	15.3543	22.4409	7.0866	7.0866	98000	378000	121000	468000	0.46	N	0.14	16.65	0.25	19.33	295
	390.000	570.000	180.000	180.000	436	1681	538	2082			3.6	422.9	6.4	491.0	134
<b>P-21211-A</b>	16.0000	22.8346	6.4970	6.4675	201000	775000	141000	544000	0.82	N	0.06	16.81	0.12	19.88	309
	406.400	580.000	165.024	164.275	894	3447	627	2420			1.5	427.0	3.0	505.0	140
<b>C-21232-A</b>	16.5354	24.4094	7.9232	7.8740	215000	828000	221000	853000	0.56	N	0.06	17.91	0.18	20.71	474
	420.000	620.000	201.249	200.000	956	3683	983	3794			1.5	454.9	4.4	526.0	215
<b>R-3418-A</b>	17.3228	24.2500	7.8740	7.8740	215000	829000	221000	853000	0.56	Y	0.13	18.38	0.19	21.88	390
	440.000	615.950	200.000	200.000	956	3687	983	3794			3.3	466.9	4.8	555.8	177
<b>I-2402-B</b>	17.3228	24.2500	9.9740	8.6610	215000	829000	221000	853000	0.56	Y	0.13	18.38	0.19	21.88	462
	440.000	615.950	253.340	219.989	956	3687	983	3794			3.3	466.9	4.8	555.8	210

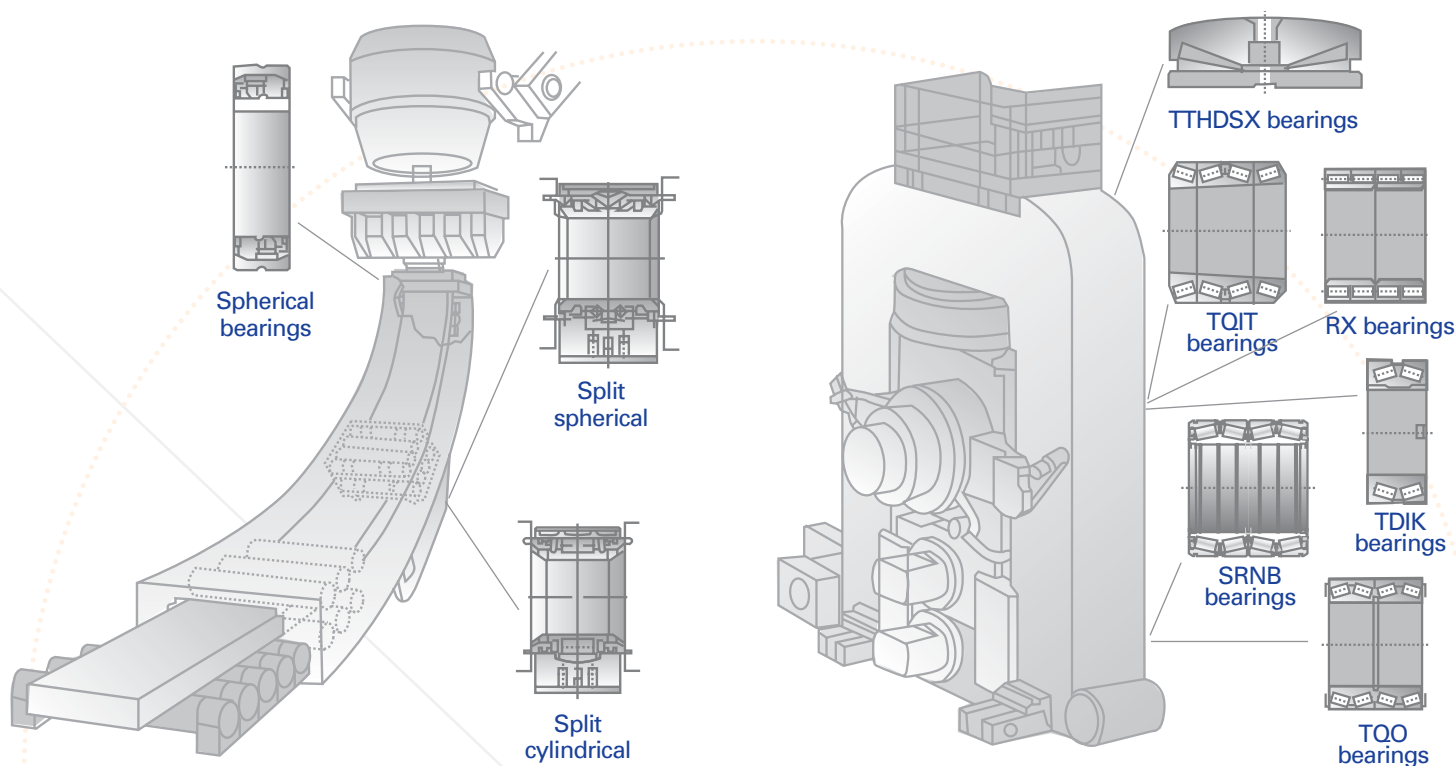
\* Assembly weight does not include seals, springs or auxiliary components.

