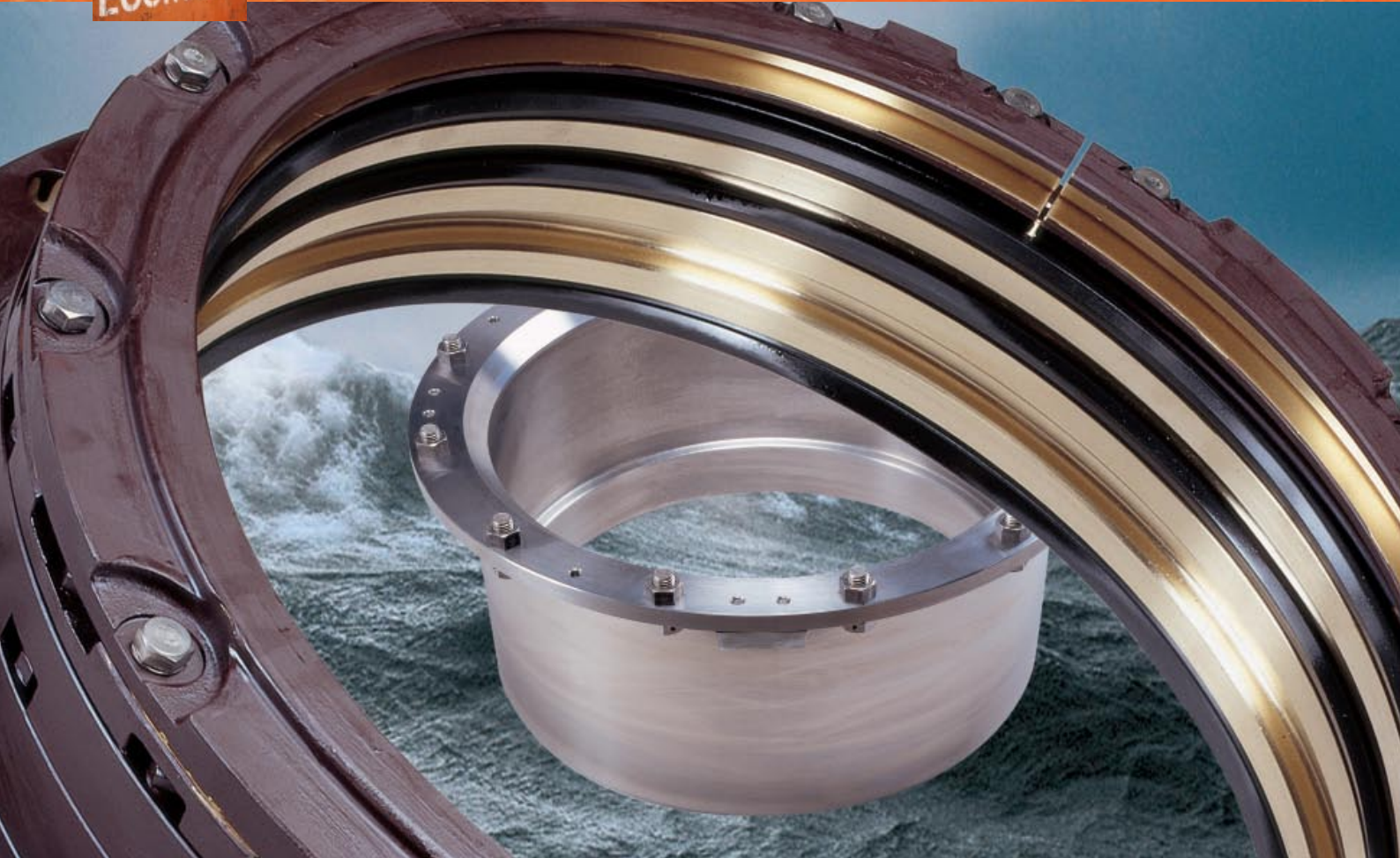


ENERGY
ENVIRONMENT
ECONOMY

STERNGUARD MKII LIP TYPE STERNTUBE SEAL



The Sternguard MKII(M) is a lip type seal and designed for use in combination with oil lubricated stern tubes of conventional propulsion systems. The seal can also be applied as stabilizer and thruster seal, for both inboard and outboard applications.

