

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Gears**

with type designation(s)

EP series (Planetary gears stages for fixing and rotating housing), CC series (bevel gears), PB series (Parking Brakes)

Issued to

Rossi S.p.A.
Modena, Italy

is found to comply with

DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances**DNV GL standard DNVGL-ST-0377 – Standard for shipboard lifting appliances****DNVGL-OS-E101 – Drilling facilities, Edition January 2018****Application :****The design has been checked in accordance with the relevant structural requirements in IMO SOLAS 1974 Convention, including 1996 Amendments.****Planetary/bevel gear units with failsafe brakes for hoist and travelling applications.****Design Temperature, T_d, according to above standard equals -20 degrees Celsius.**Issued at **Høvik** on **2019-10-18**This Certificate is valid until **2024-10-17**.for **DNV GL**DNV GL local station: **Italy/Malta CMC**Approval Engineer: **Chi Wan Bang**.....
Aldo Matteucci**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

EP series - Planetary gears stages
CC series - bevel gears stages
PB series - Parking Brakes

Application/Limitation

- This certificate(design assessment) is a verification of the design towards the listed rules/requirements. The assessment does not waive requirements for certification of the equipment when necessary.
- For delivery according to DNVGL-ST-0378 or 0377, gear unit and winch or similar is to be function and load tested according to Section 14 or 13, respectively before a DNVGL product certificate can be issued.
- For full compliance to SOLAS regulations, proving compliance to requirements in MSC.81(70) Pt.1, testing shall be performed together with the winch to be used in SOLAS application. After successful testing of the winch, the gears may be considered fully compliant.
- Output shafts as slewing drives are not part of this approval. These applications (output supports and output pinions) will be separately dealt as a case-by-case approach.
- Output speed is 15 rpm. If other output speed is required, the rating values are to be interpolated as agreed.
- Load spectrum and classes of utilisation according to F.E.M. (1.001 3rd edition – Revised 1998.10.01) are defined below.

L1 (km = 0.1)

Load	Time
100 %	1 %
53 %	10 %
44 %	89 %

L2 (km = 0.2)

Load	Time
100 %	3 %
59 %	50 %
53 %	47 %

L3 (km = 0.4)

Load	Time
100 %	8 %
78 %	48 %
60 %	44 %

L4 (km = 0.8)

Load	Time
100 %	28 %
90 %	72 %

Classes of utilisation

Class	T1	T2	T3	T4	T5	T6	T7	T8
Hours	400	800	1600	3200	6300	12500	25000	50000

EP series: Planetary gears stages

Output torque according to L1 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
EP000-3.450	1229	1129	1035	938	848	764	688	608	829
EP000-4.161	1132	1034	954	870	796	726	662	603	691
EP000-4.920	1052	962	889	813	745	682	623	569	628
EP000-6.158	979	897	828	758	695	637	582	532	577
EP000-7.125	966	881	811	739	674	614	558	507	584
EP000-8.538	776	681	613	574	518	479	425	373	533
EP001-3.517	1982	1831	1687	1531	1392	1252	1124	969	1291
EP001-4.174	2440	2245	2074	1891	1727	1575	1435	1235	1511
EP001-5.294	2224	2041	1892	1738	1593	1454	1326	1208	1364
EP001-6.214	2029	1837	1640	1544	1413	1302	1170	1035	1210

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EP001-7.636	1482	1318	1202	1121	1018	947	845	745	1187
EP002-3.517	2410	2292	2103	1926	1769	1623	1489	1321	1721
EP002-4.174	2831	2697	2475	2272	2090	1921	1765	1614	2015
EP002-5.294	2615	2416	2221	2041	1880	1731	1592	1466	1818
EP002-6.214	2360	2159	1999	1822	1665	1509	1358	1222	1613
EP002-7.636	1703	1536	1430	1293	1186	1071	965	870	1469
EP003-3.517	3770	3770	3770	3697	3354	2894	2495	2155	3523
EP003-4.174	4337	4270	3917	3593	3302	3034	2785	2498	3156
EP003-5.294	4182	3859	3546	3255	2994	2753	2529	2325	2849
EP003-6.214	3802	3472	3212	2932	2679	2430	2186	1967	2110
EP003-7.636	2787	2509	2341	2118	1943	1755	1580	1423	1823
EP004-3.517	4487	4141	3795	3478	3196	2936	2695	2475	3118
EP004-4.174	5482	5234	4802	4406	4052	3724	3420	3142	3945
EP004-5.294	5059	4670	4291	3941	3627	3336	3067	2821	3561
EP004-6.214	4582	4192	3880	3539	3235	2933	2640	2377	3188
EP004-7.636	3297	2974	2770	2505	2299	2076	1870	1686	3099
EP006-3.517	6815	6192	5705	5181	4713	4280	3843	3443	4365
EP006-4.174	8543	7882	7243	6648	6116	5623	5167	4742	5523
EP006-5.294	7333	6772	6223	5717	5264	4844	4455	4099	4985
EP006-6.214	4980	4882	4791	4712	4628	4196	3776	3400	3588
EP006-7.636	4419	3987	3713	3358	3082	2783	2507	2261	3099
EP007-4.174	9713	9466	8688	7974	7336	6745	6197	5538	6818
EP007-5.294	8627	7967	7320	6725	6192	5698	5240	4821	6155
EP009-3.517	11600	10764	9916	9006	8193	7443	6752	6093	7551
EP009-4.174	13407	12259	11327	10367	9511	8719	7965	7238	8553
EP009-5.294	11694	10754	9887	9058	8319	7634	7001	6423	7696
EP009-6.214	9951	9519	8810	8040	7348	6667	6000	5401	6867
EP009-7.636	7148	6441	6005	5434	4988	4506	4057	3656	5667
EP012-3.517	15420	14200	13017	11915	10933	10027	9191	8368	10487
EP012-4.174	16901	15574	14279	13078	12006	11016	10101	9267	11879
EP012-5.294	12568	12242	11943	10950	10063	9242	8483	7791	9529
EP012-6.214	9951	9755	9572	9291	8501	7708	6943	6257	7247
EP012-7.636	7755	7066	6563	5963	5476	4948	4461	4026	5667
EP015-3.517	18184	16786	15487	14343	13160	12069	11063	9583	12063
EP015-4.174	20062	18486	16948	15522	14250	13074	11988	10998	14666
EP015-5.294	8289	7960	7416	7025	6843	6533	6370	6370	6292
EP015-5.867	10077	9439	8854	8367	7982	7697	7573	7573	7103
EP018-3.517	19729	18023	16695	15161	13783	12512	11340	10272	12798
EP018-4.174	24404	22472	20607	18866	17312	15875	14548	13337	16089
EP018-5.294	11841	11534	11264	11054	10889	10765	10698	10698	9304
EP018-6.214	15023	14720	14440	14115	12915	11715	10553	9508	11338
EP018-7.636	12022	10924	10169	9211	8458	7645	6890	6216	9056
EP021-3.517	18115	17624	17184	16809	16528	15447	14000	12682	14218
EP021-4.174	22324	21850	21403	20998	20661	19012	17422	15972	17867
EP021-5.294	10021	9738	9478	9249	9067	8929	8856	8856	7624
EP021-5.867	11544	11309	11091	10899	10745	10630	10580	10580	8808
EP022-3.517	18115	17624	17184	16809	16528	15447	14000	12682	14218
EP022-4.174	22324	21850	21403	20998	20661	19012	17422	15972	17867
EP022-5.294	10021	9738	9478	9249	9067	8929	8856	8856	7624
EP022-5.867	11544	11309	11091	10899	10745	10630	10580	10580	8808
EP030-4.091	39361	36396	33383	30606	28122	25821	23693	21747	28363

