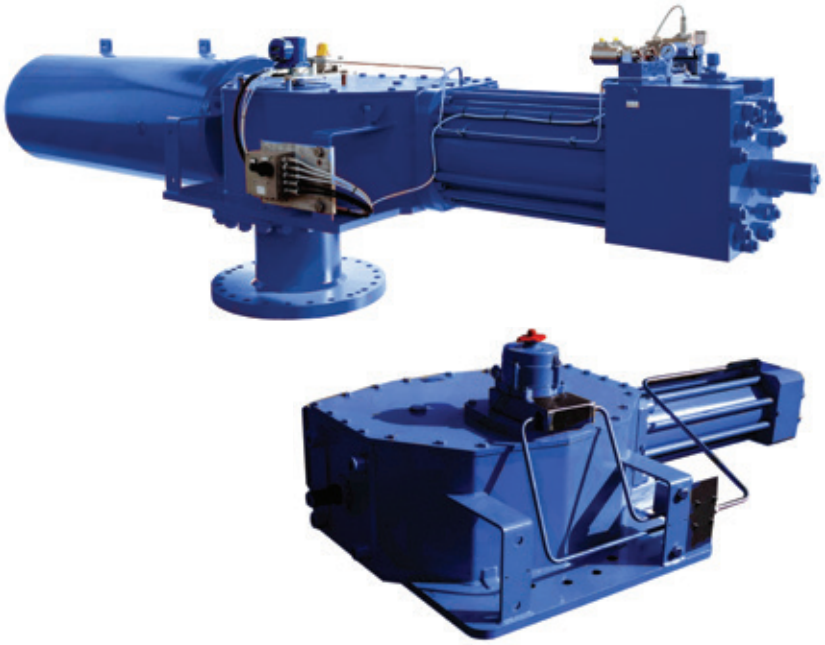
BIFFI OLGA/OLGAS HYDRAULIC ACTUATORS

SCOTCH YOKE DESIGN

Double-acting and spring return hydraulic quarter-turn actuators for on-off and modulating control of valves in heavy duty service. Models available for output torques to 750,000 Nm.



GENERAL APPLICATION

OLGA and OLGAS series hydraulic actuators are designed for the control of quarter turn ball, butterfly, plug or damper style valves.

APPROVALS

Safety integrity level:
(IEC 61508-1÷7:2010) – Suitable for use in SIL3 applications
Area classification:
(ATEX) - II 2GD 135°C (T4)
Enclosure standards:
(IEC 60529) - IP67M
(ANSI/NEMA 250) - NEMA 4, 4X, 6
Pressure equipment directive:
PED 97/23/EC
Machinery directive:
2006/42/EC

TECHNICAL DATA

Design pressure:	
OLGA/OLGAS:	105 bar g maximum
OLGAS-QA:	30 bar g maximum
Supply medium:	Hydraulic oil Special versions for fire-resistant fluids
Output torque	
OLGA:	Double acting torque up to 750,000 Nm
OLGAS/QA:	Spring starting torque up to 335,000 Nm Spring ending torque: 235,000 Nm Higher values available with special versions
Ambient temperature	
Standard range:	-30° C to +100° C (-20°F to + 210°F)
Extended range:	-60° C to +180° C (-70°F to + 350°F)

FEATURES

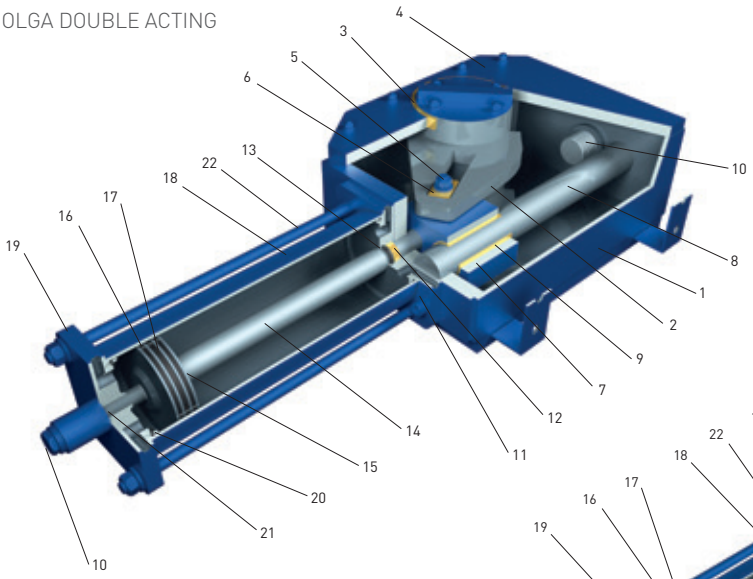
- Totally enclosed, weatherproof housing in fabricated carbon steel for maximum strength.
- Guide bar resists transverse loads and supports the piston rod.
- Hard chromium plated alloy steel material guarantees corrosion protection and minimal friction.
- PTFE-impregnated bronze or sintered bronze bushings provide minimal friction and extended service life.
- Scotch yoke design with canted or symmetric torque arm allows close working to distinctive valve torque profiles.
- External travel stops for precise angular stroke adjustment between 82° and 98°.
- Electroless nickel plated and polished cylinder provides maximum corrosion resistance and reduces friction.
- Triple-element piston seals provide low friction, high sensitivity, ensure long life and prevent sticking problems.
- OLGAS fully encapsulated spring return pack ensures personnel safety and simplifies assembly.
- OLGAS modular design enables spring action to be changed in the field easily.
- OLGAS-QA achieves 'safe' position in 0.2 second.

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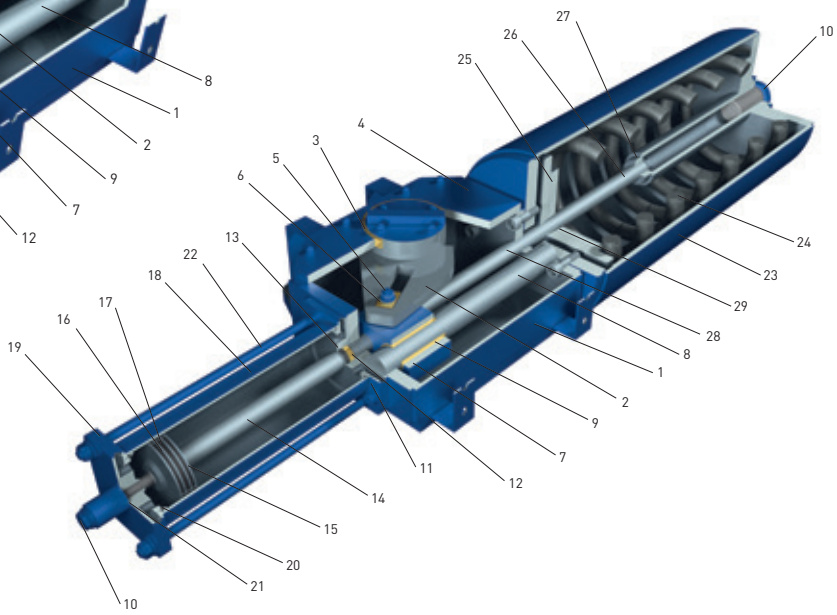
BIFFI OLGA/OLGAS HYDRAULIC ACTUATORS

SCOTCH YOKE DESIGN

OLGA DOUBLE ACTING



OLGAS SPRING RETURN



MATERIALS

Part		Material
1	Housing	Carbon steel
2	Yoke	Carbon steel
3	Yoke bushing	Bronze
4	Cover	Carbon steel
5	Guide block pin	Alloy steel
6	Sliding block	Bronze
7	Guide block	Carbon steel
8	Guide bar	Alloy steel (hard chrome plated)
9	Guide block bushing	Steel + bronze + PTFE
10	Travel stop screw	Carbon steel
11	Cylinder head flange	Carbon steel
12	Piston rod bushing	Steel + bronze + PTFE
13	Piston rod seal	NBR rubber
14	Piston rod	Alloy steel (hard chrome plated)
15	Piston	Carbon steel
16	Piston guide sliding ring	PTFE + graphite
17	Piston seal O-ring	PTFE+NBR rubber
18	Cylinder tube	Carbon steel (ENP)
19	Cylinder end flange	Carbon steel
20	Cylinder seal O-ring	NBR rubber
21	Sealing washer	PVC
22	Tie rod	Alloy steel
23	Spring container	Carbon steel
24	Spring	Carbon steel
25	Spring thrust flange	Carbon steel
26	Guide rod	Alloy steel (hard chrome plated)
27	Guide rod bushing	Steel + bronze + PTFE
28	Container rod	Alloy steel (hard chrome plated)
29	Container rod bushing	Steel + bronze + PTFE
30	Stop setting screw	Carbon steel
31	Back-up ring	NBR rubber
32	Piston rod seal ring	Teflon + graphite + NBR
33	O-ring	NBR rubber

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, MODELS 0.3C-45 TO 14C-350

			Operating supply pressure (bar g)											
	MOP*		25		30		35		40		45		50	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3C-45	100	0°	576	510	695	615	814	721	933	827	1051	933	1170	1038
		45°	225	179	271	217	318	254	364	291	411	328	457	366
		90°	325	249	392	300	459	352	525	403	592	455	659	507
0.3C-75	45	0°	1619	1593	1948	1918	2278	2244	2608	2569	2938	2894		
		45°	632	561	761	676	890	791	1019	905	1148	1020		
		90°	912	778	1098	936	1284	1095	1470	1254	1656	1413		
0.3C-100	25	0°	2890	2914										
		45°	1129	1027										
		90°	1629	1423										
0.9C-100	65	0°	3342	3370	4019	4055	4697	4739	5375	5424	6053	6108	6731	6793
		45°	1306	1187	1571	1429	1836	1670	2101	1911	2366	2153	2631	2394
		90°	1883	1645	2265	1979	2647	2314	3029	2648	3412	2982	3794	3316
0.9C-135	35	0°	6115	6185	7351	7435	8586	8686						
		45°	2390	2180	2873	2620	3356	3061						
		90°	3446	3019	4143	3630	4839	4241						
1.5C-135	45	0°	7733	7821	9295	9402	10857	10984	12420	12566	13982	14147		
		45°	3022	2756	3633	3314	4244	3871	4854	4429	5465	4986		
		90°	4358	3818	5239	4590	6119	5363	7000	6135	7881	6907		
1.5C-175	25	0°	13021	13261										
		45°	5089	4674										
		90°	7339	6474										
3C-135	55	0°	12800	12945	15385	15563	17971	18181	20557	20799	23143	23417	25729	26034
		45°	5003	4562	6014	5485	7025	6408	8035	7331	9046	8253	10057	9176
		90°	7214	6320	8672	7598	10129	8876	11587	10155	13044	11433	14502	12711
3C-175	30	0°	21552	21950	25897	26379								
		45°	8424	7736	10123	9297								
		90°	12147	10717	14596	12879								
6C-175	55	0°	25196	25662	30277	30839	35357	36017	40437	41194	45517	46372	50597	51550
		45°	9849	9045	11834	10870	13820	12694	15806	14519	17792	16344	19777	18169
		90°	14201	12529	17065	15057	19928	17585	22791	20113	25655	22640	28518	25168
6C-200	40	0°	32963	33268	39598	39969	46233	46670	52868	53371				
		45°	12885	11726	15478	14088	18072	16449	20665	18811				
		90°	18579	16243	22319	19514	26059	22786	29798	26058				
14C-200	80	0°	36027	36361	43279	43685	50531	51009	57783	58333	65035	65656	72287	72980
		45°	14082	12816	16917	15397	19752	17979	22587	20560	25421	23141	28256	25723
		90°	20306	17753	24394	21329	28481	24904	32568	28480	36656	32056	40743	35632
14C-235	55	0°	49800	51646	59813	62034	69825	72421	79837	82808	89849	93195	99862	103582
		45°	19466	18203	23380	21865	27294	25526	31207	29187	35121	32848	39035	36509
		90°	28069	25216	33712	30287	39356	35359	44999	40430	50642	45501	56285	50573
14C-280	40	0°	70699	73532	84913	88320	99127	103109	113341	117897				
		45°	27635	25917	33191	31130	38747	36342	44303	41555				
		90°	39848	35901	47860	43121	55871	50342	63883	57562				
14C-300	35	0°	81160	85141	97477	102264	113794	119386						
		45°	31724	30009	38102	36044	44481	42079						
		90°	45744	41569	54941	49929	64138	58289						
14C-350	25	0°	110468	117667										
		45°	43180	41473										
		90°	62263	57450										

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, MODELS 0.3C-45 TO 14C-350

			Operating supply pressure (bar g)											
	MOP*		55		60		65		70		75		80	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3C-45	100	0°	1289	1144	1408	1250	1526	1356	1645	1461	1764	1567	1882	1673
		45°	503	403	550	440	596	477	643	515	689	552	736	589
		90°	726	558	793	610	860	662	927	713	994	765	1061	816
0.3C-75	45	0°												
		45°												
		90°												
0.3C-100	25	0°												
		45°												
		90°												
0.9C-100	65	0°	7409	7478	8087	8162	8765	8847						
		45°	2896	2635	3161	2877	3426	3118						
		90°	4176	3651	4558	3985	4940	4319						
0.9C-135	35	0°												
		45°												
		90°												
1.5C-135	45	0°												
		45°												
		90°												
1.5C-175	25	0°												
		45°												
		90°												
3C-135	55	0°	28315	28652										
		45°	11068	10099										
		90°	15959	13989										
3C-175	30	0°												
		45°												
		90°												
6C-175	55	0°	55677	56727										
		45°	21763	19994										
		90°	31381	27696										
6C-200	40	0°												
		45°												
		90°												
14C-200	80	0°	79539	80304	86791	87628	94043	94952	101295	102276	108547	109599	115799	116923
		45°	31091	28304	33925	30886	36760	33467	39595	36049	42430	38630	45264	41211
		90°	44831	39208	48918	42783	53006	46359	57093	49935	61181	53511	65268	57087
14C-235	55	0°	109874	113969										
		45°	42948	40170										
		90°	61929	55644										
14C-280	40	0°												
		45°												
		90°												
14C-300	35	0°												
		45°												
		90°												
14C-350	25	0°												
		45°												
		90°												

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, MODELS 18C-235 TO 80C-350

			Operating supply pressure (bar g)											
	MOP*		25		30		35		40		45		50	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18C-235	75	0°	57271	59393	68785	71339	80299	83284	91813	95229	103327	107174	114841	119120
		45°	22386	20934	26887	25144	31388	29355	35888	33565	40389	37775	44890	41986
		90°	32280	28998	38769	34830	45259	40662	51749	46495	58239	52327	64728	58159
18C-280	50	0°	81304	84562	97650	101569	113996	118575	130342	135582	146688	152589	163034	169596
		45°	31781	29805	38170	35799	44560	41794	50949	47788	57339	53782	63728	59777
		90°	45826	41286	55039	49590	64252	57893	73465	66197	82678	74500	91892	82803
18C-300	45	0°	93334	97912	112098	117603	130863	137294	149627	156985	168392	176676		
		45°	36483	34511	43818	41451	51153	48391	58488	55332	65822	62272		
		90°	52606	47805	63183	57418	73759	67032	84335	76646	94912	86260		
18C-350	30	0°	127038	135317	152578	162528								
		45°	49658	47695	59641	57286								
		90°	71603	66067	85999	79353								
32C-235	100	0°	67231	69723	80747	83746	94264	97768	107780	111791	121297	125814	134813	139836
		45°	26280	24575	31563	29517	36846	34460	42130	39402	47413	44345	52697	49288
		90°	37893	34041	45512	40888	53130	47734	60749	54581	68367	61427	75986	68274
32C-280	80	0°	95444	99268	114633	119233	133821	139197	153010	159162	172199	179126	191387	199091
		45°	37308	34989	44809	42025	52309	49062	59810	56099	67311	63136	74811	70173
		90°	53796	48467	64611	58214	75426	67962	86242	77709	97057	87457	107873	97204
32C-300	65	0°	109566	114941	131594	138056	153622	161171	175649	184287	197677	207402	219705	230517
		45°	42828	40513	51438	48660	60049	56807	68659	64955	77270	73102	85880	81250
		90°	61755	56119	74171	67404	86587	78690	99002	89976	111418	101262	123834	112548
32C-350	50	0°	149132	158850	179114	190794	209096	222737	239079	254680	269061	286623	299043	318566
		45°	58294	55989	70014	67248	81733	78507	93453	89766	105173	101025	116893	112284
		90°	84056	77557	100955	93153	117854	108749	134753	124345	151652	139941	168552	155537
50C-235	100	0°	74701	77470	89719	93051	104738	108631	119756	124212	134774	139793	149793	155374
		45°	29200	27305	35070	32797	40941	38289	46811	43781	52682	49272	58552	54764
		90°	42104	37824	50569	45431	59034	53038	67499	60645	75964	68252	84428	75860
50C-280	100	0°	106049	110298	127370	132481	148691	154664	170011	176846	191332	199029	212653	221212
		45°	41453	38876	49787	46695	58121	54514	66455	62332	74790	70151	83124	77970
		90°	59773	53852	71790	64682	83807	75513	95824	86344	107842	97174	119859	108005
50C-300	90	0°	121740	127712	146215	153396	170691	179079	195166	204763	219641	230447	244117	256131
		45°	47587	45014	57154	54067	66721	63119	76288	72172	85855	81225	95423	90278
		90°	68617	62354	82412	74894	96207	87434	110003	99974	123798	112513	137593	125053
50C-350	60	0°	165702	176500	199016	211993	232329	247485	265643	282978	298957	318470	332270	353963
		45°	64771	62210	77793	74720	90815	87230	103837	99740	116859	112250	129881	124760
		90°	93395	86175	112172	103503	130949	120832	149726	138161	168503	155490	187280	172819
80C-300	100	0°	142030	146356	170585	175793	199139	205229	227694	234665	256248	264101	284803	293537
		45°	55518	51586	66680	61961	77841	72336	89003	82712	100165	93087	111326	103462
		90°	80053	71457	96148	85829	112242	100201	128336	114573	144431	128945	160525	143317
80C-350	90	0°	193319	203276	232185	244156	271051	285036	309917	325915	348783	366795	387649	407675
		45°	75566	71648	90759	86057	105951	100466	121143	114875	136336	129283	151528	143692
		90°	108961	99248	130868	119207	152774	139166	174680	159125	196587	179084	218493	199043

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, MODELS 18C-235 TO 80C-350

			Operating supply pressure (bar g)											
	MOP*		55		60		65		70		75		80	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18C-235	75	0°	126355	131065	137869	143010	149383	154955	160897	166901	172411	178846		
		45°	49391	46196	53891	50406	58392	54617	62893	58827	67394	63037		
		90°	71218	63991	77708	69823	84198	75655	90687	81488	97177	87320		
18C-280	50	0°												
		45°												
		90°												
18C-300	45	0°												
		45°												
		90°												
18C-350	30	0°												
		45°												
		90°												
32C-235	100	0°	148330	153859	161846	167882	175363	181904	188879	195927	202396	209950	215912	223972
		45°	57980	54230	63264	59173	68547	64115	73831	69058	79114	74000	84398	78943
		90°	83604	75120	91222	81967	98841	88813	106459	95659	114078	102506	121696	109352
32C-280	80	0°	210576	219055	229765	239020	248954	258984	268142	278949	287331	298913	306520	318878
		45°	82312	77210	89813	84247	97313	91283	104814	98320	112315	105357	119815	112394
		90°	118688	106952	129504	116699	140319	126447	151135	136194	161950	145942	172766	155689
32C-300	65	0°	241733	253633	263761	276748	285789	299863						
		45°	94491	89397	103101	97545	111712	105692						
		90°	136249	123834	148665	135120	161081	146406						
32C-350	50	0°												
		45°												
		90°												
50C-235	100	0°	164811	170954	179829	186535	194848	202116	209866	217697	224884	233277	239903	248858
		45°	64423	60256	70293	65747	76164	71239	82034	76731	87905	82223	93775	87714
		90°	92893	83467	101358	91074	109823	98681	118288	106288	126753	113895	135218	121503
50C-280	100	0°	233974	243395	255294	265578	276615	287760	297936	309943	319257	332126	340577	354309
		45°	91458	85789	99792	93607	108126	101426	116460	109245	124794	117063	133128	124882
		90°	131876	118835	143893	129666	155910	140496	167927	151327	179945	162157	191962	172988
50C-300	90	0°	268592	281814	293068	307498	317543	333182	342018	358865	366494	384549	390969	410233
		45°	104990	99330	114557	108383	124124	117436	133691	126488	143259	135541	152826	144594
		90°	151388	137593	165184	150133	178979	162673	192774	175213	206569	187753	220364	200292
50C-350	60	0°	365584	389455	398898	424947								
		45°	142903	137270	155925	149780								
		90°	206056	190148	224833	207477								
80C-300	100	0°	313358	322974	341912	352410	370467	381846	399021	411282	427576	440718	456131	470155
		45°	122488	113838	133650	124213	144812	134588	155973	144964	167135	155339	178297	165714
		90°	176620	157689	192714	172061	208809	186433	224903	200805	240997	215177	257092	229549
80C-350	90	0°	426515	448554	465381	489434	504247	530314	543113	571193	581979	612073	620845	652953
		45°	166720	158101	181913	172510	197105	186918	212297	201327	227490	215736	242682	230145
		90°	240399	219003	262306	238962	284212	258921	306118	278880	328024	298839	349931	318798

