

DRS SERIES SCOTCH YOKE ACTUATORS



**HIGH PERFORMANCE
HEAVY DUTY ACTUATOR DRS**

Trusted Tested Certified



ATEX

CE



**FIELD COMM
GROUP**

EAC



Engineering For The Future



WHY ROTEX?



Are you looking for smoother operation with less maintenance?

It is engineered for efficiency with lifetime lubricated ball bearings and a hardened yoke pin with cylindrical bearing. This provides a very low coefficient of friction and high torque transmission efficiency.



Are you concerned about seal wear and leakage?

The DRS series utilizes a unique X-shape flexible seal that retains grease longer and minimizes friction. This design ensures a leak-free, very long life with a guaranteed operation of 1 million cycles.



Do you need to prevent side thrust on cylinder seals and improve its wear resistance?

The integrated Flexi Joint ensures there is no side thrust on cylinder walls or bearings, allowing the carrier to operate perfectly and smoothly while significantly improving seal life



Do you face corrosion issues with external components?

The DRS series features internal tie rods enclosed within the cylinder. This design ensures high corrosion protection, improves safety, and significantly extends the life of the actuator.

The DRS Series is a heavy-duty, high-performance Scotch Yoke actuator (available in pneumatic and hydraulic versions) designed for applications requiring high torque outputs up to 600,000 Nm.



SEE MORE



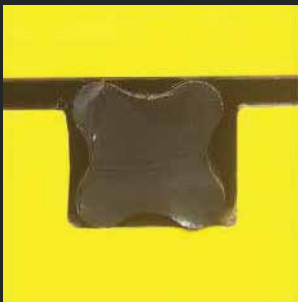
Key Features

- Torque Range: 63 Nm to 600,000 Nm.
- Drive Type: Female shaft drive for high-performance heavy-duty applications as per ISO5211.
- Construction: Heavy-duty Scotch Yoke design with mirror-finished, burnished shafts to protect seals.
- Environment Protection: Vent valves feature a built-in non-return function (IP67) and a secondary function to detect rod seal leakages.
- Bearings: High-grade bronze metal bearings for the piston rod ensure better alignment and smooth operation.

In continuation of the tradition of constant innovation and virtue in engineering, ROTEX....

Features

- The actuator can easily be converted to fail open from fail close, by interchanging the spring and pneumatic modules
- Solid bearing for piston rod for better alignment and smooth operation
- Internally mounted hydraulic override
- Non buckling, lifetime lubricated, epoxy coated springs
- The tie rods are enclosed in the cylinder for the best performance, for high corrosion protection, and a longer life of the actuator
- The vent valve has built in non return function, for IP67
- Secondary vent valve function is to detect leakages in the rod seal area of pneumatic cylinder



PISTON SEAL AND GUIDE

- The piston is guided by PTFE thrust bearing, to ensure no metal to metal contact
- The seal is X shape with flexibility, to minimize the friction
- The seal flexibility ensures no leakage and very long life
- Due to inherent shape, it retains the grease for a longer period
- Guaranteed operation of 1 million cycles



YOKE BEARING

- The yoke is supported on lifetime lubricated ball bearings
- Very low coefficient of friction
- Provides 98% of the torque transmission
- Wear and tear of the yoke is reduced due to the alignment and support provided by the bearings



FLEXI JOINT

- The thrust transmitted through the Flexi joint ensures no side thrust on the cylinder walls and the bearings
- The Flexi joint provides an easy means of assembling / dismantling the cylinder module to the frame
- In spring return actuators, dual Flexi joints allow the carrier to operate perfectly and smoothly

....bring a new generation, Compact, Heavy duty Scotch Yoke Actuator series "DRS"

SUPER EFFICIENT !

Ball Bearing, Flexi joint, and the hardened yoke thrust pin bearing, are all incorporated into the actuator for longer, smoother operation. The ROTEX DRS actuator gives you greater efficiency and higher torque output, with less maintenance

Superior design with lower costs!

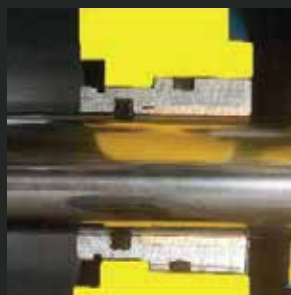


Superior design with lower costs!



HEAVY DUTY BEARING

- The piston rod is guided on the heavy duty bearing
- V - Seal at the rod end ensures a very long life
- The bearing is built with a high grade bronze metal
- Low friction for smooth operation



X SEAL ON TIE ROD

- The X seal provides the flexibility in sealing
- Due to additional linear bearings, the tie rod is not subject wear and tear
- The X seal provides extremely low friction and a long life



INTERNAL TIE ROD

- Easy to change modules
- No need to disassemble frame to change spring or air module - no need to remove cover
- Converting from DA to SA is very simple
- No external tie rod
- Internal tie rod avoids corrosion on tie rod, improving safety
- Mirror finished, burnished Shaft gives long life to seals.

DOUBLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	Operating Pressure (Bar)											
			3	4	5	5.5	6	7	8	9	10	11	12	13
			Air Torque Output Start/Min./ End (Nm)											
DRSAA1063	14.0	START/END	52	71	89	99	108	127	145	164	182	201	220	238
		RUN	27	37	47	52	57	67	76	86	96	106	116	125
DRSAA1080	14.0	START/END	79	107	135	149	163	191	219	248	276	304	332	360
		RUN	41	56	71	78	86	101	116	130	145	160	175	190
DRSAA10100	14.0	START/END	135	183	231	255	279	327	375	423	472	520	568	616
		RUN	71	96	122	134	147	172	198	223	248	274	299	324
DRSAA10125	10.3	START/END	190	258	325	359	393	461	529	597	664	-	-	-
		RUN	100	136	171	189	207	243	278	314	350	-	-	-
DRSA1080	14.0	START/END	147	200	253	279	305	358	411	463	516	569	621	674
		RUN	78	105	133	147	161	188	216	244	272	299	327	355
DRSA10100	14.0	START/END	263	357	451	498	545	639	734	828	922	1016	1110	1204
		RUN	139	188	238	262	287	337	386	436	485	535	584	634
DRSA10125	14.0	START/END	377	512	647	714	782	917	1051	1186	1321	1456	1591	1725
		RUN	199	270	341	376	411	482	553	624	695	766	837	908
DRSA10150	14.0	START/END	592	803	1015	1120	1226	1437	1649	1860	2072	2283	2494	2706
		RUN	312	423	534	590	645	757	868	979	1090	1202	1313	1424
DRSA10200	14.0	START/END	909	1234	1559	1721	1884	2209	2533	2858	3183	3508	3833	4157
		RUN	479	650	821	906	991	1162	1333	1504	1675	1846	2017	2188
DRSA10250	9.8	START/END	1444	1960	2476	2734	2992	3508	4024	4539	-	-	-	-
		RUN	760	1032	1303	1439	1575	1846	2118	2389	-	-	-	-
DRSA10300	6.8	START/END	2078	2820	3562	3933	4304	-	-	-	-	-	-	-
		RUN	1094	1484	1875	2070	2266	-	-	-	-	-	-	-
DRSA10350	5.0	START/END	2851	3869	4887	-	-	-	-	-	-	-	-	-
		RUN	1500	2036	2572	-	-	-	-	-	-	-	-	-
DRSB10200	14.0	START/END	1131	1534	1938	2140	2342	2746	3150	3553	3957	4361	4765	5169
		RUN	595	808	1020	1126	1233	1445	1658	1870	2083	2295	2508	2720
DRSB10250	11.8	START/END	1822	2473	3124	3449	3775	4426	5076	5727	6378	7029	-	-
		RUN	959	1302	1644	1815	1987	2329	2672	3014	3357	3699	-	-
DRSB10300	8.2	START/END	2642	3585	4529	5000	5472	6416	7359	-	-	-	-	-
		RUN	1390	1887	2384	2632	2880	3377	3873	-	-	-	-	-
DRSB10350	6.0	START/END	3641	4941	6241	6892	7542	-	-	-	-	-	-	-
		RUN	1916	2601	3285	3627	3969	-	-	-	-	-	-	-

DOUBLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	Operating Pressure (Bar)											
			3	4	5	5.5	6	7	8	9	10	11	12	13
			Air Torque Output Start/Min./ End (Nm)											
DRSB10400	4.6	START/END	4771	6475	-	-	-	-	-	-	-	-	-	-
		RUN	2511	3408	-	-	-	-	-	-	-	-	-	-
DRSC10250	14.0	START/END	2187	2968	3749	4139	4530	5311	6092	6873	7654	8435	9216	9997
		RUN	1151	1562	1973	2179	2384	2795	3206	3617	4028	4439	4850	5261
DRSC10300	12.9	START/END	3170	4302	5434	6000	6567	7699	8831	9963	11095	12227	13360	-
		RUN	1668	2264	2860	3158	3456	4052	4648	5244	5840	6435	7031	-
DRSC10350	9.5	START/END	4369	5929	7490	8270	9050	10610	12171	13731	-	-	-	-
		RUN	2299	3121	3942	4353	4763	5584	6406	7227	-	-	-	-
DRSC10400	7.3	START/END	5725	7770	9814	10836	11859	13903	-	-	-	-	-	-
		RUN	3013	4089	5165	5703	6241	7318	-	-	-	-	-	-
DRSC10500	4.7	START/END	9045	12275	-	-	-	-	-	-	-	-	-	-
		RUN	4761	6461	-	-	-	-	-	-	-	-	-	-
DRSD10300	14.0	START/END	3804	5163	6521	7201	7880	9238	10597	11956	13314	14673	16031	17390
		RUN	2002	2717	3432	3790	4147	4862	5577	6292	7008	7723	8438	9153
DRSD10350	14.0	START/END	5243	7115	8988	9924	10860	12733	14605	16477	18350	20222	22095	23967
		RUN	2759	3745	4730	5223	5716	6701	7687	8672	9658	10643	11629	12614
DRSD10400	13.5	START/END	6870	9323	11777	13004	14231	16684	19138	21591	24045	26498	28952	31405
		RUN	3616	4907	6198	6844	7490	8781	10072	11364	12655	13946	15238	16529
DRSD10500	8.7	START/END	10854	14731	18607	20545	22483	26360	30236	-	-	-	-	-
		RUN	5713	7753	9793	10813	11833	13874	15914	-	-	-	-	-
DRSD10600	6.0	START/END	15684	21286	26887	29688	32489	-	-	-	-	-	-	-
		RUN	8255	11203	14151	15625	17099	-	-	-	-	-	-	-
DRSD10700	4.4	START/END	21439	29096	-	-	-	-	-	-	-	-	-	-
		RUN	11284	15314	-	-	-	-	-	-	-	-	-	-
DRSE10400	14.0	START/END	8269	11223	14176	15653	17129	20083	23036	25989	28943	31896	34849	37803
		RUN	4352	5907	7461	8238	9015	10570	12124	13679	15233	16787	18342	19896
DRSE10500	14.0	START/END	13065	17731	22397	24730	27063	31730	36396	41062	45728	50394	55060	59726
		RUN	6876	9332	11788	13016	14244	16700	19156	21611	24067	26523	28979	31435
DRSE10600	11.1	START/END	18879	25622	32364	35736	39107	45850	52592	59335	66077	72820	-	-
		RUN	9936	13485	17034	18808	20583	24131	27680	31229	34778	38326	-	-
DRSE10700	8.2	START/END	25806	35023	44240	48848	53456	62673	71889	-	-	-	-	-
		RUN	13582	18433	23284	25709	28135	32986	37837	-	-	-	-	-

DOUBLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	Operating Pressure (Bar)											
			3	4	5	5.5	6	7	8	9	10	11	12	13
			Air Torque Output Start/Min./ End (Nm)											
DRSE10800	6.2	START/END	33703	45740	57777	63796	69814	-	-	-	-	-	-	-
		RUN	17739	24074	30409	33577	36744	-	-	-	-	-	-	-
DRSE10900	4.9	START/END	42706	57958	-	-	-	-	-	-	-	-	-	-
		RUN	22477	30504	-	-	-	-	-	-	-	-	-	-
DRSG10500	14.0	START/END	16008	21725	27442	30301	33159	38877	44594	50311	56028	61745	67462	73179
		RUN	8425	11434	14443	15948	17452	20461	23470	26479	29488	32497	35506	38515
DRSG10600	14.0	START/END	23164	31437	39709	43846	47982	56255	64528	72801	81074	89346	97619	105892
		RUN	12192	16546	20900	23077	25254	29608	33962	38316	42670	47024	51379	55733
DRSG10700	10.6	START/END	31690	43007	54325	59984	65643	76961	88278	99596	110914	-	-	-
		RUN	16679	22635	28592	31571	34549	40506	46462	52419	58376	-	-	-
DRSG10800	8.1	START/END	41409	56198	70987	78381	85776	100565	115354	-	-	-	-	-
		RUN	21794	29578	37362	41253	45145	52929	60712	-	-	-	-	-
DRSG10900	6.4	START/END	52489	71235	89982	99355	108728	-	-	-	-	-	-	-
		RUN	27626	37492	47359	52292	57225	-	-	-	-	-	-	-
DRSG10700-2	5.3	START/END	63379	86015	108650	-	-	-	-	-	-	-	-	-
		RUN	33358	45271	57184	-	-	-	-	-	-	-	-	-
DRSH10600	14.0	START/END	28560	38760	48960	54060	59160	69359	79559	89759	99959	110159	120359	130559
		RUN	15031	20400	25768	28452	31137	36505	41873	47242	52610	57979	63347	68715
DRSH10700	13.4	START/END	39110	53078	67046	74030	81014	94982	108950	122919	136887	150855	164823	178791
		RUN	20584	27936	35288	38963	42639	49991	57342	64694	72046	79397	86749	94100
DRSH10800	10.3	START/END	51138	69402	87665	96797	105929	124193	142456	160720	178984	-	-	-
		RUN	26915	36527	46140	50946	55752	65365	74977	84589	94202	-	-	-
DRSH10900	8.1	START/END	64850	88011	111171	122752	134332	157493	180653	-	-	-	-	-
		RUN	34132	46321	58511	64606	70701	82891	95081	-	-	-	-	-
DRSH101000	6.6	START/END	80075	108674	137272	151571	165870	-	-	-	-	-	-	-
		RUN	42145	57197	72248	79774	87300	-	-	-	-	-	-	-
DRSH10800-2	5.1	START/END	102276	138804	175331	-	-	-	-	-	-	-	-	-
		RUN	53830	73055	92279	-	-	-	-	-	-	-	-	-
DRSH10900-2	4.1	START/END	129700	176021	-	-	-	-	-	-	-	-	-	-
		RUN	68263	92643	-	-	-	-	-	-	-	-	-	-
DRSJ10700	14.0	START/END	51197	69482	87767	96909	106052	124336	142621	160906	179190	197475	215760	234045
		RUN	26946	36569	46193	51005	55817	65440	75064	84687	94311	103934	113558	123181

DOUBLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	Operating Pressure (Bar)											
			3	4	5	5.5	6	7	8	9	10	11	12	13
			Air Torque Output Start/Min./ End (Nm)											
DRSJ10800	14.0	START/END	66991	90917	114842	126805	138768	162693	186619	210544	234469	258395	282320	306246
		RUN	35259	47851	60443	66739	73036	85628	98220	110813	123405	135997	148590	161182
DRSJ10900	11.9	START/END	84997	115353	145709	160887	176064	206420	236776	267132	297488	327844	-	-
		RUN	44735	60712	76689	84677	92666	108642	124619	140596	156573	172550	-	-
DRSJ101000	9.6	START/END	104990	142486	179982	198730	217478	254975	292471	329967	-	-	-	-
		RUN	55258	74993	94727	104595	114462	134197	153932	173667	-	-	-	-
DRSJ10800-2	7.5	START/END	133983	181833	229684	253610	277535	325386	-	-	-	-	-	-
		RUN	70517	95702	120887	133479	146071	171256	-	-	-	-	-	-
DRSJ10900-2	5.9	START/END	169993	230705	291417	321773	-	-	-	-	-	-	-	-
		RUN	89470	121424	153377	169354	-	-	-	-	-	-	-	-
DRSJ101000-2	4.8	START/END	209979	284972	-	-	-	-	-	-	-	-	-	-
		RUN	110515	149985	-	-	-	-	-	-	-	-	-	-
DRSM101000	14.0	START/END	135042	183271	231500	255614	279729	327958	376187	424416	472646	520875	569104	617333
		RUN	71075	96458	121842	134534	147226	172610	197993	223377	248761	274145	299528	324912
DRSM101100	12.9	START/END	163878	222405	280933	310197	339461	397988	456516	515044	573572	632099	690627	-
		RUN	86251	117055	147859	163262	178664	209468	240272	271076	301880	332684	363488	-
DRSM101200	10.8	START/END	195075	264745	334415	369250	404085	473754	543424	613094	682764	-	-	-
		RUN	102671	139340	176008	194342	212676	249344	286013	322681	359349	-	-	-
DRSM101300	9.2	START/END	229404	311334	393264	434229	475194	557124	639054	720984	-	-	-	-
		RUN	120739	163860	206981	228541	250102	293223	336344	379465	-	-	-	-
DRSM101000-2	7.8	START/END	270083	366542	463000	511229	559458	655916	-	-	-	-	-	-
		RUN	142149	192917	243684	269068	294452	345219	-	-	-	-	-	-
DRSM101100-2	6.4	START/END	327755	444811	561866	620394	678921	-	-	-	-	-	-	-
		RUN	172503	234111	295719	326523	357327	-	-	-	-	-	-	-
DRSM101200-2	5.4	START/END	390151	529490	668830	-	-	-	-	-	-	-	-	-
		RUN	205342	278679	352016	-	-	-	-	-	-	-	-	-
DRSM101300-2	4.6	START/END	458808	622668	-	-	-	-	-	-	-	-	-	-
		RUN	241478	327720	-	-	-	-	-	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSAA1063-E5	14.0	START	54	-	-	26	44	54	63	81	100	119	137	156	174	193
		MIN	25	-	-	13	22	27	32	42	52	62	71	81	91	101
		END	45	-	-	17	35	45	54	73	91	110	128	147	166	184
DRSAA1080-E5	14.0	START	54	-	34	62	90	104	118	146	174	203	231	259	287	315
		MIN	25	-	17	32	46	54	61	76	91	106	120	135	150	165
		END	45	-	25	53	81	95	109	137	166	194	222	250	278	306
DRSAA1063-E4	14.0	START	69	-	-	-	31	40	49	68	86	105	124	142	161	179
		MIN	32	-	-	-	15	20	25	34	44	54	64	74	83	93
		END	59	-	-	-	21	30	39	58	77	95	114	132	151	170
DRSAA1080-E4	14.0	START	69	-	-	48	76	90	104	133	161	189	217	245	273	301
		MIN	32	-	-	24	39	46	54	69	83	98	113	128	143	157
		END	59	-	-	38	66	81	95	123	151	179	207	235	263	292
DRSAA10100-E4	14.0	START	69	28	76	124	172	196	220	268	317	365	413	461	509	557
		MIN	32	13	39	64	89	102	115	140	165	191	216	241	267	292
		END	59	18	66	114	162	186	211	259	307	355	403	451	499	547
DRSAA1063-E3	14.0	START	80	-	-	-	22	31	40	59	78	96	115	133	152	171
		MIN	38	-	-	-	9	14	19	29	39	49	58	68	78	88
		END	68	-	-	-	9	18	28	46	65	83	102	121	139	158
DRSAA1080-E3	14.0	START	80	-	-	39	67	82	96	124	152	180	208	236	264	293
		MIN	38	-	-	19	34	41	48	63	78	93	108	122	137	152
		END	68	-	-	27	55	69	83	111	139	167	195	224	252	280
DRSAA10100-E3	14.0	START	80	-	67	115	163	187	212	260	308	356	404	452	500	548
		MIN	38	-	33	59	84	97	109	135	160	185	211	236	261	287
		END	68	-	54	103	151	175	199	247	295	343	391	439	487	536
DRSAA1063-E2	14.0	START	91	-	-	-	-	-	32	50	69	87	106	125	143	162
		MIN	43	-	-	-	-	-	14	24	34	43	53	63	73	83
		END	76	-	-	-	-	-	17	35	54	73	91	110	128	147
DRSAA1080-E2	14.0	START	91	-	-	31	59	73	87	115	143	171	199	227	256	284
		MIN	43	-	-	14	28	36	43	58	73	88	102	117	132	147
		END	76	-	-	16	44	58	72	100	128	157	185	213	241	269
DRSAA10100-E2	14.0	START	91	-	58	106	155	179	203	251	299	347	395	443	491	540
		MIN	43	-	28	54	79	92	104	130	155	180	206	231	256	281
		END	76	-	44	92	140	164	188	236	284	332	380	429	477	525
DRSAA10125-E2	10.3	START	91	46	113	181	249	283	317	385	452	520	588	-	-	-
		MIN	43	22	57	93	129	146	164	200	236	271	307	-	-	-
		END	76	31	99	167	234	268	302	370	438	505	573	-	-	-
DRSAA1063-E1	14.0	START	109	-	-	-	-	-	-	39	58	77	95	114	132	151
		MIN	50	-	-	-	-	-	-	16	26	36	46	56	65	75
		END	87	-	-	-	-	-	-	18	36	55	74	92	111	129
DRSAA1080-E1	14.0	START	109	-	-	-	48	62	76	104	132	160	189	217	245	273
		MIN	50	-	-	-	21	28	36	51	65	80	95	110	125	139
		END	87	-	-	-	26	40	54	83	111	139	167	195	223	251
DRSAA10100-E1	14.0	START	109	-	48	96	144	168	192	240	288	336	384	433	481	529
		MIN	50	-	21	46	71	84	97	122	147	173	198	223	249	274
		END	87	-	26	74	122	146	170	218	267	315	363	411	459	507
DRSAA10125-E1	10.3	START	109	35	103	170	238	272	306	374	442	509	577	-	-	-
		MIN	50	14	50	85	121	139	157	192	228	264	300	-	-	-
		END	87	13	81	149	217	251	284	352	420	488	556	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSA10100-E11	14.0	START	197	-	98	192	286	333	380	474	568	662	756	850	944	1038
		MIN	92	-	46	96	145	170	195	244	294	343	393	442	492	541
		END	166	-	66	161	255	302	349	443	537	631	725	819	913	1007
DRSA10125-E11	14.0	START	197	77	212	347	482	549	616	751	886	1021	1155	1290	1425	1560
		MIN	92	35	106	177	248	284	319	390	461	532	603	674	745	816
		END	166	46	181	315	450	518	585	720	855	989	1124	1259	1394	1529
DRSA10150-E11	14.0	START	197	215	426	638	849	955	1061	1272	1483	1695	1906	2118	2329	2540
		MIN	92	108	219	330	442	497	553	664	775	887	998	1109	1220	1332
		END	166	184	395	606	818	924	1029	1241	1452	1663	1875	2086	2298	2509
DRSA10100-E10	14.0	START	292	-	-	129	223	270	317	411	505	599	693	787	882	976
		MIN	134	-	-	54	104	128	153	203	252	302	351	401	450	500
		END	228	-	-	66	160	207	254	348	442	536	630	724	818	912
DRSA10125-E10	14.0	START	292	-	149	284	419	486	554	688	823	958	1093	1228	1362	1497
		MIN	134	-	65	136	207	242	278	348	419	490	561	632	703	774
		END	228	-	86	220	355	423	490	625	760	894	1029	1164	1299	1434
DRSA10150-E10	14.0	START	292	152	364	575	786	892	998	1209	1421	1632	1843	2055	2266	2478
		MIN	134	66	178	289	400	456	511	623	734	845	956	1068	1179	1290
		END	228	89	300	511	723	829	934	1146	1357	1568	1780	1991	2203	2414
DRSA10100-E9	14.0	START	370	-	-	-	147	194	241	335	429	523	617	711	805	899
		MIN	175	-	-	-	63	88	112	162	211	261	310	360	409	459
		END	305	-	-	-	81	128	175	269	363	457	551	645	739	834
DRSA10125-E9	14.0	START	370	-	-	208	342	410	477	612	747	882	1016	1151	1286	1421
		MIN	175	-	-	95	166	201	237	308	379	450	521	592	662	733
		END	305	-	-	142	277	344	412	546	681	816	951	1086	1220	1355
DRSA10150-E9	14.0	START	370	-	287	499	710	816	921	1133	1344	1556	1767	1978	2190	2401
		MIN	175	-	137	248	359	415	471	582	693	804	916	1027	1138	1249
		END	305	-	222	433	644	750	856	1067	1279	1490	1701	1913	2124	2336
DRSA10100-E8	14.0	START	440	-	-	-	104	151	198	292	386	480	574	668	762	856
		MIN	204	-	-	-	33	58	83	132	182	231	281	330	380	429
		END	348	-	-	-	12	59	106	200	294	388	482	576	670	764
DRSA10125-E8	14.0	START	440	-	-	165	299	367	434	569	704	839	973	1108	1243	1378
		MIN	204	-	-	65	136	172	207	278	349	420	491	562	633	704
		END	348	-	-	72	207	275	342	477	612	746	881	1016	1151	1286
DRSA10150-E8	14.0	START	440	-	244	456	667	773	878	1090	1301	1513	1724	1935	2147	2358
		MIN	204	-	107	218	330	385	441	552	664	775	886	997	1109	1220
		END	348	-	152	364	575	681	786	998	1209	1421	1632	1843	2055	2266
DRSA10200-E8	14.0	START	440	-	562	887	1211	1374	1536	1861	2186	2511	2835	3160	3485	3810
		MIN	204	-	274	445	616	702	787	958	1129	1300	1471	1642	1813	1984
		END	348	-	470	795	1119	1282	1444	1769	2094	2419	2743	3068	3393	3718
DRSA10100-E7	14.0	START	598	-	-	-	-	-	-	136	230	324	418	512	606	700
		MIN	287	-	-	-	-	-	-	50	99	149	198	248	297	346
		END	503	-	-	-	-	-	-	41	135	229	323	417	511	605
DRSA10125-E7	14.0	START	598	-	-	-	144	211	278	413	548	683	818	952	1087	1222
		MIN	287	-	-	-	53	89	124	195	266	337	408	479	550	621
		END	503	-	-	-	49	116	183	318	453	588	723	857	992	1127
DRSA10150-E7	14.0	START	598	-	-	300	511	617	723	934	1145	1357	1568	1780	1991	2202
		MIN	287	-	-	136	247	303	358	470	581	692	803	915	1026	1137
		END	503	-	-	205	416	522	628	839	1050	1262	1473	1685	1896	2107

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSA10150-E6	14.0	START	864	-	-	-	269	375	481	692	904	1115	1326	1538	1749	1961
		MIN	421	-	-	-	113	169	225	336	447	559	670	781	892	1004
		END	745	-	-	-	151	257	362	574	785	996	1208	1419	1631	1842
DRSA10200-E6	14.0	START	864	-	164	489	814	976	1139	1463	1788	2113	2438	2763	3087	3412
		MIN	421	-	58	229	400	485	571	742	913	1084	1255	1426	1597	1768
		END	745	-	46	370	695	858	1020	1345	1670	1994	2319	2644	2969	3294
DRSA10250-E6	9.8	START	864	183	699	1215	1731	1989	2247	2762	3278	3794	-	-	-	-
		MIN	421	68	340	611	883	1018	1154	1426	1697	1969	-	-	-	-
		END	745	65	581	1096	1612	1870	2128	2644	3160	3676	-	-	-	-
DRSA10150-E5	14.0	START	1103	-	-	-	-	259	364	576	787	998	1210	1421	1633	1844
		MIN	514	-	-	-	-	76	131	242	354	465	576	687	799	910
		END	862	-	-	-	-	18	123	335	546	757	969	1180	1392	1603
DRSA10200-E5	14.0	START	1103	-	-	372	697	860	1022	1347	1672	1996	2321	2646	2971	3296
		MIN	514	-	-	135	306	392	477	648	819	990	1161	1332	1503	1674
		END	862	-	-	131	456	619	781	1106	1431	1755	2080	2405	2730	3055
DRSA10250-E5	9.8	START	1103	-	582	1098	1614	1872	2130	2646	3162	3678	-	-	-	-
		MIN	514	-	246	518	789	925	1061	1332	1604	1875	-	-	-	-
		END	862	-	342	857	1373	1631	1889	2405	2921	3437	-	-	-	-
DRSA10300-E5	6.8	START	1103	474	1216	1958	2700	3072	3443	-	-	-	-	-	-	-
		MIN	514	189	580	970	1361	1556	1751	-	-	-	-	-	-	-
		END	862	233	975	1717	2460	2831	3202	-	-	-	-	-	-	-
DRSA10200-E4	14.0	START	1288	-	-	-	448	610	773	1097	1422	1747	2072	2397	2721	3046
		MIN	629	-	-	-	192	278	363	534	705	876	1047	1218	1389	1560
		END	1111	-	-	-	271	433	596	921	1245	1570	1895	2220	2545	2869
DRSA10250-E4	9.8	START	1288	-	333	849	1365	1623	1881	2396	2912	3428	-	-	-	-
		MIN	629	-	132	403	675	810	946	1218	1489	1761	-	-	-	-
		END	1111	-	156	672	1188	1446	1704	2220	2736	3251	-	-	-	-
DRSA10300-E4	6.8	START	1288	225	967	1709	2451	2822	3193	-	-	-	-	-	-	-
		MIN	629	75	465	856	1246	1442	1637	-	-	-	-	-	-	-
		END	1111	48	790	1532	2274	2645	3016	-	-	-	-	-	-	-
DRSA10350-E4	5.0	START	1288	721	1739	2757	3776	-	-	-	-	-	-	-	-	-
		MIN	629	336	872	1408	1944	-	-	-	-	-	-	-	-	-
		END	1111	545	1563	2581	3599	-	-	-	-	-	-	-	-	-
DRSA10200-E3	14.0	START	1508	-	-	-	290	452	614	939	1264	1589	1914	2238	2563	2888
		MIN	728	-	-	-	93	178	264	434	605	776	947	1118	1289	1460
		END	1269	-	-	-	51	214	376	701	1026	1350	1675	2000	2325	2650
DRSA10250-E3	9.8	START	1508	-	-	691	1207	1465	1723	2238	2754	3270	-	-	-	-
		MIN	728	-	-	304	575	711	847	1118	1390	1661	-	-	-	-
		END	1269	-	-	452	968	1226	1484	2000	2516	3031	-	-	-	-
DRSA10300-E3	6.8	START	1508	-	809	1551	2293	2664	3035	-	-	-	-	-	-	-
		MIN	728	-	366	756	1147	1342	1538	-	-	-	-	-	-	-
		END	1269	-	570	1312	2054	2425	2797	-	-	-	-	-	-	-
DRSA10350-E3	5.0	START	1508	563	1581	2599	3617	-	-	-	-	-	-	-	-	-
		MIN	728	237	772	1308	1844	-	-	-	-	-	-	-	-	-
		END	1269	325	1343	2361	3379	-	-	-	-	-	-	-	-	-
DRSA10200-E2	14.0	START	1722	-	-	-	-	-	438	763	1087	1412	1737	2062	2387	2711
		MIN	831	-	-	-	-	-	161	332	503	674	844	1015	1186	1357
		END	1446	-	-	-	-	-	162	487	812	1136	1461	1786	2111	2436

