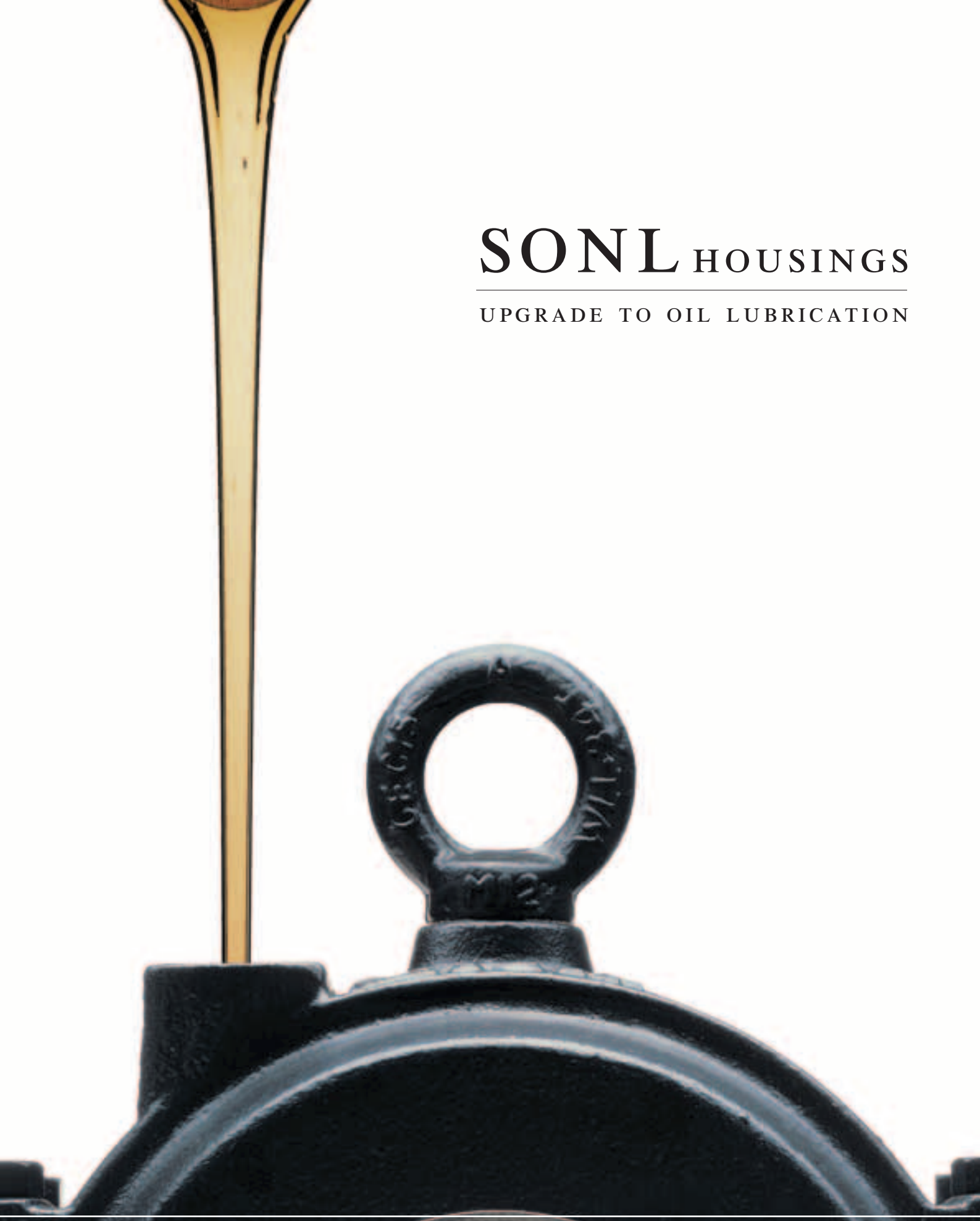