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EP030-5.250	31495	29135	26822	24696	22793	21029	19351	17782	25440
EP030-5.857	27130	24657	22857	20737	19093	17341	15714	14167	24127
EP031-4.091	39361	36396	33383	30606	28122	25821	23693	21747	28363
EP031-5.250	31495	29135	26822	24696	22793	21029	19351	17782	25440
EP031-5.857	27130	24657	22857	20737	19093	17341	15714	14167	24127
EP042-4.182	59025	54463	50040	45806	42024	38526	35293	32341	33886
EP042-4.889	51482	47521	43692	40135	36956	33988	31155	28566	39606
EP042-6.000	40586	37013	34187	31032	28521	25882	23445	21259	24435
EP043-4.182	59025	54463	50040	45806	42024	38526	35293	32341	33886
EP043-4.889	51482	47521	43692	40135	36956	33988	31155	28566	39606
EP043-6.000	40586	37013	34187	31032	28521	25882	23445	21259	24435
EP060-4.091	76617	70542	64838	59383	54403	49802	45555	41683	55902
EP060-5.250	64245	59210	54376	49873	45853	42135	38700	35198	52987
EP060-5.857	53486	48836	45071	40928	37581	34101	30889	28008	50308
EP061-4.091_N120x3	76617	70542	64838	59383	54403	49802	45555	41683	55902
EP061-5.250_N120x3	64245	59210	54376	49873	45853	42135	38700	35198	52987
EP061-4.091_N140x5	76621	70542	64838	59383	54403	49802	45555	41683	55902
EP061-5.250_N140x5	64245	59210	54376	49873	45853	42135	38700	35198	52987
EP085-4.174	113394	104413	95986	87866	80525	73743	67482	61772	80551
EP085-5.294	92238	85014	78114	71679	65932	60616	55705	51221	72500
EP085-5.867	83451	76987	70728	64932	59753	54961	50114	45452	69494
EP125-4.174	149730	137838	126524	115888	106403	97645	89447	81816	113138
EP125-5.294	120145	110662	101618	93167	85623	78650	72210	66334	101792
EP125-5.867	108014	99514	91438	83874	77118	70871	64684	58658	97557
EP180-4.182	212379	195329	174375	161307	147437	134947	125012	115702	162687
EP180-4.889	185168	170194	156344	143141	131363	120482	110439	101281	151716
EP180-6.000	147142	135021	124107	113021	103502	93897	85065	77120	139323
EP250-4.182	312310	286329	262965	240286	220085	201449	184275	168637	237150
EP250-4.889	272989	249830	230078	210366	192796	176579	161622	147997	221165
EP250-6.000	218987	200939	184756	168296	154158	139883	126737	114898	203096
EP355-4.182	433668	395799	364552	332698	304349	278219	254160	232274	336164
EP355-4.889	379644	346570	319441	291710	267013	244237	223251	204149	313501
EP355-6.000	306170	281049	258384	235460	215704	195782	177417	160865	287890
EP500-4.182	608442	554407	510694	465536	425378	388398	354378	323457	474300
EP500-4.889	530090	483364	445349	406220	371399	339314	309779	282919	442329
EP500-6.000	426450	391663	359985	328206	300671	272986	247443	224404	406195
EP710-4.182	650539	592567	545724	497342	454356	414807	378458	345452	514834
EP710-4.889	704775	642057	591359	538896	492244	449295	409795	373905	602119
EP710-6.000	568138	523528	480546	438695	401697	364967	331109	300546	546578

Output torque according to L2 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
EP000-3.450	1019	941	883	796	718	646	543	534	829
EP000-4.161	955	897	825	752	687	627	571	539	691
EP000-4.920	893	838	772	705	646	591	539	504	628

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EP000-6.158	833	780	720	659	604	552	505	468	577
EP000-7.125	809	744	681	620	580	527	479	421	584
EP000-8.538	630	552	496	456	431	392	345	302	533
EP001-3.517	1670	1533	1443	1304	1175	1053	863	849	1291
EP001-4.174	2075	1950	1791	1632	1490	1335	1108	1090	1511
EP001-5.294	1898	1784	1652	1506	1376	1256	1144	1067	1364
EP001-6.214	1703	1515	1355	1233	1170	1080	962	848	1210
EP001-7.636	1225	1088	985	904	856	781	691	607	1187
EP002-3.517	2114	1996	1830	1678	1542	1398	1179	1159	1721
EP002-4.174	2502	2354	2161	1985	1827	1681	1485	1467	2015
EP002-5.294	2248	2113	1943	1787	1647	1517	1397	1315	1818
EP002-6.214	1986	1786	1635	1516	1411	1277	1150	1037	1613
EP002-7.636	1409	1273	1166	1097	1005	908	820	741	1469
EP003-3.517	3741	3417	3289	3053	2649	2289	1984	1960	3523
EP003-4.174	3955	3723	3416	3134	2882	2649	2302	2274	3156
EP003-5.294	3584	3371	3096	2843	2617	2408	2213	2080	2849
EP003-6.214	3196	2874	2629	2436	2269	2055	1850	1667	2110
EP003-7.636	2307	2080	1908	1792	1645	1486	1340	1210	1823
EP004-3.517	3861	3606	3306	3033	2789	2564	2335	2234	3118
EP004-4.174	4852	4566	4190	3847	3539	3255	2925	2848	3945
EP004-5.294	4340	4082	3750	3445	3173	2920	2686	2526	3561
EP004-6.214	3857	3470	3177	2945	2741	2482	2236	2016	3188
EP004-7.636	2730	2465	2259	2124	1948	1760	1588	1435	3099
EP006-3.517	5670	5232	4896	4442	4016	3604	3226	3083	4365
EP006-4.174	7303	6884	6324	5808	5346	4919	4363	4244	5523
EP006-5.294	6297	5921	5441	5002	4608	4243	3905	3674	4985
EP006-6.214	4828	4743	4544	4214	3922	3551	3199	2884	3588
EP006-7.636	3660	3304	3029	2847	2611	2359	2129	1923	3099
EP007-4.174	8783	8262	7586	6966	6412	5899	5352	5167	6818
EP007-5.294	7406	6965	6400	5883	5420	4990	4593	4321	6155
EP009-3.517	9861	9278	8510	7724	7023	6376	5506	5421	7551
EP009-4.174	11364	10712	9845	9015	8275	7532	6762	6470	8553
EP009-5.294	9973	9385	8608	7890	7250	6657	6109	5734	7696
EP009-6.214	8764	7884	7215	6687	6228	5642	5081	4579	6867
EP009-7.636	5921	5340	4898	4601	4225	3817	3442	3107	5667
EP012-3.517	13086	12354	11317	10366	9519	8737	7548	7429	10487
EP012-4.174	14401	13560	12425	11387	10460	9604	8813	8385	11879
EP012-5.294	12044	11345	10409	9549	8781	8071	7414	6965	9529
EP012-6.214	9646	9124	8357	7758	7211	6532	5889	5315	7247
EP012-7.636	6483	5882	5388	5067	4645	4201	3793	3429	5667
EP015-3.517	15722	14660	13622	12478	11458	10330	9257	9111	12063
EP015-4.174	17092	16094	14747	13515	12415	11398	10459	9951	14666
EP015-5.294	7481	7139	6824	6569	6392	6370	6370	6370	6292
EP015-5.867	8979	8519	8111	7791	7574	7573	7288	6578	7103
EP018-3.517	16591	15588	14321	12988	11800	10703	9653	9233	12798
EP018-4.174	20769	19562	17919	16413	15069	13826	12678	12057	16089
EP018-5.294	11349	11134	10951	10808	10710	10698	10698	10232	9304
EP018-6.214	14553	13861	12694	11780	10956	9928	8949	8073	11338
EP018-7.636	10040	9077	8318	7819	7174	6487	5855	5290	9056
EP021-3.517	17288	16942	16634	16034	14567	13214	11917	11399	14218
EP021-4.174	21584	21160	20788	19657	18046	16558	15183	14438	17867