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSA10250-E2	9.8	START	1722	-	-	514	1030	1288	1546	2062	2577	3093	-	-	-	-
		MIN	831	-	-	201	472	608	744	1015	1287	1558	-	-	-	-
		END	1446	-	-	238	754	1012	1270	1786	2302	2817	-	-	-	-
DRSA10300-E2	6.8	START	1722	-	632	1374	2116	2487	2858	-	-	-	-	-	-	-
		MIN	831	-	263	654	1044	1239	1435	-	-	-	-	-	-	-
		END	1446	-	356	1098	1840	2211	2583	-	-	-	-	-	-	-
DRSA10350-E2	5.0	START	1722	386	1405	2423	3441	-	-	-	-	-	-	-	-	-
		MIN	831	134	670	1205	1741	-	-	-	-	-	-	-	-	-
		END	1446	111	1129	2147	3165	-	-	-	-	-	-	-	-	-
DRSA10250-E1	9.8	START	2049	-	-	-	837	1094	1352	1868	2384	2900	-	-	-	-
		MIN	968	-	-	-	335	471	607	878	1150	1421	-	-	-	-
		END	1639	-	-	-	427	685	943	1459	1975	2491	-	-	-	-
DRSA10300-E1	6.8	START	2049	-	439	1181	1923	2294	2665	-	-	-	-	-	-	-
		MIN	968	-	126	517	907	1102	1298	-	-	-	-	-	-	-
		END	1639	-	29	771	1513	1885	2256	-	-	-	-	-	-	-
DRSA10350-E1	5.0	START	2049	-	1211	2229	3247	-	-	-	-	-	-	-	-	-
		MIN	968	-	533	1068	1604	-	-	-	-	-	-	-	-	-
		END	1639	-	802	1820	2838	-	-	-	-	-	-	-	-	-
DRSB10250-E6	11.8	START	1435	-	702	1353	2004	2329	2655	3305	3956	4607	5258	5909	-	-
		MIN	669	-	290	633	975	1147	1318	1661	2003	2346	2688	3031	-	-
		END	1120	-	387	1038	1689	2014	2340	2990	3641	4292	4943	5594	-	-
DRSB10300-E6	8.2	START	1435	578	1521	2465	3408	3880	4352	5295	6239	-	-	-	-	-
		MIN	669	225	722	1218	1715	1963	2211	2708	3204	-	-	-	-	-
		END	1120	263	1207	2150	3093	3565	4037	4980	5924	-	-	-	-	-
DRSB10350-E6	6.0	START	1435	1220	2521	3821	5121	5771	6421	-	-	-	-	-	-	-
		MIN	669	563	1247	1932	2616	2958	3301	-	-	-	-	-	-	-
		END	1120	905	2206	3506	4806	5456	6107	-	-	-	-	-	-	-
DRSB10400-E6	4.6	START	1435	1947	3651	5354	-	-	-	-	-	-	-	-	-	-
		MIN	669	945	1842	2739	-	-	-	-	-	-	-	-	-	-
		END	1120	1632	3336	5039	-	-	-	-	-	-	-	-	-	-
DRSB10250-E5	11.8	START	1820	-	-	977	1628	1953	2279	2930	3580	4231	4882	5533	-	-
		MIN	869	-	-	433	775	947	1118	1460	1803	2146	2488	2831	-	-
		END	1496	-	-	653	1304	1630	1955	2606	3257	3908	4558	5209	-	-
DRSB10300-E5	8.2	START	1820	-	1146	2089	3033	3504	3976	4920	5863	-	-	-	-	-
		MIN	869	-	522	1018	1515	1763	2011	2508	3004	-	-	-	-	-
		END	1496	-	822	1765	2709	3181	3652	4596	5539	-	-	-	-	-
DRSB10350-E5	6.0	START	1820	845	2145	3445	4745	5396	6046	-	-	-	-	-	-	-
		MIN	869	363	1047	1732	2416	2758	3101	-	-	-	-	-	-	-
		END	1496	521	1821	3121	4422	5072	5722	-	-	-	-	-	-	-
DRSB10400-E5	4.6	START	1820	1571	3275	4979	-	-	-	-	-	-	-	-	-	-
		MIN	869	745	1642	2539	-	-	-	-	-	-	-	-	-	-
		END	1496	1247	2951	4655	-	-	-	-	-	-	-	-	-	-
DRSB10250-E4	11.8	START	2292	-	-	598	1248	1574	1899	2550	3201	3852	4503	5153	-	-
		MIN	1093	-	-	209	551	723	894	1236	1579	1921	2264	2607	-	-
		END	1876	-	-	182	832	1158	1483	2134	2785	3436	4087	4737	-	-
DRSB10300-E4	8.2	START	2292	-	766	1710	2653	3125	3597	4540	5483	-	-	-	-	-
		MIN	1093	-	298	794	1291	1539	1787	2284	2780	-	-	-	-	-
		END	1876	-	350	1294	2237	2709	3181	4124	5068	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSB10350-E4	6.0	START	2292	-	1765	3066	4366	5016	5666	-	-	-	-	-	-	-
		MIN	1093	-	823	1508	2192	2534	2876	-	-	-	-	-	-	-
		END	1876	-	1349	2650	3950	4600	5250	-	-	-	-	-	-	-
DRSB10400-E4	4.6	START	2292	1191	2895	4599	-	-	-	-	-	-	-	-	-	-
		MIN	1093	521	1418	2315	-	-	-	-	-	-	-	-	-	-
		END	1876	775	2479	4183	-	-	-	-	-	-	-	-	-	-
DRSB10250-E3	11.8	START	2676	-	-	-	975	1300	1625	2276	2927	3578	4229	4880	-	-
		MIN	1266	-	-	-	378	549	721	1063	1406	1748	2091	2433	-	-
		END	2149	-	-	-	448	773	1099	1750	2400	3051	3702	4353	-	-
DRSB10300-E3	8.2	START	2676	-	-	1436	2379	2851	3323	4266	5210	-	-	-	-	-
		MIN	1266	-	-	621	1117	1366	1614	2111	2607	-	-	-	-	-
		END	2149	-	-	909	1853	2324	2796	3740	4683	-	-	-	-	-
DRSB10350-E3	6.0	START	2676	-	1492	2792	4092	4742	5392	-	-	-	-	-	-	-
		MIN	1266	-	650	1334	2019	2361	2703	-	-	-	-	-	-	-
		END	2149	-	965	2265	3565	4215	4866	-	-	-	-	-	-	-
DRSB10400-E3	4.6	START	2676	918	2621	4325	-	-	-	-	-	-	-	-	-	-
		MIN	1266	348	1245	2142	-	-	-	-	-	-	-	-	-	-
		END	2149	391	2095	3799	-	-	-	-	-	-	-	-	-	-
DRSB10250-E2	11.8	START	2972	-	-	-	677	1003	1328	1979	2630	3281	3932	4582	-	-
		MIN	1422	-	-	-	222	393	564	907	1250	1592	1935	2277	-	-
		END	2447	-	-	-	152	477	802	1453	2104	2755	3406	4057	-	-
DRSB10300-E2	8.2	START	2972	-	-	1139	2082	2554	3026	3969	4913	-	-	-	-	-
		MIN	1422	-	-	465	961	1210	1458	1954	2451	-	-	-	-	-
		END	2447	-	-	613	1556	2028	2500	3443	4387	-	-	-	-	-
DRSB10350-E2	6.0	START	2972	-	1194	2495	3795	4445	5095	-	-	-	-	-	-	-
		MIN	1422	-	494	1178	1863	2205	2547	-	-	-	-	-	-	-
		END	2447	-	668	1969	3269	3919	4569	-	-	-	-	-	-	-
DRSB10400-E2	4.6	START	2972	620	2324	4028	-	-	-	-	-	-	-	-	-	-
		MIN	1422	192	1089	1985	-	-	-	-	-	-	-	-	-	-
		END	2447	95	1798	3502	-	-	-	-	-	-	-	-	-	-
DRSB10250-E1	11.8	START	3435	-	-	-	-	-	1004	1654	2305	2956	3607	4258	-	-
		MIN	1630	-	-	-	-	-	357	700	1042	1385	1727	2070	-	-
		END	2771	-	-	-	-	-	339	990	1641	2292	2943	3594	-	-
DRSB10300-E1	8.2	START	3435	-	-	814	1757	2229	2701	3644	4588	-	-	-	-	-
		MIN	1630	-	-	257	754	1002	1250	1747	2244	-	-	-	-	-
		END	2771	-	-	150	1093	1565	2037	2980	3924	-	-	-	-	-
DRSB10350-E1	6.0	START	3435	-	870	2170	3470	4120	4770	-	-	-	-	-	-	-
		MIN	1630	-	287	971	1655	1998	2340	-	-	-	-	-	-	-
		END	2771	-	205	1506	2806	3456	4106	-	-	-	-	-	-	-
DRSB10400-E1	4.6	START	3435	-	2000	3703	-	-	-	-	-	-	-	-	-	-
		MIN	1630	-	881	1778	-	-	-	-	-	-	-	-	-	-
		END	2771	-	1335	3039	-	-	-	-	-	-	-	-	-	-
DRSC10250-E4	14.0	START	4039	-	-	-	-	984	1374	2155	2936	3717	4498	5279	6060	6841
		MIN	1889	-	-	-	-	290	495	906	1317	1728	2139	2550	2962	3373
		END	3156	-	-	-	-	100	490	1271	2052	2833	3614	4395	5176	5957
DRSC10300-E4	12.9	START	4039	-	-	1147	2279	2845	3411	4543	5675	6807	7940	9072	10204	-
		MIN	1889	-	-	375	971	1269	1567	2163	2759	3355	3951	4547	5142	-
		END	3156	-	-	263	1395	1961	2527	3659	4792	5924	7056	8188	9320	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSC10350-E4	9.5	START	4039	-	1213	2774	4334	5114	5894	7455	9015	10576	-	-	-	-
		MIN	1889	-	411	1232	2053	2464	2874	3696	4517	5338	-	-	-	-
		END	3156	-	330	1890	3450	4231	5011	6571	8131	9692	-	-	-	-
DRSC10400-E4	7.3	START	4039	-	2569	4614	6659	7681	8703	10748	-	-	-	-	-	-
		MIN	1889	-	1124	2200	3276	3815	4353	5429	-	-	-	-	-	-
		END	3156	-	1686	3730	5775	6797	7820	9864	-	-	-	-	-	-
DRSC10500-E4	4.7	START	4039	2659	5889	9120	-	-	-	-	-	-	-	-	-	-
		MIN	1889	1171	2872	4572	-	-	-	-	-	-	-	-	-	-
		END	3156	1775	5006	8236	-	-	-	-	-	-	-	-	-	-
DRSC10250-E3	14.0	START	4653	-	-	-	-	-	-	1734	2515	3296	4077	4858	5639	6420
		MIN	2161	-	-	-	-	-	-	634	1045	1456	1867	2278	2689	3100
		END	3577	-	-	-	-	-	-	658	1439	2220	3001	3782	4563	5344
DRSC10300-E3	12.9	START	4653	-	-	-	1857	2424	2990	4122	5254	6386	7518	8650	9783	-
		MIN	2161	-	-	-	699	997	1295	1891	2487	3082	3678	4274	4870	-
		END	3577	-	-	-	781	1347	1913	3046	4178	5310	6442	7574	8706	-
DRSC10350-E3	9.5	START	4653	-	-	2352	3913	4693	5473	7034	8594	10154	-	-	-	-
		MIN	2161	-	-	959	1781	2191	2602	3423	4244	5066	-	-	-	-
		END	3577	-	-	1276	2837	3617	4397	5957	7518	9078	-	-	-	-
DRSC10400-E3	7.3	START	4653	-	2148	4193	6237	7260	8282	10327	-	-	-	-	-	-
		MIN	2161	-	852	1928	3004	3542	4080	5156	-	-	-	-	-	-
		END	3577	-	1072	3116	5161	6183	7206	9250	-	-	-	-	-	-
DRSC10500-E3	4.7	START	4653	2238	5468	8699	-	-	-	-	-	-	-	-	-	-
		MIN	2161	899	2599	4299	-	-	-	-	-	-	-	-	-	-
		END	3577	1161	4392	7622	-	-	-	-	-	-	-	-	-	-
DRSC10300-E2	12.9	START	5415	-	-	-	1350	1916	2482	3614	4747	5879	7011	8143	9275	-
		MIN	2495	-	-	-	365	663	961	1557	2153	2748	3344	3940	4536	-
		END	4084	-	-	-	20	586	1152	2284	3416	4548	5680	6813	7945	-
DRSC10350-E2	9.5	START	5415	-	-	1845	3405	4186	4966	6526	8087	9647	-	-	-	-
		MIN	2495	-	-	625	1447	1857	2268	3089	3910	4732	-	-	-	-
		END	4084	-	-	515	2075	2855	3635	5196	6756	8316	-	-	-	-
DRSC10400-E2	7.3	START	5415	-	1641	3685	5730	6752	7775	9819	-	-	-	-	-	-
		MIN	2495	-	518	1594	2670	3208	3746	4822	-	-	-	-	-	-
		END	4084	-	310	2355	4399	5422	6444	8489	-	-	-	-	-	-
DRSC10500-E2	4.7	START	5415	1730	4961	8191	-	-	-	-	-	-	-	-	-	-
		MIN	2495	565	2265	3966	-	-	-	-	-	-	-	-	-	-
		END	4084	400	3630	6861	-	-	-	-	-	-	-	-	-	-
DRSC10300-E1	12.9	START	5970	-	-	-	-	-	1903	3035	4167	5299	6431	7563	8696	-
		MIN	2794	-	-	-	-	-	662	1258	1854	2450	3046	3642	4237	-
		END	4664	-	-	-	-	-	597	1729	2861	3993	5125	6257	7390	-
DRSC10350-E1	9.5	START	5970	-	-	-	2826	3606	4386	5946	7507	9067	-	-	-	-
		MIN	2794	-	-	-	1148	1559	1969	2791	3612	4433	-	-	-	-
		END	4664	-	-	-	1520	2300	3080	4640	6201	7761	-	-	-	-
DRSC10400-E1	7.3	START	5970	-	-	3106	5150	6173	7195	9239	-	-	-	-	-	-
		MIN	2794	-	-	1295	2371	2910	3448	4524	-	-	-	-	-	-
		END	4664	-	-	1800	3844	4867	5889	7933	-	-	-	-	-	-
DRSC10500-E1	4.7	START	5970	-	4381	7611	-	-	-	-	-	-	-	-	-	-
		MIN	2794	-	1967	3667	-	-	-	-	-	-	-	-	-	-
		END	4664	-	3075	6305	-	-	-	-	-	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSD10300-E4	14.0	START	7568	-	-	-	-	-	2430	3788	5147	6506	7864	9223	10581	11940
		MIN	3420	-	-	-	-	-	727	1442	2157	2872	3587	4302	5017	5732
		END	5450	-	-	-	-	-	312	1671	3029	4388	5746	7105	8464	9822
DRSD10350-E4	14.0	START	7568	-	-	-	3538	4474	5410	7283	9155	11027	12900	14772	16645	18517
		MIN	3420	-	-	-	1310	1803	2295	3281	4266	5252	6237	7223	8208	9194
		END	5450	-	-	-	1420	2356	3292	5165	7037	8910	10782	12654	14527	16399
DRSD10400-E4	13.5	START	7568	-	-	3873	6327	7554	8781	11234	13688	16141	18595	21048	23502	25955
		MIN	3420	-	-	1487	2778	3424	4069	5361	6652	7943	9235	10526	11817	13109
		END	5450	-	-	1756	4209	5436	6663	9116	11570	14023	16477	18930	21384	23838
DRSD10500-E4	8.7	START	7568	-	5404	9281	13157	15095	17033	20910	24786	-	-	-	-	-
		MIN	3420	-	2292	4333	6373	7393	8413	10453	12494	-	-	-	-	-
		END	5450	-	3286	7163	11039	12977	14916	18792	22669	-	-	-	-	-
DRSD10600-E4	6.0	START	7568	4633	10234	15836	21437	24238	27039	-	-	-	-	-	-	-
		MIN	3420	1886	4835	7783	10731	12205	13679	-	-	-	-	-	-	-
		END	5450	2515	8116	13718	19320	22120	24921	-	-	-	-	-	-	-
DRSD10350-E3	14.0	START	9138	-	-	-	-	3459	4395	6268	8140	10013	11885	13758	15630	17502
		MIN	4100	-	-	-	-	1123	1615	2601	3586	4572	5557	6543	7528	8514
		END	6465	-	-	-	-	786	1723	3595	5467	7340	9212	11085	12957	14830
DRSD10400-E3	13.5	START	9138	-	-	2859	5312	6539	7766	10219	12673	15127	17580	20034	22487	24941
		MIN	4100	-	-	807	2098	2744	3389	4681	5972	7263	8555	9846	11137	12429
		END	6465	-	-	186	2639	3866	5093	7547	10000	12454	14907	17361	19814	22268
DRSD10500-E3	8.7	START	9138	-	4389	8266	12142	14081	16019	19895	23772	-	-	-	-	-
		MIN	4100	-	1612	3652	5693	6713	7733	9773	11813	-	-	-	-	-
		END	6465	-	1717	5593	9469	11408	13346	17222	21099	-	-	-	-	-
DRSD10600-E3	6.0	START	9138	3618	9220	14821	20423	23224	26024	-	-	-	-	-	-	-
		MIN	4100	1206	4154	7103	10051	11525	12999	-	-	-	-	-	-	-
		END	6465	945	6547	12148	17750	20551	23351	-	-	-	-	-	-	-
DRSD10700-E3	4.4	START	9138	7318	14975	22631	-	-	-	-	-	-	-	-	-	-
		MIN	4100	3153	7183	11213	-	-	-	-	-	-	-	-	-	-
		END	6465	4645	12302	19959	-	-	-	-	-	-	-	-	-	-
DRSD10400-E2	13.5	START	10824	-	-	-	4139	5366	6593	9046	11500	13953	16407	18860	21314	23767
		MIN	4853	-	-	-	1345	1991	2637	3928	5219	6511	7802	9093	10385	11676
		END	7638	-	-	-	953	2180	3407	5860	8314	10767	13221	15674	18128	20581
DRSD10500-E2	8.7	START	10824	-	-	7093	10969	12907	14845	18722	22598	-	-	-	-	-
		MIN	4853	-	-	2900	4940	5960	6980	9021	11061	-	-	-	-	-
		END	7638	-	-	3907	7783	9721	11659	15536	19412	-	-	-	-	-
DRSD10600-E2	6.0	START	10824	-	8046	13648	19249	22050	24851	-	-	-	-	-	-	-
		MIN	4853	-	3402	6350	9298	10772	12246	-	-	-	-	-	-	-
		END	7638	-	4860	10462	16063	18864	21665	-	-	-	-	-	-	-
DRSD10700-E2	4.4	START	10824	6144	13801	21458	-	-	-	-	-	-	-	-	-	-
		MIN	4853	2401	6431	10461	-	-	-	-	-	-	-	-	-	-
		END	7638	2958	10615	18272	-	-	-	-	-	-	-	-	-	-
DRSD10400-E1	13.5	START	13387	-	-	-	-	-	4456	6909	9363	11816	14270	16723	19177	21630
		MIN	6090	-	-	-	-	-	1400	2691	3983	5274	6565	7857	9148	10439
		END	9775	-	-	-	-	-	844	3297	5751	8204	10658	13111	15565	18019
DRSD10500-E1	8.7	START	13387	-	-	4956	8832	10770	12708	16585	20461	-	-	-	-	-
		MIN	6090	-	-	1663	3703	4723	5744	7784	9824	-	-	-	-	-
		END	9775	-	-	1344	5220	7158	9097	12973	16850	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSD10600-E1	6.0	START	13387	-	5909	11511	17112	19913	22714	-	-	-	-	-	-	-
		MIN	6090	-	2165	5113	8061	9536	11010	-	-	-	-	-	-	-
		END	9775	-	2297	7899	13501	16301	19102	-	-	-	-	-	-	-
DRSD10700-E1	4.4	START	13387	4007	11664	19321	-	-	-	-	-	-	-	-	-	-
		MIN	6090	1164	5194	9224	-	-	-	-	-	-	-	-	-	-
		END	9775	395	8052	15709	-	-	-	-	-	-	-	-	-	-
DRSD10500-E1	8.7	START	13387	-	-	4956	8832	10770	12708	16585	20461	-	-	-	-	-
		MIN	6090	-	-	1663	3703	4723	5744	7784	9824	-	-	-	-	-
		END	9775	-	-	1344	5220	7158	9097	12973	16850	-	-	-	-	-
DRSE10400-E5	14.0	START	14304	-	-	-	-	6594	8070	11024	13977	16930	19884	22837	25790	28744
		MIN	6142	-	-	-	-	2096	2874	4428	5982	7537	9091	10646	12200	13754
		END	9059	-	-	-	-	1348	2825	5778	8732	11685	14638	17592	20545	23498
DRSE10500-E4	14.0	START	17165	-	-	6860	11526	13859	16192	20858	25525	30191	34857	39523	44189	48855
		MIN	7371	-	-	1961	4417	5645	6872	9328	11784	14240	16696	19152	21608	24063
		END	10871	-	-	566	5232	7565	9898	14564	19230	23897	28563	33229	37895	42561
DRSE10600-E4	11.1	START	17165	-	8008	14751	21493	24865	28236	34979	41721	48464	55206	61949	-	-
		MIN	7371	-	2565	6114	9662	11437	13211	16760	20309	23857	27406	30955	-	-
		END	10871	-	1714	8457	15199	18571	21942	28684	35427	42170	48912	55655	-	-
DRSE10700-E4	8.2	START	17165	-	14935	24152	33369	37977	42585	51802	61018	-	-	-	-	-
		MIN	7371	-	6211	11062	15913	18338	20763	25614	30465	-	-	-	-	-
		END	10871	-	8641	17858	27074	31683	36291	45508	54724	-	-	-	-	-
DRSE10800-E4	6.2	START	17165	10795	22832	34869	46906	52925	58943	-	-	-	-	-	-	-
		MIN	7371	4032	10367	16702	23038	26205	29373	-	-	-	-	-	-	-
		END	10871	4501	16538	28575	40612	46631	52649	-	-	-	-	-	-	-
DRSE10500-E3	14.0	START	20519	-	-	-	9595	11928	14261	18927	23593	28260	32926	37592	42258	46924
		MIN	8762	-	-	-	3026	4254	5482	7937	10393	12849	15305	17761	20217	22673
		END	12802	-	-	-	1878	4211	6544	11210	15876	20543	25209	29875	34541	39207
DRSE10600-E3	11.1	START	20519	-	-	12820	19562	22934	26305	33047	39790	46533	53275	60018	-	-
		MIN	8762	-	-	4723	8272	10046	11820	15369	18918	22467	26015	29564	-	-
		END	12802	-	-	5103	11845	15216	18588	25330	32073	38816	45558	52301	-	-
DRSE10700-E3	8.2	START	20519	-	13004	22221	31437	36046	40654	49871	59087	-	-	-	-	-
		MIN	8762	-	4820	9671	14522	16947	19373	24223	29074	-	-	-	-	-
		END	12802	-	5287	14504	23720	28329	32937	42154	51370	-	-	-	-	-
DRSE10800-E3	6.2	START	20519	8864	20901	32938	44975	50994	57012	-	-	-	-	-	-	-