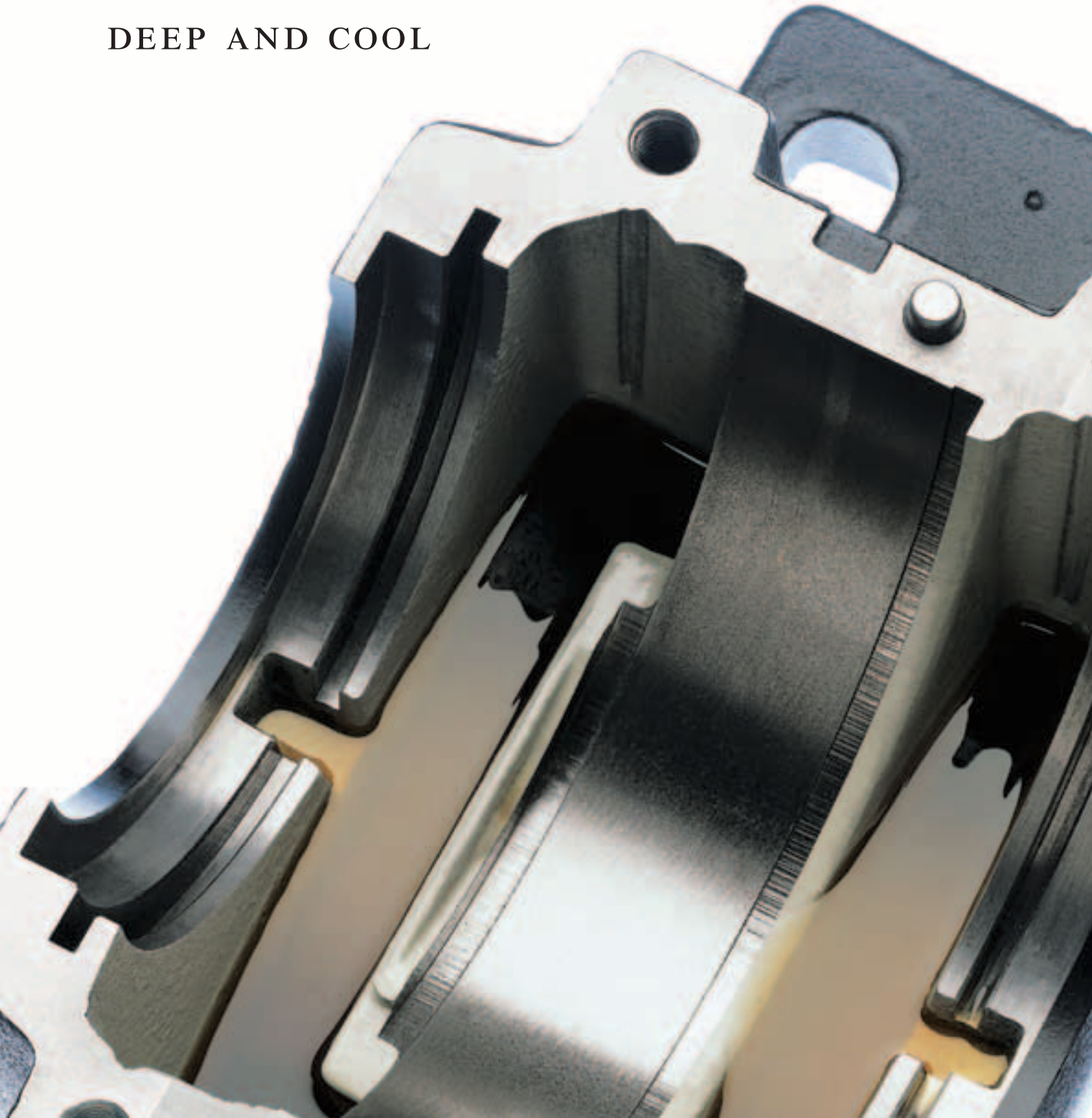
SONL HOUSINGS

