

Bettis G-Series

Pneumatic Double-Acting and Spring-Return Actuator Torque Chart Imperial

BETTIS™



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	120	130	140	150	160	170	180	190					200	
			Pressure Torque Output: Start/Min./End (lbf-in)																					
G01x08	Outboard	Start	7,758	9,833	11,909	13,984	16,060	18,137	20,213	22,290	24,367	26,445	28,523	30,601	32,680	34,759	36,838	38,918	Exceeds MOP	40	192	7,758	39,334	
		Min	4,220	5,311	6,401	7,492	8,582	9,673	10,764	11,855	12,946	14,037	15,128	16,220	17,311	18,402	19,494	20,586				4,220		20,804
		End	7,751	9,824	11,897	13,971	16,044	18,119	20,193	22,268	24,343	26,419	28,495	30,571	32,648	34,725	36,802	38,879				7,751		39,295
	Inboard	Start	7,625	9,667	11,709	13,751	15,794	17,837	19,880	21,924	23,968	26,012	28,057	30,102	32,147	34,192	36,238	38,285				7,625		38,694
		Min	4,150	5,223	6,297	7,370	8,443	9,516	10,590	11,663	12,737	13,811	14,884	15,958	17,032	18,106	19,180	20,255				4,150		20,469
		End	7,618	9,657	11,697	13,738	15,778	17,819	19,860	21,902	23,944	25,986	28,029	30,072	32,115	34,159	36,203	38,247				7,618		38,656
G01x09	Outboard	Start	9,953	12,592	15,231	17,871	20,511	23,152	25,792	28,434	31,075	33,717	36,360	39,002	Exceeds MOP	40	151	9,953	39,267					
		Min	5,387	6,773	8,159	9,545	10,931	12,318	13,704	15,091	16,478	17,865	19,251	20,638				5,387		20,777				
		End	9,943	12,579	15,216	17,853	20,491	23,129	25,767	28,406	31,045	33,684	36,324	38,964				9,943		39,228				
	Inboard	Start	9,819	12,425	15,031	17,637	20,244	22,851	25,459	28,067	30,675	33,284	35,893	38,502				9,819		38,763				
		Min	5,317	6,685	8,054	9,423	10,792	12,161	13,530	14,899	16,268	17,638	19,007	20,377				5,317		20,514				
		End	9,810	12,413	15,016	17,620	20,224	22,829	25,434	28,039	30,645	33,251	35,857	38,464				9,810		38,725				
G01x10	Outboard	Start	13,293	16,786	20,279	23,773	27,267	30,762	34,257	37,752	Exceeds MOP	40	114	13,293	39,150									
		Min	7,156	8,989	10,823	12,656	14,490	16,324	18,158	19,992				7,156		20,725								
		End	13,280	16,770	20,259	23,750	27,240	30,731	34,223	37,715				13,280		39,112								
	Inboard	Start	13,160	16,620	20,079	23,540	27,001	30,462	33,923	37,386				13,160		38,770								
		Min	7,086	8,902	10,718	12,534	14,351	16,167	17,983	19,800				7,086		20,527								
		End	13,147	16,603	20,060	23,517	26,974	30,432	33,890	37,349				13,147		38,732								
G01x12	Outboard	Start	19,200	24,199	29,198	34,197	39,197	Exceeds MOP	40	80	19,200	39,197												
		Min	10,280	12,902	15,524	18,146	20,769				10,280		20,769											
		End	19,181	24,175	29,169	34,164	39,159				19,181		39,159											
	Inboard	Start	19,067	24,032	28,998	33,964	38,931				19,067		38,931											
		Min	10,210	12,815	15,420	18,024	20,629				10,210		20,629											
		End	19,048	24,008	28,969	33,930	38,892				19,048		38,892											
G01x14	Outboard	Start	23,406	29,480	35,554	Exceeds MOP	40	66	23,406	39,199														
		Min	12,509	15,694	18,880				12,509		20,791													
		End	23,383	29,451	35,519				23,383		39,160													
	Inboard	Start	23,273	29,313	35,354				23,273		38,979													
		Min	12,439	15,607	18,775				12,439		20,676													
		End	23,250	29,284	35,319				23,250		38,940													