		MIN	8762	2641	8976	15312	21647	24814	27982	-	-	-	-	-	-	-
		END	12802	1147	13184	25221	37258	43277	49295	-	-	-	-	-	-	-
DRSE10900-E3	4.9	START	20519	14652	29904	45156	-	-	-	-	-	-	-	-	-	-
		MIN	8762	5687	13715	21742	-	-	-	-	-	-	-	-	-	-
		END	12802	6935	22187	37439	-	-	-	-	-	-	-	-	-	-
DRSE10600-E2	11.1	START	25458	-	-	10460	17203	20574	23945	30688	37431	44173	50916	57658	-	-
		MIN	10683	-	-	2802	6351	8125	9900	13448	16997	20546	24095	27643	-	-
		END	15162	-	-	164	6906	10277	13649	20391	27134	33877	40619	47362	-	-
DRSE10700-E2	8.2	START	25458	-	10645	19861	29078	33686	38295	47511	56728	-	-	-	-	-
		MIN	10683	-	2899	7750	12601	15026	17452	22303	27154	-	-	-	-	-
		END	15162	-	348	9565	18781	23390	27998	37215	46431	-	-	-	-	-
DRSE10800-E2	6.2	START	25458	-	18542	30579	42616	48634	54653	-	-	-	-	-	-	-
		MIN	10683	-	7056	13391	19726	22894	26061	-	-	-	-	-	-	-
		END	15162	-	8245	20282	32319	38338	44356	-	-	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSE10900-E2	4.9	START	25458	12292	27544	42797	-	-	-	-	-	-	-	-	-	-
		MIN	10683	3766	11794	19821	-	-	-	-	-	-	-	-	-	-
		END	15162	1996	17248	32500	-	-	-	-	-	-	-	-	-	-
DRSE10600-E1	11.1	START	28368	-	-	-	14468	17840	21211	27953	34696	41439	48181	54924	-	-
		MIN	12168	-	-	-	4866	6640	8414	11963	15512	19061	22609	26158	-	-
		END	17896	-	-	-	3997	7368	10739	17482	24225	30967	37710	44452	-	-
DRSE10700-E1	8.2	START	28368	-	-	17127	26343	30952	35560	44777	53993	-	-	-	-	-
		MIN	12168	-	-	6265	11116	13541	15967	20817	25668	-	-	-	-	-
		END	17896	-	-	6655	15872	20480	25089	34305	43522	-	-	-	-	-
DRSE10800-E1	6.2	START	28368	-	15807	27844	39881	45900	51918	-	-	-	-	-	-	-
		MIN	12168	-	5570	11906	18241	21409	24576	-	-	-	-	-	-	-
		END	17896	-	5336	17373	29410	35428	41447	-	-	-	-	-	-	-
DRSE10900-E1	4.9	START	28368	-	24810	40062	-	-	-	-	-	-	-	-	-	-
		MIN	12168	-	10309	18336	-	-	-	-	-	-	-	-	-	-
		END	17896	-	14339	29591	-	-	-	-	-	-	-	-	-	-
DRSG10600-E4	14.0	START	32811	-	-	-	18479	22615	26752	35024	43297	51570	59843	68116	76388	84661
		MIN	14214	-	-	-	6686	8863	11040	15394	19748	24103	28457	32811	37165	41519
		END	21231	-	-	-	6898	11035	15171	23444	31717	39989	48262	56535	64808	73081
DRSG10700-E4	10.6	START	32811	-	-	21777	33094	38753	44412	55730	67048	78365	89683	-	-	-
		MIN	14214	-	-	8422	14379	17357	20335	26292	32249	38205	44162	-	-	-
		END	21231	-	-	10196	21514	27173	32832	44149	55467	66785	78103	-	-	-
DRSG10800-E4	8.1	START	32811	-	20178	34967	49756	57151	64545	79334	94123	-	-	-	-	-
		MIN	14214	-	7581	15364	23148	27040	30932	38715	46499	-	-	-	-	-
		END	21231	-	8598	23387	38176	45570	52965	67754	82542	-	-	-	-	-
DRSG10900-E4	6.4	START	32811	12512	31259	50005	68751	78124	87497	-	-	-	-	-	-	-
		MIN	14214	3546	13412	23279	33145	38078	43012	-	-	-	-	-	-	-
		END	21231	932	19678	38424	57170	66543	75916	-	-	-	-	-	-	-
DRSG10600-E3	14.0	START	39027	-	-	-	14732	18869	23005	31278	39551	47824	56096	64369	72642	80915
		MIN	16835	-	-	-	4065	6242	8419	12773	17127	21481	25835	30189	34543	38898
		END	24977	-	-	-	683	4819	8956	17229	25501	33774	42047	50320	58593	66865
DRSG10700-E3	10.6	START	39027	-	-	18030	29348	35007	40666	51983	63301	74619	85937	-	-	-
		MIN	16835	-	-	5800	11757	14735	17714	23670	29627	35584	41541	-	-	-
		END	24977	-	-	3981	15299	20957	26616	37934	49252	60569	71887	-	-	-
DRSG10800-E3	8.1	START	39027	-	16432	31221	46010	53404	60799	75588	90377	-	-	-	-	-
		MIN	16835	-	4959	12743	20526	24418	28310	36094	43877	-	-	-	-	-
		END	24977	-	2382	17171	31960	39355	46749	61538	76327	-	-	-	-	-
DRSG10900-E3	6.4	START	39027	-	27512	46258	65004	74377	83751	-	-	-	-	-	-	-
		MIN	16835	-	10791	20657	30524	35457	40390	-	-	-	-	-	-	-
		END	24977	-	13463	32209	50955	60328	69701	-	-	-	-	-	-	-
DRSG10700-2-E3	5.3	START	39027	15767	38402	61038	83673	-	-	-	-	-	-	-	-	-
		MIN	16835	4609	16522	28436	40349	-	-	-	-	-	-	-	-	-
		END	24977	1717	24353	46988	69624	-	-	-	-	-	-	-	-	-
DRSG10700-E2	10.6	START	49623	-	-	-	24929	30588	36247	47564	58882	70200	81518	-	-	-
		MIN	20787	-	-	-	7806	10784	13762	19719	25676	31632	37589	-	-	-
		END	29396	-	-	-	4702	10361	16020	27337	38655	49973	61291	-	-	-
DRSG10800-E2	8.1	START	49623	-	-	26802	41591	48985	56380	71169	85958	-	-	-	-	-
		MIN	20787	-	-	8791	16575	20467	24359	32142	39926	-	-	-	-	-
		END	29396	-	-	6575	21364	28758	36153	50942	65731	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSG10900-E2	6.4	START	49623	-	23093	41839	60585	69959	79332	-	-	-	-	-	-	-
		MIN	20787	-	6839	16706	26572	31505	36439	-	-	-	-	-	-	-
		END	29396	-	2866	21612	40359	49732	59105	-	-	-	-	-	-	-
DRSG10700-2-E2	5.3	START	49623	-	33983	56619	79254	-	-	-	-	-	-	-	-	-
		MIN	20787	-	12571	24484	36398	-	-	-	-	-	-	-	-	-
		END	29396	-	13756	36392	59027	-	-	-	-	-	-	-	-	-
DRSG10700-E1	10.6	START	58783	-	-	-	-	25248	30907	42225	53543	64860	76178	-	-	-
		MIN	24602	-	-	-	-	6968	9947	15903	21860	27817	33773	-	-	-
		END	34736	-	-	-	-	1201	6860	18177	29495	40813	52130	-	-	-
DRSG10800-E1	8.1	START	58783	-	-	-	36251	43646	51040	65829	80618	-	-	-	-	-
		MIN	24602	-	-	-	12759	16651	20543	28327	36110	-	-	-	-	-
		END	34736	-	-	-	12204	19598	26993	41781	56570	-	-	-	-	-
DRSG10900-E1	6.4	START	58783	-	-	36500	55246	64619	73992	-	-	-	-	-	-	-
		MIN	24602	-	-	12890	22756	27690	32623	-	-	-	-	-	-	-
		END	34736	-	-	12452	31198	40571	49944	-	-	-	-	-	-	-
DRSG10700-2-E1	5.3	START	58783	-	28644	51279	73915	-	-	-	-	-	-	-	-	-
		MIN	24602	-	8755	20669	32582	-	-	-	-	-	-	-	-	-
		END	34736	-	4596	27231	49867	-	-	-	-	-	-	-	-	-
DRSH10600-E3	14.0	START	56203	-	-	-	-	-	19015	29215	39415	49615	59815	70015	80215	90414
		MIN	25345	-	-	-	-	-	5792	11160	16529	21897	27265	32634	38002	43371
		END	40145	-	-	-	-	-	2957	13157	23356	33556	43756	53956	64156	74356
DRSH10700-E3	13.4	START	56203	-	-	-	26902	33886	40870	54838	68806	82774	96742	110710	124678	138646
		MIN	25345	-	-	-	9943	13619	17294	24646	31998	39349	46701	54052	61404	68756
		END	40145	-	-	-	10844	17828	24812	38780	52748	66716	80684	94652	108620	122588
DRSH10800-E3	10.3	START	56203	-	-	29257	47521	56653	65785	84048	102312	120575	138839	-	-	-
		MIN	25345	-	-	11183	20795	25601	30407	40020	49632	59245	68857	-	-	-
		END	40145	-	-	13199	31463	40594	49726	67990	86253	104517	122781	-	-	-
DRSH10900-E3	8.1	START	56203	-	24705	47866	71027	82607	94188	117348	140509	-	-	-	-	-
		MIN	25345	-	8787	20977	33167	39261	45356	57546	69736	-	-	-	-	-
		END	40145	-	8647	31808	54968	66549	78129	101290	124451	-	-	-	-	-
DRSH1000-E3	6.6	START	56203	-	39931	68529	97127	111427	125726	-	-	-	-	-	-	-
		MIN	25345	-	16800	31852	46904	54430	61955	-	-	-	-	-	-	-
		END	40145	-	23872	52471	81069	95368	109667	-	-	-	-	-	-	-
DRSH10800-2-E3	5.1	START	56203	25605	62132	98659	135186	-	-	-	-	-	-	-	-	-
		MIN	25345	9260	28485	47710	66935	-	-	-	-	-	-	-	-	-
		END	40145	9546	46073	82601	119128	-	-	-	-	-	-	-	-	-
DRSH10900-2-E3	4.1	START	56203	43234	89555	135877	-	-	-	-	-	-	-	-	-	-
		MIN	25345	18539	42918	67298	-	-	-	-	-	-	-	-	-	-
		END	40145	27176	73497	119818	-	-	-	-	-	-	-	-	-	-
DRSH10700-E2	13.4	START	66186	-	-	-	19857	26841	33825	47793	61761	75729	89697	103665	117633	131601
		MIN	29826	-	-	-	5462	9138	12813	20165	27517	34868	42220	49571	56923	64274
		END	47190	-	-	-	860	7844	14828	28796	42764	56732	70700	84668	98636	112604
DRSH10800-E2	10.3	START	66186	-	-	22212	40476	49608	58739	77003	95267	113530	131794	-	-	-
		MIN	29826	-	-	6701	16314	21120	25926	35539	45151	54764	64376	-	-	-
		END	47190	-	-	3216	21479	30611	39743	58007	76270	94534	112798	-	-	-
DRSH10900-E2	8.1	START	66186	-	-	40821	63982	75562	87142	110303	133464	-	-	-	-	-
		MIN	29826	-	-	16496	28685	34780	40875	53065	65255	-	-	-	-	-
		END	47190	-	-	21825	44985	56566	68146	91307	114467	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSH101000-E2	6.6	START	66186	-	32886	61484	90082	104382	118681	-	-	-	-	-	-	-
		MIN	29826	-	12319	27371	42423	49948	57474	-	-	-	-	-	-	-
		END	47190	-	13889	42488	71086	85385	99684	-	-	-	-	-	-	-
DRSH10800-2-E2	5.1	START	66186	-	55087	91614	128141	-	-	-	-	-	-	-	-	-
		MIN	29826	-	24004	43229	62454	-	-	-	-	-	-	-	-	-
		END	47190	-	36090	72618	109145	-	-	-	-	-	-	-	-	-
DRSH10900-2-E2	4.1	START	66186	36189	82510	128832	-	-	-	-	-	-	-	-	-	-
		MIN	29826	14058	38437	62817	-	-	-	-	-	-	-	-	-	-
		END	47190	17192	63514	109835	-	-	-	-	-	-	-	-	-	-
DRSH10700-E1	13.4	START	82117	-	-	-	-	-	-	39409	53377	67345	81313	95281	109249	123217
		MIN	36224	-	-	-	-	-	-	13766	21118	28469	35821	43173	50524	57876
		END	55574	-	-	-	-	-	-	12866	26834	40802	54770	68738	82706	96674
DRSH10800-E1	10.3	START	82117	-	-	-	32092	41224	50355	68619	86883	105146	123410	-	-	-
		MIN	36224	-	-	-	9915	14721	19528	29140	38753	48365	57977	-	-	-
		END	55574	-	-	-	5549	14680	23812	42076	60339	78603	96867	-	-	-
DRSH10900-E1	8.1	START	82117	-	-	32437	55598	67178	78758	101919	125080	-	-	-	-	-
		MIN	36224	-	-	10097	22287	28382	34477	46666	58856	-	-	-	-	-
		END	55574	-	-	5894	29054	40635	52215	75376	98537	-	-	-	-	-
DRSH101000-E1	6.6	START	82117	-	-	53100	81698	95997	110297	-	-	-	-	-	-	-
		MIN	36224	-	-	20972	36024	43550	51076	-	-	-	-	-	-	-
		END	55574	-	-	26557	55155	69454	83754	-	-	-	-	-	-	-
DRSH10800-2-E1	5.1	START	82117	-	46703	83230	119757	-	-	-	-	-	-	-	-	-
		MIN	36224	-	17605	36830	56055	-	-	-	-	-	-	-	-	-
		END	55574	-	20159	56687	93214	-	-	-	-	-	-	-	-	-
DRSH10900-2-E1	4.1	START	82117	27805	74126	120448	-	-	-	-	-	-	-	-	-	-
		MIN	36224	7659	32039	56418	-	-	-	-	-	-	-	-	-	-
		END	55574	1262	47583	93904	-	-	-	-	-	-	-	-	-	-
DRSJ10900-E6	11.9	START	48000			76553	106909	122087	137264	167620	197976	228332	258688	289044	#VALUE!	#VALUE!
		MIN	13040			47672	63649	71637	79626	95602	111579	127556	143533	159510	#VALUE!	#VALUE!
		END	38800			67353	97709	112887	128064	158420	188776	219132	249488	279844	#VALUE!	#VALUE!
DRSJ10700-E5	14.0	START	76392	-	-	-	19014	28157	37299	55584	73868	92153	110438	128723	147007	165292
		MIN	38183	-	-	-	8010	12822	17634	27257	36881	46504	56128	65751	75375	84999
		END	68753	-	-	-	11375	20517	29660	47944	66229	84514	102799	121083	139368	157653
DRSJ10800-E4	14.0	START	112004	-	-	-	48636	60599	72561	96487	120412	144338	168263	192189	216114	240040
		MIN	46884	-	-	-	13559	19855	26151	38744	51336	63928	76521	89113	101705	114298
		END	66206	-	-	-	2838	14801	26764	50689	74615	98540	122465	146391	170316	194242
DRSJ10900-E4	11.9	START	112004	-	-	49146	79502	94680	109858	140214	170570	200926	231282	261638	-	-
		MIN	46884	-	-	13827	29804	37793	45781	61758	77735	93712	109688	125665	-	-
		END	66206	-	-	3349	33705	48883	64060	94416	124772	155128	185484	215840	-	-
DRSJ101000-E4	9.6	START	112004	-	-	76280	113776	132524	151272	188768	226265	263761	-	-	-	-
		MIN	46884	-	-	28108	47843	57710	67578	87313	107048	126783	-	-	-	-
		END	66206	-	-	30482	67978	86726	105474	142971	180467	217963	-	-	-	-
DRSJ10800-2-E4	7.5	START	112004	-	67776	115627	163478	187404	211329	259180	-	-	-	-	-	-
		MIN	46884	-	23633	48817	74002	86594	99187	124371	-	-	-	-	-	-
		END	66206	-	21979	69829	117680	141606	165531	213382	-	-	-	-	-	-
DRSJ10900-2-E4	5.9	START	112004	-	103787	164499	225211	255567	-	-	-	-	-	-	-	-
		MIN	46884	-	42586	74539	106493	122470	-	-	-	-	-	-	-	-
		END	66206	-	57989	118701	179413	209769	-	-	-	-	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSJ101000-2-E4	4.8	START	112004	68780	143773	218765	-	-	-	-	-	-	-	-	-	-
		MIN	46884	24161	63631	103101	-	-	-	-	-	-	-	-	-	-
		END	66206	22983	97975	172968	-	-	-	-	-	-	-	-	-	-
DRSJ10900-E3	11.9	START	139496	-	-	-	67089	82267	97445	127801	158157	188513	218869	249225	-	-
		MIN	57386	-	-	-	19303	27291	35280	51256	67233	83210	99187	115164	-	-
		END	78620	-	-	-	6212	21390	36568	66924	97280	127636	157992	188348	-	-
DRSJ101000-E3	9.6	START	139496	-	-	63866	101362	120111	138859	176355	213851	251348	-	-	-	-
		MIN	57386	-	-	17607	37342	47209	57076	76811	96546	116281	-	-	-	-
		END	78620	-	-	2990	40486	59234	77982	115478	152975	190471	-	-	-	-
DRSJ10800-2-E3	7.5	START	139496	-	-	103214	151065	174990	198916	246767	-	-	-	-	-	-
		MIN	57386	-	-	38316	63501	76093	88685	113870	-	-	-	-	-	-
		END	78620	-	-	42337	90188	114114	138039	185890	-	-	-	-	-	-
DRSJ10900-2-E3	5.9	START	139496	-	91374	152085	212797	243153	-	-	-	-	-	-	-	-
		MIN	57386	-	32084	64038	95991	111968	-	-	-	-	-	-	-	-
		END	78620	-	30497	91209	151921	182277	-	-	-	-	-	-	-	-
DRSJ101000-2-E3	4.8	START	139496	-	131359	206352	-	-	-	-	-	-	-	-	-	-
		MIN	57386	-	53129	92599	-	-	-	-	-	-	-	-	-	-
		END	78620	-	70483	145476	-	-	-	-	-	-	-	-	-	-
DRSJ10900-E2	11.9	START	152870	-	-	-	-	67307	82485	112841	143197	173553	203909	234265	-	-
		MIN	64842	-	-	-	-	19835	27823	43800	59777	75754	91731	107707	-	-
		END	93580	-	-	-	-	8016	23194	53550	83906	114262	144618	174974	-	-
DRSJ101000-E2	9.6	START	152870	-	-	-	86403	105151	123899	161395	198891	236388	-	-	-	-
		MIN	64842	-	-	-	29885	39753	49620	69355	89090	108825	-	-	-	-
		END	93580	-	-	-	27112	45860	64608	102105	139601	177097	-	-	-	-
DRSJ10800-2-E2	7.5	START	152870	-	-	88254	136105	160030	183956	231807	-	-	-	-	-	-
		MIN	64842	-	-	30860	56044	68637	81229	106414	-	-	-	-	-	-
		END	93580	-	-	28963	76814	100740	124665	172516	-	-	-	-	-	-
DRSJ10900-2-E2	5.9	START	152870	-	76414	137126	197838	228194	-	-	-	-	-	-	-	-
		MIN	64842	-	24628	56582	88535	104512	-	-	-	-	-	-	-	-
		END	93580	-	17123	77835	138547	168903	-	-	-	-	-	-	-	-
DRSJ101000-2-E2	4.8	START	152870	-	116400	191392	-	-	-	-	-	-	-	-	-	-
		MIN	64842	-	45673	85143	-	-	-	-	-	-	-	-	-	-
		END	93580	-	57109	132102	-	-	-	-	-	-	-	-	-	-
DRSJ10800-2-E1	7.5	START	189465	-	-	-	118371	142296	166221	214072	-	-	-	-	-	-
		MIN	79139	-	-	-	41747	54340	66932	92117	-	-	-	-	-	-
		END	111314	-	-	-	40220	64145	88071	135922	-	-	-	-	-	-
DRSM101000-E5	14.0	START	142990	-	-	54580	102809	126924	151038	199267	247497	295726	343955	392184	440413	488642
		MIN	71478	-	-	24980	50364	63056	75748	101131	126515	151899	177283	202667	228050	253434
		END	128691	-	-	40281	88510	112625	136739	184969	233198	281427	329656	377885	426114	474343
DRSM101100-E4	12.9	START	245917	-	-	-	147081	176345	205609	264137	322665	381192	439720	498248	556775	-
		MIN	99922	-	-	-	47937	63339	78741	109545	140349	171153	201957	232761	263565	-
		END	133852	-	-	-	35016	64280	93544	152071	210599	269127	327654	386182	444710	-
DRSM101200-E4	10.8	START	245917	-	-	130894	200563	235398	270233	339903	409573	479242	548912	-	-	-
		MIN	99922	-	-	39417	76085	94420	112754	149422	186090	222759	259427	-	-	-
		END	133852	-	-	18828	88498	123333	158168	227837	297507	367177	436847	-	-	-
DRSM101300-E4	9.2	START	245917	-	-	177482	259412	300377	341342	423272	505202	587132	-	-	-	-
		MIN	99922	-	-	63938	107059	128619	150180	193301	236422	279543	-	-	-	-
		END	133852	-	-	65417	147347	188312	229277	311207	393137	475067	-	-	-	-

