

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS0-190-SR	Start	6248		4602	5779	8142	9319	10496	Exceeds MOP		50	4602	90	10496
	Min	2478		1646	2239	3416	4009	4593				1646		4593
	End	3646		2000	3177	5540	6717	7894				2000		7894
JFS1-200-SR4	Start	6354		4938	6501	9625	11188	12750	15843	18962	50	4938	110	18962
	Min	3124		2354	3179	4828	5653	6478	8110	9756		2354		9756
	End	5478		3982	5546	8671	10234	11796	14891	18010		3982		18010
JFS1-200-SR3	Start	11619					6188	7747	10866	13984	80	6188	110	13984
	Min	5708					2804	3627	5273	6919	0	2804		6919
	End	10018					4438	5997	9116	12234	0	4438		12234
JFS1-250-SR3	Start	11619		6597	9111	14130	16639	19149	24167	29186	50	6597	110	29186
	Min	5708		3020	4347	6996	8320	9644	12293	14942	0	3020		14942
	End	10018		4849	7361	12380	14889	17399	22418	27436	0	4849		27436
JFS1-300-SR3	Start	11619	10795	14422	18048	25301	28927	Exceeds MOP			40	10795	84	30400
	Min	5708	5235	7154	9063	12891	14805				0	5235	84	15559
	End	10018	9045	12674	16298	23551	27178				0	9045	84	28561
JFS1-350-SR3	Start	11619	15126	19474	23822	Exceeds MOP					40	15126	69	28706
	Min	5708	7521	9812	12111							7521	70	14594
	End	10018	13376	17726	22072							13376	70	26597
JFS1-200-SR2	Start	13531						6239	9358	12476	90	6239	110	12476
	Min	6575						2677	4323	5969		2677	116	5969
	End	11398						3906	7025	10143		3906	116	10143
JFS1-250-SR2	Start	13531		5096	7603	12622	15131	17641	22660	27678	50	5096	110	27678
	Min	6575		2075	3397	6046	7370	8695	11344	13992		2075	116	13992
	End	11398		2764	5270	10289	12798	15308	20326	25345		2764	116	25345

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic

## Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS1-300-SR2	Start	13531	9287	12912	16540	23793	27420	Exceeds MOP			40	9287	87	29862
	Min	6575	4286	6200	8114	11942	13856					4286		15090
	End	11398	6954	10581	14207	21460	25086					6954		27321
JFS1-350-SR2	Start	13531	13618	17964	22314	Exceeds MOP					40	13618	70	22314
	Min	6575	6571	8867	11161							6571		11161
	End	11398	11285	15632	19981							11285		19981
JFS1-200-SR1	Start	154186							7643	10761	100	7643	110	10761
	Min	7487							3324	4970		3324		4970
	End	12965							4952	8071		4952		8071
JFS1-250-SR1	Start	15424			5888	10907	13416	15926	20944	25963	60	5888	110	25963
	Min	7492			2398	5046	6371	7695	10344	12993		2398		12993
	End	12965			3198	8216	10726	13235	18254	23273		3198		23273
JFS1-300-SR1	Start	15424	7572	11199	14825	22078	25704	29331	Exceeds MOP		40	7572	91	30406
	Min	7492	3286	5202	7114	10942	12856	14770				3286		15312
	End	12965	4881	8505	12134	19388	23014	26641				4881		27617
JFS1-350-SR1	Start	15424	11903	16251	20599	29296	Exceeds MOP				40	11903	75	30409
	Min	7492	5572	7869	10162	14752						5572		15312
	End	12965	9212	13557	17909	26606						9212		27617
JFS2-250-SR3	Start	22448				12126	15217	18317	24505	30695	70	12126	110	30695
	Min	10463				4884	6518	8152	11419	14685		4884		14685
	End	17202				6385	9477	12577	18765	24955		6385		24955
JFS2-300-SR3	Start	22448		12488	16958	25903	30376	34849	43794	52739	50	12488	110	52739
	Min	10463		5078	7435	12156	14517	16878	21599	26320		5078		26320
	End	17202		6748	11218	20163	24636	29109	38054	47000		6748		47000
JFS2-350-SR3	Start	22448	13354	18715	24080	34805	40168	45531	56257	Exceeds MOP	40	13354	100	56257
	Min	10463	5533	8364	11194	16855	19685	22516	28177			5533		28177
	End	17202	7614	12974	18340	29066	34428	39791	50517			7614		50517