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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	120	130	140	150	160	170	180	190					200
		Pressure Torque Output: Start/Min./End (lbf-in)																				
G2x09	Start	Outboard	12,048	15,243	18,438	21,634	24,830	28,026	31,223	34,420	37,618	40,816	44,015	47,214	50,414	53,614	56,814	Exceeds MOP	40	187	12,048	59,055
	Min	Outboard	6,520	8,197	9,875	11,553	13,231	14,909	16,587	18,266	19,944	21,623	23,302	24,980	26,659	28,338	30,018				6,520	31,193
	End	Outboard	12,039	15,231	18,423	21,616	24,810	28,004	31,198	34,393	37,588	40,784	43,980	47,176	50,373	53,571	56,769				12,039	59,007
	Start	Inboard	11,887	15,041	18,196	21,351	24,507	27,663	30,819	33,976	37,134	40,291	43,450	46,608	49,768	52,927	56,087				11,887	58,300
	Min	Inboard	6,435	8,092	9,748	11,405	13,062	14,719	16,376	18,034	19,691	21,348	23,006	24,664	26,322	27,980	29,638				6,435	30,798
	End	Inboard	11,877	15,029	18,181	21,334	24,487	27,641	30,794	33,949	37,104	40,259	43,415	46,571	49,728	52,885	56,042				11,877	58,253
G2x10	Start	Outboard	16,092	20,320	24,549	28,778	33,008	37,238	41,469	45,700	49,932	54,165	58,397	Exceeds MOP	40	141	16,092	58,821				
	Min	Outboard	8,661	10,881	13,100	15,319	17,538	19,758	21,978	24,197	26,417	28,637	30,858				8,661	31,080				
	End	Outboard	16,079	20,304	24,529	28,755	32,982	37,209	41,436	45,664	49,892	54,121	58,351				16,079	58,774				
	Start	Inboard	15,931	20,119	24,307	28,496	32,686	36,876	41,066	45,257	49,448	53,640	57,833				15,931	58,252				
	Min	Inboard	8,577	10,775	12,973	15,171	17,370	19,568	21,767	23,966	26,164	28,363	30,563				8,577	30,782				
	End	Inboard	15,918	20,103	24,288	28,473	32,659	36,846	41,033	45,221	49,409	53,597	57,787				15,918	58,206				
G2x12	Start	Outboard	23,241	29,292	35,344	41,396	47,449	53,502	59,556	Exceeds MOP	40	100	23,241	59,556								
	Min	Outboard	12,443	15,616	18,790	21,964	25,138	28,312	31,486				12,443	31,486								
	End	Outboard	23,223	29,269	35,316	41,363	47,411	53,459	59,508				23,223	59,508								
	Start	Inboard	23,080	29,090	35,102	41,113	47,126	53,139	59,152				23,080	59,152								
	Min	Inboard	12,358	15,511	18,663	21,816	24,969	28,122	31,275				12,358	31,275								
	End	Inboard	23,061	29,067	35,073	41,080	47,088	53,096	59,105				23,061	59,105								
G2x14	Start	Outboard	28,335	35,687	43,040	50,393	57,748	Exceeds MOP	40	81	28,335	58,483										
	Min	Outboard	15,141	18,996	22,851	26,707	30,563				15,141	30,949										
	End	Outboard	28,312	35,658	43,005	50,353	57,702				28,312	58,436										
	Start	Inboard	28,173	35,485	42,798	50,111	57,425				28,173	58,156										
	Min	Inboard	15,056	18,890	22,725	26,559	30,394				15,056	30,778										
	End	Inboard	28,151	35,457	42,763	50,071	57,379				28,151	58,110										
G2x16	Start	Outboard	37,577	47,276	56,976	Exceeds MOP	40	61	37,577	57,946												
	Min	Outboard	20,017	25,101	30,185				20,017	30,694												
	End	Outboard	37,547	47,238	56,930				37,547	57,899												
	Start	Inboard	37,415	47,074	56,734				37,415	57,700												
	Min	Inboard	19,933	24,996	30,059				19,933	30,565												
	End	Inboard	37,386	47,037	56,688				37,386	57,654												

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Double-Acting Actuator

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			40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190					200	
Pressure Torque Output: Start/Min./End (lbf-in)																								
G3x10	Outboard	Start	19,471	24,593	29,716	34,839	39,963	45,088	50,213	55,339	60,466	65,593	70,720	75,849	80,978	86,107	91,238	96,368	101,500	40	200	19,471	101,500	
		Min	10,486	13,174	15,863	18,551	21,240	23,928	26,617	29,306	31,996	34,685	37,374	40,064	42,754	45,444	48,134	50,825	53,515			10,486	53,515	
		End	19,462	24,582	29,702	34,823	39,945	45,067	50,190	55,314	60,438	65,563	70,688	75,814	80,941	86,068	91,196	96,324	101,453			19,462	101,453	
	Inboard	Start	19,165	24,210	29,256	34,303	39,350	44,398	49,447	54,496	59,546	64,596	69,647	74,699	79,751	84,804	89,858	94,912	99,967			19,165	99,967	
		Min	10,326	12,974	15,622	18,271	20,919	23,568	26,217	28,865	31,515	34,164	36,813	39,463	42,113	44,763	47,413	50,063	52,714			10,326	52,714	
		End	19,156	24,199	29,243	34,287	39,332	44,378	49,424	54,471	59,518	64,567	69,615	74,665	79,715	84,765	89,817	94,869	99,921			19,156	99,921	
G3x12	Outboard	Start	28,166	35,505	42,845	50,185	57,526	64,868	72,211	79,554	86,898	94,243	101,589	Exceeds MOP							40	142	28,166	103,058
		Min	15,085	18,934	22,783	26,632	30,481	34,331	38,181	42,031	45,881	49,732	53,582										15,085	54,353
		End	28,153	35,489	42,825	50,162	57,500	64,839	72,178	79,518	86,859	94,200	101,542										28,153	103,011
	Inboard	Start	27,859	35,122	42,384	49,648	56,913	64,178	71,444	78,710	85,978	93,246	100,515										27,859	101,968
		Min	14,924	18,733	22,542	26,351	30,161	33,970	37,780	41,590	45,400	49,210	53,021										14,924	53,783
		End	27,847	35,105	42,365	49,625	56,887	64,148	71,411	78,674	85,938	93,203	100,469										27,847	101,922
G3x14	Outboard	Start	34,360	43,282	52,204	61,128	70,052	78,977	87,903	96,829	Exceeds MOP									40	117	34,360	103,078	
		Min	18,366	23,044	27,722	32,400	37,079	41,758	46,437	51,116												18,366	54,392	
		End	34,345	43,262	52,181	61,100	70,020	78,941	87,862	96,785												34,345	103,031	
	Inboard	Start	34,054	42,899	51,745	60,591	69,439	78,287	87,136	95,986												34,054	102,181	
		Min	18,205	22,843	27,481	32,120	36,758	41,397	46,036	50,676												18,205	53,923	
		End	34,038	42,879	51,721	60,563	69,407	78,251	87,096	95,942												34,038	102,135	
G3x16	Outboard	Start	45,601	57,377	69,154	80,932	92,711	104,491	Exceeds MOP											40	90	45,601	104,491	
		Min	24,296	30,469	36,641	42,814	48,987	55,160														24,296	55,160	
		End	45,580	57,351	69,122	80,895	92,668	104,443														45,580	104,443	
	Inboard	Start	45,295	56,994	68,694	80,395	92,098	103,801														45,295	103,801	
		Min	24,136	30,268	36,401	42,533	48,666	54,800														24,136	54,800	
		End	45,274	56,968	68,663	80,359	92,055	103,753														45,274	103,753	
G3x20	Outboard	Start	72,795	91,458	Exceeds MOP															40	56	72,795	102,656	
		Min	38,621	48,398																		38,621	54,264	
		End	72,762	91,416																		72,762	102,609	
	Inboard	Start	72,489	91,074																		72,489	102,226	
		Min	38,461	48,197																		38,461	54,039	
		End	72,456	91,033																		72,456	102,180	