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EP021-5.294	9583	9340	9135	8976	8869	8856	8856	8856	7624
EP021-5.867	11179	10975	10802	10670	10580	10580	10580	10056	8808
EP022-3.517	17288	16942	16634	16034	14567	13214	11917	11399	14218
EP022-4.174	21584	21160	20788	19657	18046	16558	15183	14438	17867
EP022-5.294	9583	9340	9135	8976	8869	8856	8856	8856	7624
EP022-5.867	11179	10975	10802	10670	10580	10580	10580	10056	8808
EP030-4.091	33693	31723	29093	26683	24529	22533	20687	19720	28363
EP030-5.250	27151	25552	23537	21690	20025	18416	16828	15176	25440
EP030-5.857	22647	20515	18821	17702	16318	14791	13335	12032	24127
EP031-4.091	33693	31723	29093	26683	24529	22533	20687	19720	28363
EP031-5.250	27151	25552	23537	21690	20025	18416	16828	15176	25440
EP031-5.857	22647	20515	18821	17702	16318	14791	13335	12032	24127
EP042-4.182	50415	47494	43502	39836	36562	33534	30735	29219	33886
EP042-4.889	44110	41554	38198	35116	32267	29612	27156	25580	39606
EP042-6.000	33902	30770	28161	26511	24361	22138	20031	18074	24435
EP043-4.182	50415	47494	43502	39836	36562	33534	30735	29219	33886
EP043-4.889	44110	41554	38198	35116	32267	29612	27156	25580	39606
EP043-6.000	33902	30770	28161	26511	24361	22138	20031	18074	24435
EP060-4.091	65223	61562	56348	51525	47222	43246	39577	37663	55902
EP060-5.250	54935	50845	46694	43527	40048	36670	33231	30011	52987
EP060-5.857	44719	40630	37176	34964	32102	29166	26462	23963	50308
EP061-4.091_N120x3	65223	61562	56348	51525	47222	43246	39577	37663	55902
EP061-5.250_N120x3	54935	50845	46694	43527	40048	36670	33231	30011	52987
EP061-4.091_N140x5	65226	61562	56348	51525	47222	43246	39577	37663	55902
EP061-5.250_N140x5	54935	50845	46694	43527	40048	36670	33231	30011	52987
EP085-4.174	96576	91111	83393	76283	69939	64078	58668	55740	80551
EP085-5.294	78917	74243	68177	62607	57633	53032	48687	45658	72500
EP085-5.867	71531	65991	60349	56757	52082	47327	42948	38982	69494
EP125-4.174	127417	120114	110108	100924	92732	84898	77670	73762	113138
EP125-5.294	102637	96539	88571	81262	74738	68708	63138	59338	101792
EP125-5.867	92387	85337	78065	73212	67250	61081	55420	50331	97557
EP180-4.182	180477	162975	142897	134690	126930	119190	109976	104504	162687
EP180-4.889	157610	148359	135964	124557	114381	104980	96302	90747	151716
EP180-6.000	123078	112255	102774	96626	88518	80316	72848	66130	139323
EP250-4.182	264464	249197	227972	208424	191012	174950	160147	152166	237150
EP250-4.889	231541	217946	199659	182650	167491	153499	140594	132342	221165
EP250-6.000	183279	167161	153048	143895	131770	119662	108527	98500	203096
EP355-4.182	366015	344873	315415	287997	263596	241107	220399	209249	336164
EP355-4.889	320939	301891	276657	252762	231483	211860	193780	182230	313501
EP355-6.000	256418	233913	214216	201363	184442	167526	151948	137905	287890
EP500-4.182	511927	482071	441049	402232	367717	335933	306694	290969	474300
EP500-4.889	446725	419656	384991	351320	321362	293759	268349	252134	442329
EP500-6.000	357406	326134	298781	280758	257210	233678	211982	192409	406195
EP710-4.182	546991	515064	471126	429599	392707	358766	327570	310815	514834
EP710-4.889	592420	555680	510447	465361	425280	388384	354452	332821	602119
EP710-6.000	477603	436379	400362	375656	344360	312852	284059	258063	546578

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Output torque according to L3 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
EP000-3.450	835	751	687	664	604	539	530	521	829
EP000-4.161	797	726	687	658	602	549	537	533	691
EP000-4.920	749	684	643	619	568	519	503	499	628
EP000-6.158	700	640	598	578	532	486	466	434	577
EP000-7.125	673	612	556	490	459	435	396	364	584
EP000-8.538	510	450	401	351	337	316	285	269	533
EP001-3.517	1367	1217	1093	1057	963	857	843	829	1291
EP001-4.174	1729	1546	1402	1355	1229	1101	1083	1065	1511
EP001-5.294	1597	1456	1363	1292	1168	1100	1039	931	1364
EP001-6.214	1401	1241	1115	987	910	867	797	720	1210
EP001-7.636	1009	895	803	707	669	632	572	532	1187
EP002-3.517	1782	1614	1492	1443	1313	1171	1151	1132	1721
EP002-4.174	2115	1944	1868	1760	1610	1478	1460	1442	2015
EP002-5.294	1906	1754	1672	1574	1463	1350	1292	1169	1818
EP002-6.214	1631	1478	1338	1207	1144	1084	994	911	1613
EP002-7.636	1158	1055	953	866	834	781	711	671	1469
EP003-3.517	3087	2668	2510	2418	2151	1974	1950	1926	3523
EP003-4.174	3339	3065	2910	2776	2494	2290	2262	2234	3156
EP003-5.294	3031	2785	2649	2494	2316	2138	2046	1851	2849
EP003-6.214	2625	2378	2152	1940	1836	1741	1597	1462	2110
EP003-7.636	1897	1726	1559	1414	1361	1275	1160	1094	1823
EP004-3.517	3231	2967	2847	2687	2473	2245	2226	2208	3118
EP004-4.174	4099	3765	3617	3410	3139	2889	2840	2822	3945
EP004-5.294	3673	3377	3216	3052	2818	2595	2504	2267	3561
EP004-6.214	3169	2873	2601	2346	2221	2106	1932	1770	3188
EP004-7.636	2245	2045	1848	1678	1615	1512	1376	1299	3099
EP006-3.517	4674	4190	3941	3803	3438	3098	3072	3047	4365
EP006-4.174	6190	5663	5402	5148	4737	4313	4231	4199	5523
EP006-5.294	5334	4906	4676	4441	4095	3774	3664	3379	4985
EP006-6.214	4534	4110	3721	3356	3178	3014	2764	2532	3588
EP006-7.636	3010	2741	2477	2249	2165	2027	1845	1741	3099
EP007-4.174	7425	6823	6560	6179	5527	5240	5153	5119	6818
EP007-5.294	6274	5770	5499	5083	4817	4438	4186	3875	6155
EP009-3.517	8161	7401	6965	6724	6073	5471	5386	5302	7551
EP009-4.174	9553	8717	8257	7923	7230	6575	6450	6402	8553
EP009-5.294	8401	7705	7308	6977	6417	5896	5719	5292	7696
EP009-6.214	7203	6527	5909	5327	5041	4781	4387	4016	6867
EP009-7.636	4870	4433	4005	3631	3494	3274	2979	2809	5667
EP012-3.517	11034	10067	9549	9161	8336	7498	7380	7263	10487
EP012-4.174	12123	11118	10660	10070	9258	8506	8362	8307	11879
EP012-5.294	10173	9339	8873	8455	7783	7158	6946	6376	9529
EP012-6.214	8335	7563	6849	6183	5859	5553	5095	4670	7247
EP012-7.636	5355	4879	4412	4011	3859	3614	3290	3105	5667
EP015-3.517	13281	11976	11649	11030	9563	9196	9051	8907	12063
EP015-4.174	14388	13194	12651	11951	10987	10094	9924	9858	14666
EP015-5.294	6775	6620	6465	6370	6370	6370	6370	6370	6292
EP015-5.867	8074	7868	7669	7573	7382	6925	6306	5930	7103