Please check back pocket for the most current product offering.





# BEARINGS FOR MILLS



## ***specialized metal mill bearings: the logical choice***

From the caster to the coiler, Timken meets the challenges of today's metal mills. Our broad product offering includes split-spherical and split-cylindrical products, both of which feature patented housing designs and triple-sealing packages. These, along with standard spherical and self-aligning cylindrical bearings, offer maximum bearing performance for continuous-caster applications. Beyond the caster, Timken distributes an extensive offering of multi-row cylindrical roller bearings for flat- and long-product roll neck applications. Our multi-row cylindrical roller bearing designs offer flexible design features and provide maximum capacity in the available envelope. To accept the increasing thrust loads present in today's rolling mills, Timken also provides a variety of solutions, including a complete line of high-capacity roll neck thrust bearings. These bearings are available in several combinations of product features and designs, including sealed versions (see table on the previous page), to meet the specific needs of each mill. Timken's assortment of specialized metal mills bearings is the logical choice for your demanding mill environment.

To learn more about Timken sealed roll neck bearings and other solutions, contact your local Timken representative or visit us at [www.timken.com](http://www.timken.com).

# ENHANCING PERFOR

## coatings and finishes

To extend bearing performance, Timken Engineered Surfaces can be applied to existing bearing designs. Engineered surfaces include proprietary coatings and finishes that enhance surface topography. Various surface finishing options can be used to dramatically improve bearing life under conditions of inadequate lubrication. Engineered surfaces can also be used to further extend finishing technologies and include tribological coatings to provide greater resistance to debris, water and other contaminants.

## bearing metallurgy

Timken bearing metallurgy has been continually tested and proven to offer life equal to or greater than that of competitor debris-resistant brands. For extremely contaminated environments, Timken offers a full line of debris-resistant products to extend performance beyond our standard product. For less-contaminated applications, Timken offers a variety of materials, such as our proprietary MAP steel developed by Timken Steel, to further extend bearing fatigue life.

## application analysis

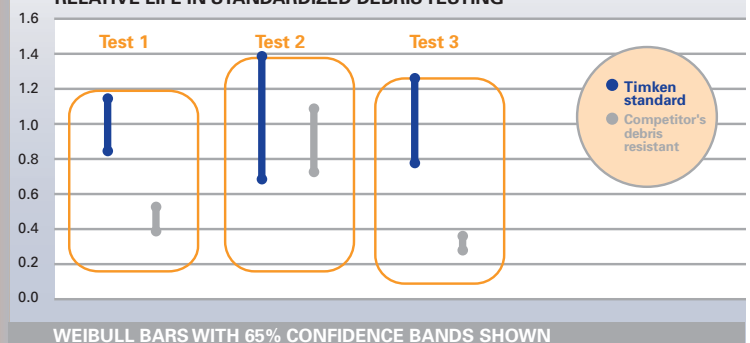
Timken engineers have a variety of computer software packages to model your application for maximum bearing performance or to troubleshoot bearing issues. From our newest application analysis tool, SYBER, to Timken Debris Signature Analysis™ or Finite Element Analysis packages, Timken uses state-of-the-art analyses. By properly analyzing the bearing system and identifying the performance-limiting aspects, we provide accurate and cost-effective recommendations regarding the appropriate coatings, finishes, metallurgy and other bearing modifications to keep your mill running more efficiently.