UPGRADE TO OIL LUBRICATION



SKF

DEEP AND COOL





OIL LUBRICATION is not the most common method around. Oil lubrication is a somewhat unusual choice. You may know why. If so you will also understand why the SONL housing is going to be an engineering milestone.

The SONL housing is a modern bearing housing. Designed specifically for oil lubrication and today's demands for simplicity, function and economy.

It has a deep reservoir that holds a large volume of oil which means cooler oil. And you know what that means to your bearings.

Keep them dry

A large oil volume is not the whole solution; the higher the oil reaches over the rollers, the greater the risk of overheating and leakage.

In an SONL housing, the oil level is below the bearing rollers. The bearing rollers have no contact with the oil reservoir.

How does it reach the rollers then? Thanks to a proven innovation. We don't even know who gets the credit – maybe it was pure luck.

But we have fifty years of proof that it works.



The SONL housing – a member of the famous SNL high performance class housing, built on experience, modern technology and customer needs.

ACTIVE FLOW





STILL OIL BATH will do the job. But you have to be careful to keep the oil level exactly right. Too much or too little puts you straight into the risk zone.

The SONL housing uses an oil pick up ring. The ring hangs loosely next to the bearing. When the shaft turns, the ring turns with it. The oil is picked up by the ring and goes directly to the bearing, no matter what the dimensions of the shaft or how fast it's turning. And in all the years the method has been used, there has not been any wear recorded where the rings contact the seating.

If you choose an oil circulation system, you don't mount the ring, instead you connect your oil pipes in the holes on the top of housing and on bottom half. Please note: In case a CARB® bearing is used you have to order an SONL housing with suffix RA for circulating oil.

All the oil gets there

When you lubricate with oil, the volume of oil is used actively. Lubricant is constantly brought to the bearing.

EFFECTIVELY SEALED



At SKF, we know what kills a bearing. Our bearing failure examinations make that very clear. Contamination is the main reason. If you keep a bearing clean, it may very well outlast the machine.

Sealing the bearing to prevent contaminants from coming in is the decisive factor. But keeping the oil from coming out is important, too. Both for the environment and to make sure that the bearings are reliably lubricated.

In our efforts to create an extremely tight seal, we rely on two important SKF properties. Development and experience.

Clinically clean

Between the housing and the shaft is a reliable labyrinth seal. In tough laboratory testing and real-life applications, it has proven extremely tight. The oil stays in and the dirt is kept out.

The new design is yet another sign of a tight seal.

It's no secret that the SONL housing is partly a refinement of an older housing for oil lubrication. A widely copied design that is common in the industry.

A housing is more than just a top and bottom hemisphere. The SONL housing does not have any side panels because they have been integrated with the top and bottom halves. The result is a housing with less risk of leakage. And it's easier to keep clean.

STREAMLINED DESIGN





The SONL housing is designed to meet today's demands: technological, practical and economic. SKF did more than just make the bearing housing needed. SKF listened carefully to what the customers required. Customers who already use oil lubricated bearings, and know from experience what need to be improved. Cutting down the number of components forced us to improve the housing ability to keep our contaminants without giving up good performance.

The result is a modern housing consisting of just two halves, top and bottom. It's easy and convenient to mount. And it doesn't come with loose side covers, or any of the 18 bolts needed to mount them.

Just choose a mounting method and seals and you are ready to go.