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EP018-3.517	13714	12427	11800	11291	10261	9277	9202	9128	12798
EP018-4.174	17466	16008	15334	14502	13324	12232	12024	11943	16089
EP018-5.294	11051	10885	10761	10698	10698	10518	10204	9501	9304
EP018-6.214	12666	11490	10407	9390	8893	8429	7737	7088	11338
EP018-7.636	8270	7533	6810	6184	5949	5573	5073	4786	9056
EP021-3.517	16804	15342	14568	13940	12668	11453	11361	11269	14218
EP021-4.174	20918	19171	18362	17367	15956	14648	14398	14302	17867
EP021-5.294	9247	9062	8925	8856	8856	8856	8856	8856	7624
EP021-5.867	10896	10741	10627	10580	10580	10580	9639	9061	8808
EP022-3.517	16804	15342	14568	13940	12668	11453	11361	11269	14218
EP022-4.174	20918	19171	18362	17367	15956	14648	14398	14302	17867
EP022-5.294	9247	9062	8925	8856	8856	8856	8856	8856	7624
EP022-5.867	10896	10741	10627	10580	10580	10580	9639	9061	8808
EP030-4.091	28415	26075	25049	23620	21725	19968	19665	19532	28363
EP030-5.250	23109	21274	19568	17651	16824	15890	14542	13445	25440
EP030-5.857	18776	17123	15511	14016	13489	12659	11532	10835	24127
EP031-4.091	28415	26075	25049	23620	21725	19968	19665	19532	28363
EP031-5.250	23109	21274	19568	17651	16824	15890	14542	13445	25440
EP031-5.857	18776	17123	15511	14016	13489	12659	11532	10835	24127
EP042-4.182	42384	38828	37166	35180	32309	29646	29137	28940	33886
EP042-4.889	37333	34280	32587	31047	28537	26200	25508	23998	39606
EP042-6.000	28090	25649	23228	21112	20300	19026	17322	16329	24435
EP043-4.182	42384	38828	37166	35180	32309	29646	29137	28940	33886
EP043-4.889	37333	34280	32587	31047	28537	26200	25508	23998	39606
EP043-6.000	28090	25649	23228	21112	20300	19026	17322	16329	24435
EP060-4.091	54767	50101	47927	45405	41640	38151	37557	37302	55902
EP060-5.250	46386	42492	38525	34840	33245	31406	28759	26588	52987
EP060-5.857	37020	33844	30701	27891	26818	25199	22970	21583	50308
EP061-4.091_N120x3	54767	50101	47927	45405	41640	38151	37557	37302	55902
EP061-5.250_N120x3	46386	42492	38525	34840	33245	31406	28759	26588	52987
EP061-4.091_N140x5	54770	50101	47927	45405	41640	38151	37557	37302	55902
EP061-5.250_N140x5	46386	42492	38525	34840	33245	31406	28759	26588	52987
EP085-4.174	81096	74225	70942	67260	61709	56565	55583	55207	80551
EP085-5.294	66751	61267	58168	55514	51172	46961	45529	42595	72500
EP085-5.867	60061	54920	49876	45392	43613	40930	37381	35147	69494
EP125-4.174	107274	98262	93906	89145	81733	74861	73554	73054	113138
EP125-5.294	86591	79502	75586	71976	66269	60973	59178	55814	101792
EP125-5.867	77546	70907	64390	58860	56553	52928	48373	45637	97557
EP180-4.182	151630	138243	121276	117186	113970	106070	104207	103493	162687
EP180-4.889	132577	121542	115605	110069	101180	92930	90498	89045	151716
EP180-6.000	101993	93235	84639	77496	74398	69574	63544	60101	139323
EP250-4.182	221582	202698	193703	183666	168466	154399	151745	150735	237150
EP250-4.889	194233	177805	168705	161042	147847	135582	131976	131098	221165
EP250-6.000	151940	138891	126084	115404	110767	103604	94637	89483	203096
EP355-4.182	305917	279468	266536	253287	232034	212364	208665	207267	336164
EP355-4.889	268562	245518	232428	222387	203939	186761	181722	180505	313501
EP355-6.000	212672	194422	176515	161553	155027	145019	132492	125255	287890

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EP500-4.182	426924	389527	370826	353101	323118	295355	290155	288201	474300
EP500-4.889	372983	340558	321739	308478	282625	258490	251428	249736	442329
EP500-6.000	296582	271166	246235	225390	216240	202292	184859	174746	406195
EP710-4.182	455985	416031	396127	377109	345091	315482	309955	307893	514834
EP710-4.889	493745	450396	424844	407955	373511	341295	331888	329652	602119
EP710-6.000	396781	363008	329889	302412	290043	271265	248030	234567	546578

Output torque according to L4 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
EP000-3.450	685	599	577	540	531	523	514	506	829
EP000-4.161	664	605	590	557	538	533	529	525	691
EP000-4.920	626	571	554	526	503	499	496	492	628
EP000-6.158	585	535	514	482	461	434	423	413	577
EP000-7.125	559	507	445	403	384	364	355	346	584
EP000-8.538	418	366	319	296	280	269	262	255	533
EP001-3.517	1110	953	918	859	845	831	817	803	1291
EP001-4.174	1409	1222	1179	1103	1085	1068	1051	1033	1511
EP001-5.294	1331	1212	1173	1039	986	929	900	878	1364
EP001-6.214	1154	1019	898	800	766	721	703	686	1210
EP001-7.636	832	732	643	588	559	533	519	506	1187
EP002-3.517	1481	1301	1254	1173	1154	1135	1116	1097	1721
EP002-4.174	1781	1639	1588	1480	1463	1445	1428	1408	2015
EP002-5.294	1607	1480	1434	1293	1244	1176	1139	1117	1818
EP002-6.214	1353	1219	1099	1009	971	913	896	879	1613
EP002-7.636	962	869	785	739	707	673	660	649	1469
EP003-3.517	2423	2189	2121	1978	1954	1930	1907	1884	3523
EP003-4.174	2807	2540	2459	2295	2267	2239	2211	2184	3156
EP003-5.294	2551	2345	2272	2048	1968	1861	1802	1767	2849
EP003-6.214	2178	1961	1767	1619	1558	1465	1437	1409	2110
EP003-7.636	1575	1420	1282	1205	1152	1096	1076	1057	1823
EP004-3.517	2717	2493	2443	2270	2229	2211	2193	2175	3118
EP004-4.174	3449	3174	3118	2916	2844	2825	2806	2777	3945
EP004-5.294	3095	2846	2774	2507	2410	2279	2207	2164	3561
EP004-6.214	2631	2370	2137	1959	1885	1773	1739	1706	3188
EP004-7.636	1866	1683	1521	1430	1367	1302	1277	1255	3099
EP006-3.517	3818	3441	3373	3134	3077	3052	3026	3001	4365
EP006-4.174	5203	4754	4644	4343	4237	4205	4145	4080	5523
EP006-5.294	4496	4138	4033	3737	3593	3398	3290	3226	4985
EP006-6.214	3764	3390	3057	2803	2697	2537	2488	2441	3588
EP006-7.636	2501	2257	2039	1917	1832	1745	1712	1682	3099
EP007-4.174	6251	5757	5568	5310	5159	5125	5084	5004	6818
EP007-5.294	5288	4866	4631	4283	4110	3883	3807	3733	6155
EP009-3.517	6757	6074	5861	5481	5398	5315	5232	5150	7551
EP009-4.174	7982	7251	7094	6675	6459	6411	6363	6316	8553
EP009-5.294	7054	6473	6299	5854	5625	5318	5150	5047	7696
EP009-6.214	5979	5385	4854	4447	4277	4024	3945	3868	6867
EP009-7.636	4046	3648	3294	3094	2956	2815	2761	2712	5667
EP012-3.517	9246	8326	8032	7513	7397	7281	7165	7051	10487
EP012-4.174	10177	9344	9183	8622	8372	8318	8263	8208	11879