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, MODELS 0.3S-45 TO 14S-350

			Operating supply pressure (bar g)											
	MOP*		25		30		35		40		45		50	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3S-45	100	0°	362	323	436	390	511	457	585	524	660	591	734	658
		45°	229	183	276	221	324	259	371	297	418	335	465	373
		90°	414	300	499	362	584	424	669	486	755	548	840	611
0.3S-75	60	0°	1016	1010	1223	1216	1430	1422	1637	1628	1844	1835	2051	2041
		45°	644	572	775	689	906	805	1038	922	1169	1039	1300	1156
		90°	1162	937	1399	1128	1635	1320	1872	1511	2109	1702	2345	1894
0.3S-100	35	0°	1814	1847	2182	2222	2550	2598						
		45°	1150	1046	1383	1259	1617	1472						
		90°	2074	1714	2495	2062	2916	2411						
0.9S-100	90	0°	2097	2136	2523	2570	2948	3004	3374	3438	3799	3872	4225	4306
		45°	1330	1210	1599	1456	1869	1702	2139	1948	2409	2193	2679	2439
		90°	2399	1982	2885	2385	3372	2788	3858	3190	4345	3593	4832	3996
0.9S-135	50	0°	3838	3920	4613	4713	5389	5506	6164	6299	6940	7091	7715	7884
		45°	2434	2221	2925	2670	3417	3119	3909	3568	4400	4017	4892	4467
		90°	4390	3638	5276	4374	6163	5109	7050	5845	7937	6581	8824	7317
1.5S-135	65	0°	5265	5378	6329	6466	7393	7553	8457	8641	9520	9728	10584	10816
		45°	3080	2800	3702	3366	4325	3932	4947	4499	5569	5065	6192	5631
		90°	5080	4210	6106	5061	7133	5913	8159	6764	9185	7616	10212	8467
1.5S-175	40	0°	8866	9119	10653	10959	12441	12799	14229	14639				
		45°	5186	4748	6232	5706	7278	6664	8324	7622				
		90°	8554	7139	10278	8579	12003	10019	13728	11460				
3S-135	80	0°	8602	8786	10339	10562	12077	12339	13815	14116	15553	15893	17291	17669
		45°	5100	4640	6131	5578	7161	6517	8192	7455	9222	8393	10253	9332
		90°	8538	7076	10263	8507	11988	9938	13713	11369	15438	12800	17163	14231
3S-175	50	0°	14483	14897	17404	17903	20324	20909	23244	23915	26164	26920	29084	29926
		45°	8588	7868	10320	9455	12052	11043	13783	12630	15515	14218	17247	15805
		90°	14377	11999	17276	14420	20174	16841	23073	19262	25972	21682	28870	24103
6S-175	85	0°	16902	17385	20310	20893	23718	24401	27126	27909	30534	31416	33942	34924
		45°	10041	9200	12066	11056	14090	12912	16115	14768	18139	16624	20164	18480
		90°	16843	14057	20239	16893	23634	19729	27030	22565	30426	25401	33822	28237
6S-200	65	0°	22112	22539	26563	27079	31015	31618	35466	36158	39917	40698	44368	45238
		45°	13136	11927	15781	14329	18425	16731	21069	19133	23714	21536	26358	23938
		90°	22034	18223	26470	21894	30905	25564	35340	29235	39776	32906	44211	36576
14S-200	100	0°	24531	25004	29469	30040	34407	35077	39345	40113	44283	45149	49221	50186
		45°	14351	13018	17239	15641	20128	18263	23017	20885	25905	23507	28794	26129
		90°	23668	19574	28432	23517	33196	27459	37960	31402	42724	35345	47488	39287
14S-235	80	0°	33909	35515	40727	42658	47544	49801	54362	56944	61179	64087	67996	71230
		45°	19837	18491	23825	22210	27813	25929	31802	29648	35790	33367	39778	37086
		90°	32716	27803	39293	33394	45871	38986	52448	44578	59025	50170	65603	55761
14S-280	55	0°	48139	50565	57818	60735	67496	70904	77174	81074	86853	91243	96531	101413
		45°	28162	26327	33823	31622	39485	36916	45147	42211	50809	47506	56471	52801
		90°	46445	39584	55783	47545	65120	55506	74458	63468	83795	71429	93133	79390
14S-300	50	0°	55262	58548	66373	70323	77483	82097	88593	93872	99703	105646	110814	117421
		45°	32328	30483	38828	36614	45328	42744	51827	48875	58327	55005	64826	61136
		90°	53317	45834	64036	55051	74755	64269	85475	73486	96194	82704	106913	91922
14S-350	35	0°	75218	80915	90341	97186	105463	113457						
		45°	44003	42129	52849	50600	61696	59072						
		90°	72570	63343	87160	76081	101751	88819						

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, MODELS 0.3S-45 TO 14S-350

			Operating supply pressure (bar g)											
	MOP*		55		60		65		70		75		80	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3S-45	100	0°	809	725	883	792	958	859	1032	926	1107	993	1181	1060
		45°	513	411	560	449	607	486	654	524	702	562	749	600
		90°	925	673	1010	735	1095	797	1181	859	1266	922	1351	984
0.3S-75	60	0°	2258	2247	2465	2453								
		45°	1431	1273	1563	1390								
		90°	2582	2085	2819	2277								
0.3S-100	35	0°												
		45°												
		90°												
0.9S-100	90	0°	4650	4740	5076	5174	5501	5608	5926	6042	6352	6476	6777	6910
		45°	2949	2685	3218	2931	3488	3177	3758	3423	4028	3669	4298	3914
		90°	5318	4398	5805	4801	6292	5204	6778	5607	7265	6009	7752	6412
0.9S-135	50	0°												
		45°												
		90°												
1.5S-135	65	0°	11648	11904	12712	12991	13775	14079						
		45°	6814	6197	7436	6764	8059	7330						
		90°	11238	9319	12264	10170	13291	11021						
1.5S-175	40	0°												
		45°												
		90°												
3S-135	80	0°	19028	19446	20766	21223	22504	23000	24242	24776	25979	26553	27717	28330
		45°	11283	10270	12314	11209	13344	12147	14375	13085	15405	14024	16436	14962
		90°	18888	15663	20613	17094	22338	18525	24063	19956	25788	21387	27513	22818
3S-175	50	0°												
		45°												
		90°												
6S-175	85	0°	37350	38432	40757	41940	44165	45447	47573	48955	50981	52463	54389	55970
		45°	22189	20337	24213	22193	26238	24049	28262	25905	30287	27761	32311	29617
		90°	37218	31073	40613	33910	44009	36746	47405	39582	50801	42418	54197	45254
6S-200	65	0°	48819	49778	53270	54317	57721	58857						
		45°	29002	26340	31647	28743	34291	31145						
		90°	48646	40247	53082	43917	57517	47588						
14S-200	100	0°	54159	55222	59096	60258	64034	65295	68972	70331	73910	75367	78848	80404
		45°	31683	28752	34571	31374	37460	33996	40349	36618	43238	39240	46126	41863
		90°	52252	43230	57016	47173	61780	51115	66544	55058	71309	59000	76073	62943
14S-235	80	0°	74814	78373	81631	85515	88449	92658	95266	99801	102083	106944	108901	114087
		45°	43766	40805	47754	44524	51743	48243	55731	51962	59719	55681	63707	59400
		90°	72180	61353	78758	66945	85335	72536	91913	78128	98490	83720	105067	89312
14S-280	55	0°	106209	111582										
		45°	62133	58096										
		90°	102471	87351										
14S-300	50	0°												
		45°												
		90°												
14S-350	35	0°												
		45°												
		90°												

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, MODELS 18S-235 TO 80S-350

			Operating supply pressure (bar g)											
	MOP*		25		30		35		40		45		50	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18S-235	100	0°	38985	40831	46823	49043	54660	57255	62498	65467	70336	73679	78174	81891
		45°	22813	21265	27399	25542	31986	29819	36572	34096	41159	38373	45745	42650
		90°	37636	31984	45202	38416	52769	44849	60335	51282	67902	57714	75469	64147
18S-280	75	0°	55345	58133	66472	69825	77599	81517	88725	93208	99852	104900	110979	116592
		45°	32386	30277	38898	36366	45409	42455	51920	48545	58431	54634	64943	60723
		90°	53430	45537	64172	54696	74913	63854	85655	73012	96397	82171	107139	91329
18S-300	65	0°	63534	67312	76307	80848	89080	94385	101853	107922	114627	121459	127400	134996
		45°	37178	35057	44653	42107	52128	49157	59602	56208	67077	63258	74551	70308
		90°	61335	52727	73666	63330	85998	73934	98329	84538	110660	95142	122991	105745
18S-350	45	0°	86476	93026	103862	111733	121248	130439	138634	149146	156020	167852		
		45°	50604	48450	60778	58192	70952	67935	81125	77678	91299	87421		
		90°	83484	72869	100268	87523	117052	102176	133837	116829	150621	131483		
32S-235	100	0°	45181	47321	54265	56838	63348	66355	72432	75872	81515	85389	90599	94907
		45°	26792	24992	32178	30018	37565	35045	42951	40071	48338	45098	53724	50124
		90°	44849	38114	53866	45779	62882	53445	71899	61110	80916	68776	89933	76441
32S-280	100	0°	64141	67373	77037	80923	89932	94473	102827	108023	115723	121573	128618	135123
		45°	38035	35583	45682	42739	53329	49895	60976	57052	68623	64208	76270	71364
		90°	63670	54265	76470	65178	89271	76092	102072	87005	114872	97919	127673	108833
32S-300	100	0°	73632	78010	88435	93698	103238	109387	118042	125075	132845	140763	147649	156452
		45°	43663	41200	52441	49486	61220	57772	69998	66058	78776	74343	87555	82629
		90°	73090	62832	87785	75468	102479	88104	117174	100740	131869	113376	146563	126012
32S-350	70	0°	100221	107811	120370	129491	140519	151171	160668	172851	180817	194531	200966	216211
		45°	59430	56940	71379	68390	83327	79840	95275	91290	107224	102740	119172	114191
		90°	99484	86835	119485	104297	139486	121759	159487	139220	179488	156682	199489	174144
50S-235	100	0°	50201	52579	60294	63153	70387	73728	80480	84303	90572	94877	100665	105452
		45°	29769	27769	35754	33354	41739	38939	47724	44524	53709	50109	59694	55694
		90°	49832	42349	59851	50866	69869	59383	79888	67900	89907	76418	99925	84935
50S-280	100	0°	71268	74859	85596	89915	99925	104970	114253	120025	128581	135081	142909	150136
		45°	42261	39536	50758	47488	59255	55439	67751	63391	76248	71342	84744	79294
		90°	70744	60294	84967	72420	99190	84547	113413	96673	127636	108799	141859	120925
50S-300	100	0°	81813	86678	98261	104109	114709	121541	131158	138972	147606	156404	164054	173835
		45°	48514	45778	58268	54985	68022	64191	77776	73398	87529	82604	97283	91810
		90°	81212	69813	97539	83853	113866	97893	130193	111933	146521	125973	162848	140013
50S-350	90	0°	111357	119791	133745	143879	156132	167968	178520	192057	200908	216145	223296	240234
		45°	66034	63267	79310	75989	92586	88711	105861	101434	119137	114156	132413	126878
		90°	110538	96484	132761	115886	154985	135287	177208	154689	199431	174091	221654	193493
80S-300	100	0°	95449	99332	114638	119310	133828	139289	153017	159267	172207	179245	191396	199223
		45°	56600	52462	67980	63013	79359	73564	90738	84116	102118	94667	113497	105219
		90°	94747	80005	113795	96097	132844	112188	151892	128279	170941	144371	189989	160462
80S-350	100	0°	129916	137963	156035	165708	182155	193453	208274	221198	234393	248943	260512	276688
		45°	77039	72865	92528	87518	108017	102171	123505	116825	138994	131478	154482	146132
		90°	128961	111121	154888	133468	180816	155814	206743	178161	232670	200508	258597	222855

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, MODELS 18S-235 TO 80S-350

			Operating supply pressure (bar g)											
	MOP*		55		60		65		70		75		80	
Model	(bar g)	Position	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18S-235	100	0°	86012	90103	93849	98315	101687	106527	109525	114739	117363	122951	125201	131163
		45°	50332	46927	54918	51204	59505	55481	64091	59758	68678	64035	73265	68312
		90°	83035	70580	90602	77012	98168	83445	105735	89878	113302	96310	120868	102743
18S-280	75	0°	122106	128283	133233	139975	144360	151667	155487	163358	166614	175050		
		45°	71454	66812	77965	72902	84476	78991	90987	85080	97499	91169		
		90°	117881	100487	128623	109646	139365	118804	150107	127962	160849	137121		
18S-300	65	0°	140173	148533	152946	162069	165720	175606						
		45°	82026	77359	89501	84409	96975	91459						
		90°	135323	116349	147654	126953	159985	137557						
18S-350	45	0°												
		45°												
		90°												
32S-235	100	0°	99682	104424	108766	113941	117849	123458	126933	132975	136016	142493	145100	152010
		45°	59111	55151	64497	60177	69884	65204	75270	70230	80657	75257	86043	80283
		90°	98949	84107	107966	91772	116983	99438	126000	107103	135016	114769	144033	122434
32S-280	100	0°	141514	148672	154409	162222	167304	175772	180200	189322	193095	202872	205991	216422
		45°	83917	78521	91564	85677	99211	92833	106857	99990	114504	107146	122151	114302
		90°	140473	119746	153274	130660	166075	141573	178875	152487	191676	163400	204476	174314
32S-300	100	0°	162452	172140	177255	187829	192059	203517	206862	219205	221666	234894	236469	250582
		45°	96333	90915	105111	99201	113890	107486	122668	115772	131446	124058	140225	132344
		90°	161258	138648	175952	151284	190647	163920	205342	176556	220036	189192	234731	201828
32S-350	70	0°	221115	237890	241264	259570	261414	281250	281563	302930				
		45°	131120	125641	143068	137091	155017	148541	166965	159991				
		90°	219490	191606	239491	209067	259492	226529	279493	243991				
50S-235	100	0°	110758	116026	120851	126601	130944	137176	141036	147750	151129	158325	161222	168900
		45°	65679	61279	71664	66864	77649	72449	83634	78034	89619	83619	95604	89204
		90°	109944	93452	119962	101969	129981	110486	140000	119004	150018	127521	160037	136038
50S-280	100	0°	157237	165192	171566	180247	185894	195303	200222	210358	214550	225413	228879	240469
		45°	93241	87245	101737	95197	110234	103148	118731	111100	127227	119051	135724	127002
		90°	156082	133051	170304	145178	184527	157304	198750	169430	212973	181556	227196	193682
50S-300	100	0°	180502	191267	196950	208698	213399	226130	229847	243562	246295	260993	262743	278425
		45°	107037	101017	116790	110223	126544	119429	136298	128636	146052	137842	155805	147049
		90°	179175	154053	195503	168093	211830	182133	228157	196173	244485	210213	260812	224253
50S-350	90	0°	245684	264323	268072	288411	290460	312500	312847	336589	335235	360677	357623	384766
		45°	145689	139601	158965	152323	172241	165046	185517	177768	198793	190490	212069	203213
		90°	243878	212895	266101	232297	288324	251699	310548	271101	332771	290503	354994	309905
80S-300	100	0°	210586	219202	229776	239180	248965	259158	268155	279137	287344	299115	306534	319093
		45°	124876	115770	136256	126322	147635	136873	159014	147425	170394	157976	181773	168528
		90°	209038	176553	228087	192644	247135	208736	266184	224827	285232	240918	304281	257009
80S-350	100	0°	286631	304433	312750	332178	338870	359923	364989	387668	391108	415413	417227	443158
		45°	169971	160785	185459	175439	200948	190092	216436	204745	231925	219399	247413	234052
		90°	284524	245202	310451	267549	336378	289896	362306	312242	388233	334589	414160	356936

* MOP = Maximum Operating Pressure (bar g)

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3C-008A-45-CL TO 6C-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	100	203	115	193	365	87	92	484	136	159	602	183	226	721	230	293
0.3C-008A-75-CL	45	196	110	179	1407	499	680	1737	628	865	2067	757	1051	2396	886	1237
0.3C-008B-45-CL	100	309	157	192				485	49	49	604	116	116	723	173	183
0.3C-008B-75-CL	45	302	151	177	1409	448	570	1738	578	756	2068	707	941	2398	836	1127
0.3C-008C-45-CL	100	372	192	245							551	48	48	669	115	115
0.3C-008C-75-CL	45	365	186	231	1355	409	501	1685	539	687	2015	669	873	2345	798	1059
0.3C-0100-45-CL	100	598	328	502												
0.3C-0100-75-CL	50	590	322	487	1100	248	253	1430	385	439	1760	517	625	2089	648	810
0.3C-0100-100-CL	30	584	318	475	2371	759	969	2957	990	1300						
0.3C-0150-45-CL	100	752	443	818												
0.3C-0150-75-CL	55	745	438	804	785	75	75	1115	254	261	1444	391	447	1774	523	633
0.3C-0150-100-CL	30	739	434	791	2056	635	792	2642	866	1122						
0.9C-0200-100-CL	70	987	576	1039	2254	648	771	2932	917	1153	3610	1184	1535	4288	1450	1917
0.9C-0200-135-CL	40	979	571	1023	5028	1740	2334	6263	2224	3030	7499	2708	3727	8734	3191	4423
0.9C-0250-100-CL	75	1181	720	1435	1859	489	548	2537	761	930	3215	1029	1312	3893	1295	1694
0.9C-0250-135-CL	40	1173	714	1420	4633	1585	2111	5868	2070	2808	7104	2553	3504	8339	3037	4200
0.9C-0350-100-CL	80	1875	1103	2023				1952	177	177	2630	559	559	3307	852	941
0.9C-0350-135-CL	45	1867	1097	2007	4047	1151	1358	5283	1642	2055	6518	2129	2751	7754	2614	3447
0.9C-0400-100-CL	85	2210	1352	2711							1944	173	173	2622	555	555
0.9C-0400-135-CL	45	2203	1346	2695	3362	874	972	4598	1370	1668	5833	1859	2365	7069	2345	3061
0.9C-0700-100-CL	90	3124	1874	3599												
0.9C-0700-135-CL	50	3116	1869	3583				3713	670	670	4949	1252	1367	6184	1752	2063
1.5C-1100-135-CL	65	5773	3245	5306										7048	662	662
1.5C-1100-175-CL	35	5758	3234	5276	7649	1001	1001	10275	2392	2480	12900	3478	3960			
1.5C-1200-135-CL	70	6685	3937	7235												
1.5C-1200-175-CL	40	6670	3926	7205				8354	1429	1429	10979	2708	2908	13604	3778	4388
3C-2000-135-CL	80	9844	5938	11537										8923	649	649
3C-2000-175-CL	45	9819	5920	11488	9918	1210	1210	14263	3449	3659	18609	5222	6108	22954	6953	8557
6C-2500-175-CL	75	14038	8583	17194				12928	1416	1416	18008	4150	4279	23088	6254	7143
6C-2500-200-CL	55	14033	8579	17183	15614	2930	2930	22249	5914	6670	28885	8574	10410	35520	11200	14150
6C-3800-175-CL	80	18963	11945	25641										14674	1567	1567
6C-3800-200-CL	60	18958	11941	25631				13836	1095	1095	20471	4699	4834	27106	7441	8574

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3C-008A-45-CL TO 6C-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	100	203	115	193	840	277	360	958	323	427	1077	370	494	1196	416	561
0.3C-008A-75-CL	45	196	110	179	2726	1015	1423									
0.3C-008B-45-CL	100	309	157	192	841	222	250	960	270	317	1079	318	384	1198	365	451
0.3C-008B-75-CL	45	302	151	177	2728	966	1313									
0.3C-008C-45-CL	100	372	192	245	788	178	182	907	228	249	1026	277	316	1144	324	382
0.3C-008C-75-CL	45	365	186	231	2675	927	1245									
0.3C-0100-45-CL	100	598	328	502							770	67	67	889	134	134
0.3C-0100-75-CL	50	590	322	487	2419	778	996	2749	908	1182						
0.3C-0100-100-CL	30	584	318	475												
0.3C-0150-45-CL	100	752	443	818												
0.3C-0150-75-CL	55	745	438	804	2104	654	819	2434	784	1005	2764	914	1190			
0.3C-0150-100-CL	30	739	434	791												
0.9C-0200-100-CL	70	987	576	1039	4966	1716	2299	5644	1982	2681	6322	2247	3063	6999	2513	3445
0.9C-0200-135-CL	40	979	571	1023												
0.9C-0250-100-CL	75	1181	720	1435	4571	1561	2076	5249	1827	2458	5926	2092	2841	6604	2358	3223
0.9C-0250-135-CL	40	1173	714	1420												
0.9C-0350-100-CL	80	1875	1103	2023	3985	1126	1323	4663	1396	1705	5341	1665	2088	6019	1932	2470
0.9C-0350-135-CL	45	1867	1097	2007	8989	3098	4144									
0.9C-0400-100-CL	85	2210	1352	2711	3300	849	937	3978	1123	1319	4656	1393	1701	5334	1662	2083
0.9C-0400-135-CL	45	2203	1346	2695	8304	2830	3758									
0.9C-0700-100-CL	90	3124	1874	3599				3094	321	321	3772	703	703	4450	1043	1085
0.9C-0700-135-CL	50	3116	1869	3583	7420	2244	2760	8655	2733	3456						
1.5C-1100-135-CL	65	5773	3245	5306	8611	1543	1543	10173	2348	2423	11735	3003	3304	13298	3639	4184
1.5C-1100-175-CL	35	5758	3234	5276												
1.5C-1200-135-CL	70	6685	3937	7235	6690	491	491	8252	1371	1371	9814	2211	2252	11377	2873	3133
1.5C-1200-175-CL	40	6670	3926	7205												
3C-2000-135-CL	80	9844	5938	11537	11509	2107	2107	14095	3378	3564	16681	4445	5022	19267	5486	6479
3C-2000-175-CL	45	9819	5920	11488	27299	8671	11006									
6C-2500-175-CL	75	14038	8583	17194	28168	8288	10006	33248	10302	12869	38328	12306	15733	43408	14305	18596
6C-2500-200-CL	55	14033	8579	17183	42155	13813	17890	48790	16419	21629	55425	19022	25369			
6C-3800-175-CL	80	18963	11945	25641	19754	4382	4431	24835	6520	7294	29915	8567	10157	34995	10588	13020
6C-3800-200-CL	60	18958	11941	25631	33741	10091	12314	40377	12716	16054	47012	15330	19794	53647	17937	23534