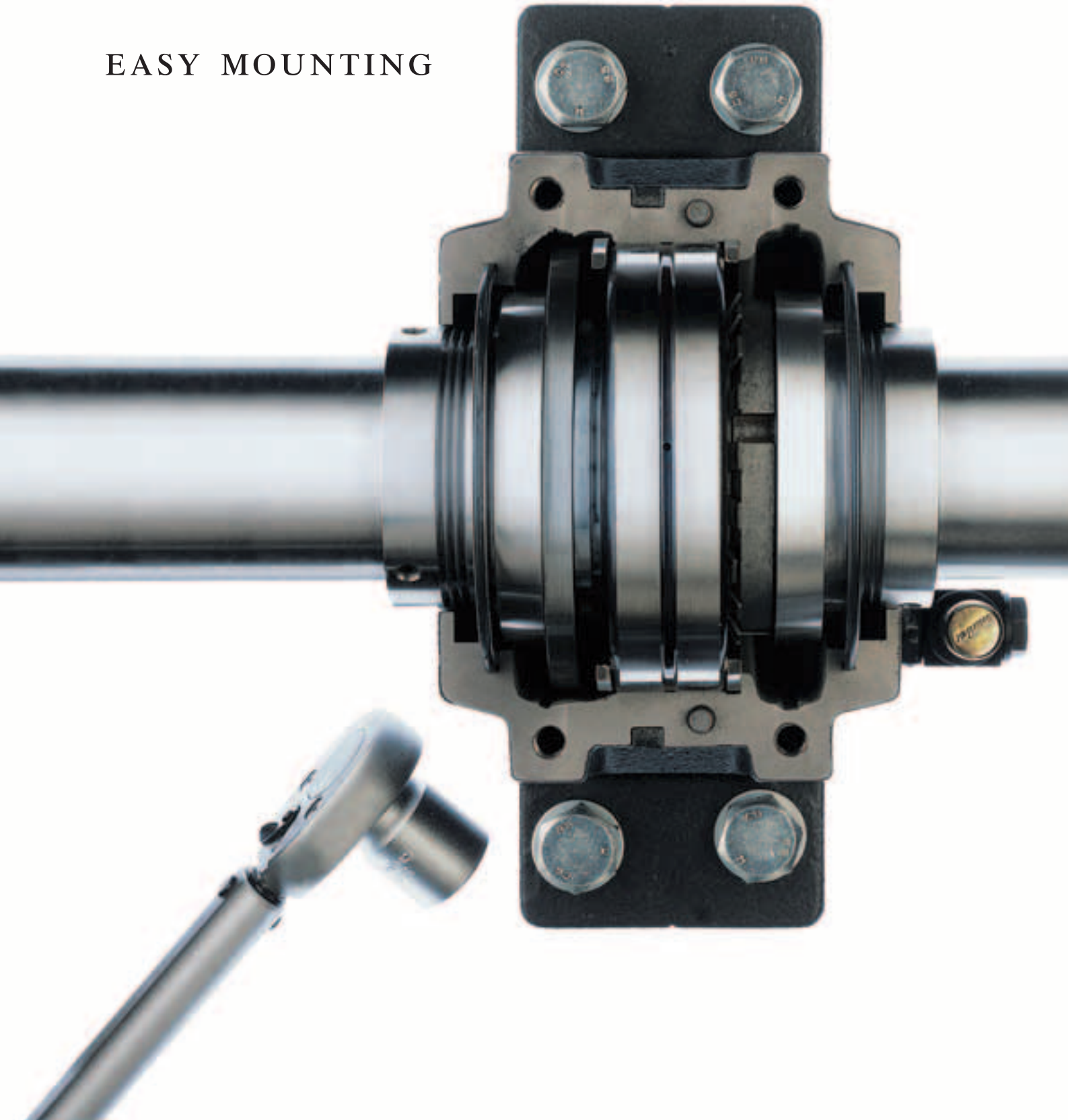
One for all

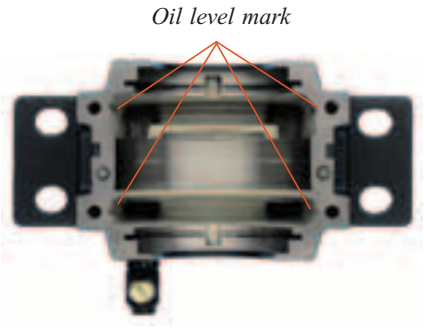
We also tried to minimize the number of details customers need to think about. Now you don't need to consider whether the housing will be used for a locating or a non-locating bearing. Or whether it will be for a through or end shaft. The same housing can be used in every situation.

Oil bath or circulating oil? The answer is just as simple. The standard SONL housing can handle either.

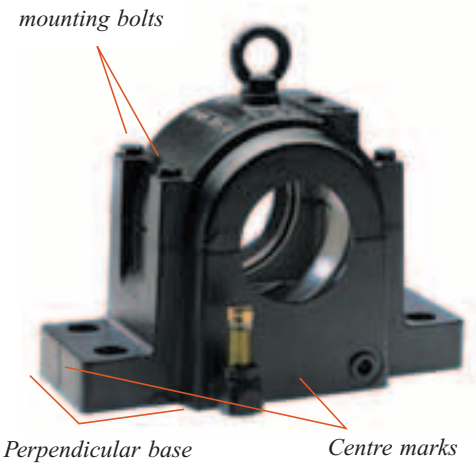
If you use circulating oil, please note that you have to order the SONL housing with suffix RA in the case a CARB bearing is used.

EASY MOUNTING









As mentioned earlier, contaminants are a common cause of bearing failure. Another important factor is mounting. If things go wrong when you mount the bearing, problems are on their way.

The SONL housing is designed to cut the number of potential fault sources to an absolute minimum. The old problem of first putting the side plates onto the shaft? Gone. Side plate seals? Gone. All the bolts you had to tighten to just the right torque? Gone.

With the SONL housing you work logically and methodically. It saves time and reduces the risk of faults.

Straight answers

The SONL housing has a perpendicular base that makes alignment easy. Cast markings show the centre of the bearing, so you don't have to waste time measuring and scoring the housing.

