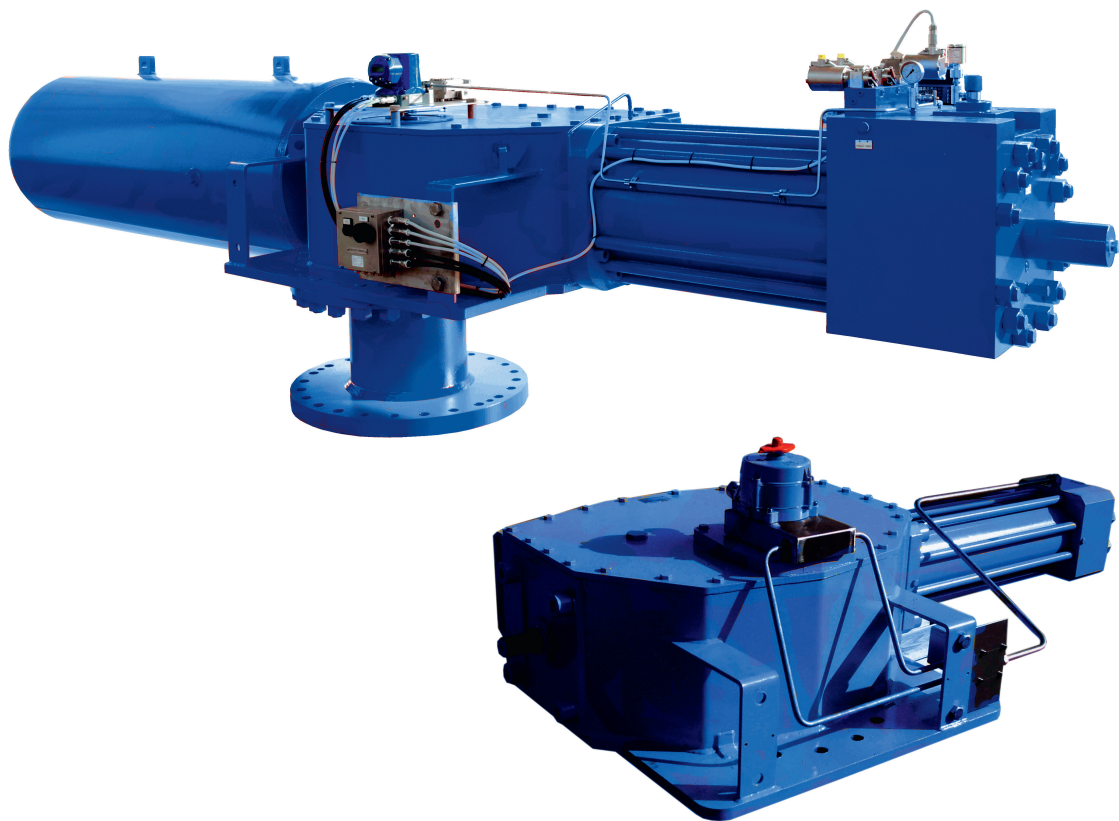


Biffi OLGA/OLGAS

Hydraulic Actuators Scotch Yoke Design

Double-acting and spring-return hydraulic actuators for remote and local operation of valves in on/off and modulating heavy-duty service. Available with output torques up to 6,638,000 lb-in.



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General Application

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

Technical Data

Design pressure (MAWP)

OLGA/OLGAS:	Up to 1500 psig (contact factory for PED limit)
OLGAS-QA:	Contact Factory
Supply medium:	Hydraulic oil, special version for fire-resistant fluids

Output torque

OLGA:	Double-acting torque up to 6,638,000 lb-in
OLGAS:	Spring starting torque up to 2,964,000 lb-in Spring ending torque up to 2,079,000 lb-in

Ambient temperature

Standard range:	-4 to +210 °F / -20 to +100 °C
Extended range:	-70 to +275 °F / -60 to +135 °C

MAWP: Maximum Allowable Working Pressure is the pressure defined for the design of the actuator pressure containing parts.

MOP: Maximum Operating Pressure is pressure that generates the torque used to engineer the mechanical loaded parts of the actuator and it is the one required to produce the design torque of the actuator.

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.
- Polytetrafluoroethylene (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 $90^\circ \pm 4^\circ$ at each end of travel.
- 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 seconds.

Approvals

Safety integrity level:	(IEC 61508-1÷7:2010) - Suitable for use in SIL3 applications
Area classification:	(ATEX) - Ex II 2GD
Enclosure standards:	(IEC 60529) - IP67M (ANSI/NEMA 250) - NEMA 4, 4X, 6
Pressure equipment directive:	PED 2014/68/EU
Machinery directive:	2006/42/EC

Figure 1. OLGA Double-Acting

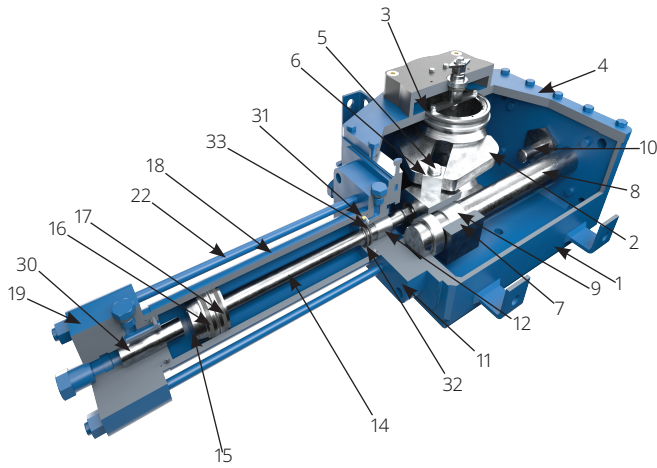


Figure 2. OLGAS Spring-Return

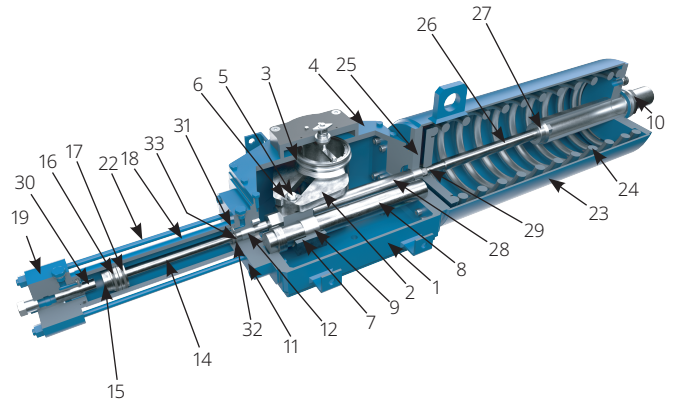


Table 1. Materials

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	Nitrile Butadiene Rubber (NBR)
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

Part	Material
18 Cylinder tube	Carbon steel (ENP)
19 Cylinder end flange	Carbon steel
20 Cylinder seal O-ring	NBR
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
32 Piston rod seal ring	PTFE + Graphite + NBR
33 O-ring	NBR

OLGA Double-Acting Hydraulic Actuator Output Torques (lb-in) Canted Yoke Design

Table 2. Models 0.3C-45 to 14C-350 at 217.5 to 580 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			217.5		290		362.5		435		507.5		580	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3C-45	1450.0	0°	3000	2637	4053	3575	5098	4514	6151	5443	7204	6381	8257	7319
		45°	1168	929	1584	1257	1991	1584	2398	1920	2814	2248	3221	2575
		90°	1690	1283	2283	1743	2876	2204	3469	2655	4062	3115	4646	3567
0.3C-75	667.0	0°	8487	8346	11408	11222	14328	14098	17240	16974	20160	19859	23081	22736
		45°	3319	2938	4460	3956	5593	4965	6735	5983	7877	7000	9018	8009
		90°	4779	4071	642	5	5478	8071	6885	9717	8284	11363	9691	13010
0.3C-100	362.5	0°	15195	15311	20390	20550	25577	25789	-	-	-	-	-	-
		45°	5938	5399	7965	7239	9992	9089	-	-	-	-	-	-
		90°	8567	7469	11487	10036	14417	12594	-	-	-	-	-	-
0.9C-100	957.0	0°	17576	17709	23576	23762	29577	29825	35568	35887	41568	41940	47569	48002
		45°	6868	6239	9213	8372	11558	10505	13903	12647	16249	14780	18594	16912
		90°	9903	8646	13284	11602	16665	14558	20045	17514	23426	20479	26807	23435
0.9C-135	522.0	0°	32249	32595	43188	43666	54118	54737	65056	65800	75986	76871	-	-
		45°	12602	11487	16877	15390	21152	19293	25426	23187	29701	27090	-	-
		90°	18178	15912	24338	21320	30497	26718	36666	32126	42825	37533	-	-
1.5C-135	681.5	0°	40781	41223	54613	55215	68437	69216	82261	83208	96084	97208	109917	111209
		45°	15939	14523	21346	19461	26745	24391	32152	29329	37559	34258	42958	39197
		90°	22983	20125	30780	26957	38568	33789	46365	40622	54153	47463	61950	54295
1.5C-175	406.0	0°	68765	70004	92005	93686	115236	117360	-	-	-	-	-	-
		45°	26877	24674	35958	33019	45038	41365	-	-	-	-	-	-
		90°	38754	34179	51852	45737	64950	57295	-	-	-	-	-	-
3C-135	826.5	0°	67508	68234	90394	91394	113280	114563	136157	137733	159043	160902	181929	184071
		45°	26382	24045	35329	32214	44277	40374	53224	48542	62171	56711	71110	64879
		90°	38046	33311	50949	44622	63844	55932	76747	67242	89642	78553	102545	89872
3C-175	493.0	0°	113820	115873	152282	155061	190735	194258	229188	233454	-	-	-	-
		45°	44489	40834	59525	54649	74552	68464	89589	82278	-	-	-	-
		90°	64154	56569	85827	75703	107501	94845	129175	113979	-	-	-	-
6C-175	841.0	0°	133069	135467	178027	181283	222985	227109	267951	272925	312909	318750	357867	364567
		45°	52011	47746	69588	63897	87164	80048	104731	96200	122307	112342	139883	128493
		90°	75004	66136	100341	88509	125679	110882	151025	133254	176363	155627	201700	178000
6C-200	638.0	0°	174283	175823	233003	235127	291723	294422	350442	353726	409162	413030	467882	472333
		45°	68118	61968	91075	82871	114032	103775	136980	124679	159937	145574	182885	166477
		90°	98226	85836	131325	114793	164424	143751	197523	172699	230622	201656	263712	230613
14C-200	1189.0	0°	190479	192160	254659	256977	318839	321795	383019	386612	447199	451430	511380	516247
		45°	74455	67729	99545	90571	124626	113422	149715	136263	174805	159114	199895	181956
		90°	107359	93819	143538	125466	179708	157114	215887	188762	252057	220400	288227	252048
14C-235	826.5	0°	263518	273217	352124	365142	440730	457067	529345	549001	617951	640926	706557	732851
		45°	103005	96297	137635	128697	172274	161097	206913	193505	241552	225905	276182	258305
		90°	148530	133396	198470	178274	248411	223162	298351	268040	348301	312927	398241	357806
14C-280	580.0	0°	374098	389002	499892	519876	625686	650758	751480	781632	877274	912515	1003068	1043388
		45°	146229	137104	195399	183239	244570	229365	293740	275501	342911	321627	392082	367762
		90°	210860	189921	281757	253827	352655	317724	423561	381621	494458	445527	565365	509424
14C-300	507.5	0°	429455	450430	573861	601968	718266	753498	862671	905036	1007077	1056566	-	-
		45°	167867	158760	224312	212170	280757	265580	337203	318989	393657	372399	-	-
		90°	242056	219914	323450	293900	404834	367886	486228	441872	567621	515858	-	-
14C-350	362.5	0°	584534	622544	781092	831944	977642	1041353	-	-	-	-	-	-
		45°	228489	219427	305316	293236	382143	367036	-	-	-	-	-	-
		90°	329468	303944	440252	406188	551028	508433	-	-	-	-	-	-

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 3. Models 0.3C-45 to 14C-350 at 652.5 to 1015 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			652.5		725		797.5		870		942.5		1015	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3C-45	1450.0	0°	9301	8257	10355	9186	11408	10124	12461	11063	13505	12001	14558	12930
		45°	3637	2903	4044	3239	4452	3567	4868	3894	5275	4221	5691	4558
		90°	5239	4027	5832	4487	6425	4938	7018	5399	7611	5859	8204	6310
0.3C-75	667.0	0°	26001	25612	-	-	-	-	-	-	-	-	-	-
		45°	10160	9027	-	-	-	-	-	-	-	-	-	-
		90°	14656	12505	-	-	-	-	-	-	-	-	-	-
0.3C-100	362.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-100	957.0	0°	53569	54056	59569	60118	65570	66180	71570	72234	77570	78296	-	-
		45°	20939	19054	23284	21187	25630	23320	27975	25461	30320	27594	-	-
		90°	30196	26391	33577	29347	36958	32311	40338	35267	43719	38223	-	-
0.9C-135	522.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-135	681.5	0°	123741	125201	-	-	-	-	-	-	-	-	-	-
		45°	48365	44126	-	-	-	-	-	-	-	-	-	-
		90°	69747	61127	-	-	-	-	-	-	-	-	-	-
1.5C-175	406.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
3C-135	826.5	0°	204816	207240	227702	230401	250588	253570	-	-	-	-	-	-
		45°	80057	73039	89004	81208	97952	89376	-	-	-	-	-	-
		90°	115439	101182	128343	112492	141237	123803	-	-	-	-	-	-
3C-175	493.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
6C-175	841.0	0°	402825	410392	447783	456218	492741	502034	-	-	-	-	-	-
		45°	157459	144644	175026	160796	192603	176947	-	-	-	-	-	-
		90°	227047	200364	252384	222737	277722	245110	-	-	-	-	-	-
6C-200	638.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
14C-200	1189.0	0°	575560	581056	639740	645873	703920	710690	768100	775508	832281	840325	896461	905143
		45°	224976	204798	250066	227649	275155	250490	300236	273341	325326	296183	350416	319034
		90°	324406	283696	360576	315343	396754	346991	432924	378630	469103	410277	505273	441925
14C-235	826.5	0°	795164	824776	883779	916701	972385	1008626	-	-	-	-	-	-
		45°	310821	290705	345460	323105	380090	355505	-	-	-	-	-	-
		90°	448182	402684	498122	447571	548072	492449	-	-	-	-	-	-
14C-280	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
14C-300	507.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
14C-350	362.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
* MOP = Maximum Operating Pressure (psig)

Table 4. Models 0.3C-45 to 14C-350 at 1087.5 to 1450 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			1087.5		1160		1232.5		1305		1377.5		1450	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3C-45	1450.0	0°	15611	13868	16656	14806	17709	15735	18762	16673	19815	17612	20859	18550
		45°	6098	4885	6514	5213	6921	5549	7328	5876	7744	6204	8151	6531
		90°	8797	6770	9390	7222	9983	7682	10576	8142	11169	8593	11753	9054
0.3C-75	667.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
0.3C-100	362.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
0.9C-100	957.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
0.9C-135	522.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
1.5C-135	681.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
1.5C-175	406.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
3C-135	826.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
3C-175	493.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
6C-175	841.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
6C-200	638.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14C-200	1189.0	0°	960641	969951	1024821	1034769	-	-	-	-	-	-	-	
		45°	375506	341876	400586	364717	-	-	-	-	-	-	-	
		90°	541452	473572	577622	505220	-	-	-	-	-	-	-	
14C-235	826.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14C-280	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14C-300	507.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14C-350	362.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 5. Models 18C-235 to 80C-350 at 217.5 to 580 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			217.5		290		362.5		435		507.5		580	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18C-235	1087.5	0°	303042	314202	404941	419915	506848	525628	608747	631350	710646	737063	812545	842777
		45°	118457	110740	158282	148007	198116	185266	237950	222524	277784	259792	317609	297050
		90°	170805	153406	228242	205019	285678	256632	343106	308246	400542	359859	457979	411481
18C-280	768.5	0°	430216	447350	574878	597862	719540	748374	864203	898886	1008865	1049389	1153527	1199901
		45°	168168	157672	224710	210727	281262	263774	337805	316821	394356	369877	450899	422924
		90°	242481	218409	324025	291900	405560	365381	487095	438872	568630	512353	650165	585843
18C-300	652.5	0°	493874	517999	659936	692256	826006	866521	992067	1040787	1158138	1215052	1324199	1389317
		45°	193045	182576	257960	243995	322875	305422	387789	366841	452704	428260	517619	489688
		90°	278368	252906	371966	337990	465563	423074	559170	508149	652767	593233	746365	678317
18C-350	478.5	0°	672219	715921	898248	956738	1124286	1197555	1350315	1438373	-	-	-	-
		45°	262765	252340	351115	337220	439473	422101	527823	506981	-	-	-	-
		90°	378886	349540	506282	467121	633687	584693	761091	702274	-	-	-	-
32C-235	1450.0	0°	355752	368850	475369	492945	594994	617049	714611	741152	834236	865247	953853	989350
		45°	139060	130007	185815	173743	232578	217489	279333	261225	326087	304971	372851	348708
		90°	200514	180080	267934	240676	335353	301263	402781	361859	470201	422446	537629	483042
32C-280	1087.5	0°	505043	525150	674857	701840	844679	878522	1014502	1055212	1184316	1231893	1354139	1408584
		45°	197417	185098	263792	247375	330176	309653	396560	371921	462935	434199	529319	496476
		90°	284660	256402	380373	342663	476095	428933	571807	515194	667520	601464	763242	687725
32C-300	942.5	0°	579764	608084	774711	812651	969659	1017228	1164607	1221796	1359555	1426363	1554494	1630940
		45°	226622	214329	302829	286430	379028	358540	455226	430641	531434	502742	607632	574852
		90°	326777	296891	436650	396772	546532	496653	656413	596525	766295	696407	876168	796288
32C-350	725.0	0°	789128	840431	1054469	1123127	1319818	1405823	1585159	1688527	1850500	1971222	2115849	2253918
		45°	308458	296218	412180	395861	515902	495503	619624	595145	723337	694787	827059	794429
		90°	444783	410330	594339	548355	743896	686379	893452	824404	1043008	962429	1192564	1100453
50C-235	1450.0	0°	395276	409826	528186	547718	661104	685610	794013	823501	926931	961384	1059841	1099276
		45°	154503	144450	206462	193054	258420	241649	310370	290253	362328	338858	414277	387462
		90°	222790	200090	297705	267420	372620	334742	447536	402064	522451	469386	597366	536708
50C-280	1450.0	0°	561152	583507	749843	779818	938534	976137	1127225	1172457	1315915	1368776	1504597	1565087
		45°	219347	205665	293103	274863	366859	344053	440615	413251	514371	482449	588127	551638
		90°	316290	284890	422641	380736	528991	476590	635342	572436	741692	668290	848042	764144
50C-300	1218.0	0°	644183	675644	860795	902948	1077399	1130251	1294003	1357555	1510615	1584849	1727219	1812153
		45°	251800	238145	336477	318255	421145	398374	505813	478493	590481	558603	675149	638722
		90°	363080	329875	485175	440854	607260	551833	729346	662812	851432	773791	973527	884770
50C-350	913.5	0°	876805	933817	1171634	1247921	1466463	1562025	1761292	1876138	2056112	2190242	2350941	2504355
		45°	342734	329140	457979	439854	573223	550559	688468	661272	803713	771986	918957	882699
		90°	494202	455925	660378	609287	826546	762649	992722	916002	1158899	1069363	1325075	1222725
80C-300	1450.0	0°	751551	774233	1004254	1034742	1256966	1295251	1509677	1555768	1762380	1816277	2015092	2076785
		45°	293767	272890	392551	364709	491334	456536	590118	548355	688893	640174	787677	732001
		90°	423596	378010	566037	505202	708469	632394	850910	759587	993342	886779	1135774	1013971
80C-350	1319.5	0°	1022945	1075425	1366909	1437213	1710873	1798993	2054837	2160781	2398801	2522569	2742765	2884348
		45°	399861	379054	534310	506565	668759	634085	803217	761604	937666	889124	1072116	1016644
		90°	576569	525062	770437	701708	964305	878345	1158182	1054982	1352050	1231619	1545918	1408256

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 6. Models 18C-235 to 80C-350 at 652.5 to 1015 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			652.5		725		797.5		870		942.5		1015	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18C-235	1087.5	0°	914444	948490	1016343	1054212	1118242	1159925	1220141	1265639	1322040	1371352	1423938	1477074
		45°	357443	334309	397277	371576	437110	408835	476935	446093	516769	483360	556603	520619
		90°	515415	463094	572843	514707	630279	566320	687716	617934	745152	669547	802580	721169
18C-280	768.5	0°	1298189	1350413	1442851	1500925	-	-	-	-	-	-	-	-
		45°	507450	475971	563993	529026	-	-	-	-	-	-	-	-
		90°	731700	659325	813244	732807	-	-	-	-	-	-	-	-
18C-300	652.5	0°	1490269	1563583	-	-	-	-	-	-	-	-	-	-
		45°	582525	551107	-	-	-	-	-	-	-	-	-	-
		90°	839971	763401	-	-	-	-	-	-	-	-	-	-
18C-350	478.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
32C-235	1450.0	0°	1073478	1113454	1193095	1237549	1312721	1361652	1432337	1485756	1551963	1609850	1671579	1733954
		45°	419605	392453	466368	436199	513123	479936	559886	523681	606641	567418	653404	611163
		90°	605048	543629	672476	604225	739895	664812	807315	725408	874743	785995	942162	846582
32C-280	1087.5	0°	1523961	1585265	1693775	1761955	1863598	1938637	2033420	2115327	2203243	2292008	2373057	2468699
		45°	595702	558754	662077	621031	728461	683309	794845	745586	861220	807855	927604	870132
		90°	858954	773994	954676	860255	1050389	946525	1146110	1032786	1241823	1119056	1337545	1205317
32C-300	942.5	0°	1749441	1835508	1944389	2040075	2139337	2244652	2334285	2449220	2529233	2653788	-	-
		45°	683840	646953	760038	719063	836245	791163	912444	863273	988651	935374	-	-
		90°	986049	896169	1095931	996050	1205804	1095931	1315685	1195812	1425567	1295693	-	-
32C-350	725.0	0°	2381190	2536614	2646531	2819309	-	-	-	-	-	-	-	-
		45°	930781	894071	1034503	993713	-	-	-	-	-	-	-	-
		90°	1342120	1238478	1491685	1376502	-	-	-	-	-	-	-	-
50C-235	1450.0	0°	1192750	1237168	1325668	1375060	1458577	1512943	1591487	1650835	1724405	1788727	1857314	1926618
		45°	466236	436057	518185	484661	570144	533266	622093	581861	674051	630465	726001	679069
		90°	672281	604030	747188	671361	822103	738683	897018	806005	971934	873327	1046849	940649
50C-280	1450.0	0°	1693288	1761407	1881979	1957726	2070670	2154046	2259352	2350365	2448043	2546676	2636734	2742996
		45°	661892	620836	735647	690035	809403	759233	883159	828422	956915	897620	1030671	966818
		90°	954402	859990	1060752	955844	1167103	1051690	1273453	1147544	1379804	1243390	1486154	1339244
50C-300	1218.0	0°	1943823	2039456	2160435	2266759	2377039	2494054	2593652	2721357	2810256	2948661	3026859	3175955
		45°	759817	718841	844494	798960	929162	879071	1013829	959190	1098497	1039309	1183165	1119419
		90°	1095612	995740	1217698	1106719	1339784	1217698	1461878	1328677	1583964	1439656	1706050	1550635
50C-350	913.5	0°	2645769	2818460	2940590	3132573	3235418	3446677	3530247	3760781	-	-	-	-
		45°	1034202	993413	1149447	1104126	1264692	1214840	1379936	1325553	-	-	-	-
		90°	1491252	1376087	1657428	1529448	1823596	1682810	1989772	1836171	-	-	-	-
80C-300	1450.0	0°	2267795	2337294	2520507	2597802	2773218	2858320	3025921	3118829	3278633	3379337	3531336	3639846
		45°	886460	823820	985235	915639	1084019	1007466	1182803	1099285	1281586	1191104	1380361	1282931
		90°	1278214	1141163	1420646	1268355	1563087	1395548	1705519	1522740	1847960	1649932	1990392	1777124
80C-350	1319.5	0°	3086730	3246136	3430694	3607924	3774658	3969703	4118622	4331491	4462586	4693279	4806550	5055058
		45°	1206574	1144155	1341023	1271674	1475472	1399194	1609930	1526714	1744379	1654224	1878828	1781744
		90°	1739795	1584893	1933663	1761531	2127531	1938177	2321408	2114814	2515276	2291451	2709144	2468088

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 7. Models 18C-235 to 80C-350 1087.5 to 1450 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			1087.5		1160		1232.5		1305		1377.5		1450	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18C-235	1087.5	0°	1525837	1582787	-	-	-	-	-	-	-	-	-	-
		45°	596437	557877	-	-	-	-	-	-	-	-	-	-
		90°	860016	772782	-	-	-	-	-	-	-	-	-	-
18C-280	768.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
18C-300	652.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
18C-350	478.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
32C-235	1450.0	0°	1791205	1858058	1910821	1982152	2030447	2106256	2150063	2230359	2269689	2354454	2389314	2478558
		45°	700159	654900	746922	698646	793677	742382	840440	786128	887195	829865	933958	873610
		90°	1009590	907178	1077010	967765	1144429	1028361	1211857	1088948	1279276	1149544	1346705	1210131
32C-280	1087.5	0°	2542879	2645380	2712702	2822070	-	-	-	-	-	-	-	-
		45°	993988	932409	1060363	994687	-	-	-	-	-	-	-	-
		90°	1433258	1291587	1528979	1377848	-	-	-	-	-	-	-	-
32C-300	942.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
32C-350	725.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
50C-235	1450.0	0°	1990223	2064501	2123142	2202393	2256051	2340285	2388960	2478177	2521878	2616060	2654788	2753952
		45°	777959	727674	829909	776269	881867	824873	933817	873477	985775	922073	1037733	970677
		90°	1121764	1007971	1196679	1075302	1271595	1142624	1346510	1209945	1421425	1277267	1496331	1344589
50C-280	1450.0	0°	2825424	2939315	3014106	3135635	3202797	3331945	3391488	3528265	3580179	3724584	3768861	3920904
		45°	1104427	1036008	1178183	1105206	1251939	1174404	1325695	1243602	1399451	1312791	1473215	1381989
		90°	1592513	1435089	1698864	1530944	1805214	1626789	1911565	1722644	2017915	1818498	2124274	1914344
50C-300	1218.0	0°	3243472	3403259	3460076	3630562	3676679	3857865	-	-	-	-	-	-
		45°	1267842	1199538	1352510	1279657	1437178	1359767	-	-	-	-	-	-
		90°	1828136	1661614	1950221	1772584	2072316	1883563	-	-	-	-	-	-
50C-350	913.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
80C-300	1450.0	0°	3784048	3900354	4036759	4160872	4289462	4421380	4542174	4681889	4794877	4942398	5047589	5202906
		45°	1479145	1374750	1577928	1466569	1676712	1558397	1775487	1650215	1874271	1742034	1973054	1833853
		90°	2132823	1904316	2275264	2031509	2417696	2158701	2560137	2285893	2702569	2413085	2845010	2540269
80C-350	1319.5	0°	5150514	5416846	5494478	5778634	5838442	6140422	6182406	6502201	-	-	-	-
		45°	2013287	1909264	2147736	2036783	2282185	2164303	2416643	2291814	-	-	-	-
		90°	2903012	2644725	3096889	2821362	3290757	2998008	3484626	3174645	-	-	-	-

NOTE:

* MOP = Maximum Operating Pressure (psig)

Symmetric Yoke Design

Table 8. Models 0.3S-45 to 14S-350 at 217.5 to 580 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			217.5		290		362.5		435		507.5		580	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3S-45	1450.0	0°	1885	1673	2540	2266	3204	2859	3859	3452	4522	4044	5177	4637
		45°	1195	947	1611	1283	2027	1620	2443	1956	2867	2292	3283	2628
		90°	2151	1549	2903	2097	3664	2655	4416	3204	5168	3752	5921	4301
0.3S-75	1058.5	0°	5328	5283	7160	7107	8992	8939	10824	10762	12656	12585	14487	14408
		45°	3372	2991	4540	4027	5699	5062	6859	6098	8018	7124	9186	8160
		90°	6089	4903	8186	6602	10284	8292	12381	9983	14470	11682	16567	13372
0.3S-100	580.0	0°	9540	9708	12797	13027	16054	16346	19311	19665	22568	22992	-	-
		45°	6045	5496	8115	7381	10178	9257	12240	11142	14310	13027	-	-
		90°	10912	9009	14629	12089	18355	15169	22081	18249	25807	21337	-	-
0.9S-100	1450.0	0°	11027	11222	14797	15063	18558	18904	22329	22745	26090	26585	29860	30426
		45°	6992	6354	9381	8531	11771	10709	14151	12886	16541	15063	18930	17240
		90°	12611	10416	16921	13974	21231	17541	25532	21107	29842	24674	34143	28232
0.9S-135	826.5	0°	20240	20665	27108	27674	33966	34692	40825	41710	47693	48728	54551	55746
		45°	12833	11700	17187	15682	21541	19656	25886	23630	30240	27603	34595	31577
		90°	23152	19169	31002	25683	38852	32196	46693	38710	54543	45215	62393	51728
1.5S-135	1000.5	0°	27771	28347	37179	37967	46595	47595	56012	57224	65428	66844	74844	76473
		45°	16240	14753	21753	19771	27258	24780	32763	29789	38276	34798	43781	39816
		90°	26789	22187	35878	29727	44958	37259	54038	44790	63127	52330	72207	59861
1.5S-175	580.0	0°	46825	48135	62640	64419	78464	80703	94279	96987	110103	113271	125927	129555
		45°	27391	25063	36648	33542	45896	42020	55153	50498	64410	58976	73667	67455
		90°	45170	37683	60437	50427	75703	63180	90960	75924	106227	88668	121493	101421
3S-135	1218.0	0°	45365	46303	60746	62030	76128	77756	91500	93474	106881	109200	122263	124927
		45°	26895	24453	36020	32763	45135	41064	54259	49365	63375	57675	72499	65977
		90°	45029	37294	60295	49958	75561	62623	90828	75287	106094	87951	121360	100616
3S-175	725.0	0°	76491	78641	102333	105244	128175	131838	154025	158442	179867	185045	205709	211648
		45°	45356	41533	60684	55578	76004	69632	91332	83677	106660	97731	121980	111776
		90°	75933	63339	101580	84765	127236	106191	152893	127617	178540	149043	204196	170469
6S-175	1232.5	0°	89270	91775	119431	122820	149583	153857	179744	184903	209904	215949	240065	246995
		45°	53029	48560	70950	64986	88863	81420	106784	97846	124697	114271	142618	130697
		90°	88951	74198	119006	99297	149061	124404	179115	149503	209161	174602	239216	199700
6S-200	957.0	0°	116909	119112	156300	159291	195691	199470	235083	239649	274483	279819	313874	319998
		45°	69455	63030	92854	84287	116254	105554	139662	126812	163061	148069	186461	169327
		90°	116501	96306	155751	128794	195001	161274	234260	193762	273509	226241	312759	258730
14S-200	1450.0	0°	129697	132139	173398	176717	217099	221285	260801	265854	304502	310431	348203	355000
		45°	75871	68800	101439	92005	127006	115209	152565	138423	178133	161628	203700	184832
		90°	125130	103448	167292	138334	209462	173230	251623	208125	293785	243012	335946	277908
14S-235	1218.0	0°	179425	187877	239764	251092	300095	314308	360434	377523	420764	440739	481104	503954
		45°	104961	97819	140264	130732	175557	163645	210851	196559	246145	229472	281448	262385
		90°	173115	147078	231321	196567	289537	246057	347743	295537	405958	345026	464165	394515
14S-280	855.5	0°	254730	267500	340380	357505	426030	447500	511689	537505	597340	627500	682990	717505
		45°	149016	139272	199125	186133	249234	232994	299334	279855	349442	326707	399551	373567
		90°	245765	209409	328397	279864	411038	350318	493680	420773	576312	491228	658953	561692
14S-300	739.5	0°	292422	309741	390745	413950	489069	518150	587401	622359	685725	726558	784048	830767
		45°	171062	161265	228587	215524	286103	269775	343628	324034	401153	378284	458669	432544
		90°	282120	242481	376992	324052	471855	405631	566719	487201	661582	568781	756454	650351
14S-350	536.5	0°	398011	428101	531850	572099	665679	716098	799518	860096	933348	1004094	-	-
		45°	232835	222887	311131	297864	389427	372842	467714	447810	546010	522787	-	-
		90°	384002	335132	513123	447863	642245	560586	771366	673317	900496	786048	-	-

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 9. Models 0.3S-45 to 14S-350 at 652.5 to 1015 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			652.5		725		797.5		870		942.5		1015	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3S-45	1450.0	0°	5841	5230	6496	5823	7160	6416	7815	7009	8478	7602	9133	8195
		45°	3699	2965	4115	3301	4540	3637	4956	3974	5372	4301	5788	4637
		90°	6682	4850	7434	5407	8186	5956	8939	6505	9691	7053	10452	7602
0.3S-75	1058.5	0°	16319	16240	18151	18063	19983	19886	21815	21709	-	-	-	-
		45°	10346	9195	11505	10231	12664	11266	13833	12302	-	-	-	-
		90°	18665	15063	20753	16762	22851	18452	24948	20151	-	-	-	-
0.3S-100	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-100	1450.0	0°	33621	34267	37391	38108	41153	41949	44923	45790	48684	49631	52445	53472
		45°	21320	19408	23709	21585	26099	23762	28479	25939	30869	28116	33258	30294
		90°	38453	31798	42763	35365	47064	38922	51374	42489	55684	46055	59985	49622
0.9S-135	826.5	0°	61419	62755	68278	69773	-	-	-	-	-	-	-	-
		45°	38940	35550	43294	39533	-	-	-	-	-	-	-	-
		90°	70242	58242	78092	64755	-	-	-	-	-	-	-	-
1.5S-135	1000.5	0°	84252	86093	93668	95722	103085	105350	112501	114970	121909	124599	-	-
		45°	49286	44825	54799	49834	60304	54843	65809	59861	71322	64871	-	-
		90°	81287	67402	90376	74933	99456	82473	108536	90005	117625	97536	-	-
1.5S-175	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
3S-135	1218.0	0°	137644	140653	153025	156371	168398	172097	183779	187824	199160	203550	214542	219268
		45°	81615	74278	90739	82588	99855	90890	108979	99200	118094	107501	127219	115802
		90°	136626	113280	151893	125944	167159	138618	182425	151282	197691	163946	212958	176611
3S-175	725.0	0°	231551	238242	257393	264845	-	-	-	-	-	-	-	-
		45°	137308	125829	152636	139874	-	-	-	-	-	-	-	-
		90°	229852	191886	255500	213312	-	-	-	-	-	-	-	-
6S-175	1232.5	0°	270226	278032	300387	309077	330548	340123	360699	371169	390860	402206	421021	433252
		45°	160530	147122	178451	163548	196373	179982	214285	196408	232206	212834	250119	229259
		90°	269270	224799	299325	249897	329379	274996	359425	300104	389480	325202	419534	350301
6S-200	957.0	0°	353265	360177	392657	400356	432048	440535	471440	480705	510831	520884	-	-
		45°	209869	190594	233268	211851	256668	233109	280076	254376	303475	275633	-	-
		90°	352018	291218	391267	323698	430517	356186	469776	388665	509025	421154	-	-
14S-200	1450.0	0°	391905	399569	435606	444146	479307	488715	523000	533283	566701	577861	610402	622429
		45°	229259	208037	254827	231242	280395	254455	305953	277660	331521	300865	357089	324069
		90°	378107	312803	420269	347690	462430	382586	504592	417481	546753	452368	588914	487263
14S-235	1218.0	0°	541434	567170	601765	630386	662104	693601	722434	756808	782774	820023	843104	883239
		45°	316742	295298	352035	328211	387329	361124	422623	394037	457926	426951	493219	459864
		90°	522371	444005	580587	493485	638793	542974	697008	592463	755215	641944	813430	691433
14S-280	855.5	0°	768649	807501	854299	897505	939950	987501	-	-	-	-	-	-
		45°	449660	420428	499768	467289	549877	514150	-	-	-	-	-	-
		90°	741586	632147	824227	702602	906868	773056	-	-	-	-	-	-
14S-300	739.5	0°	882372	934967	980704	1039176	-	-	-	-	-	-	-	-
		45°	516194	486794	573710	541054	-	-	-	-	-	-	-	-
		90°	851317	731930	946180	813510	-	-	-	-	-	-	-	-
14S-350	536.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
* MOP = Maximum Operating Pressure (psig)