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS2-400-SR3	Start	22448	23641	30717	37797	51952	Exceeds MOP				40	23641	78	55692
	Min	10463	10963	14696	18434	25904						10963		27769
	End	17202	17901	24976	32057	46212						17901		49539
JFS2-250-SR2	Start	25228					12323	15418	21608	27798	80	12323	110	27798
	Min	11896					4951	6584	9851	13118		4951		13118
	End	19850					6438	9533	15723	21913		6438		21913
JFS2-300-SR2	Start	25228			14061	23006	27479	31951	40897	49842	60	14061	110	49842
	Min	11896			5868	10589	12950	15310	20032	24753		5868		24753
	End	19850			8176	17121	21594	26067	35012	43958		8176		43958
JFS2-350-SR2	Start	25228		15818	21182	31908	37271	42634	53360	Exceeds MOP	50	15818	106	55952
	Min	11896		6801	9627	15288	18118	20948	26609			6801		27902
	End	19850		9936	15298	26023	31386	36749	47475			9936		49781
JFS2-400-SR2	Start	25228	20744	27820	34899	49055	56132	Exceeds MOP			40	20744	81	56745
	Min	11896	9395	13053	16866	24337	28072					9395		28379
	End	19850	14859	21938	29015	43170	50247					14859		50796
JFS2-250-SR1	Start	31980							16428	22618	100	16428	110	22618
	Min	14927							6534	9801		6534		9801
	End	24584							8334	14524		8334		14524
JFS2-300-SR1	Start	31980				17826	26739	26771	35717	44662	70	17826	110	44662
	Min	14927				7272	10908	11993	16715	21436		7272		21436
	End	24584				9732	14598	18677	27623	36568		9732		36568
JFS2-350-SR1	Start	31980			16002	26728	32091	37454	48180	Exceeds MOP	60	16002	100	48180
	Min	14927			6310	11971	14801	17632	23292			6310		23292
	End	24584			7908	18634	23997	29360	40086			7908		40086
JFS2-400-SR1	Start	31980	15564	22645	29719	43875	50952	Exceeds MOP			40	15564	86	54936
	Min	14927	6079	9812	13549	21020	24756					6079		26691
	End	24584	7470	14546	21625	35781	42858					7470		46209

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS3-300-SR3	Start	37114				22662	28041	33421	44179	54938	70	22662	110	54938
	Min	17302				9458	12298	15137	20815	26493		9458		26493
	End	28450				13180	18560	23939	34698	45457		13180		45457
JFS3-350-SR3	Start	37114			20469	33369	39819	46269	59169	72069	60	20469	110	72069
	Min	17302			8301	15109	18513	21918	28726	35534		8301		35534
	End	28450			10987	23887	30337	36787	49688	62588		10987		62588
JFS3-400-SR3	Start	37114	19942	28456	36966	53991	62503	71015	88040	105064	40	19942	110	105064
	Min	17302	8023	12515	17008	25993	30486	34978	43963	52949		8023		52949
	End	28450	10460	18971	27485	44509	53022	61534	78558	95583		10460		95583
JFS3-500-SR3	Start	37114	49650	63112	76577	103504	Exceeds MOP				40	49650	77	110336
	Min	17302	23702	30806	37914	52125		23702	55565					
	End	28450	40168	53636	67096	94023		40168	100228					
JFS3-300-SR2	Start	42433					23583	28962	39721	50480	80	23583	110	50480
	Min	19780					9585	12424	18102	23781		9585		23781
	End	32524					12739	18119	28877	39636		12739		39636
JFS3-350-SR2	Start	42433				28910	43366	41810	54711	67611	70	28910	110	67611
	Min	19780				12397	18595	19205	26014	32822		12397		32822
	End	32524				18067	27100	30967	43867	56767		18067		56767
JFS3-400-SR2	Start	42433		23996	32508	49532	58045	66557	83581	100606	50	23996	110	100606
	Min	19780		9803	14295	23281	27773	32266	41251	50236		9803		50236
	End	32524		13151	21664	38689	47201	55713	72738	89762		13151		89762
JFS3-500-SR2	Start	42433	45191	58652	72119	99046	Exceeds MOP				40	45191	79	108752
	Min	19780	20990	28094	35201	49413		20990	54255					
	End	32524	34348	47816	61275	88202		34348	96846					
JFS3-300-SR1	Start	55039							29148	39907	100	29148	110	39907
	Min	25656							11672	17351		11672		17351
	End	42186							15083	25842		15083		25842