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3C-008A-45-CL TO 6C-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	100	203	115	193	1315	463	627	1433	509	694	1552	556	761	1671	602	828
0.3C-008A-75-CL	45	196	110	179												
0.3C-008B-45-CL	100	309	157	192	1316	412	518	1435	458	584	1554	505	651	1672	552	718
0.3C-008B-75-CL	45	302	151	177												
0.3C-008C-45-CL	100	372	192	245	1263	372	449	1382	419	516	1500	466	583	1619	513	650
0.3C-008C-75-CL	45	365	186	231												
0.3C-0100-45-CL	100	598	328	502	1007	201	201	1126	259	268	1245	310	335	1364	358	401
0.3C-0100-75-CL	50	590	322	487												
0.3C-0100-100-CL	30	584	318	475												
0.3C-0150-45-CL	100	752	443	818	692	23	23	811	90	90	930	157	157	1049	224	224
0.3C-0150-75-CL	55	745	438	804												
0.3C-0150-100-CL	30	739	434	791												
0.9C-0200-100-CL	70	987	576	1039	7677	2778	3827	8355	3043	4210						
0.9C-0200-135-CL	40	979	571	1023												
0.9C-0250-100-CL	75	1181	720	1435	7282	2623	3605	7960	2889	3987	8638	3154	4369			
0.9C-0250-135-CL	40	1173	714	1420												
0.9C-0350-100-CL	80	1875	1103	2023	6697	2199	2852	7375	2465	3234	8053	2731	3616	8731	2997	3998
0.9C-0350-135-CL	45	1867	1097	2007												
0.9C-0400-100-CL	85	2210	1352	2711	6012	1929	2466	6690	2196	2848	7368	2462	3230	8045	2728	3612
0.9C-0400-135-CL	45	2203	1346	2695												
0.9C-0700-100-CL	90	3124	1874	3599	5127	1325	1468	5805	1600	1850	6483	1872	2232	7161	2142	2614
0.9C-0700-135-CL	50	3116	1869	3583												
1.5C-1100-135-CL	65	5773	3245	5306	14860	4265	5065									
1.5C-1100-175-CL	35	5758	3234	5276												
1.5C-1200-135-CL	70	6685	3937	7235	12939	3510	4013	14501	4138	4894						
1.5C-1200-175-CL	40	6670	3926	7205												
3C-2000-135-CL	80	9844	5938	11537	21853	6517	7937	24439	7541	9394	27024	8562	10852	29610	9581	12309
3C-2000-175-CL	45	9819	5920	11488												
6C-2500-175-CL	75	14038	8583	17194	48488	16301	21459	53568	18294	24322	58648	20285	27186			
6C-2500-200-CL	55	14033	8579	17183												
6C-3800-175-CL	80	18963	11945	25641	40075	12597	15884	45155	14599	18747	50235	16597	21610	55315	18593	24474
6C-3800-200-CL	60	18958	11941	25631												

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 14C-5100-200-CL TO 50C-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	100	22753	14367	31007							19393	3010	3010	26645	6594	7097
14C-5100-235-CL	75	22738	14356	30976	18662	2598	2598	28675	7431	8241	38687	11454	13884	48699	15417	19528
14C-5100-280-CL	50	22679	14312	30855	39561	11802	14377	53775	17416	22388	67989	23001	30400	82203	28574	38411
14C-5100-300-CL	45	22649	14291	30794	50022	15938	20273	66339	22354	29470	82656	28752	38667	98972	35142	47863
14C-5100-350-CL	30	22566	14230	30624	79330	27448	36792	101539	36146	49310						
14C-5400-200-CL	100	29467	18157	37046												
14C-5400-235-CL	75	29452	18146	37015				22660	934	934	32672	6577	6577	42685	11036	12221
14C-5400-280-CL	55	29393	18103	36894	33547	7070	7070	47760	13097	15082	61974	18768	23093	76188	24382	31104
14C-5400-300-CL	45	29363	18081	36833	44007	11577	12966	60324	18114	22163	76641	24561	31360	92958	30978	40557
14C-5400-350-CL	35	29280	18020	36663	73315	23251	29485	95524	31986	42003	117733	40698	54521			
14C-8300-200-CL	100	37876	23442	48323												
14C-8300-235-CL	80	37860	23431	48292										31454	2871	2871
14C-8300-280-CL	55	37801	23387	48170				36530	5732	5732	50744	12686	13744	64957	18451	21755
14C-8300-300-CL	50	37772	23366	48110	32777	3617	3617	49093	11999	12814	65410	18632	22010	81727	25119	31207
14C-8300-350-CL	35	37689	23305	47940	62084	17299	20136	84294	26132	32654	106503	34886	45172			
18C-9600-235-CL	100	61231	35851	64951												
18C-9600-280-CL	75	61163	35800	64811										65324	6112	6112
18C-9600-300-CL	65	61129	35775	64742							65844	6406	6406	84609	16982	16982
18C-9600-350-CL	45	61033	35704	64546	62020	4250	4250	87560	18645	18645	113101	29600	33041	138641	39889	47437
18C-9800-235-CL	100	77544	45086	80301												
18C-9800-280-CL	75	77476	45036	80162												
18C-9800-300-CL	65	77442	45010	80092												
18C-9800-350-CL	50	77346	44939	79897				72272	855	855	97812	15251	15251	123353	28636	29646
18C-10500-280-CL	80	86785	49985	86961												
18C-10500-300-CL	70	86751	49959	86891												
18C-10500-350-CL	50	86655	49888	86695							91041	5204	5204	116582	19599	19599
18C-11000-280-CL	85	97091	57663	108069												
18C-11000-300-CL	75	97057	57637	107999												
18C-11000-350-CL	55	96961	57567	107804										95560	7751	7751
32C-12000-300-CL	90	111946	63520	106395												
32C-12000-350-CL	70	111834	63436	106166										132482	12259	12259
32C-15000-300-CL	100	129982	75362	133282												
32C-15000-350-CL	75	129870	75278	133052												
50C-15400-300-CL	100	141211	78586	125096												
50C-15400-350-CL	80	141087	78492	124841												
50C-15600-300-CL	100	147506	83332	137990												
50C-15600-350-CL	85	147382	83239	137735												

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 14C-5100-200-CL TO 50C-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	100	22753	14367	31007	33897	9543	11185	41149	12431	15272	48401	15299	19359	55653	18155	23447
14C-5100-235-CL	75	22738	14356	30976	58711	19357	25171	68724	23290	30814	78736	27215	36457	88748	31139	42101
14C-5100-280-CL	50	22679	14312	30855	96416	34141	46423	110630	39706	54434						
14C-5100-300-CL	45	22649	14291	30794	115289	41530	57060									
14C-5100-350-CL	30	22566	14230	30624												
14C-5400-200-CL	100	29467	18157	37046	27883	3878	3878	35135	7851	7965	42386	10914	12053	49638	13852	16140
14C-5400-235-CL	75	29452	18146	37015	52697	15077	17864	62709	19059	23507	72721	23017	29150	82734	26960	34794
14C-5400-280-CL	55	29393	18103	36894	90402	29974	39116	104616	35555	47127	118830	41128	55139			
14C-5400-300-CL	45	29363	18081	36833	109275	37381	49753									
14C-5400-350-CL	35	29280	18020	36663												
14C-8300-200-CL	100	37876	23442	48323							31156	2703	2703	38408	6791	6791
14C-8300-235-CL	80	37860	23431	48292	41466	8515	8515	51478	12991	14158	61490	17060	19801	71503	21062	25444
14C-8300-280-CL	55	37801	23387	48170	79171	24106	29767	93385	29721	37778	107599	35317	45789			
14C-8300-300-CL	50	37772	23366	48110	98044	31556	40404	114361	37973	49601						
14C-8300-350-CL	35	37689	23305	47940												
18C-9600-235-CL	100	61231	35851	64951							61337	3865	3865	72851	10355	10355
18C-9600-280-CL	75	61163	35800	64811	81669	15325	15325	98015	23347	24538	114361	30114	33752	130707	36714	42965
18C-9600-300-CL	65	61129	35775	64742	103373	25596	27558	122138	33266	38135	140902	40793	48711	159667	48251	59287
18C-9600-350-CL	45	61033	35704	64546	164182	50041	61832									
18C-9800-235-CL	100	77544	45086	80301												
18C-9800-280-CL	75	77476	45036	80162				82727	6748	6748	99073	15961	15961	115419	25110	25175
18C-9800-300-CL	65	77442	45010	80092	88085	9768	9768	106850	20345	20345	125614	29606	30921	144378	37417	41497
18C-9800-350-CL	50	77346	44939	79897	148893	39260	44042	174434	49557	58438						
18C-10500-280-CL	80	86785	49985	86961							92302	5914	5914	108648	15128	15128
18C-10500-300-CL	70	86751	49959	86891				100079	10298	10298	118843	20874	20874	137607	30917	31450
18C-10500-350-CL	50	86655	49888	86695	142122	32892	33995	167663	43560	48391						
18C-11000-280-CL	85	97091	57663	108069										87626	3279	3279
18C-11000-300-CL	75	97057	57637	107999							97821	9025	9025	116585	19601	19601
18C-11000-350-CL	55	96961	57567	107804	121100	22146	22146	146641	34827	36542	172181	45405	50937			
32C-12000-300-CL	90	111946	63520	106395				113108	1339	1339	135136	13755	13755	157164	26170	26170
32C-12000-350-CL	70	111834	63436	106166	162464	29158	29158	192446	44555	46057	222429	57114	62956	252411	69295	79855
32C-15000-300-CL	100	129982	75362	133282										130387	5972	5972
32C-15000-350-CL	75	129870	75278	133052	135687	8959	8959	165669	25858	25858	195652	42624	42757	225634	55587	59657
50C-15400-300-CL	100	141211	78586	125096										167775	11207	11207
50C-15400-350-CL	80	141087	78492	124841	173664	14526	14526	206978	33303	33303	240291	52035	52080	273605	66555	70857
50C-15600-300-CL	100	147506	83332	137990										154934	3969	3969
50C-15600-350-CL	85	147382	83239	137735	160823	7289	7289	194136	26066	26066	227450	44842	44842	260764	61114	63619

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO CLOSE, MODELS 14C-5100-200-CL TO 50C-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	100	22753	14367	31007	62905	21005	27534	70157	23852	31622	77409	26695	35709	84661	29538	39797
14C-5100-235-CL	75	22738	14356	30976	98760	35059	47744	108772	38978	53387	118785	42898	59030			
14C-5100-280-CL	50	22679	14312	30855												
14C-5100-300-CL	45	22649	14291	30794												
14C-5100-350-CL	30	22566	14230	30624												
14C-5400-200-CL	100	29467	18157	37046	56890	16749	20228	64142	19627	24315	71394	22493	28403	78646	25351	32490
14C-5400-235-CL	75	29452	18146	37015	92746	30895	40437	102758	34826	46080	112770	38752	51723			
14C-5400-280-CL	55	29393	18103	36894												
14C-5400-300-CL	45	29363	18081	36833												
14C-5400-350-CL	35	29280	18020	36663												
14C-8300-200-CL	100	37876	23442	48323	45660	10540	10878	52912	13581	14966	60164	16527	19053	67415	19434	23141
14C-8300-235-CL	80	37860	23431	48292	81515	25035	31088	91527	28989	36731	101539	32933	42374	111552	36869	48017
14C-8300-280-CL	55	37801	23387	48170												
14C-8300-300-CL	50	37772	23366	48110												
14C-8300-350-CL	35	37689	23305	47940												
18C-9600-235-CL	100	61231	35851	64951	84365	16844	16844	95879	22435	23334	107393	27260	29824	118907	31961	36314
18C-9600-280-CL	75	61163	35800	64811	147053	43242	52178	163399	49730	61391	179745	56194	70604			
18C-9600-300-CL	65	61129	35775	64742	178431	55675	69864									
18C-9600-350-CL	45	61033	35704	64546												
18C-9800-235-CL	100	77544	45086	80301				80591	5544	5544	92105	12034	12034	103619	18524	18524
18C-9800-280-CL	75	77476	45036	80162	131765	32203	34388	148111	38942	43601	164457	45555	52814			
18C-9800-300-CL	65	77442	45010	80092	163143	45027	52074									
18C-9800-350-CL	50	77346	44939	79897												
18C-10500-280-CL	80	86785	49985	86961	124994	24341	24341	141340	32553	33554	157686	39455	42767	174032	46156	51980
18C-10500-300-CL	70	86751	49959	86891	156372	38910	42027	175136	46605	52603						
18C-10500-350-CL	50	86655	49888	86695												
18C-11000-280-CL	85	97091	57663	108069	103972	12492	12492	120318	21705	21705	136663	30496	30918	153009	37510	40131
18C-11000-300-CL	75	97057	57637	107999	135350	29905	30178	154114	37971	40754	172879	45688	51330			
18C-11000-350-CL	55	96961	57567	107804												
32C-12000-300-CL	90	111946	63520	106395	179192	38586	38586	201220	48299	51002	223248	57451	63418	245275	66413	75833
32C-12000-350-CL	70	111834	63436	106166	282393	81316	96754	312376	93255	113654						
32C-15000-300-CL	100	129982	75362	133282	152415	18387	18387	174442	30803	30803	196470	43004	43219	218498	52594	55635
32C-15000-350-CL	75	129870	75278	133052	255616	67905	76556	285599	80004	93455	315581	91991	110354			
50C-15400-300-CL	100	141211	78586	125096	192250	25002	25002	216725	38798	38798	241201	52463	52593	265676	63208	66388
50C-15400-350-CL	80	141087	78492	124841	306919	80310	89634	340232	93806	108411	373546	107160	127187	406860	120436	145964
50C-15600-300-CL	100	147506	83332	137990	179409	17765	17765	203884	31560	31560	228360	45355	45355	252835	57684	59150
50C-15600-350-CL	85	147382	83239	137735	294077	75049	82396	327391	88622	101173	360705	102027	119950	394018	115326	138727

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 0.3C-008A-45-OP TO 6C-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	100	377	92	99	185	101	156	249	149	288	314	197	420	378	244	551
0.3C-008A-75-OP	45	364	87	92	750	513	1313	928	642	1679	1107	771	2045	1286	900	2411
0.3C-008B-45-OP	100	574	99	99				238	46	46	302	152	178	366	201	310
0.3C-008B-75-OP	45	561	92	92	738	475	1071	917	605	1437	1095	734	1803	1274	864	2169
0.3C-008C-45-OP	100	691	127	127							269	35	35	333	161	167
0.3C-008C-75-OP	45	678	119	119	705	440	928	884	570	1294	1062	700	1660	1241	830	2026
0.3C-0100-45-OP	100	1111	253	259												
0.3C-0100-75-OP	60	1097	247	251	554	295	413	733	429	779	912	561	1145	1090	692	1511
0.3C-0100-100-OP	30	1086	242	245	1243	803	1824	1561	1033	2475						
0.3C-0150-45-OP	100	1396	371	419												
0.3C-0150-75-OP	65	1383	366	412	384	64	64	562	301	430	741	435	796	920	567	1162
0.3C-0150-100-OP	35	1371	361	406	1072	679	1474	1390	910	2125	1708	1140	2776			
0.9C-0200-100-OP	70	1764	450	495	1205	738	1485	1573	1006	2238	1940	1273	2990	2307	1539	3742
0.9C-0200-135-OP	40	1750	444	487	2708	1829	4564	3378	2314	5935	4047	2798	7306	4716	3281	8677
0.9C-0250-100-OP	75	2122	595	696	991	579	1047	1359	850	1799	1726	1118	2552	2093	1384	3304
0.9C-0250-135-OP	40	2108	589	688	2494	1674	4125	3163	2159	5496	3833	2643	6867	4502	3126	8238
0.9C-0350-100-OP	85	3354	871	967				1028	288	288	1395	742	1041	1762	1019	1793
0.9C-0350-135-OP	45	3339	865	959	2163	1317	2614	2833	1806	3985	3502	2292	5356	4171	2778	6728
0.9C-0400-100-OP	90	3974	1121	1317							1024	280	280	1391	739	1033
0.9C-0400-135-OP	50	3959	1116	1309	1792	1041	1854	2461	1535	3225	3131	2023	4596	3800	2509	5967
0.9C-0700-100-OP	100	5602	1518	1735												
0.9C-0700-135-OP	55	5588	1513	1727				1966	1001	1227	2636	1511	2598	3305	2008	3969
1.5C-1100-135-OP	75	10196	2358	2436										3759	1181	1181
1.5C-1100-175-OP	45	10169	2346	2421	4084	1848	1848	5507	3045	4761	6929	4109	7675	8352	5159	10588
1.5C-1200-135-OP	75	11884	3081	3418												
1.5C-1200-175-OP	50	11857	3070	3403				4466	2256	2691	5889	3342	5604	7311	4402	8518
3C-2000-135-OP	90	17508	4779	5488										4787	1180	1180
3C-2000-175-OP	50	17463	4761	5463	5326	2284	2284	7680	4325	7107	10035	6079	11929	12389	7804	16751
6C-2500-175-OP	80	24935	6997	8184				6993	2766	2766	9746	5384	8403	12499	7443	14041
6C-2500-200-OP	60	24926	6994	8179	8449	4393	5747	12044	7106	13111	15639	9755	20474	19235	12374	27838
6C-3800-175-OP	90	33892	10151	12399										7935	3054	3054
6C-3800-200-OP	65	33883	10147	12394				7481	2124	2124	11076	6109	9487	14672	8795	16851

NOTES

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 0.3C-008A-45-OP TO 6C-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	100	377	92	99	442	290	683	507	337	815	571	383	947	635	430	1078
0.3C-008A-75-OP	45	364	87	92	1464	1029	2777									
0.3C-008B-45-OP	100	574	99	99	431	249	441	495	297	573	559	345	705	624	392	837
0.3C-008B-75-OP	45	561	92	92	1453	993	2535	1632	1122	2901						
0.3C-008C-45-OP	100	691	127	127	398	212	299	462	260	430	526	309	562	591	356	694
0.3C-008C-75-OP	45	678	119	119	1420	959	2392	1599	1088	2758						
0.3C-0100-45-OP	100	1111	253	259							376	47	47	440	179	179
0.3C-0100-75-OP	60	1097	247	251	1269	822	1877	1448	952	2243	1626	1081	2609	1805	1210	2975
0.3C-0100-100-OP	30	1086	242	245												
0.3C-0150-45-OP	100	1396	371	419												
0.3C-0150-75-OP	65	1383	366	412	1098	698	1528	1277	828	1894	1456	957	2260	1634	1087	2625
0.3C-0150-100-OP	35	1371	361	406												
0.9C-0200-100-OP	70	1764	450	495	2675	1805	4495	3042	2071	5247	3409	2336	5999	3777	2602	6752
0.9C-0200-135-OP	40	1750	444	487												
0.9C-0250-100-OP	75	2122	595	696	2460	1650	4056	2828	1916	4809	3195	2182	5561	3562	2447	6313
0.9C-0250-135-OP	40	2108	589	688												
0.9C-0350-100-OP	85	3354	871	967	2130	1292	2545	2497	1561	3298	2864	1829	4050	3231	2096	4802
0.9C-0350-135-OP	45	3339	865	959	4841	3263	8099									
0.9C-0400-100-OP	90	3974	1121	1317	1758	1016	1785	2126	1289	2537	2493	1558	3290	2860	1826	4042
0.9C-0400-135-OP	50	3959	1116	1309	4470	2994	7338	5139	3478	8709						
0.9C-0700-100-OP	100	5602	1518	1735				1631	540	540	1998	1026	1292	2365	1307	2044
0.9C-0700-135-OP	55	5588	1513	1727	3975	2499	5341	4644	2986	6712	5313	3472	8083			
1.5C-1100-135-OP	75	10196	2358	2436	4605	2353	2914	5452	3003	4648	6298	3639	6382	7145	4269	8116
1.5C-1100-175-OP	45	10169	2346	2421	9774	6198	13502									
1.5C-1200-135-OP	75	11884	3081	3418	3565	844	844	4411	2213	2578	5258	2866	4312	6104	3504	6045
1.5C-1200-175-OP	50	11857	3070	3403	8734	5447	11431	10156	6484	14345						
3C-2000-135-OP	90	17508	4779	5488	6188	3188	4050	7589	4257	6920	8990	5305	9790	10391	6343	12659
3C-2000-175-OP	50	17463	4761	5463	14744	9518	21574	17098	11227	26396						
6C-2500-175-OP	80	24935	6997	8184	15251	9471	19679	18004	11478	25317	20756	13480	30955	23509	15477	36592
6C-2500-200-OP	60	24926	6994	8179	22830	14984	35201	26425	17591	42565	30020	20194	49929	33616	22796	57292
6C-3800-175-OP	90	33892	10151	12399	10688	5814	8692	13441	7881	14330	16193	9921	19968	18946	11932	25606
6C-3800-200-OP	65	33883	10147	12394	18267	11437	24215	21862	14055	31578	25457	16666	38942	29053	19274	46306