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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	120	130	140	150	160	170					180	190	200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G4x12	Start	Outboard	34,106	42,999	51,894	60,789	69,686	78,583	87,481	96,381	105,281	114,181	123,083	131,986	140,890	149,794	158,700	167,606	176,513	40	200	34,106	176,513
	Min		18,275	22,939	27,604	32,269	36,935	41,600	46,266	50,932	55,599	60,265	64,932	69,599	74,266	78,934	83,602	88,270	92,938			18,275	92,938
	End		34,081	42,968	51,857	60,746	69,636	78,527	87,419	96,312	105,205	114,100	122,995	131,892	140,789	149,687	158,586	167,486	176,387			34,081	176,387
	Start	Inboard	33,569	42,328	51,089	59,850	68,612	77,375	86,139	94,904	103,670	112,437	121,204	129,973	138,742	147,513	156,284	165,056	173,829			33,569	173,829
	Min		17,994	22,588	27,183	31,778	36,373	40,969	45,565	50,161	54,757	59,353	63,950	68,547	73,144	77,741	82,339	86,937	91,535			17,994	91,535
	End		33,545	42,298	51,052	59,807	68,563	77,320	86,078	94,836	103,596	112,356	121,118	129,880	138,643	147,407	156,172	164,938	173,705			33,545	173,705
G4x14	Start	Outboard	41,637	52,455	63,274	74,094	84,915	95,737	106,560	117,384	128,209	139,036	149,863	160,691	171,520	182,351	193,182	204,014	Exceeds MOP	40	194	41,637	208,348
	Min		22,264	27,937	33,610	39,283	44,957	50,631	56,305	61,979	67,654	73,329	79,004	84,680	90,356	96,032	101,708	107,385				22,264	109,655
	End		41,607	52,417	63,228	74,041	84,854	95,668	106,484	117,300	128,118	138,936	149,755	160,576	171,398	182,220	193,044	203,868				41,607	208,198
	Start	Inboard	41,100	51,783	62,468	73,154	83,841	94,528	105,217	115,907	126,598	137,290	147,983	158,677	169,372	180,068	190,765	201,463				41,100	205,742
	Min		21,983	27,586	33,189	38,792	44,395	49,999	55,603	61,207	66,812	72,416	78,021	83,627	89,232	94,838	100,444	106,051				21,983	108,293
	End		41,070	51,746	62,423	73,101	83,781	94,461	105,142	115,824	126,507	137,192	147,877	158,563	169,250	179,939	190,628	201,319				41,070	205,595
G4x16	Start	Outboard	55,305	69,593	83,882	98,173	112,465	126,758	141,052	155,347	169,643	183,941	198,239	Exceeds MOP	40	147	55,305	208,249					
	Min		29,475	36,964	44,454	51,944	59,435	66,926	74,417	81,908	89,400	96,892	104,384				29,475	109,629					
	End		55,265	69,543	83,822	98,103	112,384	126,667	140,951	155,236	169,522	183,809	198,097				55,265	208,100					
	Start	Inboard	54,768	68,922	83,077	97,233	111,391	125,550	139,709	153,870	168,033	182,196	196,360				54,768	206,276					
	Min		29,194	36,614	44,033	51,453	58,873	66,294	73,715	81,136	88,558	95,979	103,401				29,194	108,597					
	End		54,729	68,873	83,018	97,164	111,311	125,460	139,609	153,760	167,912	182,066	196,220				54,729	206,129					
G4x20	Start	Outboard	88,364	111,024	133,685	156,348	179,013	201,679	Exceeds MOP											40	92	88,364	206,212
	Min		46,890	58,762	70,633	82,506	94,378	106,251		46,890	108,626												
	End		88,300	110,944	133,590	156,236	178,885	201,534		88,300	206,065												
	Start	Inboard	87,827	110,353	132,880	155,409	177,939	200,471		87,827	204,977												
	Min		46,610	58,411	70,212	82,014	93,817	105,619		46,610	107,980												
	End		87,764	110,274	132,785	155,298	177,812	200,327		87,764	204,831												
G4x24	Start	Outboard	129,214	162,163	195,115	Exceeds MOP													40	63	129,214	205,001	
	Min		68,339	85,592	102,846		68,339	108,023															
	End		129,121	162,047	194,975		129,121	204,854															
	Start	Inboard	128,676	161,492	194,309		128,676	204,155															
	Min		68,058	85,241	102,425		68,058	107,580															
	End		128,584	161,376	194,170		128,584	204,009															
G4x28	Start	Outboard	181,955	Exceeds MOP														40	45	181,955	205,188		
	Min		96,348		96,348	108,519																	
	End		181,824		181,824	205,041																	
	Start	Inboard	181,418		181,418	204,584																	
	Min		96,067		96,067	108,203																	
	End		181,288		181,288	204,438																	
G4x220	Start	Outboard	176,190	Exceeds MOP														40	46	176,190	203,302		
	Min		93,500		93,500	107,703																	
	End		176,064		176,064	203,156																	
	Start	Inboard	176,190		176,190	203,302																	
	Min		93,500		93,500	107,703																	
	End		176,064		176,064	203,156																	