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS4-500-SR3	Start	82617		50421	66755	99431	115769	132107	164782	197458	50	50421	110	197458
	Min	37223		19624	28250	45495	54118	62741	79986	97232		19624		97232
	End	58438		23961	40297	72973	89311	105649	138324	171000		23961		171000
JFS4-600-SR3	Start	82617	77922	101566	125212	172502	196147	Exceeds MOP			40	77922	82	203636
	Min	37223	34144	46623	59102	84061	96540					34144		100226
	End	58438	51464	75106	98754	146044	169689					51464		176168
JFS4-400-SR2	Start	98884							68264	88923	100	68264	110	88923
	Min	44506							27621	38525		27621		38525
	End	69771							36407	57065		36407		57065
JFS4-500-SR2	Start	98884			54354	87030	103368	119706	152381	185057	60	54354	110	185057
	Min	44506			20280	37526	46148	54771	72017	89262		20280		89262
	End	69771			22497	55172	71510	87848	120524	153199		22497		153199
JFS4-600-SR2	Start	98884	65521	89166	112811	160101	183746	Exceeds MOP			40	65521	87	199448
	Min	44506	26174	38657	51132	76091	88570					26174		96139
	End	69771	33664	57310	80954	128243	151888					33664		164868
JFS4-400-SR1	Start	111383							55628	76287	100	55628	110	76287
	Min	50852							20677	31581		20677		31581
	End	81318							22729	43387		22729		43387
JFS4-500-SR1	Start	111383			74393	90731	107069	139745	172421		70	74393	110	172421
	Min	50852			30582	39204	47827	65073	82318			30582		82318
	End	81318			41494	57832	74170	106846	139521			41494		139521
JFS4-600-SR1	Start	111383		76528	100175	147465	171110	194754	Exceeds MOP		50	76528	91	202545
	Min	50852		31706	44188	69147	81626	94105				31706		97870
	End	81318		43629	67276	114565	138210	161855				43629		168330
JFS5-500-SR4	Start	155203						146656	189014	231371	90	146656	110	231371
	Min	66878						60949	83304	105660		60949		105660
	End	98227						84309	126666	169023		84309		169023

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS3-350-SR1	Start	55039				18338	27507	31238	44138	57038	70	18338	110	57038
	Min	25656				5967	8950	12775	19584	26392		5967		26392
	End	42186				4273	6409	17173	30073	42973		4273		42973
JFS3-400-SR1	Start	55039			21935	38960	47472	55984	73009	90033	60	21935	110	90033
	Min	25656			7865	16851	21343	25836	34821	43806		7865		43806
	End	42186			7870	24895	33407	41919	58944	75968		7870		75968
JFS3-500-SR1	Start	55039	34619	48081	61546	88473	101937	Exceeds MOP			40	34619	85	109165
	Min	25656	14559	21665	28771	42983	50088					14559		53640
	End	42186	20554	34020	47481	74408	87872					20554		94103
JFS4-350-SR4	Start	69401						39232	54886	70540	90	39232	110	70540
	Min	31504						15098	23359	31621		15098		31621
	End	49981						17980	33634	49288		17980		49288
JFS4-400-SR4	Start	69401				48602	72903	69261	89920	110579	70	48602	110	110579
	Min	31504				20043	30065	30946	41850	52753		20043		52753
	End	49981				27351	41026	48010	68669	89327		27351		89327
JFS4-500-SR4	Start	69401	43334	59668	76010	108686	125024	141361	174037	Exceeds MOP	40	43334	105	198402
	Min	31504	17263	25886	34508	51754	60377	68999	86245			17263		98319
	End	49981	22083	38419	54759	87434	103772	120110	152786			22083		174176
JFS4-600-SR4	Start	69401	87177	110822	134467	181757	205402	Exceeds MOP			40	87177	81	205775
	Min	31504	40402	52885	65361	90319	102798					40402		102985
	End	49981	65926	89573	113216	160505	184150					65926		184485
JFS4-350-SR3	Start	82617							45631	61285	100	45631	110	61285
	Min	37223							17101	25363		17101		25363
	End	58438							19173	34827		19173		34827
JFS4-400-SR3	Start	82617				39347	59021	60006	80665	101324	70	39347	110	101324
	Min	37223				13785	20677	24688	35591	46495		13785		46495
	End	58438				12889	19334	33548	54207	74866		12889		74866