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 0.3C-008A-45-OP TO 6C-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	100	377	92	99	700	477	1210	764	523	1342	828	570	1474	892	616	1605
0.3C-008A-75-OP	45	364	87	92												
0.3C-008B-45-OP	100	574	99	99	688	439	968	752	485	1100	817	532	1232	881	579	1364
0.3C-008B-75-OP	45	561	92	92												
0.3C-008C-45-OP	100	691	127	127	655	404	826	719	451	957	784	498	1089	848	544	1221
0.3C-008C-75-OP	45	678	119	119												
0.3C-0100-45-OP	100	1111	253	259	504	256	311	569	306	442	633	354	574	697	403	706
0.3C-0100-75-OP	60	1097	247	251												
0.3C-0100-100-OP	30	1086	242	245												
0.3C-0150-45-OP	100	1396	371	419				398	93	93	462	222	225	526	273	356
0.3C-0150-75-OP	65	1383	366	412	1813	1216	2991									
0.3C-0150-100-OP	35	1371	361	406												
0.9C-0200-100-OP	70	1764	450	495	4144	2868	7504	4511	3133	8256						
0.9C-0200-135-OP	40	1750	444	487												
0.9C-0250-100-OP	75	2122	595	696	3930	2713	7066	4297	2978	7818	4664	3243	8570			
0.9C-0250-135-OP	40	2108	589	688												
0.9C-0350-100-OP	85	3354	871	967	3599	2363	5555	3966	2629	6307	4333	2895	7059	4701	3161	7812
0.9C-0350-135-OP	45	3339	865	959												
0.9C-0400-100-OP	90	3974	1121	1317	3228	2093	4794	3595	2360	5547	3962	2626	6299	4330	2892	7051
0.9C-0400-135-OP	50	3959	1116	1309												
0.9C-0700-100-OP	100	5602	1518	1735	2732	1583	2797	3100	1856	3549	3467	2128	4301	3834	2396	5054
0.9C-0700-135-OP	55	5588	1513	1727												
1.5C-1100-135-OP	75	10196	2358	2436	7991	4895	9850	8838	5514	11584	9684	6132	13317			
1.5C-1100-175-OP	45	10169	2346	2421												
1.5C-1200-135-OP	75	11884	3081	3418	6951	4135	7779	7797	4761	9513	8644	5381	11247	9490	5999	12981
1.5C-1200-175-OP	50	11857	3070	3403												
3C-2000-135-OP	90	17508	4779	5488	11792	7368	15529	13194	8390	18399	14595	9409	21269	15996	10427	24138
3C-2000-175-OP	50	17463	4761	5463												
6C-2500-175-OP	80	24935	6997	8184	26262	17472	42230	29014	19466	47868	31767	21459	53506	34519	23450	59143
6C-2500-200-OP	60	24926	6994	8179												
6C-3800-175-OP	90	33892	10151	12399	21698	13936	31243	24451	15936	36881	27204	17934	42519	29956	19929	48157
6C-3800-200-OP	65	33883	10147	12394	32648	21878	53669									

NOTES

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 14C-5100-200-OP TO 50C-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	100	40669	12241	15001							10500	5223	5909	14429	8227	13958
14C-5100-235-OP	75	40641	12230	14985	10104	4906	5098	15529	9050	16210	20954	13054	27321	26379	17006	38433
14C-5100-280-OP	50	40531	12187	14924	21428	13399	28292	29129	19003	44066	36831	24587	59841	44533	30163	75615
14C-5100-300-OP	45	40477	12165	14893	27096	17527	39901	35937	23939	58009	44778	30340	76118	53619	36732	94226
14C-5100-350-OP	30	40323	12104	14807	42976	29036	72427	55010	37738	97074						
14C-5400-200-OP	100	52473	14988	17738												
14C-5400-235-OP	80	52444	14976	17722				12225	1731	1731	17650	9332	12843	23075	13426	23954
14C-5400-280-OP	55	52335	14933	17660	18124	9694	13813	25826	15471	29588	33527	21123	45362	41229	26728	61136
14C-5400-300-OP	50	52280	14911	17629	23792	13960	25422	32633	20470	43531	41475	26906	61639	50316	33321	79747
14C-5400-350-OP	35	52127	14850	17543	39672	25596	57948	51706	34328	82595	63740	43042	107243			
14C-8300-200-OP	100	67333	19401	23094												
14C-8300-235-OP	90	67305	19390	23078										17078	5726	5726
14C-8300-280-OP	60	67196	19346	23017				19829	9903	11360	27530	15781	27134	35232	21503	42908
14C-8300-300-OP	55	67141	19324	22986	17795	7194	7194	26636	15111	25303	35477	21684	43411	44319	28144	61519
14C-8300-350-OP	40	66988	19263	22900	33675	20353	39720	45709	29155	64367	57743	37898	89015	69777	46619	113663
18C-9600-235-OP	100	106927	27068	29561												
18C-9600-280-OP	85	106801	27016	29490										35929	13128	13128
18C-9600-300-OP	70	106738	26990	29455							36211	13706	13706	46379	24662	34531
18C-9600-350-OP	55	106562	26918	29356	34139	9462	9462	47978	25885	37806	61817	36287	66151	75656	46527	94496
18C-9800-235-OP	100	135427	33729	36452												
18C-9800-280-OP	95	135302	33677	36381												
18C-9800-300-OP	80	135239	33651	36346												
18C-9800-350-OP	60	135063	33578	36246				39728	2847	2847	53567	26853	31192	67406	37482	59537
18C-10500-280-OP	100	157915	39550	42897												
18C-10500-300-OP	85	157852	39524	42861												
18C-10500-350-OP	65	157676	39451	42762							46014	3454	3454	59853	29394	31799
18C-11000-280-OP	100	176935	47336	53617												
18C-11000-300-OP	95	176872	47310	53582												
18C-11000-350-OP	70	176696	47239	53482										48462	8469	8469
32C-12000-300-OP	100	201070	48236	50917												
32C-12000-350-OP	85	200863	48149	50801										68784	17993	17993
32C-15000-300-OP	100	233909	59022	64321												
32C-15000-350-OP	90	233702	58937	64204												
50C-15400-300-OP	100	253231	57858	59373												
50C-15400-350-OP	100	253001	57757	59244												
50C-15600-300-OP	100	264849	62857	65922												
50C-15600-350-OP	100	264619	62759	65792												

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 14C-5100-200-OP TO 50C-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	100	40669	12241	15001	18358	11150	22006	22288	14027	30054	26217	16888	38102	30147	19741	46150
14C-5100-235-OP	75	40641	12230	14985	31804	20944	49544	37229	24875	60656	42654	28803	71767	48079	32727	82879
14C-5100-280-OP	50	40531	12187	14924	52234	35731	91389	59936	41299	107164						
14C-5100-300-OP	45	40477	12165	14893	62461	43125	112334									
14C-5100-350-OP	30	40323	12104	14807												
14C-5400-200-OP	100	52473	14988	17738	15055	7297	7527	18984	10350	15575	22914	13306	23623	26843	16225	31672
14C-5400-235-OP	80	52444	14976	17722	28500	17449	35066	33926	21413	46177	39351	25362	57289	44776	29301	68400
14C-5400-280-OP	55	52335	14933	17660	48931	32316	76911	56633	37895	92685	64334	43472	108460			
14C-5400-300-OP	50	52280	14911	17629	59157	39723	97856	67998	46122	115964						
14C-5400-350-OP	35	52127	14850	17543												
14C-8300-200-OP	100	67333	19401	23094							16917	5396	5396	20846	10701	13444
14C-8300-235-OP	90	67305	19390	23078	22503	11981	16838	27928	16080	27949	33354	20114	39061	38779	24102	50172
14C-8300-280-OP	60	67196	19346	23017	42934	27134	58683	50635	32739	74457	58337	38329	90232	66039	43912	106006
14C-8300-300-OP	55	67141	19324	22986	53160	34572	79628	62001	40987	97736	70843	47391	115845			
14C-8300-350-OP	40	66988	19263	22900												
18C-9600-235-OP	100	106927	27068	29561							33769	8704	8704	40007	19694	21482
18C-9600-280-OP	85	106801	27016	29490	44786	23436	31269	53643	30174	49409	62500	36796	67550	71357	43365	85691
18C-9600-300-OP	70	106738	26990	29455	56546	32352	55356	66713	39925	76180	76881	47424	97005	87048	54850	117830
18C-9600-350-OP	55	106562	26918	29356	89495	56635	122840	103334	66705	151185	117173	76752	179529			
18C-9800-235-OP	100	135427	33729	36452												
18C-9800-280-OP	95	135302	33677	36381				45393	14451	14451	54250	27390	32591	63107	34225	50732
18C-9800-300-OP	80	135239	33651	36346	48296	20397	20397	58464	30668	41221	68631	38406	62046	78798	46021	82871
18C-9800-350-OP	60	135063	33578	36246	81245	47844	87881	95084	58099	116226	108923	68222	144571	122762	78309	172915
18C-10500-280-OP	100	157915	39550	42897							46697	4853	4853	55554	22994	22994
18C-10500-300-OP	85	157852	39524	42861				50911	13484	13484	61078	30369	34308	71245	38259	55133
18C-10500-350-OP	65	157676	39451	42762	73692	40123	60144	87531	50544	88488	101370	60835	116833	115209	71039	145178
18C-11000-280-OP	100	176935	47336	53617												
18C-11000-300-OP	95	176872	47310	53582							49687	10978	10978	59855	29396	31803
18C-11000-350-OP	70	176696	47239	53482	62301	31336	36813	76140	41981	65158	89979	52369	93503	103818	62651	121847
32C-12000-300-OP	100	201070	48236	50917							70223	20938	20938	82158	40698	45385
32C-12000-350-OP	85	200863	48149	50801	85030	42966	51267	101276	55470	84541	117522	67698	117815	133768	79792	151089
32C-15000-300-OP	100	233909	59022	64321										67400	5104	5104
32C-15000-350-OP	90	233702	58937	64204	70272	10986	10986	86518	42139	44260	102764	54828	77534	119009	67144	110808
50C-15400-300-OP	100	253231	57858	59373										86896	13850	13850
50C-15400-350-OP	100	253001	57757	59244	90087	20386	20386	108138	53088	57357	126189	67169	94328	144240	80870	131300
50C-15600-300-OP	100	264849	62857	65922												
50C-15600-350-OP	100	264619	62759	65792	83129	6135	6135	101180	43106	43106	119231	61808	80077	137282	75618	117049

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
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ETC: End to Close
BTO: Break to Open
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - CANTED YOKE DESIGN, SPRING TO OPEN, MODELS 14C-5100-200-OP TO 50C-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	100	40669	12241	15001	34076	22592	54198	38006	25437	62247	41935	28283	70295	45865	31126	78343
14C-5100-235-OP	75	40641	12230	14985	53504	36649	93990	58929	40572	105102	64355	44494	116213			
14C-5100-280-OP	50	40531	12187	14924												
14C-5100-300-OP	45	40477	12165	14893												
14C-5100-350-OP	30	40323	12104	14807												
14C-5400-200-OP	100	52473	14988	17738	30773	19113	39720	34702	21980	47768	38632	24839	55816	42561	27694	63864
14C-5400-235-OP	80	52444	14976	17722	50201	33238	79512	55626	37166	90623	61051	41094	101735	66476	45022	112846
14C-5400-280-OP	55	52335	14933	17660												
14C-5400-300-OP	50	52280	14911	17629												
14C-5400-350-OP	35	52127	14850	17543												
14C-8300-200-OP	100	67333	19401	23094	24776	13710	21492	28705	16660	29540	32635	19581	37588	36564	22481	45636
14C-8300-235-OP	90	67305	19390	23078	44204	28060	61284	49629	32006	72395	55054	35946	83507	60479	39883	94618
14C-8300-280-OP	60	67196	19346	23017												
14C-8300-300-OP	55	67141	19324	22986												
14C-8300-350-OP	40	66988	19263	22900												
18C-9600-235-OP	100	106927	27068	29561	46246	24561	34260	52485	29301	47038	58724	33983	59816	64963	38627	72595
18C-9600-280-OP	85	106801	27016	29490	80214	49863	103831	89071	56326	121972	97928	62772	140112	106785	69214	158253
18C-9600-300-OP	70	106738	26990	29455	97216	62254	138654	107383	69648	159479						
18C-9600-350-OP	55	106562	26918	29356												
18C-9800-235-OP	100	135427	33729	36452				44235	12079	12079	50474	24384	24858	56713	29314	37636
18C-9800-280-OP	95	135302	33677	36381	71964	40912	68872	80821	47528	87013	89678	54102	105153	98535	60630	123294
18C-9800-300-OP	80	135239	33651	36346	88966	53574	103695	99133	61068	124520	109301	68498	145345	119468	75913	166169
18C-9800-350-OP	60	135063	33578	36246												
18C-10500-280-OP	100	157915	39550	42897	64411	32989	41135	73268	39801	59275	82125	46493	77416	90982	53116	95556
18C-10500-300-OP	85	157852	39524	42861	81413	45959	75958	91580	53562	96782	101748	61116	117607	111915	68627	138431
18C-10500-350-OP	65	157676	39451	42762	129048	81148	173522									
18C-11000-280-OP	100	176935	47336	53617	53020	17804	17804	61877	31003	35945	70734	37867	54085	79591	44585	72226
18C-11000-300-OP	95	176872	47310	53582	70022	37323	52627	80189	45037	73452	90357	52651	94277	100524	60208	115101
18C-11000-350-OP	70	176696	47239	53482	117657	72832	150192	131496	82935	178536						
32C-12000-300-OP	100	201070	48236	50917	94094	49995	69831	106030	59066	94277	117965	68030	118724	129901	76925	143170
32C-12000-350-OP	85	200863	48149	50801	150013	91814	184363	166259	103699	217638	182505	115554	250912	198751	127375	284186
32C-15000-300-OP	100	233909	59022	64321	79336	29550	29550	91272	45920	53996	103207	55167	78443	115143	64229	102889
32C-15000-350-OP	90	233702	58937	64204	135255	79291	144082	151501	91354	177356	167747	103325	210631	183993	115197	243905
50C-15400-300-OP	100	253231	57858	59373	100158	41013	41013	113420	57272	68175	126682	67546	95338	139944	77631	122500
50C-15400-350-OP	100	253001	57757	59244	162291	94395	168271	180342	107817	205242	198392	121178	242213	216443	134405	279185
50C-15600-300-OP	100	264849	62857	65922	93200	26762	26762	106462	51743	53924	119724	62191	81087	132986	72356	108249
50C-15600-350-OP	100	264619	62759	65792	155333	89196	154020	173384	102658	190991	191434	116041	227962	209485	129312	264934

Model 80C available on request

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3S-008A-45-CL TO 6S-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	100	252	112	136	215	94	108	290	144	193	364	192	278	439	239	364
0.3S-008A-75-CL	70	244	106	127	869	513	856	1076	645	1093	1283	776	1330	1490	908	1566
0.3S-008B-45-CL	100	387	148	149				277	44	44	351	129	129	426	187	214
0.3S-008B-75-CL	70	378	140	140	856	467	706	1063	599	943	1270	731	1180	1477	862	1417
0.3S-008C-45-CL	100	464	181	187							314	39	39	388	125	125
0.3S-008C-75-CL	75	456	175	178	819	429	617	1026	561	854	1233	693	1091	1440	825	1327
0.3S-0100-45-CL	100	745	316	365												
0.3S-0100-75-CL	80	737	311	356	644	270	289	851	409	526	1058	543	763	1265	676	1000
0.3S-0100-100-CL	45	729	306	348	1442	789	1202	1810	1024	1623	2178	1258	2044	2546	1492	2464
0.3S-0150-45-CL	100	931	435	565												
0.3S-0150-75-CL	85	923	429	556	446	63	63	653	276	300	860	415	537	1067	549	773
0.3S-0150-100-CL	45	915	425	548	1244	663	976	1612	898	1397	1980	1133	1817	2348	1367	2238
0.9S-0200-100-CL	100	1220	562	718	1355	685	942	1781	958	1428	2206	1230	1915	2632	1502	2401
0.9S-0200-135-CL	55	1211	556	708	3096	1797	2933	3872	2289	3819	4647	2782	4706	5423	3274	5593
0.9S-0250-100-CL	100	1454	708	970	1107	523	658	1533	799	1145	1958	1072	1631	2384	1344	2118
0.9S-0250-135-CL	60	1444	702	960	2848	1639	2649	3624	2132	3536	4399	2624	4423	5175	3117	5310
0.9S-0350-100-CL	100	2316	1077	1394				1114	150	150	1540	623	637	1965	913	1123
0.9S-0350-135-CL	65	2307	1071	1384	2430	1217	1655	3205	1716	2541	3980	2212	3428	4756	2707	4315
0.9S-0400-100-CL	100	2721	1330	1830							1110	145	145	1535	620	632
0.9S-0400-135-CL	65	2712	1324	1820	1999	936	1163	2775	1440	2050	3550	1938	2936	4326	2433	3823
0.9S-0700-100-CL	100	3854	1838	2455												
0.9S-0700-135-CL	70	3844	1832	2444				2159	737	737	2935	1345	1624	3710	1854	2511
1.5S-1100-135-CL	85	6284	3076	3739										4710	853	853
1.5S-1100-175-CL	50	6267	3065	3718	5120	1248	1248	6907	2671	2973	8695	3767	4697	10482	4838	6422
1.5S-1200-135-CL	90	7291	3781	5065												
1.5S-1200-175-CL	55	7274	3770	5044	3812	21	21	5599	1745	1745	7387	2985	3470	9174	4069	5195
3S-2000-135-CL	100	10967	5751	8016										5813	811	811
3S-2000-175-CL	65	10940	5733	7983	6482	1475	1475	9402	3811	4373	12322	5609	7272	15242	7372	10171
6S-2500-175-CL	100	15694	8347	11920				8404	1715	1715	11812	4627	5110	15220	6751	8506
6S-2500-200-CL	80	15689	8344	11913	10207	3510	3510	14658	6406	7946	19109	9113	12381	23560	11791	16816
6S-3800-175-CL	100	21216	11714	17685										9534	1895	1895
6S-3800-200-CL	85	21210	11711	17679				8972	1335	1335	13423	5241	5770	17874	8011	10205

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3S-008A-45-CL TO 6S-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	100	252	112	136	513	287	449	588	335	534	662	382	619	737	429	705
0.3S-008A-75-CL	70	244	106	127	1697	1039	1803	1904	1170	2040	2111	1301	2277	2318	1433	2513
0.3S-008B-45-CL	100	387	148	149	500	237	299	575	286	384	649	334	470	724	382	555
0.3S-008B-75-CL	70	378	140	140	1684	994	1653	1891	1125	1890	2098	1256	2127	2305	1388	2364
0.3S-008C-45-CL	100	464	181	187	463	195	210	537	245	295	612	295	380	686	343	466
0.3S-008C-75-CL	75	456	175	178	1647	957	1564	1854	1088	1801	2061	1220	2038	2268	1351	2274
0.3S-0100-45-CL	100	745	316	365							437	53	53	511	138	138
0.3S-0100-75-CL	80	737	311	356	1472	809	1236	1679	941	1473	1886	1073	1710	2093	1204	1946
0.3S-0100-100-CL	45	729	306	348	2914	1726	2885									
0.3S-0150-45-CL	100	931	435	565												
0.3S-0150-75-CL	85	923	429	556	1274	682	1010	1481	815	1247	1688	947	1484	1895	1079	1720
0.3S-0150-100-CL	45	915	425	548	2716	1600	2659									
0.9S-0200-100-CL	100	1220	562	718	3057	1772	2888	3483	2042	3375	3908	2313	3861	4334	2583	4348
0.9S-0200-135-CL	55	1211	556	708	6198	3766	6480	6973	4258	7367	7749	4750	8254			
0.9S-0250-100-CL	100	1454	708	970	2809	1614	2604	3235	1885	3091	3660	2155	3578	4086	2425	4064
0.9S-0250-135-CL	60	1444	702	960	5950	3609	6196	6725	4101	7083	7501	4592	7970	8276	5084	8857
0.9S-0350-100-CL	100	2316	1077	1394	2391	1192	1610	2816	1467	2097	3242	1740	2583	3667	2012	3070
0.9S-0350-135-CL	65	2307	1071	1384	5531	3200	5202	6307	3692	6089	7082	4185	6976	7858	4677	7863
0.9S-0400-100-CL	100	2721	1330	1830	1961	910	1118	2386	1189	1605	2812	1464	2092	3237	1737	2578
0.9S-0400-135-CL	65	2712	1324	1820	5101	2926	4710	5877	3419	5597	6652	3912	6484	7428	4404	7371
0.9S-0700-100-CL	100	3854	1838	2455				1771	292	292	2196	779	779	2622	1134	1266
0.9S-0700-135-CL	70	3844	1832	2444	4486	2354	3398	5261	2852	4285	6037	3347	5171	6812	3842	6058
1.5S-1100-135-CL	85	6284	3076	3739	5774	1880	1880	6838	2628	2906	7902	3286	3932	8965	3930	4959
1.5S-1100-175-CL	50	6267	3065	3718	12270	5899	8147	14057	6956	9871						
1.5S-1200-135-CL	90	7291	3781	5065	4466	652	652	5530	1679	1679	6594	2489	2705	7658	3151	3731
1.5S-1200-175-CL	55	7274	3770	5044	10962	5136	6919	12750	6196	8644	14537	7251	10369			
3S-2000-135-CL	100	10967	5751	8016	7551	2536	2536	9289	3739	4261	11026	4818	5986	12764	5877	7711
3S-2000-175-CL	65	10940	5733	7983	18162	9123	13069	21082	10868	15968	24002	12609	18867	26923	14347	21765
6S-2500-175-CL	100	15694	8347	11920	18628	8823	11902	22036	10876	15298	25444	12920	18694	28852	14958	22089
6S-2500-200-CL	80	15689	8344	11913	28011	14456	21252	32462	17114	25687	36913	19769	30122	41364	22421	34558
6S-3800-175-CL	100	21216	11714	17685	12942	4930	5291	16350	7076	8687	19758	9159	12083	23166	11218	15478
6S-3800-200-CL	85	21210	11711	17679	22325	10711	14641	26776	13388	19076	31227	16054	23511	35678	18714	27947