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			40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190					200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G5x16	Outboard	Start	71,315	89,713	108,113	126,514	144,917	163,321	181,726	200,132	218,540	236,949	255,359	273,771	292,183	310,598	329,013	347,430	365,848	40	200	71,315	365,848
		Min	37,976	47,619	57,262	66,906	76,550	86,194	95,839	105,484	115,130	124,775	134,421	144,068	153,715	163,362	173,009	182,657	192,305			37,976	192,305
		End	71,291	89,684	108,078	126,473	144,870	163,267	181,666	200,067	218,468	236,871	255,276	273,681	292,088	310,496	328,906	347,316	365,728			71,291	365,728
	Inboard	Start	70,080	88,171	106,262	124,355	142,449	160,544	178,641	196,739	214,838	232,938	251,040	269,143	287,247	305,353	323,460	341,568	359,677			70,080	359,677
		Min	37,331	46,812	56,294	65,777	75,259	84,742	94,226	103,709	113,193	122,678	132,163	141,648	151,133	160,619	170,105	179,591	189,078			37,331	189,078
		End	70,058	88,142	106,227	124,314	142,402	160,492	178,582	196,674	214,768	232,862	250,958	269,055	287,153	305,253	323,354	341,456	359,560			70,058	359,560
G5x20	Outboard	Start	114,053	143,275	172,498	201,723	230,950	260,179	289,409	318,641	347,874	377,109	406,346	435,585	464,825	Exceeds MOP	40	164	114,053	476,521			
		Min	60,496	75,805	91,115	106,425	121,736	137,047	152,359	167,671	182,983	198,296	213,609	228,923	244,237				60,496	250,363			
		End	114,016	143,228	172,442	201,658	230,875	260,094	289,314	318,537	347,761	376,986	406,213	435,442	464,673				114,016	476,366			
	Inboard	Start	112,819	141,732	170,647	199,564	228,482	257,402	286,324	315,247	344,172	373,099	402,027	430,957	459,888				112,819	471,462			
		Min	59,851	74,999	90,147	105,296	120,445	135,595	150,745	165,896	181,047	196,198	211,350	226,503	241,655				59,851	247,717			
		End	112,782	141,686	170,591	199,499	228,408	257,318	286,230	315,144	344,060	372,977	401,896	430,816	459,738				112,782	471,308			
G5x24	Outboard	Start	166,863	209,387	251,913	294,441	336,971	379,502	422,036	464,571	Exceeds MOP	40	112	166,863	473,078								
		Min	88,231	110,500	132,770	155,040	177,311	199,582	221,854	244,126				88,231	248,580								
		End	166,808	209,319	251,831	294,345	336,861	379,378	421,898	464,419				166,808	472,924								
	Inboard	Start	165,629	207,844	250,062	292,281	334,503	376,726	418,951	461,177				165,629	469,623								
		Min	87,586	109,694	131,802	153,911	176,020	198,130	220,240	242,351				87,586	246,773								
		End	165,575	207,776	249,980	292,186	334,393	376,603	418,814	461,027				165,575	469,469								
G5x28	Outboard	Start	235,046	295,046	355,049	415,055	475,066	Exceeds MOP	40	80	235,046	475,066											
		Min	124,450	155,887	187,324	218,762	250,201				124,450	250,201											
		End	234,969	294,949	354,933	414,920	474,911				234,969	474,911											
	Inboard	Start	233,812	293,503	353,198	412,896	472,598				233,812	472,598											
		Min	123,805	155,080	186,356	217,633	248,911				123,805	248,911											
		End	233,736	293,407	353,082	412,761	472,443				233,736	472,443											
G5x32	Outboard	Start	308,254	386,730	465,209	Exceeds MOP	40	61	308,254	473,057													
		Min	162,953	204,060	245,168				162,953	249,279													
		End	308,154	386,603	465,057				308,154	472,902													
	Inboard	Start	307,020	385,187	463,358				307,020	471,175													
		Min	162,307	203,253	244,200				162,307	248,295													
		End	306,920	385,061	463,206				306,920	471,021													
G5x36	Outboard	Start	391,335	Exceeds MOP	40	48	391,335	470,869															
		Min	206,618				206,618	248,273															
		End	391,207				391,207	470,715															
	Inboard	Start	390,101				390,101	469,388															
		Min	205,973				205,973	247,499															
		End	389,973				389,973	469,235															

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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	120	130	140	150	160	170	180	190					200	
			Pressure Torque Output: Start/Min./End (lbf-in)																					
G5x220	Start	Outboard	226,872	285,007	343,145	401,287	459,432	Exceeds MOP												40	226,872	82	471,062	
	Min		120,347	150,804	181,262	211,721	242,181																120,347	248,274
	End		226,797	284,914	343,033	401,156	459,282																226,797	470,908
	Start	Inboard	226,872	285,007	343,145	401,287	459,432																226,872	471,062
	Min		120,347	150,804	181,262	211,721	242,181																120,347	248,274
	End		226,797	284,914	343,033	401,156	459,282																226,797	470,908
G5x224	Start	Outboard	332,491	417,231	Exceeds MOP														40	332,491	56	468,077		
	Min		175,817	220,194																		175,817	246,821	
	End		332,383	417,095																			332,383	467,924
	Start	Inboard	332,491	417,231																			332,491	468,077
	Min		175,817	220,194																			175,817	246,821
	End		332,383	417,095																			332,383	467,924