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS5-600-SR4	Start	155203			137719	199021	229672	260322	321624	382926	60	137719	110	382926
	Min	66878			56232	88586	104763	120940	153293	185647		56232		185647
	End	98227			75371	136673	167324	197975	259277	320578		75371		320578
JFS5-700-SR4	Start	155203	157013	201093	245180	333347	377431	Exceeds MOP			40	157013	84	396645
	Min	66878	66415	89679	112948	159478	182747		66415	192050				
	End	98227	94666	138748	182833	271000	315083		94666	331124				
JFS5-800-SR4	Start	155203	235431	292584	349737	Exceeds MOP					40	235431	65	389083
	Min	66878	107802	137967	168131		107802	187045						
	End	98227	173083	230237	287390		173083	319721						
JFS5-500-SR3	Start	186264						127056	169413	211770	90	127056	110	211770
	Min	79801						46808	69163	91518		46808		91518
	End	116139						50320	92678	135035		50320		135035
JFS5-600-SR3	Start	186264			118118	179420	210071	240722	302024	363325	60	118118	110	363325
	Min	79801			42091	74444	90621	106798	139152	171505		42091		171505
	End	116139			41383	102685	133336	163986	225288	286590		41383		286590
JFS5-700-SR3	Start	186264	137413	181495	225580	313747	357830	Exceeds MOP			40	137413	87	390360
	Min	79801	52274	75539	98806	145339	168605		52274	183933				
	End	116139	60677	104764	148844	237011	281095		60677	306649				
JFS5-800-SR3	Start	186264	215830	272984	330137	Exceeds MOP					40	215830	71	398640
	Min	79801	93661	123825	153989		93661	185942						
	End	116139	139095	196248	253401		139095	305982						
JFS5-500-SR2	Start	229129							147264	189622	100	147264	110	189622
	Min	96454							50940	73295		50940		73295
	End	136380							45771	88129		45771		88129
JFS5-600-SR2	Start	229129							218573	279875	90	218573	110	341176
	Min	96454							88575	120929		88575		153282
	End	136380							117080	178382		117080		239683

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)							MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)	
			40	50	60	70	80	90	100					110
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS5-700-SR2	Start	229129	0	159344	203431	291598	335681	379765	Exceeds MOP	60	159344	91	395588	
	Min	96454	0	57319	80583	127116	150382	173649			57319		180884	
	End	136380	0	57858	101938	190105	234189	278272			57858		289867	
JFS5-800-SR2	Start	229129	193682	250835	307988	Exceeds MOP				40	193682	69	371125	
	Min	96454	75438	105602	135766						75438		163598	
	End	136380	92189	149342	206495						92189		248826	
JFS5-500-SR1	Start	255070								110	162920	110	162920	
	Min	109739							58758		58758			
	End	160781							59742		59742			
JFS5-600-SR1	Start	255070					191871	253173	314475	90	191871	110	314475	
	Min	109739					74038	106391	138745		74038		138745	
	End	160781					88693	149995	211297		88693		211297	
JFS5-700-SR1	Start	255070			176729	264896	308980	353063	Exceeds MOP	60	176729	95	385427	
	Min	109739			66046	112579	135845	159111			66046		173697	
	End	160781			73551	161718	205802	249885			73551		272791	
JFS5-800-SR1	Start	255070	166980	224133	281286	395592	Exceeds MOP			40	166980	73	399548	
	Min	109739	60901	91065	121229	181557					60901		183373	
	End	160781	63802	120955	178108	292414					63802		295338	
JFS6-600-SR4	Start	306196					242595	317471	392347	90	242595	110	392347	
	Min	130638					94152	133670	173187		94152		173187	
	End	188854					114191	189067	263943		114191		263943	
JFS6-700-SR4	Start	306196			224100	331790	385635	439480	547170	60	224100	110	654859	
	Min	130638			84391	141227	169645	198063	254900		311736		84391	311736
	End	188854			95696	203386	257231	311076	418766		526455		95696	526455
JFS6-800-SR4	Start	306196	212192	282001	351809	491426	561234	631043	Exceeds MOP	40	212192	97	702561	
	Min	130638	78106	114947	151793	225479	262323	299166			78106		333072	
	End	188854	83788	153595	223405	363022	432831	502639			83788		559605	

Note: All Published Torques are Guaranteed Minimum Values.



# Torque - Pneumatic

## Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS6-900-SR4	Start	306196	331327	420988	510656	689985	Exceeds MOP				40	331327	75	717584
	Min	130638	140983	188304	235629	330274		140983	343485					
	End	188854	202923	292591	382252	561581		202923	584044					
JFS6-600-SR3	Start	363428							281433	356308	100	281433	110	356308
	Min	154432							107637	147150		107637		147150
	End	221788							126442	201319		126442		201319
JFS6-700-SR3	Start	363428				295752	349597	403442	511131	618821	70	295752	110	618821
	Min	154432				115190	143608	172026	228863	285699		115190		285699
	End	221788				140758	194603	248448	356138	463828		140758		463828
JFS6-800-SR3	Start	363428		245958	315771	455388	525196	595005	Exceeds MOP		50	245958	101	688222
	Min	154432		88910	125756	199443	236286	273129		88910		315920		
	End	221788		90968	160777	300394	370203	440011		90968		508946		
JFS6-900-SR3	Start	363428	295289	384954	474618	653947	Exceeds MOP				40	295289	78	706262
	Min	154432	114946	162268	209592	304237		114946	328576					
	End	221788	140296	229964	319624	498953		140296	538869					
JFS6-700-SR2	Start	441059						354557	462247	569936	90	354557	110	569936
	Min	186707						136709	193545	250381		136709		250381
	End	266461						163498	271188	378877		163498		378877
JFS6-800-SR2	Start	441059			266886	406503	476312	546120	685737	Exceeds MOP	60	266886	106	714146
	Min	186707			90438	164125	200968	237812	311498			90438		324403
	End	266461			75827	215444	285253	355061	494678			75827		515172
JFS6-900-SR2	Start	441059		336070	425733	605062	694726	Exceeds MOP			50	336070	83	716199
	Min	186707		126949	174274	268920	316243		126949	326017				
	End	266461		145010	234674	414003	503667		145010	519235				
JFS6-700D-SR2	Start	441059	354557	462247	569936	Exceeds MOP					40	354557	68	672525
	Min	186707	136709	193545	250381		136709	295450						
	End	266461	163498	271188	378877		163498	447075						