Table 10. Models 0.3S-45 to 14S-350 at 1087.5 to 1450 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			1087.5		1160		1232.5		1305		1377.5		1450	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
0.3S-45	1450.0	0°	9797	8788	10452	9381	11116	9974	11771	10567	12434	11160	13089	11753
		45°	6213	4974	6629	5310	7045	5646	7461	5983	7885	6319	8301	6655
		90°	11204	8160	11956	8708	12709	9257	13470	9806	14222	10355	14974	10912
0.3S-75	1058.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
0.3S-100	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
0.9S-100	1450.0	0°	56215	57313	59976	61154	63747	64994	67508	68826	-	-	-	-
		45°	35648	32471	38037	34639	40418	36816	42807	38993	-	-	-	-
		90°	64295	53180	68605	56746	72906	60313	77216	63879	-	-	-	-
0.9S-135	826.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
1.5S-135	1000.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
1.5S-175	580.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
3S-135	1218.0	0°	229914	234994	245295	250721	-	-	-	-	-	-	-	
		45°	136334	124112	145459	132414	-	-	-	-	-	-	-	
		90°	228224	189275	243490	201939	-	-	-	-	-	-	-	
3S-175	725.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
6S-175	1232.5	0°	451182	464298	481343	495335	511503	526380	-	-	-	-	-	
		45°	268040	245685	285952	262110	303874	278545	-	-	-	-	-	
		90°	449589	375399	479643	400498	509698	425597	-	-	-	-	-	
6S-200	957.0	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14S-200	1450.0	0°	654104	666998	697805	711575	741506	756144	785207	800713	828909	845290	872610	889859
		45°	382656	347274	408215	370488	433783	393692	459350	416897	484909	440102	510477	463306
		90°	631085	522150	673246	557046	715407	591941	757569	626828	799730	661723	841892	696619
14S-235	1218.0	0°	903435	946454	963774	1009670	-	-	-	-	-	-	-	
		45°	528513	492777	563807	525690	-	-	-	-	-	-	-	
		90°	871637	740922	929843	790411	-	-	-	-	-	-	-	
14S-280	855.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14S-300	739.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	
14S-350	536.5	0°	-	-	-	-	-	-	-	-	-	-	-	
		45°	-	-	-	-	-	-	-	-	-	-	-	
		90°	-	-	-	-	-	-	-	-	-	-	-	

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 11. Models 18S-235 to 80S-350 at 217.5 to 580 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			217.5		290		362.5		435		507.5		580	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18S-235	1450.0	0°	206285	216002	275651	288678	345017	361354	414384	434031	483741	506707	553107	579383
		45°	120714	112492	161300	150344	201895	188195	242481	226047	283076	263898	323662	301750
		90°	199152	169203	266111	226126	333079	283058	400038	339982	467006	396914	533965	453846
18S-280	1116.5	0°	292855	307538	391329	411012	489803	514477	588277	617951	686751	721425	785216	824891
		45°	171371	160167	228994	214064	286616	267951	344247	321839	401870	375727	459492	429623
		90°	282722	240906	377789	321954	472856	403002	567922	484060	662980	565108	758047	646156
18S-300	957.0	0°	336185	356106	449226	475909	562276	595711	675317	715505	788358	835307	901399	955110
		45°	196727	185461	262880	247862	329025	310254	395179	372647	461333	435039	527478	497441
		90°	324556	278943	433685	372789	542815	466634	651944	560471	761082	654316	870212	748161
18S-350	696.0	0°	457589	492175	611455	657723	765313	823280	919179	988837	1073045	1154385	1226911	1319942
		45°	267766	256331	357806	342557	447845	428783	537885	514999	627925	601225	717956	687450
		90°	441757	385533	590295	515212	738833	644891	887372	774579	1035910	904258	1184457	1033937
32S-235	1450.0	0°	239074	250331	319458	334565	399852	418791	480245	503016	560630	587242	641023	671467
		45°	141768	132210	189434	176699	237109	221179	284775	265659	332450	310148	380116	354628
		90°	237313	201630	317113	269465	396914	337309	476714	405144	556506	472988	636306	540824
32S-280	1450.0	0°	339398	356416	453527	476334	567648	596251	681777	716169	795898	836086	910019	956004
		45°	201258	188240	268934	251570	336610	314910	404286	378240	471962	441571	539638	504910
		90°	336911	287076	450191	383656	563480	480245	676760	576825	790048	673414	903337	769994
32S-300	1450.0	0°	389621	412702	520628	551550	651643	690389	782650	829227	913656	968075	1044672	1106914
		45°	231038	217967	308732	291298	386418	364620	464103	437951	541797	511282	619482	584613
		90°	386754	332406	516805	444235	646847	556063	776897	667892	906939	779720	1036990	891549
32S-350	1058.5	0°	530319	570400	708637	762268	886956	954127	1065275	1145995	1243593	1337863	1421912	1529731
		45°	314476	301254	420216	402587	525956	503919	631704	605252	737444	706584	843184	807917
		90°	526416	459421	703425	613951	880433	768490	1057442	923028	1234451	1077567	1411460	1232097
50S-235	1450.0	0°	265642	278147	354956	371735	444279	465324	533602	558904	622925	652493	712248	746082
		45°	157521	146901	210488	196328	263456	245756	316423	295183	369390	344610	422357	394037
		90°	263686	224029	352345	299404	441013	374789	529681	450164	618341	525540	707009	600915
50S-280	1450.0	0°	377116	396020	503919	529265	630722	662502	757525	795748	884336	928985	1011139	1062221
		45°	223622	209152	298820	279527	374010	349894	449208	420269	524407	490635	599596	561010
		90°	374337	318972	500211	426287	626084	533602	751958	640917	877832	748241	1003705	855556
50S-300	1450.0	0°	432915	458563	578480	612827	724045	767100	869610	921365	1015175	1075638	1160748	1229902
		45°	256712	242189	343035	323662	429349	405135	515672	486617	601995	568090	688318	649572
		90°	429729	369337	574223	493591	718726	617845	863220	742099	1007714	866353	1152208	990607
50S-350	1348.5	0°	589242	633775	787376	846963	985509	1060150	1183643	1273329	1381768	1486517	1579902	1699704
		45°	349416	334725	466908	447314	584401	559913	701894	672503	819386	785092	936870	897691
		90°	584914	510468	781588	682176	978261	853883	1174935	1025591	1371617	1197290	1568291	1368998
80S-300	1450.0	0°	505061	525469	674892	702283	844724	879088	1014546	1055894	1184378	1232708	1354200	1409513
		45°	299502	277527	400206	370904	500910	464289	601623	557665	702327	651041	803031	744427
		90°	501353	423234	669927	565639	838511	708044	1007086	850458	1175669	992864	1344244	1135269
80S-350	1450.0	0°	687450	729886	918603	975429	1149757	1220973	1380910	1466516	1612072	1712059	1843225	1957602
		45°	407649	385488	544726	515167	681795	644855	818873	774534	955950	904213	1093019	1033901
		90°	682397	587879	911851	785650	1141305	983421	1370759	1181192	1600222	1378954	1829676	1576725

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 12. Models 18S-235 to 80S-350 at 652.5 to 1015 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			652.5		725		797.5		870		942.5		1015	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18S-235	1450.0	0°	622474	652059	691840	724735	761206	797412	830564	870088	899930	942764	969296	1015440
		45°	364257	339601	404843	377453	445438	415304	486024	453155	526619	491007	567205	528858
		90°	600933	510769	667901	567701	734860	624633	801828	681556	868787	738488	935755	795420
18S-280	1116.5	0°	883690	928365	982164	1031839	1080638	1135305	1179112	1238779	1277586	1342253	1376060	1445718
		45°	517114	483511	574746	537399	632368	591286	689990	645183	747613	699070	805235	752958
		90°	853113	727213	948180	808262	1043247	889310	1138314	970367	1233380	1051415	1328447	1132464
18S-300	957.0	0°	1014449	1074912	1127490	1194715	1240531	1314517	1353572	1434311	1466622	1554113	-	-
		45°	593631	559833	659776	622226	725930	684627	792084	747020	858229	809412	-	-
		90°	979341	842007	1088470	935843	1197609	1029689	1306738	1123534	1415867	1217379	-	-
18S-350	696.0	0°	1380777	1485490	-	-	-	-	-	-	-	-	-	-
		45°	807996	773676	-	-	-	-	-	-	-	-	-	-
		90°	1332996	1163625	-	-	-	-	-	-	-	-	-	-
32S-235	1450.0	0°	721408	755693	801801	839927	882186	924152	962579	1008378	1042964	1092603	1123357	1176829
		45°	427791	399117	475457	443597	523132	488086	570798	532566	618473	577055	666140	621536
		90°	716107	608668	795907	676503	875699	744347	955499	812182	1035300	880026	1115100	947862
32S-280	1450.0	0°	1024149	1075921	1138269	1195839	1252399	1315747	1366520	1435665	1480640	1555582	1594770	1675500
		45°	607314	568241	674990	631571	742665	694911	810341	758241	878017	821572	945684	884912
		90°	1016617	866583	1129906	963172	1243186	1059752	1356475	1156341	1469764	1252921	1583044	1349510
32S-300	1450.0	0°	1175678	1245753	1306694	1384600	1437700	1523439	1568707	1662287	1699722	1801125	1830729	1939964
		45°	697168	657936	774862	731267	852547	804598	930232	877929	1007927	951251	1085612	1024582
		90°	1167041	1003378	1297083	1115206	1427133	1227035	1557175	1338863	1687226	1450692	1817277	1562521
32S-350	1058.5	0°	1600230	1721599	1778549	1913467	1956868	2105327	2135186	2297195	2313514	2489063	2491833	2680931
		45°	948932	909249	1054672	1010590	1160412	1111923	1266152	1213255	1371900	1314588	1477640	1415920
		90°	1588469	1386636	1765478	1541174	1942487	1695713	2119495	1850243	2296504	2004782	2473513	2159320
50S-235	1450.0	0°	801562	839661	890885	933250	980208	1026830	1069531	1120419	1158854	1214008	1248169	1307588
		45°	475325	443465	528292	492892	581259	542319	634226	591746	687194	641174	740161	690601
		90°	795677	676299	884336	751675	973004	827050	1061664	902426	1150332	977801	1239000	1053185
50S-280	1450.0	0°	1137942	1195467	1264745	1328704	1391547	1461949	1518359	1595186	1645162	1728432	1771965	1861668
		45°	674795	631377	749984	701752	825183	772118	900372	842493	975571	912860	1050769	983235
		90°	1129579	962871	1255452	1070186	1381326	1177501	1507190	1284825	1633064	1392140	1758938	1499456
50S-300	1450.0	0°	1306313	1384175	1451878	1538440	1597443	1692713	1743008	1846977	1888581	2001251	2034146	2155524
		45°	774632	731045	860955	812519	947277	894000	1033592	975474	1119914	1056947	1206237	1138429
		90°	1296711	1114861	1441205	1239115	1585699	1363369	1730202	1487623	1874696	1611877	2019189	1736131
50S-350	1348.5	0°	1778036	1912883	1976170	2126071	2174303	2339259	2372437	2552437	2570571	2765625	2768696	2978813
		45°	1054362	1010281	1171855	1122870	1289348	1235469	1406840	1348059	1524333	1460657	1641825	1573247
		90°	1764964	1540705	1961638	1712413	2158320	1884121	2354994	2055828	2551667	2227536	2748350	2399244
80S-300	1450.0	0°	1524032	1586318	1693855	1763124	1863686	1939938	2033518	2116743	2203340	2293548	2373172	2470362
		45°	903744	837803	1004448	931188	1105153	1024565	1205866	1117950	1306570	1211326	1407274	1304711
		90°	1512828	1277683	1681403	1420089	1849986	1562494	2018570	1704899	2187145	1847314	2355728	1989719
80S-350	1450.0	0°	2074378	2203146	2305531	2448689	2536684	2694232	2767838	2939775	2999000	3185319	3230153	3430862
		45°	1230097	1163580	1367166	1293268	1504243	1422947	1641312	1552635	1778390	1682314	1915459	1811993
		90°	2059130	1774496	2288583	1972267	2518037	2170038	2747491	2367809	2976945	2565580	3206408	2763342

NOTE:

* MOP = Maximum Operating Pressure (psig)

Table 13. Models 18S-235 to 80S-350 at 1087.5 to 1450 psig

Model	MOP* (psig)	Position	Operating Supply Pressure (psig)											
			1087.5		1160		1232.5		1305		1377.5		1450	
			OP	CL	OP	CL	OP	CL	OP	CL	OP	CL	OP	CL
18S-235	1450.0	0°	1038663	1088116	1108029	1160793	1177386	1233469	1246753	1306145	1316119	1378821	1385485	1451497
		45°	607800	566710	648395	604561	688981	642413	729576	680264	770162	718116	810757	755967
		90°	1002723	852344	1069682	909276	1136650	966208	1203609	1023131	1270577	1080063	1337545	1136995
18S-280	1116.5	0°	1474534	1549193	-	-	-	-	-	-	-	-	-	-
		45°	862866	806846	-	-	-	-	-	-	-	-	-	-
		90°	1423514	1213521	-	-	-	-	-	-	-	-	-	-
18S-300	957.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
18S-350	696.0	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
32S-235	1450.0	0°	1203742	1261063	1284135	1345289	1364520	1429514	1444913	1513739	1525298	1597965	1605691	1682190
		45°	713814	666024	761481	710505	809156	754994	856822	799474	904497	843963	952163	888443
		90°	1194892	1015706	1274692	1083541	1354493	1151385	1434293	1219220	1514085	1287064	1593885	1354900
32S-280	1450.0	0°	1708891	1795417	1823020	1915335	1937141	2035252	2051262	2155170	2165391	2275087	2279512	2394996
		45°	1013360	948242	1081036	1011573	1148712	1074912	1216388	1138243	1284064	1201573	1351740	1264904
		90°	1696333	1446090	1809613	1542679	1922901	1639268	2036190	1735848	2149470	1832437	2262759	1929017
32S-300	1450.0	0°	1961744	2078812	2092751	2217651	2223757	2356490	2354773	2495337	2485779	2634176	2616795	2773024
		45°	1163297	1097913	1240991	1171244	1318677	1244576	1396362	1317898	1474056	1391229	1551741	1464560
		90°	1947319	1674349	2077369	1786178	2207411	1898006	2337462	2009835	2467504	2121664	2597555	2233492
32S-350	1058.5	0°	-	-	-	-	-	-	-	-	-	-	-	-
		45°	-	-	-	-	-	-	-	-	-	-	-	-
		90°	-	-	-	-	-	-	-	-	-	-	-	-
50S-235	1450.0	0°	1337492	1401176	1426815	1494765	1516138	1588345	1605461	1681934	1694775	1775522	1784098	1869102
		45°	793128	740028	846095	789455	899063	838883	952030	888301	1004997	937728	1057964	987156
		90°	1327659	1128561	1416327	1203936	1504987	1279312	1593655	1354687	1682323	1430072	1770982	1505447
50S-280	1450.0	0°	1898768	1994905	2025579	2128151	2152382	2261387	2279185	2394633	2405988	2527870	2532799	2661115
		45°	1125959	1053601	1201157	1123968	1276347	1194343	1351545	1264709	1426735	1335084	1501934	1405451
		90°	1884811	1606771	2010685	1714086	2136558	1821410	2262432	1928725	2388305	2036040	2514179	2143355
50S-300	1450.0	0°	2179711	2309788	2325276	2464061	2470849	2618326	2616414	2772599	2761979	2926863	2907544	3081136
		45°	1292560	1219902	1378874	1301384	1465197	1382857	1551520	1464330	1637834	1545812	1724157	1627285
		90°	2163692	1860385	2308186	1984639	2452680	2108893	2597183	2233147	2741677	2357401	2886171	2481655
50S-350	1348.5	0°	2966830	3191991	3164964	3405179	3363097	3618367	3561231	3831546	-	-	-	-
		45°	1759318	1685837	1876811	1798435	1994294	1911025	2111787	2023614	-	-	-	-
		90°	2945023	2570952	3141697	2742659	3338370	2914367	3535053	3086075	-	-	-	-
80S-300	1450.0	0°	2542994	2647168	2712826	2823973	2882657	3000787	3052480	3177593	3222312	3354398	3392134	3531212
		45°	1507987	1398088	1608691	1491473	1709395	1584849	1810108	1678234	1910812	1771611	2011517	1864996
		90°	2524303	2132124	2692887	2274530	2861462	2416944	3030045	2559349	3198620	2701755	3367204	2844169
80S-350	1450.0	0°	3461306	3676405	3692459	3921948	3923612	4167492	4154765	4413035	4385927	4658578	4617080	4904121
		45°	2052536	1941681	2189605	2071360	2326683	2201048	2463752	2330727	2600829	2460415	2737907	2590094
		90°	3435862	2961113	3665316	3158884	3894770	3356655	4124224	3554426	4353678	3752196	4583141	3949959

NOTE:

* MOP = Maximum Operating Pressure (psig)

OLGAS Spring-Return Hydraulic Actuator Output Torques (lb-in)

Canted Yoke Design, Spring to Close

Table 14. Models 0.3C-008A-45-CL to 6C-3800-200-CL at 217.5 to 507.5 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)														
					217.5			290			362.5			435			507.5		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	1450.0	1797	1018	1708	-	-	-	2177	221	221	3230	770	814	4283	1204	1407	5328	1620	2000
0.3C-008A-75-CL	710.5	1735	974	1584	6620	2124	2726	9531	3275	4372	12452	4416	6018	15372	5558	7655	18293	6699	9301
0.3C-008B-45-CL	1450.0	2735	1389	1699	-	-	-	-	-	-	-	-	-	4292	434	434	5345	1027	1027
0.3C-008B-75-CL	710.5	2673	1336	1566	6629	1628	1752	9549	2814	3398	12470	3965	5045	15381	5115	6691	18302	6257	8328
0.3C-008C-45-CL	1450.0	3292	1699	2168	-	-	-	-	-	-	-	-	-	-	-	-	4876	425	425
0.3C-008C-75-CL	710.5	3230	1646	2044	6160	1151	1151	9080	2451	2797	11992	3620	4434	14912	4770	6080	17833	5921	7726
0.3C-0100-45-CL	1450.0	5292	2903	4443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-75-CL	768.5	5222	2850	4310	-	-	-	6815	593	593	9735	2195	2239	12656	3407	3885	15576	4575	5531
0.3C-0100-100-CL	435.0	5168	2814	4204	10611	2567	2726	15797	4664	5655	20983	6717	8576	26169	8762	11505	-	-	-
0.3C-0150-45-CL	1450.0	6655	3921	7239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-75-CL	841.0	6593	3876	7115	-	-	-	-	-	-	6947	664	664	9868	2248	2310	12779	3460	3956
0.3C-0150-100-CL	478.5	6540	3841	7000	7815	1159	1159	13010	3549	4080	18196	5620	7009	23382	7664	9930	-	-	-
0.9C-0200-100-CL	1073.0	8735	5098	9195	7947	62	62	13948	3292	3443	19948	5735	6823	25948	8115	10204	31949	10478	13585
0.9C-0200-135-CL	594.5	8664	5053	9054	22629	6797	8328	33559	11116	14496	44498	15399	20656	55428	19682	26816	66366	23966	32984
0.9C-0250-100-CL	1116.5	10452	6372	12700	-	-	-	10452	1469	1469	16452	4328	4850	22452	6735	8231	28453	9107	11611
0.9C-0250-135-CL	609.0	10381	6319	12567	19134	5407	6363	30063	9735	12523	41002	14027	18682	51932	18320	24851	62870	22594	31010
0.9C-0350-100-CL	1174.5	16594	9762	17904	-	-	-	-	-	-	-	-	-	17275	1566	1566	23276	4947	4947
0.9C-0350-135-CL	652.5	16523	9708	17762	-	-	-	24886	5699	5859	35816	10186	12018	46755	14532	18187	57684	18842	24346
0.9C-0400-100-CL	1261.5	19559	11965	23992	-	-	-	-	-	-	-	-	-	-	-	-	17204	1531	1531
0.9C-0400-135-CL	681.5	19497	11912	23851	-	-	-	18824	2443	2443	29754	7735	8602	40692	12125	14762	51622	16452	20930
0.9C-0700-100-CL	1348.5	27647	16585	31851	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-135-CL	739.5	27577	16541	31710	-	-	-	-	-	-	-	-	-	32860	5930	5930	43799	11080	12098
1.5C-1100-135-CL	942.5	51091	28718	46958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-175-CL	565.5	50958	28621	46693	-	-	-	-	-	-	67694	8859	8859	90934	21169	21948	114165	30780	35046
1.5C-1200-135-CL	1029.5	59162	34842	64030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-175-CL	609.0	59030	34745	63764	-	-	-	-	-	-	-	-	-	73933	12647	12647	97164	23966	25736
3C-2000-135-CL	1160.0	87119	52551	102102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-175-CL	696.0	86898	52392	101669	-	-	-	-	-	-	87774	10709	10709	126228	30524	32382	164690	46215	54056
6C-2500-175-CL	1102.0	124236	75960	152167	-	-	-	-	-	-	-	-	-	114413	12532	12532	159371	36728	37869
6C-2500-200-CL	841.0	124192	75924	152070	-	-	-	-	-	-	138184	25931	25931	196904	52339	59030	255632	75880	92129
6C-3800-175-CL	1218.0	167823	105713	226923	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-200-CL	928.0	167778	105678	226834	-	-	-	-	-	-	-	-	-	122449	9691	9691	181168	41586	42781

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

Table 15. Models 0.3C-008A-45-CL to 6C-3800-200-CL at 580 to 870 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)														
					580			652.5			725			797.5			870		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	1450.0	1797	1018	1708	6381	2036	2593	7434	2451	3186	8478	2859	3779	9531	3275	4372	10585	3682	4965
0.3C-008A-75-CL	710.5	1735	974	1584	21205	7841	10947	24125	8983	12594	-	-	-	-	-	-	-	-	-
0.3C-008B-45-CL	1450.0	2735	1389	1699	6399	1531	1620	7443	1965	2213	8496	2390	2805	9549	2814	3398	10602	3230	3991
0.3C-008B-75-CL	710.5	2673	1336	1566	21222	7399	9974	24143	8549	11620	-	-	-	-	-	-	-	-	-
0.3C-008C-45-CL	1450.0	3292	1699	2168	5921	1018	1018	6974	1575	1611	8027	2018	2204	9080	2451	2797	10124	2867	3381
0.3C-008C-75-CL	710.5	3230	1646	2044	20753	7062	9372	23674	8204	11018	-	-	-	-	-	-	-	-	-
0.3C-0100-45-CL	1450.0	5292	2903	4443	-	-	-	-	-	-	-	-	-	6815	593	593	7868	1186	1186
0.3C-0100-75-CL	768.5	5222	2850	4310	18488	5735	7169	21408	6885	8815	24329	8036	10461	-	-	-	-	-	-
0.3C-0100-100-CL	435.0	5168	2814	4204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-CL	1450.0	6655	3921	7239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-75-CL	841.0	6593	3876	7115	15700	4629	5602	18620	5788	7248	21541	6938	8894	24461	8089	10532	-	-	-
0.3C-0150-100-CL	478.5	6540	3841	7000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-CL	1073.0	8735	5098	9195	37949	12833	16965	43949	15187	20346	49949	17541	23727	55950	19886	27108	61941	22240	30488
0.9C-0200-135-CL	594.5	8664	5053	9054	77296	28240	39144	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-CL	1116.5	10452	6372	12700	34453	11461	14992	40453	13815	18373	46454	16169	21753	52445	18514	25143	58445	20868	28524
0.9C-0250-135-CL	609.0	10381	6319	12567	73800	26877	37170	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-CL	1174.5	16594	9762	17904	29267	7540	8328	35267	9965	11709	41268	12355	15089	47268	14735	18479	53268	17098	21860
0.9C-0350-135-CL	652.5	16523	9708	17762	68623	23134	30506	79553	27417	36674	-	-	-	-	-	-	-	-	-
0.9C-0400-100-CL	1261.5	19559	11965	23992	23205	4912	4912	29205	7514	8292	35205	9939	11673	41206	12328	15054	47206	14709	18435
0.9C-0400-135-CL	681.5	19497	11912	23851	62561	20753	27090	73490	25046	33258	-	-	-	-	-	-	-	-	-
0.9C-0700-100-CL	1348.5	27647	16585	31851	-	-	-	-	-	-	27382	2841	2841	33382	6222	6222	39383	9231	9602
0.9C-0700-135-CL	739.5	27577	16541	31710	54728	15505	18258	65667	19859	24426	76597	24187	30586	-	-	-	-	-	-
1.5C-1100-135-CL	942.5	51091	28718	46958	62375	5859	5859	76207	13656	13656	90031	20780	21444	103855	26577	29240	117687	32205	37028
1.5C-1100-175-CL	565.5	50958	28621	46693	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-135-CL	1029.5	59162	34842	64030	-	-	-	59207	4345	4345	73030	12133	12133	86854	19567	19930	100686	25426	27727
1.5C-1200-175-CL	609.0	59030	34745	63764	120395	33435	38834	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-135-CL	1160.0	87119	52551	102102	78969	5744	5744	101855	18647	18647	124741	29895	31541	147627	39338	44445	170513	48551	57339
3C-2000-175-CL	696.0	86898	52392	101669	203143	61534	75729	241596	76738	97403	-	-	-	-	-	-	-	-	-
6C-2500-175-CL	1102.0	124236	75960	152167	204329	55348	63216	249287	73349	88553	294245	91173	113891	339203	108908	139237	384161	126599	164575
6C-2500-200-CL	841.0	124192	75924	152070	314352	99120	125228	373072	122245	158327	431792	145308	191417	490511	168345	224516	-	-	-
6C-3800-175-CL	1218.0	167823	105713	226923	129865	13868	13868	174823	38781	39214	219790	57702	64552	264748	75818	89889	309706	93704	115227
6C-3800-200-CL	928.0	167778	105678	226834	239888	65853	75880	298608	89305	108979	357336	112537	142078	416056	135671	175177	474776	158742	208276

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

Table 16. Models 0.3C-008A-45-CL to 6C-3800-200-CL at 942.5 to 1160 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					942.5			1015			1087.5			1160		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	1450.0	1797	1018	1708	11638	4098	5549	12682	4505	6142	13735	4921	6735	14788	5328	7328
0.3C-008A-75-CL	710.5	1735	974	1584	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008B-45-CL	1450.0	2735	1389	1699	11647	3646	4584	12700	4053	5168	13753	4469	5761	14797	4885	6354
0.3C-008B-75-CL	710.5	2673	1336	1566	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008C-45-CL	1450.0	3292	1699	2168	11178	3292	3974	12231	3708	4567	13275	4124	5160	14328	4540	5753
0.3C-008C-75-CL	710.5	3230	1646	2044	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-45-CL	1450.0	5292	2903	4443	8912	1779	1779	9965	2292	2372	11018	2744	2965	12071	3168	3549
0.3C-0100-75-CL	768.5	5222	2850	4310	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-100-CL	435.0	5168	2814	4204	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-CL	1450.0	6655	3921	7239	6124	204	204	7177	797	797	8231	1389	1389	9284	1982	1982
0.3C-0150-75-CL	841.0	6593	3876	7115	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-100-CL	478.5	6540	3841	7000	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-CL	1073.0	8735	5098	9195	67941	24585	33869	73942	26931	37259	-	-	-	-	-	-
0.9C-0200-135-CL	594.5	8664	5053	9054	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-CL	1116.5	10452	6372	12700	64446	23214	31904	70446	25568	35285	76446	27913	38666	-	-	-
0.9C-0250-135-CL	609.0	10381	6319	12567	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-CL	1174.5	16594	9762	17904	59268	19461	25240	65269	21815	28621	71269	24169	32002	77269	26523	35382
0.9C-0350-135-CL	652.5	16523	9708	17762	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0400-100-CL	1261.5	19559	11965	23992	53206	17072	21824	59207	19435	25205	65207	21789	28586	71198	24143	31966
0.9C-0400-135-CL	681.5	19497	11912	23851	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-100-CL	1348.5	27647	16585	31851	45374	11726	12992	51374	14160	16373	57375	16567	19753	63375	18957	23134
0.9C-0700-135-CL	739.5	27577	16541	31710	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-135-CL	942.5	51091	28718	46958	131511	37745	44825	-	-	-	-	-	-	-	-	-
1.5C-1100-175-CL	565.5	50958	28621	46693	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-135-CL	1029.5	59162	34842	64030	114510	31064	35515	128334	36621	43312	-	-	-	-	-	-
1.5C-1200-175-CL	609.0	59030	34745	63764	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-135-CL	1160.0	87119	52551	102102	193399	57675	70242	216285	66738	83137	239162	75774	96040	262049	84792	108935
3C-2000-175-CL	696.0	86898	52392	101669	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-175-CL	1102.0	124236	75960	152167	429119	144264	189912	474077	161902	215250	519035	179522	240596	-	-	-
6C-2500-200-CL	841.0	124192	75924	152070	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-175-CL	1218.0	167823	105713	226923	354664	111483	140573	399622	129201	165911	444580	146883	191249	489538	164548	216595
6C-3800-200-CL	928.0	167778	105678	226834	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 17. Models 0.3C-008A-45-CL to 6C-3800-200-CL at 1232.5 to 1450 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					1232.5			1305			1377.5			1450		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3C-008A-45-CL	1450.0	1797	1018	1708	15842	5744	7921	16886	6151	8514	17939	6567	9107	18992	6974	9700
0.3C-008A-75-CL	710.5	1735	974	1584	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008B-45-CL	1450.0	2735	1389	1699	15850	5292	6947	16904	5708	7540	17957	6124	8133	19001	6531	8726
0.3C-008B-75-CL	710.5	2673	1336	1566	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008C-45-CL	1450.0	3292	1699	2168	15381	4956	6345	16434	5363	6938	17479	5779	7531	18532	6195	8124
0.3C-008C-75-CL	710.5	3230	1646	2044	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-45-CL	1450.0	5292	2903	4443	13116	3593	4142	14169	4018	4735	15222	4443	5328	16275	4859	5921
0.3C-0100-75-CL	768.5	5222	2850	4310	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-100-CL	435.0	5168	2814	4204	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-CL	1450.0	6655	3921	7239	10328	2451	2575	11381	2894	3168	12434	3319	3761	13479	3744	4345
0.3C-0150-75-CL	841.0	6593	3876	7115	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-100-CL	478.5	6540	3841	7000	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-CL	1073.0	8735	5098	9195	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-135-CL	594.5	8664	5053	9054	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-CL	1116.5	10452	6372	12700	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-135-CL	609.0	10381	6319	12567	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-CL	1174.5	16594	9762	17904	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-135-CL	652.5	16523	9708	17762	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0400-100-CL	1261.5	19559	11965	23992	77199	26497	35347	-	-	-	-	-	-	-	-	-
0.9C-0400-135-CL	681.5	19497	11912	23851	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-100-CL	1348.5	27647	16585	31851	69375	21329	26515	75375	23700	29895	-	-	-	-	-	-
0.9C-0700-135-CL	739.5	27577	16541	31710	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-135-CL	942.5	51091	28718	46958	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-175-CL	565.5	50958	28621	46693	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-135-CL	1029.5	59162	34842	64030	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-175-CL	609.0	59030	34745	63764	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-135-CL	1160.0	87119	52551	102102	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-175-CL	696.0	86898	52392	101669	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-175-CL	1102.0	124236	75960	152167	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-200-CL	841.0	124192	75924	152070	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-175-CL	1218.0	167823	105713	226923	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-200-CL	928.0	167778	105678	226834	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 18. 14C-5100-200-CL to 50C-15600-350-CL at 217.5 to 435 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					217.5			290			362.5			435		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	1450.0	201364	127148	274412	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-235-CL	1087.5	201231	127051	274138	-	-	-	-	-	-	165159	22992	22992	253774	65764	72933
14C-5100-280-CL	768.5	200709	126661	273067	-	-	-	224321	53534	56339	350115	104448	127236	475909	154132	198134
14C-5100-300-CL	667.0	200444	126475	272527	153884	16629	16629	298289	83774	98023	442695	141051	179416	587100	197833	260810
14C-5100-350-CL	493.0	199709	125936	271022	308962	88049	104041	505521	165778	214825	702071	242915	325609	898620	319892	436394
14C-5400-200-CL	1450.0	260783	160689	327857	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-235-CL	1131.0	260650	160592	327583	-	-	-	-	-	-	-	-	-	200541	8266	8266
14C-5400-280-CL	797.5	260128	160212	326512	-	-	-	-	-	-	296891	62570	62570	422676	115908	133476
14C-5400-300-CL	696.0	259863	160017	325972	-	-	-	245057	33356	33356	389462	102456	114749	533867	160309	196143
14C-5400-350-CL	507.5	259128	159477	324468	255738	39374	39374	452288	127803	150158	648838	205771	260942	845387	283076	371727
14C-8300-200-CL	1450.0	335203	207462	427659	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-235-CL	1218.0	335061	207364	427384	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-280-CL	855.5	334539	206975	426305	-	-	-	-	-	-	-	-	-	323291	50728	50728
14C-8300-300-CL	739.5	334282	206789	425774	-	-	-	-	-	-	290076	32010	32010	434473	106191	113404
14C-8300-350-CL	551.0	333548	206249	424269	-	-	-	352894	67419	67419	549443	153096	178204	746002	231268	288988
18C-9600-235-CL	1450.0	541894	317281	574816	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-280-CL	1087.5	541293	316830	573577	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-300-CL	942.5	540992	316609	572967	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-350-CL	696.0	540142	315980	571232	-	-	-	-	-	-	548877	37613	37613	774906	165008	165008
18C-9800-235-CL	1450.0	686264	399011	710664	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-280-CL	1145.5	685663	398569	709434	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-300-CL	1000.5	685362	398339	708814	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-350-CL	739.5	684512	397710	707088	-	-	-	-	-	-	-	-	-	639607	7567	7567
18C-10500-280-CL	1174.5	768047	442367	769605	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-300-CL	1029.5	767746	442137	768985	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-350-CL	754.0	766897	441509	767251	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-280-CL	1276.0	859255	510318	956411	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-300-CL	1102.0	858954	510087	955791	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-350-CL	812.0	858105	509468	954065	-	-	-	-	-	-	-	-	-	-	-	-
32C-12000-300-CL	1334.0	990722	562152	941596	-	-	-	-	-	-	-	-	-	-	-	-
32C-12000-350-CL	971.5	989731	561409	939569	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-300-CL	1421.0	1150341	666954	1179546	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-350-CL	1044.0	1149350	666210	1177510	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-300-CL	1450.0	1249717	695486	1107100	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-350-CL	1131.0	1248620	694654	1104843	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-300-CL	1450.0	1305428	737488	1221212	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-350-CL	1160.0	1304331	736665	1218955	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 19. 14C-5100-200-CL to 50C-15600-350-CL at 507.5 to 725 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					507.5			580			652.5			725		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	1450.0	201364	127148	274412	171628	26639	26639	235808	58357	62808	299988	84456	98987	364169	110014	135157
14C-5100-235-CL	1087.5	201231	127051	274138	342380	101368	122873	430986	136440	172823	519592	171309	222763	608207	206117	272704
14C-5100-280-CL	768.5	200709	126661	273067	601703	203559	269040	727497	252880	339937	853282	302148	410844	979076	351398	481741
14C-5100-300-CL	667.0	200444	126475	272527	731506	254455	342203	875902	311007	423588	1020308	367541	504981	-	-	-
14C-5100-350-CL	493.0	199709	125936	271022	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-200-CL	1450.0	260783	160689	327857	-	-	-	-	-	-	246765	34320	34320	310945	69481	70490
14C-5400-235-CL	1131.0	260650	160592	327583	289147	58206	58206	377762	97669	108156	466368	133431	158096	554975	168672	208037
14C-5400-280-CL	797.5	260128	160212	326512	548470	166097	204373	674264	215781	275270	800058	265270	346177	925852	314662	417074
14C-5400-300-CL	696.0	259863	160017	325972	678273	217365	277536	822678	274155	358929	967084	330822	440314	-	-	-
14C-5400-350-CL	507.5	259128	159477	324468	1041937	360177	482511	-	-	-	-	-	-	-	-	-
14C-8300-200-CL	1450.0	335203	207462	427659	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-235-CL	1218.0	335061	207364	427384	-	-	-	278368	25408	25408	366974	75358	75358	455580	114970	125298
14C-8300-280-CL	855.5	334539	206975	426305	449084	112271	121634	574869	163291	192532	700663	213338	263438	826457	263031	334335
14C-8300-300-CL	739.5	334282	206789	425774	578879	164893	194789	723284	222303	276182	867689	279271	357575	1012095	336061	438969
14C-8300-350-CL	551.0	333548	206249	424269	942552	308741	399772	-	-	-	-	-	-	-	-	-
18C-9600-235-CL	1450.0	541894	317281	574816	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-280-CL	1087.5	541293	316830	573577	-	-	-	578117	54091	54091	722771	135626	135626	867433	206621	217161
18C-9600-300-CL	942.5	540992	316609	572967	582719	56693	56693	748790	150291	150291	914851	226525	243888	1080921	294404	337495
18C-9600-350-CL	696.0	540142	315980	571232	1000944	261960	292413	1226973	353018	419817	1453011	442863	547213	-	-	-
18C-9800-235-CL	1450.0	686264	399011	710664	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-280-CL	1145.5	685663	398569	709434	-	-	-	-	-	-	-	-	-	732134	59720	59720
18C-9800-300-CL	1000.5	685362	398339	708814	-	-	-	-	-	-	779552	86447	86447	945623	180053	180053
18C-9800-350-CL	739.5	684512	397710	707088	865636	134971	134971	1091674	253429	262367	1317703	347451	389772	1543741	438579	517176
18C-10500-280-CL	1174.5	768047	442367	769605	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-300-CL	1029.5	767746	442137	768985	-	-	-	-	-	-	-	-	-	885699	91137	91137
18C-10500-350-CL	754.0	766897	441509	767251	805713	46055	46055	1031751	173451	173451	1257780	291094	300856	1483818	385506	428260
18C-11000-280-CL	1276.0	859255	510318	956411	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-300-CL	1102.0	858954	510087	955791	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-350-CL	812.0	858105	509468	954065	-	-	-	845706	68596	68596	1071735	195992	195992	1297773	308219	323397
32C-12000-300-CL	1334.0	990722	562152	941596	-	-	-	-	-	-	-	-	-	1001006	11850	11850
32C-12000-350-CL	971.5	989731	561409	939569	-	-	-	1172466	108492	108492	1437806	258048	258048	1703147	394312	407604
32C-15000-300-CL	1421.0	1150341	666954	1179546	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-350-CL	1044.0	1149350	666210	1177510	-	-	-	-	-	-	1200830	79287	79287	1466171	228843	228843
50C-15400-300-CL	1450.0	1249717	695486	1107100	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-350-CL	1131.0	1248620	694654	1104843	-	-	-	-	-	-	1536926	128555	128555	1831755	294732	294732
50C-15600-300-CL	1450.0	1305428	737488	1221212	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-350-CL	1160.0	1304331	736665	1218955	-	-	-	-	-	-	1423284	64508	64508	1718104	230684	230684