SINGLE ACTING TORQUE

MODEL	MOP (Bar)	POSITION	SPRING TORQUE (NM)	Operating Pressure (Bar)												
				2	3	4	5	5.5	6	7	8	9	10	11	12	13
				Air Torque Output Start/Min./ End (Nm)												
DRSM101000-2-E4	7.8	START	245917	-	136232	232690	329148	377377	425606	522065	-	-	-	-	-	-
		MIN	99922	-	42227	92994	143762	169145	194529	245297	-	-	-	-	-	-
		END	133852	-	24166	120624	217083	265312	313541	409999	-	-	-	-	-	-
DRSM101100-2-E4	6.4	START	245917	-	193904	310959	428014	486542	545070	-	-	-	-	-	-	-
		MIN	99922	-	72580	134188	195797	226601	257405	-	-	-	-	-	-	-
		END	133852	-	81838	198894	315949	374477	433004	-	-	-	-	-	-	-
DRSM101200-2-E4	5.4	START	245917	116960	256299	395639	534978	-	-	-	-	-	-	-	-	-
		MIN	99922	32084	105420	178757	252093	-	-	-	-	-	-	-	-	-
		END	133852	4894	144234	283573	422913	-	-	-	-	-	-	-	-	-
DRSM101300-2-E4	4.6	START	245917	161096	324956	488816	-	-	-	-	-	-	-	-	-	-
		MIN	99922	55313	141555	227797	-	-	-	-	-	-	-	-	-	-
		END	133852	49031	212891	376751	-	-	-	-	-	-	-	-	-	-
DRSM101200-E3	10.8	START	303259	-	-	-	171893	206728	241562	311232	380902	450572	520242	-	-	-
		MIN	122557	-	-	-	53451	71785	90119	126787	163455	200124	236792	-	-	-
		END	162522	-	-	-	31156	65991	100825	170495	240165	309835	379504	-	-	-
DRSM101300-E3	9.2	START	303259	-	-	148812	230742	271707	312672	394602	476532	558461	-	-	-	-
		MIN	122557	-	-	41303	84424	105984	127545	170666	213787	256908	-	-	-	-
		END	162522	-	-	8075	90005	130970	171935	253864	335794	417724	-	-	-	-
DRSM101000-2-E3	7.8	START	303259	-	-	204019	300478	348707	396936	493394	-	-	-	-	-	-
		MIN	122557	-	-	70359	121127	146511	171894	222662	-	-	-	-	-	-
		END	162522	-	-	63282	159741	207970	256199	352657	-	-	-	-	-	-
DRSM101100-2-E3	6.4	START	303259	-	165233	282288	399344	457871	516399	-	-	-	-	-	-	-
		MIN	122557	-	49945	111554	173162	203966	234770	-	-	-	-	-	-	-
		END	162522	-	24496	141551	258607	317134	375662	-	-	-	-	-	-	-
DRSM101200-2-E3	5.4	START	303259	-	227628	366968	506308	-	-	-	-	-	-	-	-	-
		MIN	122557	-	82785	156122	229458	-	-	-	-	-	-	-	-	-
		END	162522	-	86891	226231	365571	-	-	-	-	-	-	-	-	-
DRSM101300-2-E3	4.6	START	303259	-	296286	460146	-	-	-	-	-	-	-	-	-	-
		MIN	122557	-	118920	205163	-	-	-	-	-	-	-	-	-	-
		END	162522	-	155549	319408	-	-	-	-	-	-	-	-	-	-
DRSM101300-E2	9.2	START	363476	-	-	-	196461	237426	278391	360321	442251	524181	-	-	-	-
		MIN	147425	-	-	-	59556	81116	102677	145798	188919	232040	-	-	-	-
		END	196803	-	-	-	29788	70752	111717	193647	275577	357507	-	-	-	-
DRSM101000-2-E2	7.8	START	363476	-	-	169739	266197	314426	362655	459114	-	-	-	-	-	-
		MIN	147425	-	-	45491	96259	121643	147027	197794	-	-	-	-	-	-
		END	196803	-	-	3065	99523	147753	195982	292440	-	-	-	-	-	-
DRSM101200-2-E2	5.4	START	363476	-	193348	332688	472027	-	-	-	-	-	-	-	-	-
		MIN	147425	-	57917	131254	204591	-	-	-	-	-	-	-	-	-
		END	196803	-	26674	166014	305353	-	-	-	-	-	-	-	-	-
DRSM101300-2-E2	4.6	START	363476	-	262005	425865	-	-	-	-	-	-	-	-	-	-
		MIN	147425	-	94053	180295	-	-	-	-	-	-	-	-	-	-
		END	196803	-	95331	259191	-	-	-	-	-	-	-	-	-	-

TECHNICAL INFORMATION

WEIGHT

DOUBLE ACTING

BORE	063	080	0100	0125	0150	0200	0250	0300	0350	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300
ACTUATOR	Weight (in kg)																		
DRSAA	15	18	22	32	42	53	68	85	-	-	-	-	-	-	-	-	-	-	-
DRSA1	60	70	82	95	110	122	135	160	-	-	-	-	-	-	-	-	-	-	-
DRSB1	-	-	-	-	-	-	-	120	131	147	-	-	-	-	-	-	-	-	-
DRSC1	-	-	-	-	-	-	-	160	176	190	210	-	-	-	-	-	-	-	-
DRSD1	-	-	-	-	-	-	-	232	241	260	305	341	422	-	-	-	-	-	-
DRSE1	-	-	-	-	-	-	-	-	-	504	510	560	632	811	834	-	-	-	-
DRSG1	-	-	-	-	-	-	-	-	-	-	710	732	817	946	1071	-	-	-	-
DRSH1	-	-	-	-	-	-	-	-	-	-	-	1152	1189	1270	1475	-	-	-	-
DRSJ1	-	-	-	-	-	-	-	-	-	-	-	-	1610	1680	1905	2015	-	-	-
DRSM1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3710	3891	4504