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EP012-5.294	8553	7856	7650	7049	6778	6410	6208	6086	9529
EP012-6.214	6923	6242	5634	5170	4974	4680	4589	4501	7247
EP012-7.636	4452	4020	3635	3419	3268	3112	3053	3000	5667
EP015-3.517	10907	10155	9628	9214	9071	8929	8787	8647	12063
EP015-4.174	12078	11089	10897	10232	9936	9871	9806	9741	14666
EP015-5.294	6439	6370	6370	6370	6370	6370	6370	6370	6292
EP015-5.867	7649	7573	6973	6534	6247	5943	5827	5723	7103
EP018-3.517	11342	10302	10102	9382	9216	9142	9069	8995	12798
EP018-4.174	14651	13437	13205	12401	12038	11959	11879	11800	16089
EP018-5.294	10772	10698	10698	10506	10098	9548	9248	9064	9304
EP018-6.214	10522	9485	8557	7847	7547	7102	6963	6826	11338
EP018-7.636	6875	6206	5607	5270	5036	4796	4704	4621	9056
EP021-3.517	14002	12719	12472	11583	11378	11287	11196	11105	14218
EP021-4.174	17546	16091	15813	14850	14416	14321	14225	14130	17867
EP021-5.294	8917	8856	8856	8856	8856	8856	8856	8856	7624
EP021-5.867	10639	10580	10580	9984	9543	9079	8900	8734	8808
EP022-3.517	14002	12719	12472	11583	11378	11287	11196	11105	14218
EP022-4.174	17546	16091	15813	14850	14416	14321	14225	14130	17867
EP022-5.294	8917	8856	8856	8856	8856	8856	8856	8856	7624
EP022-5.867	10639	10580	10580	9984	9543	9079	8900	8734	8808
EP030-4.091	23877	21973	21577	20239	19689	19558	19426	19295	28363
EP030-5.250	19514	17835	16085	14861	14257	13472	13202	12937	25440
EP030-5.857	15675	14133	12752	11939	11411	10856	10640	10432	24127
EP031-4.091	23877	21973	21577	20239	19689	19558	19426	19295	28363
EP031-5.250	19514	17835	16085	14861	14257	13472	13202	12937	25440
EP031-5.857	15675	14133	12752	11939	11411	10856	10640	10432	24127
EP042-4.182	35538	32569	32001	30056	29173	28978	28781	28587	33886
EP042-4.889	31379	28776	28076	26556	25538	24042	23553	23074	39606
EP042-6.000	23468	21222	19156	17980	17165	16360	16031	15709	24435
EP043-4.182	35538	32569	32001	30056	29173	28978	28781	28587	33886
EP043-4.889	31379	28776	28076	26556	25538	24042	23553	23074	39606
EP043-6.000	23468	21222	19156	17980	17165	16360	16031	15709	24435
EP060-4.091	45829	41979	41244	38689	37603	37351	37097	36845	55902
EP060-5.250	38867	35194	31807	29385	28180	26637	26094	25563	52987
EP060-5.857	30914	28048	25391	23781	22723	21625	21189	20762	50308
EP061-4.091_N120x3	45829	41979	41244	38689	37603	37351	37097	36845	55902
EP061-5.250_N120x3	38867	35194	31807	29385	28180	26637	26094	25563	52987
EP061-4.091_N140x5	45832	41979	41244	38689	37603	37351	37097	36845	55902
EP061-5.250_N140x5	38867	35194	31807	29385	28180	26637	26094	25563	52987
EP085-4.174	67898	62171	61065	57358	55652	55279	54905	54534	80551
EP085-5.294	56196	51580	50161	47057	45115	42675	41808	40959	72500
EP085-5.867	50163	45522	41272	38717	36990	35214	34502	33806	69494
EP125-4.174	89961	82309	80821	75920	73645	73150	72654	72161	113138
EP125-5.294	72818	66905	65174	61615	59121	55922	54836	53774	101792
EP125-5.867	64741	58741	53348	50233	48033	45734	44855	44053	97557
EP180-4.182	127133	116501	112061	107552	104337	103630	102921	102217	162687
EP180-4.889	111247	102051	99616	94188	90607	89225	87460	85733	151716

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EP180-6.000	85145	77212	70093	66110	63147	60227	59056	58006	139323
EP250-4.182	185423	169715	166730	156567	151928	150929	149924	148927	237150
EP250-4.889	162667	148992	145315	137449	132136	131267	129990	127393	221165
EP250-6.000	126856	115028	104400	98429	93996	89665	87898	86321	203096
EP355-4.182	255549	233572	229342	215394	208920	207536	206146	204765	336164
EP355-4.889	224521	205359	200141	189371	181943	180739	179529	178045	313501
EP355-6.000	177599	161046	146165	137773	131545	125504	123003	120681	287890
EP500-4.182	356068	325031	318992	299631	290510	288576	286634	284705	474300
EP500-4.889	311320	284390	276975	262150	251736	250061	248378	246707	442329
EP500-6.000	247737	224674	203930	192201	183487	175086	171568	168146	406195
EP710-4.182	380281	347160	340776	320039	310330	308289	306238	304202	514834
EP710-4.889	411607	375644	365676	346175	332295	330082	327859	325651	602119
EP710-6.000	331685	301066	273515	257951	246265	235025	230312	225778	546578

CC series - bevel gears stages

Output torque according to L1 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
CC_125- 2.500_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	595	569	528	488	442	399	359	322	647
CC_125- 3.154_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	603	566	516	473	429	387	347	311	638
CC_125- 4.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	411	384	345	320	287	256	228	201	590
CC_125- 5.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	466	423	390	353	317	284	253	225	590
CC_125- 2.500_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	595	569	528	488	442	399	359	322	647
CC_125- 3.154_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	603	566	516	473	429	387	347	311	638
CC_125- 4.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	411	384	345	320	287	256	228	201	590
CC_125- 5.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	466	423	390	353	317	284	253	225	590
CC_160- 2.500_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1416	1314	1214	1121	1037	959	886	818	1548
CC_160- 3.154_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1299	1205	1113	1028	952	880	813	751	1548
CC_160- 4.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1037	964	891	817	749	685	625	570	944
CC_160- 5.000_IN_AB_32x28_OUT_AB_40x36	957	884	816	754	698	645	596	550	944

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for EP_003-EP_004-EP_006-EP_007									
CC_160- 2.500_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	1416	1314	1214	1121	1037	959	886	818	1548
CC_160- 3.154_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	1299	1205	1113	1028	952	880	813	751	1548
CC_160- 4.000_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	1037	964	891	817	749	685	625	570	944
CC_160- 5.000_IN_A8x7x45_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	957	884	816	754	698	645	596	550	944
CC_200- 2.500_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1795	1717	1645	1579	1524	1478	1443	1423	3153
CC_200- 3.154_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1828	1749	1676	1611	1556	1513	1481	1470	3175
CC_200- 4.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1917	1835	1760	1644	1521	1403	1283	1173	1934
CC_200- 5.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1968	1818	1679	1551	1435	1327	1226	1132	1934
CC_200- 2.500_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1795	1717	1645	1579	1524	1478	1443	1423	2555
CC_200- 3.154_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1828	1749	1676	1611	1556	1513	1481	1470	3175
CC_200- 4.000_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1917	1835	1760	1644	1521	1403	1283	1173	1934
CC_200- 5.000_IN_A8x7x50_OUT_AB_58x53_f or EP_009-EP_012-EP_015-EP_022	1968	1818	1679	1551	1435	1327	1226	1132	1934
CC_250- 2.500_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	4343	4155	3980	3821	3686	3575	3466	3201	5998
CC_250- 3.154_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	4401	4211	4036	3878	3747	3468	3204	2959	5998
CC_250- 4.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	4006	3707	3424	3163	2927	2706	2500	2297	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	3993	3689	3408	3148	2913	2693	2488	2298	4070
CC_250- 2.500_IN_A14x9x70_OUT_AB_58x53 for EP_018-EP_021	4343	4155	3980	3821	3686	3575	3466	3201	5998
CC_250- 3.154_IN_A14x9x70_OUT_AB_58x53 for EP_018-EP_021	4401	4211	4036	3878	3747	3468	3204	2959	5998

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CC_250- 4.000_IN_A14x9x70_OUT_AB_58x53_ for EP_018-EP_021	4006	3707	3424	3163	2927	2706	2500	2297	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_58x53_ for EP_018-EP_021	3993	3689	3408	3148	2913	2693	2488	2298	4070
CC_250- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP_030	4343	4155	3980	3821	3686	3575	3466	3201	6029
CC_250- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP_030	4401	4211	4036	3878	3747	3469	3204	2960	6029
CC_250- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP_030	2406	2306	2212	2124	2045	1974	1914	1868	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP_030	3589	3433	3285	3148	2913	2693	2488	2298	6782
CC_250- 2.500_IN_A14x9x70_OUT_AB_78x72_ for EP_030	4343	4155	3980	3821	3686	3575	3466	3201	6029
CC_250- 3.154_IN_A14x9x70_OUT_AB_78x72_ for EP_030	4401	4211	4036	3878	3747	3469	3204	2960	6029
CC_250- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_030	2406	2306	2212	2124	2045	1974	1914	1868	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_78x72_ for EP_030	3589	3433	3285	3148	2913	2693	2488	2298	6782
CC_320- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8213	7857	7526	7226	6971	6761	6603	6289	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8346	7986	7654	7356	7107	6891	6365	5879	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8245	7621	7039	6502	6017	5563	5139	4747	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8254	7625	7043	6506	6021	5567	5142	4750	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8213	7857	7526	7226	6971	6761	6603	6289	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8346	7986	7654	7356	7107	6891	6365	5879	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8245	7621	7039	6502	6017	5563	5139	4747	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	8254	7625	7043	6506	6021	5567	5142	4750	10380
CC_320-	8213	7857	7526	7226	6971	6761	6603	6289	13651