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

Table 20. 14C-5100-200-CL to 50C-15600-350-CL at 797.5 to 1015 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					797.5			870			942.5			1015		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	1450.0	201364	127148	274412	428349	135396	171327	492529	160672	207506	556709	185894	243676	620889	211090	279855
14C-5100-235-CL	1087.5	201231	127051	274138	696814	240853	322644	785420	275580	372594	874026	310272	422534	962632	344955	472475
14C-5100-280-CL	768.5	200709	126661	273067	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-300-CL	667.0	200444	126475	272527	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-350-CL	493.0	199709	125936	271022	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-200-CL	1450.0	260783	160689	327857	375116	96589	106669	439296	122590	142839	503477	148229	179018	567657	173699	215188
14C-5400-235-CL	1131.0	260650	160592	327583	643581	203700	257978	732196	238596	307927	820802	273421	357867	909408	308210	407808
14C-5400-280-CL	797.5	260128	160212	326512	1051646	363983	487980	-	-	-	-	-	-	-	-	-
14C-5400-300-CL	696.0	259863	160017	325972	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-350-CL	507.5	259128	159477	324468	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-200-CL	1450.0	335203	207462	427659	275731	23922	23922	339911	60100	60100	404091	93279	96270	468271	120192	132449
14C-8300-235-CL	1218.0	335061	207364	427384	544187	150981	175239	632802	186399	225179	721408	221560	275129	810014	256553	325069
14C-8300-280-CL	855.5	334539	206975	426305	952251	312555	405233	-	-	-	-	-	-	-	-	-
14C-8300-300-CL	739.5	334282	206789	425774	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-350-CL	551.0	333548	206249	424269	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-235-CL	1450.0	541894	317281	574816	542832	34205	34205	644731	91642	91642	746630	149069	149069	848529	198550	206506
18C-9600-280-CL	1087.5	541293	316830	573577	1012095	266509	298705	1156757	324919	380240	1301419	382692	461775	1446081	440111	543310
18C-9600-300-CL	942.5	540992	316609	572967	1246983	361018	431092	1413053	427021	524690	1579114	492724	618296	-	-	-
18C-9600-350-CL	696.0	540142	315980	571232	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-235-CL	1450.0	686264	399011	710664	-	-	-	-	-	-	-	-	-	713230	49064	49064
18C-9800-280-CL	1145.5	685663	398569	709434	876796	141255	141255	1021458	222224	222799	1166120	284997	304334	1310782	344637	385869
18C-9800-300-CL	1000.5	685362	398339	708814	1111684	262013	273651	1277745	331140	367248	1443816	398489	460855	-	-	-
18C-9800-350-CL	739.5	684512	397710	707088	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-280-CL	1174.5	768047	442367	769605	816873	52339	52339	961535	133883	133883	1106197	215418	215418	1250859	288094	296953
18C-10500-300-CL	1029.5	767746	442137	768985	1051761	184735	184735	1217822	273615	278333	1383892	344354	371939	1549954	412454	465537
18C-10500-350-CL	754.0	766897	441509	767251	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-280-CL	1276.0	859255	510318	956411	-	-	-	775490	29019	29019	920152	110554	110554	1064814	192089	192089
18C-11000-300-CL	1102.0	858954	510087	955791	865716	79871	79871	1031777	173469	173469	1197848	264659	267075	1363909	336043	360673
18C-11000-350-CL	812.0	858105	509468	954065	1523802	401834	450792	-	-	-	-	-	-	-	-	-
32C-12000-300-CL	1334.0	990722	562152	941596	1195954	121732	121732	1390901	231605	231605	1585849	341486	341486	1780797	427446	451368
32C-12000-350-CL	971.5	989731	561409	939569	1968497	505459	557161	2233837	613261	706717	2499178	719647	856273	2764528	825307	1005838
32C-15000-300-CL	1421.0	1150341	666954	1179546	-	-	-	1153925	52852	52852	1348873	162725	162725	1543812	272607	272607
32C-15000-350-CL	1044.0	1149350	666210	1177510	1731520	377222	378399	1996861	491945	527964	2262202	600959	677521	2527551	708035	827077
50C-15400-300-CL	1450.0	1249717	695486	1107100	-	-	-	1484809	99182	99182	1701413	221268	221268	1918016	343362	343362
50C-15400-350-CL	1131.0	1248620	694654	1104843	2126575	460510	460908	2421404	589012	627084	2716233	710744	793261	3011053	830183	959437
50C-15600-300-CL	1450.0	1305428	737488	1221212	-	-	-	1371166	35126	35126	1587770	157220	157220	1804373	279306	279306
50C-15600-350-CL	1160.0	1304331	736665	1218955	2012933	396852	396852	2307761	540859	563028	2602581	664184	729205	2897410	784305	895381

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

Table 21. 14C-5100-200-CL to 50C-15600-350-CL at 1087.5 to 1232.5 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)								
					1087.5			1160			1232.5		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	1450.0	201364	127148	274412	685070	236251	316025	749250	261411	352203	813430	286545	388373
14C-5100-235-CL	1087.5	201231	127051	274138	1051247	379647	522416	-	-	-	-	-	-
14C-5100-280-CL	768.5	200709	126661	273067	-	-	-	-	-	-	-	-	-
14C-5100-300-CL	667.0	200444	126475	272527	-	-	-	-	-	-	-	-	-
14C-5100-350-CL	493.0	199709	125936	271022	-	-	-	-	-	-	-	-	-
14C-5400-200-CL	1450.0	260783	160689	327857	631837	199063	251367	696017	224356	287537	760197	249614	323706
14C-5400-235-CL	1131.0	260650	160592	327583	998015	342955	457749	-	-	-	-	-	-
14C-5400-280-CL	797.5	260128	160212	326512	-	-	-	-	-	-	-	-	-
14C-5400-300-CL	696.0	259863	160017	325972	-	-	-	-	-	-	-	-	-
14C-5400-350-CL	507.5	259128	159477	324468	-	-	-	-	-	-	-	-	-
14C-8300-200-CL	1450.0	335203	207462	427659	532451	146264	168619	596623	171991	204798	660803	197541	240968
14C-8300-235-CL	1218.0	335061	207364	427384	898620	291457	375010	987235	326291	424950	-	-	-
14C-8300-280-CL	855.5	334539	206975	426305	-	-	-	-	-	-	-	-	-
14C-8300-300-CL	739.5	334282	206789	425774	-	-	-	-	-	-	-	-	-
14C-8300-350-CL	551.0	333548	206249	424269	-	-	-	-	-	-	-	-	-
18C-9600-235-CL	1450.0	541894	317281	574816	950428	241251	263942	1052327	282855	321379	1154226	323901	378807
18C-9600-280-CL	1087.5	541293	316830	573577	1590743	497317	624845	-	-	-	-	-	-
18C-9600-300-CL	942.5	540992	316609	572967	-	-	-	-	-	-	-	-	-
18C-9600-350-CL	696.0	540142	315980	571232	-	-	-	-	-	-	-	-	-
18C-9800-235-CL	1450.0	686264	399011	710664	815129	106501	106501	917028	163937	163937	1018927	221029	221365
18C-9800-280-CL	1145.5	685663	398569	709434	1455444	403162	467404	-	-	-	-	-	-
18C-9800-300-CL	1000.5	685362	398339	708814	-	-	-	-	-	-	-	-	-
18C-9800-350-CL	739.5	684512	397710	707088	-	-	-	-	-	-	-	-	-
18C-10500-280-CL	1174.5	768047	442367	769605	1395521	349177	378488	1540183	408481	460023	-	-	-
18C-10500-300-CL	1029.5	767746	442137	768985	-	-	-	-	-	-	-	-	-
18C-10500-350-CL	754.0	766897	441509	767251	-	-	-	-	-	-	-	-	-
18C-11000-280-CL	1276.0	859255	510318	956411	1209468	269890	273624	1354130	331964	355159	1498792	391630	436703
18C-11000-300-CL	1102.0	858954	510087	955791	1529979	404339	454271	-	-	-	-	-	-
18C-11000-350-CL	812.0	858105	509468	954065	-	-	-	-	-	-	-	-	-
32C-12000-300-CL	1334.0	990722	562152	941596	1975745	508441	561249	2170684	587755	671122	2365632	666228	781004
32C-12000-350-CL	971.5	989731	561409	939569	-	-	-	-	-	-	-	-	-
32C-15000-300-CL	1421.0	1150341	666954	1179546	1738760	380585	382488	1933707	465457	492370	2128655	546452	602243
32C-15000-350-CL	1044.0	1149350	666210	1177510	2792892	814120	976633	-	-	-	-	-	-
50C-15400-300-CL	1450.0	1249717	695486	1107100	2134629	464298	465448	2351233	559391	587534	2567845	649882	709620
50C-15400-350-CL	1131.0	1248620	694654	1104843	3305882	948366	1125605	3600711	1065859	1291781	3895531	1182847	1457958
50C-15600-300-CL	1450.0	1305428	737488	1221212	2020986	401392	401392	2237590	510503	523478	2454194	602712	645572
50C-15600-350-CL	1160.0	1304331	736665	1218955	3192239	902939	1061558	3487059	1020635	1227734	3781888	1137800	1393902

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

Table 22. 14C-5100-200-CL to 50C-15600-350-CL at 1305 to 1450 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)								
					1305			1377.5			1450		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14C-5100-200-CL	1450.0	201364	127148	274412	877610	311670	424552	941790	336796	460722	1005971	361921	496901
14C-5100-235-CL	1087.5	201231	127051	274138	-	-	-	-	-	-	-	-	-
14C-5100-280-CL	768.5	200709	126661	273067	-	-	-	-	-	-	-	-	-
14C-5100-300-CL	667.0	200444	126475	272527	-	-	-	-	-	-	-	-	-
14C-5100-350-CL	493.0	199709	125936	271022	-	-	-	-	-	-	-	-	-
14C-5400-200-CL	1450.0	260783	160689	327857	824378	274828	359885	888558	300042	396055	952738	325202	432234
14C-5400-235-CL	1131.0	260650	160592	327583	-	-	-	-	-	-	-	-	-
14C-5400-280-CL	797.5	260128	160212	326512	-	-	-	-	-	-	-	-	-
14C-5400-300-CL	696.0	259863	160017	325972	-	-	-	-	-	-	-	-	-
14C-5400-350-CL	507.5	259128	159477	324468	-	-	-	-	-	-	-	-	-
14C-8300-200-CL	1450.0	335203	207462	427659	724983	222967	277147	789163	248322	313317	853344	273624	349495
14C-8300-235-CL	1218.0	335061	207364	427384	-	-	-	-	-	-	-	-	-
14C-8300-280-CL	855.5	334539	206975	426305	-	-	-	-	-	-	-	-	-
14C-8300-300-CL	739.5	334282	206789	425774	-	-	-	-	-	-	-	-	-
14C-8300-350-CL	551.0	333548	206249	424269	-	-	-	-	-	-	-	-	-
18C-9600-235-CL	1450.0	541894	317281	574816	1256125	364664	436243	1358024	405206	493680	1459923	445598	551116
18C-9600-280-CL	1087.5	541293	316830	573577	-	-	-	-	-	-	-	-	-
18C-9600-300-CL	942.5	540992	316609	572967	-	-	-	-	-	-	-	-	-
18C-9600-350-CL	696.0	540142	315980	571232	-	-	-	-	-	-	-	-	-
18C-9800-235-CL	1450.0	686264	399011	710664	1120826	265898	278802	1222725	308538	336238	1324624	350265	393675
18C-9800-280-CL	1145.5	685663	398569	709434	-	-	-	-	-	-	-	-	-
18C-9800-300-CL	1000.5	685362	398339	708814	-	-	-	-	-	-	-	-	-
18C-9800-350-CL	739.5	684512	397710	707088	-	-	-	-	-	-	-	-	-
18C-10500-280-CL	1174.5	768047	442367	769605	-	-	-	-	-	-	-	-	-
18C-10500-300-CL	1029.5	767746	442137	768985	-	-	-	-	-	-	-	-	-
18C-10500-350-CL	754.0	766897	441509	767251	-	-	-	-	-	-	-	-	-
18C-11000-280-CL	1276.0	859255	510318	956411	-	-	-	-	-	-	-	-	-
18C-11000-300-CL	1102.0	858954	510087	955791	-	-	-	-	-	-	-	-	-
18C-11000-350-CL	812.0	858105	509468	954065	-	-	-	-	-	-	-	-	-
32C-12000-300-CL	1334.0	990722	562152	941596	2560579	744161	890885	2755527	821740	1000758	-	-	-
32C-12000-350-CL	971.5	989731	561409	939569	-	-	-	-	-	-	-	-	-
32C-15000-300-CL	1421.0	1150341	666954	1179546	2323603	625881	712124	2518551	704425	822006	2713490	782455	931878
32C-15000-350-CL	1044.0	1149350	666210	1177510	-	-	-	-	-	-	-	-	-
50C-15400-300-CL	1450.0	1249717	695486	1107100	2784449	738506	831714	3001053	826165	953800	3217665	913099	1075886
50C-15400-350-CL	1131.0	1248620	694654	1104843	-	-	-	-	-	-	-	-	-
50C-15600-300-CL	1450.0	1305428	737488	1221212	2670806	692167	767658	2887410	780269	889744	3104014	867530	1011829
50C-15600-350-CL	1160.0	1304331	736665	1218955	-	-	-	-	-	-	-	-	-

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

Canted Yoke Design, Spring to Open

Table 23. Models 0.3C-008A-45-OP to 6C-3800-200-OP at 217.5 to 507.5 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)														
					217.5			290			362.5			435			507.5		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	1450.0	3336	814	876	-	-	-	1071	212	212	1637	894	1381	2204	1319	2549	2779	1743	3717
0.3C-008A-75-OP	696.0	3221	770	814	3469	2248	5142	5053	3390	8381	6638	4540	11620	8213	5682	14859	9797	6823	18098
0.3C-008B-45-OP	1450.0	5080	876	876	-	-	-	-	-	-	-	-	-	2106	407	407	2673	1345	1575
0.3C-008B-75-OP	696.0	4965	814	814	3372	1876	3000	4947	3053	6239	6531	4204	9478	8115	5354	12717	9691	6496	15957
0.3C-008C-45-OP	1450.0	6115	1124	1124	-	-	-	-	-	-	-	-	-	-	-	-	2381	310	310
0.3C-008C-75-OP	696.0	6000	1053	1053	3080	1531	1735	4655	2735	4974	6239	3894	8213	7823	5045	11452	9399	6195	14691
0.3C-0100-45-OP	1450.0	9832	2239	2292	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-75-OP	870.0	9708	2186	2221	-	-	-	3328	416	416	4903	2611	3655	6487	3797	6894	8071	4965	10133
0.3C-0100-100-OP	493.0	9611	2142	2168	5381	2965	4629	8186	5053	10381	11001	7107	16142	13815	9142	21904	-	-	-
0.3C-0150-45-OP	1450.0	12355	3283	3708	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-75-OP	942.5	12240	3239	3646	-	-	-	-	-	-	3398	566	566	4974	2664	3806	6558	3850	7045
0.3C-0150-100-OP	522.0	12133	3195	3593	3867	1531	1531	6682	3938	7292	9487	6009	13045	12302	8054	18806	15116	10089	24568
0.9C-0200-100-OP	1073.0	15611	3983	4381	-	-	-	7416	4115	6487	10664	6531	13142	13921	8903	19806	17169	11266	26462
0.9C-0200-135-OP	594.5	15488	3929	4310	12116	7593	16116	18045	11903	28249	23966	16187	40391	29895	20479	52525	35816	24762	64658
0.9C-0250-100-OP	1116.5	18780	5266	6160	-	-	-	5522	2611	2611	8770	5124	9266	12027	7523	15921	15275	9894	22585
0.9C-0250-135-OP	609.0	18656	5213	6089	10222	6204	12240	16151	10523	24373	22072	14815	36506	27993	19107	48640	33922	23391	60773
0.9C-0350-100-OP	1261.5	29683	7708	8558	-	-	-	-	-	-	-	-	-	9098	2549	2549	12346	6567	9213
0.9C-0350-135-OP	696.0	29550	7655	8487	-	-	-	13222	7230	11001	19143	11655	23134	25072	15983	35267	30993	20284	47401
0.9C-0400-100-OP	1334.0	35170	9921	11655	-	-	-	-	-	-	-	-	-	-	-	-	9062	2478	2478
0.9C-0400-135-OP	739.5	35037	9877	11585	-	-	-	9930	4275	4275	15859	9213	16408	21780	13585	28541	27709	17904	40675
0.9C-0700-100-OP	1450.0	49578	13434	15355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-135-OP	841.0	49454	13390	15284	-	-	-	-	-	-	-	-	-	17399	8859	10859	23329	13372	22992
1.5C-1100-135-OP	1145.5	90235	20868	21559	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-175-OP	681.5	89996	20762	21426	-	-	-	-	-	-	36143	16355	16355	48737	26948	42135	61322	36365	67924
1.5C-1200-135-OP	1145.5	105173	27267	30249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-175-OP	739.5	104934	27170	30117	-	-	-	-	-	-	-	-	-	39524	19966	23815	52118	29577	49595
3C-2000-135-OP	1305.0	154946	42294	48569	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-175-OP	768.5	154548	42135	48348	-	-	-	-	-	-	47135	20213	20213	67968	38276	62897	88810	53799	105572
6C-2500-175-OP	1160.0	220675	61923	72428	-	-	-	-	-	-	-	-	-	61888	24479	24479	86252	47648	74367
6C-2500-200-OP	884.5	220595	61897	72384	-	-	-	-	-	-	74774	38878	50861	106589	62888	116032	138405	86332	181195
6C-3800-175-OP	1305.0	299944	89836	109731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-200-OP	1000.5	299865	89801	109687	-	-	-	-	-	-	-	-	-	66207	18797	18797	98023	54065	83960

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

Table 24. Models 0.3C-008A-45-OP to 6C-3800-200-OP at 580 to 870 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)														
					580			652.5			725			797.5			870		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	1450.0	5467	1334	1436	5481	3538	7990	6409	4205	9904	7352	4887	11818	8280	5554	13732	9208	6235	15631
0.3C-008A-75-OP	696.0	5278	1262	1334	18647	13050	34960	21228	14921	40267	-	-	-	-	-	-	-	-	-
0.3C-008B-45-OP	1450.0	8323	1436	1436	5307	2915	4495	6250	3611	6395	7178	4307	8309	8106	5003	10223	9048	5684	12137
0.3C-008B-75-OP	696.0	8135	1334	1334	18473	12528	31451	21069	14399	36758	23664	16269	42065	-	-	-	-	-	-
0.3C-008C-45-OP	1450.0	10020	1842	1842	4829	2335	2422	5771	3074	4336	6699	3770	6235	7627	4481	8149	8570	5162	10063
0.3C-008C-75-OP	696.0	9831	1726	1726	17995	12035	29377	20590	13906	34684	23186	15776	39991	-	-	-	-	-	-
0.3C-0100-45-OP	1450.0	16110	3669	3756	-	-	-	-	-	-	-	-	-	5452	682	682	6380	2596	2596
0.3C-0100-75-OP	870.0	15907	3582	3640	15805	10034	21910	18401	11919	27217	20996	13804	32524	23577	15675	37831	26173	17545	43138
0.3C-0100-100-OP	493.0	15747	3509	3553	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-OP	1450.0	20242	5380	6076	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-75-OP	942.5	20054	5307	5974	13340	8222	16849	15921	10121	22156	18517	12006	27463	21112	13877	32770	23693	15762	38063
0.3C-0150-100-OP	522.0	19880	5235	5887	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-OP	1073.0	25578	6525	7178	33452	22316	54259	38788	26173	65178	44109	30030	76082	49431	33872	86986	54767	37729	97904
0.9C-0200-135-OP	594.5	25375	6438	7062	68382	47575	125817	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-OP	1116.5	30769	8628	10092	30349	20068	47908	35670	23925	58812	41006	27782	69731	46328	31639	80635	51649	35482	91539
0.9C-0250-135-OP	609.0	30566	8541	9976	65279	45327	119451	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-OP	1261.5	48633	12630	14022	25549	14776	25999	30885	18734	36903	36207	22635	47821	41528	26521	58725	46850	30392	69629
0.9C-0350-135-OP	696.0	48416	12543	13906	60480	40281	97556	70195	47314	117436	-	-	-	-	-	-	-	-	-
0.9C-0400-100-OP	1334.0	57623	16255	19097	20170	10716	14979	25491	14732	25883	30827	18691	36787	36149	22591	47705	41470	26477	58609
0.9C-0400-135-OP	739.5	57406	16182	18981	55100	36381	86522	64815	43413	106401	74516	50431	126281	-	-	-	-	-	-
0.9C-0700-100-OP	1450.0	81229	22011	25158	-	-	-	-	-	-	23650	7830	7830	28971	14877	18734	34293	18952	29638
0.9C-0700-135-OP	841.0	81026	21939	25042	47923	29116	57551	57638	36236	77445	67338	43297	97324	77039	50344	117204	-	-	-
1.5C-1100-135-OP	1145.5	147842	34191	35322	54506	17125	17125	66773	34119	42253	79054	43544	67396	91321	52766	92539	103603	61901	117682
1.5C-1100-175-OP	681.5	147451	34017	35105	121104	74806	153526	141723	89871	195779	-	-	-	-	-	-	-	-	-
1.5C-1200-135-OP	1145.5	172318	44675	49561	-	-	-	51693	12238	12238	63960	32089	37381	76241	41557	62524	88508	50808	87653
1.5C-1200-175-OP	739.5	171927	44515	49344	106010	63829	123511	126643	78982	165750	147262	94018	208003	-	-	-	-	-	-
3C-2000-135-OP	1305.0	253866	69296	79576	69412	17110	17110	89726	46226	58725	110041	61727	100340	130355	76923	141955	150670	91974	183556
3C-2000-175-OP	768.5	253214	69035	79214	179641	113158	242890	213788	138011	312823	247921	162792	382742	-	-	-	-	-	-
6C-2500-175-OP	1160.0	361558	101457	118668	181236	107924	203595	221140	137330	285346	261058	166431	367097	300962	195460	448848	340881	224417	530584
6C-2500-200-OP	884.5	361427	101413	118596	278908	179423	403651	331035	217268	510415	383163	255070	617193	435290	292813	723971	487432	330542	830734
6C-3800-175-OP	1305.0	491434	147190	179786	115058	44283	44283	154976	84303	126034	194895	114275	207785	234799	143855	289536	274717	173014	371287
6C-3800-200-OP	1000.5	491304	147132	179713	212744	127528	244340	264872	165837	351118	316999	203798	457881	369127	241657	564659	421269	279473	671437

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

Table 25. Models 0.3C-008A-45-OP to 6C-3800-200-OP at 942.5 to 1160 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					942.5			1015			1087.5			1160		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	1450.0	3336	814	876	6195	4221	10709	6761	4629	11877	7328	5045	13045	7894	5452	14204
0.3C-008A-75-OP	696.0	3221	770	814	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008B-45-OP	1450.0	5080	876	876	6089	3885	8567	6655	4292	9735	7230	4708	10903	7797	5124	12071
0.3C-008B-75-OP	696.0	4965	814	814	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008C-45-OP	1450.0	6115	1124	1124	5797	3575	7310	6363	3991	8469	6938	4407	9638	7505	4814	10806
0.3C-008C-75-OP	696.0	6000	1053	1053	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-45-OP	1450.0	9832	2239	2292	4460	2266	2752	5036	2708	3912	5602	3133	5080	6168	3567	6248
0.3C-0100-75-OP	870.0	9708	2186	2221	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-100-OP	493.0	9611	2142	2168	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-OP	1450.0	12355	3283	3708	-	-	-	3522	823	823	4089	1965	1991	4655	2416	3151
0.3C-0150-75-OP	942.5	12240	3239	3646	16045	10762	26470	-	-	-	-	-	-	-	-	-
0.3C-0150-100-OP	522.0	12133	3195	3593	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-OP	1073.0	15611	3983	4381	36674	25382	66410	39922	27727	73066	-	-	-	-	-	-
0.9C-0200-135-OP	594.5	15488	3929	4310	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-OP	1116.5	18780	5266	6160	34781	24010	62534	38028	26355	69189	41276	28701	75845	-	-	-
0.9C-0250-135-OP	609.0	18656	5213	6089	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-OP	1261.5	29683	7708	8558	31851	20913	49162	35099	23267	55817	38347	25621	62472	41604	27975	69136
0.9C-0350-135-OP	696.0	29550	7655	8487	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0400-100-OP	1334.0	35170	9921	11655	28568	18523	42427	31816	20886	49091	35064	23240	55746	38321	25594	62401
0.9C-0400-135-OP	739.5	35037	9877	11585	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-100-OP	1450.0	49578	13434	15355	24178	14010	24753	27435	16426	31409	30683	18833	38064	33931	21205	44728
0.9C-0700-135-OP	841.0	49454	13390	15284	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-135-OP	1145.5	90235	20868	21559	70720	43321	87173	78216	48799	102518	85703	54268	117855	-	-	-
1.5C-1100-175-OP	681.5	89996	20762	21426	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-135-OP	1145.5	105173	27267	30249	61516	36595	68844	69003	42135	84190	76499	47622	99536	83987	53091	114882
1.5C-1200-175-OP	739.5	104934	27170	30117	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-135-OP	1305.0	154946	42294	48569	104359	65207	137432	116767	74252	162831	129166	83270	188231	141565	92279	213621
3C-2000-175-OP	768.5	154548	42135	48348	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-175-OP	1160.0	220675	61923	72428	232419	154627	373736	256774	172274	423632	281138	189912	473528	305493	207533	523416
6C-2500-200-OP	884.5	220595	61897	72384	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-175-OP	1305.0	299944	89836	109731	192027	123334	276501	216391	141034	326397	240755	158716	376293	265111	176372	426189
6C-3800-200-OP	1000.5	299865	89801	109687	288935	193620	474971	-	-	-	-	-	-	-	-	-

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

Table 26. Models 0.3C-008A-45-OP to 6C-3800-200-OP at 1232.5 to 1450 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					1232.5			1305			1377.5			1450		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3C-008A-45-OP	1450.0	3336	814	876	8469	5868	15372	9036	6275	16541	9602	6682	17709	10178	7098	18868
0.3C-008A-75-OP	696.0	3221	770	814	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008B-45-OP	1450.0	5080	876	876	8363	5531	13231	8939	5947	14399	9505	6363	15567	10071	6770	16735
0.3C-008B-75-OP	696.0	4965	814	814	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-008C-45-OP	1450.0	6115	1124	1124	8071	5230	11974	8646	5646	13133	9213	6062	14302	9779	6469	15470
0.3C-008C-75-OP	696.0	6000	1053	1053	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-45-OP	1450.0	9832	2239	2292	6744	3983	7416	7310	4407	8576	7877	4832	9744	8443	5248	10912
0.3C-0100-75-OP	870.0	9708	2186	2221	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0100-100-OP	493.0	9611	2142	2168	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-45-OP	1450.0	12355	3283	3708	5230	2850	4319	5797	3283	5487	6363	3708	6655	6938	4133	7815
0.3C-0150-75-OP	942.5	12240	3239	3646	-	-	-	-	-	-	-	-	-	-	-	-
0.3C-0150-100-OP	522.0	12133	3195	3593	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-100-OP	1073.0	15611	3983	4381	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0200-135-OP	594.5	15488	3929	4310	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-100-OP	1116.5	18780	5266	6160	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0250-135-OP	609.0	18656	5213	6089	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0350-100-OP	1261.5	29683	7708	8558	44852	30329	75791	-	-	-	-	-	-	-	-	-
0.9C-0350-135-OP	696.0	29550	7655	8487	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0400-100-OP	1334.0	35170	9921	11655	41568	27948	69065	44816	30302	75721	-	-	-	-	-	-
0.9C-0400-135-OP	739.5	35037	9877	11585	-	-	-	-	-	-	-	-	-	-	-	-
0.9C-0700-100-OP	1450.0	49578	13434	15355	37188	23576	51383	40436	25948	58038	43684	28311	64702	46940	30665	71358
0.9C-0700-135-OP	841.0	49454	13390	15284	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-135-OP	1145.5	90235	20868	21559	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1100-175-OP	681.5	89996	20762	21426	-	-	-	-	-	-	-	-	-	-	-	-
1.5C-1200-135-OP	1145.5	105173	27267	30249	91482	58543	130219	-	-	-	-	-	-	-	-	-
1.5C-1200-175-OP	739.5	104934	27170	30117	-	-	-	-	-	-	-	-	-	-	-	-
3C-2000-135-OP	1305.0	154946	42294	48569	153963	101279	239021	166362	110271	264420	-	-	-	-	-	-
3C-2000-175-OP	768.5	154548	42135	48348	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-175-OP	1160.0	220675	61923	72428	-	-	-	-	-	-	-	-	-	-	-	-
6C-2500-200-OP	884.5	220595	61897	72384	-	-	-	-	-	-	-	-	-	-	-	-
6C-3800-175-OP	1305.0	299944	89836	109731	289475	194010	476077	313830	211648	525973	-	-	-	-	-	-
6C-3800-200-OP	1000.5	299865	89801	109687	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 27. Models 14C-5100-200-OP to 50C-15600-350-OP at 217.5 to 435 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					217.5			290			362.5			435		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	1450.0	359921	108333	132759	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-235-OP	1102.0	359673	108236	132617	-	-	-	-	-	-	89420	43418	45117	137432	80093	143459
14C-5100-280-OP	783.0	358699	107855	132077	-	-	-	121475	68136	110775	189638	118581	250384	257792	168177	389984
14C-5100-300-OP	681.5	358221	107660	131803	83305	32603	32603	161548	97996	192859	239800	155114	353124	318042	211860	513380
14C-5100-350-OP	493.0	356859	107120	131042	167336	102271	204709	273837	179814	422844	380338	256969	640979	486839	333981	859105
14C-5400-200-OP	1450.0	464386	132644	156981	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-235-OP	1203.5	464129	132538	156840	-	-	-	-	-	-	-	-	-	108191	15319	15319
14C-5400-280-OP	841.0	463165	132157	156291	-	-	-	-	-	-	160397	85792	122245	228560	136918	261854
14C-5400-300-OP	739.5	462678	131962	156017	-	-	-	132316	63826	64729	210559	123546	224985	288802	181160	385249
14C-5400-350-OP	536.5	461324	131423	155256	138104	68464	76579	244596	148795	294705	351097	226525	512840	457598	303803	730966
14C-8300-200-OP	1450.0	595897	171699	204382	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-235-OP	1319.5	595649	171602	204240	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-280-OP	928.0	594685	171212	203700	-	-	-	-	-	-	-	-	-	175487	87642	100536
14C-8300-300-OP	812.0	594198	171017	203426	-	-	-	-	-	-	157486	63667	63667	235729	133732	223932
14C-8300-350-OP	594.5	592844	170478	202665	-	-	-	191523	100164	133387	298024	180124	351522	404525	258022	569648
18C-9600-235-OP	1450.0	946304	239552	261615	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-280-OP	1247.0	945189	239092	260987	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-300-OP	1073.0	944631	238862	260677	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-350-OP	797.5	943074	238224	259801	-	-	-	-	-	-	302130	83739	83739	424605	229082	334583
18C-9800-235-OP	1450.0	1198529	298502	322600	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-280-OP	1377.5	1197423	298041	321972	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-300-OP	1203.5	1196865	297811	321662	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-350-OP	884.5	1195308	297165	320777	-	-	-	-	-	-	-	-	-	351593	25196	25196
18C-10500-280-OP	1450.0	1397548	350018	379638	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-300-OP	1290.5	1396990	349787	379320	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-350-OP	957.0	1395433	349141	378444	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-280-OP	1450.0	1565875	418924	474510	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-300-OP	1377.5	1565317	418694	474201	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-350-OP	1015.0	1563760	418065	473316	-	-	-	-	-	-	-	-	-	-	-	-
32C-12000-300-OP	1450.0	1779470	426889	450615	-	-	-	-	-	-	-	-	-	-	-	-
32C-12000-350-OP	1189.0	1777638	426119	449589	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-300-OP	1450.0	2070095	522345	569241	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-350-OP	1276.0	2068263	521592	568205	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-300-OP	1450.0	2241094	512043	525451	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-350-OP	1392.0	2239059	511149	524309	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-300-OP	1450.0	2343914	556284	583410	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-350-OP	1421.0	2341878	555417	582259	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 28. Models 14C-5100-200-OP to 50C-15600-350-OP at 507.5 to 725 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					507.5			580			652.5			725		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	1450.0	359921	108333	132759	92925	46224	52295	127697	72809	123528	162468	98678	194753	197249	124139	265978
14C-5100-235-OP	1102.0	359673	108236	132617	185443	115528	241791	233454	150503	340132	281465	185354	438464	329477	220144	536806
14C-5100-280-OP	783.0	358699	107855	132077	325954	217595	529593	394117	266943	669193	462271	316219	808793	530434	365496	948401
14C-5100-300-OP	681.5	358221	107660	131803	396285	268509	673644	474528	325078	833900	552780	381656	994156	-	-	-
14C-5100-350-OP	493.0	356859	107120	131042	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-200-OP	1450.0	464386	132644	156981	-	-	-	-	-	-	133237	64578	66614	168008	91598	137839
14C-5400-235-OP	1203.5	464129	132538	156840	156203	82588	113661	204214	118820	211993	252225	154424	310334	300245	189505	408666
14C-5400-280-OP	841.0	463165	132157	156291	296714	186939	401454	364877	236543	541054	433039	285997	680662	501202	335371	820262
14C-5400-300-OP	739.5	462678	131962	156017	367054	238118	545505	445297	294891	705761	523539	351549	866026	601782	408180	1026281
14C-5400-350-OP	536.5	461324	131423	155256	564099	380922	949101	-	-	-	-	-	-	-	-	-
14C-8300-200-OP	1450.0	595897	171699	204382	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-235-OP	1319.5	595649	171602	204240	-	-	-	151140	50675	50675	199152	106032	149016	247163	142308	247349
14C-8300-280-OP	928.0	594685	171212	203700	243641	139662	240136	311803	190302	379736	379966	240136	519345	448120	289740	658944
14C-8300-300-OP	812.0	594198	171017	203426	313971	191903	384187	392223	249074	544443	470466	305962	704708	548709	362735	864964
14C-8300-350-OP	594.5	592844	170478	202665	511026	335397	787783	617526	412578	1005918	-	-	-	-	-	-
18C-9600-235-OP	1450.0	946304	239552	261615	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-280-OP	1247.0	945189	239092	260987	-	-	-	317972	116183	116183	396356	207409	276731	474741	267040	437270
18C-9600-300-OP	1073.0	944631	238862	260677	320467	121298	121298	410454	218259	305599	500432	286315	489901	590410	353336	674193
18C-9600-350-OP	797.5	943074	238224	259801	547080	321140	585436	669556	411764	836290	792031	501220	1087134	914506	590339	1337987
18C-9800-235-OP	1450.0	1198529	298502	322600	-	-	-	-	-	-	-	-	-	-	-	-
18C-9800-280-OP	1377.5	1197423	298041	321972	-	-	-	-	-	-	-	-	-	401728	127891	127891
18C-9800-300-OP	1203.5	1196865	297811	321662	-	-	-	-	-	-	427420	180513	180513	517406	271412	364806
18C-9800-350-OP	884.5	1195308	297165	320777	474068	237649	276049	596543	331716	526902	719018	423419	777747	841493	514176	1028600
18C-10500-280-OP	1450.0	1397548	350018	379638	-	-	-	-	-	-	-	-	-	-	-	-
18C-10500-300-OP	1290.5	1396990	349787	379320	-	-	-	-	-	-	-	-	-	450562	119333	119333
18C-10500-350-OP	957.0	1395433	349141	378444	407224	30568	30568	529699	260137	281421	652174	355089	532274	774649	447314	783119
18C-11000-280-OP	1450.0	1565875	418924	474510	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-300-OP	1377.5	1565317	418694	474201	-	-	-	-	-	-	-	-	-	-	-	-
18C-11000-350-OP	1015.0	1563760	418065	473316	-	-	-	428889	74951	74951	551364	277324	325795	673839	371532	576648
32C-12000-300-OP	1450.0	1779470	426889	450615	-	-	-	-	-	-	-	-	-	-	-	-
32C-12000-350-OP	1189.0	1777638	426119	449589	-	-	-	608738	159238	159238	752516	380249	453713	896293	490910	748188
32C-15000-300-OP	1450.0	2070095	522345	569241	-	-	-	-	-	-	-	-	-	-	-	-
32C-15000-350-OP	1276.0	2068263	521592	568205	-	-	-	-	-	-	621907	97226	97226	765684	372930	391701
50C-15400-300-OP	1450.0	2241094	512043	525451	-	-	-	-	-	-	-	-	-	-	-	-
50C-15400-350-OP	1392.0	2239059	511149	524309	-	-	-	-	-	-	797270	180416	180416	957021	469829	507609
50C-15600-300-OP	1450.0	2343914	556284	583410	-	-	-	-	-	-	-	-	-	-	-	-
50C-15600-350-OP	1421.0	2341878	555417	582259	-	-	-	-	-	-	735692	54295	54295	895443	381488	381488