SINGLE ACTING

BORE	063	080	0100	0125	0150	0200	0250	0300	0350	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300
ACTUATOR	Weight (in kg)																		
DRSAA	0.3	0.6	0.9	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRSA1	-	-	0.9	1.4	2.5	3.6	5.7	8.2	11	-	-	-	-	-	-	-	-	-	-
DRSB1	-	-	-	-	-	-	-	10	14	18	-	-	-	-	-	-	-	-	-
DRSC1	-	-	-	-	-	-	-	12	17	22	35	-	-	-	-	-	-	-	-
DRSD1	-	-	-	-	-	-	-	14	20	27	42	63	94	-	-	-	-	-	-
DRSE1	-	-	-	-	-	-	-	-	-	32	50	76	113	137	171	-	-	-	-
DRSG1	-	-	-	-	-	-	-	-	-	-	62	93	417	168	202	-	-	-	-
DRSH1	-	-	-	-	-	-	-	-	-	-	-	115	213	208	261	305	-	-	-
DRSJ1	-	-	-	-	-	-	-	-	-	-	-	-	225	273	343	401	-	-	-
DRSM1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	516	624	743	872

AIR CONSUMPTION

DOUBLE ACTING

BORE	063	080	0100	0125	0150	0200	0250	0300	0350	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300
ACTUATOR	Air consumption in litre A.N.R./bar 90° stroke																		
DRSAA	0.7	1.1	1.8	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRSA1	-	-	1.8	2.8	4.1	7.3	11.4	16.4	22.5	-	-	-	-	-	-	-	-	-	-
DRSB1	-	-	-	-	-	-	-	19	27	35	-	-	-	-	-	-	-	-	-
DRSC1	-	-	-	-	-	-	-	24	32	42	66	-	-	-	-	-	-	-	-
DRSD1	-	-	-	-	-	-	-	27	39	50	79	119	177	-	-	-	-	-	-
DRSE1	-	-	-	-	-	-	-	-	-	61	95	143	213	258	324	-	-	-	-
DRSG1	-	-	-	-	-	-	-	-	-	-	116	176	262	317	382	-	-	-	-
DRSH1	-	-	-	-	-	-	-	-	-	-	-	218	324	392	493	577	-	-	-
DRSJ1	-	-	-	-	-	-	-	-	-	-	-	-	426	515	648	757	-	-	-
DRSM1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	975	1180	1405	1648

SINGLE ACTING

BORE	063	080	0100	0125	0150	0200	0250	0300	0350	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300
ACTUATOR	Air consumption in litre A.N.R./bar 90° stroke																		
DRSAA	110	120	140	160	150	200	215	240	-	-	-	-	-	-	-	-	-	-	-
DRSA1	140	150	170	190	210	230	240	250	260	-	-	-	-	-	-	-	-	-	-
DRSB1	-	-	-	-	240	270	300	320	340	360	-	-	-	-	-	-	-	-	-
DRSC1	-	-	-	-	300	320	340	370	400	450	500	-	-	-	-	-	-	-	-
DRSD1	-	-	-	-	-	470	500	530	560	600	640	680	720	-	-	-	-	-	-
DRSE1	-	-	-	-	-	-	-	-	-	906	919	970	1042	1122	1306	-	-	-	-
DRSG1	-	-	-	-	-	-	-	-	-	-	1050	1100	1200	1850	2500	-	-	-	-
DRSH1	-	-	-	-	-	-	-	-	-	-	-	2590	2629	2710	4050	-	-	-	-
DRSJ1	-	-	-	-	-	-	-	-	-	-	-	-	4100	4430	5010	5900	-	-	-
DRSM1	-	-	-	-	-	-	-	-	-	-	-	-	-	7590	7840	7950	8145	8325	8940

ORDERING CODE

1	2	3	4	5	6	7					
DRS	FRAME SIZE	CYLINDER BORE		SINGLE CYLINDER	*	DOUBLE ACTING	*	CCW	*	SEAL MATERIAL	
	AA1	PNEUMATIC	HYDRAULIC	DUAL CYLINDER	-2	SPRING CODE	E1	CW	CW	NBR	*
	A1	050	HY050		E2		VITON	AV			
	B1	63	HY063		E3		FLUROSILICONE	FS			
	C1	80	HY080		E4		EPDM	EP			
	D1	100	HY0100		E5						
	E1	125	HY0125		E6						
	G1	150	HY0160		E7						
	H1	200	HY0200		E8						
	J1	250	HY0250		E9						
M1	300	HY0300		E10							
	350	HY0400		E11							
	400	GAS OPERATED									
	500	GY063									
	600	GY080									
	700	GY0100									
	800	GY0125									
	900	GY0160									
	1000	GY0200									
	1100	GY0250									
	1200	GY0300									
	1300	GY0400									

8	
OVERRIDES	
NIL	*
HYDRAULIC OVERRIDE	
FOR SPRING RETURN	MIBH
FOR DOUBLE ACTING	HMOR
MECHANICAL OVERRIDE	
FOR BORE 63 TO 125	SWH 1000
FOR BORE 150 TO 250	SWH 3000
FOR BORE 300 TO 400	SWH 7000
FOR BORE 500 TO 700	SWH 25000

9	
SPECIAL VERSION	
CYLINDER BORE ENP	ENP
SUBSEA UP TO 2 METER	SSD
SPECIAL CONSTRUCTION	SU
CYLINDER TUBE STAINLESS STEEL	B5
CENTRAL BLOCK IN WCB	WCB
* : DEFAULT	
CCW : COUNTER CLOCKWISE FAIL CLOSE	
CW : CLOCKWISE FAIL OPEN	

ORDERING EXAMPLE

- DRSE0700E4
Frame size E, Cylinder bore 700 mm Spring Return with Spring set 4, fail close with NBR seals
- DRSC0400 - EP
Frame size C, Cylinder bore 400 mm Double Acting with EPDM seals

MOPD

The torque chart indicates the MOPD. (Maximum operating pressure differential) It is very critical not to exceed the MOPD

HY-HYDRAULIC ACTUATOR

DRS actuator can also be supplied with hydraulic cylinder. The torque chart for double acting and spring return the same as the pneumatic version

To choose right size of Hydraulic Cylinder

- Choose DRS with pneumatic model with maximum air pressure possible as shown in chart
- Last three digit shows bore of the cylinder in mm
- Select Hydraulic pressure in bar
- With above data calculate nearest Hydraulic actuator bore

eg. DRSD0600, maximum pressure allowable is 4 bar. (No torque details beyond 4 bar is shown) if Hydraulic pressure is 100 bar the calculated hydraulic bore will be 120 mm; choose HY0125. Selected model will be DRSDHY0125

GY-GAS ACTUATOR

DRS actuator can be directly operated by Gas like Natural Gas, CO₂, N₂ etc.
The special reciprocating cylinder have protective coating and unique seal construction to used Gas upto 180 bar (Selection criteria as per HY)

DUAL CYLINDER OPTION (-2)

This option designates that twin pneumatic cylinders are installed on the frame. For double acting dual cylinder style, one pneumatic cylinder is mounted on each side of frame. For the spring return twin cylinder style, two pneumatic cylinders are mounted in tandem on the pneumatic side of the frame

CCW

This is the standard version for fail close, or air to open/ spring to close. Looking from the top of the yoke (i.e. Where limit switch mounts), the drive will rotate counter clockwise (ccw) when air is applied to the actuator. When air is vented, the spring will rotate drive clockwise to close the valve

CW

This is the version for fail open. Looking from the top of the yoke, the drive will rotate clockwise when air is applied to the actuator. When the air is vented, springs will rotate the drive counter clockwise to open the valve

SEALS

NBR -20 °C to 80 °C, Viton -20 °C to 125 °C, EPDM -30 °C to 110 °C, Fluorosilicone -60 °C to 110 °C

MIBH ORDERING CODE

Ordering code for manual override needs complete DRS code since the manual override can be installed at a later stage, hence MIBH needs to be specific for each model
e.g. MIBH for DRSC0700E4 would be DRSC0700E4-MIBH

SIDE HAND WHEEL

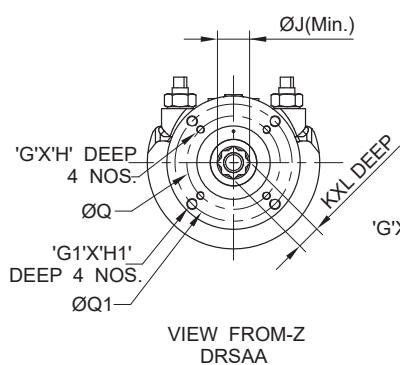
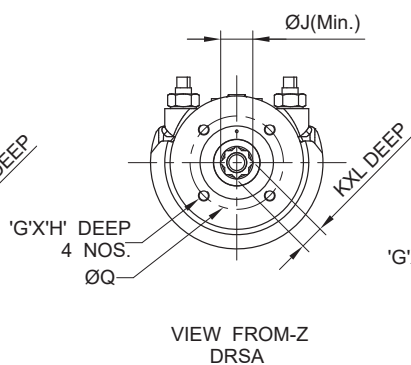
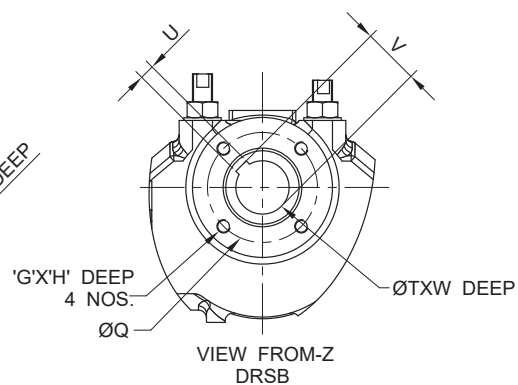
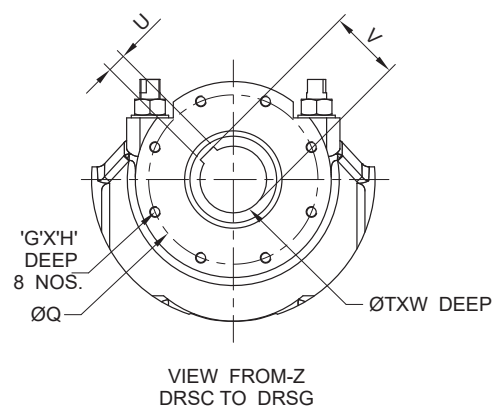
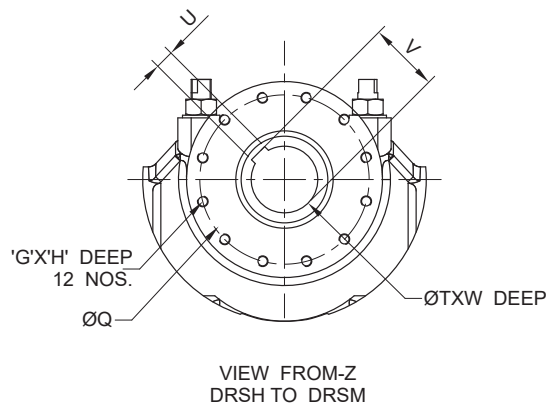
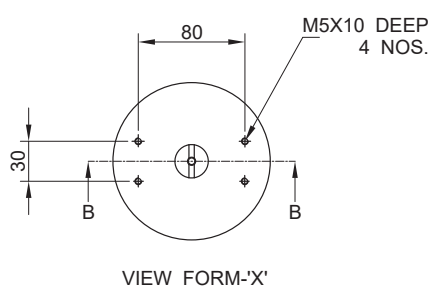
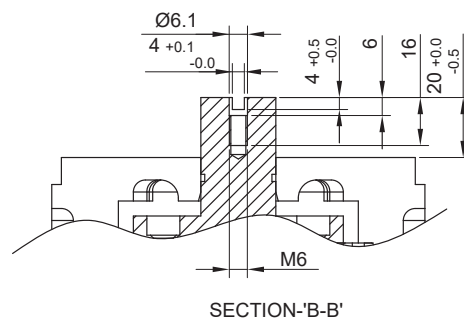
- SWH provide an easy, efficient and durable method for manually operating the actuator
- The arrangement is available from bore size 63-700

CYLINDER ENP

ROTEX can supply pneumatic cylinder pipe with 20μ electroless nickel plated

VALVE INTERFACE

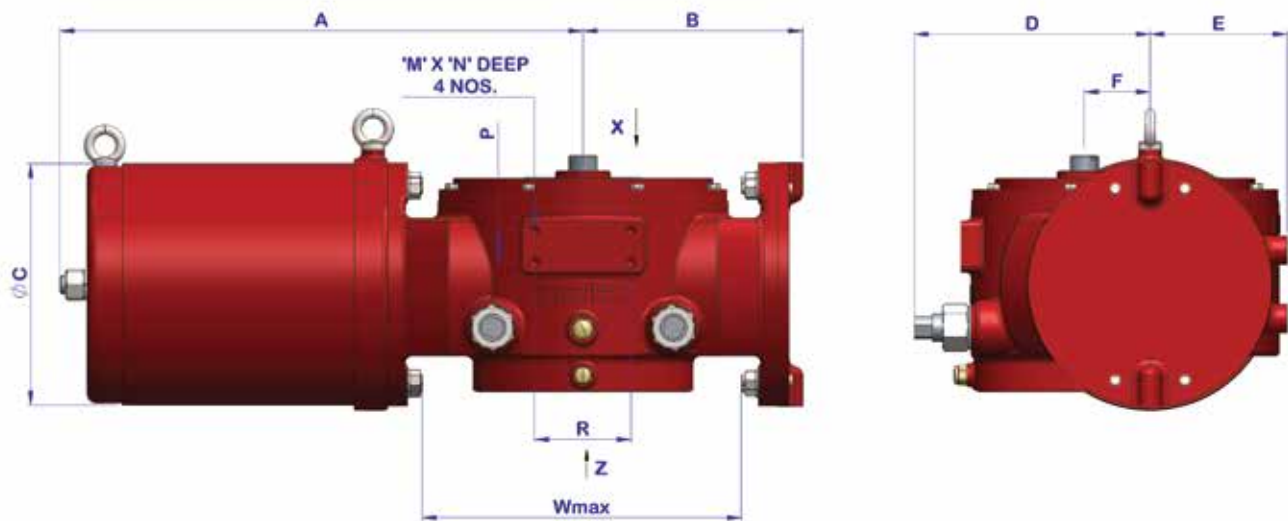
DIMENSIONAL DETAILS



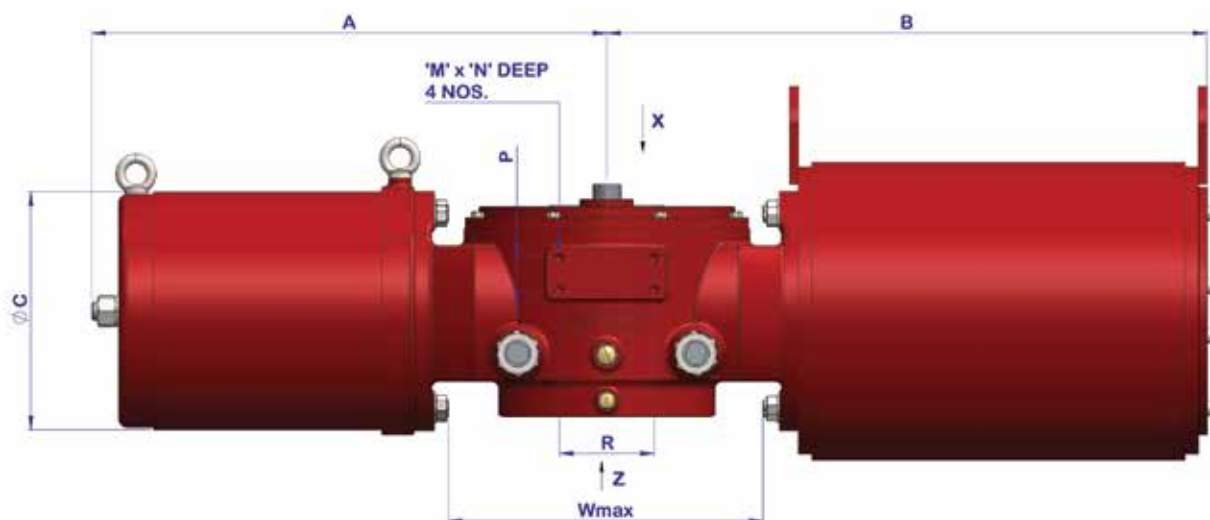
MODEL	G	G1	H	H1	ØJ(Min.)	K	L	Q	Q1	T	U	V	W	FLANGE
DRSAA	-	M8	12	-	30.5	22	20	70	-	-	-	-	-	F07
	M10	-	-	15				-	102	-	-	-	-	F10
DRSA1	M16	-	24	-	48.2	36	35	140	-	-	-	-	-	F14
DRSB1	M20	-	30	-	-	-	-	165	-	80	22	85.4	150	F16
DRSC1	M16	-	24	-	-	-	-	254	-	100	28	106.4	190	F25
DRSD1	M20	-	22	-	-	-	-	298	-	120	32	127.4	200	F30
DRSE1	M30	-	32	-	-	-	-	356	-	160	40	170	300	F35
DRSG1	M36	-	45	-	-	-	-	406	-	178	45	188.4	350	F40
DRSH1	M36	-	54	-	-	-	-	483	-	220	50	231.4	370	F48
DRSJ1	M36	-	54	-	-	-	-	603	-	280	63	292.4	430	F60
DRSM1	M50	-	54	-	-	-	-	800	-	336	90	353.4	530	-