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2.500_IN_AB_58x53_OUT_AB_88x82 for EP_060									
CC_320- 3.154_IN_AB_58x53_OUT_AB_88x82 for EP_060	8346	7986	7654	7356	7107	6891	6365	5879	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_88x82 for EP_060	8245	7621	7039	6502	6017	5563	5139	4747	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_88x82 for EP_060	8254	7625	7043	6506	6021	5567	5142	4750	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_88x82 for EP_060	8213	7857	7526	7226	6971	6761	6603	6289	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_88x82 for EP_060	8346	7986	7654	7356	7107	6891	6365	5879	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_88x82 for EP_060	8245	7621	7039	6502	6017	5563	5139	4747	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_88x82 for EP_060	8254	7625	7043	6506	6021	5567	5142	4750	10380
CC_400- 2.500_IN_AB_58x53_OUT_AB_98x92 for EP_085	18490	17696	16978	16331	15784	14925	13786	12734	19374
CC_400- 3.154_IN_AB_58x53_OUT_AB_98x92 for EP_085	18910	18105	17366	16061	14862	13741	12693	11725	19374
CC_400- 4.000_IN_AB_58x53_OUT_AB_98x79 for EP_085	16474	15225	14064	12991	12022	11115	10267	9484	15016
CC_400- 5.000_IN_AB_58x53_OUT_AB_98x92 for EP_085	15917	14703	13582	12546	11610	10734	9915	9159	15016
CC_400- 2.500_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	18490	17696	16978	16331	15784	14925	13786	12734	19374
CC_400- 3.154_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	18910	18105	17366	16061	14862	13741	12693	11725	19374
CC_400- 4.000_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	16474	15225	14064	12991	12022	11115	10267	9484	15016
CC_400- 5.000_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	15917	14703	13582	12546	11610	10734	9915	9159	15016

Output torque according to L2 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
CC_125- 2.500_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	518	478	453	416	375	337	302	274	647
CC_125-	510	466	444	402	363	326	291	274	638

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3.154_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002									
CC_125- 4.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	339	309	296	268	239	212	186	181	590
CC_125- 5.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	379	356	331	297	266	236	213	211	590
CC_125- 2.500_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	518	478	453	416	375	337	302	274	647
CC_125- 3.154_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	510	466	444	402	363	326	291	274	638
CC_125- 4.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	339	309	296	268	239	212	186	181	590
CC_125- 5.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	379	356	331	297	266	236	213	211	590
CC_160- 2.500_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1237	1159	1070	989	915	846	781	731	1548
CC_160- 3.154_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1146	1063	982	907	839	776	717	687	1548
CC_160- 4.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	899	848	776	709	649	592	539	528	944
CC_160- 5.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	844	779	720	665	615	569	532	528	944
CC_160- 2.500_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	1237	1159	1070	989	915	846	781	731	1548
CC_160- 3.154_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	1146	1063	982	907	839	776	717	687	1548
CC_160- 4.000_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	899	848	776	709	649	592	539	528	944
CC_160- 5.000_IN_A8x7x45_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	844	779	720	665	615	569	532	528	944
CC_200- 2.500_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1674	1605	1545	1494	1455	1428	1423	1423	3153
CC_200- 3.154_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1705	1636	1577	1528	1492	1470	1447	1386	3175
CC_200- 4.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1790	1699	1569	1449	1331	1217	1112	1089	1934
CC_200- 5.000_IN_AB_40x36_OUT_AB_58x53	1735	1603	1481	1368	1266	1170	1094	1087	1934

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for EP_009-EP_012-EP_015-EP_022									
CC_200- 2.500_IN_A10x8x50_OUT_AB_58x53_ for EP_009-EP_012-EP_015-EP_022	1674	1605	1545	1494	1455	1428	1423	1423	2555
CC_200- 3.154_IN_A10x8x50_OUT_AB_58x53_ for EP_009-EP_012-EP_015-EP_022	1705	1636	1577	1528	1492	1470	1447	1386	3175
CC_200- 4.000_IN_A10x8x50_OUT_AB_58x53_ for EP_009-EP_012-EP_015-EP_022	1790	1699	1569	1449	1331	1217	1112	1089	1934
CC_200- 5.000_IN_A8x7x50_OUT_AB_58x53_f or EP_009-EP_012-EP_015-EP_022	1735	1603	1481	1368	1266	1170	1094	1087	1934
CC_250- 2.500_IN_AB_58x53_OUT_AB_58x53_ for EP_018-EP_021	4051	3884	3737	3614	3521	3308	3056	2858	5998
CC_250- 3.154_IN_AB_58x53_OUT_AB_58x53_ for EP_018-EP_021	4105	3940	3797	3575	3308	3058	2825	2707	5998
CC_250- 4.000_IN_AB_58x53_OUT_AB_58x53_ for EP_018-EP_021	3532	3269	3020	2789	2581	2383	2180	2136	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_58x53_ for EP_018-EP_021	3521	3253	3005	2776	2569	2375	2221	2205	4070
CC_250- 2.500_IN_A14x9x70_OUT_AB_58x53_ for EP_018-EP_021	4051	3884	3737	3614	3521	3308	3056	2858	5998
CC_250- 3.154_IN_A14x9x70_OUT_AB_58x53_ for EP_018-EP_021	4105	3940	3797	3575	3308	3058	2825	2707	5998
CC_250- 4.000_IN_A14x9x70_OUT_AB_58x53_ for EP_018-EP_021	3532	3269	3020	2789	2581	2383	2180	2136	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_58x53_ for EP_018-EP_021	3521	3253	3005	2776	2569	2375	2221	2205	4070
CC_250- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP_030	4051	3884	3737	3614	3521	3308	3056	2858	6029
CC_250- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP_030	4105	3940	3797	3575	3308	3059	2825	2707	6029
CC_250- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP_030	2255	2162	2076	2000	1937	1885	1847	1832	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP_030	3353	3207	3005	2776	2569	2375	2221	2205	6782
CC_250- 2.500_IN_A14x9x70_OUT_AB_78x72_ for EP_030	4051	3884	3737	3614	3521	3308	3056	2858	6029
CC_250- 3.154_IN_A14x9x70_OUT_AB_78x72_ for EP_030	4105	3940	3797	3575	3308	3059	2825	2707	6029

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CC_250- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_030	2255	2162	2076	2000	1937	1885	1847	1832	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_78x72_ for EP_030	3353	3207	3005	2776	2569	2375	2221	2205	6782
CC_320- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7661	7345	7068	6835	6659	6500	6004	5614	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7785	7473	7200	6977	6572	6076	5613	5377	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7271	6720	6208	5734	5306	4906	4532	4450	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7279	6724	6211	5737	5309	4909	4590	4558	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7661	7345	7068	6835	6659	6500	6004	5614	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7785	7473	7200	6977	6572	6076	5613	5377	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7271	6720	6208	5734	5306	4906	4532	4450	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	7279	6724	6211	5737	5309	4909	4590	4558	10380
CC_320- 2.500_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7661	7345	7068	6835	6659	6500	6004	5614	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7785	7473	7200	6977	6572	6076	5613	5377	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7271	6720	6208	5734	5306	4906	4532	4450	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7279	6724	6211	5737	5309	4909	4590	4558	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_88x82_ for EP_060	7661	7345	7068	6835	6659	6500	6004	5614	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_88x82_ for EP_060	7785	7473	7200	6977	6572	6076	5613	5377	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	7271	6720	6208	5734	5306	4906	4532	4450	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	7279	6724	6211	5737	5309	4909	4590	4558	10380
CC_400-	17278	16585	15992	15383	14235	13161	12157	11368	19374

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2.500_IN_AB_58x53_OUT_AB_98x92 for EP_085									
CC_400- 3.154_IN_AB_58x53_OUT_AB_98x92 for EP_085	17657	16598	15332	14163	13106	12117	11193	10723	19374
CC_400- 4.000_IN_AB_58x53_OUT_AB_98x79 for EP_085	14528	13426	12230	11456	10601	9801	9053	8891	15016
CC_400- 5.000_IN_AB_58x53_OUT_AB_98x92 for EP_085	14036	12966	11977	11063	10238	9465	8851	8789	15016
CC_400- 2.500_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	17278	16585	15992	15383	14235	13161	12157	11368	19374
CC_400- 3.154_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	17657	16598	15332	14163	13106	12117	11193	10723	19374
CC_400- 4.000_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	14528	13426	12230	11456	10601	9801	9053	8891	15016
CC_400- 5.000_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	14036	12966	11977	11063	10238	9465	8851	8789	15016