The cap bolts between the housing halves are preloosened on delivery, so you don't waste time and energy opening the housing.

On the bottom half is a clear mark showing the oil level. You can add the right amount while the housing is still wide open. Quick and easy.

If you use circulating oil, please note that you have to order the SONL housing with suffix RA in the case a CARB bearing is used.

EXCELLENT OPERATIONAL RELIABILITY



The human eye is a good sensor. The oil level gauge makes it easy to check the level and the quality of oil.



A magnetic plug grabs metallic particles. And the oil is always moving in a SONL housing.

OIL LUBRICATION is a reliable method, if you do it right. There's less margin for error than there is with grease. And a better chance to lubricate right and improve operational reliability.

Monitoring and analyzing bearing problems early on is certainly a good idea. But with oil lubrication, there's a good chance the problems will never arise in the first place.

One step ahead

The fact that bearing failure is usually caused by factors other than plain wear suggests that it's a good idea to have control of the lubricant.

Oil is stored in sealed cans. The risk of contamination or mixing of different oil types is minimal.

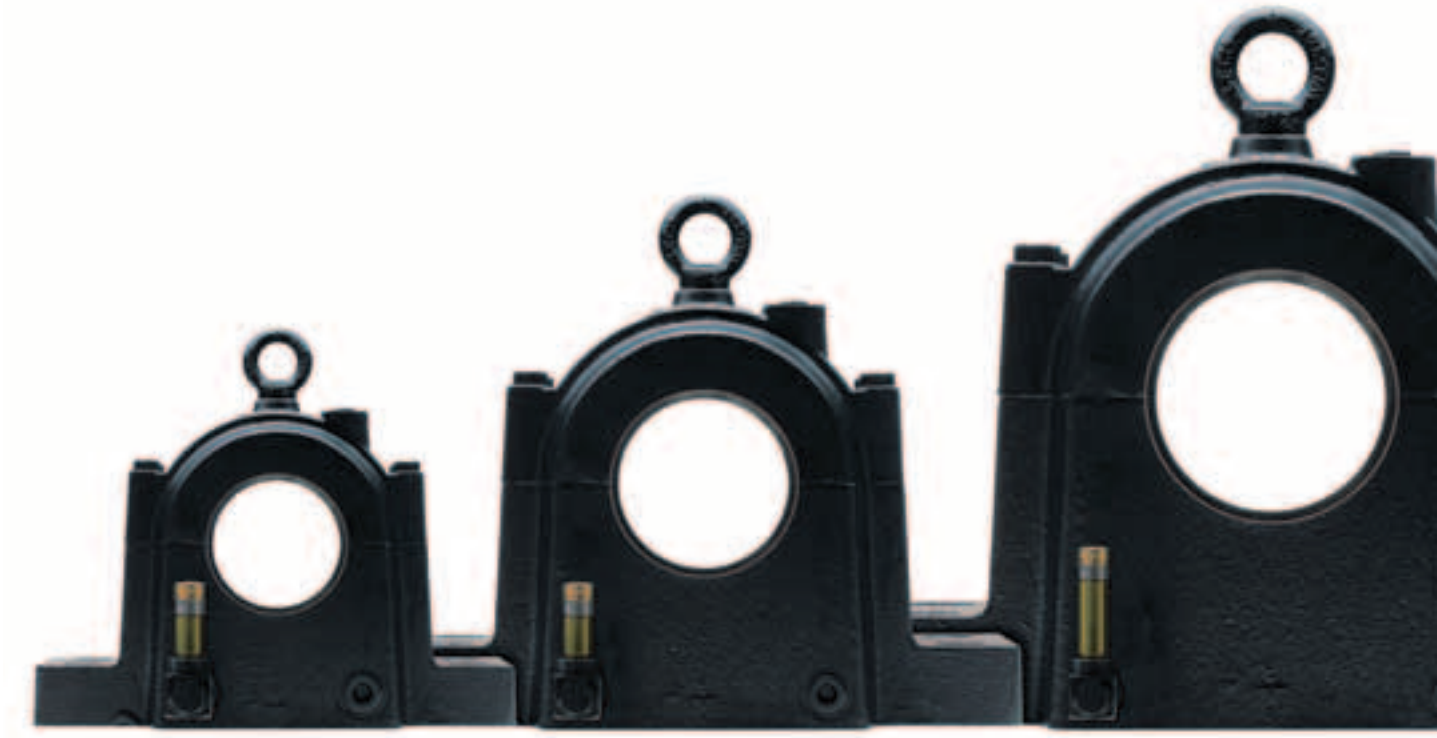
With a simple oil level gauge you see right away if the oil level is correct. You get an idea of the condition of the oil at the same time.