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

Table 29. Models 14C-5100-200-OP to 50C-15600-350-OP at 797.5 to 1015 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					797.5			870			942.5			1015		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	1450.0	359921	108333	132759	232020	149459	337203	266801	174708	408428	301573	199939	479652	336353	225117	550886
14C-5100-235-OP	1102.0	359673	108236	132617	377488	254907	635138	425499	289634	733479	473510	324344	831812	521522	359062	930153
14C-5100-280-OP	783.0	358699	107855	132077	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-300-OP	681.5	358221	107660	131803	-	-	-	-	-	-	-	-	-	-	-	-
14C-5100-350-OP	493.0	356859	107120	131042	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-200-OP	1450.0	464386	132644	156981	202789	117758	209064	237561	143591	280297	272341	169150	351522	307113	194523	422747
14C-5400-235-OP	1203.5	464129	132538	156840	348256	224454	507008	396268	259314	605340	444279	294156	703681	492290	328919	802014
14C-5400-280-OP	841.0	463165	132157	156291	569356	384727	959871	-	-	-	-	-	-	-	-	-
14C-5400-300-OP	739.5	462678	131962	156017	-	-	-	-	-	-	-	-	-	-	-	-
14C-5400-350-OP	536.5	461324	131423	155256	-	-	-	-	-	-	-	-	-	-	-	-
14C-8300-200-OP	1450.0	595897	171699	204382	149715	47755	47755	184487	94704	118979	219268	121334	190204	254039	147441	261429
14C-8300-235-OP	1319.5	595649	171602	204240	295183	178009	345690	343194	213303	444022	391205	248331	542363	439217	283253	640696
14C-8300-280-OP	928.0	594685	171212	203700	516282	339212	798553	584445	388621	938153	-	-	-	-	-	-
14C-8300-300-OP	812.0	594198	171017	203426	626961	419410	1025228	-	-	-	-	-	-	-	-	-
14C-8300-350-OP	594.5	592844	170478	202665	-	-	-	-	-	-	-	-	-	-	-	-
18C-9600-235-OP	1450.0	946304	239552	261615	298856	77030	77030	354062	174292	190116	409277	217365	303201	464492	259314	416286
18C-9600-280-OP	1247.0	945189	239092	260987	553125	325645	597818	631509	383780	758365	709894	441288	918904	788278	498485	1079452
18C-9600-300-OP	1073.0	944631	238862	260677	680397	419702	858494	770375	485423	1042796	860362	550948	1227088	950340	616385	1411389
18C-9600-350-OP	797.5	943074	238224	259801	1036981	679255	1588832	-	-	-	-	-	-	-	-	-
18C-9800-235-OP	1450.0	1198529	298502	322600	-	-	-	-	-	-	-	-	-	391480	106899	106899
18C-9800-280-OP	1377.5	1197423	298041	321972	480113	242402	288430	558497	302891	448978	636881	362071	609517	715266	420623	770065
18C-9800-300-OP	1203.5	1196865	297811	321662	607384	339893	549107	697362	407286	733408	787349	474130	917701	877327	540452	1102002
18C-9800-350-OP	884.5	1195308	297165	320777	963969	603765	1279453	1086444	693035	1530298	-	-	-	-	-	-
18C-10500-280-OP	1450.0	1397548	350018	379638	413268	42949	42949	491653	203497	203497	570037	291953	364045	648422	352239	524584
18C-10500-300-OP	1290.5	1396990	349787	379320	540540	268766	303626	630518	338592	487927	720505	406737	672228	810483	474024	856521
18C-10500-350-OP	957.0	1395433	349141	378444	897125	538390	1033972	1019600	628695	1284825	1142075	718160	1535670	-	-	-
18C-11000-280-OP	1450.0	1565875	418924	474510	-	-	-	-	-	-	469227	157565	157565	547611	274377	318113
18C-11000-300-OP	1377.5	1565317	418694	474201	439730	97155	97155	529717	260155	281457	619695	330309	465749	709673	398577	650050
18C-11000-350-OP	1015.0	1563760	418065	473316	796314	463466	827502	918789	554461	1078346	1041264	644563	1329199	1163740	733975	1580044
32C-12000-300-OP	1450.0	1779470	426889	450615	621474	185301	185301	727098	360177	401657	832732	442456	618004	938366	522734	834351
32C-12000-350-OP	1189.0	1777638	426119	449589	1040070	599127	1042663	1183847	706159	1337138	1327615	812554	1631613	1471392	917736	1926096
32C-15000-300-OP	1450.0	2070095	522345	569241	-	-	-	596490	45170	45170	702124	261518	261518	807757	406392	477865
32C-15000-350-OP	1276.0	2068263	521592	568205	909461	485228	686176	1053230	594224	980651	1197007	701725	1275126	1340784	808483	1569601
50C-15400-300-OP	1450.0	2241094	512043	525451	-	-	-	769030	122573	122573	886398	362965	362965	1003767	506857	603349
50C-15400-350-OP	1392.0	2239059	511149	524309	1116773	594446	834803	1276524	715700	1162005	1436275	835396	1489198	1596027	954180	1816392
50C-15600-300-OP	1450.0	2343914	556284	583410	-	-	-	-	-	-	824820	236844	236844	942189	457926	477227
50C-15600-350-OP	1421.0	2341878	555417	582259	1055194	547001	708681	1214946	669219	1035884	1374697	789385	1363077	1534448	908523	1690270

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

Table 30. Models 14C-5100-200-OP to 50C-15600-350-OP at 1087.5 to 1232.5 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)								
					1087.5			1160			1232.5		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	1450.0	359921	108333	132759	371125	250305	622111	405905	275465	693336	440677	300608	764560
14C-5100-235-OP	1102.0	359673	108236	132617	569542	393772	1028485	-	-	-	-	-	-
14C-5100-280-OP	783.0	358699	107855	132077	-	-	-	-	-	-	-	-	-
14C-5100-300-OP	681.5	358221	107660	131803	-	-	-	-	-	-	-	-	-
14C-5100-350-OP	493.0	356859	107120	131042	-	-	-	-	-	-	-	-	-
14C-5400-200-OP	1450.0	464386	132644	156981	341893	219825	493972	376665	245092	565196	411445	270332	636430
14C-5400-235-OP	1203.5	464129	132538	156840	540301	363682	900355	588313	398445	998687	-	-	-
14C-5400-280-OP	841.0	463165	132157	156291	-	-	-	-	-	-	-	-	-
14C-5400-300-OP	739.5	462678	131962	156017	-	-	-	-	-	-	-	-	-
14C-5400-350-OP	536.5	461324	131423	155256	-	-	-	-	-	-	-	-	-
14C-8300-200-OP	1450.0	595897	171699	204382	288820	173292	332654	323591	198957	403879	358363	224374	475112
14C-8300-235-OP	1319.5	595649	171602	204240	487228	318122	739037	535239	352965	837369	583250	387763	935711
14C-8300-280-OP	928.0	594685	171212	203700	-	-	-	-	-	-	-	-	-
14C-8300-300-OP	812.0	594198	171017	203426	-	-	-	-	-	-	-	-	-
14C-8300-350-OP	594.5	592844	170478	202665	-	-	-	-	-	-	-	-	-
18C-9600-235-OP	1450.0	946304	239552	261615	519707	300750	529372	574923	341849	642466	630138	382763	755551
18C-9600-280-OP	1247.0	945189	239092	260987	866663	555532	1239991	945047	612544	1400539	1023432	669423	1561078
18C-9600-300-OP	1073.0	944631	238862	260677	-	-	-	-	-	-	-	-	-
18C-9600-350-OP	797.5	943074	238224	259801	-	-	-	-	-	-	-	-	-
18C-9800-235-OP	1450.0	1198529	298502	322600	446695	215798	219993	501910	259429	333079	557125	301847	446164
18C-9800-280-OP	1377.5	1197423	298041	321972	793650	478803	930604	872035	536576	1091152	950419	593879	1251700
18C-9800-300-OP	1203.5	1196865	297811	321662	967314	606207	1286303	1057292	671830	1470596	-	-	-
18C-9800-350-OP	884.5	1195308	297165	320777	-	-	-	-	-	-	-	-	-
18C-10500-280-OP	1450.0	1397548	350018	379638	726806	411463	685132	805191	470077	845671	883575	528345	1006218
18C-10500-300-OP	1290.5	1396990	349787	379320	900470	540877	1040822	990448	607349	1225114	1080435	673184	1409416
18C-10500-350-OP	957.0	1395433	349141	378444	-	-	-	-	-	-	-	-	-
18C-11000-280-OP	1450.0	1565875	418924	474510	625996	335123	478652	704380	394577	639200	782765	453368	799739
18C-11000-300-OP	1377.5	1565317	418694	474201	799659	465961	834351	889637	532841	1018644	979624	599419	1202945
18C-11000-350-OP	1015.0	1563760	418065	473316	-	-	-	-	-	-	-	-	-
32C-12000-300-OP	1450.0	1779470	426889	450615	1043990	602066	1050707	1149624	680786	1267055	1255257	759109	1483402
32C-12000-350-OP	1189.0	1777638	426119	449589	1615169	1022653	2220571	1758946	1127269	2515046	1902723	1231858	2809521
32C-15000-300-OP	1450.0	2070095	522345	569241	913382	488228	694221	1019016	568427	910568	1124649	647758	1126915
32C-15000-350-OP	1276.0	2068263	521592	568205	1484561	914426	1864084	1628338	1019493	2158559	1772115	1124384	2453034
50C-15400-300-OP	1450.0	2241094	512043	525451	1121136	597782	843741	1238504	687034	1084125	1355864	775287	1324518
50C-15400-350-OP	1392.0	2239059	511149	524309	1755769	1072425	2143585	1915521	1189484	2470787	2075272	1306056	2797981
50C-15600-300-OP	1450.0	2343914	556284	583410	1059557	550390	717620	1176926	640351	958004	1294286	729090	1198396
50C-15600-350-OP	1421.0	2341878	555417	582259	1694191	1026963	2017464	1853942	1144411	2344666	2013694	1261125	2671859

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

Table 31. Models 14C-5100-200-OP to 50C-15600-350-OP at 1305 to 1450 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)								
					1305			1377.5			1450		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14C-5100-200-OP	1450.0	359921	108333	132759	475457	325751	835785	510229	350894	907010	545001	376037	978244
14C-5100-235-OP	1102.0	359673	108236	132617	-	-	-	-	-	-	-	-	-
14C-5100-280-OP	783.0	358699	107855	132077	-	-	-	-	-	-	-	-	-
14C-5100-300-OP	681.5	358221	107660	131803	-	-	-	-	-	-	-	-	-
14C-5100-350-OP	493.0	356859	107120	131042	-	-	-	-	-	-	-	-	-
14C-5400-200-OP	1450.0	464386	132644	156981	446217	295555	707655	480989	320742	778880	515769	345920	850104
14C-5400-235-OP	1203.5	464129	132538	156840	-	-	-	-	-	-	-	-	-
14C-5400-280-OP	841.0	463165	132157	156291	-	-	-	-	-	-	-	-	-
14C-5400-300-OP	739.5	462678	131962	156017	-	-	-	-	-	-	-	-	-
14C-5400-350-OP	536.5	461324	131423	155256	-	-	-	-	-	-	-	-	-
14C-8300-200-OP	1450.0	595897	171699	204382	393144	249738	546337	427915	275040	617562	462696	300325	688787
14C-8300-235-OP	1319.5	595649	171602	204240	631262	422526	1034043	-	-	-	-	-	-
14C-8300-280-OP	928.0	594685	171212	203700	-	-	-	-	-	-	-	-	-
14C-8300-300-OP	812.0	594198	171017	203426	-	-	-	-	-	-	-	-	-
14C-8300-350-OP	594.5	592844	170478	202665	-	-	-	-	-	-	-	-	-
18C-9600-235-OP	1450.0	946304	239552	261615	685353	423331	868636	740559	463669	981722	795774	503954	1094816
18C-9600-280-OP	1247.0	945189	239092	260987	-	-	-	-	-	-	-	-	-
18C-9600-300-OP	1073.0	944631	238862	260677	-	-	-	-	-	-	-	-	-
18C-9600-350-OP	797.5	943074	238224	259801	-	-	-	-	-	-	-	-	-
18C-9800-235-OP	1450.0	1198529	298502	322600	612340	343628	559249	667556	385055	672343	722762	426216	785429
18C-9800-280-OP	1377.5	1197423	298041	321972	1028804	651077	1412239	1107188	708124	1572787	-	-	-
18C-9800-300-OP	1203.5	1196865	297811	321662	-	-	-	-	-	-	-	-	-
18C-9800-350-OP	884.5	1195308	297165	320777	-	-	-	-	-	-	-	-	-
18C-10500-280-OP	1450.0	1397548	350018	379638	961960	586383	1166757	1040344	643891	1327305	1118729	701124	1487853
18C-10500-300-OP	1290.5	1396990	349787	379320	-	-	-	-	-	-	-	-	-
18C-10500-350-OP	957.0	1395433	349141	378444	-	-	-	-	-	-	-	-	-
18C-11000-280-OP	1450.0	1565875	418924	474510	861149	511716	960287	939534	569825	1120835	1017918	627465	1281374
18C-11000-300-OP	1377.5	1565317	418694	474201	1069602	665281	1387238	1159589	730939	1571539	-	-	-
18C-11000-350-OP	1015.0	1563760	418065	473316	-	-	-	-	-	-	-	-	-
32C-12000-300-OP	1450.0	1779470	426889	450615	1360891	836918	1699758	1466516	914178	1916105	1572149	991253	2132452
32C-12000-350-OP	1189.0	1777638	426119	449589	-	-	-	-	-	-	-	-	-
32C-15000-300-OP	1450.0	2070095	522345	569241	1230274	726514	1343262	1335908	804872	1559618	1441541	882920	1775965
32C-15000-350-OP	1276.0	2068263	521592	568205	1915883	1228973	2747509	-	-	-	-	-	-
50C-15400-300-OP	1450.0	2241094	512043	525451	1473233	862937	1564910	1590602	950163	1805294	1707970	1037140	2045686
50C-15400-350-OP	1392.0	2239059	511149	524309	2235023	1422496	3125174	2394775	1538705	3452376	2554526	1654915	3779570
50C-15600-300-OP	1450.0	2343914	556284	583410	1411655	817050	1438789	1529023	904505	1679172	1646392	991536	1919565
50C-15600-350-OP	1421.0	2341878	555417	582259	2173445	1377697	2999053	2333196	1493907	3326246	2492948	1610116	3653448

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

Symmetric Yoke Design, Spring to Close

Table 32. Models 0.3S-008A-45-CL to 6S-3800-200-CL at 217.5 to 507.5 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)														
					217.5			290			362.5			435			507.5		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	1450.0	2230	991	1204	-	-	-	1248	204	204	1903	832	956	2567	1274	1708	3221	1699	2460
0.3S-008A-75-CL	1015.0	2159	938	1124	4027	2213	3390	5859	3381	5478	7691	4540	7576	9523	5708	9673	11355	6868	11771
0.3S-008B-45-CL	1450.0	3425	1310	1319	-	-	-	-	-	-	-	-	-	2451	389	389	3106	1142	1142
0.3S-008B-75-CL	1058.5	3345	1239	1239	3912	1752	2062	5744	2956	4160	7576	4133	6248	9408	5301	8346	11240	6469	10443
0.3S-008S-45-CL	1450.0	4106	1602	1655	-	-	-	-	-	-	-	-	-	-	-	-	2779	345	345
0.3S-008S-75-CL	1087.5	4036	1549	1575	3584	1274	1274	5416	2611	3363	7248	3797	5460	9080	4965	7558	10912	6133	9655
0.3S-0100-45-CL	1450.0	6593	2797	3230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-75-CL	1174.5	6522	2752	3151	-	-	-	3867	469	469	5699	2390	2558	7531	3620	4655	9363	4806	6753
0.3S-0100-100-CL	667.0	6452	2708	3080	6248	2761	3186	9505	4894	6912	12762	6983	10638	16019	9062	14364	19275	11133	18089
0.3S-0150-45-CL	1450.0	8239	3850	5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-75-CL	1247.0	8169	3797	4921	-	-	-	-	-	-	3947	558	558	5779	2443	2655	7611	3673	4752
0.3S-0150-100-CL	696.0	8098	3761	4850	4496	1186	1186	7753	3761	4912	11009	5868	8638	14266	7947	12363	17523	10027	16080
0.9S-0200-100-CL	1450.0	10797	4974	6354	-	-	-	8231	3575	4027	11992	6062	8337	15762	8478	12638	19523	10886	16948
0.9S-0200-135-CL	855.5	10717	4921	6266	13673	7142	10257	20541	11532	18107	27400	15903	25957	34267	20258	33798	41126	24621	41648
0.9S-0250-100-CL	1450.0	12868	6266	8585	-	-	-	6036	1513	1513	9797	4629	5823	13567	7071	10133	17328	9487	14434
0.9S-0250-135-CL	870.0	12779	6213	8496	11478	5726	7744	18346	10133	15594	25205	14505	23444	32072	18868	31294	38931	23222	39144
0.9S-0350-100-CL	1450.0	20497	9531	12337	-	-	-	-	-	-	-	-	-	9859	1328	1328	13629	5514	5637
0.9S-0350-135-CL	957.0	20417	9478	12248	-	-	-	14638	6222	6797	21506	10770	14647	28364	15187	22488	35223	19576	30338
0.9S-0400-100-CL	1450.0	24081	11771	16196	-	-	-	-	-	-	-	-	-	-	-	-	9824	1283	1283
0.9S-0400-135-CL	1000.5	24001	11717	16107	-	-	-	10832	2443	2443	17691	8284	10293	24559	12744	18143	31418	17151	25984
0.9S-0700-100-CL	1450.0	34108	16266	21727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0700-135-CL	1073.0	34019	16213	21629	-	-	-	-	-	-	-	-	-	19107	6522	6522	25975	11903	14372
1.5S-1100-135-CL	1276.0	55613	27223	33090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1100-175-CL	754.0	55463	27125	32904	-	-	-	-	-	-	45312	11045	11045	61127	23638	26311	76951	33338	41568
1.5S-1200-135-CL	1363.0	64525	33462	44825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-175-CL	812.0	64375	33365	44639	-	-	-	-	-	-	33736	186	186	49551	15443	15443	65375	26417	30710
3S-2000-135-CL	1450.0	97058	50896	70942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-175-CL	942.5	96819	50737	70650	-	-	-	-	-	-	57366	13054	13054	83208	33727	38701	109050	49640	64357
6S-2500-175-CL	1450.0	138892	73871	105492	-	-	-	-	-	-	-	-	-	74375	15178	15178	104536	40949	45224
6S-2500-200-CL	1160.0	138848	73844	105430	-	-	-	-	-	-	90332	31064	31064	129723	56693	70322	169115	80650	109572
6S-3800-175-CL	1450.0	187762	103669	156512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6S-3800-200-CL	1261.5	187709	103642	156459	-	-	-	-	-	-	-	-	-	79402	11815	11815	118794	46383	51065

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

Table 33. Models 0.3S-008A-45-CL to 6S-3800-200-CL at 580 to 870 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)														
					580			652.5			725			797.5			870		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	1450.0	2230	991	1204	3885	2115	3221	4540	2540	3974	5204	2965	4726	5859	3381	5478	6522	3797	6239
0.3S-008A-75-CL	1015.0	2159	938	1124	13187	8036	13859	15018	9195	15957	16850	10355	18054	18682	11514	20151	20514	12682	22240
0.3S-008B-45-CL	1450.0	3425	1310	1319	3770	1655	1894	4425	2097	2646	5089	2531	3398	5744	2956	4160	6407	3381	4912
0.3S-008B-75-CL	1058.5	3345	1239	1239	13071	7629	12540	14903	8797	14629	16735	9956	16727	18567	11116	18824	20399	12284	20921
0.3S-008S-45-CL	1450.0	4106	1602	1655	3434	1106	1106	4098	1726	1859	4752	2168	2611	5416	2611	3363	6071	3036	4124
0.3S-008S-75-CL	1087.5	4036	1549	1575	12744	7301	11744	14576	8469	13841	16408	9629	15939	18240	10797	18036	20072	11956	20125
0.3S-0100-45-CL	1450.0	6593	2797	3230	-	-	-	-	-	-	-	-	-	3867	469	469	4522	1221	1221
0.3S-0100-75-CL	1174.5	6522	2752	3151	11195	5983	8850	13027	7160	10939	14859	8328	13036	16691	9496	15134	18523	10655	17222
0.3S-0100-100-CL	667.0	6452	2708	3080	22532	13204	21806	25789	15275	25532	-	-	-	-	-	-	-	-	-
0.3S-0150-45-CL	1450.0	8239	3850	5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-75-CL	1247.0	8169	3797	4921	9443	4859	6841	11275	6036	8939	13107	7213	11036	14939	8381	13133	16771	9549	15222
0.3S-0150-100-CL	696.0	8098	3761	4850	20780	12098	19806	24037	14160	23532	-	-	-	-	-	-	-	-	-
0.9S-0200-100-CL	1450.0	10797	4974	6354	23293	13293	21249	27054	15682	25559	30825	18072	29869	34586	20470	34170	38356	22860	38480
0.9S-0200-135-CL	855.5	10717	4921	6266	47994	28975	49498	54852	33329	57348	61711	37683	65198	68579	42038	73048	-	-	-
0.9S-0250-100-CL	1450.0	12868	6266	8585	21098	11894	18744	24860	14284	23045	28630	16682	27355	32391	19072	31665	36161	21461	35966
0.9S-0250-135-CL	870.0	12779	6213	8496	45799	27585	46994	52658	31940	54835	59516	36294	62685	66384	40639	70535	73243	44993	78384
0.9S-0350-100-CL	1450.0	20497	9531	12337	17390	8080	9939	21160	10549	14249	24922	12983	18558	28692	15399	22860	32453	17806	27170
0.9S-0350-135-CL	957.0	20417	9478	12248	42091	23957	38188	48949	28320	46038	55817	32674	53888	62676	37037	61738	69543	41391	69588
0.9S-0400-100-CL	1450.0	24081	11771	16196	13585	5487	5593	17355	8054	9894	21116	10523	14204	24886	12956	18514	28647	15372	22815
0.9S-0400-135-CL	1000.5	24001	11717	16107	38285	21532	33834	45144	25895	41684	52011	30258	49533	58870	34621	57383	65738	38975	65233
0.9S-0700-100-CL	1450.0	34108	16266	21727	-	-	-	-	-	-	15673	2584	2584	19435	6894	6894	23205	10036	11204
0.9S-0700-135-CL	1073.0	34019	16213	21629	32834	16408	22222	39701	20833	30072	46560	25240	37922	53427	29621	45763	60286	34002	53613
1.5S-1100-135-CL	1276.0	55613	27223	33090	41684	7549	7549	51100	16638	16638	60516	23258	25718	69933	29081	34798	79340	34781	43887
1.5S-1100-175-CL	754.0	55463	27125	32904	92766	42816	56835	108590	52206	72101	124404	61561	87358	-	-	-	-	-	-
1.5S-1200-135-CL	1363.0	64525	33462	44825	-	-	-	39524	5770	5770	48941	14859	14859	58357	22028	23939	67773	27886	33019
1.5S-1200-175-CL	812.0	64375	33365	44639	81190	36011	45976	97014	45454	61233	112838	54835	76499	128652	64171	91766	-	-	-
3S-2000-135-CL	1450.0	97058	50896	70942	51445	7177	7177	66826	22444	22444	82208	33090	37710	97580	42639	52976	112961	52011	68242
3S-2000-175-CL	942.5	96819	50737	70650	134892	65242	90013	160734	80739	115661	186576	96182	141317	212418	111590	166973	238269	126971	192620
6S-2500-175-CL	1450.0	138892	73871	105492	134697	59746	75278	164858	78084	105333	195019	96253	135387	225179	114342	165442	255340	132378	195488
6S-2500-200-CL	1160.0	138848	73844	105430	208506	104350	148822	247897	127936	188080	287289	151459	227330	326680	174956	266580	366071	198426	305838
6S-3800-175-CL	1450.0	187762	103669	156512	84376	16771	16771	114537	43631	46825	144698	62623	76880	174858	81057	106935	205019	99279	136980
6S-3800-200-CL	1261.5	187709	103642	156459	158185	70897	90314	197576	94792	129573	236968	118484	168823	276359	142078	208072	315750	165619	247331

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

Table 34. Models 0.3S-008A-45-CL to 6S-3800-200-CL at 942.5 to 1160 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					942.5			1015			1087.5			1160		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	1450.0	2230	991	1204	7177	4221	6992	7841	4637	7744	8496	5053	8496	9160	5478	9248
0.3S-008A-75-CL	1015.0	2159	938	1124	22346	13841	24338	24178	15001	26435	-	-	-	-	-	-
0.3S-008B-45-CL	1450.0	3425	1310	1319	7062	3806	5664	7726	4221	6416	8381	4646	7177	9045	5062	7930
0.3S-008B-75-CL	1058.5	3345	1239	1239	22231	13443	23010	24063	14603	25107	-	-	-	-	-	-
0.3S-008S-45-CL	1450.0	4106	1602	1655	6735	3460	4876	7390	3885	5629	8054	4310	6381	8717	4735	7133
0.3S-008S-75-CL	1087.5	4036	1549	1575	21904	13125	22222	23736	14284	24320	25568	15443	26408	-	-	-
0.3S-0100-45-CL	1450.0	6593	2797	3230	5186	1974	1974	5841	2487	2726	6505	2938	3478	7160	3372	4239
0.3S-0100-75-CL	1174.5	6522	2752	3151	20355	11824	19320	22187	12983	21417	24019	14151	23514	25851	15311	25603
0.3S-0100-100-CL	667.0	6452	2708	3080	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-45-CL	1450.0	8239	3850	5000	-	-	-	4098	726	726	4752	1478	1478	5416	2186	2230
0.3S-0150-75-CL	1247.0	8169	3797	4921	18603	10709	17319	20435	11877	19417	22267	13036	21506	24099	14204	23603
0.3S-0150-100-CL	696.0	8098	3761	4850	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0200-100-CL	1450.0	10797	4974	6354	42117	25249	42790	45887	27639	47091	49649	30028	51401	53419	32418	55702
0.9S-0200-135-CL	855.5	10717	4921	6266	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0250-100-CL	1450.0	12868	6266	8585	39922	23851	40276	43692	26249	44586	47454	28639	48887	51224	31028	53197
0.9S-0250-135-CL	870.0	12779	6213	8496	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0350-100-CL	1450.0	20497	9531	12337	36223	20213	31479	39984	22612	35781	43754	25010	40091	47516	27408	44400
0.9S-0350-135-CL	957.0	20417	9478	12248	76402	45755	77438	-	-	-	-	-	-	-	-	-
0.9S-0400-100-CL	1450.0	24081	11771	16196	32418	17780	27125	36179	20187	31426	39949	22585	35736	43710	24984	40046
0.9S-0400-135-CL	1000.5	24001	11717	16107	72597	43338	73083	-	-	-	-	-	-	-	-	-
0.9S-0700-100-CL	1450.0	34108	16266	21727	26966	12558	15505	30736	15036	19815	34497	17479	24116	38267	19913	28426
0.9S-0700-135-CL	1073.0	34019	16213	21629	67154	38374	61463	74013	42737	69313	-	-	-	-	-	-
1.5S-1100-135-CL	1276.0	55613	27223	33090	88757	40427	52967	98173	46029	62047	107589	51613	71136	117006	57189	80216
1.5S-1100-175-CL	754.0	55463	27125	32904	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-135-CL	1363.0	64525	33462	44825	77181	33603	42108	86597	39250	51188	96014	44861	60269	105430	50445	69357
1.5S-1200-175-CL	812.0	64375	33365	44639	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-135-CL	1450.0	97058	50896	70942	128343	61304	83509	143724	70543	98775	159105	79765	114041	174478	88960	129307
3S-2000-175-CL	942.5	96819	50737	70650	264111	142352	218276	-	-	-	-	-	-	-	-	-
6S-2500-175-CL	1450.0	138892	73871	105492	285492	150388	225542	315653	168380	255597	345814	186363	285651	375975	204320	315706
6S-2500-200-CL	1160.0	138848	73844	105430	405463	221878	345088	444854	245340	384338	484245	268766	423596	523637	292200	462846
6S-3800-175-CL	1450.0	187762	103669	156512	235180	117413	167035	265341	135485	197090	295493	153512	227144	325653	171522	257199
6S-3800-200-CL	1261.5	187709	103642	156459	355142	189107	286581	394542	212595	325830	433933	236056	365089	473325	259509	404339

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

Table 35. Models 0.3S-008A-45-CL to 6S-3800-200-CL at 1232.5 to 1450 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					1232.5			1305			1377.5			1450		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
0.3S-008A-45-CL	1450.0	2230	991	1204	9815	5894	10009	10478	6310	10762	11133	6726	11514	11797	7151	12266
0.3S-008A-75-CL	1015.0	2159	938	1124	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-008B-45-CL	1450.0	3425	1310	1319	9700	5487	8682	10363	5903	9434	11018	6328	10186	11682	6744	10947
0.3S-008B-75-CL	1058.5	3345	1239	1239	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-008S-45-CL	1450.0	4106	1602	1655	9372	5151	7894	10036	5576	8646	10691	6000	9399	11355	6416	10151
0.3S-008S-75-CL	1087.5	4036	1549	1575	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-45-CL	1450.0	6593	2797	3230	7823	3806	4991	8478	4239	5744	9142	4664	6496	9797	5089	7257
0.3S-0100-75-CL	1174.5	6522	2752	3151	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-100-CL	667.0	6452	2708	3080	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-45-CL	1450.0	8239	3850	5000	6071	2646	2991	6735	3089	3744	7390	3522	4496	8054	3956	5248
0.3S-0150-75-CL	1247.0	8169	3797	4921	25931	15364	25700	-	-	-	-	-	-	-	-	-
0.3S-0150-100-CL	696.0	8098	3761	4850	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0200-100-CL	1450.0	10797	4974	6354	57180	34807	60012	60950	37197	64322	64711	39586	68623	68481	41976	72933
0.9S-0200-135-CL	855.5	10717	4921	6266	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0250-100-CL	1450.0	12868	6266	8585	54985	33418	57498	58755	35807	61808	62516	38188	66118	66287	40577	70419
0.9S-0250-135-CL	870.0	12779	6213	8496	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0350-100-CL	1450.0	20497	9531	12337	51286	29798	48702	55047	32187	53012	58808	34586	57313	62578	36975	61623
0.9S-0350-135-CL	957.0	20417	9478	12248	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0400-100-CL	1450.0	24081	11771	16196	47471	27382	44347	51242	29771	48657	55003	32161	52967	58773	34559	57268
0.9S-0400-135-CL	1000.5	24001	11717	16107	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0700-100-CL	1450.0	34108	16266	21727	42029	22329	32736	45790	24745	37037	49560	27152	41347	53321	29559	45657
0.9S-0700-135-CL	1073.0	34019	16213	21629	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1100-135-CL	1276.0	55613	27223	33090	126413	62747	89297	-	-	-	-	-	-	-	-	-
1.5S-1100-175-CL	754.0	55463	27125	32904	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-135-CL	1363.0	64525	33462	44825	114846	56021	78438	124254	61578	87518	-	-	-	-	-	-
1.5S-1200-175-CL	812.0	64375	33365	44639	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-135-CL	1450.0	97058	50896	70942	189859	98138	144574	205240	107306	159840	220622	116466	175106	236003	125626	190372
3S-2000-175-CL	942.5	96819	50737	70650	-	-	-	-	-	-	-	-	-	-	-	-
6S-2500-175-CL	1450.0	138892	73871	105492	406135	222277	345752	436296	240233	375806	466448	258190	405861	496609	276120	435916
6S-2500-200-CL	1160.0	138848	73844	105430	-	-	-	-	-	-	-	-	-	-	-	-
6S-3800-175-CL	1450.0	187762	103669	156512	355814	189514	287244	385975	207497	317299	416136	225463	347354	446297	243419	377408
6S-3800-200-CL	1261.5	187709	103642	156459	512716	282970	443589	-	-	-	-	-	-	-	-	-