Output torque according to L3 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
CC_125- 2.500_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	436	392	352	343	321	288	273	270	647
CC_125- 3.154_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	422	379	351	340	311	278	273	270	638
CC_125- 4.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	278	246	231	223	201	182	180	178	590
CC_125- 5.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	309	275	268	252	225	212	210	203	590
CC_125- 2.500_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	436	392	352	343	321	288	273	270	647
CC_125- 3.154_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	422	379	351	340	311	278	273	270	638
CC_125- 4.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	278	246	231	223	201	182	180	178	590
CC_125- 5.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	309	275	268	252	225	212	210	203	590
CC_160- 2.500_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	1056	976	929	883	818	756	728	723	1548
CC_160-	969	895	866	810	750	693	685	680	1548

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3.154_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007 CC_160-									
4.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007 CC_160-	752	686	667	623	569	531	526	522	944
5.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007 CC_160-	710	676	643	594	550	530	527	523	944
2.500_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007 CC_160-	1056	976	929	883	818	756	728	723	1548
3.154_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007 CC_160-	969	895	866	810	750	693	685	680	1548
4.000_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007 CC_160-	752	686	667	623	569	531	526	522	944
5.000_IN_A8x7x45_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007 CC_160-	710	676	643	594	550	530	527	523	944
2.500_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1569	1513	1473	1441	1423	1423	1423	1423	3153
3.154_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1599	1548	1509	1480	1470	1400	1382	1372	3175
4.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1535	1409	1374	1279	1171	1094	1085	1076	1934
5.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1461	1391	1323	1223	1131	1091	1083	1076	1934
2.500_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1569	1513	1473	1441	1423	1423	1423	1423	2555
3.154_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1599	1548	1509	1480	1470	1400	1382	1372	3175
4.000_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022 CC_200-	1535	1409	1374	1279	1171	1094	1085	1076	1934
5.000_IN_A8x7x50_OUT_AB_58x53_f or EP_009-EP_012-EP_015-EP_022 CC_200-	1461	1391	1323	1223	1131	1091	1083	1076	1934
2.500_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021 CC_250-	3797	3660	3563	3455	3198	2957	2849	2829	5998
3.154_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021 CC_250-	3819	3527	3414	3195	2957	2734	2699	2679	5998
4.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021 CC_250-	2974	2753	2676	2493	2294	2146	2128	2111	4070
5.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021 CC_250-	2965	2823	2685	2481	2296	2214	2198	2183	4070

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for EP 018-EP 021									
CC_250- 2.500_IN_A14x9x70_OUT_AB_58x53_ for EP 018-EP 021	3797	3660	3563	3455	3198	2957	2849	2829	5998
CC_250- 3.154_IN_A14x9x70_OUT_AB_58x53_ for EP 018-EP 021	3819	3527	3414	3195	2957	2734	2699	2679	5998
CC_250- 4.000_IN_A14x9x70_OUT_AB_58x53_ for EP 018-EP 021	2974	2753	2676	2493	2294	2146	2128	2111	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_58x53_ for EP 018-EP 021	2965	2823	2685	2481	2296	2214	2198	2183	4070
CC_250- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP 030	3797	3660	3563	3455	3198	2957	2849	2829	6029
CC_250- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP 030	3819	3528	3415	3195	2957	2734	2699	2680	6029
CC_250- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP 030	2125	2037	1961	1907	1866	1835	1832	1832	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP 030	2965	2823	2685	2481	2296	2214	2198	2183	6782
CC_250- 2.500_IN_A14x9x70_OUT_AB_78x72_ for EP 030	3797	3660	3563	3455	3198	2957	2849	2829	6029
CC_250- 3.154_IN_A14x9x70_OUT_AB_78x72_ for EP 030	3819	3528	3415	3195	2957	2734	2699	2680	6029
CC_250- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP 030	2125	2037	1961	1907	1866	1835	1832	1832	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_78x72_ for EP 030	2965	2823	2685	2481	2296	2214	2198	2183	6782
CC_320- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP 031-EP 042-EP 043	7181	6922	6739	6595	6283	5809	5598	5558	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP 031-EP 042-EP 043	7303	7008	6784	6348	5874	5431	5361	5323	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP 031-EP 042-EP 043	6125	5723	5529	5125	4743	4469	4437	4404	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP 031-EP 042-EP 043	6129	5836	5549	5128	4745	4577	4544	4512	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_78x72_ for EP 031-EP 042-EP 043	7181	6922	6739	6595	6283	5809	5598	5558	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_78x72_ for EP 031-EP 042-EP 043	7303	7008	6784	6348	5874	5431	5361	5323	13651

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CC_320- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6125	5723	5529	5125	4743	4469	4437	4404	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6129	5836	5549	5128	4745	4577	4544	4512	10380
CC_320- 2.500_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7181	6922	6739	6595	6283	5809	5598	5558	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_88x82_ for EP_060	7303	7008	6784	6348	5874	5431	5361	5323	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	6125	5723	5529	5125	4743	4469	4437	4404	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	6129	5836	5549	5128	4745	4577	4544	4512	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_88x82_ for EP_060	7181	6922	6739	6595	6283	5809	5598	5558	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_88x82_ for EP_060	7303	7008	6784	6348	5874	5431	5361	5323	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	6125	5723	5529	5125	4743	4469	4437	4404	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	6129	5836	5549	5128	4745	4577	4544	4512	10380
CC_400- 2.500_IN_AB_58x53_OUT_AB_98x92_ for EP_085	16244	15179	14453	13743	12723	11763	11334	11254	19374
CC_400- 3.154_IN_AB_58x53_OUT_AB_98x92_ for EP_085	15130	13976	13528	12659	11714	10830	10691	10616	19374
CC_400- 4.000_IN_AB_58x53_OUT_AB_98x79_ for EP_085	12238	11434	10483	10137	9475	8928	8865	8802	15016
CC_400- 5.000_IN_AB_58x53_OUT_AB_98x92_ for EP_085	11819	11253	10701	9888	9150	8825	8763	8700	15016
CC_400- 2.500_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	16244	15179	14453	13743	12723	11763	11334	11254	19374
CC_400- 3.154_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	15130	13976	13528	12659	11714	10830	10691	10616	19374
CC_400- 4.000_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	12238	11434	10483	10137	9475	8928	8865	8802	15016
CC_400- 5.000_IN_AB_58x53_OUT_NW_110x3 x30x35 for EP_125	11819	11253	10701	9888	9150	8825	8763	8700	15016

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Output torque according to L4 [Nm]

Gear Name / Ratio	T1	T2	T3	T4	T5	T6	T7	T8	SOLAS
CC_125- 2.500_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	357	320	301	290	273	270	268	265	647
CC_125- 3.154_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	345	309	300	282	273	270	268	265	638
CC_125- 4.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	224	202	197	183	180	178	176	174	590
CC_125- 5.000_IN_AB_32x28_OUT_AB_32x28 for EP_000-EP_001-EP_002	250	235	226	213	210	191	178	170	590
CC_125- 2.500_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	357	320	301	290	273	270	268	265	647
CC_125- 3.154_IN_A8x7x45_OUT_AB_32x28_f or EP_000-EP_001-EP_002	345	309	300	282	273	270	268	265	638
CC_125- 4.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	224	202	197	183	180	178	176	174	590
CC_125- 5.000_IN_A6x6x36_OUT_AB_32x28_f or EP_000-EP_001-EP_002	250	235	226	213	210	191	178	170	590
CC_160- 2.500_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	896	828	802	765	729	724	719	714	1548
CC_160- 3.154_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	822	764	749	702	685	681	676	671	1548
CC_160- 4.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	627	588	571	531	527	522	518	514	944
CC_160- 5.000_IN_AB_32x28_OUT_AB_40x36 for EP_003-EP_004-EP_006-EP_007	603	584	557	531	527	524	520	516	944
CC_160- 2.500_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	896	828	802	765	729	724	719	714	1548
CC_160- 3.154_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	822	764	749	702	685	681	676	671	1548
CC_160- 4.000_IN_A8x7x50_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	627	588	571	531	527	522	518	514	944
CC_160- 5.000_IN_A8x7x45_OUT_AB_40x36_f or EP_003-EP_004-EP_006-EP_007	603	584	557	531	527	524	520	516	944
CC_200- 2.500_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1465	1440	1423	1423	1423	1423	1423	1423	3153
CC_200-	1500	1481	1470	1418	1384	1374	1365	1355	3175