A simple magnetic plug is one way to reduce metallic parts from wear. Unless you choose circulating oil lubrication with continuous filtering.

At very high speeds and high loads it's an advantage to be able to cool the oil. A cooling element keeps your oil bath cooler even under difficult operating conditions.

REPLACES SOFN

BEARING HOUSINGS



THE SONL HOUSING is a mechanical milestone. If you already lubricate with oil, it's an opportunity to gain all the benefits of a modern housing. All you have to do is switch – no need to redesign your machinery. A modern SONL housing fits anywhere your old housing of SOFN type is mounted.

If you have understood the advantages of oil but feel uncertain which housing to choose, now it's easy to take the step. The SONL housing eliminates the old complications, yet still gives you a housing with enough capacity to let the oil do its job.

Time to switch

Oil lubrication has a bright future. Not as a replacement for grease, but as a strong alternative under the right conditions.

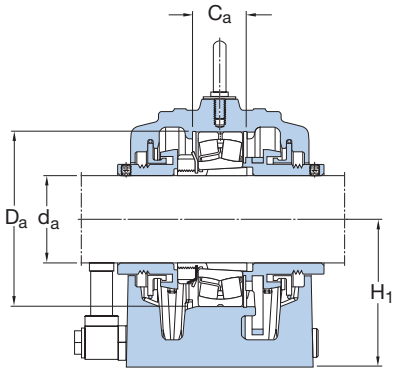
And that's the ultimate reason we created a modern housing for oil-lubricated bearings.

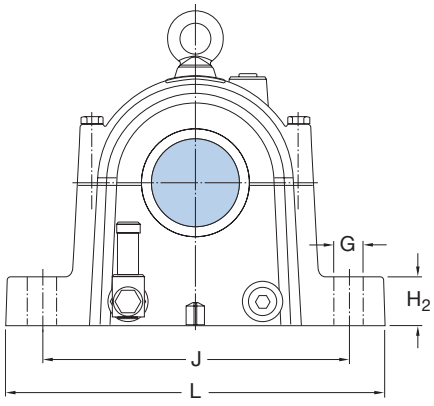
Maintaining modern machinery should be no more complicated than maintaining a modern car. Just add the right lubricant. Check the level regularly. Change the oil when needed. And keep it clean. Both for your machinery's sake and for the environment's sake.

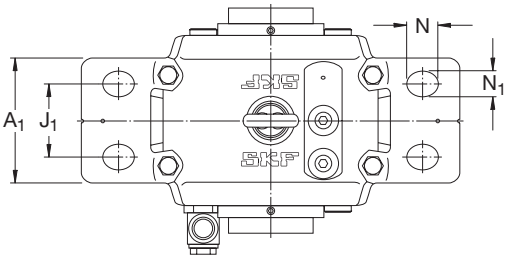
Upgrading machines, making operations more reliable and simplifying maintenance: those are today's trends. With the SONL housing, they become your reality.

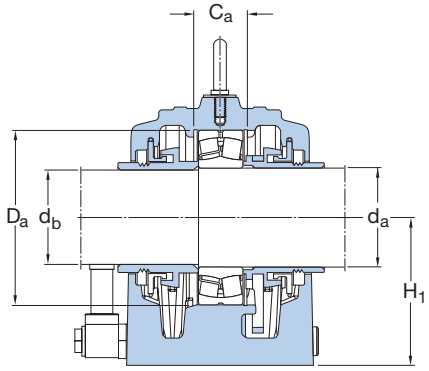


Replaces SOFN bearing housings









SONL plummer block housings for bearings on adapter sleeve

Shaft	Housing Dimensions								
d_a	A_1	H_1	H_2	J	J_1	L	N	N_1	G
mm	mm								
75	110	125	35	260	60	330	28	22	20
80	120	135	45	290	70	360	28	22	20
90	130	145	50	320	75	400	32	26	24
100	145	160	50	347	75	420	32	26	24
110	170	170	55	347	90	420	32	26	24
115	180	180	60	377	100	450	35	28	24
125	190	190	65	415	100	500	42	35	30
135	190	200	65	450	115	540	42	35	30
140	205	215	65	470	120	560	42	35	30