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

Table 36. Models 14S-5100-200-CL to 50S-15600-350-CL at 217.5 to 435 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					217.5			290			362.5			435		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	1450.0	220312	124360	190629	-	-	-	-	-	-	-	-	-	-	-	-
14S-5100-235-CL	1450.0	220161	124254	190434	-	-	-	-	-	-	110563	28506	28506	170894	71756	86721
14S-5100-280-CL	1058.5	219586	123873	189700	-	-	-	150848	59428	67375	236499	111094	150016	322149	161734	232649
14S-5100-300-CL	913.5	219294	123679	189328	102881	21098	21098	201214	90049	115962	299537	148397	210834	397861	206267	305697
14S-5100-350-CL	667.0	218480	123130	188293	208479	94403	122980	342318	173602	252101	476148	252225	381223	609977	330707	510344
14S-5400-200-CL	1450.0	284970	156087	228321	-	-	-	-	-	-	-	-	-	-	-	-
14S-5400-235-CL	1450.0	284820	155990	228135	-	-	-	-	-	-	-	-	-	133724	12204	12204
14S-5400-280-CL	1087.5	284244	155601	227392	-	-	-	-	-	-	199320	72216	75491	284979	125130	158132
14S-5400-300-CL	942.5	283952	155406	227029	-	-	-	164035	41445	41445	262358	111466	136308	360691	170327	231180
14S-5400-350-CL	696.0	283147	154857	225994	171301	48463	48463	305139	137228	177584	438969	216648	306706	572807	295457	435827
14S-8300-200-CL	1450.0	366372	201771	297687	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-235-CL	1450.0	366222	201674	297502	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-280-CL	1145.5	365647	201284	296758	-	-	-	-	-	-	-	-	-	216568	62339	62339
14S-8300-300-CL	1000.5	365355	201090	296395	-	-	-	-	-	-	193957	40515	40515	292280	117271	135387
14S-8300-350-CL	725.0	364540	200541	295360	-	-	-	236729	81615	81792	370567	164796	210913	504397	244419	340035
18S-9600-235-CL	1450.0	592897	305493	404994	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-280-CL	1450.0	592233	305033	404144	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-300-CL	1276.0	591897	304812	403719	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-350-CL	928.0	590968	304175	402533	-	-	-	-	-	-	363930	48233	48233	517796	187974	196771
18S-9800-235-CL	1450.0	748799	382223	498892	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-280-CL	1450.0	748135	381762	498043	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-300-CL	1334.0	747798	381541	497618	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-350-CL	971.5	746869	380895	496432	-	-	-	-	-	-	-	-	-	425198	16824	16824
18S-10500-280-CL	1450.0	827741	415782	528265	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-300-CL	1348.5	827404	415552	527841	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-350-CL	986.0	826475	414915	526655	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-280-CL	1450.0	928338	484706	656697	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-300-CL	1435.5	928002	484476	656272	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-350-CL	1058.5	927073	483838	655077	-	-	-	-	-	-	-	-	-	-	-	-
32S-12000-300-CL	1450.0	1101338	535177	661237	-	-	-	-	-	-	-	-	-	-	-	-
32S-12000-350-CL	1334.0	1100223	534416	659856	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-300-CL	1450.0	1279878	639165	825139	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-350-CL	1406.5	1278772	638404	823758	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-300-CL	1450.0	1391149	659962	784101	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-350-CL	1450.0	1389919	659113	782570	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-300-CL	1450.0	1453524	702885	861548	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-350-CL	1450.0	1452294	702044	860016	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 37. Models 14S-5100-200-CL to 50S-15600-350-CL at 507.5 to 725 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					507.5			580			652.5			725		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	1450.0	220312	124360	190629	114970	32754	32754	158672	64278	74924	202364	90739	117086	246065	116776	159247
14S-5100-235-CL	1450.0	220161	124254	190434	231233	107961	144928	291563	143689	203143	351903	179239	261349	412233	214710	319565
14S-5100-280-CL	1058.5	219586	123873	189700	407808	212108	315290	493458	262385	397931	579109	312609	480564	664768	362788	563205
14S-5100-300-CL	913.5	219294	123679	189328	496193	263978	400560	594516	321644	495423	692840	379231	590295	791163	436827	685158
14S-5100-350-CL	667.0	218480	123130	188293	743816	409091	639466	877646	487476	768587	1011475	565807	897709	-	-	-
14S-5400-200-CL	1450.0	284970	156087	228321	-	-	-	121493	398	398	165194	42560	42560	208895	78402	84730
14S-5400-235-CL	1450.0	284820	155990	228135	194054	68729	70411	254393	106625	128617	314724	142963	186832	375054	178850	245039
14S-5400-280-CL	1087.5	284244	155601	227392	370629	176230	240773	456279	226870	323406	541939	277315	406047	627589	327636	488688
14S-5400-300-CL	942.5	283952	155406	227029	459014	228480	326043	557338	286368	420906	655661	344132	515769	753993	401817	610641
14S-5400-350-CL	696.0	283147	154857	225994	706637	374045	564949	840467	452527	694070	974305	530956	823192	-	-	-
14S-8300-200-CL	1450.0	366372	201771	297687	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-235-CL	1450.0	366222	201674	297502	-	-	-	185983	32825	32825	246313	88111	91040	306653	126113	149246
14S-8300-280-CL	1145.5	365647	201284	296758	302228	123396	144981	387878	175177	227613	473528	226135	310254	559187	276775	392896
14S-8300-300-CL	1000.5	365355	201090	296395	390604	176805	230250	488936	235260	325114	587259	293351	419977	685583	351239	514849
14S-8300-350-CL	725.0	364540	200541	295360	638227	323361	469156	772065	402047	598278	905895	480608	727399	1039733	559090	856521
18S-9600-235-CL	1450.0	592897	305493	404994	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-280-CL	1450.0	592233	305033	404144	-	-	-	383833	67446	67446	482307	162513	162513	580781	228056	257579
18S-9600-300-CL	1276.0	591897	304812	403719	386975	70473	70473	500016	176177	179611	613066	248074	288740	726107	316865	397869
18S-9600-350-CL	928.0	590968	304175	402533	671662	283926	345309	825528	376488	493848	979394	468006	642395	1133251	559019	790933
18S-9800-235-CL	1450.0	748799	382223	498892	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-280-CL	1450.0	748135	381762	498043	-	-	-	-	-	-	-	-	-	488184	77632	77632
18S-9800-300-CL	1334.0	747798	381541	497618	-	-	-	-	-	-	520460	108793	108793	633501	217922	217922
18S-9800-350-CL	971.5	746869	380895	496432	579064	165362	165362	732922	282802	313901	886788	377523	462448	1040654	470165	610986
18S-10500-280-CL	1450.0	827741	415782	528265	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-300-CL	1348.5	827404	415552	527841	-	-	-	-	-	-	490653	18514	18514	603694	127644	127644
18S-10500-350-CL	986.0	826475	414915	526655	549258	75083	75083	703124	223631	223631	856981	332990	372169	1010847	427721	520707
18S-11000-280-CL	1450.0	928338	484706	656697	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-300-CL	1435.5	928002	484476	656272	-	-	-	-	-	-	-	-	-	477050	5381	5381
18S-11000-350-CL	1058.5	927073	483838	655077	-	-	-	576471	101368	101368	730337	249906	249906	884204	349982	398445
32S-12000-300-CL	1450.0	1101338	535177	661237	-	-	-	-	-	-	-	-	-	650838	20656	20656
32S-12000-350-CL	1334.0	1100223	534416	659856	-	-	-	766056	135033	135033	944384	312042	312042	1122702	440712	489042
32S-15000-300-CL	1450.0	1279878	639165	825139	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-350-CL	1406.5	1278772	638404	823758	-	-	-	-	-	-	782747	100430	100430	961066	277439	277439
50S-15400-300-CL	1450.0	1391149	659962	784101	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-350-CL	1450.0	1389919	659113	782570	-	-	-	-	-	-	1000599	157981	157981	1198733	354655	354655
50S-15600-300-CL	1450.0	1453524	702885	861548	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-350-CL	1450.0	1452294	702044	860016	-	-	-	-	-	-	924232	82172	82172	1122366	278846	278846

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

Table 38. Models 14S-5100-200-CL to 50S-15600-350-CL at 797.5 to 1015 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)											
					797.5			870			942.5			1015		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	1450.0	220312	124360	190629	289767	142627	201408	333468	168389	243570	377169	194107	285731	420871	219781	327893
14S-5100-235-CL	1450.0	220161	124254	190434	472572	250128	377771	532903	285510	435978	593233	320892	494193	653573	356230	552399
14S-5100-280-CL	1058.5	219586	123873	189700	750418	412959	645838	836068	463121	728479	921728	513282	811120	1007378	563409	893753
14S-5100-300-CL	913.5	219294	123679	189328	889496	494414	780021	987819	551966	874884	-	-	-	-	-	-
14S-5100-350-CL	667.0	218480	123130	188293	-	-	-	-	-	-	-	-	-	-	-	-
14S-5400-200-CL	1450.0	284970	156087	228321	252597	105527	126891	296298	131927	169053	339990	158034	211214	383692	183965	253376
14S-5400-235-CL	1450.0	284820	155990	228135	435393	214533	303254	495724	250110	361461	556063	285616	419676	616394	321060	477882
14S-5400-280-CL	1087.5	284244	155601	227392	713239	377922	571321	798898	428145	653962	884549	478378	736594	970199	528549	819236
14S-5400-300-CL	942.5	283952	155406	227029	852317	459474	705504	950640	517097	800367	1048973	574684	895231	-	-	-
14S-5400-350-CL	696.0	283147	154857	225994	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-200-CL	1450.0	366372	201771	297687	184186	31099	31099	227888	73260	73260	271589	104368	115422	315290	131387	157583
14S-8300-235-CL	1450.0	366222	201674	297502	366983	162654	207462	427322	198700	265668	487653	234498	323883	547992	270164	382090
14S-8300-280-CL	1145.5	365647	201284	296758	644838	327246	475528	730488	377621	558170	816147	427942	640802	901797	478201	723443
14S-8300-300-CL	1000.5	365355	201090	296395	783915	409003	609712	882239	466731	704575	980562	524398	799438	-	-	-
14S-8300-350-CL	725.0	364540	200541	295360	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-235-CL	1450.0	592897	305493	404994	359823	44259	44259	429181	111227	111227	498547	175186	178186	567913	220002	245154
18S-9600-280-CL	1450.0	592233	305033	404144	679255	288528	352646	777729	347894	447713	876203	406719	542771	974677	465218	637837
18S-9600-300-CL	1276.0	591897	304812	403719	839148	384621	506999	952189	451899	616137	1065239	518849	725266	1178280	585613	834396
18S-9600-350-CL	928.0	590968	304175	402533	1287117	649758	939472	1440984	740347	1088010	-	-	-	-	-	-
18S-9800-235-CL	1450.0	748799	382223	498892	-	-	-	-	-	-	-	-	-	475316	65207	65207
18S-9800-280-CL	1450.0	748135	381762	498043	586658	172699	172699	685132	252358	267766	783606	314396	362832	882080	374665	457890
18S-9800-300-CL	1334.0	747798	381541	497618	746551	291360	327052	859592	361000	436190	972633	429367	545319	1085674	497043	654449
18S-9800-350-CL	971.5	746869	380895	496432	1194520	561860	759525	1348386	653095	908063	1502243	744002	1056602	-	-	-
18S-10500-280-CL	1450.0	827741	415782	528265	556851	82420	82420	655325	177487	177487	753799	266553	272553	852273	330025	367620
18S-10500-300-CL	1348.5	827404	415552	527841	716744	236782	236782	829785	315848	345911	942826	386179	455040	1055867	455014	564170
18S-10500-350-CL	986.0	826475	414915	526655	1164713	520513	669246	1318579	612438	817784	1472445	703823	966332	-	-	-
18S-11000-280-CL	1450.0	928338	484706	656697	-	-	-	528681	55224	55224	627155	150291	150291	725620	245357	245357
18S-11000-300-CL	1435.5	928002	484476	656272	590100	114519	114519	703141	223648	223648	816182	307201	332778	929223	377833	441907
18S-11000-350-CL	1058.5	927073	483838	655077	1038070	444226	546983	1191936	536841	695522	1345793	628624	844069	1499659	719948	992607
32S-12000-300-CL	1450.0	1101338	535177	661237	781844	150698	150698	912860	280749	280749	1043866	389648	410790	1174873	473802	540841
32S-12000-350-CL	1334.0	1100223	534416	659856	1301021	552514	666051	1479339	661953	843060	1657658	770269	1020069	1835977	877885	1197078
32S-15000-300-CL	1450.0	1279878	639165	825139	-	-	-	751223	69136	69136	882239	199187	199187	1013245	329238	329238
32S-15000-350-CL	1406.5	1278772	638404	823758	1139384	428190	454448	1317703	541894	631456	1496022	652272	808465	1674349	761162	985474
50S-15400-300-CL	1450.0	1391149	659962	784101	-	-	-	965579	123219	123219	1111144	267713	267713	1256709	412206	412206
50S-15400-350-CL	1450.0	1389919	659113	782570	1396866	522185	551337	1595000	649094	748011	1793134	772198	944684	1991268	893540	1141367
50S-15600-300-CL	1450.0	1453524	702885	861548	-	-	-	889204	47401	47401	1034769	191903	191903	1180342	336397	336397
50S-15600-350-CL	1450.0	1452294	702044	860016	1320491	470811	475519	1518625	600818	672202	1716758	725019	868875	1914892	846945	1065549

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

Table 39. Models 14S-5100-200-CL to 50S-15600-350-CL at 1087.5 to 1232.5 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)								
					1087.5			1160			1232.5		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	1450.0	220312	124360	190629	464572	245437	370054	508273	271067	412215	551975	296696	454377
14S-5100-235-CL	1450.0	220161	124254	190434	713903	391568	610615	774242	426906	668821	834573	462244	727036
14S-5100-280-CL	1058.5	219586	123873	189700	-	-	-	-	-	-	-	-	-
14S-5100-300-CL	913.5	219294	123679	189328	-	-	-	-	-	-	-	-	-
14S-5100-350-CL	667.0	218480	123130	188293	-	-	-	-	-	-	-	-	-
14S-5400-200-CL	1450.0	284970	156087	228321	427393	209816	295537	471094	235605	337698	514796	261332	379860
14S-5400-235-CL	1450.0	284820	155990	228135	676724	356505	536089	737063	391887	594304	797394	427269	652511
14S-5400-280-CL	1087.5	284244	155601	227392	1055858	578719	901877	-	-	-	-	-	-
14S-5400-300-CL	942.5	283952	155406	227029	-	-	-	-	-	-	-	-	-
14S-5400-350-CL	696.0	283147	154857	225994	-	-	-	-	-	-	-	-	-
14S-8300-200-CL	1450.0	366372	201771	297687	358991	157849	199745	402693	184018	241906	446394	210037	284067
14S-8300-235-CL	1450.0	366222	201674	297502	608322	305750	440305	668653	341274	498512	728992	376745	556718
14S-8300-280-CL	1145.5	365647	201284	296758	987448	528434	806085	-	-	-	-	-	-
14S-8300-300-CL	1000.5	365355	201090	296395	-	-	-	-	-	-	-	-	-
14S-8300-350-CL	725.0	364540	200541	295360	-	-	-	-	-	-	-	-	-
18S-9600-235-CL	1450.0	592897	305493	404994	637280	262951	312113	706646	305130	379081	776003	346858	446040
18S-9600-280-CL	1450.0	592233	305033	404144	1073151	523522	732904	1171625	581675	827971	1270099	639731	923037
18S-9600-300-CL	1276.0	591897	304812	403719	1291321	652227	943525	1404362	718806	1052663	1517403	785261	1161793
18S-9600-350-CL	928.0	590968	304175	402533	-	-	-	-	-	-	-	-	-
18S-9800-235-CL	1450.0	748799	382223	498892	544673	132166	132166	614040	199134	199134	683406	251243	266102
18S-9800-280-CL	1450.0	748135	381762	498043	980553	434119	552957	1079019	493069	648024	1177493	551736	743090
18S-9800-300-CL	1334.0	747798	381541	497618	1198724	564356	763578	1311765	631394	872716	1424806	698274	981846
18S-9800-350-CL	971.5	746869	380895	496432	-	-	-	-	-	-	-	-	-
18S-10500-280-CL	1450.0	827741	415782	528265	950747	391037	462678	1049212	450987	557745	1147686	510309	652811
18S-10500-300-CL	1348.5	827404	415552	527841	1168917	523035	673308	1281958	590622	782437	1394999	657874	891567
18S-10500-350-CL	986.0	826475	414915	526655	-	-	-	-	-	-	-	-	-
18S-11000-280-CL	1450.0	928338	484706	656697	824094	312237	340415	922568	373744	435482	1021042	433907	530549
18S-11000-300-CL	1435.5	928002	484476	656272	1042273	446775	551045	1155314	514875	660175	1268355	582498	769304
18S-11000-350-CL	1058.5	927073	483838	655077	-	-	-	-	-	-	-	-	-
32S-12000-300-CL	1450.0	1101338	535177	661237	1305888	555523	670892	1436895	636058	800934	1567910	715850	930985
32S-12000-350-CL	1334.0	1100223	534416	659856	2014295	985094	1374086	2192614	1092046	1551095	2370933	1198679	1728104
32S-15000-300-CL	1450.0	1279878	639165	825139	1144261	431376	459280	1275267	515256	589330	1406274	596994	719372
32S-15000-350-CL	1406.5	1278772	638404	823758	1852668	869176	1162483	2030987	976677	1339492	2209305	1083806	1516501
50S-15400-300-CL	1450.0	1391149	659962	784101	1402274	525752	556709	1547847	619376	701203	1693412	710513	845697
50S-15400-350-CL	1450.0	1389919	659113	782570	2189402	1013927	1338040	2387526	1133623	1534714	2585660	1252895	1731387
50S-15600-300-CL	1450.0	1453524	702885	861548	1325907	474546	480891	1471472	570683	625394	1617037	662900	769888
50S-15600-350-CL	1450.0	1452294	702044	860016	2113026	967588	1262231	2311160	1087515	1458905	2509294	1206919	1655578

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

Table 40. Models 14S-5100-200-CL to 50S-15600-350-CL at 1305 to 1450 psig

Model	MOP (psig)	BTC	RTC	ETC	Operating Supply Pressure (psig)								
					1305			1377.5			1450		
					BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
14S-5100-200-CL	1450.0	220312	124360	190629	595676	322326	496547	639377	347920	538708	683078	373514	580870
14S-5100-235-CL	1450.0	220161	124254	190434	894903	497582	785243	955242	532894	843449	1015573	568205	901665
14S-5100-280-CL	1058.5	219586	123873	189700	-	-	-	-	-	-	-	-	-
14S-5100-300-CL	913.5	219294	123679	189328	-	-	-	-	-	-	-	-	-
14S-5100-350-CL	667.0	218480	123130	188293	-	-	-	-	-	-	-	-	-
14S-5400-200-CL	1450.0	284970	156087	228321	558497	287050	422021	602198	312724	464183	645900	338397	506353
14S-5400-235-CL	1450.0	284820	155990	228135	857733	462651	710726	918064	498016	768932	978394	533354	827148
14S-5400-280-CL	1087.5	284244	155601	227392	-	-	-	-	-	-	-	-	-
14S-5400-300-CL	942.5	283952	155406	227029	-	-	-	-	-	-	-	-	-
14S-5400-350-CL	696.0	283147	154857	225994	-	-	-	-	-	-	-	-	-
14S-8300-200-CL	1450.0	366372	201771	297687	490095	235941	326229	533788	261783	368390	577489	287581	410560
14S-8300-235-CL	1450.0	366222	201674	297502	789323	412189	614933	849662	447624	673140	909992	483006	731355
14S-8300-280-CL	1145.5	365647	201284	296758	-	-	-	-	-	-	-	-	-
14S-8300-300-CL	1000.5	365355	201090	296395	-	-	-	-	-	-	-	-	-
14S-8300-350-CL	725.0	364540	200541	295360	-	-	-	-	-	-	-	-	-
18S-9600-235-CL	1450.0	592897	305493	404994	845370	388338	513008	914736	429632	579976	984102	470802	646935
18S-9600-280-CL	1450.0	592233	305033	404144	1368573	697725	1018104	1467047	755657	1113171	1565512	813527	1208237
18S-9600-300-CL	1276.0	591897	304812	403719	-	-	-	-	-	-	-	-	-
18S-9600-350-CL	928.0	590968	304175	402533	-	-	-	-	-	-	-	-	-
18S-9800-235-CL	1450.0	748799	382223	498892	752772	295245	333061	822138	338114	400029	891496	380382	466988
18S-9800-280-CL	1450.0	748135	381762	498043	1275966	610190	838157	1374440	668529	933224	1472914	726682	1028290
18S-9800-300-CL	1334.0	747798	381541	497618	1537847	765029	1090975	-	-	-	-	-	-
18S-9800-350-CL	971.5	746869	380895	496432	-	-	-	-	-	-	-	-	-
18S-10500-280-CL	1450.0	827741	415782	528265	1246160	569250	747878	1344634	627934	842945	1443108	686441	938012
18S-10500-300-CL	1348.5	827404	415552	527841	1508040	724912	1000696	-	-	-	-	-	-
18S-10500-350-CL	986.0	826475	414915	526655	-	-	-	-	-	-	-	-	-
18S-11000-280-CL	1450.0	928338	484706	656697	1119516	493396	625615	1217990	552426	720682	1316464	611181	815749
18S-11000-300-CL	1435.5	928002	484476	656272	1381397	649794	878433	1494438	716850	987572	-	-	-
18S-11000-350-CL	1058.5	927073	483838	655077	-	-	-	-	-	-	-	-	-
32S-12000-300-CL	1450.0	1101338	535177	661237	1698917	795208	1061027	1829923	874247	1191077	1960939	953083	1321119
32S-12000-350-CL	1334.0	1100223	534416	659856	2549251	1305260	1905113	2727570	1411628	2082122	-	-	-
32S-15000-300-CL	1450.0	1279878	639165	825139	1537289	677583	849423	1668296	757489	979465	1799302	836936	1109516
32S-15000-350-CL	1406.5	1278772	638404	823758	2387624	1190732	1693509	2565942	1297366	1870518	2744261	1403964	2047527
50S-15400-300-CL	1450.0	1391149	659962	784101	1838977	800385	990191	1984542	889443	1134694	2130115	977960	1279188
50S-15400-350-CL	1450.0	1389919	659113	782570	2783794	1371785	1928070	2981928	1490517	2124743	3180062	1609001	2321417
50S-15600-300-CL	1450.0	1453524	702885	861548	1762601	753356	914382	1908175	842830	1058876	2053740	931595	1203379
50S-15600-350-CL	1450.0	1452294	702044	860016	2707419	1325969	1852252	2905552	1444816	2048934	3103686	1563335	2245608

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

Symmetric Yoke Design, Spring to Open

Table 41. Models 0.3S-008A-45-OP to 6S-3800-200-OP at 217.5 to 507.5 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)														
					217.5			290			362.5			435			507.5		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	1450.0	1965	876	1027	-	-	-	1381	292	292	2071	885	1027	2752	1319	1770	3443	1743	2505
0.3S-008A-75-OP	1029.5	1894	832	947	4275	2257	3416	6186	3425	5469	8089	4593	7523	9992	5761	9576	11903	6921	11629
0.3S-008B-45-OP	1450.0	2956	965	965	-	-	-	-	-	-	-	-	-	2708	549	549	3390	1283	1292
0.3S-008B-75-OP	1058.5	2876	876	876	4230	1841	2195	6142	3036	4248	8045	4213	6301	9947	5381	8354	11850	6549	10408
0.3S-008S-45-OP	1450.0	3558	1239	1239	-	-	-	-	-	-	-	-	-	-	-	-	3071	540	540
0.3S-008S-75-OP	1073.0	3487	1159	1159	3912	1443	1443	5814	2699	3496	7717	3885	5549	9629	5062	7602	11532	6230	9655
0.3S-0100-45-OP	1450.0	5797	2460	2673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-75-OP	1131.0	5726	2407	2593	-	-	-	4266	726	726	6177	2522	2779	8080	3744	4832	9983	4938	6885
0.3S-0100-100-OP	638.0	5664	2363	2513	6744	2894	3390	10133	5027	7036	13523	7115	10691	16904	9195	14337	20293	11275	17992
0.3S-0150-45-OP	1450.0	7381	3522	4487	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-75-OP	1203.5	7310	3469	4398	-	-	-	-	-	-	4354	814	814	6257	2584	2867	8169	3797	4921
0.3S-0150-100-OP	667.0	7248	3425	4328	4921	1425	1425	8310	3894	5080	11700	5991	8726	15089	8080	12381	18470	10160	16027
0.9S-0200-100-OP	1450.0	9328	4310	5275	5345	478	478	9257	3991	4699	13178	6461	8921	17089	8877	13142	21010	11284	17364
0.9S-0200-135-OP	855.5	9248	4257	5186	14921	7540	10806	22063	11939	18497	29196	16311	26187	36338	20674	33878	43480	25037	41568
0.9S-0250-100-OP	1450.0	11310	5620	7549	-	-	-	6974	2239	2239	10894	5036	6461	14806	7469	10682	18727	9885	14903
0.9S-0250-135-OP	884.5	11231	5567	7461	12638	6124	8346	19780	10532	16036	26922	14912	23727	34055	19275	31418	41197	23638	39108
0.9S-0350-100-OP	1450.0	17744	8310	10346	-	-	-	-	-	-	-	-	-	11567	2717	2717	15479	6319	6930
0.9S-0350-135-OP	928.0	17665	8257	10248	9399	381	381	16532	7009	8071	23674	11514	15762	30807	15939	23453	37949	20328	31143
0.9S-0400-100-OP	1450.0	21187	10567	14284	-	-	-	-	-	-	-	-	-	-	-	-	11523	2664	2664
0.9S-0400-135-OP	957.0	21107	10514	14187	-	-	-	12576	3806	3806	19718	9036	11496	26851	13487	19187	33993	17895	26877
0.9S-0700-100-OP	1450.0	29745	14390	18691	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0700-135-OP	1015.0	29665	14337	18594	-	-	-	-	-	-	14771	885	885	21904	8416	8576	29046	13089	16266
1.5S-1100-135-OP	1421.0	60729	23391	25922	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1100-175-OP	841.0	60569	23284	25771	-	-	-	-	-	-	39197	12125	12125	53082	25453	29851	66959	35028	47586
1.5S-1200-135-OP	1450.0	70897	29798	36046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-175-OP	899.0	70738	29701	35887	-	-	-	-	-	-	-	-	-	42940	17258	17258	56817	28170	34984
3S-2000-135-OP	1450.0	102651	45746	58012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-175-OP	986.0	102395	45586	57746	-	-	-	-	-	-	52427	15541	15541	75756	36506	44507	99093	52250	73473
6S-2500-175-OP	1450.0	145892	66579	86429	-	-	-	-	-	-	-	-	-	69154	19240	19240	96492	45268	53038
6S-2500-200-OP	1160.0	145839	66552	86376	-	-	-	-	-	-	83606	36152	37108	119307	60791	81261	155008	84562	125413
6S-3800-175-OP	1450.0	198736	95492	130723	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6S-3800-200-OP	1276.0	198683	95456	130670	-	-	-	-	-	-	-	-	-	73986	15806	15806	109687	51348	59950

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

Table 42. Models 0.3S-008A-45-OP to 6S-3800-200-OP at 580 to 870 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)														
					580			652.5			725			797.5			870		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	1450.0	1965	876	1027	4124	2168	3248	4814	2584	3991	5496	3009	4726	6186	3425	5469	6868	3850	6204
0.3S-008A-75-OP	1029.5	1894	832	947	13806	8089	13682	15709	9248	15735	17612	10416	17789	19523	11576	19842	21426	12744	21895
0.3S-008B-45-OP	1450.0	2956	965	965	4080	1743	2027	4761	2177	2770	5452	2611	3505	6133	3036	4248	6823	3460	4983
0.3S-008B-75-OP	1058.5	2876	876	876	13762	7717	12461	15665	8885	14514	17567	10045	16567	19479	11213	18620	21382	12381	20674
0.3S-008S-45-OP	1450.0	3558	1239	1239	3752	1274	1274	4443	1823	2018	5124	2266	2752	5814	2699	3496	6496	3133	4230
0.3S-008S-75-OP	1073.0	3487	1159	1159	13434	7399	11709	15337	8567	13762	17249	9735	15815	19151	10894	17868	21054	12063	19921
0.3S-0100-45-OP	1450.0	5797	2460	2673	-	-	-	-	-	-	-	-	-	4266	726	726	4956	1460	1460
0.3S-0100-75-OP	1131.0	5726	2407	2593	11894	6115	8939	13797	7284	10992	15700	8461	13045	17603	9629	15098	19514	10788	17151
0.3S-0100-100-OP	638.0	5664	2363	2513	23683	13346	21638	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-45-OP	1450.0	7381	3522	4487	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-75-OP	1203.5	7310	3469	4398	10071	4991	6974	11974	6168	9027	13877	7337	11080	15788	8505	13133	17691	9673	15187
0.3S-0150-100-OP	667.0	7248	3425	4328	21860	12231	19682	25249	14302	23329	-	-	-	-	-	-	-	-	-
0.9S-0200-100-OP	1450.0	9328	4310	5275	24922	13691	21585	28842	16089	25798	32763	18488	30019	36674	20877	34241	40595	23276	38462
0.9S-0200-135-OP	855.5	9248	4257	5186	50613	29400	49259	57755	33754	56950	64888	38117	64649	72030	42480	72340	-	-	-
0.9S-0250-100-OP	1450.0	11310	5620	7549	22647	12293	19125	26559	14691	23337	30479	17089	27559	34391	19488	31780	38312	21877	36002
0.9S-0250-135-OP	884.5	11231	5567	7461	48330	28001	46799	55472	32364	54489	62605	36728	62189	69747	41082	69880	76880	45445	77570
0.9S-0350-100-OP	1450.0	17744	8310	10346	19399	8841	11151	23311	11293	15372	27231	13726	19594	31152	16142	23815	35064	18558	28037
0.9S-0350-135-OP	928.0	17665	8257	10248	45091	24700	38834	52224	29081	46524	59366	33444	54215	66499	37807	61915	73641	42170	69605
0.9S-0400-100-OP	1450.0	21187	10567	14284	15443	6292	6885	19355	8815	11107	23276	11266	15328	27187	13700	19550	31108	16116	23771
0.9S-0400-135-OP	957.0	21107	10514	14187	41126	22275	34568	48268	26656	42259	55401	31019	49949	62543	35391	57649	69685	39754	65340
0.9S-0700-100-OP	1450.0	29745	14390	18691	-	-	-	14408	504	504	18328	4726	4726	22249	8655	8939	26161	11240	13160
0.9S-0700-135-OP	1015.0	29665	14337	18594	36188	17567	23966	43321	21992	31656	50463	26391	39347	57596	30780	47038	64738	35161	54728
1.5S-1100-135-OP	1421.0	60729	23391	25922	36020	8062	8062	44277	18612	18612	52542	25072	29170	60800	30816	39719	69065	36453	50268
1.5S-1100-175-OP	841.0	60569	23284	25771	80836	44418	65313	94722	53746	83048	108598	63030	100775	122484	72287	118510	-	-	-
1.5S-1200-135-OP	1450.0	70897	29798	36046	-	-	-	34143	6018	6018	42400	16567	16567	50657	23851	27116	58923	29621	37674
1.5S-1200-175-OP	899.0	70738	29701	35887	70694	37666	52719	84579	47029	70446	98456	56339	88181	112342	65614	105908	126219	74871	123643
3S-2000-135-OP	1450.0	102651	45746	58012	47091	8912	8912	60977	26063	26143	74853	35887	43383	88739	45321	60623	102625	54613	77853
3S-2000-175-OP	986.0	102395	45586	57746	122422	67756	102439	145751	83155	131405	169079	98509	160362	192408	113838	189328	215736	129166	218294
6S-2500-175-OP	1450.0	145892	66579	86429	123820	63809	86845	151149	82004	120643	178478	100058	154450	205807	118041	188248	233144	135989	222055
6S-2500-200-OP	1160.0	145839	66552	86376	190700	108112	169566	226401	131564	213719	262093	154972	257862	297794	178372	302015	333495	201780	346168
6S-3800-175-OP	1450.0	198736	95492	130723	78500	21382	21382	105828	48666	55189	133166	67340	88987	160495	85606	122794	187824	103713	156592
6S-3800-200-OP	1276.0	198683	95456	130670	145388	75544	104103	181080	99253	148255	216781	122803	192408	252473	146264	236552	288174	169672	280704

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

Table 43. Models 0.3S-008A-45-OP to 6S-3800-200-OP at 942.5 to 1160 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					942.5			1015			1087.5			1160		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	1450.0	1965	876	1027	7558	4266	6947	8239	4691	7682	8930	5106	8425	9611	5522	9160
0.3S-008A-75-OP	1029.5	1894	832	947	23329	13903	23948	25240	15063	26001	-	-	-	-	-	-
0.3S-008B-45-OP	1450.0	2956	965	965	7505	3885	5726	8195	4310	6461	8877	4726	7204	9567	5151	7938
0.3S-008B-75-OP	1058.5	2876	876	876	23284	13541	22727	25187	14709	24780	-	-	-	-	-	-
0.3S-008S-45-OP	1450.0	3558	1239	1239	7186	3558	4974	7868	3983	5708	8558	4407	6452	9239	4823	7186
0.3S-008S-75-OP	1073.0	3487	1159	1159	22966	13231	21975	24869	14390	24028	-	-	-	-	-	-
0.3S-0100-45-OP	1450.0	5797	2460	2673	5637	2159	2204	6328	2628	2938	7009	3071	3682	7700	3505	4416
0.3S-0100-75-OP	1131.0	5726	2407	2593	21417	11956	19205	23320	13125	21258	25231	14293	23311	-	-	-
0.3S-0100-100-OP	638.0	5664	2363	2513	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-45-OP	1450.0	7381	3522	4487	3823	239	239	4505	982	982	5195	1717	1717	5876	2328	2460
0.3S-0150-75-OP	1203.5	7310	3469	4398	19594	10841	17240	21506	12009	19293	23408	13178	21346	25311	14346	23399
0.3S-0150-100-OP	667.0	7248	3425	4328	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0200-100-OP	1450.0	9328	4310	5275	44507	25665	42684	48427	28063	46905	52339	30453	51126	56259	32842	55348
0.9S-0200-135-OP	855.5	9248	4257	5186	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0250-100-OP	1450.0	11310	5620	7549	42223	24276	40223	46144	26665	44445	50056	29055	48666	53976	31453	52888
0.9S-0250-135-OP	884.5	11231	5567	7461	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0350-100-OP	1450.0	17744	8310	10346	38984	20957	32258	42896	23364	36480	46817	25762	40701	50728	28161	44914
0.9S-0350-135-OP	928.0	17665	8257	10248	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0400-100-OP	1450.0	21187	10567	14284	35019	18532	27993	38940	20930	32214	42861	23337	36435	46772	25736	40648
0.9S-0400-135-OP	957.0	21107	10514	14187	76818	44117	73030	-	-	-	-	-	-	-	-	-
0.9S-0700-100-OP	1450.0	29745	14390	18691	30081	13735	17381	33993	16196	21603	37913	18638	25824	41825	21072	30046
0.9S-0700-135-OP	1015.0	29665	14337	18594	71871	39533	62419	79013	43905	70110	-	-	-	-	-	-
1.5S-1100-135-OP	1421.0	60729	23391	25922	77322	42055	60826	85580	47613	71375	93845	53162	81924	102102	58684	92483
1.5S-1100-175-OP	841.0	60569	23284	25771	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-135-OP	1450.0	70897	29798	36046	67180	35276	48224	75437	40878	58773	83703	46445	69322	91960	51985	79880
1.5S-1200-175-OP	899.0	70738	29701	35887	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-135-OP	1450.0	102651	45746	58012	116510	63835	95093	130387	73021	112333	144273	82181	129573	158158	91323	146804
3S-2000-175-OP	986.0	102395	45586	57746	239065	144485	247260	-	-	-	-	-	-	-	-	-
6S-2500-175-OP	1450.0	145892	66579	86429	260473	153902	255854	287802	171823	289661	315131	189744	323459	342468	207656	357266
6S-2500-200-OP	1160.0	145839	66552	86376	369187	225179	390320	404888	248588	434464	440588	271987	478617	476280	295395	522770
6S-3800-175-OP	1450.0	198736	95492	130723	215152	121732	190399	242490	139697	224197	269819	157636	258004	297148	175557	291802
6S-3800-200-OP	1276.0	198683	95456	130670	323875	193072	324857	359567	216480	369010	395268	239879	413162	430960	263288	457306