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3.154_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022									
CC_200- 4.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1290	1211	1177	1095	1087	1078	1069	1060	1934
CC_200- 5.000_IN_AB_40x36_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1240	1202	1146	1092	1085	1042	993	947	1934
CC_200- 2.500_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1465	1440	1423	1423	1423	1423	1423	1423	2555
CC_200- 3.154_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1500	1481	1470	1418	1384	1374	1365	1355	3175
CC_200- 4.000_IN_A10x8x50_OUT_AB_58x53 for EP_009-EP_012-EP_015-EP_022	1290	1211	1177	1095	1087	1078	1069	1060	1934
CC_200- 5.000_IN_A8x7x50_OUT_AB_58x53_f or EP_009-EP_012-EP_015-EP_022	1240	1202	1146	1092	1085	1042	993	947	1934
CC_250- 2.500_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	3505	3237	3138	2993	2853	2833	2813	2793	5998
CC_250- 3.154_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	3240	3014	2952	2768	2702	2683	2664	2645	5998
CC_250- 4.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	2519	2375	2308	2148	2132	2115	2098	2081	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_58x53 for EP_018-EP_021	2516	2439	2326	2217	2201	2064	1967	1875	4070
CC_250- 2.500_IN_A14x9x70_OUT_AB_58x53 for EP_018-EP_021	3505	3237	3138	2993	2853	2833	2813	2793	5998
CC_250- 3.154_IN_A14x9x70_OUT_AB_58x53 for EP_018-EP_021	3240	3014	2952	2768	2702	2683	2664	2645	5998
CC_250- 4.000_IN_A14x9x70_OUT_AB_58x53 for EP_018-EP_021	2519	2375	2308	2148	2132	2115	2098	2081	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_58x53 for EP_018-EP_021	2516	2439	2326	2217	2201	2064	1967	1875	4070
CC_250- 2.500_IN_AB_58x53_OUT_AB_78x72 for EP_030	3505	3237	3138	2993	2853	2833	2813	2793	6029
CC_250- 3.154_IN_AB_58x53_OUT_AB_78x72 for EP_030	3240	3014	2952	2769	2702	2683	2664	2645	6029
CC_250- 4.000_IN_AB_58x53_OUT_AB_78x72 for EP_030	1994	1911	1860	1838	1832	1832	1832	1832	4070
CC_250- 5.000_IN_AB_58x53_OUT_AB_78x72	2516	2439	2326	2217	2201	2064	1967	1875	6782

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for EP_030									
CC_250- 2.500_IN_A14x9x70_OUT_AB_78x72_ for EP_030	3505	3237	3138	2993	2853	2833	2813	2793	6029
CC_250- 3.154_IN_A14x9x70_OUT_AB_78x72_ for EP_030	3240	3014	2952	2769	2702	2683	2664	2645	6029
CC_250- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_030	1994	1911	1860	1838	1832	1832	1832	1832	4070
CC_250- 5.000_IN_A10x8x50_OUT_AB_78x72_ for EP_030	2516	2439	2326	2217	2201	2064	1967	1875	6782
CC_320- 2.500_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6706	6360	6166	5880	5605	5566	5526	5487	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6437	5988	5864	5500	5368	5331	5293	5255	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	5197	4942	4784	4474	4443	4411	4376	4341	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_78x72_ for EP_031-EP_042-EP_043	5200	5041	4807	4582	4550	4518	4468	4259	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6706	6360	6166	5880	5605	5566	5526	5487	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_78x72_ for EP_031-EP_042-EP_043	6437	5988	5864	5500	5368	5331	5293	5255	13651
CC_320- 4.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	5197	4942	4784	4474	4443	4411	4376	4341	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_78x72_ for EP_031-EP_042-EP_043	5200	5041	4807	4582	4550	4518	4468	4259	10380
CC_320- 2.500_IN_AB_58x53_OUT_AB_88x82_ for EP_060	6706	6360	6166	5880	5605	5566	5526	5487	13651
CC_320- 3.154_IN_AB_58x53_OUT_AB_88x82_ for EP_060	6437	5988	5864	5500	5368	5331	5293	5255	13651
CC_320- 4.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	5197	4942	4784	4474	4443	4411	4376	4341	13626
CC_320- 5.000_IN_AB_58x53_OUT_AB_88x82_ for EP_060	5200	5041	4807	4582	4550	4518	4468	4259	10380
CC_320- 2.500_IN_A18x11x90_OUT_AB_88x82_ for EP_060	6706	6360	6166	5880	5605	5566	5526	5487	13188
CC_320- 3.154_IN_A18x11x90_OUT_AB_88x82_ for EP_060	6437	5988	5864	5500	5368	5331	5293	5255	13651

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CC_320- 4.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	5197	4942	4784	4474	4443	4411	4376	4341	13626
CC_320- 5.000_IN_A14x9x70_OUT_AB_88x82_ for EP_060	5200	5041	4807	4582	4550	4518	4468	4259	10380
CC_400- 2.500_IN_AB_58x53_OUT_AB_98x92 for EP_085	13941	12878	12484	11905	11349	11269	11189	11110	19374
CC_400- 3.154_IN_AB_58x53_OUT_AB_98x92 for EP_085	12836	11941	11694	10967	10705	10630	10555	10480	19374
CC_400- 4.000_IN_AB_58x53_OUT_AB_98x79 for EP_085	10382	9873	9566	8938	8876	8814	8751	8689	15016
CC_400- 5.000_IN_AB_58x53_OUT_AB_98x92 for EP_085	10027	9721	9270	8835	8774	8712	8650	8589	15016
CC_400- 2.500_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	13941	12878	12484	11905	11349	11269	11189	11110	19374
CC_400- 3.154_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	12836	11941	11694	10967	10705	10630	10555	10480	19374
CC_400- 4.000_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	10382	9873	9566	8938	8876	8814	8751	8689	15016
CC_400- 5.000_IN_AB_58x53_OUT_NW_110x3 x30x35_for EP_125	10027	9721	9270	8835	8774	8712	8650	8589	15016

Brakes

- Standard multidisc static brake design.
- The friction coefficient for the brake has not been checked, the value has been provided by the manufacturer.
- When a gearbox is delivered for an application according to DNVGL-ST-0378 or 0377, the brake torque for the specific application shall be calculated taking into consideration the factor as given in [5.2.3.6] or [9.5.3.2], respectively.
Factor: 1,8 or dynamic factor if this exceeds 1.8 for the application.
- Static Torque for the brake $\geq$ Factor * Nominal_Output_torque / i (gearbox overall ratio)

PB10

Brake Type	PB10- 0075	PB10- 0150	PB10- 0225	PB10- 0340	PB10- 0420	PB10- 0525	PB10- 0650	PB10- 0815
Static Braking Torque [Nm]	72	156	224	345	421	531	660	818

PB30

Brake Type	PB30- 0250	PB30- 0400	PB30- 0500	PB30- 0630	PB30- 0800	PB30- 1000	PB30- 1250	PB30- 1500	PB30- 1700
Static Braking Torque [Nm]	265	407	509	637	809	1010	1281	1529	1741

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PB90

Brake Type	PB90-0850	PB90-1250	PB90-1500	PB90-1800	PB90-2100	PB90-2600	PB90-3000	PB90-3550	PB90-4250
Static Braking Torque [Nm]	869	1304	1552	1811	2173	2680	3063	3560	4305

General Comments

- Materials with 3.1 certificates are to be used when manufacturing load carrying parts. Traceability is assumed taken care of by the manufacturer's quality system.
- Upon final installation of gear unit to foundation/frame the fastening bolts are to be pre-stressed according to procedures acceptable to the attending surveyor. We have assumed that the load carrying bolts are of 8.8 quality or higher.
- Our gear calculations are based on that optimum hardening depths have been achieved according to recognised standards and manufacturer's experience.
- Load distribution factors as stated by the manufacturer (based on his experience) have been used and we have not considered these.
- The bearing lifetime for the gear units are not evaluated in this Type Approval. It is assumed that the manufacturer delivers bearings with sufficient capacity for the class of utilisation they are intended for with respect to strength and materials.

Type Approval documentation

Drawings of the planetary & bevel gears for each stage and brakes with calculations according to Rossi's drawing list with the title '20190718_A0565521_Uploaded_TechDocList' dated 18th of July 2019 (DNVGL's Ref.No. J-53).

Marking of product

The product to be marked with manufacturer's name/trademark and type number identification.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

END OF CERTIFICATE