DIMENSION DETAILS

DOUBLE ACTING



SINGLE ACTING



DIMENSION DOUBLE ACTING

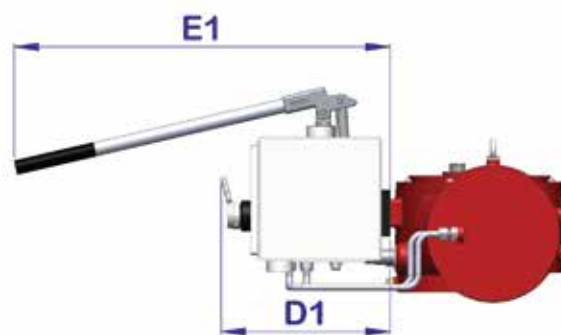
MODEL	A	B	C	D	E	F	M	N	P	R	Wmax	S
DRSA0100	468	200	115	210	125	58	M8	14	28	90	290	1/4"NPT
DRSA0125	435	200	150	210	125	58	M8	14	28	90	290	1/4"NPT
DRSA0150	448	200	175	210	125	58	M8	14	28	90	290	3/8"NPT
DRSA0200	465	200	210	210	125	58	M8	14	28	90	290	1/2"NPT
DRSA0250	465	200	265	210	132.5	58	M8	14	28	90	290	1/2"NPT
DRSA0300	480	200	310	210	155	58	M8	14	28	90	290	3/4"NPT
DRSA0350	485	200	360	210	180	58	M8	14	28	90	290	3/4"NPT
DRSB0250	568	230	260	235	130	75	M10	15	25	90	350	1/2"NPT
DRSB0300	548	230	310	235	155	75	M10	15	25	90	350	3/4"NPT
DRSB0350	550	230	360	235	180	75	M10	15	25	90	350	3/4"NPT
DRSB0400	595	230	416	235	208	75	M10	15	25	90	350	3/4"NPT
DRSC0250	623	248	260	161	229	90	M10	20	50	90	385	1/2"NPT
DRSC0300	600	248	310	250	154	90	M10	15	50	90	385	3/4"NPT
DRSC0350	583	248	360	250	155	90	M10	15	50	90	385	3/4"NPT
DRSC0400	660	248	416	250	208	90	M10	15	50	90	385	3/4"NPT
DRSC0500	675	248	522	250	166	90	M10	15	50	90	385	3/4"NPT
DRSD0300	786	303	308	360	157	108	M12	18	50	150	460	3/4"NPT
DRSD0350	711	303	366	360	183	108	M12	18	50	150	460	3/4"NPT
DRSD0400	736	303	416	360	208	108	M12	18	50	150	460	3/4"NPT
DRSD0500	739	303	522	360	266	108	M12	18	50	150	460	3/4"NPT
DRSD0600	786	303	624	360	312	108	M12	18	50	150	460	1"NPT
DRSD0700	819	303	725	360	363	108	M12	18	50	150	460	1"NPT
DRSE0400	820	333	420	350	210	130	M12	18	50	150	500	3/4"NPT
DRSE0500	832	333	522	350	266	130	M12	18	50	150	500	3/4"NPT
DRSE0600	850	333	624	350	312	130	M12	18	50	150	500	1"NPT
DRSE0700	902	333	725	350	363	130	M12	18	50	150	500	1"NPT
DRSE0800	915	333	826	413	413	130	M12	18	50	150	500	1"NPT
DRSE0900	985	333	926	463	463	130	M12	18	50	150	500	1 1/2" NPT
DRSG0500	909	425	525	440	263	160	M12	15	50	150	630	3/4"NPT
DRSG0600	909	425	625	440	313	160	M12	15	50	150	630	1"NPT
DRSG0700	1035	425	725	440	363	160	M12	15	50	150	630	1"NPT
DRSG0800	1062	425	826	463	413	160	M12	15	50	150	630	1"NPT
DRSG0900	1098	425	926	463	463	160	M12	15	50	150	630	1 1/2"NPT
DRSG0700-2	1580	425	725	440	363	160	M12	15	50	150	630	1"NPT
DRSH0600	1187	512	624	515	255	198	M12	15	50	150	752	1"NPT
DRSH0700	1228	512	724	515	362	198	M12	15	50	150	752	1"NPT
DRSH0800	1260	512	824	515	412	198	M12	15	50	150	752	1"NPT
DRSH0900	1305	512	926	515	470	198	M12	15	50	150	752	1 1/2"NPT
DRSH1000	1251	512	1030	515	515	198	M12	15	50	150	752	1 1/2"NPT
DRSH0800-2	1935	512	824	515	412	198	M12	15	50	150	752	1"NPT
DRSH0900-2	1870	512	926	515	470	198	M12	15	50	150	752	1 1/2"NPT
DRSJ0700	1500	650	724	665	362	260	M16	20	100	300	950	1 1/2"NPT
DRSJ1000	1550	650	1035	665	516	260	M16	20	100	300	950	1 1/2"NPT

DIMENSION SINGLE ACTING

MODEL	A	B	C	D	E	F	M	N	P	R	Wmax	S
DRSA0100-E7	468	533	115	210	175	58	M8	14	28	90	290	1/4"NPT
DRSA0100-E8-E11	468	607	115	210	134	58	M8	14	28	90	290	1/4"NPT
DRSA0125-E7	435	533	150	210	175	58	M8	14	28	90	290	1/4"NPT
DRSA0125-E8-E11	435	607	150	210	134	58	M8	14	28	90	290	1/4"NPT
DRSA0150-E5-E7	448	533	175	210	175	58	M8	14	28	90	290	3/8"NPT
DRSA0150-E8-E11	448	607	175	210	134	58	M8	14	28	90	290	3/8"NPT
DRSA0200-E2-E4	465	635	210	210	186	58	M8	14	28	90	290	1/2"NPT
DRSA0200-E5-E6	465	533	210	210	175	58	M8	14	28	90	290	1/2"NPT
DRSA0250-E1-E4	465	635	265	210	186	58	M8	14	28	90	290	1/2"NPT
DRSA0250-E5-E6	465	533	265	210	175	58	M8	14	28	90	290	1/2"NPT
DRSA0300-E1-E4	480	635	310	210	186	58	M8	14	28	90	290	3/4"NPT
DRSA0300-E5	480	533	310	210	175	58	M8	14	28	90	290	3/4"NPT
DRSA0350-E1-E4	485	635	360	210	186	58	M8	14	28	90	290	3/4"NPT
DRSB0250-E1-E6	568	943	260	235	160	75	M10	15	25	90	350	1/2"NPT
DRSB0300-E1-E6	548	943	310	235	160	75	M10	15	25	90	350	3/4"NPT
DRSB0350-E1-E6	550	943	360	235	160	75	M10	15	25	90	350	3/4"NPT
DRSB0400-E1-E6	595	943	416	235	160	75	M10	15	25	90	350	3/4"NPT
DRSC0250-E3-E4	623	1050	260	161	229	90	M10	20	50	90	385	1/2"NPT
DRSC0300-E1-E4	600	1050	310	250	154	90	M10	15	50	90	385	3/4"NPT
DRSC0350-E1-E4	583	1050	360	250	155	90	M10	15	50	90	385	3/4"NPT
DRSC0400-E1-E4	660	1050	416	250	208	90	M10	15	50	90	385	3/4"NPT
DRSC0500-E1-E4	675	1050	522	250	166	90	M10	15	50	90	385	3/4"NPT
DRSD0300-E4	786	1280	308	360	157	108	M12	18	50	150	460	3/4"NPT
DRSD0350-E3-E4	711	1280	366	360	183	108	M12	18	50	150	460	3/4"NPT
DRSD0400-E1-E4	736	1280	416	360	208	108	M12	18	50	150	460	3/4"NPT
DRSD0500-E1-E4	739	1280	522	360	266	108	M12	18	50	150	460	3/4"NPT
DRSD0600-E1-E4	786	1280	624	360	312	108	M12	18	50	150	460	1"NPT
DRSD0700-E1-E3	819	1280	725	360	363	108	M12	18	50	150	460	1"NPT
DRSE0500-E3-E4	832	1560	522	350	266	130	M12	18	50	150	500	3/4"NPT
DRSE0600-E1-E4	850	1560	624	350	312	130	M12	18	50	150	500	1"NPT
DRSE0700-E1-E4	902	1560	725	350	363	130	M12	18	50	150	500	1"NPT
DRSE0800-E1-E4	915	1560	826	413	413	130	M12	18	50	150	500	1"NPT
DRSE0900-E1-E3	985	1560	926	463	463	130	M12	18	50	150	500	1 1/2" NPT
DRSG0600-E3-E4	909	2370	625	440	313	160	M12	15	50	150	630	1"NPT
DRSG0700-E1-E4	1035	2370	725	440	363	160	M12	15	50	150	630	1"NPT
DRSG0800-E1-E4	1062	2370	826	463	413	160	M12	15	50	150	630	1"NPT
DRSG0900-E1-E4	1098	2370	926	463	463	160	M12	15	50	150	630	1 1/2"NPT
DRSG0700-2-E1-E3	1580	2370	725	440	363	160	M12	15	50	150	630	1"NPT
DRSH0600-E3	1187	2603	624	515	255	198	M12	15	50	150	752	1"NPT
DRSH0700-E1-E3	1228	2603	724	515	362	198	M12	15	50	150	752	1"NPT
DRSH0800-E1-E3	1260	2603	824	515	412	198	M12	15	50	150	752	1"NPT
DRSH0900-E1-E3	1305	2603	926	515	470	198	M12	15	50	150	752	1 1/2"NPT
DRSH1000-E1-E3	1251	2603	1030	515	515	198	M12	15	50	150	752	1 1/2"NPT
DRSH0800-2-E1-E3	1935	2603	824	515	412	198	M12	15	50	150	752	1"NPT
DRSH0900-2-E1-E3	1552	1904	925	350	463	198	M12	15	50	150	752	1 1/2"NPT
DRSJ1000-E2-E4	1550	2000	1035	665	515	260	M16	20	100	300	950	1 1/2"NPT

DIMENSION DETAILS

DOUBLE ACTING HMOR

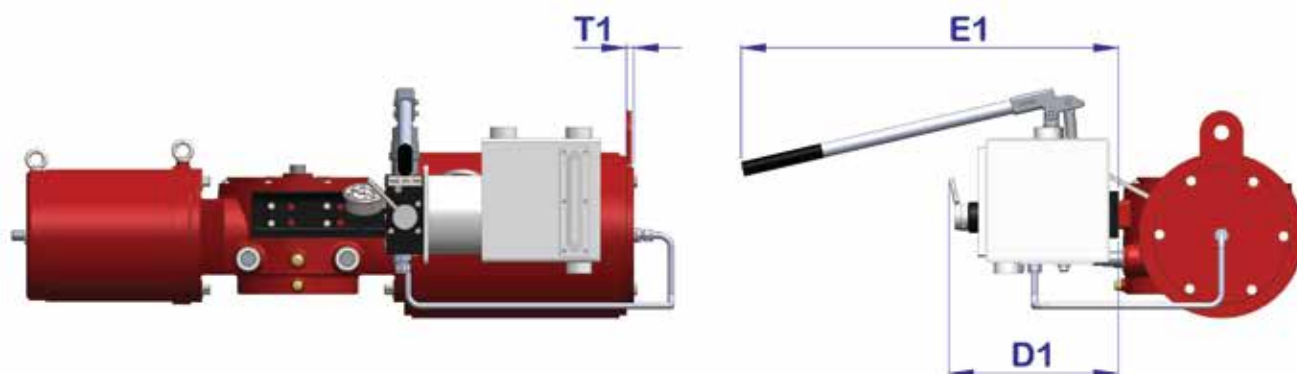


MODEL	T1	E1	D1
DRSA0100	295	610	280
DRSA0125	295	610	280
DRSA0150	295	610	280
DRSA200	295	610	280
DRSA250	295	610	280
DRSA300	295	610	280
DRSA350	295	610	280
DRSB0250	375	610	280
DRSB0300	375	610	280
DRSB0350	375	610	280
DRSB0400	375	610	280
DRSC0250	410	610	280
DRSC0300	410	610	280
DRSC0350	410	610	280
DRSC0400	410	610	280
DRSC0500	410	620	290
DRSD0300	470	620	290
DRSD0350	470	620	290
DRSD0400	470	620	290
DRSD0500	470	620	290
DRSD0600	470	620	290
DRSD0700	470	620	290
DRSE0400	530	620	290
DRSE0500	530	620	290
DRSE0600	530	620	290
DRSE0700	530	620	290
DRSE0800	530	620	290
DRSE0900	530	620	290

MODEL	T1	E1	D1
DRSG0500	665	620	290
DRSG0600	665	620	290
DRSG0700	665	620	290
DRSG0800	665	620	290
DRSG0900	665	620	290
DRSG0700-2	665	620	290
DRSH0600	680	620	290
DRSH0700	680	620	290
DRSH0800	680	620	290
DRSH0900	680	620	290
DRSH1000	680	620	290
DRSH0800-2	680	620	290
DRSH0900-2	680	620	290
DRSJ0700	865	620	290
DRSJ1000	865	620	290

DIMENSION DETAILS

SPRING RETURN MANUAL OVERRIDE



MODEL	T1	E1	D1
DRSA200-E2-E4	25	610	280
DRSA200-E5-E6	25	610	280
DRSA250-E1-E4	25	610	280
DRSA250-E5-E6	25	610	280
DRSA300-E1-E4	25	610	280
DRSA300-E5-E6	25	610	280
DRSA350-E1-E4	25	610	280
DRSB0250-E1-E4	30	610	280
DRSB0250-E5-E6	30	610	280
DRSB0300-E1-E4	30	610	280
DRSB0300-E5-E6	30	610	280
DRSB0350-E1-E4	30	610	280
DRSB0350-E5-E6	30	610	280
DRSB0400-E1-E4	30	610	280
DRSB0400-E5-E6	30	610	280
DRSC0250-E3-E4	30	620	290
DRSC0300-E1-E4	30	620	290
DRSC0350-E1-E4	30	620	290
DRSC0400-E1-E4	30	620	290
DRSC0500-E1-E4	30	620	290
DRSD0300-E4	30	620	290
DRSD0350-E3-E4	30	620	290

MODEL	T1	E1	D1
DRSD0400-E1-E4	30	620	290
DRSD0500-E1-E4	30	620	290
DRSD0600-E1-E4	30	620	290
DRSD0700-E1-E3	30	620	290
DRSE0500-E3-E4	30	620	290
DRSE0600-E1-E4	30	620	290
DRSE0700-E1-E4	30	620	290
DRSE0800-E1-E4	30	620	290
DRSE0900-E1-E3	30	620	290
DRSG0600-E3-E4	30	620	290
DRSG0700-E1-E4	30	620	290
DRSG0800-E1-E4	30	620	290
DRSG0900-E1-E4	30	620	290
DRSG0700-2-E1-E3	30	620	290
DRSH0600-E3	30	620	290
DRSH0700-E1-E3	30	620	290
DRSH0800-E1-E3	30	620	290
DRSH0900-E1-E3	30	620	290
DRSH1000-E1-E3	30	620	290
DRSH0800-2-E1-E3	30	620	290
DRSH0900-2-E1-E3	30	620	290
DERSJ1000-E2-E4	30	620	290