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)							MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)	
			40	50	60	70	80	90	100					110
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS6-700-SR1	Start	498291						318519	426208	533898	90	318519	110	533898
	Min	210500						110672	167508	224345		110672		224345
	End	299394						100870	208560	316250		100870		316250
JFS6-800-SR1	Start	498291				370465	555697	510082	649699	Exceeds MOP	70	370465	109	699818
	Min	210500				138088	207132	211775	285462			138088		307483
	End	299394				152816	229225	292433	432050			152816		465380
JFS6-900-SR1	Start	498291		300027	389695	569024	658688	Exceeds MOP			50	300027	85	703000
	Min	210500		100913	148237	242883	290206		100913	309729				
	End	299394		82384	172047	351375	441040		82384	470709				
JFS6-700D-SR1	Start	498291	318519	426208	533898	Exceeds MOP					40	318519	71	652691
	Min	210500	110672	167508	224345		110672	274261						
	End	299394	100870	208560	316250		100870	386615						
JFS7-700-SR3	Start	504564					308793	372714	500556	628399	80	308793	110	628399
	Min	228245					121334	155070	222543	290015		121334		290015
	End	360365					151000	214921	342763	470605		151000		470605
JFS7-800-SR3	Start	504564			268637	434381	517253	600126	765870	931614	60	268637	110	931614
	Min	228245			100141	187617	231355	275093	362569	450045		100141		450045
	End	360365			110844	276588	359460	442332	608076	773820		110844		773820
JFS7-900-SR3	Start	504564		350766	457210	670097	776541	882985	1095872	Exceeds MOP	50	350766	105	1138141
	Min	228245		143491	199665	312023	368201	424380	536737			143491		557440
	End	360365		192976	299417	512304	618748	725191	938079			192976		974262
JFS7-1000-SR3	Start	504564	380718	509899	639071	897423	1026599	1155776	Exceeds MOP	40	380718	87	1155776	
	Min	228245	159295	227473	295647	432000	500176	568353			159295		568353	
	End	360365	222925	352100	481278	739630	868806	997982			222925		997982	
JFS7-700-SR2	Start	593881						303592	431435	559277	90	303592	110	559277
	Min	268484						111038	178510	245983		111038		245983
	End	423532						117184	245026	372868		117184		372868

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Spring-Return Actuator



Actuator Model	Spring Torque Start/Min./End (lbf-in)		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS7-800-SR2	Start	593881				365260	547889	531004	696748	862492	70	365260	110	862492
	Min	268484				143585	215377	231061	318537	406013		143585		406013
	End	423532				178851	268276	344595	510339	676083		178851		676083
JFS7-900-SR2	Start	593881		281648	388088	600975	707419	813863	1026750	Exceeds MOP	50	281648	110	1113290
	Min	268484		99456	155633	267990	324169	380347	492705			99456		534233
	End	423532		95234	201680	414567	521010	627454	840341			95234		911170
JFS7-1000-SR2	Start	593881	311596	440772	569949	828301	957478	1086654	Exceeds MOP	40	311596	91	1133742	
	Min	268484	115263	183438	251615	387968	456144	524321			115263		547041	
	End	423532	125188	254366	383540	641893	771069	900245			125188		939256	
JFS7-800D-SR2	Start	593881	531004	696748	862492	Exceeds MOP				40	531004	71	1050084	
	Min	268484	231061	318537	406013		231061	494321						
	End	423532	344595	510339	676083		344595	823131						
JFS7-800-SR1	Start	737338						448286	614030	779774	90	448286	110	779774
	Min	326288						167807	255283	342759		167807		342759
	End	499124						187613	353357	519101		187613		519101
JFS7-900-SR1	Start	737338				518257	777386	731145	944032	Exceeds MOP	70	518257	104	1064059
	Min	326288				204736	307104	317093	429451			204736		484052
	End	499124				257585	386378	470472	683360			257585		770244
JFS7-1000-SR1	Start	737338			487231	745583	874759	1003936	Exceeds MOP	60	487231	95	981188	
	Min	326288			188361	324714	392890	461066			188361		505636	
	End	499124			226558	484911	614087	743263			226558		815112	
JFS7-800D-SR1	Start	737338	448286	614030	779774	1111262	Exceeds MOP				40	448286	74	1137932
	Min	326288	167807	255283	342759	517711		167807	530136					
	End	499124	187613	353357	519101	850590		187613	871004					