NOTES

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 0.3S-008A-45-CL TO 6S-3800-200-CL

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	100	252	112	136	811	477	790	886	524	875	960	571	960	1035	619	1045
0.3S-008A-75-CL	70	244	106	127	2525	1564	2750	2732	1695	2987						
0.3S-008B-45-CL	100	387	148	149	798	430	640	873	477	725	947	525	811	1022	572	896
0.3S-008B-75-CL	70	378	140	140	2512	1519	2600	2719	1650	2837						
0.3S-008C-45-CL	100	464	181	187	761	391	551	835	439	636	910	487	721	985	535	806
0.3S-008C-75-CL	75	456	175	178	2475	1483	2511	2682	1614	2748	2889	1745	2984			
0.3S-0100-45-CL	100	745	316	365	586	223	223	660	281	308	735	332	393	809	381	479
0.3S-0100-75-CL	80	737	311	356	2300	1336	2183	2507	1467	2420	2714	1599	2657	2921	1730	2893
0.3S-0100-100-CL	45	729	306	348												
0.3S-0150-45-CL	100	931	435	565				463	82	82	537	167	167	612	247	252
0.3S-0150-75-CL	85	923	429	556	2102	1210	1957	2309	1342	2194	2516	1473	2430	2723	1605	2667
0.3S-0150-100-CL	45	915	425	548												
0.9S-0200-100-CL	100	1220	562	718	4759	2853	4835	5185	3123	5321	5610	3393	5808	6036	3663	6294
0.9S-0200-135-CL	55	1211	556	708												
0.9S-0250-100-CL	100	1454	708	970	4511	2695	4551	4937	2966	5038	5362	3236	5524	5788	3506	6011
0.9S-0250-135-CL	60	1444	702	960												
0.9S-0350-100-CL	100	2316	1077	1394	4093	2284	3557	4518	2555	4043	4944	2826	4530	5369	3097	5017
0.9S-0350-135-CL	65	2307	1071	1384	8633	5170	8750									
0.9S-0400-100-CL	100	2721	1330	1830	3663	2009	3065	4088	2281	3551	4514	2552	4038	4939	2823	4525
0.9S-0400-135-CL	65	2712	1324	1820	8203	4897	8258									
0.9S-0700-100-CL	100	3854	1838	2455	3047	1419	1752	3473	1699	2239	3898	1975	2725	4324	2250	3212
0.9S-0700-135-CL	70	3844	1832	2444	7588	4336	6945	8363	4829	7832						
1.5S-1100-135-CL	85	6284	3076	3739	10029	4568	5985	11093	5201	7011	12157	5832	8038	13221	6462	9064
1.5S-1100-175-CL	50	6267	3065	3718												
1.5S-1200-135-CL	90	7291	3781	5065	8721	3797	4758	9785	4435	5784	10849	5069	6810	11913	5700	7837
1.5S-1200-175-CL	55	7274	3770	5044												
3S-2000-135-CL	100	10967	5751	8016	14502	6927	9436	16240	7971	11161	17978	9013	12886	19715	10052	14611
3S-2000-175-CL	65	10940	5733	7983	29843	16085	24664									
6S-2500-175-CL	100	15694	8347	11920	32259	16993	25485	35667	19026	28881	39075	21058	32277	42483	23087	35673
6S-2500-200-CL	80	15689	8344	11913	45815	25071	38993	50266	27722	43428	54717	30369	47864	59168	33017	52299
6S-3800-175-CL	100	21216	11714	17685	26574	13267	18874	29982	15309	22270	33389	17346	25666	36797	19381	29062
6S-3800-200-CL	85	21210	11711	17679	40129	21368	32382	44581	24022	36817	49032	26673	41253	53483	29323	45688

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 14S-5100-200-CL TO 50S-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	100	24894	14052	21540							12991	3701	3701	17929	7263	8466
14S-5100-235-CL	100	24877	14040	21518	12493	3221	3221	19310	8108	9799	26128	12199	16376	32945	16236	22954
14S-5100-280-CL	70	24812	13997	21435	26723	12553	16951	36401	18275	26288	46080	23967	35626	55758	29648	44964
14S-5100-300-CL	60	24779	13975	21393	33846	16768	23823	44956	23307	34542	56067	29828	45261	67177	36344	55980
14S-5100-350-CL	45	24687	13913	21276	53802	28500	43076	68924	37368	57666	84047	46225	72256	99169	55082	86846
14S-5400-200-CL	100	32200	17637	25799										13728	45	45
14S-5400-235-CL	100	32183	17626	25778				15110	1379	1379	21927	7766	7956	28745	12048	14533
14S-5400-280-CL	75	32118	17582	25694	22522	8160	8530	32201	14139	17868	41879	19913	27206	51557	25635	36543
14S-5400-300-CL	65	32085	17560	25653	29645	12595	15402	40756	19246	26122	51866	25817	36841	62976	32358	47560
14S-5400-350-CL	45	31994	17498	25536	49601	24480	34656	64724	33385	49246	79846	42265	63836	94968	51133	78426
14S-8300-200-CL	100	41398	22799	33637												
14S-8300-235-CL	100	41381	22788	33616										21015	3709	3709
14S-8300-280-CL	75	41316	22744	33532				24471	7044	7044	34150	13943	16382	43828	19794	25719
14S-8300-300-CL	65	41283	22722	33491	21916	4578	4578	33026	13251	15298	44136	19978	26017	55247	26583	36736
14S-8300-350-CL	50	41191	22660	33374	41872	18621	23832	56994	27618	38422	72116	36538	53012	87239	45429	67602
18S-9600-235-CL	100	66919	34467	45666												
18S-9600-280-CL	100	66919	34467	45666										43371	7621	7621
18S-9600-300-CL	85	66881	34442	45618							43726	7963	7963	56499	19907	20295
18S-9600-350-CL	60	66776	34370	45484	41122	5450	5450	58508	21240	22234	75894	32082	39018	93280	42541	55802
18S-9800-235-CL	100	84610	43189	56372												
18S-9800-280-CL	100	84535	43137	56276												
18S-9800-300-CL	90	84497	43112	56228												
18S-9800-350-CL	65	84392	43039	56094				48045	1901	1901	65431	18685	18685	82816	31955	35469
18S-10500-280-CL	100	93530	46981	59691												
18S-10500-300-CL	90	93492	46955	59643												
18S-10500-350-CL	65	93387	46883	59509							62063	8484	8484	79449	25269	25269
18S-11000-280-CL	100	104897	54769	74203												
18S-11000-300-CL	95	104859	54743	74155												
18S-11000-350-CL	70	104754	54671	74020										65138	11454	11454
32S-12000-300-CL	100	124445	60472	74716												
32S-12000-350-CL	100	124319	60386	74560										86560	15258	15258
32S-15000-300-CL	100	144619	72222	93236												
32S-15000-350-CL	100	144494	72136	93080												
50S-15400-300-CL	100	157192	74572	88599												
50S-15400-350-CL	100	157053	74476	88426												
50S-15600-300-CL	100	164240	79422	97350												
50S-15600-350-CL	100	164101	79327	97177												

Model 80S available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 14S-5100-200-CL TO 50S-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	100	24894	14052	21540	22866	10253	13230	27804	13195	17994	32742	16116	22758	37680	19027	27522
14S-5100-235-CL	100	24877	14040	21518	39763	20253	29531	46580	24261	36109	53398	28263	42686	60215	32261	49263
14S-5100-280-CL	70	24812	13997	21435	65436	35323	54301	75115	40993	63639	84793	46662	72976	94471	52330	82314
14S-5100-300-CL	60	24779	13975	21393	78287	42851	66700	89397	49359	77419	100508	55866	88138	111618	62369	98857
14S-5100-350-CL	45	24687	13913	21276	114291	63933	101436									
14S-5400-200-CL	100	32200	17637	25799	18666	4809	4809	23604	8859	9574	28542	11924	14338	33480	14907	19102
14S-5400-235-CL	100	32183	17626	25778	35562	16154	21111	42379	20209	27688	49197	24241	34266	56014	28261	40843
14S-5400-280-CL	75	32118	17582	25694	61236	31335	45881	70914	37021	55219	80592	42703	64556	90271	48378	73894
14S-5400-300-CL	65	32085	17560	25653	74086	38885	58279	85197	45403	68999	96307	51918	79718	107417	58429	90437
14S-5400-350-CL	45	31994	17498	25536	110091	59995	93016									
14S-8300-200-CL	100	41398	22799	33637							20812	3514	3514	25750	8278	8278
14S-8300-235-CL	100	41381	22788	33616	27832	9956	10287	34650	14250	16864	41467	18379	23442	48285	22452	30019
14S-8300-280-CL	75	41316	22744	33532	53506	25552	35057	63185	31274	44395	72863	36977	53732	82541	42669	63070
14S-8300-300-CL	65	41283	22722	33491	66357	33147	47455	77467	39688	58175	88578	46215	68894	99688	52738	79613
14S-8300-350-CL	50	41191	22660	33374	102361	54306	82192	117484	63174	96782						
18S-9600-235-CL	100	66919	34467	45666							40658	5001	5001	48495	12568	12568
18S-9600-280-CL	100	66919	34467	45666	54498	18363	18363	65625	25769	29105	76752	32602	39847	87879	39310	50589
18S-9600-300-CL	85	66881	34442	45618	69273	28031	32626	82046	35804	44957	94819	43460	57288	107592	51062	69620
18S-9600-350-CL	60	66776	34370	45484	110666	52882	72587	128051	63166	89371	145437	73419	106155	162823	83655	122939
18S-9800-235-CL	100	84610	43189	56372												
18S-9800-280-CL	100	84535	43137	56276				55162	8772	8772	66289	19514	19514	77416	28515	30256
18S-9800-300-CL	90	84497	43112	56228	58809	12293	12293	71582	24624	24624	84356	32922	36955	97129	40791	49287
18S-9800-350-CL	65	84392	43039	56094	100202	42658	52254	117588	53126	69038	134974	63487	85822	152360	73796	102606
18S-10500-280-CL	100	93530	46981	59691							62921	9313	9313	74048	20055	20055
18S-10500-300-CL	90	93492	46955	59643	55441	2092	2092	68214	14423	14423	80988	26755	26755	93761	35689	39086
18S-10500-350-CL	65	93387	46883	59509	96834	37626	42053	114220	48330	58837	131606	58815	75621	148992	69202	92405
18S-11000-280-CL	100	104897	54769	74203										59738	6240	6240
18S-11000-300-CL	95	104859	54743	74155				53904	608	608	66678	12940	12940	79451	25271	25271
18S-11000-350-CL	70	104754	54671	74020	82524	28238	28238	99910	39546	45022	117296	50195	61806	134682	60660	78590
32S-12000-300-CL	100	124445	60472	74716				73541	2334	2334	88344	17028	17028	103148	31723	31723
32S-12000-350-CL	100	124319	60386	74560	106710	35259	35259	126859	49798	55259	147008	62431	75260	167157	74797	95261
32S-15000-300-CL	100	144619	72222	93236										84884	7812	7812
32S-15000-350-CL	100	144494	72136	93080	88446	11348	11348	108595	31349	31349	128744	48383	51350	148893	61231	71351
50S-15400-300-CL	100	157192	74572	88599										109105	13923	13923
50S-15400-350-CL	100	157053	74476	88426	113062	17851	17851	135450	40074	40074	157838	59004	62298	180226	73344	84521
50S-15600-300-CL	100	164240	79422	97350										100475	5356	5356
50S-15600-350-CL	100	164101	79327	97177	104433	9285	9285	126821	31508	31508	149208	53199	53731	171596	67889	75955

Model 80S available on request

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO CLOSE, MODELS 14S-5100-200-CL TO 50S-15600-350-CL

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTC	RTC	ETC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	100	24894	14052	21540	42618	21933	32286	47556	24834	37050	52494	27733	41814	57432	30629	46578
14S-5100-235-CL	100	24877	14040	21518	67032	36259	55841	73850	40252	62418	80667	44245	68996	87485	48238	75573
14S-5100-280-CL	70	24812	13997	21435	104150	57998	91652	113828	63662	100989						
14S-5100-300-CL	60	24779	13975	21393												
14S-5100-350-CL	45	24687	13913	21276												
14S-5400-200-CL	100	32200	17637	25799	38417	17857	23866	43355	20787	28630	48293	23708	33394	53231	26622	38158
14S-5400-235-CL	100	32183	17626	25778	62832	32273	47421	69649	36278	53998	76466	40283	60575	83284	44281	67153
14S-5400-280-CL	75	32118	17582	25694	99949	54054	83231	109627	59723	92569	119306	65392	101907			
14S-5400-300-CL	65	32085	17560	25653	118528	64936	101156									
14S-5400-350-CL	45	31994	17498	25536												
14S-8300-200-CL	100	41398	22799	33637	30688	11793	13042	35626	14846	17806	40564	17836	22570	45502	20793	27334
14S-8300-235-CL	100	41381	22788	33616	55102	26497	36597	61920	30527	43174	68737	34548	49752	75554	38562	56329
14S-8300-280-CL	75	41316	22744	33532	92220	48355	72407	101898	54034	81745	111576	59710	91083			
14S-8300-300-CL	65	41283	22722	33491	110798	59254	90332									
14S-8300-350-CL	50	41191	22660	33374												
18S-9600-235-CL	100	66919	34467	45666	56333	19795	20134	64171	24859	27701	72009	29712	35267	79847	34478	42834
18S-9600-280-CL	100	66919	34467	45666	99006	45957	61330	110133	52567	72072	121260	59155	82814	132387	65726	93556
18S-9600-300-CL	85	66881	34442	45618	120366	58627	81951	133139	66171	94282	145912	73698	106613	158685	81221	118945
18S-9600-350-CL	60	66776	34370	45484												
18S-9800-235-CL	100	84610	43189	56372				53708	7368	7368	61545	14934	14934	69383	22501	22501
18S-9800-280-CL	100	84535	43137	56276	88543	35525	40998	99670	42335	51739	110797	49053	62481	121923	55714	73223
18S-9800-300-CL	90	84497	43112	56228	109902	48516	61618	122675	56163	73949	135449	63769	86280	148222	71344	98612
18S-9800-350-CL	65	84392	43039	56094	169745	84068	119390									
18S-10500-280-CL	100	93530	46981	59691	85175	30119	30797	96302	37291	41539	107429	44185	52280	118555	50959	63022
18S-10500-300-CL	90	93492	46955	59643	106534	43636	51417	119307	51414	63748	132081	59100	76080	144854	66737	88411
18S-10500-350-CL	65	93387	46883	59509	166378	79528	109190									
18S-11000-280-CL	100	104897	54769	74203	70865	16982	16982	81991	27724	27724	93118	35281	38465	104245	42231	49207
18S-11000-300-CL	95	104859	54743	74155	92224	34712	37602	104997	42693	49933	117771	50483	62265	130544	58178	74596
18S-11000-350-CL	70	104754	54671	74020	152067	71031	95375	169453	81350	112159						
32S-12000-300-CL	100	124445	60472	74716	117951	44028	46417	132754	53537	61112	147558	62771	75807	162361	71871	90501
32S-12000-350-CL	100	124319	60386	74560	187306	87036	115262	207455	99196	135263	227604	111310	155264	247753	123395	175265
32S-15000-300-CL	100	144619	72222	93236	99688	22507	22507	114491	37202	37202	129295	48743	51896	144098	58221	66591
32S-15000-350-CL	100	144494	72136	93080	169042	73703	91352	189192	86007	111353	209341	98212	131354	229490	110359	151355
50S-15400-300-CL	100	157192	74572	88599	125553	30250	30250	142001	46577	46577	158449	59407	62905	174898	69986	79232
50S-15400-350-CL	100	157053	74476	88426	202614	87254	106744	225002	100965	128968	247390	114568	151191	269777	128093	173414
50S-15600-300-CL	100	164240	79422	97350	116923	21684	21684	133372	38011	38011	149820	53621	54338	166268	64484	70666
50S-15600-350-CL	100	164101	79327	97177	193984	81923	98178	216372	95700	120401	238760	109332	142625	261148	122883	164848

Model 80S available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 0.3S-008A-45-OP TO 6S-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	100	222	99	116	234	100	116	311	149	200	389	197	283	466	245	367
0.3S-008A-75-OP	70	214	94	107	914	519	850	1129	651	1082	1345	782	1314	1560	914	1546
0.3S-008B-45-OP	100	334	109	109				306	62	62	383	145	146	461	197	229
0.3S-008B-75-OP	70	325	99	99	909	476	712	1124	608	944	1339	740	1176	1555	872	1408
0.3S-008C-45-OP	100	402	140	140							347	61	61	424	144	144
0.3S-008C-75-OP	70	394	131	131	872	439	627	1088	572	859	1303	704	1091	1518	836	1323
0.3S-0100-45-OP	100	655	278	302												
0.3S-0100-75-OP	75	647	272	293	698	285	314	913	423	546	1128	558	778	1344	691	1010
0.3S-0100-100-OP	40	640	267	284	1528	804	1208	1910	1039	1620	2293	1274	2033	2676	1508	2445
0.3S-0150-45-OP	100	834	398	507												
0.3S-0150-75-OP	80	826	392	497	492	92	92	707	292	324	923	429	556	1138	564	788
0.3S-0150-100-OP	45	819	387	489	1322	677	986	1705	913	1399	2087	1148	1811	2470	1382	2224
0.9S-0200-100-OP	100	1054	487	596	1489	730	1008	1931	1003	1485	2374	1275	1962	2816	1547	2439
0.9S-0200-135-OP	55	1045	481	586	3299	1843	2959	4106	2336	3828	4913	2829	4697	5719	3322	5566
0.9S-0250-100-OP	100	1278	635	853	1231	569	730	1673	844	1207	2116	1117	1684	2559	1389	2161
0.9S-0250-135-OP	60	1269	629	843	3042	1685	2681	3848	2178	3550	4655	2671	4419	5461	3164	5288
0.9S-0350-100-OP	100	2005	939	1169				1307	307	307	1749	714	783	2192	999	1260
0.9S-0350-135-OP	60	1996	933	1158	2675	1301	1781	3481	1801	2650	4288	2297	3519	5095	2791	4388
0.9S-0400-100-OP	100	2394	1194	1614							1302	301	301	1745	711	778
0.9S-0400-135-OP	65	2385	1188	1603	2228	1021	1299	3034	1524	2168	3841	2022	3037	4647	2517	3906
0.9S-0700-100-OP	100	3361	1626	2112												
0.9S-0700-135-OP	70	3352	1620	2101	1669	100	100	2475	951	969	3282	1479	1838	4089	1985	2708
1.5S-1100-135-OP	95	6862	2643	2929										4070	911	911
1.5S-1100-175-OP	55	6844	2631	2912	4429	1370	1370	5998	2876	3373	7566	3958	5377	9134	5019	7380
1.5S-1200-135-OP	100	8011	3367	4073												
1.5S-1200-175-OP	60	7993	3356	4055				4852	1950	1950	6420	3183	3953	7988	4256	5957
3S-2000-135-OP	100	11599	5169	6555										5321	1007	1007
3S-2000-175-OP	65	11570	5151	6525	5924	1756	1756	8560	4125	5029	11197	5904	8302	13833	7656	11575
6S-2500-175-OP	100	16485	7523	9766				7814	2174	2174	10903	5115	5993	13991	7210	9813
6S-2500-200-OP	80	16479	7520	9760	9447	4085	4193	13481	6869	9182	17515	9555	14171	21548	12216	19160
6S-3800-175-OP	100	22456	10790	14771										8870	2416	2416
6S-3800-200-OP	85	22450	10786	14765				8360	1786	1786	12394	5802	6774	16428	8536	11763

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 0.3S-008A-45-OP TO 6S-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	100	222	99	116	544	292	451	621	340	534	699	387	618	776	435	701
0.3S-008A-75-OP	70	214	94	107	1775	1045	1778	1990	1177	2010	2206	1308	2242	2421	1440	2474
0.3S-008B-45-OP	100	334	109	109	538	246	313	616	295	396	693	343	480	771	391	563
0.3S-008B-75-OP	70	325	99	99	1770	1004	1640	1985	1135	1872	2201	1267	2104	2416	1399	2336
0.3S-008C-45-OP	100	402	140	140	502	206	228	579	256	311	657	305	395	734	354	478
0.3S-008C-75-OP	70	394	131	131	1733	968	1555	1949	1100	1787	2164	1231	2019	2379	1363	2251
0.3S-0100-45-OP	100	655	278	302							482	82	82	560	165	165
0.3S-0100-75-OP	75	647	272	293	1559	823	1242	1774	956	1474	1989	1088	1706	2205	1219	1938
0.3S-0100-100-OP	40	640	267	284												
0.3S-0150-45-OP	100	834	398	507												
0.3S-0150-75-OP	80	826	392	497	1353	697	1020	1568	829	1252	1784	961	1484	1999	1093	1716
0.3S-0150-100-OP	45	819	387	489	2853	1616	2636									
0.9S-0200-100-OP	100	1054	487	596	3259	1818	2915	3702	2089	3392	4144	2359	3869	4587	2630	4346
0.9S-0200-135-OP	55	1045	481	586	6526	3814	6435	7332	4307	7305	8139	4800	8174			
0.9S-0250-100-OP	100	1278	635	853	3001	1660	2637	3444	1931	3114	3886	2202	3591	4329	2472	4068
0.9S-0250-135-OP	60	1269	629	843	6268	3657	6157	7074	4150	7027	7881	4642	7896	8687	5135	8765
0.9S-0350-100-OP	100	2005	939	1169	2634	1276	1737	3077	1551	2214	3520	1824	2691	3962	2097	3168
0.9S-0350-135-OP	60	1996	933	1158	5901	3286	5257	6708	3779	6126	7514	4272	6996	8321	4765	7865
0.9S-0400-100-OP	100	2394	1194	1614	2187	996	1255	2630	1273	1732	3072	1548	2209	3515	1821	2686
0.9S-0400-135-OP	65	2385	1188	1603	5454	3012	4775	6260	3505	5644	7067	3999	6514	7874	4492	7383
0.9S-0700-100-OP	100	3361	1626	2112	1628	57	57	2071	534	534	2514	978	1010	2956	1270	1487
0.9S-0700-135-OP	70	3352	1620	2101	4895	2485	3577	5702	2982	4446	6508	3478	5315	7315	3973	6184
1.5S-1100-135-OP	95	6862	2643	2929	5003	2103	2103	5937	2833	3296	6870	3482	4488	7804	4119	5680
1.5S-1100-175-OP	55	6844	2631	2912	10703	6073	9384	12271	7122	11387	13840	8168	13391			
1.5S-1200-135-OP	100	8011	3367	4073	3858	680	680	4791	1872	1872	5724	2695	3064	6658	3347	4257
1.5S-1200-175-OP	60	7993	3356	4055	9557	5314	7960	11125	6366	9964	12694	7414	11967	14262	8460	13971
3S-2000-135-OP	100	11599	5169	6555	6890	2945	2954	8458	4055	4902	10027	5121	6850	11596	6171	8797
3S-2000-175-OP	65	11570	5151	6525	16469	9396	14848	19105	11131	18120	21741	12863	21393	24377	14595	24666
6S-2500-175-OP	100	16485	7523	9766	17079	9266	13632	20167	11306	17452	23255	13338	21271	26344	15366	25091
6S-2500-200-OP	80	16479	7520	9760	25582	14866	24149	29615	17511	29137	33649	20155	34126	37683	22800	39115
6S-3800-175-OP	100	22456	10790	14771	11958	5499	6236	15047	7609	10055	18135	9673	13875	21223	11719	17694
6S-3800-200-OP	85	22450	10786	14765	20461	11215	16752	24495	13876	21741	28528	16527	26729	32562	19172	31718