DIMENSION DETAILS

OVERRIDE SIDE HAND WHEEL

SWH- 1000



MODEL	B1	ØD1
DRSA0100-E7-E11	230	300
DRSA0125-E7-E11	230	300

DIMENSION DETAILS

OVERRIDE SIDE HAND WHEEL

SWH 3000-25000

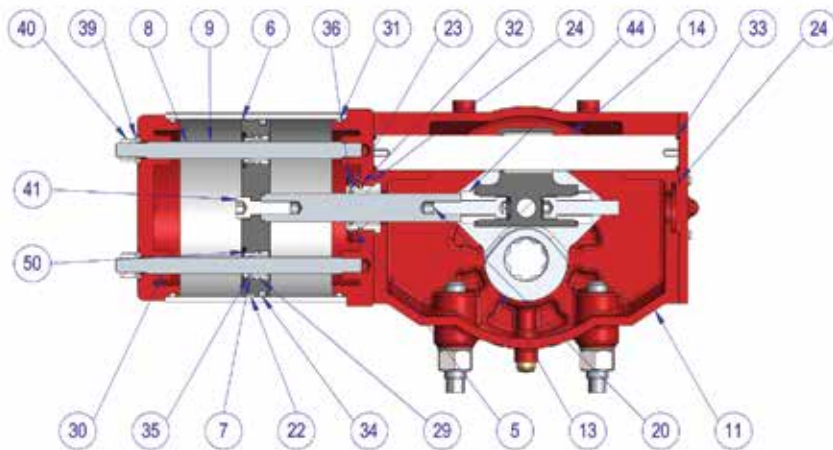
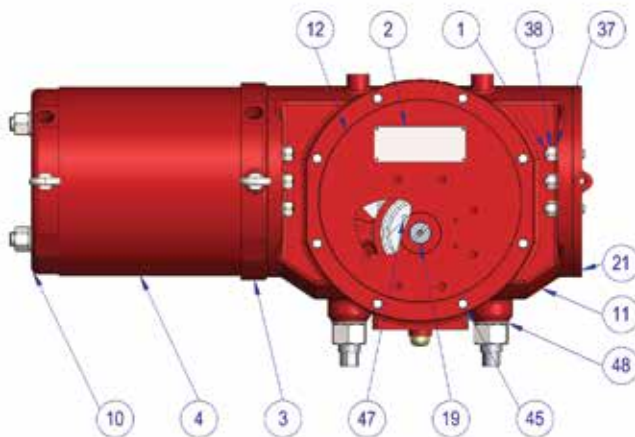
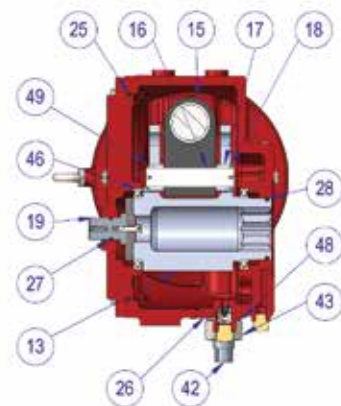


MODEL	B1	D	ØD1	E1
DRSA200-E2-E6	304	218	290	51
DRSA250-E1-E6	304	218	290	51
DRSA250-E5-E6	304	218	290	51
DRSA300-E1-E6	357	298	500	72
DRSA300-E5-E6	357	298	500	72
DRSA350-E1-E4	357	298	500	72
DRSB0250-E1-E6	400	218	290	51
DRSB0300-E1-E6	400	298	500	72
DRSB0350-E1-E6	400	298	500	72
DRSB0400-E1-E6	400	298	500	72
DRSC0250-E3-E4	380	218	290	51
DRSC0300-E1-E4	450	298	500	72
DRSC0350-E1-E4	450	298	500	72
DRSC0400-E1-E4	450	298	500	72

MODEL	B1	D	ØD1	E1
DRSC0500-E1-E4	490	298	650	118
DRSD0300-E4	490	298	500	72
DRSD0350-E3-E4	490	298	500	72
DRSD0400-E1-E4	490	298	500	72
DRSD0500-E1-E4	530	325	650	118
DRSD0600-E1-E4	530	325	650	118
DRSD0700-E1-E3	530	325	650	118
DRSE0500-E3-E4	580	335	650	118
DRSE0600-E1-E4	580	335	650	118
DRSE0700-E1-E4	580	335	650	118
DRSG0600-E3-E4	650	365	650	118
DRSG0700-E1-E4	650	365	650	118
DRSG0700-2-E1-E3	650	365	650	118
DRSH0600-E3	730	448	650	118
DRSH0700-E1-E3	730	448	650	118

MATERIAL OF CONSTRUCTION

DOUBLE ACTING



MATERIAL OF CONSTRUCTION

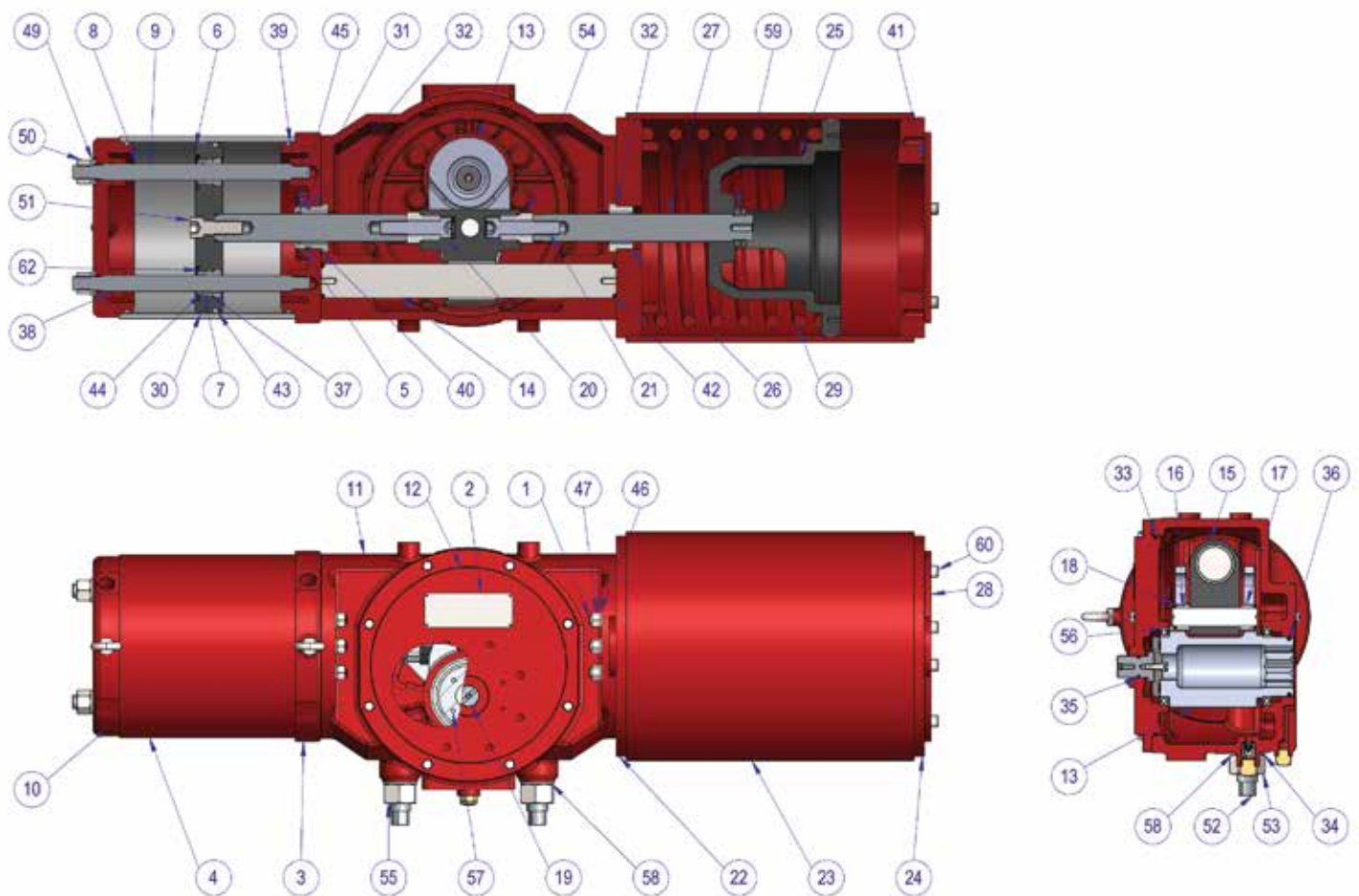
DOUBLE ACTING

Sr. No.	DESCRIPTION	QTY.	MATERIAL
1	STUD BOLT	12	ALLOY STEEL
2	NAME PLATE	1	STAINLESS STEEL
3	CYL COVER FRONT END	1	DUCTILE IRON
4	CYLINDER	1	CARBON STEEL
5	BEARING BUSH	1	PHOSPHOR BRONZE + CARBON STEEL
6	PISTON	1	DUCTILE IRON
7	GUIDE BUSHING	2	PHOSPHOR BRONZE + CARBON STEEL
8	TIE ROD	2	STAINLESS STEEL
9	PISTON ROD	1	STAINLESS STEEL
10	CYL COVER REAR END	1	DUCTILE IRON
11	CENTRAL BLOCK	1	DUCTILE IRON
12	CENTRAL BLOCK COVER	1	DUCTILE IRON
13	YOKE	1	DUCTILE IRON
14	GUIDE ROD	1	STAINLESS STEEL/ CARBON STEEL
15	CARRIER	1	DUCTILE IRON
16	YOKE PIN	1	ALLOY STEEL
17	ROLLER FOR YOKE PIN	2	BEARING STEEL
18	WASHER	2	MILD STEEL
19	YOKE INSERT	1	DUCTILE IRON
20	CONNECTING BOLT DRSE PNEUMATIC SIDE	1	ALLOY STEEL
21	REAR CAP	1	DUCTILE IRON
22	PISTON STRIP	1	CFT
23	LIP SEAL	1	NBR
24	O-RING	2	NBR
25	O-RING	1	NBR
26	O-RING	2	NBR

Sr. No.	DESCRIPTION	QTY.	MATERIAL
27	O-RING	1	NBR
28	O-RING	1	NBR
29	O-RING	2	NBR
30	O-RING	2	NBR
31	O-RING	2	NBR
32	O-RING	1	NBR
33	O-RING	2	NBR
34	QUAD SEAL	1	NBR
35	QUAD SEAL	2	NBR
36	EXTERNAL CIRCLIP	1	DIN 471
37	SPRING WASHER	12	DIN 128
38	HEX NUT	12	DIN 934 CLASS-12
39	SPRING WASHER	2	DIN 128
40	HEX NUT	2	DIN 934 CLASS- 12
41	HEX SOC HEAD CAP SCREW	1	DIN912 CLASS- 12.9
42	STROKE ADJUSTMENT SCREW	2	CARBON STEEL
43	HEX NUT	2	DIN 934 CLASS- 12
44	CONNECTING NUT DRSE	1	ALLOY STEEL
45	HEX SOC HEAD CAP SCREW	8	DIN912 CLASS- 8.8
46	RADIAL BALL BEARING	2	-
47	HEX SOC HEAD CAP SCREW	4	DIN912 CLASS- 8.8
48	WASHER	2	CARBON STEEL
49	EXTERNAL CIRCLIP	2	DIN 471
50	EXTERNAL CIRCLIP	2	DIN 471
51	HEX SOC. HEAD. SET SCREW	1	DIN913 CLASS- 8.8

MATERIAL OF CONSTRUCTION

SINGLE ACTING



MATERIAL OF CONSTRUCTION

DOUBLE ACTING

Sr. No.	DESCRIPTION	QTY.	MATERIAL
1	STUD BOLT	12	ALLOY STEEL
2	NAME PLATE	1	STAINLESS STEEL
3	CYL COVER FRONT END	1	DUCTILE IRON
4	CYLINDER	1	CARBON STEEL/ CHROME PLATED
5	BEARING BUSH	1	PHOSPHOR BRONZE + CARBON STEEL
6	PISTON	1	DUCTILE IRON
7	GUIDE BUSHING	2	PHOSPHOR BRONZE + CARBON STEEL
8	TIE ROD	2	STAINLESS STEEL
9	PISTON ROD	1	STAINLESS STEEL
10	CYL COVER REAR END	1	DUCTILE IRON
11	CENTRAL BLOCK	1	DUCTILE IRON
12	CENTRAL BLOCK COVER	1	DUCTILE IRON
13	YOKE	1	DUCTILE IRON
14	GUIDE ROD	1	STAINLESS STEEL/ CARBON STEEL
15	CARRIER	1	DUCTILE IRON
16	YOKE PIN	1	ALLOY STEEL
17	ROLLER FOR YOKE PIN	2	BEARING STEEL
18	WASHER	2	MILD STEEL
19	YOKE INSERT	1	DUCTILE IRON
20	CONNECTING BOLT DRSE PNEUMATIC SIDE	1	ALLOY STEEL
21	CONNECTING BOLT DRSE SPRING SIDE	1	ALLOY STEEL
22	SPRING COVER FRONT END	1	CARBON STEEL
23	E TUBE	1	CARBON STEEL
24	SPRING COVER REAR END	1	CARBON STEEL
25	SPRING RETAINER	1	DUCTILE IRON
26	BEARING BUSH	1	PHOSPHOR BRONZE + CARBON STEEL
27	CONNECTING ROD	1	STAINLESS STEEL
28	E COVER REAR CAP	1	CARBON STEEL
29	SPRING	1	ALLOY STEEL
30	PISTON STRIP	1	CFT
31	LIP SEAL	1	NBR
32	O-RING	2	NBR

Sr. No.	DESCRIPTION	QTY.	MATERIAL
33	O-RING	1	NBR
34	O-RING	2	NBR
35	O-RING	1	NBR
36	O-RING	1	NBR
37	O-RING	2	NBR
38	O-RING	2	NBR
39	O-RING	2	NBR
40	O-RING	1	NBR
41	O-RING	1	NBR
42	O-RING	2	NBR
43	QUAD SEAL	1	NBR
44	QUAD SEAL	2	NBR
45	EXTERNAL CIRCLIP	1	DIN 471
46	SPRING WASHER	12	DIN 128
47	HEX NUT	12	DIN 934 CLASS-12
48	RIVET	4	-
49	SPRING WASHER	2	DIN 128
50	HEX NUT	2	DIN 934 CLASS- 12
51	HEX SOC HEAD CAP SCREW	1	DIN912 CLASS- 12.9
52	STROKE ADJUSTMENT SCREW	2	CARBON STEEL
53	HEX NUT	2	DIN 934 CLASS- 12
54	CONNECTING NUT DRSE	2	ALLOY STEEL
55	HEX SOC HEAD CAP SCREW	8	DIN912 CLASS- 8.8
56	RADIAL BALL BEARING	2	-
57	HEX SOC HEAD CAP SCREW	4	DIN912 CLASS- 8.8
58	WASHER	2	CARBON STEEL
59	ROUND NUT SLOTTED	2	ALLOY STEEL
60	HEX SOC HEAD CAP SCREW	4	DIN912 CLASS- 8.8
61	EXTERNAL CIRCLIP	2	DIN 471
62	EXTERNAL CIRCLIP	2	DIN 471
63	HEX SOC. HEAD. SET SCREW	1	DIN913 CLASS- 8.8

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NOTES

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OVERSEAS OFFICES

Middle East & North Africa

Rotex Flow Control Marketing Services L.L.C

Office No. 2403-01, The One Tower, Al Thanyah First,
Dubai, United Arab Emirates

Phone: +971 543126161

Email: Rotexmena@rotexautomation.com

EUROPE

Rotex Automation Europe

Bierstraat 117, 3011 XA Rotterdam,
The Netherlands

Phone: +31 10 210 5331

Email: europe@rotexautomation.com

Manufacturing Units

Rotex Manufacturers & Engineers Pvt Ltd

Unit I

Plot No-R-852/853, TTC Industrial Area, Rabale,
Navi Mumbai-400701, Maharashtra, India

Phone: +91 22 2087 1065

Email: sales.rabale@rotexautomation.com

Rotex Manufacturers & Engineers Pvt Ltd

Unit II

PAP/SH-102, Chakan, Ind.Area, Phase II, Shinde Village
Khed Taluka, Pune-410501, Maharashtra, India

Phone: +91 22 2087 1065

Email: sales.rabale@rotexautomation.com

Rotex Industrial Company Ltd

Unit III

93 Street, Building No 6722, Postal Code 34334,
Dammam, Kingdom of Saudi Arabia

Email: sales.ksa@rotexksa.com

Web address: www.rotexksa.com



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@rotexautomation

www.rotexautomation.com