[1] Please check availability of the bearing before incorporating it in a bearing arrangement design

SONL plummer block housings for bearings with cylindrical bore

Shaft	Housing Dimensions								
d_a	A_1	H_1	H_2	J	J_1	L	N	N_1	G
mm	mm								
85	110	125	35	260	60	330	28	22	20
90	120	135	45	290	70	360	28	22	20
100	130	145	50	320	75	400	32	26	24
110	145	160	50	347	75	420	32	26	24
120	170	170	55	347	90	420	32	26	24
130	180	180	60	377	100	450	35	28	24
140	190	190	65	415	100	500	42	35	30
150	190	200	65	450	115	540	42	35	30
160	205	215	65	470	120	560	42	35	30

[1] Please check availability of the bearing before incorporating it in a bearing arrangement design

Designations			Bearing seating		Appropriate bearings and associated components		
Housing	**Seal** 1 per housing	**End cover**			Spherical roller bearing CARB bearing	Adapter sleeve	Locating ring 2 per housing
			C_a	D_a			
–			mm		–		
SONL 217-517	TSO 517	ECO 217-517	46	150	22217 EK	H 317	FRB 5/150
					C 2217 K	H 317 E	FRB 5/150
SONL 218-518	TSO 518	ECO 218-518	50	160	22218 EK	H 318	FRB 5/160
					C 2218 K	H 318 E	FRB 5/160
SONL 220-520	TSO 520	ECO 220-520	60	180	22220 EK	H 320	FRB 7/180
					C 2220 K	H 320 E	FRB 7/180
SONL 222-522	TSO 522	ECO 222-522	71	200	22222 EK	H 322	FRB 9/200
					C 2222 K	H 322 E	FRB 9/200
SONL 224-524	TSO 524	ECO 224-524	82	215	22224 EK	H 3124	FRB 12/215
					C 2224 K[1)]	H 3124 L	FRB 12/215
SONL 226-526	TSO 526	ECO 226-526	86	230	22226 EK	H 3126	FRB 11/230
					C 2226 K	H 3126 L	FRB 11/230
SONL 228-528	TSO 528	ECO 228-528	90	250	22228 EK	H 3128	FRB 11/250
					C 2228 K	H 3128 L	FRB 11/250
SONL 230-530	TSO 530	ECO 230-530	93	270	22230 EK	H 3130	FRB 10/270
					C 2230 K	H 3130 L	FRB 10/270
SONL 232-532	TSO 532	ECO 232-532	104	290	22232 EK	H 3132	FRB 12/290
					C 2232 K[1)]	H 3132 L	FRB 12/290

Designations			Shaft	Bearing seating		Appropriate bearings and associated components	
Housing	**Seal** 1 per housing	**End cover**				Spherical roller bearing CARB bearing	Locating ring 2 per housing
			d_b	C_a	D_a		
–			mm	mm		–	
SONL 217-517	TSO 217	ECO 217-517	83	46	150	22217 E	FRB 5/150
						C 2217	FRB 5/150
SONL 218-518	TSO 218	ECO 218-518	88	50	160	22218 E	FRB 5/160
						C 2218	FRB 5/160
SONL 220-520	TSO 220	ECO 220-520	98	60	180	22220 E	FRB 7/180
						C 2220	FRB 7/180
SONL 222-522	TSO 222	ECO 222-522	108	71	200	22222 E	FRB 9/200
						C 2222	FRB 9/200
SONL 224-524	TSO 224	ECO 224-524	118	82	215	22224 E	FRB 12/215
						C 2224[1)]	FRB 12/215
SONL 226-526	TSO 226	ECO 226-526	128	86	230	22226 E	FRB 11/230
						C 2226	FRB 11/230
SONL 228-528	TSO 228	ECO 228-528	138	90	250	22228 E	FRB 11/250
						C 2228	FRB 11/250
SONL 230-530	TSO 230	ECO 230-530	148	93	270	22230 E	FRB 10/270
						C 2230	FRB 10/270
SONL 232-532	TSO 232	ECO 232-532	158	104	290	22232 E	FRB 12/290
						C 2232[1)]	FRB 12/290

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