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)	
			40	50	60	70	80	90	100	110					
			Pressure Torque Output: Start/Min./End (lbf-in)												
JFS0-190	Start	Outboard	7319	8540	9761	12195	Exceeds MOP				40	7319	70	12195	
	Min		3664	4265	4876	6097						3664		6097	
	End		7319	8540	9761	12195						7319		12195	
	Start	Inboard	7319	8540	9761	12195						7319		12195	
	Min		3664	4265	4876	6097						3664		6097	
	End		7319	8540	9761	12195						7319		12195	
JFS1-200	Start	Outboard	9434	11009	12575	15726	17292	18867	21876	25000	40	9434	110	25000	
	Min		4982	5805	6637	8301	9124	9956	11549	13195		4982		13195	
	End		9434	11009	12575	15726	17292	18867	21876	25000		9434		25000	
	Start	Inboard	9434	11009	12575	15726	17292	18867	21876	25000		9434		25000	
	Min		4982	5805	6637	8301	9124	9956	11549	13195		4982		13195	
	End		9434	11009	12575	15726	17292	18867	21876	25000		9434		25000	
JFS1-250	Start	Outboard	15053	17566	20080	25097	27602	30115	Exceeds MOP		40	15053	90	30115	
	Min		7947	9274	10593	13248	14566	15894						7947	15894
	End		15053	17566	20080	25097	27602	30115						15053	30115
	Start	Inboard	15053	17566	20080	25097	27602	30115						15053	30115
	Min		7947	9274	10593	13248	14566	15894						7947	15894
	End		15053	17566	20080	25097	27602	30115						15053	30115
JFS1-300	Start	Outboard	21761	25389	29009	Exceeds MOP					40	21761	62	30967	
	Min		11487	13398	15310							11487		16343	
	End		21761	25389	29009							21761		15483	
	Start	Inboard	21761	25389	29009							21761		15483	
	Min		11487	13398	15310							11487		8172	
	End		21761	25389	29009							21761		15483	

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic

## Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS1-350	Start	Outboard	26088	30442	Exceeds MOP						40	26088	52	30964
	Min		13770	16062								13770		16337
	End		26088	30442								26088		30964
	Start	Inboard	26088	30442								26088		30964
	Min		13770	16062								13770		16337
	End		26088	30442								26088		30964
JFS2-250	Start	Outboard	18566	21664	24752	30947	34044	37142	43327	49522	40	18566	110	49522
	Min		9796	11434	13071	16327	17965	19611	22867	26133		9796		26133
	End		18566	21664	24752	30947	34044	37142	43327	49522		18566		49522
	Start	Inboard	18566	21664	24752	30947	34044	37142	43327	49522		18566		49522
	Min		9796	11434	13071	16327	17965	19611	22867	26133		9796		26133
	End		18566	21664	24752	30947	34044	37142	43327	49522		18566		49522
JFS2-300	Start	Outboard	26841	31310	35779	44726	49204	53673	Exceeds MOP		40	26841	92	68379
	Min		14159	16522	18885	23602	25965	28327				14159		36089
	End		26841	31310	35779	44726	49204	53673				26841		68379
	Start	Inboard	26841	31310	35779	44726	49204	53673				26841		56982
	Min		14159	16522	18885	23602	25965	28327				14159		30074
	End		26841	31310	35779	44726	49204	53673				26841		56982
JFS2-350	Start	Outboard	32177	37540	42903	53628	58991	Exceeds MOP		40	32177	80	58991	
	Min		16982	19814	22646	28301	31133				16982		31133	
	End		32177	37540	42903	53628	58991				32177		58991	
	Start	Inboard	32177	37540	42903	53628	58991				32177		58991	
	Min		16982	19814	22646	28301	31133				16982		31133	
	End		32177	37540	42903	53628	58991				32177		58991	