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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	120	130	140	150	160	170	180	190					200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G7x20	Start	Outboard	139,104	174,843	210,584	246,328	282,074	317,823	353,574	389,328	425,084	460,843	496,604	532,367	568,133	603,902	639,673	675,446	711,222	40	200	139,104	711,222
	Min		73,955	92,695	111,436	130,178	148,921	167,664	186,408	205,152	223,897	242,643	261,389	280,137	298,884	317,633	336,381	355,131	373,881			73,955	373,881
	End		139,069	174,799	210,531	246,266	282,003	317,743	353,485	389,230	424,977	460,727	496,479	532,233	567,990	603,750	639,512	675,276	711,043			139,069	711,043
	Start	Inboard	137,185	172,445	207,707	242,971	278,237	313,507	348,778	384,052	419,329	454,608	489,890	525,174	560,460	595,749	631,040	666,334	701,631			137,185	701,631
	Min		72,951	91,440	109,931	128,422	146,913	165,405	183,898	202,392	220,886	239,381	257,876	276,372	294,869	313,367	331,865	350,363	368,863			72,951	368,863
	End		137,151	172,401	207,654	242,910	278,167	313,428	348,691	383,956	419,223	454,494	489,766	525,041	560,319	595,599	630,882	666,167	701,454			137,151	701,454
G7x24	Start	Outboard	203,940	256,017	308,098	360,181	412,266	464,355	516,446	568,540	620,636	672,736	724,838	776,943	829,050	881,160	Exceeds MOP			40	178	203,940	922,850
	Min		108,033	135,327	162,622	189,917	217,213	244,510	271,808	299,106	326,405	353,705	381,005	408,306	435,608	462,911		108,033	484,753				
	End		203,889	255,953	308,020	360,090	412,163	464,238	516,316	568,397	620,480	672,566	724,655	776,747	828,841	880,938		203,889	922,618				
	Start	Inboard	202,022	253,620	305,220	356,824	408,430	460,039	511,650	563,264	614,881	666,501	718,124	769,749	821,377	873,007		202,022	914,314				
	Min		107,029	134,072	161,116	188,160	215,206	242,252	269,298	296,346	323,394	350,442	377,492	404,542	431,593	458,645		107,029	480,287				
	End		201,971	253,556	305,143	356,734	408,327	459,923	511,521	563,123	614,727	666,333	717,943	769,555	821,170	872,788		201,971	914,084				
G7x28	Start	Outboard	287,732	361,278	434,829	508,385	581,946	655,511	729,082	802,657	876,237	Exceeds MOP								40	126	287,732	920,387
	Min		152,557	191,118	229,681	268,245	306,810	345,376	383,944	422,513	461,083		152,557	484,225									
	End		287,660	361,187	434,720	508,257	581,799	655,346	728,898	802,455	876,016		287,660	920,155									
	Start	Inboard	285,814	358,880	431,952	505,028	578,109	651,195	724,286	797,381	870,482		285,814	914,344									
	Min		151,553	189,864	228,175	266,488	304,802	343,118	381,434	419,752	458,072		151,553	481,064									
	End		285,742	358,790	431,843	504,901	577,964	651,031	724,104	797,181	870,263		285,742	914,114									
G7x32	Start	Outboard	377,661	473,903	570,150	666,402	762,660	858,923	Exceeds MOP											40	96	377,661	916,684
	Min		199,878	250,325	300,774	351,224	401,676	452,129		199,878	482,401												
	End		377,566	473,784	570,006	666,235	762,468	858,707		377,566	916,453												
	Start	Inboard	375,743	471,505	567,272	663,045	758,824	854,607		375,743	912,080												
	Min		198,874	249,071	299,269	349,468	399,668	449,871		198,874	479,992												
	End		375,648	471,386	567,130	662,878	758,633	854,392		375,648	911,851												
G7x36	Start	Outboard	479,717	601,686	723,660	845,641	Exceeds MOP													40	76	479,717	918,832
	Min		253,544	317,464	381,385	445,308		253,544	483,663														
	End		479,596	601,534	723,478	845,428		479,596	918,601														
	Start	Inboard	477,799	599,288	720,783	842,284		477,799	915,187														
	Min		252,541	316,209	379,880	443,552		252,541	481,755														
	End		477,679	599,137	720,601	842,072		477,679	914,957														

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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	120	130	140	150	160	170	180	190					200		
			Pressure Torque Output: Start/Min./End (lbf-in)																						
G7x220	Start	Outboard	276,289	347,287	418,291	489,299	560,312	631,330	702,352	Exceeds MOP											40	276,289	100	702,352	
	Min		146,905	184,136	221,367	258,600	295,834	333,069	370,306															146,905	370,306
	End		276,220	347,200	418,185	489,175	560,171	631,171	702,176															276,220	702,176
	Start	Inboard	276,289	347,287	418,291	489,299	560,312	631,330	702,352															276,289	702,352
	Min		146,905	184,136	221,367	258,600	295,834	333,069	370,306															146,905	370,306
	End		276,220	347,200	418,185	489,175	560,171	631,171	702,176																276,220
G7x224	Start	Outboard	405,962	509,637	613,318	717,004	820,696	Exceeds MOP													40	405,962	89	914,023	
	Min		215,062	269,399	323,737	378,077	432,419																	215,062	481,327
	End		405,859	509,509	613,164	716,824	820,489																	405,859	913,793
	Start	Inboard	405,962	509,637	613,318	717,004	820,696																	405,962	914,023
	Min		215,062	269,399	323,737	378,077	432,419																	215,062	481,327
	End		405,859	509,509	613,164	716,824	820,489																	405,859	913,793
G7x228	Start	Outboard	573,546	720,159	866,781	Exceeds MOP														40	573,546	63	910,770		
	Min		304,110	380,982	457,856																			304,110	480,919
	End		573,401	719,977	866,563																			573,401	910,540
	Start	Inboard	573,546	720,159	866,781																			573,546	910,770
	Min		304,110	380,982	457,856																			304,110	480,919
	End		573,401	719,977	866,563																			573,401	910,540