The Sternguard MKII(M) aft seal is a multi-barrier seal which consists of three seal rings on a shaft liner. One seal ring faces the stern tube oil side while the other two face the waterside as a double security against seawater entry.

The aftermost seal ring also serves as a dirt excluder. The forward seal incorporates two seal rings which face the stern tube oil side. All seal rings run on a shaft liner to prevent grooving of the shaft.

The most essential parts of stern tube seals are the seal rings and the liner. We have developed materials for specific situations. Our own type of Nitrile rubber (NBR) provides the most economical situation for the smaller size range low duty applications. Our Viton material can be applied for the more severe applications. Excellent wear and heat resistances as well as excellent chemical resistance properties are combined in this material. The seal liner is made of a special type of high nickel chromium steel which offers the optimum resistance to wear and corrosion.

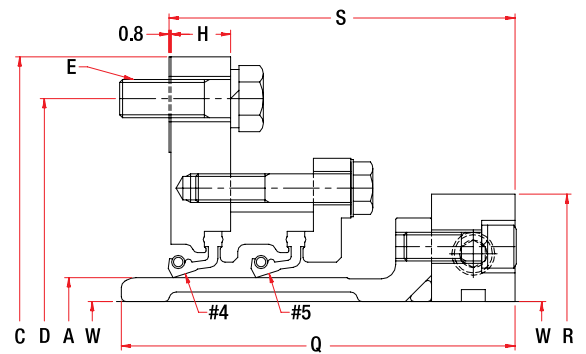
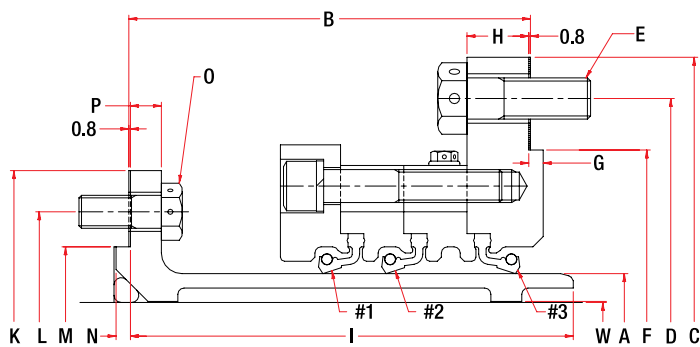