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

Table 44. Models 0.3S-008A-45-OP to 6S-3800-200-OP at 1232.5 to 1450 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					1232.5			1305			1377.5			1450		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
0.3S-008A-45-OP	1450.0	1965	876	1027	10301	5947	9903	10983	6363	10638	11673	6779	11381	12355	7204	12116
0.3S-008A-75-OP	1029.5	1894	832	947	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-008B-45-OP	1450.0	2956	965	965	10248	5576	8682	10939	5991	9416	11629	6407	10160	12310	6832	10894
0.3S-008B-75-OP	1058.5	2876	876	876	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-008S-45-OP	1450.0	3558	1239	1239	9930	5248	7930	10620	5673	8664	11301	6089	9408	11992	6514	10142
0.3S-008S-75-OP	1073.0	3487	1159	1159	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-45-OP	1450.0	5797	2460	2673	8381	3938	5160	9071	4363	5894	9753	4788	6638	10443	5222	7372
0.3S-0100-75-OP	1131.0	5726	2407	2593	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0100-100-OP	638.0	5664	2363	2513	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-45-OP	1450.0	7381	3522	4487	6567	2779	3195	7248	3221	3938	7938	3655	4673	8620	4089	5416
0.3S-0150-75-OP	1203.5	7310	3469	4398	-	-	-	-	-	-	-	-	-	-	-	-
0.3S-0150-100-OP	667.0	7248	3425	4328	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0200-100-OP	1450.0	9328	4310	5275	60171	35241	59561	64092	37630	63782	68012	40020	68003	71924	42418	72225
0.9S-0200-135-OP	855.5	9248	4257	5186	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0250-100-OP	1450.0	11310	5620	7549	57897	33842	57109	61808	36241	61322	65729	38630	65543	69641	41020	69765
0.9S-0250-135-OP	884.5	11231	5567	7461	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0350-100-OP	1450.0	17744	8310	10346	54649	30559	49135	58560	32957	53357	62481	35347	57578	66402	37745	61800
0.9S-0350-135-OP	928.0	17665	8257	10248	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0400-100-OP	1450.0	21187	10567	14284	50693	28134	44870	54605	30533	49091	58525	32931	53312	62437	35329	57534
0.9S-0400-135-OP	957.0	21107	10514	14187	-	-	-	-	-	-	-	-	-	-	-	-
0.9S-0700-100-OP	1450.0	29745	14390	18691	45746	23488	34267	49657	25904	38489	53578	28311	42701	57498	30718	46923
0.9S-0700-135-OP	1015.0	29665	14337	18594	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1100-135-OP	1421.0	60729	23391	25922	110360	64207	103032	118625	69720	113581	126882	75225	124130	-	-	-
1.5S-1100-175-OP	841.0	60569	23284	25771	-	-	-	-	-	-	-	-	-	-	-	-
1.5S-1200-135-OP	1450.0	70897	29798	36046	100226	57516	90429	108483	63039	100979	116740	68552	111537	125006	74057	122086
1.5S-1200-175-OP	899.0	70738	29701	35887	-	-	-	-	-	-	-	-	-	-	-	-
3S-2000-135-OP	1450.0	102651	45746	58012	172044	100456	164044	185921	109572	181283	199806	118696	198514	213692	127821	215754
3S-2000-175-OP	986.0	102395	45586	57746	-	-	-	-	-	-	-	-	-	-	-	-
6S-2500-175-OP	1450.0	145892	66579	86429	369797	225578	391064	397126	243499	424871	424455	261411	458678	451793	279333	492476
6S-2500-200-OP	1160.0	145839	66552	86376	-	-	-	-	-	-	-	-	-	-	-	-
6S-3800-175-OP	1450.0	198736	95492	130723	324476	193470	325609	351805	211391	359407	379143	229312	393214	406472	247225	427013
6S-3800-200-OP	1276.0	198683	95456	130670	466661	286687	501459	-	-	-	-	-	-	-	-	-

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

Table 45. Models 14S-5100-200-OP to 50S-15600-350-OP at 217.5 to 435 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					217.5			290			362.5			435		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	1450.0	243357	115165	156627	-	-	-	-	-	-	-	-	-	-	-	-
14S-5100-235-OP	1450.0	243189	115068	156459	-	-	-	-	-	-	97031	33152	33152	149972	76818	100775
14S-5100-280-OP	1029.5	242525	114678	155831	-	-	-	132378	64658	78296	207533	115785	174301	282687	166053	270297
14S-5100-300-OP	899.0	242198	114484	155512	90297	24541	24541	176566	94907	134750	262836	152813	244950	349115	210365	355159
14S-5100-350-OP	667.0	241278	113935	154618	182947	99226	142901	300369	177850	292900	417800	256190	442898	535221	334468	592897
14S-5400-200-OP	1450.0	313644	142317	185788	-	-	-	-	-	-	-	-	-	-	-	-
14S-5400-235-OP	1450.0	313476	142220	185620	-	-	-	-	-	-	-	-	-	116962	13709	13709
14S-5400-280-OP	1087.5	312812	141821	184992	-	-	-	-	-	-	174522	80146	87234	249676	132219	183230
14S-5400-300-OP	957.0	312485	141627	184673	-	-	-	143556	47675	47675	229826	118696	157884	316104	177027	268084
14S-5400-350-OP	696.0	311564	141078	183779	149937	55826	55826	267359	144202	205824	384789	223020	355832	502211	301360	505831
14S-8300-200-OP	1450.0	402533	183930	241755	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-235-OP	1450.0	402365	183823	241587	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-280-OP	1174.5	401702	183434	240959	-	-	-	-	-	-	-	-	-	190567	73119	73119
14S-8300-300-OP	1029.5	401374	183239	240640	-	-	-	-	-	-	170725	47772	47772	256995	127334	157973
14S-8300-350-OP	754.0	400454	182682	239747	-	-	-	208258	92713	95713	325680	174301	245711	443111	253269	395710
18S-9600-235-OP	1450.0	635359	261774	310263	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-280-OP	1450.0	634607	261314	309538	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-300-OP	1363.0	634226	261075	309175	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-350-OP	1000.5	633164	260429	308148	-	-	-	-	-	-	329282	68464	68464	464368	216117	240915
18S-9800-235-OP	1450.0	806642	328601	385064	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-280-OP	1450.0	805881	328140	384338	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-300-OP	1450.0	805500	327901	383975	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-350-OP	1073.0	804438	327255	382948	-	-	-	-	-	-	-	-	-	380515	28745	28745
18S-10500-280-OP	1450.0	940631	384833	452916	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-300-OP	1450.0	940251	384594	452554	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-350-OP	1116.5	939189	383948	451527	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-280-OP	1450.0	1055212	454616	563533	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-300-OP	1450.0	1054832	454386	563170	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-350-OP	1174.5	1053770	453748	562143	-	-	-	-	-	-	-	-	-	-	-	-
32S-12000-300-OP	1450.0	1383972	603614	748400	-	-	-	-	-	-	-	-	-	-	-	-
32S-12000-350-OP	1450.0	1382742	602853	747179	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-300-OP	1450.0	1188759	460244	503450	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-350-OP	1450.0	1187528	459457	502229	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-300-OP	1450.0	1499323	588525	653033	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-350-OP	1450.0	1497951	587649	651679	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-300-OP	1450.0	1568415	632341	721620	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-350-OP	1450.0	1567052	631483	720266	-	-	-	-	-	-	-	-	-	-	-	-

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

Table 46. Models 14S-5100-200-OP to 50S-15600-350-OP at 507.5 to 725 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					507.5			580			652.5			725		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	1450.0	243357	115165	156627	100899	38090	38090	139237	69428	87066	177584	95598	136042	215922	121413	185027
14S-5100-235-OP	1450.0	243189	115068	156459	202904	112678	168398	255845	148140	236021	308785	183461	303644	361717	218781	371266
14S-5100-280-OP	1029.5	242525	114678	155831	357832	216188	366302	432986	266323	462297	508140	316423	558302	583295	366487	654298
14S-5100-300-OP	899.0	242198	114484	155512	435385	267916	465360	521654	325423	575569	607933	382895	685769	694203	440349	795978
14S-5100-350-OP	667.0	241278	113935	154618	652652	412693	742896	770074	490848	892903	887505	569002	1042902	-	-	-
14S-5400-200-OP	1450.0	313644	142317	185788	-	-	-	-	-	-	144574	48976	48976	182921	86146	97961
14S-5400-235-OP	1450.0	313476	142220	185620	169902	76791	81332	222834	113908	148946	275775	149892	216568	328707	185487	284191
14S-5400-280-OP	1087.5	312812	141821	184992	324830	182885	279235	399976	233153	375231	475130	283289	471236	550284	333433	567232
14S-5400-300-OP	957.0	312485	141627	184673	402374	234755	378293	488644	292307	488493	574923	349858	598703	661192	407419	708903
14S-5400-350-OP	696.0	311564	141078	183779	619642	379700	655829	737063	458005	805828	854494	536230	955827	-	-	-
14S-8300-200-OP	1450.0	402533	183930	241755	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-235-OP	1450.0	402365	183823	241587	-	-	-	163725	38834	38834	216666	98872	106457	269606	136042	174080
14S-8300-280-OP	1174.5	401702	183434	240959	265721	133370	169115	340875	184576	265119	416021	235127	361115	491175	285413	457120
14S-8300-300-OP	1029.5	401374	183239	240640	343265	186195	268182	429535	244189	378382	515813	301838	488582	602083	359399	598791
14S-8300-350-OP	754.0	400454	182682	239747	560532	331680	545718	677963	410012	695716	795385	488352	845715	912816	566666	995714
18S-9600-235-OP	1450.0	635359	261774	310263	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-280-OP	1450.0	634607	261314	309538	-	-	-	346761	90774	90774	433216	193541	201143	519663	255030	311511
18S-9600-300-OP	1363.0	634226	261075	309175	349513	94288	94288	448757	204886	220985	548010	274660	347690	647254	342522	474387
18S-9600-350-OP	1000.5	633164	260429	308148	599455	309971	413366	734541	401551	585817	869628	492317	758268	1004714	582666	930719
18S-9800-235-OP	1450.0	806642	328601	385064	-	-	-	-	-	-	-	-	-	-	-	-
18S-9800-280-OP	1450.0	805881	328140	384338	-	-	-	-	-	-	-	-	-	435818	99341	99341
18S-9800-300-OP	1450.0	805500	327901	383975	-	-	-	364912	8815	8815	464156	135520	135520	563400	251933	262217
18S-9800-350-OP	1073.0	804438	327255	382948	515601	201196	201196	650687	314317	373647	785774	407516	546098	920860	499184	718549
18S-10500-280-OP	1450.0	940631	384833	452916	-	-	-	-	-	-	-	-	-	-	-	-
18S-10500-300-OP	1450.0	940251	384594	452554	-	-	-	-	-	-	-	-	-	488582	95297	95297
18S-10500-350-OP	1116.5	939189	383948	451527	440783	34276	34276	575870	206727	206727	710956	334238	379178	846042	428375	551629
18S-11000-280-OP	1450.0	1055212	454616	563533	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-300-OP	1450.0	1054832	454386	563170	-	-	-	-	-	-	-	-	-	-	-	-
18S-11000-350-OP	1174.5	1053770	453748	562143	-	-	-	464678	64782	64782	599765	237233	237233	734851	351141	409693
32S-12000-300-OP	1450.0	1383972	603614	748400	-	-	-	-	-	-	-	-	-	-	-	-
32S-12000-350-OP	1450.0	1382742	602853	747179	-	-	-	-	-	-	629076	74889	74889	790048	274757	274757
32S-15000-300-OP	1450.0	1188759	460244	503450	-	-	-	-	-	-	-	-	-	-	-	-
32S-15000-350-OP	1450.0	1187528	459457	502229	-	-	-	709407	116864	116864	870389	316733	316733	1031361	467900	516592
50S-15400-300-OP	1450.0	1499323	588525	653033	-	-	-	-	-	-	-	-	-	-	-	-
50S-15400-350-OP	1450.0	1497951	587649	651679	-	-	-	-	-	-	864981	130830	130830	1043840	352894	352894
50S-15600-300-OP	1450.0	1568415	632341	721620	-	-	-	-	-	-	-	-	-	-	-	-
50S-15600-350-OP	1450.0	1567052	631483	720266	-	-	-	-	-	-	796031	45224	45224	974898	267297	267297

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

Table 47. Models 14S-5100-200-OP to 50S-15600-350-OP at 797.5 to 1015 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)											
					797.5			870			942.5			1015		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	1450.0	243357	115165	156627	254269	147087	234003	292616	172672	282988	330955	198249	331964	369302	223834	380948
14S-5100-235-OP	1450.0	243189	115068	156459	414658	254092	438889	467599	289404	506512	520530	324680	574135	573471	359947	641758
14S-5100-280-OP	1029.5	242525	114678	155831	658449	416552	750303	733603	466572	846299	808757	516592	942304	883903	566604	1038300
14S-5100-300-OP	899.0	242198	114484	155512	780473	497768	906178	866742	555187	1016387	-	-	-	-	-	-
14S-5100-350-OP	667.0	241278	113935	154618	-	-	-	-	-	-	-	-	-	-	-	-
14S-5400-200-OP	1450.0	313644	142317	185788	221259	112829	146937	259606	138954	195912	297944	164831	244897	336291	190576	293873
14S-5400-235-OP	1450.0	313476	142220	185620	381647	220923	351814	434588	256243	419437	487520	291563	487060	540461	326875	554683
14S-5400-280-OP	1087.5	312812	141821	184992	625438	383568	663237	700593	433703	759233	775747	483768	855237	850892	533832	951233
14S-5400-300-OP	957.0	312485	141627	184673	747462	464935	819112	833732	522407	929312	920011	579879	1039521	-	-	-
14S-5400-350-OP	696.0	311564	141078	183779	-	-	-	-	-	-	-	-	-	-	-	-
14S-8300-200-OP	1450.0	402533	183930	241755	162150	36825	36825	200497	85801	85801	238835	114661	134777	277182	141255	183761
14S-8300-235-OP	1450.0	402365	183823	241587	322538	172177	241702	375479	207904	309325	428420	243437	376948	481352	278855	444571
14S-8300-280-OP	1174.5	401702	183434	240959	566329	335548	553116	641483	385683	649121	716638	435818	745117	791792	485954	841122
14S-8300-300-OP	1029.5	401374	183239	240640	688353	416950	708991	774632	474502	819200	860901	532053	929400	947171	589552	1039610
14S-8300-350-OP	754.0	400454	182682	239747	-	-	-	-	-	-	-	-	-	-	-	-
18S-9600-235-OP	1450.0	635359	261774	310263	325671	63853	63853	386568	141600	141600	447465	203957	219338	508371	247163	297086
18S-9600-280-OP	1450.0	634607	261314	309538	606119	314529	421880	692574	373222	532248	779030	431517	642616	865486	489538	752985
18S-9600-300-OP	1363.0	634226	261075	309175	746498	409605	601083	845741	476298	727789	944994	542735	854485	1044238	609030	981182
18S-9600-350-OP	1000.5	633164	260429	308148	1139800	672759	1103170	1274878	762843	1275621	1409964	852928	1448072	-	-	-
18S-9800-235-OP	1450.0	806642	328601	385064	-	-	-	-	-	-	363620	7169	7169	424517	84916	84916
18S-9800-280-OP	1450.0	805881	328140	384338	522274	209710	209710	608730	284687	320078	695176	345292	430446	781632	404693	540815
18S-9800-300-OP	1450.0	805500	327901	383975	662644	322689	388913	761897	391205	515610	861140	458793	642315	960384	525832	769012
18S-9800-350-OP	1073.0	804438	327255	382948	1055947	590100	891000	1191033	680618	1063451	1326119	770915	1235903	1461206	860999	1408354
18S-10500-280-OP	1450.0	940631	384833	452916	447456	42790	42790	533903	153158	153158	620358	263526	263526	706814	331291	373895
18S-10500-300-OP	1450.0	940251	384594	452554	587826	221993	221993	687079	317184	348699	786323	387117	475395	885566	455501	602092
18S-10500-350-OP	1116.5	939189	383948	451527	981129	520584	724080	1116215	611880	896540	1251302	702672	1068992	1386379	793155	1241443
18S-11000-280-OP	1450.0	1055212	454616	563533	-	-	-	422720	11213	11213	509176	121581	121581	595632	231950	231950
18S-11000-300-OP	1450.0	1054832	454386	563170	476643	80057	80057	575887	206754	206754	675131	308582	333450	774384	378807	460147
18S-11000-350-OP	1174.5	1053770	453748	562143	869937	444792	582144	1005024	536797	754595	1140110	627969	927046	1275197	718709	1099497
32S-12000-300-OP	1450.0	1383972	603614	748400	-	-	-	600614	39560	39560	718886	186399	186399	837148	333238	333238
32S-12000-350-OP	1450.0	1382742	602853	747179	951021	430853	474617	1111994	542461	674476	1272975	651493	874336	1433948	759303	1074195
32S-15000-300-OP	1450.0	1188759	460244	503450	723665	134564	134564	841927	281395	281395	960198	416738	428234	1078461	500981	575073
32S-15000-350-OP	1450.0	1187528	459457	502229	1192334	579569	716452	1353315	688769	916311	1514288	796712	1116171	1675261	903974	1316030
50S-15400-300-OP	1450.0	1499323	588525	653033	-	-	-	833360	91571	91571	964765	254721	254721	1096179	417870	417870
50S-15400-350-OP	1450.0	1497951	587649	651679	1222698	541567	574958	1401566	667157	797031	1580424	789305	1019095	1759283	909833	1241168
50S-15600-300-OP	1450.0	1568415	632341	721620	-	-	-	764419	5974	5974	895824	169124	169124	1027237	332273	332273
50S-15600-350-OP	1450.0	1567052	631483	720266	1153757	489361	489361	1332615	619314	711434	1511483	742480	933498	1690341	863539	1155562

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

Table 48. Models 14S-5100-200-OP to 50S-15600-350-OP at 1087.5 to 1232.5 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)								
					1087.5			1160			1232.5		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	1450.0	243357	115165	156627	407640	249411	429924	445987	274987	478900	484325	300564	527885
14S-5100-235-OP	1450.0	243189	115068	156459	626412	395206	709381	679344	430464	777003	732284	465696	844626
14S-5100-280-OP	1029.5	242525	114678	155831	-	-	-	-	-	-	-	-	-
14S-5100-300-OP	899.0	242198	114484	155512	-	-	-	-	-	-	-	-	-
14S-5100-350-OP	667.0	241278	113935	154618	-	-	-	-	-	-	-	-	-
14S-5400-200-OP	1450.0	313644	142317	185788	374629	216232	342858	412976	241826	391834	451323	267403	440819
14S-5400-235-OP	1450.0	313476	142220	185620	593401	362195	622305	646333	397507	689928	699274	432818	757551
14S-5400-280-OP	1087.5	312812	141821	184992	926046	583896	1047238	-	-	-	-	-	-
14S-5400-300-OP	957.0	312485	141627	184673	-	-	-	-	-	-	-	-	-
14S-5400-350-OP	696.0	311564	141078	183779	-	-	-	-	-	-	-	-	-
14S-8300-200-OP	1450.0	402533	183930	241755	315529	167415	232737	353867	193346	281722	392214	219153	330698
14S-8300-235-OP	1450.0	402365	183823	241587	534292	314175	512194	587233	349487	579817	640165	384798	647439
14S-8300-280-OP	1174.5	401702	183434	240959	866946	536089	937118	942091	586171	1033122	-	-	-
14S-8300-300-OP	1029.5	401374	183239	240640	-	-	-	-	-	-	-	-	-
14S-8300-350-OP	754.0	400454	182682	239747	-	-	-	-	-	-	-	-	-
18S-9600-235-OP	1450.0	635359	261774	310263	569267	289298	374824	630164	330910	452571	691061	372196	530319
18S-9600-280-OP	1450.0	634607	261314	309538	951941	547381	863353	1038397	605128	973721	1124853	662785	1084090
18S-9600-300-OP	1363.0	634226	261075	309175	1143482	675211	1107878	1242735	741400	1234584	1341979	807589	1361280
18S-9600-350-OP	1000.5	633164	260429	308148	-	-	-	-	-	-	-	-	-
18S-9800-235-OP	1450.0	806642	328601	385064	485414	162654	162654	546311	239216	240401	607216	283616	318149
18S-9800-280-OP	1450.0	805881	328140	384338	868088	463492	651183	954543	521902	761551	1040999	580073	871920
18S-9800-300-OP	1450.0	805500	327901	383975	1059637	592578	895709	1158881	659121	1022414	1258125	725488	1149111
18S-9800-350-OP	1073.0	804438	327255	382948	-	-	-	-	-	-	-	-	-
18S-10500-280-OP	1450.0	940631	384833	452916	793270	391949	484263	879725	451509	594632	966181	510433	705009
18S-10500-300-OP	1450.0	940251	384594	452554	984819	523088	728798	1084063	590224	855494	1183307	657059	982191
18S-10500-350-OP	1116.5	939189	383948	451527	1521465	883460	1413894	-	-	-	-	-	-
18S-11000-280-OP	1450.0	1055212	454616	563533	682078	313600	342318	768534	374744	452695	854990	434526	563064
18S-11000-300-OP	1450.0	1054832	454386	563170	873628	447323	586852	972872	514973	713549	1072124	582171	840246
18S-11000-350-OP	1174.5	1053770	453748	562143	1410283	809138	1271949	1545369	899399	1444400	-	-	-
32S-12000-300-OP	1450.0	1383972	603614	748400	955419	433977	480068	1073682	516221	626907	1191953	596844	773747
32S-12000-350-OP	1450.0	1382742	602853	747179	1594920	866424	1274055	1755902	973111	1473914	1916875	1079435	1673783
32S-15000-300-OP	1450.0	1188759	460244	503450	1196732	582578	721903	1315004	662909	868743	1433266	742497	1015582
32S-15000-350-OP	1450.0	1187528	459457	502229	1836233	1010759	1515890	1997215	1117233	1715758	2158188	1223548	1915618
50S-15400-300-OP	1450.0	1499323	588525	653033	1227584	545072	581029	1358997	637687	744179	1490402	728081	907329
50S-15400-350-OP	1450.0	1497951	587649	651679	1938150	1029476	1463232	2117009	1148473	1685297	2295867	1267010	1907370
50S-15600-300-OP	1450.0	1568415	632341	721620	1158642	494662	495423	1290047	589472	658582	1421460	680839	821731
50S-15600-350-OP	1450.0	1567052	631483	720266	1869200	983403	1377635	2048067	1102604	1599699	2226926	1221327	1821773

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

Table 49. Models 14S-5100-200-OP to 50S-15600-350-OP at 1305 to 1450 psig

Model	MOP (psig)	BTO	RTO	ETO	Operating Supply Pressure (psig)								
					1305			1377.5			1450		
					BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
14S-5100-200-OP	1450.0	243357	115165	156627	522672	326105	576861	561019	351646	625845	599357	377187	674821
14S-5100-235-OP	1450.0	243189	115068	156459	785225	500928	912249	838157	536160	979863	891098	571391	1047486
14S-5100-280-OP	1029.5	242525	114678	155831	-	-	-	-	-	-	-	-	-
14S-5100-300-OP	899.0	242198	114484	155512	-	-	-	-	-	-	-	-	-
14S-5100-350-OP	667.0	241278	113935	154618	-	-	-	-	-	-	-	-	-
14S-5400-200-OP	1450.0	313644	142317	185788	489662	292988	489794	528009	318565	538770	566347	344141	587755
14S-5400-235-OP	1450.0	313476	142220	185620	752215	468094	825174	805146	503361	892797	858087	538629	960420
14S-5400-280-OP	1087.5	312812	141821	184992	-	-	-	-	-	-	-	-	-
14S-5400-300-OP	957.0	312485	141627	184673	-	-	-	-	-	-	-	-	-
14S-5400-350-OP	696.0	311564	141078	183779	-	-	-	-	-	-	-	-	-
14S-8300-200-OP	1450.0	402533	183930	241755	430553	244871	379683	468900	270518	428659	507238	296121	477643
14S-8300-235-OP	1450.0	402365	183823	241587	693105	420118	715062	746046	455430	782685	798978	490750	850308
14S-8300-280-OP	1174.5	401702	183434	240959	-	-	-	-	-	-	-	-	-
14S-8300-300-OP	1029.5	401374	183239	240640	-	-	-	-	-	-	-	-	-
14S-8300-350-OP	754.0	400454	182682	239747	-	-	-	-	-	-	-	-	-
18S-9600-235-OP	1450.0	635359	261774	310263	751958	413286	608057	812864	454235	685804	873761	495096	763551
18S-9600-280-OP	1450.0	634607	261314	309538	1211308	720443	1194458	1297764	778101	1304835	1384211	835759	1415204
18S-9600-300-OP	1363.0	634226	261075	309175	1441223	873778	1487977	-	-	-	-	-	-
18S-9600-350-OP	1000.5	633164	260429	308148	-	-	-	-	-	-	-	-	-
18S-9800-235-OP	1450.0	806642	328601	385064	668113	326485	395887	729010	368629	473634	789907	410339	551373
18S-9800-280-OP	1450.0	805881	328140	384338	1127455	638076	982288	1213910	695920	1092656	1300366	753737	1203034
18S-9800-300-OP	1450.0	805500	327901	383975	1357378	791756	1275807	1456622	857946	1402504	1555865	924126	1529209
18S-9800-350-OP	1073.0	804438	327255	382948	-	-	-	-	-	-	-	-	-
18S-10500-280-OP	1450.0	940631	384833	452916	1052637	568993	815377	1139092	627288	925745	1225548	685397	1036114
18S-10500-300-OP	1450.0	940251	384594	452554	1282551	723647	1108887	1381804	790093	1235593	1481048	856468	1362289
18S-10500-350-OP	1116.5	939189	383948	451527	-	-	-	-	-	-	-	-	-
18S-11000-280-OP	1450.0	1055212	454616	563533	941445	493626	673432	1027901	552267	783800	1114357	610632	894169
18S-11000-300-OP	1450.0	1054832	454386	563170	1171368	649024	966951	1270612	715638	1093648	1369856	782110	1220344
18S-11000-350-OP	1174.5	1053770	453748	562143	-	-	-	-	-	-	-	-	-
32S-12000-300-OP	1450.0	1383972	603614	748400	1310216	676503	920577	1428487	755648	1067416	1546759	834405	1214255
32S-12000-350-OP	1450.0	1382742	602853	747179	2077847	1185599	1873642	2238820	1291604	2073502	2399801	1397495	2273361
32S-15000-300-OP	1450.0	1188759	460244	503450	1551538	821599	1162421	1669800	900346	1309251	1788072	978837	1456091
32S-15000-350-OP	1450.0	1187528	459457	502229	2319160	1329562	2115477	2480142	1435576	2315337	2641114	1541378	2515197
50S-15400-300-OP	1450.0	1499323	588525	653033	1621807	817298	1070478	1753220	905753	1233637	1884625	993713	1396787
50S-15400-350-OP	1450.0	1497951	587649	651679	2474734	1385273	2129434	2653593	1503403	2351507	2832451	1621205	2573571
50S-15600-300-OP	1450.0	1568415	632341	721620	1552865	770596	984881	1684279	859459	1148031	1815684	947640	1311189
50S-15600-350-OP	1450.0	1567052	631483	720266	2405784	1339731	2043837	2584651	1457869	2265901	2763510	1575804	2487974

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

OLGA Double-Acting Hydraulic Actuator Overall Dimensions

Figure 3. Double-Acting Hydraulic Assembly Drawing

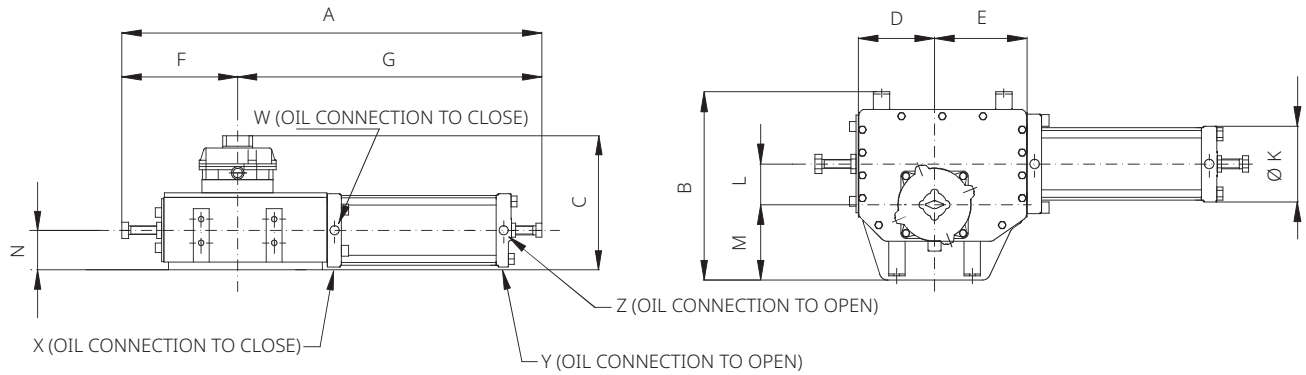


Table 50. Double-Acting Hydraulic Actuator Dimensions (in.)

Model	A	B	C	D	E	F	G	ØK	L	M	N	Connection to Close (in.)* [X-Y]	Connection to Open (in.)* [W-Z]	Weight (lb)	Gas Consumption (cu. in.)
0.3-45	28.5	12.6	5.2	5.4	6.0	5.4	23.2	3.0	2.8	4.7	2.8	1/2	1/2	84	24.4
0.3-75	29.8	12.6	11.0	5.4	6.0	8.8	21.1	4.6	2.8	4.7	2.8	1/2	1/2	97	48.8
0.3-100	31.7	12.6	11.0	5.4	6.0	8.8	24.7	5.0	2.8	4.7	2.8	1/2	1/2	106	85.4
0.9-100	34.3	16.3	12.0	6.3	7.5	9.7	24.7	6.3	3.2	6.7	3.3	1/2	1/2	132	97.6
0.9-135	36.3	16.3	12.0	6.3	7.5	9.7	26.7	6.3	3.2	6.7	3.3	1/2	1/2	174	170.9
1.5-135	39.9	18.5	13.6	7.4	9.0	11.6	28.3	6.3	4.0	7.3	4.0	1/2	1/2	256	213.6
1.5-175	41.6	18.5	13.6	7.4	9.0	11.6	30.1	7.8	4.0	7.3	4.0	1/2	1/2	298	341.7
3-135	57.2	23.1	13.9	11.3	13.0	15.4	41.8	6.3	6.3	8.5	4.2	1/2	1/2	419	579.7
3-175	60.4	23.1	13.9	11.3	13.0	15.4	45.0	7.8	6.3	8.5	4.2	1/2	1/2	485	671.2
6-175	64.0	29.2	16.3	12.9	15.0	17.0	47.1	7.8	7.3	10.3	5.6	1/2	1/2	794	579.7
6-200	67.2	29.2	16.3	12.9	15.0	17.0	50.2	9.1	7.3	10.3	5.6	3/4	3/4	877	854.3
14-200	71.9	34.4	20.8	14.9	17.2	19.6	52.4	9.1	7.9	13.0	7.6	3/4	3/4	1323	915.3
14-235	71.2	34.4	20.8	14.9	17.2	19.6	51.6	13.4	7.9	13.0	7.6	3/4	3/4	1433	1281.4
14-280	72.6	34.4	20.8	14.9	17.2	19.6	53.0	13.8	7.9	13.0	7.6	3/4	3/4	1543	1830.6
14-300	70.9	34.4	15.2	14.9	17.2	14.9	56.1	15.5	7.9	13.0	7.6	3/4	3/4	1653	2135.7
14-350	73.7	34.4	18.2	14.9	17.2	14.9	58.9	18.9	7.9	13.0	7.6	3/4	3/4	1720	2929
18-235	77.7	34.7	20.2	16.7	19.4	21.6	56.1	13.4	9.1	13.0	7.8	3/4	3/4	1764	1525.5
18-280	76.9	34.7	20.2	16.7	19.4	21.6	55.4	13.8	9.1	13.0	7.8	3/4	3/4	1874	2135.7
18-300	75.1	37.6	15.3	16.6	19.4	16.8	58.4	15.5	9.1	14.0	7.6	3/4	3/4	1863	2440.8
18-350	78.0	37.6	18.2	16.6	19.4	16.8	61.2	18.9	9.1	14.0	7.6	3/4	3/4	1929	3356.1
32-235	89.1	41.6	23.0	19.9	23.1	25.4	63.8	13.4	10.7	15.6	9.2	3/4	3/4	2976	1769.6
32-280	89.1	41.6	23.0	19.9	23.1	25.4	63.8	13.8	10.7	15.6	9.2	3/4	3/4	3042	2501.8
32-300	86.1	41.6	18.0	19.9	23.1	19.9	66.2	15.5	10.7	15.6	9.2	3/4	3/4	2617	3966.3
32-350	88.3	41.6	18.2	19.9	23.1	19.9	68.4	18.9	10.7	15.6	9.2	3/4	3/4	3406	3966.3
50-235	96.9	43.0	23.0	21.6	25.0	27.6	69.3	13.4	11.9	15.3	9.2	3/4	3/4	3307	1952.6
50-280	96.9	43.0	23.0	21.6	25.0	27.6	69.3	13.8	11.9	15.3	9.2	3/4	3/4	3395	2745.9
50-300	98.5	43.0	23.0	21.6	25.0	27.6	70.9	15.5	11.9	15.3	9.2	3/4	3/4	3483	3173
50-350	97.7	43.0	18.3	21.6	25.0	21.6	76.2	18.9	11.9	15.3	9.2	3/4	3/4	3549	4393.4
80-300	109.9	53.2	23.3	26.2	30.0	26.2	83.8	15.5	13.8	17.8	11.9	3/4	3/4	6371	3722.2
80-350	112.4	53.2	23.3	26.2	30.0	26.2	86.3	18.9	13.8	17.8	11.9	3/4	3/4	6415	5064.7

NOTE:

* Oil Connection NPT (in.)