NOTES

MOP: Maximum Operating Pressure
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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 0.3S-008A-45-OP TO 6S-3800-200-OP

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	100	222	99	116	854	482	785	931	530	868	1009	577	952	1086	624	1035
0.3S-008A-75-OP	70	214	94	107	2636	1571	2706	2852	1702	2938						
0.3S-008B-45-OP	100	334	109	109	848	439	647	926	487	730	1003	534	814	1081	582	897
0.3S-008B-75-OP	70	325	99	99	2631	1530	2568	2846	1662	2800						
0.3S-008C-45-OP	100	402	140	140	812	402	562	889	450	645	967	498	729	1044	545	812
0.3S-008C-75-OP	70	394	131	131	2595	1495	2483	2810	1626	2715						
0.3S-0100-45-OP	100	655	278	302	637	244	249	715	297	332	792	347	416	870	396	499
0.3S-0100-75-OP	75	647	272	293	2420	1351	2170	2635	1483	2402	2851	1615	2634			
0.3S-0100-100-OP	40	640	267	284												
0.3S-0150-45-OP	100	834	398	507	432	27	27	509	111	111	587	194	194	664	263	278
0.3S-0150-75-OP	80	826	392	497	2214	1225	1948	2430	1357	2180	2645	1489	2412	2860	1621	2644
0.3S-0150-100-OP	45	819	387	489												
0.9S-0200-100-OP	100	1054	487	596	5029	2900	4823	5472	3171	5300	5914	3441	5777	6357	3711	6254
0.9S-0200-135-OP	55	1045	481	586												
0.9S-0250-100-OP	100	1278	635	853	4771	2743	4545	5214	3013	5022	5656	3283	5499	6099	3554	5976
0.9S-0250-135-OP	60	1269	629	843												
0.9S-0350-100-OP	100	2005	939	1169	4405	2368	3645	4847	2640	4122	5290	2911	4599	5732	3182	5075
0.9S-0350-135-OP	60	1996	933	1158												
0.9S-0400-100-OP	100	2394	1194	1614	3957	2094	3163	4400	2365	3640	4843	2637	4117	5285	2908	4593
0.9S-0400-135-OP	65	2385	1188	1603	8680	4985	8252									
0.9S-0700-100-OP	100	3361	1626	2112	3399	1552	1964	3841	1830	2441	4284	2106	2918	4726	2381	3395
0.9S-0700-135-OP	70	3352	1620	2101	8121	4467	7053	8928	4961	7922						
1.5S-1100-135-OP	95	6862	2643	2929	8737	4752	6873	9670	5380	8065	10604	6007	9257	11537	6631	10450
1.5S-1100-175-OP	55	6844	2631	2912												
1.5S-1200-135-OP	100	8011	3367	4073	7591	3986	5449	8524	4619	6641	9458	5248	7833	10391	5874	9026
1.5S-1200-175-OP	60	7993	3356	4055												
3S-2000-135-OP	100	11599	5169	6555	13165	7213	10745	14733	8251	12693	16302	9286	14641	17871	10319	16588
3S-2000-175-OP	65	11570	5151	6525	27013	16326	27939									
6S-2500-175-OP	100	16485	7523	9766	29432	17390	28910	32520	19415	32730	35608	21440	36549	38697	23464	40369
6S-2500-200-OP	80	16479	7520	9760	41716	25444	44104	45750	28089	49092	49784	30733	54081	53817	33378	59070
6S-3800-175-OP	100	22456	10790	14771	24311	13755	21514	27400	15785	25333	30488	17812	29153	33576	19837	32972
6S-3800-200-OP	85	22450	10786	14765	36596	21816	36707	40629	24461	41696	44663	27105	46685	48696	29750	51673

NOTES

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 14S-5100-200-OP TO 50S-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				25			30			35			40		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	100	27498	13013	17698							11401	4304	4304	15733	7845	9838
14S-5100-235-OP	100	27479	13002	17679	10964	3746	3746	16946	8680	11387	22927	12732	19028	28909	16739	26669
14S-5100-280-OP	70	27404	12958	17608	23450	13083	19695	31942	18763	30542	40433	24428	41390	48925	30093	52237
14S-5100-300-OP	60	27367	12936	17572	29699	17267	27678	39448	23770	40131	49196	30273	52583	58944	36771	65036
14S-5100-350-OP	45	27263	12874	17471	47209	28948	50045	60477	37793	66994	73746	46632	83943	87014	55463	100893
14S-5400-200-OP	100	35440	16081	20993												
14S-5400-235-OP	100	35421	16070	20974				13216	1549	1549	19198	8677	9190	25179	12871	16830
14S-5400-280-OP	75	35346	16025	20903	19720	9056	9857	28212	14940	20704	36704	20665	31552	45195	26345	42399
14S-5400-300-OP	65	35309	16003	20867	25969	13412	17840	35718	20003	30292	45466	26526	42745	55214	33029	55197
14S-5400-350-OP	45	35205	15941	20766	43479	25200	40207	56747	34052	57156	70016	42904	74105	83284	51752	91054
14S-8300-200-OP	100	45484	20783	27317												
14S-8300-235-OP	100	45465	20771	27298										18500	4388	4388
14S-8300-280-OP	80	45390	20727	27227				21533	8262	8262	30025	15070	19109	38517	20856	29957
14S-8300-300-OP	70	45353	20705	27191	19291	5398	5398	29039	14388	17850	38787	21039	30303	48535	27592	42755
14S-8300-350-OP	50	45249	20642	27090	36800	19695	27764	50069	28618	44713	63337	37478	61663	76606	46329	78612
18S-9600-235-OP	100	71792	29579	35058												
18S-9600-280-OP	100	71707	29527	34976										39182	10257	10257
18S-9600-300-OP	90	71664	29500	34935							39493	10654	10654	50707	23151	24970
18S-9600-350-OP	65	71544	29427	34819	37207	7736	7736	52471	24420	27222	67735	35025	46708	82999	45373	66194
18S-9800-235-OP	100	91146	37130	43510												
18S-9800-280-OP	100	91060	37078	43428												
18S-9800-300-OP	100	91017	37051	43387										41233	996	996
18S-9800-350-OP	70	90897	36978	43271				42996	3248	3248	58260	22734	22734	73524	35516	42220
18S-10500-280-OP	100	106286	43484	51177												
18S-10500-300-OP	100	106243	43457	51136												
18S-10500-350-OP	75	106123	43384	51020							49806	3873	3873	65070	23359	23359
18S-11000-280-OP	100	119233	51369	63676												
18S-11000-300-OP	100	119190	51343	63635												
18S-11000-350-OP	80	119070	51271	63519										52506	7320	7320
32S-12000-300-OP	100	134321	54524	62667												
32S-12000-350-OP	100	134182	54436	62529										74903	13207	13207
32S-15000-300-OP	100	156383	65895	78785												
32S-15000-350-OP	100	156244	65809	78647												
50S-15400-300-OP	100	169415	66500	73789												
50S-15400-350-OP	100	169260	66401	73636												
50S-15600-300-OP	100	177222	71451	81539												
50S-15600-350-OP	100	177068	71354	81386												

Model 80S available on request

NOTES

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 14S-5100-200-OP TO 50S-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				45			50			55			60		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	100	27498	13013	17698	20066	10802	15372	24398	13719	20907	28731	16620	26441	33064	19511	31976
14S-5100-235-OP	100	27479	13002	17679	34891	20730	34310	40872	24721	41951	46854	28711	49592	52836	32701	57233
14S-5100-280-OP	70	27404	12958	17608	57417	35754	63085	65909	41411	73932	74401	47068	84780	82893	52720	95627
14S-5100-300-OP	60	27367	12936	17572	68693	43265	77488	78441	49757	89941	88189	56245	102393	97937	62733	114846
14S-5100-350-OP	45	27263	12874	17471	100283	64294	117842									
14S-5400-200-OP	100	35440	16081	20993	16336	5534	5534	20669	9734	11069	25001	12749	16603	29334	15701	22137
14S-5400-235-OP	100	35421	16070	20974	31161	16937	24471	37142	20959	32112	43124	24963	39753	49106	28954	47394
14S-5400-280-OP	75	35346	16025	20903	53687	32010	53247	62179	37676	64094	70671	43341	74942	79163	49006	85789
14S-5400-300-OP	65	35309	16003	20867	64963	39532	67650	74711	46036	80102	84459	52535	92555	94207	59029	105007
14S-5400-350-OP	45	35205	15941	20766	96553	60591	108003									
14S-8300-200-OP	100	45484	20783	27317							18322	4161	4161	22655	9695	9695
14S-8300-235-OP	100	45465	20771	27298	24482	11172	12029	30464	15372	19670	36445	19455	27311	42427	23492	34952
14S-8300-280-OP	80	45390	20727	27227	47008	26568	40804	55500	32250	51652	63992	37915	62499	72484	43580	73347
14S-8300-300-OP	70	45353	20705	27191	58284	34106	55207	68032	40610	67660	77780	47113	80112	87529	53616	92565
14S-8300-350-OP	50	45249	20642	27090	89874	55181	95561	103143	64030	112510						
18S-9600-235-OP	100	71792	29579	35058							36799	7215	7215	43680	16000	16000
18S-9600-280-OP	100	71707	29527	34976	48951	21869	22728	58719	28817	35199	68488	35540	47670	78257	42172	60141
18S-9600-300-OP	90	71664	29500	34935	61922	31035	39287	73136	38703	53603	84350	46283	67919	95564	53819	82236
18S-9600-350-OP	65	71544	29427	34819	98263	55629	85680	113527	65838	105166	128791	76018	124652	144054	86197	144138
18S-9800-235-OP	100	91146	37130	43510												
18S-9800-280-OP	100	91060	37078	43428				49245	11225	11225	59014	23696	23696	68783	32168	36167
18S-9800-300-OP	100	91017	37051	43387	52447	15313	15313	63661	28467	29629	74875	36462	43945	86090	44204	58261
18S-9800-350-OP	70	90897	36978	43271	88788	46047	61706	104052	56405	81192	119316	66678	100678	134580	76906	120164
18S-10500-280-OP	100	106286	43484	51177							50560	4835	4835	60328	17306	17306
18S-10500-300-OP	100	106243	43457	51136				55207	10768	10768	66421	25084	25084	77636	35840	39401
18S-10500-350-OP	75	106123	43384	51020	80334	37767	42845	95598	48404	62331	110862	58823	81817	126126	69139	101304
18S-11000-280-OP	100	119233	51369	63676										47765	1267	1267
18S-11000-300-OP	100	119190	51343	63635							53858	9046	9046	65072	23362	23362
18S-11000-350-OP	80	119070	51271	63519	67770	26806	26806	83034	39677	46293	98298	50259	65779	113562	60655	85265
32S-12000-300-OP	100	134321	54524	62667							76513	15206	15206	89877	31798	31798
32S-12000-350-OP	100	134182	54436	62529	93092	35790	35790	111281	51375	58373	129471	63900	80956	147660	76181	103539
32S-15000-300-OP	100	156383	65895	78785										73123	4469	4469
32S-15000-350-OP	100	156244	65809	78647	76338	8461	8461	94527	31044	31044	112717	50147	53627	130906	62869	76210
50S-15400-300-OP	100	169415	66500	73789										94165	10347	10347
50S-15400-350-OP	100	169260	66401	73636	97738	14783	14783	117948	39875	39875	138158	61194	64967	158369	75385	90060
50S-15600-300-OP	100	177222	71451	81539										86375	675	675
50S-15600-350-OP	100	177068	71354	81386	89947	5110	5110	110158	30203	30203	130368	55295	55295	150578	69979	80388

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BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OUTPUT TORQUES (Nm) - SYMMETRIC YOKE DESIGN, SPRING TO OPEN, MODELS 14S-5100-200-OP TO 50S-15600-350-OP

					Operating supply pressure (bar g)											
	MOP				65			70			75			80		
Model	(bar g)	BTO	RTO	ETO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	100	27498	13013	17698	37396	22401	37510	41729	25292	43045	46061	28182	48579	50394	31072	54113
14S-5100-235-OP	100	27479	13002	17679	58817	36687	64874	64799	40672	72515	70781	44656	80156	76762	48640	87797
14S-5100-280-OP	70	27404	12958	17608	91385	58372	106475	99876	64023	117322						
14S-5100-300-OP	60	27367	12936	17572												
14S-5100-350-OP	45	27263	12874	17471												
14S-5400-200-OP	100	35440	16081	20993	33666	18625	27672	37999	21534	33206	42331	24433	38741	46664	27325	44275
14S-5400-235-OP	100	35421	16070	20974	55087	32945	55035	61069	36935	62676	67051	40926	70317	73032	44916	77958
14S-5400-280-OP	75	35346	16025	20903	87655	54663	96637	96146	60320	107484	104638	65977	118332			
14S-5400-300-OP	65	35309	16003	20867	103956	65523	117460									
14S-5400-350-OP	45	35205	15941	20766												
14S-8300-200-OP	100	45484	20783	27317	26987	12956	15229	31320	15961	20764	35653	18917	26298	39985	21847	31833
14S-8300-235-OP	100	45465	20771	27298	48409	27507	42593	54390	31509	50234	60372	35500	57875	66354	39490	65516
14S-8300-280-OP	80	45390	20727	27227	80976	49245	84194	89468	54910	95042	97960	60575	105889	106451	66234	116737
14S-8300-300-OP	70	45353	20705	27191	97277	60119	105017	107025	66616	117470						
14S-8300-350-OP	50	45249	20642	27090												
18S-9600-235-OP	100	71792	29579	35058	50561	23046	24784	57443	27928	33569	64324	32689	42353	71205	37391	51138
18S-9600-280-OP	100	71707	29527	34976	88026	48759	72612	97795	55315	85083	107564	61851	97554	117333	68376	110025
18S-9600-300-OP	90	71664	29500	34935	106779	61326	96552	117993	68817	110868	129207	76295	125184	140422	83774	139501
18S-9600-350-OP	65	71544	29427	34819	159318	96376	163624									
18S-9800-235-OP	100	91146	37130	43510	41087	810	810	47968	9595	9595	54849	18379	18379	61730	27030	27164
18S-9800-280-OP	100	91060	37078	43428	78551	39016	48638	88320	45728	61109	98089	52372	73580	107858	58972	86051
18S-9800-300-OP	100	91017	37051	43387	97304	51841	72578	108518	59416	86894	119733	66958	101210	130947	74477	115527
18S-9800-350-OP	70	90897	36978	43271	149844	87109	139650	165108	97288	159136						
18S-10500-280-OP	100	106286	43484	51177	70097	29777	29777	79866	37434	42248	89635	44288	54719	99404	51018	67190
18S-10500-300-OP	100	106243	43457	51136	88850	43742	53717	100064	51469	68033	111279	59106	82350	122493	66692	96666
18S-10500-350-OP	75	106123	43384	51020	141390	79398	120790	156653	89622	140276	171917	99826	159762			
18S-11000-280-OP	100	119233	51369	63676	57534	13738	13738	67303	26209	26209	77071	35435	38680	86840	42344	51152
18S-11000-300-OP	100	119190	51343	63635	76286	34868	37678	87501	42803	51994	98715	50545	66311	109929	58189	80627
18S-11000-350-OP	80	119070	51271	63519	128826	70957	104751	144090	81210	124237	159354	91428	143723	174618	101627	163209
32S-12000-300-OP	100	134321	54524	62667	103240	45671	48389	116604	55078	64981	129967	64238	81573	143331	73275	98165
32S-12000-350-OP	100	134182	54436	62529	165849	88345	126122	184039	100434	148706	202228	112481	171289	220417	124494	193872
32S-15000-300-OP	100	156383	65895	78785	86486	21061	21061	99850	37652	37652	113213	50503	54244	126577	59885	70836
32S-15000-350-OP	100	156244	65809	78647	149095	75248	98794	167285	87471	121377	185474	99602	143960	203663	111678	166543
50S-15400-300-OP	100	169415	66500	73789	109013	28782	28782	123862	47217	47217	138710	61590	65653	153559	72055	84088
50S-15400-350-OP	100	169260	66401	73636	178579	89187	115152	198789	102806	140245	219000	116325	165337	239210	129771	190429
50S-15600-300-OP	100	177222	71451	81539	101223	19110	19110	116072	37545	37545	130920	55894	55980	145768	66607	74416
50S-15600-350-OP	100	177068	71354	81386	170789	83896	105480	190999	97575	130572	211209	111119	155665	231420	124588	180757

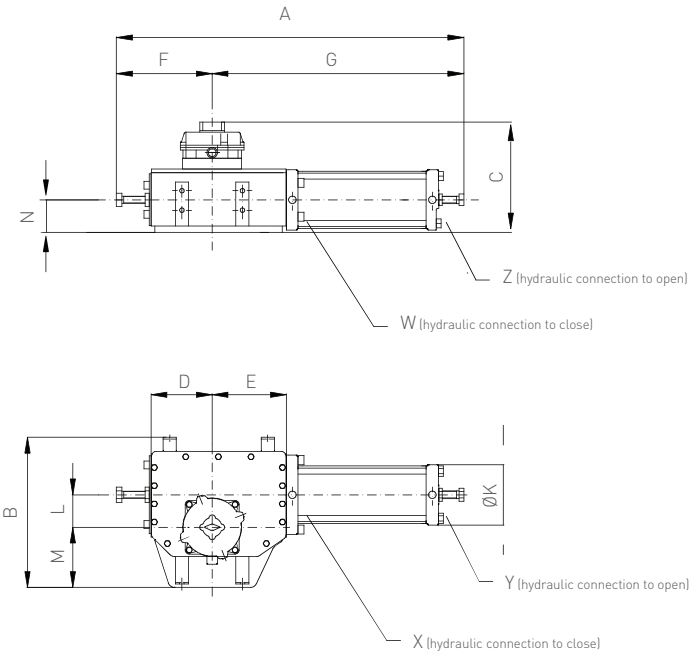
Model 80S available on request

NOTES

MOP: Maximum Operating Pressure
BTC: Break to Close
RTC: Run to Close
ETC: End to Close
BTO: Break to Open
RTO: Run to Open
ETO: End to Open

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - MODELS 0.3-45 TO 14-350



DIMENSIONS (mm)

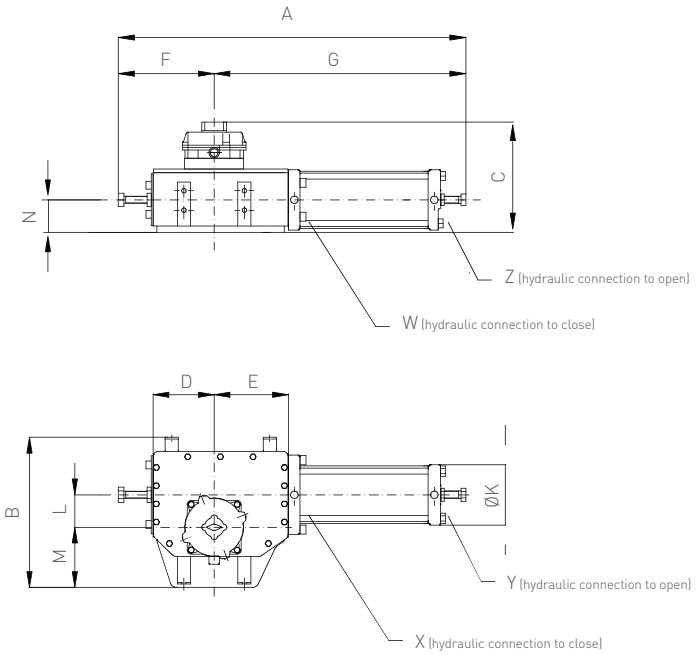
Model	A	B	C	D	E	F	G	ØK	L	M	N	Hydraulic connection NPT (in) XY	Hydraulic connection NPT (in) WZ	Weight (kg)	Oil displacement (liters)
0.3-45	818	319	144	136	151	255	593	75	70	119	70	½	½	43	0.26
0.3-75	796	319	163	136	151	225	571	116	70	119	70	½	½	44	0.70
0.3-100	830	319	163	136	151	225	605	125	70	119	70	½	½	48	1.20
0.9-100	891	413	187	160	190	247	644	125	80	170	82	½	½	60	1.40
0.9-135	950	413	187	160	190	247	704	160	80	170	82	½	½	79	2.40
1.5-135	1053	469	227	187	227	312	741	160	100	185	100	½	½	116	3.00
1.5-175	1139	469	227	187	227	312	827	196	100	185	100	½	½	135	5.00
3-135	1460	586	234	285	330	409	1051	160	160	215	106	½	½	190	5.00
3-175	1574	586	234	285	330	409	1165	196	160	215	106	½	½	220	8.00
6-175	1686	740	296	327	379	466	1220	196	185	260	140	½	½	360	10.00
6-200	1768	740	278	327	379	466	1302	230	185	260	140	¾	¾	398	12.00
14-200	1895	838	410	376	435	533	1362	230	200	295	193	¾	¾	600	13.00
14-235	1893	838	410	376	435	533	1361	340	200	295	193	¾	¾	650	18.00
14-280	1945	838	410	376	435	533	1412	360	200	295	193	¾	¾	700	26.00
14-300	1956	873	401	376	435	533	1423	392	200	330	193	¾	¾	805	30.00
14-350	2129	873	460	376	435	533	1596	480	200	330	193	¾	¾	995	40.00