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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	120	130	140	150	160	170	180	190					200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G8x24	Outboard	Start	240,785	302,293	363,804	425,318	486,835	548,356	609,880	671,407	732,937	794,471	856,007	917,547	979,091	1,040,637	1,102,187	1,163,740	1,225,297	40	200	240,785	1,225,297
		Min	127,558	159,790	192,024	224,258	256,493	288,729	320,966	353,203	385,442	417,681	449,921	482,162	514,404	546,647	578,890	611,135	643,380			127,558	643,380
		End	240,750	302,248	363,750	425,255	486,764	548,275	609,790	671,308	732,829	794,354	855,882	917,413	978,947	1,040,485	1,102,025	1,163,569	1,225,117			240,750	1,225,117
	Inboard	Start	237,390	298,049	358,711	419,377	480,045	540,717	601,392	662,071	722,752	783,437	844,125	904,817	965,511	1,026,209	1,086,910	1,147,614	1,208,322			237,390	1,208,322
		Min	125,782	157,570	189,360	221,150	252,941	284,733	316,525	348,319	380,113	411,909	443,705	475,502	507,300	539,098	570,898	602,698	634,499			125,782	634,499
		End	237,355	298,005	358,659	419,315	479,975	540,638	601,304	661,974	722,646	783,322	844,001	904,684	965,370	1,026,058	1,086,751	1,147,446	1,208,145			237,355	1,208,145
G8x28	Outboard	Start	340,002	426,940	513,882	600,831	687,785	774,745	861,711	948,682	1,035,659	1,122,642	1,209,631	1,296,626	1,383,626	1,470,632	Exceeds MOP	40	172	340,002	1,488,034		
		Min	180,283	225,860	271,439	317,020	362,602	408,185	453,770	499,356	544,944	590,533	636,124	681,716	727,310	772,906				180,283	782,025		
		End	339,953	426,877	513,807	600,743	687,684	774,631	861,584	948,543	1,035,507	1,122,478	1,209,454	1,296,435	1,383,423	1,470,416				339,953	1,487,815		
	Inboard	Start	336,608	422,696	508,790	594,890	680,995	767,107	853,224	939,346	1,025,475	1,111,609	1,197,749	1,283,895	1,370,046	1,456,203				336,608	1,473,436		
		Min	178,507	223,640	268,775	313,911	359,049	404,188	449,329	494,472	539,615	584,761	629,908	675,056	720,206	765,357				178,507	774,387		
		End	336,558	422,634	508,715	594,802	680,895	766,994	853,098	939,208	1,025,324	1,111,446	1,197,573	1,283,706	1,369,845	1,455,990				336,558	1,473,219		
G8x32	Outboard	Start	446,532	560,354	674,182	788,017	901,858	1,015,706	1,129,560	1,243,421	1,357,288	1,471,162	Exceeds MOP	40	131	446,532	1,482,550						
		Min	236,332	295,988	355,645	415,304	474,965	534,627	594,291	653,957	713,624	773,294				236,332	779,261						
		End	446,467	560,272	674,083	787,901	901,726	1,015,557	1,129,394	1,243,238	1,357,089	1,470,946				446,467	1,482,332						
	Inboard	Start	443,137	556,110	669,090	782,076	895,068	1,008,067	1,121,073	1,234,085	1,347,104	1,460,129				443,137	1,471,431						
		Min	234,556	293,768	352,981	412,196	471,412	530,631	589,851	649,072	708,296	767,521				234,556	773,444						
		End	443,072	556,029	668,992	781,961	894,937	1,007,919	1,120,908	1,233,904	1,346,906	1,459,914				443,072	1,471,216						
G8x36	Outboard	Start	567,426	711,724	856,029	1,000,341	1,144,660	1,288,986	1,433,320	Exceeds MOP	40	103	567,426	1,476,622									
		Min	299,896	375,509	451,123	526,740	602,358	677,978	753,601				299,896	776,288									
		End	567,343	711,619	855,903	1,000,194	1,144,492	1,288,797	1,433,110				567,343	1,476,405									
	Inboard	Start	564,032	707,480	850,936	994,399	1,137,870	1,281,348	1,424,833				564,032	1,467,880									
		Min	298,120	373,289	448,459	523,632	598,806	673,982	749,160				298,120	771,714									
		End	563,949	707,376	850,811	994,254	1,137,703	1,281,160	1,424,624				563,949	1,467,665									
G8x40	Outboard	Start	702,685	881,049	1,059,421	1,237,802	1,416,190	Exceeds MOP	40	84	702,685	1,487,548											
		Min	370,976	464,424	557,875	651,327	744,782				370,976	782,165											
		End	702,582	880,920	1,059,266	1,237,620	1,415,982				702,582	1,487,329											
	Inboard	Start	699,290	876,805	1,054,329	1,231,861	1,409,400				699,290	1,480,418											
		Min	369,200	462,204	555,210	648,219	741,230				369,200	778,435											
		End	699,187	876,677	1,054,174	1,231,680	1,409,193				699,187	1,480,201											

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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	120	130	140	150	160	170	180	190					200	
			Pressure Torque Output: Start/Min./End (lbf-in)																					
G8x224	Outboard	Start	478,175	600,342	722,515	844,694	966,880	1,089,073	1,211,272	Exceeds MOP											40	100	478,175	1,211,272
		Min	253,340	317,361	381,383	445,408	509,434	573,462	637,491		253,340	637,491												
		End	478,105	600,254	722,409	844,570	966,739	1,088,913	1,211,094		478,105	1,211,094												
	Inboard	Start	478,175	600,342	722,515	844,694	966,880	1,089,073	1,211,272		478,175	1,211,272												
		Min	253,340	317,361	381,383	445,408	509,434	573,462	637,491		253,340	637,491												
		End	478,105	600,254	722,409	844,570	966,739	1,088,913	1,211,094		478,105	1,211,094												
G8x228	Outboard	Start	676,610	849,635	1,022,672	1,195,721	1,368,780	Exceeds MOP													40	86	676,610	1,472,622
		Min	358,790	449,501	540,214	630,931	721,651		358,790	776,084														
		End	676,511	849,511	1,022,522	1,195,545	1,368,579		676,511	1,472,406														
	Inboard	Start	676,610	849,635	1,022,672	1,195,721	1,368,780		676,610	1,472,622														
		Min	358,790	449,501	540,214	630,931	721,651		358,790	776,084														
		End	676,511	849,511	1,022,522	1,195,545	1,368,579		676,511	1,472,406														
G8x232	Outboard	Start	889,670	1,116,464	1,343,272	Exceeds MOP															40	65	889,670	1,456,681
		Min	470,888	589,755	708,626		470,888	768,062																
		End	889,539	1,116,301	1,343,075		889,539	1,456,467																
	Inboard	Start	889,670	1,116,464	1,343,272		889,670	1,456,681																
		Min	470,888	589,755	708,626		470,888	768,062																
		End	889,539	1,116,301	1,343,075		889,539	1,456,467																
G8x236	Outboard	Start	1,131,458	1,419,204	Exceeds MOP																40	52	1,131,458	1,476,755
		Min	598,017	748,798		598,017	778,954																	
		End	1,131,292	1,418,996		1,131,292	1,476,538																	
	Inboard	Start	1,131,458	1,419,204		1,131,458	1,476,755																	
		Min	598,017	748,798		598,017	778,954																	
		End	1,131,292	1,418,996		1,131,292	1,476,538																	