MHP Hydraulic Manual Override

Figure 4. Overall Dimensions

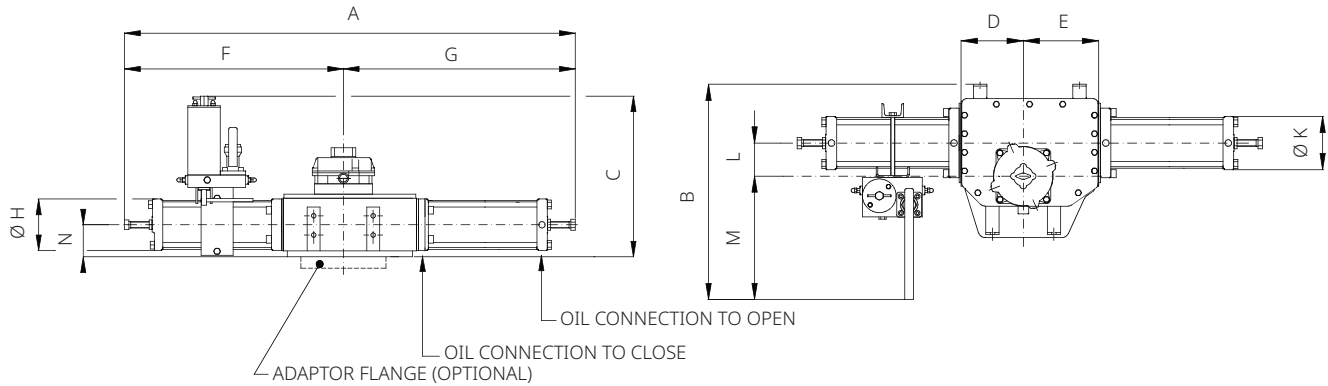


Table 51. Models 0.3-45-MHP45 to 14-350-MHP350 Dimensions (in.)

Model	A	B	C	D	E	F	G	Ø H	Ø K	L	M	N	Oil Connection NPT (in.)	Weight (lb)	Gas Consumption (cu. in.)	Hand Pump Operation Per Stroke	Oil Displacement (cu. in.)
0.3-45-MHP45	45.7	24.9	21.1	5.4	6.0	22.6	23.2	3.0	2.6	2.5	17.3	2.8	1/4	220	18.3	9	12.2
0.3-75-MHP75	44.4	24.9	25.2	5.4	6.0	21.9	22.5	4.0	4.0	2.8	17.3	2.8	1/2	146	48.8	25	36.6
0.3-100-MHP75	47.1	25.8	24.5	5.4	6.0	23.3	23.9	5.0	5.0	3.4	17.3	3.0	1/2	163	85.4	25	36.6
0.3-100-MHP100	47.1	25.8	25.0	5.4	6.0	23.3	23.9	5.0	5.0	2.8	17.9	2.8	1/2	190	85.4	45	67.1
0.9-100-MHP100	48.1	24.3	19.1	6.3	7.5	23.5	24.7	5.0	5.0	3.2	14.8	3.3	1/2	192	97.6	51	79.3
0.9-135-MHP100	51.9	27.1	25.0	6.3	7.5	24.2	27.8	5.0	5.0	3.4	17.3	3.3	1/2	234	177.0	51	79.3
0.9-135-MHP135	54.3	27.8	25.0	6.3	7.5	26.6	27.8	6.3	6.3	4.1	17.3	3.3	1/2	276	177.0	93	146.4
1.5-135-MHP135	56.8	28.6	25.7	7.4	9.0	27.6	29.2	6.3	6.3	4.1	17.3	4.0	1/2	366	219.7	117	183.1
1.5-175-MHP135	60.2	28.6	25.7	7.4	9.0	27.6	32.6	6.3	6.3	4.1	17.3	4.0	1/2	408	372.2	117	183.1
1.5-175-MHP175	63.6	29.5	26.6	7.4	9.0	31.0	32.6	7.8	7.8	5.1	17.3	4.0	1/2	450	372.2	196	305.1
3-135-MHP135	81.0	21.3	26.4	13.0	11.3	39.7	41.4	6.3	6.3	3.2	17.3	4.2	1/2	549	353.9	187	292.9
3-175-MHP135	82.2	26.9	20.0	11.3	13.0	38.9	43.4	6.3	7.8	6.3	12.3	4.2	1/2	613	591.9	187	292.9
3-175-MHP175	90.0	32.0	33.2	11.3	13.0	44.1	45.9	7.8	7.8	5.1	18.9	4.2	1/2	677	591.9	314	488.2
6-175-MHP175	93.6	35.5	34.6	12.9	15.0	45.8	47.8	3.8	7.8	5.1	18.9	5.6	1/2	1019	683.5	363	567.5
6-200-MHP175	97.2	35.5	34.6	12.9	16.4	45.8	51.5	7.8	9.1	5.1	18.9	5.6	3/4	1102	890.9	363	567.5
6-200-MHP200	100.8	36.0	35.1	12.9	15.0	49.4	51.5	9.1	9.1	5.6	18.9	5.6	3/4	1190	890.9	474	738.3
14-200-MHP200	104.9	37.9	37.2	14.9	17.2	51.3	53.7	9.1	9.1	5.6	18.9	7.6	3/4	1653	964.2	513	799.4
14-235-MHP200	104.9	37.9	37.2	14.9	17.2	51.3	53.6	9.1	13.4	5.6	18.9	7.6	3/4	1687	1336.4	513	799.4
14-235-MHP235	104.9	39.3	38.6	14.9	17.2	51.3	53.6	13.4	13.4	7.0	18.9	7.6	3/4	1731	1336.4	708	1104.5
14-280-MHP200	106.9	37.9	37.2	14.9	17.2	51.3	55.6	9.1	14.2	5.6	18.9	7.6	3/4	1742	1891.7	513	799.4
14-280-MHP235	106.9	39.3	38.6	14.9	17.2	51.3	55.6	13.4	14.2	7.0	18.9	7.6	3/4	1775	1891.7	708	1104.5
14-280-MHP280	108.9	40.4	39.8	14.9	17.2	53.3	55.6	14.2	14.2	8.0	18.9	7.6	3/4	1808	1891.7	1005	1568.2
14-300-MHP200	107.1	37.8	34.7	14.9	17.2	51.1	56.1	9.1	15.5	7.9	16.5	7.6	3/4	2291	2172.4	513	799.4
14-300-MHP235	107.2	39.1	38.7	14.9	17.2	51.2	56.1	9.1	15.5	7.9	17.8	7.6	3/4	2176	2172.4	708	1104.5
14-300-MHP280	109.3	39.9	39.8	14.9	17.2	53.3	56.1	14.2	15.5	7.9	18.6	7.6	3/4	2738	2172.4	1005	1568.2
14-300-MHP300	109.9	40.5	40.1	14.9	17.2	53.8	56.2	15.5	15.5	8.2	18.9	7.6	3/4	2286	2172.4	1154	1800.1
14-350-MHP235	104.7	39.1	38.7	14.9	17.2	51.2	53.5	13.4	13.4	7.9	17.8	7.6	3/4	2826	2959.7	708	1104.5
14-350-MHP280	110.8	40.4	39.8	14.9	17.2	53.3	57.6	14.2	18.9	8.0	18.9	7.6	3/4	2458	2959.7	1005	1568.2
14-350-MHP300	116.6	42.7	40.1	14.8	17.2	53.8	62.8	15.5	18.9	8.0	21.3	7.6	3/4	2937	2959.7	1154	1800.1
14-350-MHP350	112.8	42.2	39.8	14.9	17.2	55.2	57.6	18.9	18.9	9.9	18.9	7.6	3/4	3109	2959.7	1571	2453

Figure 5. Overall Dimensions

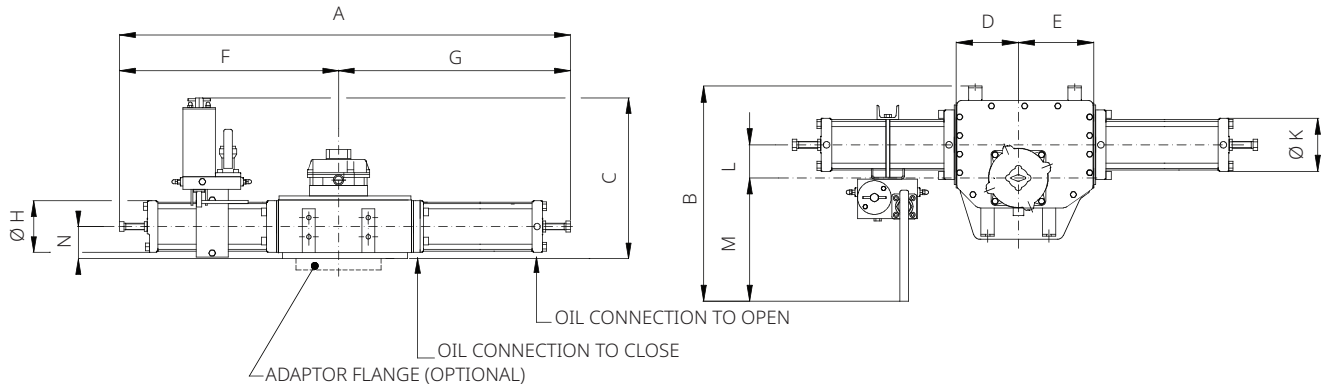


Table 52. Models 18-235-MHP235 to 80-350-MHP350 Dimensions (in.)

Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	Oil Connection NPT (in.)	Weight (lb)	Gas Consumption (cu. in.)	Hand Pump Operation Per Stroke	Oil Displacement (cu. in.)
18-235-MHP235	114.1	40.4	38.6	16.8	19.5	55.8	58.4	13.4	13.4	7.0	18.9	7.6	3/4	1940	1531.7	814	1269.2
18-280-MHP235	113.6	40.4	38.6	16.8	19.5	55.8	57.9	13.4	13.4	7.0	18.9	7.6	3/4	1973	2178.5	814	1269.2
18-280-MHP280	113.1	41.4	39.8	16.8	19.5	55.2	57.9	14.2	14.2	8.0	18.9	7.6	3/4	2006	2178.5	1156	1806.2
18-300-MHP235	113.8	40.2	38.7	16.8	19.5	55.5	58.4	13.4	15.5	9.1	16.6	7.6	3/4	2762	2502.0	814	1269.2
18-300-MHP280	113.6	41.7	39.8	16.8	19.5	55.2	58.4	14.2	15.5	8.3	18.2	7.6	3/4	3075	2502.0	1156	1806.2
18-300-MHP300	114.0	41.6	40.1	16.8	19.5	55.7	58.4	15.5	15.5	8.0	18.9	7.6	3/4	3307	2502.0	1327	2074.7
18-350-MHP235	114.3	39.1	38.7	16.8	19.5	53.1	61.2	13.4	18.9	9.1	16.6	7.6	3/4	3413	3405.1	814	1269.2
18-350-MHP280	115.1	41.4	39.8	16.8	19.5	55.2	59.9	14.2	18.9	16.8	19.5	7.6	3/4	3494	3405.1	1156	1806.2
18-350-MHP300	120.8	43.8	40.1	16.8	19.5	55.7	65.2	15.5	18.9	9.1	20.2	7.6	3/4	3726	3405.1	1327	2074.7
18-350-MHP350	117.0	43.2	39.8	16.8	19.5	57.2	59.9	18.9	18.9	9.9	18.9	7.6	3/4	4145	3405.1	1807	2819.1
32-235-MHP235	126.9	41.2	40.2	19.9	23.1	61.9	65.1	13.4	13.4	7.0	18.9	9.2	3/4	3395	1800.2	956	1495
32-280-MHP235	127.1	41.2	40.2	19.9	23.1	61.9	65.2	13.4	14.2	20.0	23.2	9.2	3/4	3461	2556.9	956	1495
32-280-MHP280	127.2	42.2	41.3	19.9	23.1	62.1	65.2	14.2	14.2	8.1	18.9	9.2	3/4	3571	2556.9	1357	2117.4
32-300-MHP235	124.9	41.0	40.3	19.9	23.1	58.7	66.2	13.4	15.5	10.7	15.0	9.2	3/4	3693	2935.2	956	1495
32-300-MHP280	128.5	41.6	41.3	19.9	23.1	62.3	66.2	14.2	15.5	10.7	13.4	9.2	3/4	3935	2935.2	1357	2117.4
32-300-MHP300	129.3	44.5	41.6	19.9	23.1	63.1	66.2	15.5	15.5	10.7	18.6	9.2	3/4	3935	2935.2	1558	2434.7
32-350-MHP235	130.2	43.0	40.6	19.9	23.1	61.9	68.4	13.4	18.9	10.7	15.0	9.5	3/4	4314	3997.1	956	1495
32-350-MHP280	130.7	42.0	38.5	19.9	23.1	62.3	68.4	14.2	18.9	10.7	14.1	9.5	3/4	4420	3997.1	1357	2117.4
32-350-MHP300	131.4	44.9	41.9	19.9	23.1	63.1	68.4	15.5	18.9	10.7	17.0	9.5	3/4	4619	3997.1	1558	2434.7
32-350-MHP350	133.6	45.4	43.2	19.9	23.1	65.3	68.4	18.9	18.9	9.3	18.9	9.3	3/4	5104	3997.1	2121	3313.4
50-235-MHP235	135.3	41.0	33.6	21.6	25.0	66.0	69.3	13.4	13.4	11.9	13.2	9.2	3/4	3748	2001.6	1062	1659.7
50-280-MHP235	135.3	41.0	33.6	21.6	25.0	66.0	69.3	13.4	13.8	11.9	13.2	9.2	3/4	3836	2843.7	1062	1659.7
50-280-MHP280	137.8	42.6	51.0	21.7	25.1	67.3	70.6	14.2	14.2	11.9	14.9	9.2	3/4	3924	2843.7	1508	2355.4
50-300-MHP235	136.9	41.0	33.6	21.6	25.0	66.0	70.9	13.4	15.5	11.9	14.0	9.2	1	3924	3258.7	1062	1659.7
50-300-MHP280	136.9	41.9	34.5	21.6	25.0	66.0	70.9	13.8	15.5	11.9	14.1	9.2	1	4012	3258.7	1508	2355.4
50-300-MHP300	138.2	43.0	41.5	21.7	25.1	67.5	70.8	15.5	15.5	8.2	18.9	9.2	3/4	4167	3258.7	1731	2703.2
50-350-MHP235	143.9	41.6	39.9	21.7	25.1	67.8	76.2	13.4	18.9	11.9	13.8	9.2	3/4	4652	4436.4	1062	1659.7
50-350-MHP280	143.4	40.6	40.3	21.7	25.1	67.3	76.2	14.2	18.9	11.9	12.9	9.2	3/4	4784	4436.4	1508	2355.4
50-350-MHP300	143.5	43.6	41.6	21.7	25.1	67.4	76.2	15.5	18.9	11.9	15.8	9.2	3/4	4982	4436.4	1731	2703.2
50-350-MHP350	148.9	46.5	52.7	21.7	25.1	72.8	76.2	18.9	18.9	11.9	18.9	9.2	3/4	5467	4436.4	2356	3679.5
80-300-MHP300	163.7	51.0	55.4	26.2	30.0	79.9	83.8	15.5	15.5	13.8	15.6	11.9	3/4	7011	3801.8	2020	3154.7
80-350-MHP300	166.2	49.3	44.4	26.2	30.0	79.9	86.3	15.5	18.9	13.8	13.8	11.9	3/4	7628	5180.9	2020	3154.7
80-350-MHP350	169.1	49.8	55.2	26.2	30.0	82.6	86.5	18.9	18.9	9.3	18.9	11.9	3/4	8245	5180.9	2749	4295.8

OLGAS Spring-Return Hydraulic Actuator Spring to Close

Figure 6. Overall Dimensions

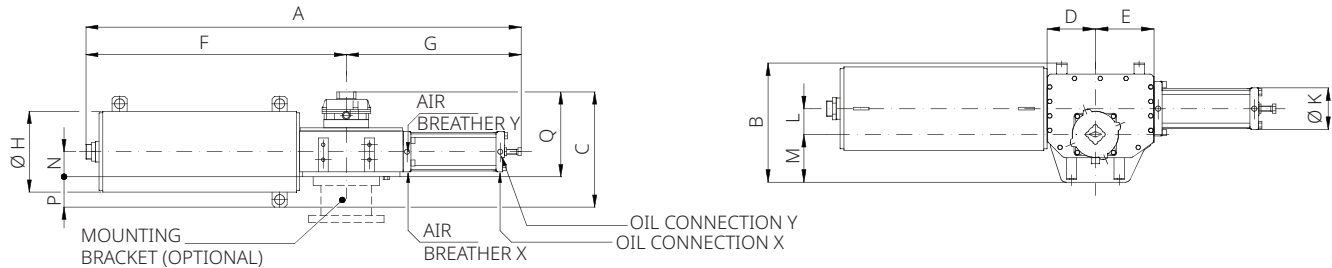


Table 53. Models 0.3-008A-45-CL to 6-3800-200-CL Dimensions (in.)

Model	A	B	C	D	E	F	G	Ø H	Ø K	L	M	N	P	Q	Oil Connection NPT (in.)		Weight (lb)	Gas Consumption (cu. in.)
															X	Y		
0.3-008A-45-CL	51.3	10.4	7.6	5.4	6.0	28.2	23.2	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008A-75-CL	50.7	12.6	7.9	5.4	6.0	28.2	22.5	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-008B-45-CL	51.3	10.4	7.6	5.4	6.0	28.2	23.2	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008B-75-CL	50.7	12.6	7.9	5.4	6.0	28.2	22.5	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-008C-45-CL	51.3	10.4	7.6	5.4	6.0	28.2	23.2	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008C-75-CL	50.7	12.6	7.9	5.4	6.0	28.2	22.5	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-0100-45-CL	55.2	11.9	11.6	5.4	6.0	32.1	23.2	8.8	3.0	2.8	4.7	2.8	1.7	9.9	1/2	-	165	21.4
0.3-0100-75-CL	54.6	12.6	11.6	5.4	6.0	32.1	22.5	8.8	4.6	2.8	4.7	2.8	1.7	9.9	1/2	-	176	48.8
0.3-0100-100-CL	55.9	12.6	11.6	5.4	6.0	32.1	23.9	9.2	5.0	2.8	4.7	2.8	1.7	9.9	1/2	-	185	85.4
0.3-0150-45-CL	53.2	11.9	11.2	5.4	6.0	30.1	23.2	8.8	3.0	2.8	4.7	2.8	1.7	9.5	1/2	-	165	21.4
0.3-0150-75-CL	52.6	12.6	11.2	5.4	6.0	30.1	22.5	8.8	4.0	2.8	4.7	2.8	1.7	6.0	1/2	-	176	48.8
0.3-0150-100-CL	53.9	12.6	11.2	5.4	6.0	30.1	23.9	8.8	5.0	2.8	4.7	2.8	1.7	6.0	1/2	-	185	85.4
0.9-0200-100-CL	59.1	16.3	11.9	6.3	7.5	33.8	25.4	9.5	5.0	3.2	6.7	3.3	1.5	6.9	1/2	-	324	97.6
0.9-0200-135-CL	61.5	16.3	11.9	6.3	7.5	33.8	27.8	9.5	6.3	3.2	6.7	3.3	1.5	6.9	1/2	-	366	170.9
0.9-0250-100-CL	56.3	16.3	11.9	6.3	7.5	31.0	25.4	9.5	5.0	3.2	6.7	3.3	1.5	10.4	1/2	-	324	97.6
0.9-0250-135-CL	58.7	16.3	11.9	6.3	7.5	31.0	27.7	9.5	6.3	3.2	6.7	3.3	1.5	10.4	1/2	-	366	170.9
0.9-0350-100-CL	61.2	16.3	14.6	6.3	7.5	35.9	25.4	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	399	97.6
0.9-0350-135-CL	63.6	16.3	14.6	6.3	7.5	35.9	27.8	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	441	170.9
0.9-0400-100-CL	58.6	16.3	14.6	6.3	7.5	33.3	25.4	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	388	97.6
0.9-0400-135-CL	61.0	16.3	14.6	6.3	7.5	33.3	27.8	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	430	170.9
0.9-0700-100-CL	59.7	16.3	14.6	6.3	7.5	34.3	25.4	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	437	97.6
0.9-0700-135-CL	62.1	16.3	14.6	6.3	7.5	34.3	27.8	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	478	170.9
1.5-1100-135-CL	68.9	18.6	18.1	7.4	9.0	39.7	29.2	14.6	6.3	4.0	7.3	4.0	3.4	8.5	1/2	-	769	213.6
1.5-1100-175-CL	72.3	18.6	17.4	7.4	9.0	39.7	32.6	14.6	7.8	4.0	7.3	4.0	3.4	8.5	1/2	-	811	341.7
1.5-1200-135-CL	71.6	18.5	15.2	7.4	9.0	42.5	29.2	12.8	6.3	4.0	7.3	4.0	2.5	8.5	1/2	-	710	213.6
1.5-1200-175-CL	75.0	18.5	15.2	7.4	9.0	42.5	32.6	12.8	7.8	4.0	7.3	4.0	2.5	8.5	1/2	-	752	341.7
3-2000-135-CL	96.3	23.1	18.4	11.3	13.0	54.9	41.4	16.4	6.3	6.3	8.5	4.2	3.9	8.8	1/2	-	1360	219.7
3-2000-175-CL	100.8	23.1	18.4	11.3	13.0	54.9	45.9	16.4	7.8	6.3	8.5	4.2	3.9	8.8	1/2	-	1424	579.7
6-2500-175-CL	122.9	29.2	17.5	12.9	15.0	75.1	47.8	15.1	7.8	7.3	10.3	5.6	2.1	11.3	1/2	-	1832	671.2
6-2500-200-CL	126.5	29.2	17.5	12.9	15.0	75.1	51.5	15.1	9.1	7.3	10.3	5.6	2.1	11.3	3/4	-	1949	854.3
6-3800-175-CL	131.9	29.2	23.7	12.9	15.0	84.1	47.8	20.9	7.8	7.3	10.3	5.6	5.0	11.3	1/2	-	2963	671.2
6-3800-200-CL	135.6	29.2	23.7	12.9	15.0	84.1	51.5	20.9	9.1	7.3	10.3	5.6	5.0	11.3	-	3/4	3080	854.3

Figure 7. Overall Dimensions

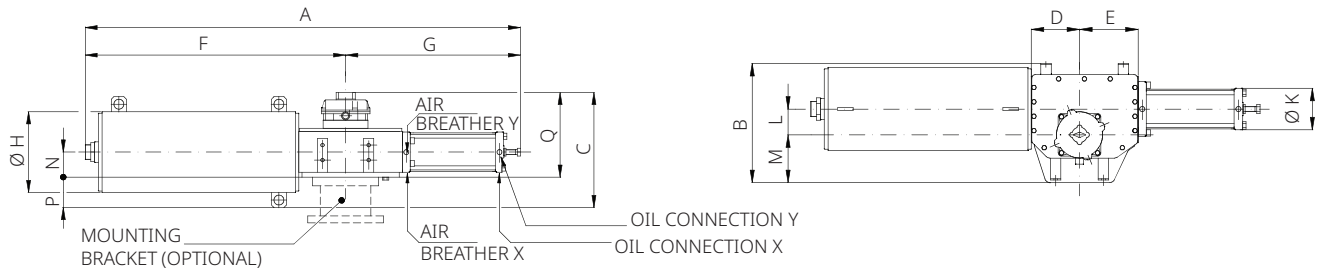


Table 54. Models 14-5100-200-CL to 50-15600-350-CL Dimensions (in.)

Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Oil Connection NPT (in.)		Weight (lb)	Gas Consumption (cu. in.)
															X	Y		
14-5100-200-CL	136.0	33.0	23.7	14.9	17.2	82.4	53.6	20.9	9.1	7.9	11.7	7.6	2.9	20.8	-	3/4	4303	915.3
14-5100-235-CL	136.0	33.0	23.7	14.9	17.2	82.4	53.6	20.9	13.4	7.9	11.7	7.6	2.9	20.8	-	3/4	4436	1281.4
14-5100-280-CL	138.0	33.0	23.7	14.9	17.2	82.4	55.6	20.9	14.2	7.9	11.7	7.6	2.9	20.8	-	3/4	4546	1830.6
14-5100-300-CL	138.4	31.3	23.7	14.9	17.2	82.4	56.1	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4630	2135.7
14-5100-350-CL	147.3	31.3	23.7	14.9	17.2	84.5	62.8	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	4546	2929
14-5400-200-CL	134.0	33.0	23.7	14.9	17.2	80.4	53.7	20.9	9.1	7.9	11.7	7.6	2.9	15.7	-	3/4	4409	915.3
14-5400-235-CL	133.9	33.0	23.7	14.9	17.2	80.4	53.6	20.9	13.4	7.9	11.7	7.6	2.9	15.7	-	3/4	4542	1281.4
14-5400-280-CL	136.0	33.0	23.7	14.9	17.2	80.4	55.6	20.9	14.2	7.9	11.7	7.6	2.9	15.7	-	3/4	4652	1830.6
14-5400-300-CL	136.4	31.3	23.7	14.9	17.2	80.4	56.1	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4758	2135.7
14-5400-350-CL	143.2	31.3	23.7	14.9	17.2	80.4	62.8	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	5302	2929
14-8300-200-CL	136.5	33.0	23.7	14.9	17.2	82.8	53.7	20.9	9.1	7.9	11.7	7.6	2.9	15.7	-	3/4	4519	915.3
14-8300-235-CL	136.4	33.0	23.7	14.9	17.2	82.8	53.6	20.9	13.4	7.9	11.7	7.6	2.9	15.7	-	3/4	4652	1281.4
14-8300-280-CL	138.4	33.0	23.7	14.9	17.2	82.8	55.6	20.9	14.2	7.9	11.7	7.6	2.9	15.7	-	3/4	4762	1830.6
14-8300-300-CL	138.9	31.3	23.7	14.9	17.2	82.8	56.1	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4656	2135.7
14-8300-350-CL	145.6	31.3	23.7	14.9	17.2	79.3	62.8	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	5412	2929
18-9600-235-CL	164.5	37.1	29.1	16.8	19.5	106.2	58.4	22.1	13.4	9.1	13.4	7.6	7.0	16.0	-	3/4	5754	1525.5
18-9600-280-CL	164.0	37.1	29.1	16.8	19.5	106.2	57.9	22.1	14.2	9.1	13.4	7.6	7.0	16.0	-	3/4	5842	2135.7
18-9600-300-CL	164.5	74.0	25.6	16.8	19.5	106.2	58.4	22.1	15.5	9.1	13.4	7.6	3.4	22.2	-	3/4	5930	2440.8
18-9600-350-CL	170.8	34.1	25.6	16.8	19.5	105.8	65.1	22.1	18.9	9.1	13.4	7.6	3.4	22.2	-	3/4	6493	3356.1
18-9800-235-CL	164.1	37.1	29.1	16.8	19.5	105.8	58.4	22.1	13.4	9.1	13.4	7.6	7.0	16.0	-	3/4	6526	1525.5
18-9800-280-CL	163.6	37.1	29.1	16.8	19.5	105.8	57.9	22.1	14.2	9.1	13.4	7.6	7.0	16.0	-	3/4	6614	2135.7
18-9800-300-CL	164.1	34.1	25.6	16.8	19.5	105.8	58.4	22.1	15.5	9.1	14.0	7.6	3.4	22.2	-	3/4	6702	2440.8
18-9800-350-CL	170.8	34.1	25.6	16.8	19.5	105.8	65.1	22.0	18.9	9.1	14.0	7.6	3.4	22.2	-	3/4	7264	3356.1
18-10500-280-CL	166.9	37.1	30.0	16.8	19.5	109.1	57.9	26.4	14.2	9.1	13.4	7.6	5.6	24.4	-	3/4	7233	2135.7
18-10500-300-CL	167.4	37.1	30.0	16.8	19.5	109.1	58.4	26.4	15.5	9.1	13.4	7.6	5.6	24.4	-	3/4	7322	2440.8
18-10500-350-CL	174.1	37.1	30.0	16.8	19.5	109.1	65.1	26.4	18.9	9.1	13.4	7.6	5.6	24.4	-	3/4	7388	3356.1
18-11000-280-CL	162.4	36.3	30.0	16.8	19.5	104.5	57.9	26.4	14.2	9.1	13.4	7.6	5.6	16.0	-	3/4	7167	2135.7
18-11000-300-CL	162.8	36.3	30.0	16.8	19.5	104.5	58.4	26.4	15.5	9.1	14.0	7.6	5.6	24.4	-	3/4	7233	2440.8
18-11000-350-CL	169.6	36.3	30.0	16.8	19.5	104.5	65.1	26.4	18.9	9.1	14.0	7.6	5.6	24.4	-	3/4	7322	3356.1
32-12000-300-CL	180.8	44.5	35.1	19.9	23.1	114.6	66.2	31.5	15.5	10.7	16.6	9.3	6.5	28.6	3/4	3/4	10362	2929
32-12000-350-CL	188.8	44.5	35.1	19.9	23.1	114.6	74.3	31.5	18.9	10.7	16.6	9.3	6.5	28.6	3/4	3/4	10803	3966.3
32-15000-300-CL	180.8	44.5	35.1	19.9	23.1	114.6	66.2	31.5	15.5	10.7	16.6	9.3	6.5	35.1	3/4	3/4	10670	2929
32-15000-350-CL	188.8	44.5	35.1	19.9	23.1	114.6	74.3	31.5	18.9	10.7	16.6	9.3	6.5	28.6	3/4	3/4	11332	3966.3
50-15400-300-CL	190.1	43.0	35.1	21.7	25.0	119.2	71.0	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	11949	3173
50-15400-350-CL	195.3	43.0	35.1	21.7	25.0	119.2	76.2	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	13691	4393.4
50-15600-300-CL	190.1	44.5	35.1	21.7	25.0	119.2	71.0	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	11812	3173
50-15600-350-CL	195.3	43.0	35.1	21.7	25.0	119.2	76.2	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	13554	4393.4

Spring to Open

Figure 8. Overall Dimensions

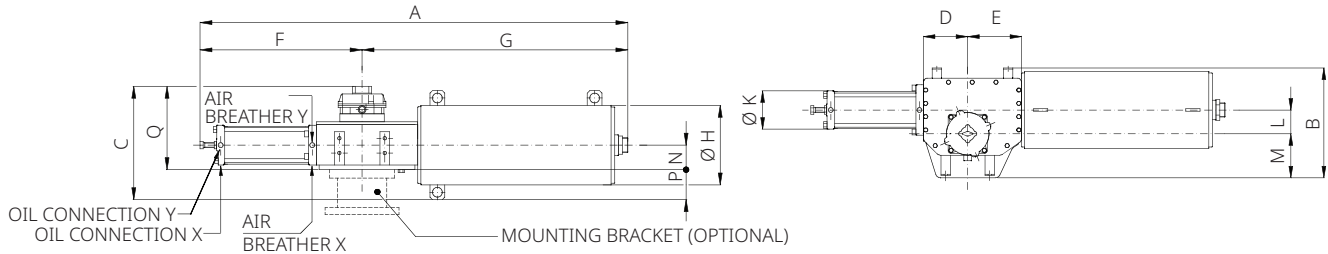


Table 55. Models 0.3-008A-45-OP to 6-3800-200-OP (in.)

Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Oil Connection NPT (in.)		Weight (lb)	Gas Consumption (cu. in.)
															X	Y		
0.3-008A-45-OP	51.3	10.4	7.6	5.4	6.0	22.6	28.8	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008A-75-OP	50.7	12.6	7.9	5.4	6.0	21.9	28.8	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-008B-45-OP	51.3	10.4	7.6	5.4	6.0	22.6	28.8	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008B-75-OP	50.7	12.6	7.9	5.4	6.0	21.9	28.8	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-008C-45-OP	51.3	10.4	7.6	5.4	6.0	22.6	28.8	5.8	3.0	2.8	4.7	2.8	0.2	7.5	1/2	-	137	21.4
0.3-008C-75-OP	50.7	12.6	7.9	5.4	6.0	21.9	28.8	5.8	4.6	2.8	4.7	2.8	0.2	7.5	1/2	-	137	48.8
0.3-0100-45-OP	55.2	11.9	11.6	5.4	6.0	22.6	32.7	8.8	3.0	2.8	4.7	2.8	1.7	9.9	1/2	-	165	21.4
0.3-0100-75-OP	54.6	12.6	11.6	5.4	6.0	21.9	32.7	8.8	4.6	2.8	4.7	2.8	1.7	9.9	1/2	-	176	48.8
0.3-0100-100-OP	55.9	12.6	11.6	5.4	6.0	23.2	32.7	9.2	5.0	2.8	4.7	2.8	1.7	9.9	1/2	-	185	85.4
0.3-0150-45-OP	53.2	11.9	11.2	5.4	6.0	22.6	30.7	8.8	3.0	2.8	4.7	2.8	1.7	9.5	1/2	-	165	21.4
0.3-0150-75-OP	52.6	12.6	11.2	5.4	6.0	21.9	30.7	8.8	4.0	2.8	4.7	2.8	1.7	6.0	1/2	-	176	48.8
0.3-0150-100-OP	53.9	12.6	11.2	5.4	6.0	23.3	30.7	8.8	5.0	2.8	4.7	2.8	1.7	6.0	1/2	-	185	85.4
0.9-0200-100-OP	59.1	16.3	11.9	6.3	7.5	24.2	35.0	9.5	5.0	3.2	6.7	3.3	1.5	6.9	1/2	-	324	97.6
0.9-0200-135-OP	61.5	16.3	11.9	6.3	7.5	26.6	35.0	9.5	6.3	3.2	6.7	3.3	1.5	6.9	1/2	-	366	170.9
0.9-0250-100-OP	56.3	16.3	11.9	6.3	7.5	24.2	32.2	9.5	5.0	3.2	6.7	3.3	1.5	10.4	1/2	-	324	97.6
0.9-0250-135-OP	58.7	16.3	11.9	6.3	7.5	26.5	32.2	9.5	6.3	3.2	6.7	3.3	1.5	10.4	1/2	-	366	170.9
0.9-0350-100-OP	61.2	16.3	14.6	6.3	7.5	24.2	37.1	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	399	97.6
0.9-0350-135-OP	63.6	16.3	14.6	6.3	7.5	26.6	37.1	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	441	170.9
0.9-0400-100-OP	58.6	16.3	14.6	6.3	7.5	24.2	34.5	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	388	97.6
0.9-0400-135-OP	61.0	16.3	14.6	6.3	7.5	26.6	34.5	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	430	170.9
0.9-0700-100-OP	59.7	16.3	14.6	6.3	7.5	24.2	35.5	12.3	5.0	3.2	6.7	3.3	2.9	6.9	1/2	-	437	97.6
0.9-0700-135-OP	62.1	16.3	14.6	6.3	7.5	26.6	35.5	12.3	6.3	3.2	6.7	3.3	2.9	6.9	1/2	-	478	170.9
1.5-1100-135-OP	68.9	18.6	18.1	7.4	9.0	27.6	41.3	14.6	6.3	4.0	7.3	4.0	3.4	8.5	1/2	-	769	213.6
1.5-1100-175-OP	72.3	18.6	17.4	7.4	9.0	31.0	41.3	14.6	7.8	4.0	7.3	4.0	3.4	8.5	1/2	-	811	341.7
1.5-1200-135-OP	71.6	18.5	15.2	7.4	9.0	27.6	44.0	12.8	6.3	4.0	7.3	4.0	2.5	8.5	1/2	-	710	213.6
1.5-1200-175-OP	75.0	18.5	15.2	7.4	9.0	31.0	44.0	12.8	7.8	4.0	7.3	4.0	2.5	8.5	1/2	-	752	341.7
3-2000-135-OP	96.3	23.1	18.4	11.3	13.0	39.7	56.7	16.4	6.3	6.3	8.5	4.2	3.9	8.8	1/2	-	1360	219.7
3-2000-175-OP	100.8	23.1	18.4	11.3	13.0	44.1	56.7	16.4	7.8	6.3	8.5	4.2	3.9	8.8	1/2	-	1424	579.7
6-2500-175-OP	122.9	29.2	17.5	12.9	15.0	45.8	77.1	15.1	7.8	7.3	10.3	5.6	2.1	11.3	1/2	-	1832	671.2
6-2500-200-OP	126.5	29.2	17.5	12.9	15.0	49.4	77.1	15.1	9.1	7.3	10.3	5.6	2.1	11.3	3/4	-	1949	854.3
6-3800-175-OP	131.9	29.2	23.7	12.9	15.0	45.8	86.2	20.9	7.8	7.3	10.3	5.6	5.0	11.3	1/2	-	2963	671.2
6-3800-200-OP	135.6	29.2	23.7	12.9	15.0	49.4	86.2	20.9	9.1	7.3	10.3	5.6	5.0	11.3	-	3/4	3080	854.3

Figure 9. Overall Dimensions

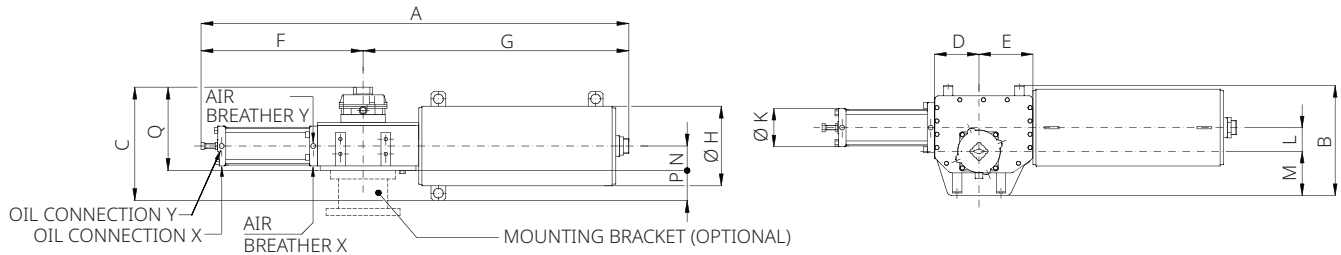
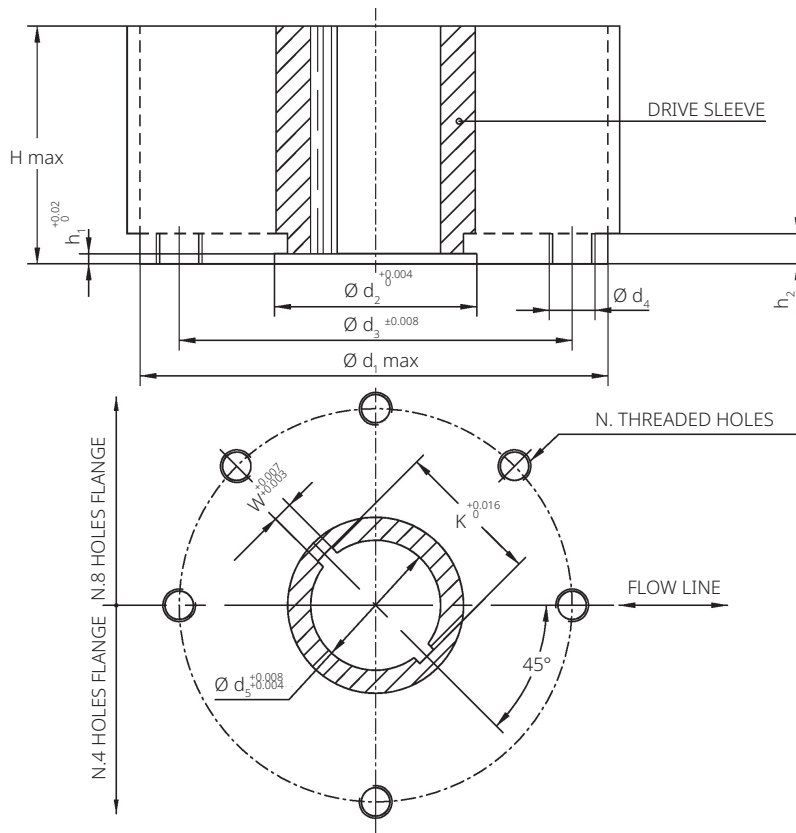


Table 56. Models 14-5100-200-OP to 50-15600-350-OP (in.)