Timken Engineered Surfaces extend life and help deter debris and corrosion.

### Timken standard versus competitor special debris resistant

RELATIVE LIFE IN STANDARDIZED DEBRIS TESTING



Timken standard materials often outperform competitor debris-resistant brands.

## lubrication

Our engineers understand the importance of proper lubrication and have formulated grease specifically for bearings used in rolling mills. Timken Mill Grease is made with a calcium-complex soap base and a high-viscosity-index paraffinic mineral oil, resulting in better water absorption and better oxidation stability than competing products. This grease offers excellent resistance to water washout in steel mills, paper mills, aluminum mills, foundries, power plants and other industrial applications. Timken SRNBs can be pre-filled with Timken Mill Grease upon request.



Timken Mill Grease provides resistance to water washout in steel mills, paper mills, foundries and other plants.

# CREATING TOMORROW

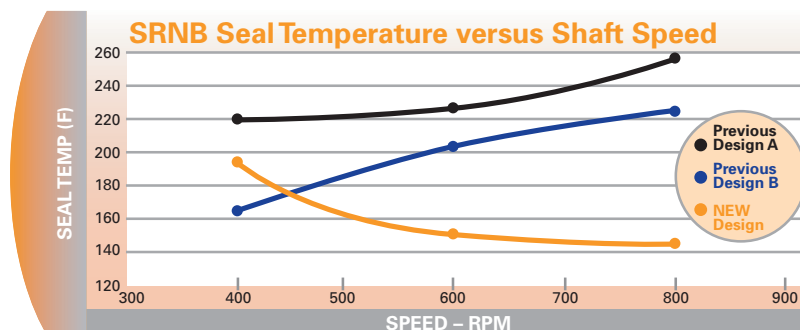
## state-of-the-art technological advancements



In its global technology centers, Timken engineers continue to enhance proven designs to create new seal and bearing technology for rolling mill applications. We have extensive product and process development teams that continually pursue advances in bearing design, metallurgy, tribology, coatings and seals. We also have a team of engineers dedicated to improving seal designs and materials technology for all industries including metals. Our goal is to continue developing the best-performing seals in the industry, which yield the best-performing sealed roll neck bearings you can buy.

We have extensive in-house testing capabilities with machines that can simulate actual application conditions. This testing allows us to study the seal and bearing interaction that propels sealing technology to new levels. We also have research, university and industry partners in sealing who bring the latest seal technologies to our bearing applications. This research and testing has contributed to seal designs that operate at lower temperatures and with less torque to improve sealing efficiency and reliability.