Note: All Published Torques are Guaranteed Minimum Values. Units are Imperial

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	120	130	140	150	160	170	180	190					200	
		Pressure Torque Output: Start/Min./End (lbf-in)																					
G10x28	Start	Outboard	444,003	557,611	671,228	784,852	898,483	1,012,123	1,125,770	1,239,424	1,353,087	1,466,757	1,580,434	1,694,120	1,807,813	1,921,513	2,035,222	2,148,937	2,262,661	40	200	444,003	2,262,661
	Min	Outboard	235,559	295,131	354,705	414,281	473,859	533,439	593,021	652,605	712,191	771,779	831,369	890,961	950,555	1,010,151	1,069,749	1,129,349	1,188,951			235,559	1,188,951
	End	Outboard	443,906	557,490	671,081	784,680	898,287	1,011,902	1,125,524	1,239,154	1,352,791	1,466,436	1,580,089	1,693,750	1,807,418	1,921,094	2,034,777	2,148,468	2,262,167			443,906	2,262,167
	Start	Inboard	437,774	549,826	661,885	773,952	886,026	998,108	1,110,198	1,222,296	1,334,401	1,446,514	1,558,634	1,670,762	1,782,898	1,895,042	2,007,193	2,119,352	2,231,518			437,774	2,231,518
	Min	Inboard	232,299	291,057	349,816	408,577	467,340	526,105	584,873	643,642	702,413	761,186	819,962	878,739	937,518	996,299	1,055,083	1,113,868	1,172,655			232,299	1,172,655
	End	Inboard	437,678	549,705	661,740	773,783	885,833	997,890	1,109,956	1,222,029	1,334,109	1,446,198	1,558,294	1,670,398	1,782,509	1,894,628	2,006,755	2,118,889	2,231,031			437,678	2,231,031
G10x32	Start	Outboard	583,948	732,874	881,809	1,030,752	1,179,705	1,328,666	1,477,635	1,626,613	1,775,600	1,924,596	2,073,600	2,222,613	2,371,635	2,520,666	2,669,705	2,818,752	2,967,809	40	200	583,948	2,967,809
	Min	Outboard	309,200	387,269	465,340	543,414	621,490	699,568	777,648	855,731	933,816	1,011,903	1,089,992	1,168,084	1,246,178	1,324,274	1,402,373	1,480,474	1,558,577			309,200	1,558,577
	End	Outboard	583,820	732,714	881,616	1,030,527	1,179,447	1,328,375	1,477,313	1,626,258	1,775,213	1,924,176	2,073,148	2,222,128	2,371,117	2,520,115	2,669,122	2,818,137	2,967,161			583,820	2,967,161
	Start	Inboard	577,719	725,088	872,466	1,019,852	1,167,247	1,314,651	1,462,064	1,609,485	1,756,915	1,904,353	2,051,800	2,199,256	2,346,721	2,494,194	2,641,676	2,789,166	2,936,666			577,719	2,936,666
	Min	Inboard	305,941	383,195	460,451	537,710	614,971	692,234	769,500	846,768	924,038	1,001,310	1,078,585	1,155,862	1,233,141	1,310,423	1,387,706	1,464,992	1,542,281			305,941	1,542,281
	End	Inboard	577,593	724,930	872,275	1,019,630	1,166,993	1,314,364	1,461,744	1,609,133	1,756,531	1,903,937	2,051,352	2,198,776	2,346,208	2,493,649	2,641,099	2,788,558	2,936,025			577,593	2,936,025
G10x36	Start	Outboard	742,762	931,723	1,120,693	1,309,674	1,498,664	1,687,664	1,876,673	2,065,693	2,254,721	2,443,760	2,632,808	2,821,866	Exceeds MOP	40	158	742,762	2,973,120				
	Min	Outboard	392,715	491,749	590,786	689,826	788,868	887,912	986,959	1,086,009	1,185,061	1,284,116	1,383,173	1,482,233				392,715	1,561,483				
	End	Outboard	742,600	931,519	1,120,449	1,309,388	1,498,337	1,687,295	1,876,264	2,065,242	2,254,229	2,443,227	2,632,234	2,821,250				742,600	2,972,471				
	Start	Inboard	736,533	923,937	1,111,351	1,298,774	1,486,207	1,673,649	1,861,102	2,048,564	2,236,036	2,423,517	2,611,008	2,798,509				736,533	2,948,517				
	Min	Inboard	389,456	487,675	585,897	684,122	782,349	880,579	978,811	1,077,046	1,175,284	1,273,523	1,371,766	1,470,011				389,456	1,548,609				
	End	Inboard	736,372	923,735	1,111,108	1,298,490	1,485,882	1,673,284	1,860,695	2,048,117	2,235,547	2,422,988	2,610,438	2,797,898				736,372	2,947,873				
G10x40	Start	Outboard	920,446	1,154,159	1,387,883	1,621,618	1,855,363	2,089,119	2,322,886	2,556,664	2,790,452	Exceeds MOP	40	128	920,446	2,977,490							
	Min	Outboard	486,104	608,572	731,043	853,517	975,994	1,098,473	1,220,956	1,343,441	1,465,929				486,104	1,563,921							
	End	Outboard	920,245	1,153,907	1,387,580	1,621,264	1,854,958	2,088,663	2,322,379	2,556,106	2,789,843				920,245	2,976,840							
	Start	Inboard	914,217	1,146,373	1,378,540	1,610,718	1,842,906	2,075,105	2,307,315	2,539,535	2,771,766				914,217	2,957,559							
	Min	Inboard	482,845	604,498	726,154	847,813	969,475	1,091,140	1,212,808	1,334,478	1,456,151				482,845	1,553,492							
	End	Inboard	914,017	1,146,123	1,378,239	1,610,366	1,842,503	2,074,652	2,306,811	2,538,981	2,771,161				914,017	2,956,913							