Model	A	B	C	D	E	F	G	ØH	ØK	L	M	N	P	Q	Oil Connection NPT (in.)		Weight (lb)	Gas Consumption (cu. in.)
															X	Y		
14-5100-200-OP	136.0	33.0	23.7	14.9	17.2	51.3	84.7	20.9	9.1	7.9	11.7	7.6	2.9	20.8	-	3/4	4303	915.3
14-5100-235-OP	136.0	33.0	23.7	14.9	17.2	51.3	84.7	20.9	13.4	7.9	11.7	7.6	2.9	20.8	-	3/4	4436	1281.4
14-5100-280-OP	138.0	33.0	23.7	14.9	17.2	53.3	84.7	20.9	14.2	7.9	11.7	7.6	2.9	20.8	-	3/4	4546	1830.6
14-5100-300-OP	138.4	31.3	23.7	14.9	17.2	53.8	84.7	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4630	2135.7
14-5100-350-OP	145.2	31.3	23.7	14.9	17.2	60.5	84.7	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	4546	2929
14-5400-200-OP	134.0	33.0	23.7	14.9	17.2	51.3	82.7	20.9	9.1	7.9	11.7	7.6	2.9	15.7	-	3/4	4409	915.3
14-5400-235-OP	133.9	33.0	23.7	14.9	17.2	51.3	82.7	20.9	13.4	7.9	11.7	7.6	2.9	15.7	-	3/4	4542	1281.4
14-5400-280-OP	136.0	33.0	23.7	14.9	17.2	53.3	82.7	20.9	14.2	7.9	11.7	7.6	2.9	15.7	-	3/4	4652	1830.6
14-5400-300-OP	136.4	31.3	23.7	14.9	17.2	53.8	82.7	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4758	2135.7
14-5400-350-OP	143.2	31.3	23.7	14.9	17.2	60.5	82.7	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	5302	2929
14-8300-200-OP	136.5	33.0	23.7	14.9	17.2	51.3	85.2	20.9	9.1	7.9	11.7	7.6	2.9	15.7	-	3/4	4519	915.3
14-8300-235-OP	136.4	33.0	23.7	14.9	17.2	51.3	85.2	20.9	13.4	7.9	11.7	7.6	2.9	15.7	-	3/4	4652	1281.4
14-8300-280-OP	138.4	33.0	23.7	14.9	17.2	53.3	85.2	20.9	14.2	7.9	11.7	7.6	2.9	15.7	-	3/4	4762	1830.6
14-8300-300-OP	138.9	31.3	23.7	14.9	17.2	53.8	85.2	20.9	15.5	7.9	13.0	7.6	2.9	20.8	-	3/4	4656	2135.7
14-8300-350-OP	145.6	31.3	23.7	14.9	17.2	60.5	85.2	20.9	18.9	7.9	13.0	7.6	2.9	20.8	-	3/4	5412	2929
18-9600-235-OP	164.5	37.1	29.1	16.8	19.5	55.8	108.8	22.1	13.4	9.1	13.4	7.6	7.0	16.0	-	3/4	5754	1525.5
18-9600-280-OP	164.0	37.1	29.1	16.8	19.5	55.2	108.8	22.1	14.2	9.1	13.4	7.6	7.0	16.0	-	3/4	5842	2135.7
18-9600-300-OP	164.5	74.0	25.6	16.8	19.5	55.7	108.8	22.1	15.5	9.1	13.4	7.6	3.4	22.2	-	3/4	5930	2440.8
18-9600-350-OP	170.8	34.1	25.6	16.8	19.5	62.5	108.8	22.1	18.9	9.1	13.4	7.6	3.4	22.2	-	3/4	6493	3356.1
18-9800-235-OP	164.1	37.1	29.1	16.8	19.5	55.8	108.4	22.1	13.4	9.1	13.4	7.6	7.0	16.0	-	3/4	6526	1525.5
18-9800-280-OP	163.6	37.1	29.1	16.8	19.5	55.2	108.4	22.1	14.2	9.1	13.4	7.6	7.0	16.0	-	3/4	6614	2135.7
18-9800-300-OP	164.1	34.1	25.6	16.8	19.5	55.7	108.4	22.1	15.5	9.1	14.0	7.6	3.4	22.2	-	3/4	6702	2440.8
18-9800-350-OP	170.8	34.1	25.6	16.8	19.5	62.5	108.4	22.0	18.9	9.1	14.0	7.6	3.4	22.2	-	3/4	7264	3356.1
18-10500-280-OP	166.9	37.1	30.0	16.8	19.5	55.2	113.2	26.4	14.2	9.1	13.4	7.6	5.6	24.4	-	3/4	7233	2135.7
18-10500-300-OP	167.4	37.1	30.0	16.8	19.5	55.7	113.2	26.4	15.5	9.1	13.4	7.6	5.6	24.4	-	3/4	7322	2440.8
18-10500-350-OP	174.1	37.1	30.0	16.8	19.5	62.5	113.2	26.4	18.9	9.1	13.4	7.6	5.6	24.4	-	3/4	7388	3356.1
18-11000-280-OP	162.4	36.3	30.0	16.8	19.5	55.2	107.2	26.4	14.2	9.1	13.4	7.6	5.6	16.0	-	3/4	7167	2135.7
18-11000-300-OP	162.8	36.3	30.0	16.8	19.5	55.7	107.2	26.4	15.5	9.1	14.0	7.6	5.6	24.4	-	3/4	7233	2440.8
18-11000-350-OP	169.6	36.3	30.0	16.8	19.5	62.5	107.2	26.4	18.9	9.1	14.0	7.6	5.6	24.4	-	3/4	7322	3356.1
32-12000-300-OP	180.8	44.5	35.1	19.9	23.1	63.1	117.7	31.5	15.5	10.7	16.6	9.3	6.5	28.6	3/4	3/4	10362	2929
32-12000-350-OP	188.8	44.5	35.1	19.9	23.1	71.1	117.7	31.5	18.9	10.7	16.6	9.3	6.5	28.6	3/4	3/4	10803	3966.3
32-15000-300-OP	180.8	44.5	35.1	19.9	23.1	63.1	117.7	31.5	15.5	10.7	16.6	9.3	6.5	35.1	3/4	3/4	10670	2929
32-15000-350-OP	188.8	44.5	35.1	19.9	23.1	71.1	117.7	31.5	18.9	10.7	16.6	9.3	6.5	28.6	3/4	3/4	11332	3966.3
50-15400-300-OP	190.1	43.0	35.1	21.7	25.0	71.8	122.6	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	11949	3173
50-15400-350-OP	195.3	43.0	35.1	21.7	25.0	72.8	122.6	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	13691	4393.4
50-15600-300-OP	190.1	44.5	35.1	21.7	25.0	71.8	122.6	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	11812	3173
50-15600-350-OP	195.3	43.0	35.1	21.7	25.0	72.8	122.6	31.5	18.2	11.9	15.3	9.2	6.6	28.5	3/4	3/4	13554	4393.4

OLGA/OLGAS Hydraulic Actuator Mounting Dimensions

Figure 10. Actuator Models 0.3 to 6 (SCN6200U - Rev. 15/10/19)



TOP VIEW OF THE SCOTCH YOKE MECHANISM (ACTUATOR SHOWN IN CLOSED POSITION)

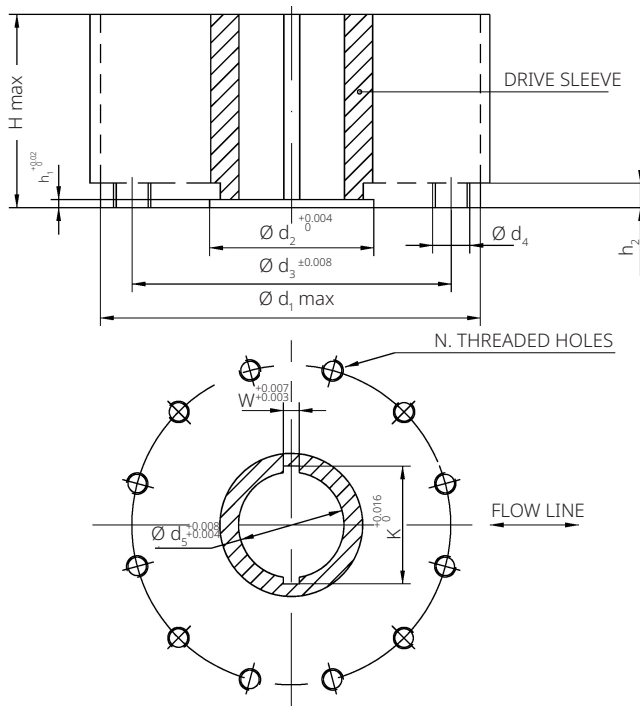
Table 57. Models 0.3 to 6 Coupling Dimensions (in.)

Actuator Model	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4^*$	N	h_1	h_2	H max	$\varnothing d_5$	W	K
0.3	9.45	3.66	6.496	M20x2.5	4	0.20	0.67	5.00	2.76	0.27	2.98
0.9	12.20	4.41	10.00	M16x2	8	0.20	0.75	5.90	3.39	0.55	3.68
1.5	14.17	5.66	11.73	M20x2.5	8	0.24	0.75	7.50	4.41	0.71	4.68
3	16.93	7.67	14.01	M30x3.5	8	0.35	0.90	7.90	6.18	0.98	6.61
6	20.47	9.84	15.98	M36x4	8	0.55	1.14	10.20	7.87	1.10	8.39

NOTE:

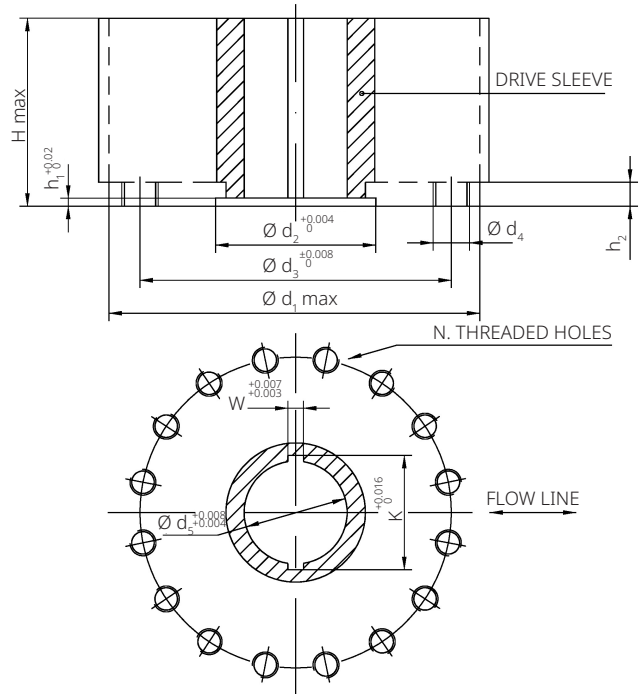
* Thread according to ISO R261.

Figure 11. Actuator Model 14 (SCN6201U - Rev. 15/10/19)



TOP VIEW OF THE SCOTCH YOKE MECHANISM (ACTUATOR SHOWN IN CLOSED POSITION)

Figure 12. Actuator Model 18 to 32 (SCN6201U - Rev. 15/10/19)



TOP VIEW OF THE SCOTCH YOKE MECHANISM (ACTUATOR SHOWN IN CLOSED POSITION)

Table 58. Model 14 Coupling Dimensions (in.)

Actuator Model	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4^*$	N	h_1	h_2	H max	$\varnothing d_5$	W	K
14	22.80	9.84	19.02	M36x4	12.00	0.39	1.14	13.38	6.89	1.77	7.71

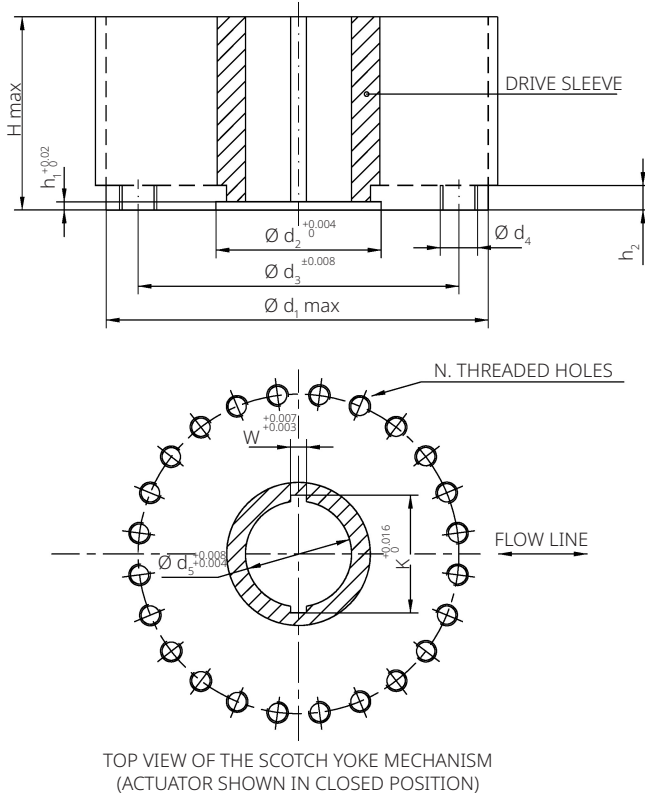
Table 59. Models 18 and 32 Coupling Dimensions (in.)

Actuator Model	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4^*$	N	h_1	h_2	H max	$\varnothing d_5$	W	K
18	26.77	11.48	23.74	M36x4	16	0.47	1.26	13.78	7.87	1.77	8.69
32	30.71	12.20	23.74	M36x4	16	0.47	1.26	15.74	8.66	1.97	9.56

NOTE:

* Thread according to ISO R261.

**Figure 13. Actuator Model 50
(SCN62011U - Rev. 15/10/19)**



**Figure 14. Actuator Models 65 and 80
(SCN62013U - Rev. 15/10/19)**

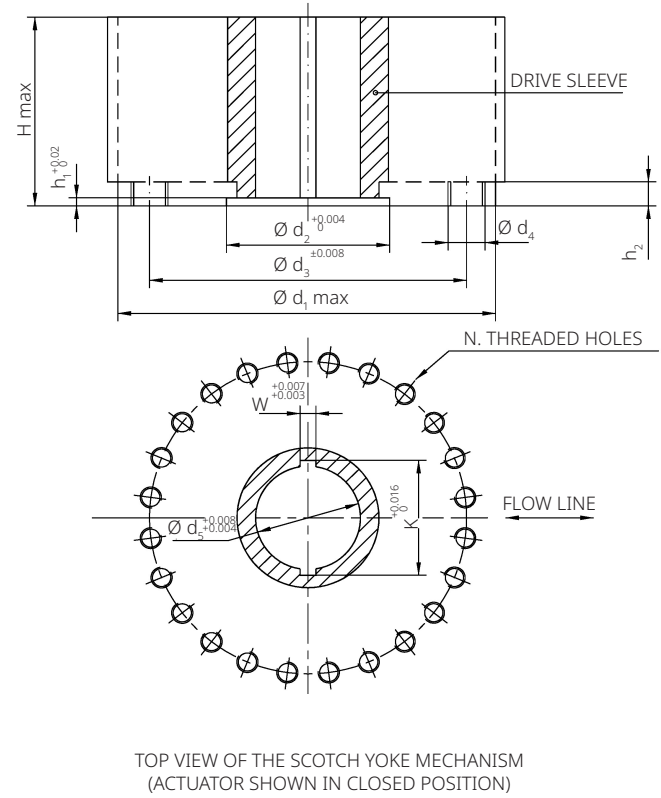


Table 60. Model 50 Coupling Dimensions (in.)

Actuator Model	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4^*$	N	h_1	h_2	H max	$\varnothing d_5$	W	K
50	31.50	12.40	27.48	M36x4	24.00	0.39	1.26	16.93	9.45	2.20	10.425

Table 61. Models 65 and 80 Coupling Dimensions (in.)

Actuator Model	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4^*$	N	h_1	h_2	H max	$\varnothing d_5$	W	K
65	35.83	14.56	32.01	M42x4.5	24.00	0.35	1.46	21.26	11.02	1.81	12.87
80	35.43	14.56	32.01	M24x4.5	24.00	0.35	1.46	21.26	11.02	1.81	12.87

NOTE:

* Thread according to ISO R261.

Figure 15. Actuator Model 100 (SCN66433U - Rev. 22/07/22)

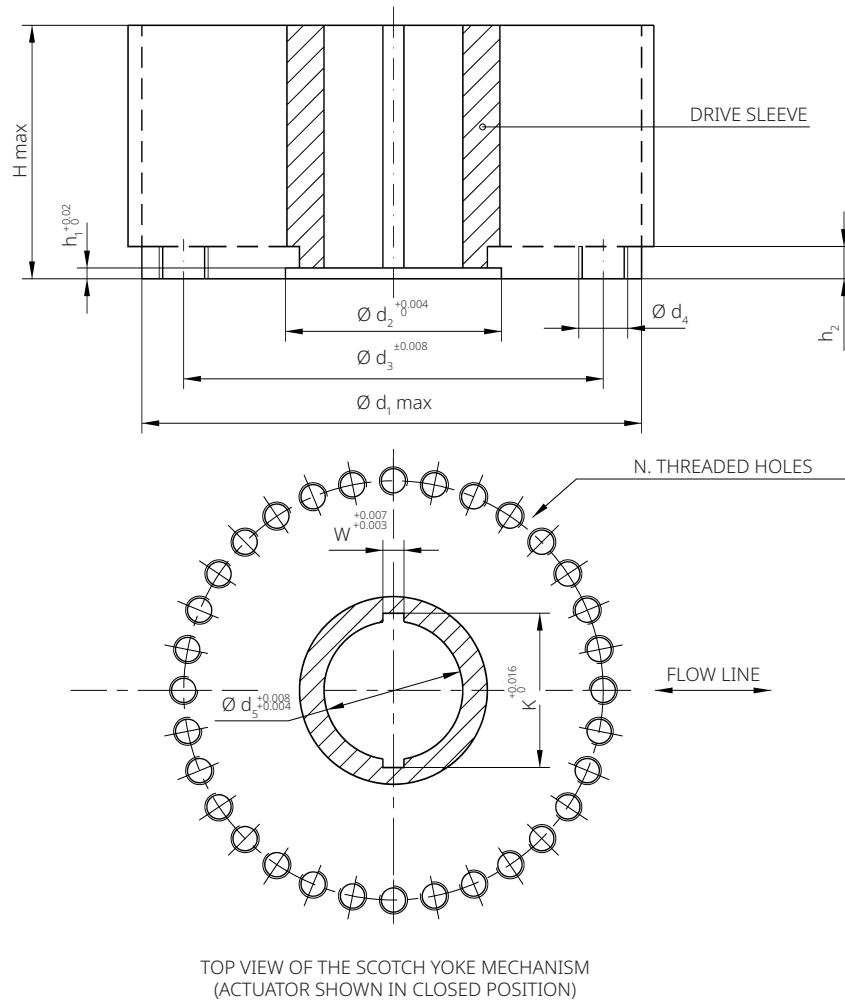


Table 62. Model 100 Coupling Dimensions (in.)

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
100	47.24	17.72	41.02	1 to 1/2 in - 6UNC-2B	32.00	0.31	2.24	23.62	11.81	2.76	12.91

NOTE:

* Thread according to ISO R261.

Figure 16. Stem Acceptance

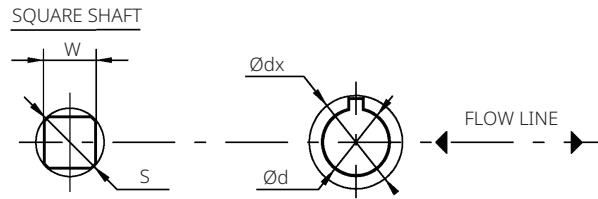


Table 63. Stem Acceptance Dimensions for Insert Bushes (in.)

Housing Size	Maximum Stem Diameter with Rectangular Key	Maximum Accepted Diameter Described by the Key	Maximum Accepted Square Stem (in.)		Maximum Accepted Square Stem Height (in.)**
	d (bxh) ^[2] (in.)	dx ^[3] (in.)	W	S*	
0.3	2.09 (0.63x0.39)	2.52	1.81	2.52	4.72
0.9	2.44 (0.71x0.43)	2.87	2.17	2.87	5.51
1.5	3.35 (0.87x0.55)	3.90	2.87	3.90	7.09
3	4.96 (1.26x0.71)	5.71	4.09	5.71	7.48
6	6.34 (1.57x0.87)	7.28	5.24	7.28	9.84
14	4.13 (1.10x0.63)	4.76	-	-	13.39
18	4.80 (1.26x0.71)	5.51	-	-	13.78
32	6.30 (1.57x0.87)	7.20	-	-	15.75
50	6.30 (1.57x0.87)	7.20	-	-	16.93
65	-	-	-	-	21.26
80	-	-	-	-	21.26
100	-	-	-	-	23.62

NOTES:

1. The listed maximum acceptance values are applicable for stems with keyways 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 ISO 773 or equivalent.
 3. For stem with key not correspondant to any specification, check the dimension dx.
- * S max: maximum external diameter in case of rounded edge.
 ** Without adapter flange.

Figure 17. Actuator Models 0.3 to 100

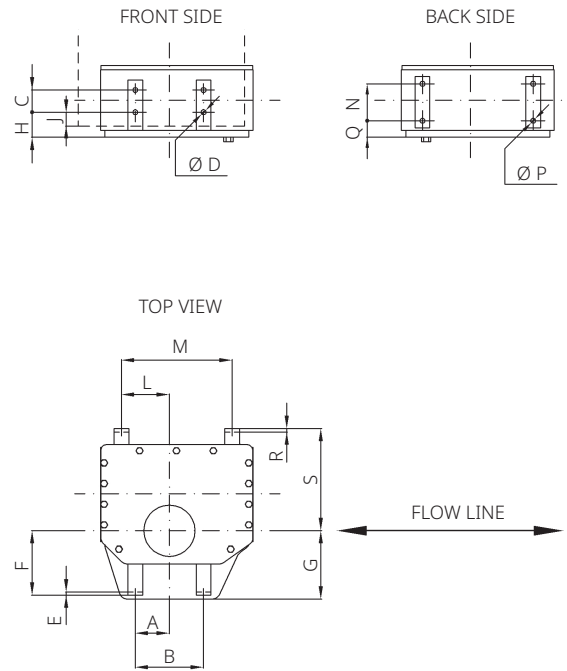


Table 64. Accessories Mounting Dimensions (in.)

Actuator Model	A	B	C	Ø D	E	F	G	H	J	L	M	N	Ø P	Q	R	S
0.3	3.0	6.0	2.3	0.5	0.2	4.4	4.6	1.4	0.5	3.6	7.8	2.3	0.5	1.4	0.2	7.8
0.9	3.6	7.2	2.3	0.5	0.2	6.0	6.6	2.4	1.4	3.3	7.8	2.3	0.5	1.9	0.2	9.5
1.5	3.6	7.2	2.3	0.5	0.2	6.8	7.2	2.4	1.4	5.1	11.7	3.9	0.5	1.8	0.2	11.1
3	4.6	9.2	3.3	0.9	0.3	7.9	8.4	2.2	1.0	9.0	19.5	3.9	0.5	2.1	0.2	14.5
6	5.3	17.7	4.5	0.9	0.3	9.7	10.1	2.3	0.9	8.7	19.5	3.9	0.5	3.4	0.3	18.7
14	12.3	24.6	7.8	1.1	0.4	8.9	12.9	3.8	2.1	8.6	19.5	6.6	1.1	3.9	0.3	21.2
18	12.3	24.6	7.8	1.1	0.4	9.2	13.3	2.8	1.2	11.9	26.5	8.4	1.1	3.1	0.4	23.4
32	12.3	24.6	7.8	1.1	0.4	15.0	15.4	2.8	1.2	16.1	34.7	8.4	1.1	5.8	0.4	25.7
50	15.1	33.5	9.8	1.2	0.5	14.5	15.1	3.0	1.4	18.4	40.2	8.4	1.1	6.4	0.4	41.8
65	15.4	33.9	9.8	1.2	0.6	15.0	18.0	4.2	2.0	18.7	40.5	8.5	1.1	10.6	0.6	32.7
80	19.5	39.0	9.8	1.2	0.6	17.1	17.6	4.2	2.0	19.5	42.9	8.4	1.1	10.5	0.6	35.1
100	19.7	43.3	9.8	1.2	0.8	22.2	23.6	5.0	2.0	19.7	43.3	8.5	1.1	13.1	0.6	50.2

Figure 18. Accessories Mounting Holes on Actuator Top (Cover and Yoke)

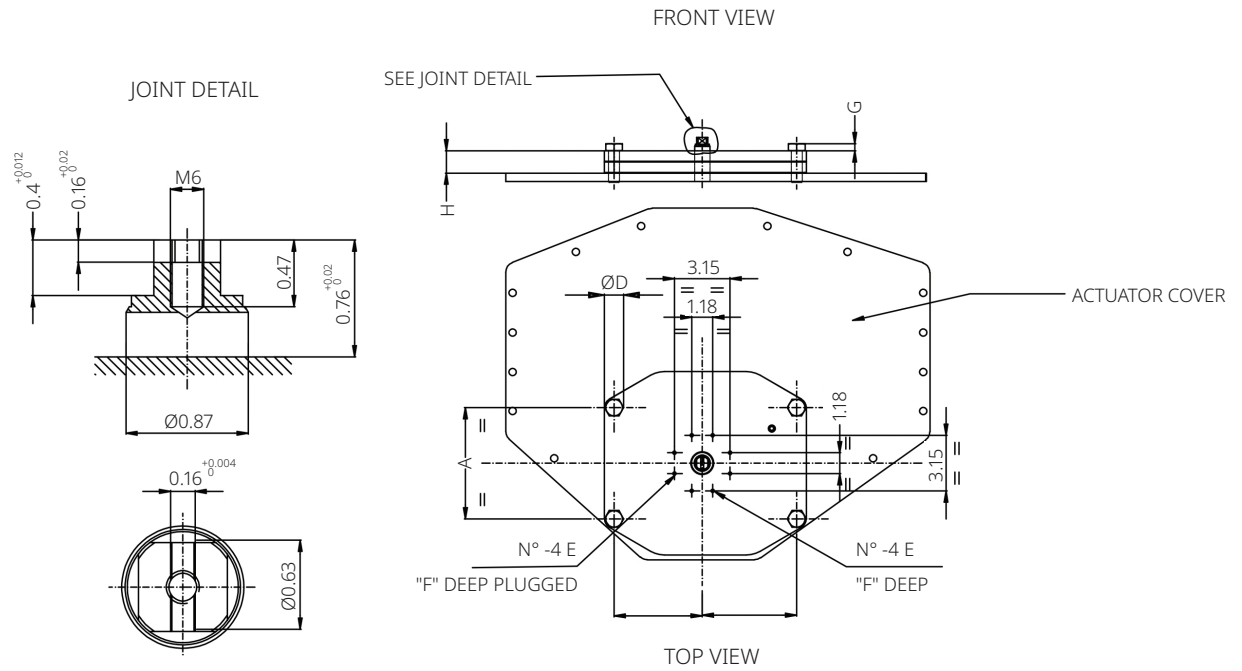


Table 65. Dimensions (in.)

Actuator Model	A	B	C	D	E	F	G	H
0.3	N/A	N/A	N/A	N/A	M5	0.35	N/A	1.26
0.9	N/A	N/A	N/A	N/A	M5	0.35	N/A	1.26
1.5	N/A	N/A	N/A	N/A	M5	0.35	N/A	1.26
3	6.30	5.00	5.35	1.18	M5	0.35	0.43	1.26
6	6.30	5.00	5.35	1.18	M5	0.35	0.43	1.26
14	6.30	5.00	5.35	1.18	M5	0.35	0.43	1.26
18	12.36	4.29	4.29	1.18	M5	0.35	0.43	1.26
32	12.36	4.29	4.29	1.18	M5	0.35	0.43	1.26
50	11.04	5.45	5.45	1.45	M5	0.35	0.51	1.26
65	16.14	7.08	7.08	1.73	M5	0.35	0.63	1.26
80	16.14	7.08	7.08	1.73	M5	0.35	0.63	1.26
100	18.11	8.07	8.07	1.73	M5	0.35	0.63	1.26

Model Decoding

Table 66. Double-Acting Hydraulic Actuators

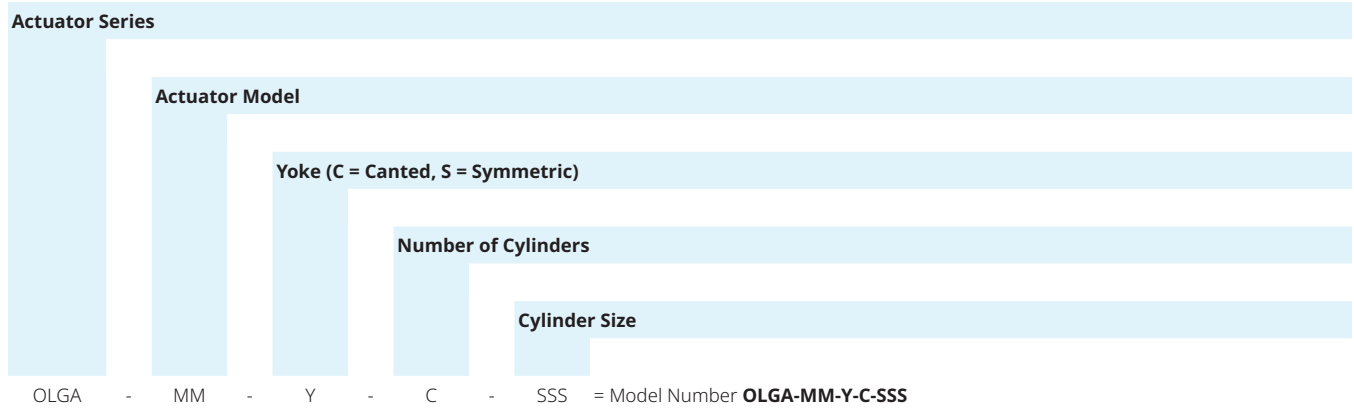
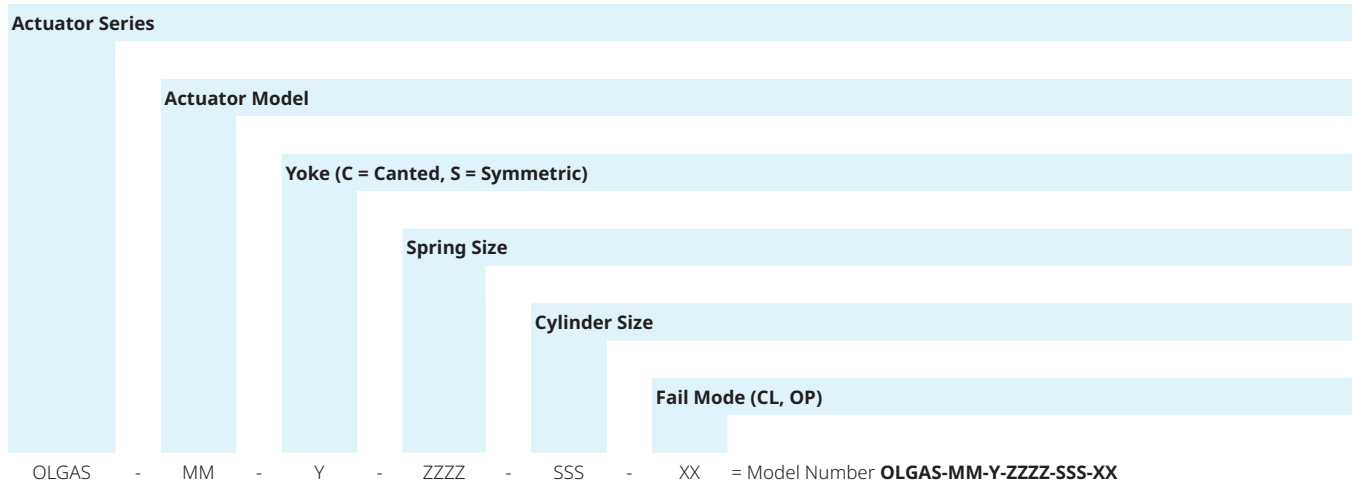


Table 67. Single-Acting Hydraulic Actuators



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