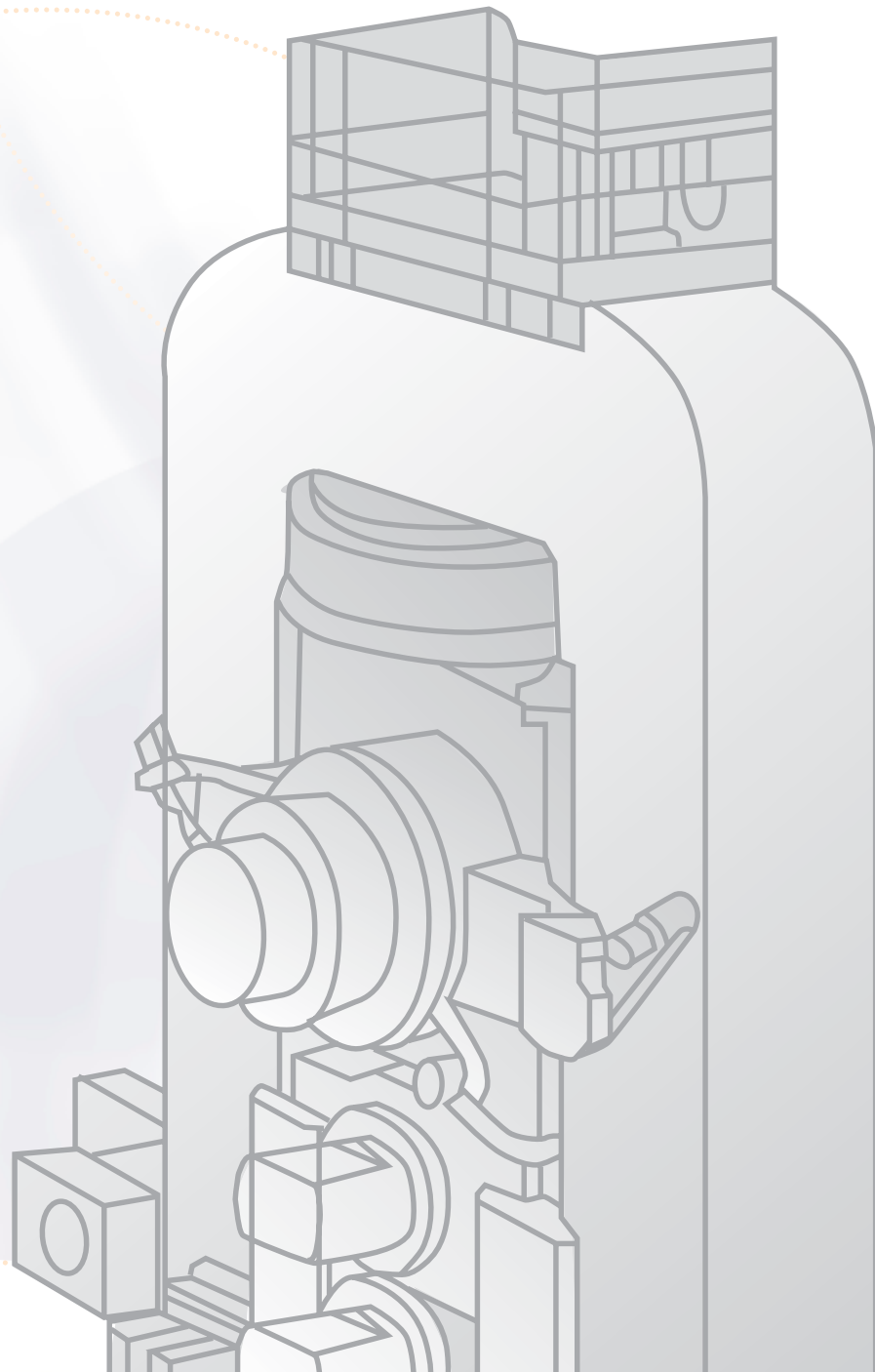
Our in-house and in-field teams can help you identify ways to make your mills more efficient, solve specific performance issues or implement new maintenance practices to reduce costs and improve uptime.



Dramatic improvements have been made to reduce seal operating temperatures at higher shaft speeds.

# OW'S ECHNOLOGY TODAY

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# The Timken Company

The Timken Company, headquartered in Canton, Ohio, is a leading global manufacturer of highly engineered bearings, alloy and specialty steels and a provider of related products and services. Timken serves a broad range of industries through three major business segments. Automotive serves the passenger car, light- and heavy-duty truck and trailer markets. Industrial serves a wide variety of industries, including power transmission, agriculture, construction, mining, rolling mills, power generation, rail, aerospace and machine-tool markets. Steel serves all major industries with alloy and specialty products and precision steel components.

With more than 26,000 associates, the company maintains global facilities to serve customers.

- > 10 research and development centers in Canton, Ohio; Bangalore, India; Brno, Czech Republic; Colmar and Vierzon, France; Detroit, Michigan; Künsebeck, Germany; Norcross, Georgia; Ploiesti, Romania; and Torrington, Connecticut
- > more than 75 manufacturing plants and 100 sales offices
- > design centers and distribution warehouses in 26 countries on six continents
- > Timken has earned more than 300 quality awards in a single year
- > precision steel, specialty steel, alloy steel bars and tubing
- > repair and refurbishing services

To learn more about Timken sealed roll neck bearings and other solutions, contact your local Timken representative or visit us at [www.timken.com](http://www.timken.com).



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