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic

## Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS2-400	Start	Outboard	42469	49540	56619	Exceeds MOP					40	42469	60	56619
	Min		22416	26150	56434		22416	56434						
	End		42469	49540	56619		42469	56619						
	Start	Inboard	4239	49540	56619		4239	56619						
	Min		22416	26150	56434		22416	56434						
	End		42469	49540	56619		42469	56619						
JFS3-300	Start	Outboard	32274	37655	43035	53796	59177	64549	75319	86071	40	32274	110	86071
	Min		17035	19876	22717	28389	31230	34071	39743	45425		17035		45425
	End		32274	37655	43035	53796	59177	64549	75319	86071		32274		86071
	Start	Inboard	32274	37655	43035	53796	59177	64549	75319	86071		32274		86071
	Min		17035	19876	22717	28389	31230	34071	39743	45425		17035		45425
	End		32274	37655	43035	53796	59177	64549	75319	86071		32274		86071
JFS3-350	Start	Outboard	38699	45150	51602	64504	70947	77398	90301	103204	40	38699	110	103204
	Min		20425	23832	27230	34044	37442	40850	47655	54469		20425		54469
	End		38699	45150	51602	64504	70947	77398	90301	103204		38699		103204
	Start	Inboard	38699	45150	51602	64504	70947	77398	90301	103204		38699		103204
	Min		20425	23832	27230	34044	37442	40850	47655	54469		20425		54469
	End		38699	45150	51602	64504	70947	77398	90301	103204		38699		103204
JFS3-400	Start	Outboard	51071	59584	68097	85124	93637	102150	Exceeds MOP		40	51071	96	112365
	Min		26956	31451	35938	44929	49416	53912		26956		59303		
	End		51071	59584	68097	85124	93637	102150		51071		112365		
	Start	Inboard	51071	59584	68097	85124	93637	102150		51071		112365		
	Min		26956	31451	35938	44929	49416	53912		26956		59303		
	End		51071	59584	68097	85124	93637	102150		51071		112365		

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic

## Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS3-500	Start	Outboard	80779	94248	107708	Exceeds MOP					40	80779	61	112286
	Min		42637	49743	56850							42637		59266
	End		80779	94248	107708							80779		112286
	Start	Inboard	80779	94248	107708							80779		112286
	Min		42637	49743	56850							42637		59266
	End		80779	94248	107708							80779		112286
JFS4-350	Start	Outboard	46965	54788	62619	78274	86097	93920	109575	125230	40	46965	110	125230
	Min		24788	28920	33044	41310	45442	49575	57832	66097		24788		66097
	End		46965	54788	62619	78274	86097	93920	109575	125230		46965		125230
	Start	Inboard	46965	54788	62619	78274	86097	93920	109575	125230		46965		125230
	Min		24788	28920	33044	41310	45442	49575	57832	66097		24788		66097
	End		46965	54788	62619	78274	86097	93920	109575	125230		46965		125230
JFS4-400	Start	Outboard	61973	72310	82637	103292	113628	123956	144611	165274	40	61973	110	165274
	Min		32708	38159	43611	54513	59965	65416	76327	87230		32708		87230
	End		61973	72310	82637	103292	113628	123956	144611	165274		61973		165274
	Start	Inboard	61973	72310	82637	103292	113628	123956	144611	165274		61973		165274
	Min		32708	38159	43611	54513	59965	65416	76327	87230		32708		87230
	End		61973	72310	82637	103292	113628	123956	144611	165274		61973		165274
JFS4-500	Start	Outboard	98027	114363	130699	163381	179717	196053	Exceeds MOP		40	98027	91	205856
	Min		51735	60363	68982	86230	94850	103469				51735		108642
	End		98027	114363	130699	163381	179717	196053				98027		205856
	Start	Inboard	98027	114363	130699	163381	179717	196053				98027		205856
	Min		51735	60363	68982	86230	94850	103469				51735		108642
	End		98027	114363	130699	163381	179717	196053				98027		205856

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic

## Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)							MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)	
			40	50	60	70	80	90	100					110
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS4-600	Start	Outboard	141867	165513	189159	Exceeds MOP					40	141867	63	205711
	Min		74876	87354	99832							74876		108567
	End		141867	165513	189159							141867		205711
	Start	Inboard	141867	165513	189159							141867		205711
	Min		74876	87354	99832							74876		108567
	End		141867	165513	189159							141867		205711
JFS5-500	Start	Outboard	127071	148248	169434	211788	232965	254142	296504	338858	40	127071	110	338858
	Min		67062	78248	89425	111779	122956	134133	156487	178841		67062		178841
	End		127071	148248	169434	211788	232965	254142	296504	338858		127071		338858
	Start	Inboard	127071	148248	169434	211788	232965	254142	296504	338858		127071		338858
	Min		67062	78248	89425	111779	122956	134133	156487	178841		67062		178841
	End		127071	148248	169434	211788	232965	254142	296504	338858		127071		338858
JFS5-600	Start	Outboard	183903	214558	245204	306504	337159	367814	Exceeds MOP		40	183903	95	402143
	Min		97062	113239	129416	161770	177947	194124				97062		212242
	End		183903	214558	245204	306504	337159	367814				183903		402143
	Start	Inboard	183903	214558	245204	306504	337159	367814				183903		402143
	Min		97062	113239	129416	161770	177947	194124				97062		212242
	End		183903	214558	245204	306504	337159	367814				183903		402143
JFS5-700	Start	Outboard	264504	308584	352673	Exceeds MOP					40	264504	66	402047
	Min		139602	162867	186133							139602		212191
	End		264504	308584	352673							264504		402047
	Start	Inboard	264504	308584	352673							264504		402047
	Min		139602	162867	186133							139602		212191
	End		264504	308584	352673							264504		402047

Note: All Published Torques are Guaranteed Minimum Values.