NOTES

MHP manual override available as an option

BIFFI OLGA DOUBLE ACTING HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - MODELS 18-235 TO 80-350



DIMENSIONS (mm) (CONTINUED)

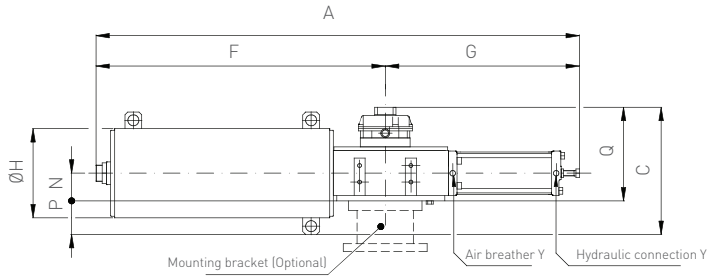
Model	A	B	C	D	E	F	G	ØK	L	M	N	Hydraulic connection NPT (in) XY	Hydraulic connection NPT (in) WZ	Weight (kg)	Oil displacement (liters)
18-235	2065	940	387	425	493	582	1483	340	230	340	193	¾	¾	819	21
18-280	2016	940	404	425	493	582	1470	360	230	340	193	¾	¾	850	30
18-300	2027	955	389	425	493	546	1481	392	230	355	193	¾	¾	961	34
18-350	2200	955	480	425	493	546	1654	480	230	355	193	¾	¾	1151	46
32-235	2271	1055	473	505	585	620	1651	340	270	395	232	¾	¾	1350	25
32-280	2466	1055	480	505	585	620	1846	360	270	395	233	¾	¾	1380	35
32-300	2301	1055	473	505	585	620	1681	392	270	395	233	¾	¾	1340	40
42-300	2301	1130	480	505	585	620	1681	392	270	420	248	¾	¾	1340	40
32-350	2466	1055	480	505	585	620	1846	480	270	395	233	¾	¾	1560	55
42-350	2466	1130	480	505	585	620	1846	480	270	420	240	¾	¾	1340	55
50-235	2460	1092	455	551	636	700	1760	340	300	387	233	¾	¾	1500	27
50-280	2460	1092	455	551	636	633	700	1760	350	300	233	¾	¾	1540	39
50-300	2488	1092	480	548	633	693	1795	392	300	387	240	¾	¾	2398	45
60-300	2488	1190	455	548	633	693	1795	392	300	420	233	¾	¾	2398	45
50-350	2626	1092	480	548	633	693	1934	480	300	387	233	¾	¾	2618	61
60-350	2626	1190	480	548	633	693	1934	480	300	420	234	¾	¾	2618	61
80-300	2935	1350	591	663	761	808	2127	392	350	450	302	¾	¾	2630	52
80-350	3000	1350	591	663	761	808	2192	480	350	450	302	¾	¾	2936	71

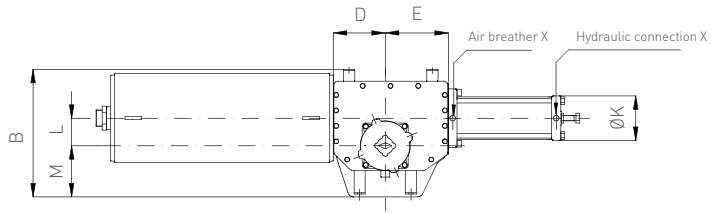
NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO CLOSE, MODELS 0.3-008A-45-CL TO 0.9-0700-135-CL





DIMENSIONS (mm)

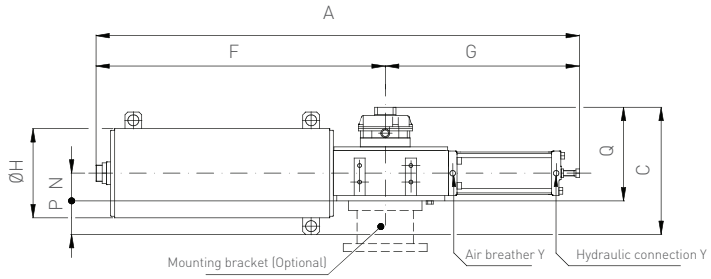
Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
0.3-008A-45-CL	1302	319	192	136	151	715	587	147	75	70	119	70	4	132	½	-	58	0.26
0.3-008A-75-CL	1286	319	192	136	151	715	571	147	116	70	119	70	4	188	½	-	67	0.70
0.3-008B-45-CL	1302	319	192	136	151	715	587	147	75	70	119	70	4	132	½	-	58	0.26
0.3-008B-75-CL	1286	319	192	136	151	715	571	147	116	70	119	70	4	188	½	-	56	0.70
0.3-008-45-CL	1302	319	192	136	151	715	587	147	75	70	119	70	4	132	½	-	58	0.26
0.3-008-75-CL	1286	319	192	136	151	715	571	147	116	70	119	70	4	188	½	-	67	0.70
0.3-0100-45-CL	1402	319	293	136	151	816	587	223	75	70	119	70	42	251	½	-	76	0.26
0.3-0100-75-CL	1386	319	293	136	151	815	571	223	116	70	119	70	42	251	½	-	76	0.70
0.3-0100-100-CL	1420	319	293	136	151	815	605	223	125	70	119	70	42	251	½	-	80	0.70
0.3-0150-45-CL	1350	319	283	136	151	763	587	223	75	70	119	70	12	241	½	-	76	0.26
0.3-0150-75-CL	1334	319	283	136	151	763	571	223	116	70	119	70	23	241	½	-	80	0.70
0.3-0150-100-CL	1368	319	283	136	151	763	605	223	125	70	119	70	23	241	½	-	84	1.20
0.9-0200-100-CL	1501	413	300	160	190	857	644	240	125	80	170	82	38	262	½	-	147	1.40
0.9-0200-135-CL	1561	413	300	160	190	857	704	240	160	80	170	82	38	262	½	-	166	2.40
0.9-0250-100-CL	1430	413	300	160	190	786	644	240	125	80	170	82	38	262	½	-	117	1.40
0.9-0250-135-CL	1490	413	300	160	190	786	704	240	160	80	170	83	38	262	½	-	133	2.40
0.9-0350-100-CL	1554	413	370	160	190	910	644	310	125	80	170	82	73	297	½	-	181	1.40
0.9-0350-135-CL	1614	413	370	160	190	910	704	310	160	80	170	82	73	297	½	-	200	2.40
0.9-0400-100-CL	1488	413	370	160	190	844	644	310	125	80	170	82	73	297	½	-	176	1.40
0.9-0400-135-CL	1548	413	370	160	190	844	704	310	160	80	170	82	73	297	½	-	195	2.40
0.9-0700-100-CL	1515	413	370	160	190	871	644	310	125	80	170	82	73	297	½	-	198	1.40
0.9-0700-135-CL	1575	413	370	160	190	871	704	310	160	80	170	82	73	297	½	-	217	2.40

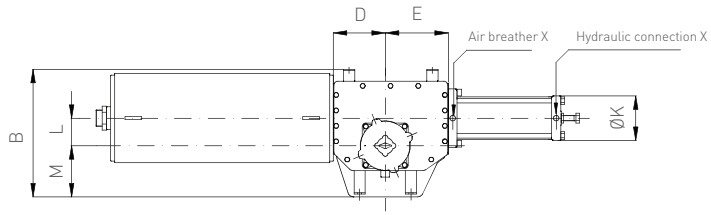
NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO CLOSE, MODELS 1.5-1200-135-CL TO 14-8300-350-CL





DIMENSIONS (mm) (CONTINUED)

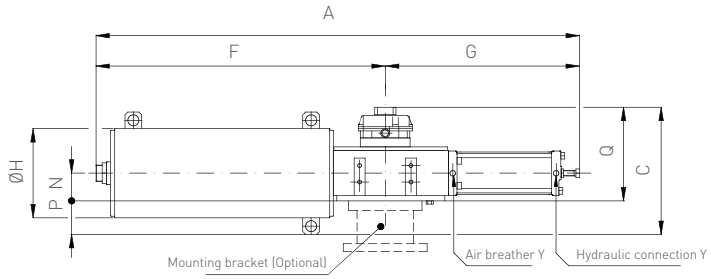
Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
1.5-1200-135-CL	1818	469	384	187	227	1077	741	324	160	100	185	100	62	322	½	-	322	3
1.5-1200-175-CL	1904	469	384	187	227	1077	827	324	196	100	185	100	62	322	½	-	341	5
3-2000-135-CL	2444	586	466	285	330	1393	1051	406	160	160	215	106	98	369	½	-	617	5
3-2000-175-CL	2558	586	466	285	330	1393	1165	406	196	160	215	106	98	369	½	-	646	8
6-2500-175-CL	3120	740	443	327	379	1906	1214	383	196	185	260	140	52	392	½	-	831	10
6-2500-200-CL	3212	740	443	327	379	1906	1306	383	230	185	260	140	52	392	-	¾	884	12
6-3800-175-CL	3350	740	600	327	379	2136	1214	530	196	185	260	140	125	475	½	½	1344	10
6-3800-200-CL	3442	740	600	327	379	2136	1306	530	230	185	260	140	125	475	-	¾	1397	12
14-5100-200-CL	3453	838	601	376	435	2092	1362	530	230	200	295	193	72	529	-	¾	1952	13
14-5100-235-CL	3453	838	601	376	435	2092	1361	530	340	200	295	193	72	529	-	¾	2012	18
14-5100-280-CL	3504	838	601	376	435	2092	1412	530	360	200	295	193	72	529	-	¾	2062	26
14-5100-300-CL	3515	838	601	376	435	2092	1423	530	392	200	295	193	72	529	-	¾	2167	30
14-5100-350-CL	3688	838	601	376	435	2092	1596	530	480	200	295	193	72	529	-	¾	2357	40
14-5400-200-CL	3402	838	601	376	435	2040	1362	530	230	200	295	193	72	529	-	¾	2000	13
14-5400-235-CL	3401	838	601	376	435	2040	1361	530	340	200	295	193	72	529	-	¾	2060	18
14-5400-280-CL	3452	838	601	376	435	2040	1412	530	360	200	295	193	72	529	-	¾	2110	26
14-5400-300-CL	3463	838	601	376	435	2040	1423	530	392	200	295	193	72	529	-	¾	2215	30
14-5400-350-CL	3636	838	601	376	435	2040	1596	530	480	200	295	193	72	529	-	¾	2405	40
14-8300-200-CL	3465	838	600	376	435	2103	1362	530	230	200	295	193	72	529	-	¾	2050	13
14-8300-235-CL	3464	838	600	376	435	2103	1361	530	340	200	295	193	72	529	-	¾	2110	18
14-8300-280-CL	3515	838	600	376	435	2103	1412	530	360	200	295	193	72	529	-	¾	2160	26
14-8300-300-CL	3526	838	600	376	435	2103	1423	530	392	200	295	193	72	529	-	¾	2258	30
14-8300-350-CL	3699	838	600	376	435	2103	1596	530	480	200	295	193	72	529	-	¾	2448	40

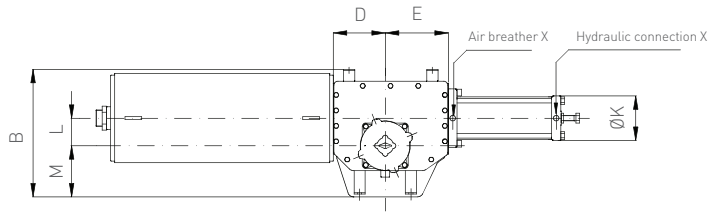
NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO CLOSE, MODELS 18-9600-235-CL TO 50-15600-350-CL





DIMENSIONS (mm) (CONTINUED)

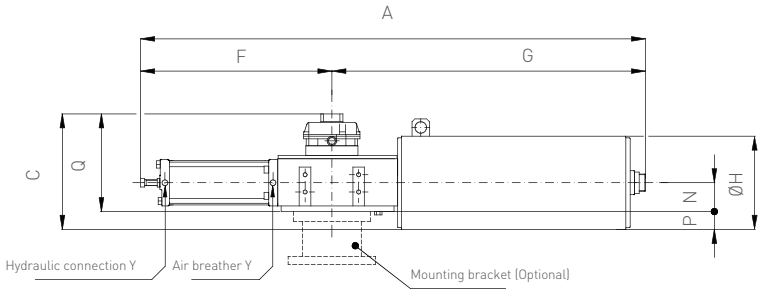
Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
18-9600-235-CL	4178	940	739	425	493	2695	1483	559	340	230	340	193	176	562	-	¾	2610	21
18-9600-280-CL	4165	940	739	425	493	2695	1470	559	360	230	340	193	176	562	-	¾	2650	30
18-9600-300-CL	4176	940	739	425	493	2695	1481	559	392	230	340	193	176	562	-	¾	2752	34
18-9600-350-CL	4349	940	739	425	493	2695	1654	559	480	230	340	193	176	562	-	¾	2942	46
18-9800-235-CL	4168	940	738	425	493	2685	1483	559	340	230	340	193	176	562	-	¾	2960	21
18-9800-280-CL	4155	940	738	425	493	2685	1470	559	360	230	340	193	176	562	-	¾	3000	30
18-9800-300-CL	4166	940	738	425	493	2685	1481	559	392	230	340	193	176	562	-	¾	3102	34
18-9800-350-CL	4339	940	738	425	493	2685	1654	559	480	230	340	193	176	562	-	¾	3292	46
18-10500-280-CL	4239	940	738	425	493	2769	1470	670	360	230	340	193	176	562	-	¾	3845	30
18-10500-300-CL	4250	940	738	425	493	2769	1481	670	392	230	340	193	176	562	-	¾	3950	34
18-10500-350-CL	4423	940	738	425	493	2769	1654	670	480	230	340	193	176	562	-	¾	4140	46
18-11000-280-CL	4123	940	850	425	493	2653	1470	670	360	230	340	193	232	618	-	¾	3251	30
18-11000-300-CL	4134	940	850	425	493	2653	1481	670	392	230	340	193	232	618	-	¾	3356	34
18-11000-350-CL	4307	940	850	425	493	2653	1654	670	480	230	340	193	232	618	-	¾	3546	46
32-12000-300-CL	4590	1065	980	505	585	2909	1681	800	392	270	395	233	258	723	¾	¾	4680	40
32-12000-350-CL	4795	1130	980	505	585	2909	1886	800	480	270	420	236	254	726	1	1	4900	55
32-15000-300-CL	4590	1065	980	505	585	2909	1681	800	392	270	395	236	254	726	¾	¾	4916	40
32-15000-350-CL	4795	1130	980	505	585	2909	1886	800	480	270	420	236	254	726	1	1	5140	55
50-15400-300-CL	4822	1092	980	548	633	3027	1795	800	392	300	387	233	257	723	¾	¾	5610	45
50-15400-350-CL	4961	1092	980	548	633	3027	1934	800	480	300	387	233	257	723	¾	¾	5830	61
50-15600-300-CL	4822	1092	980	548	633	3027	1795	800	392	300	387	233	257	723	¾	¾	5548	45
50-15600-350-CL	4961	1092	980	548	633	3027	1934	800	480	300	387	233	257	723	¾	¾	5768	61

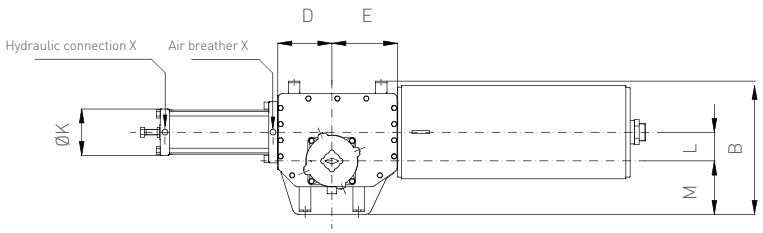
NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO OPEN, MODELS 0.3-008A-45-OP TO 0.9-0700-135-OP





DIMENSIONS (mm)

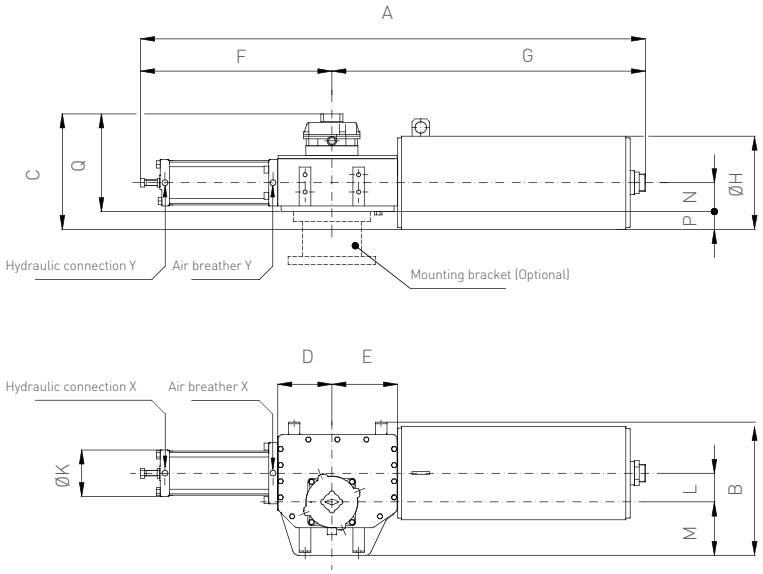
Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
0.3-008A-45-OP	1302	319	200	136	151	572	730	147	75	70	119	70	12	132	½	-	58	0.26
0.3-008A-75-OP	1286	319	200	136	151	556	730	147	116	70	119	70	12	188	½	-	67	0.70
0.3-008B-45-OP	1302	319	200	136	151	572	730	147	75	70	119	70	12	132	½	-	58	0.26
0.3-008B-75-OP	1286	319	200	136	151	556	730	147	116	70	119	70	12	188	½	-	67	0.70
0.3-008-45-OP	1302	319	200	136	151	572	730	147	75	70	119	70	12	132	½	-	58	0.26
0.3-008-75-OP	1286	319	200	136	151	556	730	147	116	70	119	70	12	188	½	-	67	0.70
0.3-0100-45-OP	1402	319	293	136	151	572	831	223	75	70	119	70	42	251	½	-	69	0.26
0.3-0100-75-OP	1387	319	293	136	151	556	831	223	100	70	119	70	42	251	½	-	76	0.70
0.3-0100-100-OP	1420	319	293	136	151	590	830	223	125	70	119	70	42	251	½	-	80	0.70
0.3-0150-45-OP	1350	319	283	136	151	572	778	223	75	70	119	70	42	241	½	-	76	0.26
0.3-0150-75-OP	1334	319	283	136	151	556	778	223	116	70	119	70	42	241	½	-	80	0.70
0.3-0150-100-OP	1368	319	283	136	151	590	778	223	125	70	119	70	42	241	½	-	84	1.20
0.9-0200-100-OP	1501	413	300	160	190	614	887	240	125	80	170	82	38	262	½	-	147	1.40
0.9-0200-135-OP	1561	413	300	160	190	674	887	240	160	80	170	82	38	262	½	-	166	2.40
0.9-0250-100-OP	1430	413	300	160	190	614	816	240	125	80	170	83	38	262	½	-	117	1.40
0.9-0250-135-OP	1490	413	300	160	190	674	816	240	160	80	170	83	38	262	½	-	133	2.40
0.9-0350-100-OP	1554	413	370	160	190	614	940	310	125	80	170	82	73	297	½	-	181	1.40
0.9-0350-135-OP	1614	413	370	160	190	674	940	310	160	80	170	82	73	297	½	-	200	2.40
0.9-0400-100-OP	1488	413	370	160	190	614	874	310	125	80	170	82	73	297	½	-	176	1.40
0.9-0400-135-OP	1548	413	370	160	190	674	874	310	160	80	170	82	73	297	½	-	195	2.40
0.9-0700-100-OP	1515	413	370	160	190	614	901	310	125	80	170	82	73	297	½	-	198	1.40
0.9-0700-135-OP	1575	413	370	160	190	674	901	310	160	80	170	82	73	297	½	-	217	2.40

NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO OPEN, MODELS 1.5-1200-135-OP TO 14-8300-350-OP



DIMENSIONS (mm)