SAL EQUIPPED WITH MKII SEAL

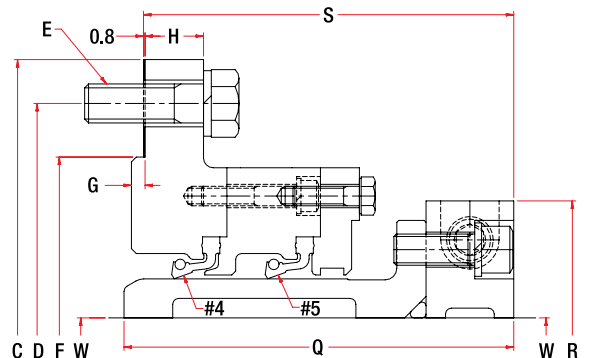
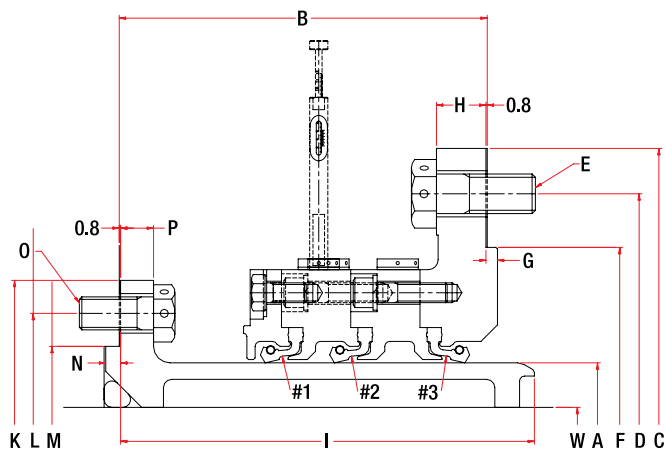
Seal size	A	125	135	145	155	170	190	200	220	240	260	280	300	330	355	380	400	420
Max. shaft dia.	W	115	125	135	145	160	180	190	208	228	248	265	285	315	339	362	381	400
Aft overall length	B	150	150	150	160	160	160	160	160	170	175	175	175	175	195	195	210	210
Casing flange dia	C	260	270	280	305	320	340	350	370	425	445	465	485	515	565	590	610	630
Casing PCD	D	235	245	255	275	290	310	320	340	390	410	430	450	480	525	550	570	590
Casing bolts	E	8xM10	8xM10	8xM10	8xM12	8xM12	8xM12	8xM12	8xM12	12xM16	12xM16	12xM16	12xM16	12xM16	12xM20	12xM20	12xM20	12xM20
Casing spigot	F	205	215	225	240	255	275	285	305	345	365	385	405	435	475	500	520	540
Spigot height	G	5	5	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7
Casing flange	H	20	20	20	20	20	20	20	20	25	25	25	25	25	30	30	30	30
Aft liner length	I	170	170	170	180	180	180	180	180	188	191	191	191	191	210	215	220	220
Liner flange dia	K	185	195	205	214	240	270	280	300	320	340	360	375	425	450	480	500	520
Liner PCD	L	165	175	185	194	220	240	250	270	290	310	330	346	390	416	440	460	486
Liner spigot	M	145	155	165	175	200	214	224	240	260	284	300	320	360	384	406	424	450
Spigot Height	N	5	5	5	6	6	6	6	6	6	6	6	6	7	7	7	7	8
Liner bolts	O	8xM8	8xM8	8xM8	8xM8	8xM8	8xM12	8xM12	8xM12	8xM12	8xM12	12xM12	12xM12	12xM12	12xM16	12xM16	12xM16	12xM16
Liner flange	P	12	12	12	12	12	12	12	12	12	15	15	15	15	15	15	20	20
Fwd liner length	Q	125	125	125	145	145	145	145	150	155	160	160	165	165	170	170	180	185
Clamp ring dia.	R	170	180	190	210	230	250	260	280	300	320	350	370	400	430	460	480	500
Fwd overall length	S	110	110	110	125	125	125	125	125	135	135	135	145	145	155	155	170	170
Aft seal mass		17	18	20	23	26	28	31	36	48	52	60	64	68	81	91	141	149
Fwd seal mass		15	16	18	22	24	28	28	32	41	46	52	59	63	78	87	110	120
Aft 'O' ring dia		8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4
Fwd 'O' ring dia		5,7	5,7	5,7	5,7	5,7	5,7	5,7	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4

Smaller seal sizes are available

Sternguard MK-II(M)



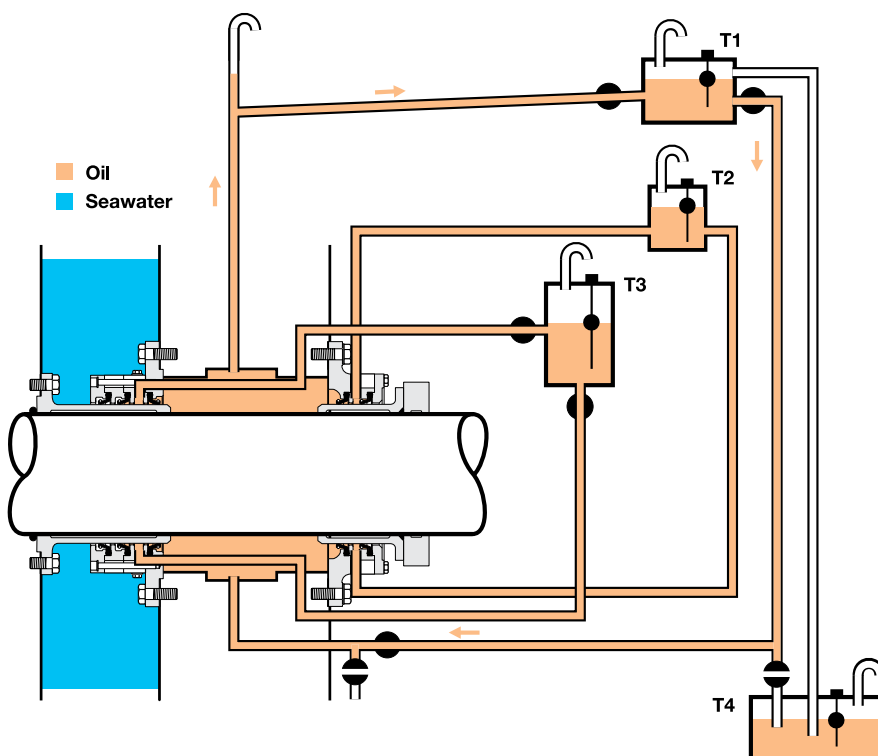
Sternguard MK-II(M)



All specified technical data is subject to change without notice and should be verified at time of order.