# Torque - Pneumatic

## Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)								MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)
			40	50	60	70	80	90	100	110				
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS6-600	Start	Outboard	224628	262062	299504	374381	411814	449257	524133	599009	40	224628	110	599009
	Min		118558	138310	158071	197593	217345	237106	276628	316142		118558		316142
	End		224628	262062	299504	374381	411814	449257	524133	599009		224628		599009
	Start	Inboard	224628	262062	299504	374381	411814	449257	524133	599009		224628		599009
	Min		118558	138310	158071	197593	217345	237106	276628	316142		118558		316142
	End		224628	262062	299504	374381	411814	449257	524133	599009		224628		599009
JFS6-700	Start	Outboard	323071	376912	430761	538451	592292	646142	Exceeds MOP		40	323071	98	725832
	Min		170504	198929	227345	284177	312602	341018				170504		383077
	End		323071	376912	430761	538451	592292	646142				323071		725832
	Start	Inboard	323071	376912	430761	538451	592292	646142				323071		725832
	Min		170504	198929	227345	284177	312602	341018				170504		383077
	End		323071	376912	430761	538451	592292	646142				323071		725832
JFS6-800	Start	Outboard	418850	488655	558469	698088	Exceeds MOP			40	418850	75	726012	
	Min		221062	257903	294743	368434					221062		383171	
	End		418850	488655	558469	698088					418850		726012	
	Start	Inboard	418850	488655	558469	698088					418850		726012	
	Min		221062	257903	294743	368434					221062		383171	
	End		418850	488655	558469	698088					418850		726012	
JFS6-900	Start	Outboard	537982	627646	717319	Exceeds MOP			40	537982	60	717319		
	Min		283938	331257	378584					283938		378584		
	End		537982	627646	717319					537982		717319		
	Start	Inboard	537982	627646	717319					537982		717319		
	Min		283938	331257	378584					283938		378584		
	End		537982	627646	717319					537982		717319		

Note: All Published Torques are Guaranteed Minimum Values.

# Torque - Pneumatic Double-Acting Actuator



Actuator Model	Stroke Direction Start/Min./End		Operating Pressure, (psig)							MinOP (psig)	Torque @ MinOP (lbf-in)	MOP (psig)	Torque @ MOP (lbf-in)	
			40	50	60	70	80	90	100					110
			Pressure Torque Output: Start/Min./End (lbf-in)											
JFS7-700	Outboard	Start	383531	447451	511372	639212	703133	767053	894894	1022735	40	110	383531	1022735
		Min	202416	236150	269885	337363	371097	404832	472310	539770			202416	539770
		End	383531	447451	511372	639212	703133	767053	894894	1022735			383531	1022735
	Inboard	Start	383531	447451	511372	639212	703133	767053	894894	1022735			383531	1022735
		Min	202416	236150	269885	337363	371097	404832	472310	539770			202416	539770
		End	383531	447451	511372	639212	703133	767053	894894	1022735			383531	1022735
JFS7-800	Outboard	Start	497230	580106	662973	828717	911593	994460	Exceeds MOP		40	90	497230	994460
		Min	262425	306168	349903	437381	481115	524858					262425	524858
		End	497230	580106	662973	828717	911593	994460					497230	994460
	Inboard	Start	497230	580106	662973	828717	911593	994460					497230	994460
		Min	262425	306168	349903	437381	481115	524858					262425	524858
		End	497230	580106	662973	828717	911593	994460					497230	994460
JFS7-900	Outboard	Start	638664	745106	851549	1064434	Exceeds MOP				40	79	638664	1151717
		Min	337071	393248	449425	561788							337071	607854
		End	638664	745106	851549	1064434							638664	1151717
	Inboard	Start	638664	745106	851549	1064434							638664	1151717
		Min	337071	393248	449425	561788							337071	607854
		End	638664	745106	851549	1064434							638664	1151717
JFS7-1000	Outboard	Start	775053	904230	1033407	Exceeds MOP					40	65	775053	1152249
		Min	409062	477230	545407								409062	608129
		End	775053	904230	1033407								775053	1152249
	Inboard	Start	775053	904230	1033407								775053	1152249
		Min	409062	477230	545407								409062	608129
		End	775053	904230	1033407								775053	1152249

Note: All Published Torques are Guaranteed Minimum Values.