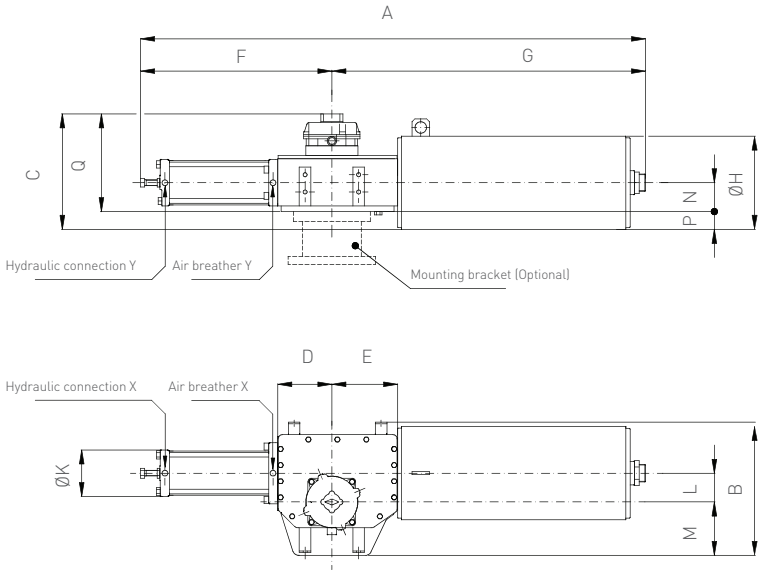
Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
1.5-1200-135-OP	1818	469	384	187	227	701	1117	324	160	100	185	100	62	322	½	-	322	3
1.5-1200-175-OP	1904	469	384	187	227	787	1117	324	196	100	185	100	62	322	½	-	341	5
3-2000-135-OP	2444	586	466	285	330	1006	1438	406	160	160	215	106	98	369	½	-	617	5
3-2000-175-OP	2558	586	466	285	330	1120	1438	406	196	160	215	106	98	369	½	-	646	8
6-2500-175-OP	3120	740	443	327	379	1162	1958	383	196	185	260	140	52	392	½	-	831	10
6-2500-200-OP	3212	740	443	327	379	1254	1958	383	230	185	260	140	52	392	¾	-	884	12
6-3800-175-OP	3350	740	600	327	379	1162	2188	530	196	185	260	140	125	475	½	-	1344	10
6-3800-200-OP	3442	740	600	327	379	1254	2188	530	230	185	260	140	125	475	-	¾	1397	12
14-5100-200-OP	3454	873	601	376	435	1303	2151	530	230	200	330	193	72	529	-	¾	1952	13
14-5100-235-OP	3453	873	601	376	435	1302	2151	530	340	200	330	193	72	529	-	¾	2012	18
14-5100-280-OP	3504	873	601	376	435	1353	2151	530	360	200	330	193	72	529	-	¾	2062	26
14-5100-300-OP	3515	873	601	376	435	1364	2151	530	392	200	330	193	72	529	-	¾	2167	30
14-5100-350-OP	3688	873	601	376	435	1537	2151	530	480	200	330	193	72	529	-	¾	2357	40
14-5400-200-OP	3402	838	601	376	435	1303	2099	530	230	200	295	193	72	529	-	¾	2000	13
14-5400-235-OP	3401	838	601	376	435	1302	2099	530	340	200	295	193	72	529	-	¾	2060	18
14-5400-280-OP	3452	838	601	376	435	1353	2099	530	360	200	295	193	72	529	-	¾	2110	26
14-5400-300-OP	3463	873	601	376	435	1364	2099	530	392	200	330	193	72	529	-	¾	2215	30
14-5400-350-OP	3636	873	601	376	435	1537	2099	530	480	200	330	193	72	529	-	¾	2405	40
14-8300-200-OP	3465	838	600	376	435	1303	2162	530	230	200	295	193	72	529	-	¾	2050	13
14-8300-235-OP	3464	838	600	376	435	1302	2162	530	340	200	295	193	72	529	-	¾	2110	18
14-8300-280-OP	3515	838	600	376	435	1353	2162	530	360	200	295	193	72	529	-	¾	2160	26
14-8300-300-OP	3526	873	600	376	435	1364	2162	530	392	200	330	193	72	529	-	¾	2258	30
14-8300-350-OP	3699	873	600	376	435	1537	2162	530	480	200	330	193	72	529	-	¾	2448	40

NOTES

MHP manual override available as an option

BIFFI OLGAS SPRING RETURN HYDRAULIC ACTUATOR

OVERALL DIMENSIONS - SPRING TO OPEN, MODELS 18-9600-235-OP TO 50-15600-350-OP



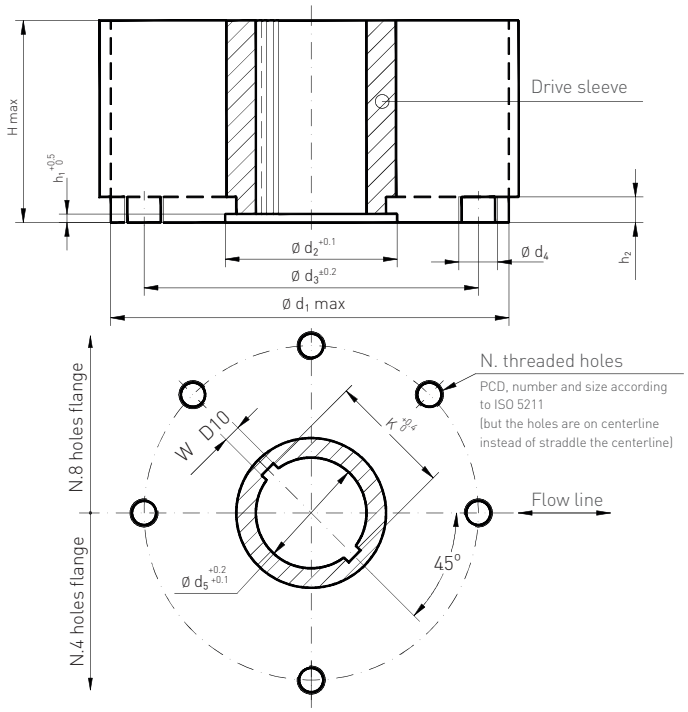
DIMENSIONS (mm)

Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Hydraulic connection NPT (in) x	Hydraulic connection NPT (in) y	Weight (kg)	Oil displacement (liters)
18-9600-235-OP	4178	940	739	425	493	1415	2763	559	340	230	340	193	176	562	-	¾	2610	21
18-9600-280-OP	4165	940	739	425	493	1402	2763	559	360	230	340	193	176	562	-	¾	2650	30
18-9600-300-OP	4176	955	739	425	493	1413	2763	559	392	230	355	193	176	562	-	¾	2752	34
18-9600-350-OP	4349	955	739	425	493	1586	2763	559	480	230	355	193	176	562	-	¾	2942	46
18-9800-235-OP	4168	940	738	425	493	1415	2753	559	340	230	340	193	176	562	-	¾	2960	21
18-9800-280-OP	4155	940	738	425	493	1402	2753	559	360	230	340	193	176	562	-	¾	3000	30
18-9800-300-OP	4166	955	738	425	493	1413	2753	559	392	230	355	193	176	562	-	¾	3102	34
18-9800-350-OP	4339	955	738	425	493	1586	2753	559	480	230	355	193	176	562	-	¾	3292	46
18-10500-280-OP	4239	955	850	425	493	1402	2837	670	360	230	355	193	232	562	-	¾	3845	30
18-10500-300-OP	4250	955	850	425	493	1413	2837	670	392	230	355	193	232	562	-	¾	3950	34
18-10500-350-OP	4423	955	850	425	493	1586	2837	670	480	230	355	193	232	562	-	¾	4140	46
18-11000-280-OP	4123	940	850	425	493	1402	2721	670	360	230	340	193	232	618	-	¾	3251	30
18-11000-300-OP	4134	955	850	425	493	1413	2721	670	392	230	355	193	232	618	-	¾	3356	34
18-11000-350-OP	4307	955	850	425	493	1586	2721	670	480	230	355	193	232	618	-	¾	3546	46
32-12000-300-OP	4590	1065	980	505	585	1601	2989	800	392	270	395	233	254	723	¾	¾	4680	40
32-12000-350-OP	4755	1065	980	505	585	1766	2989	800	480	270	395	233	258	726	1	1	4900	55
32-15000-300-OP	4590	1065	980	505	585	1601	2989	800	382	270	395	233	258	726	¾	¾	4916	40
32-15000-350-OP	4755	1065	980	505	585	1766	2989	800	460	270	395	233	258	726	1	1	5140	55
50-15400-300-OP	4747	1092	980	548	633	1710	3037	800	392	300	387	233	257	723	¾	¾	5610	45
50-15400-350-OP	4886	1092	980	548	633	1849	3037	800	480	300	387	233	257	723	¾	¾	5830	61
50-15600-300-OP	4822	1092	980	548	633	1710	3112	800	382	300	387	233	257	723	¾	¾	5548	45
50-15600-350-OP	4961	1092	980	551	633	1849	3112	800	480	300	387	233	257	723	¾	¾	5768	61

NOTES

MHP manual override available as an option

ACTUATOR MODELS 0.3 TO 6.0



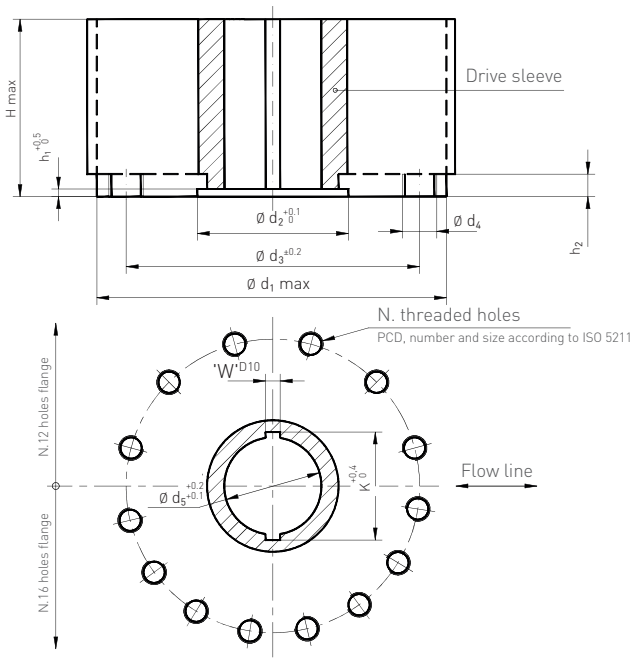
Top view of the Scotch yoke mechanism
(actuator shown in closed position)

COUPLING DIMENSIONS (mm) MODELS 0.3 TO 0.6

Actuator model	Ø d_1	Ø d_2	Ø d_3	Ø d_4	N	h_1	h_2	H max	Ø d_5	W	K
0.3	240	93	165	M20	4	5	17	127	70	12	75.6
0.9	310	112	254	M16	8	5	19	150	86	14	96.6
1.5	360	144	298	M20	8	6	19	190	112	18	119.0
3	430	195	356	M30	8	9	23	200	157	25	167.8
6	520	250	406	M36	8	14	29	260	200	28	212.8

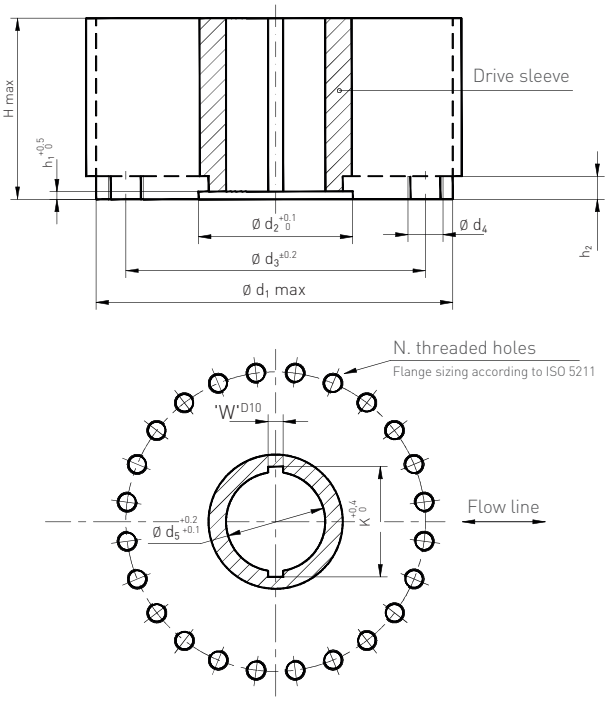
Ø d_1 is maximum adapter flange diameter.

ACTUATOR MODELS 14 TO 32



Top view of the Scotch yoke mechanism
(actuator shown in closed position)

ACTUATOR MODELS 50 TO 80



Top view of the Scotch yoke mechanism
(actuator shown in closed position)

COUPLING DIMENSIONS (mm) MODELS 14 TO 32

Actuator model	Ø d_1	Ø d_2	Ø d_3	Ø d_4	N	P	h_1	H max	W	K	X
14	580	250	483	M36	12	10	29	340	175	45	195.8
18	680	290	603	M36	16	12	32	350	200	45	220.8
32	780	290	603	M36	16	12	32	400	220	50	242.8

COUPLING DIMENSIONS (mm) MODELS 50 & 80

Actuator model	Ø d_1	Ø d_2	Ø d_3	Ø d_4	N	h_1	h_2	H max	Ø d_5	W	K
50	800	315	698	M36	24	10	32	430	240	56	264.8
80	900	370	813	M42	24	9	37	540	280	46	327.0

Ø d_1 is maximum adapter flange diameter.

MOUNTING DIMENSIONS - STEM ACCEPTANCE

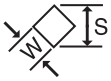
Square key



Rectangular key



Square stem



STEM ACCEPTANCE DIMENSIONS FOR INSERT BUSHES (mm)

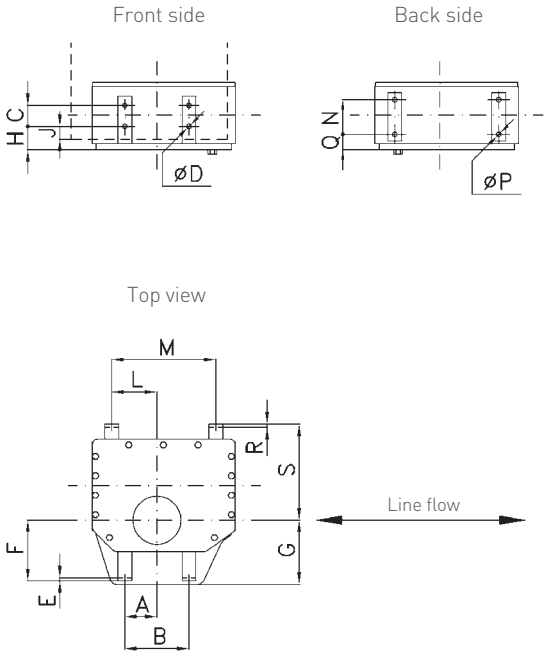
	Max. stem diameter with square key	Max. stem diameter with	Square stem		
Housing size	**(key dimension)**	**rectangular key**	**W**	**S***	**Maximum stem protrusion****
0.3	52(14)	55	46	64	120
0.9	66(16)	70	55	77	140
1.5	85(18)	90	73	103	180
3	120(32)	130	104	147	190
6	150(36)	170	133	188	250
14	175(38)	197	-	-	360
18	200(45)	220	-	-	360
32	200(45)	230	-	-	430
50	210(50)	240	-	-	440

NOTES

1. The listed maximum acceptance values are applicable for stems with keyway parallel or perpendicular to the flow line and for square stems with diagonal parallel with the flow line.
2. Key according to UNI6604 or DIN 6885 sh.1 or BS4325 part 1 or ISO 773 or equivalent.
3. * S max: maximum external diameter in case of rounded edge.
4. ** Without adapter flange.

ACCESSORIES MOUNTING DIMENSIONS

Actuator models 0.3 to 80

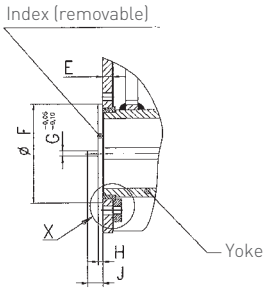


ACCESSORIES MOUNTING DIMENSIONS (mm)

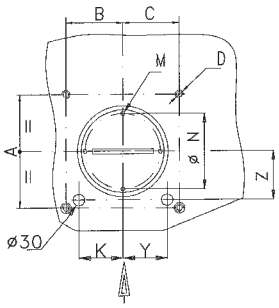
Actuator model	A	B	C	Ø D	E	F	G	H	J	L	M	N	Ø P	Q	R	S
0.3	77.5	155	60	14	5	113	119	37	12	92	200	60	14	36	5	200
0.9	92.5	185	60	14	5	155	170	61	35	85	200	60	14	48	5	243
1.5	92.5	185	60	14	5	175	185	62	35	130	300	100	14	45	5	284
3	117.5	235	85	23	8	203	215	57	25	230	500	100	14	54	5	371
6	137.0	455	115	23	8	248	260	59	22	224	500	100	14	87	8	480
14	315.0	630	200	27	10	227	330	97	55	220	500	170	27	99	8	543
18	315.0	630	200	27	10	235	340	72	32	306	680	215	27	80	10	600
32	315.0	630	200	27	10	385	395	72	32	414	890	215	27	149	10	660
50	387.5	860	250	30	12	372	387	77	35	473	1030	215	27	163	10	1072
80	500.0	1000	250	30	15	437.5	450	107	50	500	1100	215	27	270	15	900

ACCESSORIES MOUNTING HOLES ON ACTUATOR TOP (COVER AND YOKE)

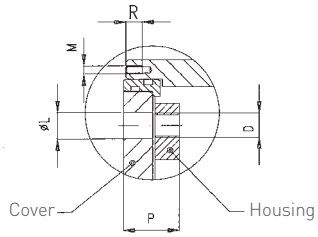
Side view

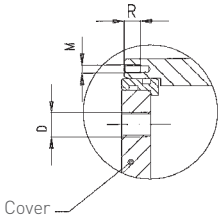


Top view



Front side





X : for model
0.9 - 1.5 - 6 - 18 - 32 - 50 -80

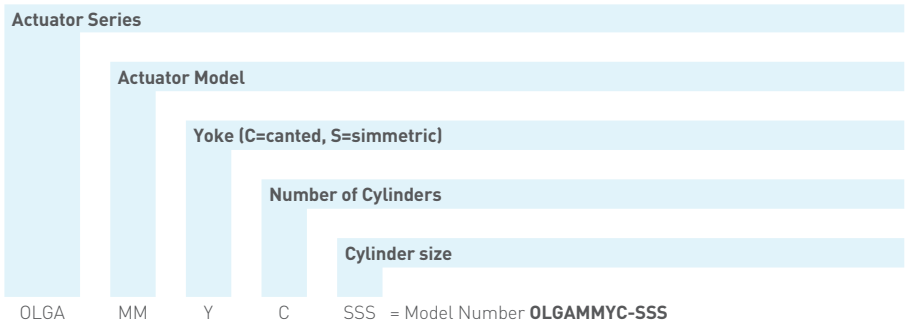
X : for model
0.3 - 3 - 14

The index is represented for actuator in end position (fully open or closed)

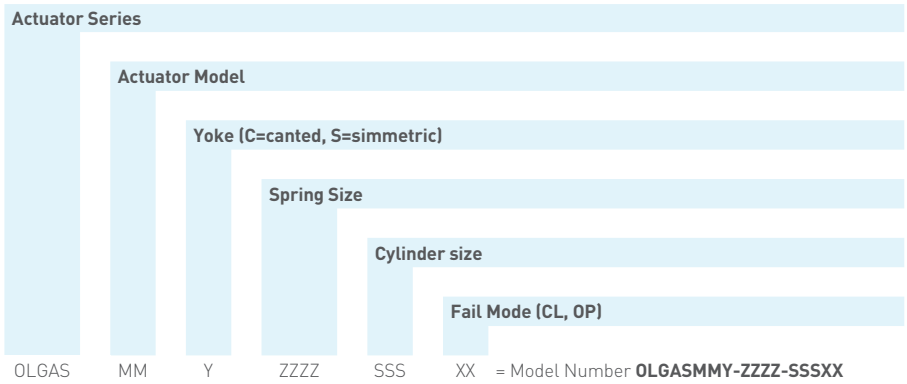
ACCESSORIES MOUNTING HOLES DIMENSIONS (mm)

Actuator model	A	B	C	D	E	Ø F	G	H	J	Ø L	M	Ø N	P	R	K	Y	Z
0.3	140	70	70	4 x M10	10	115	6	7.0	19	-	4 x M4	76	-	7	-	-	-
0.9	140	70	70	4 x M10	12	140	6	7.0	19	11.0	4 x M4	93	22	7	-	-	-
1.5	140	70	70	4 x M10	12	165	6	7.0	18	11.0	4 x M5	122	22	7	-	-	-
3	160	127	136	4 x M16	12	220	6	8.0	20	-	4 x M6	171	-	10	107	115	76
6	160	127	136	4 x M16	12	270	6	8.0	20	16.5	4 x M6	216	30	10	-	-	-
14	160	127	136	4 x M16	15	270	6	7.5	19.5	-	4 x M6	216	-	10	-	-	-
18	314	109	109	4 x M16	18	310	6	8.6	14	16.5	4 x M6	240	35	10	-	-	-
32	314	109	109	4 x M16	16	320	6	7.6	17	16.5	4 x M6	250	33	10	-	-	-
50	280.6	138.5	138.5	4 x M20	18	350	6	9.0	16	20.5	4 x M6	278	46	10	-	-	-
80	410	180	180	4 x M24	20	400	6	6.6	16	24.5	4 x M6	334	53	10	-	-	-

SCOTCH-YOKE DOUBLE ACTING HYDRAULIC ACTUATORS



SCOTCH-YOKE SINGLE ACTING HYDRAULIC ACTUATORS



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