450	480	500	530	560	600	630	670	710	750	800	850	900	950	1000	1060	1120	1180	1250
428	457	476	504	532	570	598	635	672	710	756	803	850	896	942	998	1053	1108	1172
225	225	225	225	240	240	245	245	280	280	310	310	330	330	330	350	355	355	370
675	705	725	755	820	860	890	930	990	1030	1090	1140	1200	1250	1300	1400	1460	1520	1590
630	660	680	710	765	805	835	875	930	970	1030	1080	1135	1185	1235	1325	1385	1445	1520
12xM20	12xM20	12xM20	12xM20	12xM24	12xM24	12xM24	12xM24	16xM24	16xM24	20xM24	20xM24	20xM24	20xM24	20xM24	24xM30	24xM30	24xM30	24xM30
575	605	625	655	700	740	770	810	865	905	960	1010	1065	1115	1165	1245	1305	1365	1440
7	7	7	7	7	7	7	7	10	10	10	10	10	10	10	10	10	10	10
30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	35	35	35	35
222	232	242	242	251	251	261	260	290	290	325	325	344	344	349	364	368	373	373
550	590	600	630	675	700	760	820	840	885	945	1000	1070	1130	1170	1230	1300	1360	1430
510	550	560	590	630	660	710	750	790	836	890	950	1010	1070	1110	1170	1230	1290	1360
476	510	526	550	588	620	670	710	740	780	825	870	920	970	1040	1100	1160	1220	1290
8	8	8	8	9	9	9	10	10	10	10	10	11	11	11	11	12	12	12
12xM16	12xM20	12xM20	12xM20	12xM20	12xM20	12xM24	12xM24	12xM24	16xM24	16xM24	16xM24	16xM24	16xM24	20xM24	20xM24	20xM30	24xM30	24xM30
20	20	20	20	20	20	25	25	25	25	30	30	30	30	30	30	35	35	35
185	200	200	200	210	210	230	230	240	290	300	300	305	310	310	350	350	350	350
530	560	580	610	650	690	730	785	830	870	915	960	1010	1060	1130	1200	1250	1310	1380
185	190	185	190	200	200	220	215	230	275	285	285	295	295	295	330	330	330	340
177	203	204	219	258	274	315	347	443	469	559	597	695	781	819	1000	1130	1202	1362
144	162	160	184	216	244	281	318	385	444	505	547	615	657	713	925	1000	1078	1244
8,4	12	12	12	12	16	16	16	16	16	16	16	16	16	16	16	16	16	16
8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	10	10	10	10	10	10	10	10	10

MONITORING/LUBRICATING OIL TANKS STANDARD SUPPLY:



FORWARD SEALS

- 6 litres: up to and including size
- 380 mm
- 30 litres: size 400 and over

AFT SEALS

- 30 litres: size 400 and over

Lubrication for the forward seal includes the CCM system for enhanced oil circulation and cooling for sizes 400 mm and over.

SYSTEM KEY

- T1 Stern tube gravity tank with low level alarm switch (yard supply)
- T2 Forward seal tank with low level alarm switch
- T3 Aft seal tank with high level alarm switch
- T4 Sump tank with high level alarm switch (yard supply)





FEATURES

- Standardised wearing parts
- Seal rings renewable in situ
- CCM enhanced oil circulation system
- Cartridge design
- Flexible seal ring design
- Special grade of Chromium Steel liners
- Aft seal monitorable from inboard (standard for seal sizes 400 and up)
- UNNET net and line protector (optionally available)

BENEFITS

- Low initial cost
- Low operational cost
- Fast ex-stock supplies of wearing parts
- Low repair cost
- Longer seal ring lifetime
- Simple and low cost installation
- -Minimised wear of seal rings and liner
- High resistance to corrosion pitting of liner
- System manageability