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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	120	130	140	150	160	170	180	190					200
Pressure Torque Output: Start/Min./End (lbf-in)																							
G10x228	Start	Outboard	881,777	1,107,437	1,333,112	1,558,803	1,784,509	2,010,231	2,235,968	Exceeds MOP										40	881,777	100	2,235,968
	Min		467,858	586,187	704,520	822,858	941,199	1,059,544	1,177,893		467,858	1,177,893											
	End		881,584	1,107,195	1,332,821	1,558,463	1,784,120	2,009,792	2,235,480		881,584	2,235,480											
	Start	Inboard	881,777	1,107,437	1,333,112	1,558,803	1,784,509	2,010,231	2,235,968		881,777	2,235,968											
	Min		467,858	586,187	704,520	822,858	941,199	1,059,544	1,177,893		467,858	1,177,893											
	End		881,584	1,107,195	1,332,821	1,558,463	1,784,120	2,009,792	2,235,480		881,584	2,235,480											
G10x232	Start	Outboard	1,161,667	1,457,962	1,754,275	2,050,605	2,346,952	2,643,317	2,939,699	Exceeds MOP										40	1,161,667	100	2,939,699
	Min		615,141	770,464	925,792	1,081,124	1,236,461	1,391,802	1,547,148		615,141	1,547,148											
	End		1,161,413	1,457,644	1,753,892	2,050,157	2,346,440	2,642,740	2,939,057		1,161,413	2,939,057											
	Start	Inboard	1,161,667	1,457,962	1,754,275	2,050,605	2,346,952	2,643,317	2,939,699		1,161,667	2,939,699											
	Min		615,141	770,464	925,792	1,081,124	1,236,461	1,391,802	1,547,148		615,141	1,547,148											
	End		1,161,413	1,457,644	1,753,892	2,050,157	2,346,440	2,642,740	2,939,057		1,161,413	2,939,057											
G10x236	Start	Outboard	1,479,295	1,855,660	2,232,044	2,608,448	2,984,871	Exceeds MOP												40	1,479,295	80	2,984,871
	Min		782,171	979,425	1,176,684	1,373,948	1,571,217		782,171	1,571,217													
	End		1,478,972	1,855,255	2,231,557	2,607,878	2,984,219		1,478,972	2,984,219													
	Start	Inboard	1,479,295	1,855,660	2,232,044	2,608,448	2,984,871		1,479,295	2,984,871													
	Min		782,171	979,425	1,176,684	1,373,948	1,571,217		782,171	1,571,217													
	End		1,478,972	1,855,255	2,231,557	2,607,878	2,984,219		1,478,972	2,984,219													
G10x240	Start	Outboard	1,834,663	2,300,532	2,766,423	Exceeds MOP													40	1,834,663	64	2,952,785	
	Min		968,948	1,213,070	1,457,197		968,948	1,554,850															
	End		1,834,262	2,300,030	2,765,819		1,834,262	2,952,141															
	Start	Inboard	1,834,663	2,300,532	2,766,423		1,834,663	2,952,785															
	Min		968,948	1,213,070	1,457,197		968,948	1,554,850															
	End		1,834,262	2,300,030	2,765,819		1,834,262	2,952,141															

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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	120	130	140	150	160	170	180	190					200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G13x40	Outboard	Start	1,180,227	1,480,009	1,779,805	2,079,614	2,379,438	2,679,275	2,979,127	3,278,992	3,578,872	3,878,765	4,178,673	4,478,594	4,778,530	5,078,479	5,378,442	5,678,420	5,978,411	40	200	1,180,227	5,978,411
		Min	623,242	780,288	937,338	1,094,392	1,251,449	1,408,510	1,565,575	1,722,643	1,879,715	2,036,790	2,193,870	2,350,952	2,508,039	2,665,129	2,822,223	2,979,320	3,136,422			623,242	3,136,422
		End	1,179,463	1,479,050	1,778,652	2,078,267	2,377,897	2,677,540	2,977,197	3,276,869	3,576,554	3,876,253	4,175,966	4,475,694	4,775,435	5,075,190	5,374,959	5,674,742	5,974,539			1,179,463	5,974,539
	Inboard	Start	1,168,087	1,464,834	1,761,594	2,058,369	2,355,157	2,651,960	2,948,776	3,245,606	3,542,451	3,839,309	4,136,182	4,433,068	4,729,968	5,026,883	5,323,811	5,620,753	5,917,709			1,168,087	5,917,709
		Min	616,891	772,350	927,812	1,083,278	1,238,748	1,394,221	1,549,698	1,705,178	1,860,662	2,016,150	2,171,642	2,327,137	2,482,636	2,638,138	2,793,644	2,949,154	3,104,668			616,891	3,104,668
		End	1,167,330	1,463,885	1,760,453	2,057,035	2,353,632	2,650,242	2,946,866	3,243,504	3,540,157	3,836,823	4,133,503	4,430,197	4,726,905	5,023,627	5,320,363	5,617,113	5,913,877			1,167,330	5,913,877
G13x44	Outboard	Start	1,433,023	1,796,455	2,159,902	2,523,365	2,886,843	3,250,337	3,613,846	3,977,370	4,340,910	4,704,465	5,068,035	5,431,621	5,795,222	Exceeds MOP				40	165	1,433,023	5,977,029
		Min	756,047	946,413	1,136,783	1,327,157	1,517,534	1,707,916	1,898,302	2,088,692	2,279,086	2,469,484	2,659,886	2,850,292	3,040,702							756,047	3,135,908
		End	1,432,095	1,795,292	2,158,504	2,521,731	2,884,973	3,248,232	3,611,505	3,974,794	4,338,098	4,701,418	5,064,753	5,428,103	5,791,469							1,432,095	5,973,158
	Inboard	Start	1,420,882	1,781,279	2,141,690	2,502,118	2,862,561	3,223,019	3,583,492	3,943,981	4,304,486	4,665,005	5,025,541	5,386,091	5,746,657							1,420,882	5,926,946
		Min	749,696	938,474	1,127,256	1,316,042	1,504,832	1,693,626	1,882,424	2,071,226	2,260,032	2,448,842	2,637,656	2,826,474	3,015,297							749,696	3,109,709
		End	1,419,962	1,780,125	2,140,303	2,500,497	2,860,707	3,220,931	3,581,171	3,941,427	4,301,698	4,661,984	5,022,286	5,382,603	5,742,935							1,419,962	5,923,107
G13x48	Outboard	Start	1,710,217	2,143,376	2,576,552	3,009,744	3,442,953	3,876,179	4,309,421	4,742,681	5,175,957	5,609,249	6,042,559	Exceeds MOP					40	140	1,710,217	6,042,559	
		Min	901,585	1,128,447	1,355,314	1,582,185	1,809,060	2,035,940	2,262,824	2,489,712	2,716,605	2,943,503	3,170,404								901,585	3,170,404	
		End	1,709,109	2,141,988	2,574,883	3,007,795	3,440,723	3,873,668	4,306,630	4,739,609	5,172,604	5,605,616	6,038,645								1,709,109	6,038,645	
	Inboard	Start	1,698,077	2,128,201	2,558,341	2,988,498	3,418,672	3,848,863	4,279,071	4,709,295	5,139,536	5,569,793	6,000,068								1,698,077	6,000,068	
		Min	895,234	1,120,509	1,345,788	1,571,071	1,796,359	2,021,651	2,246,947	2,472,248	2,697,553	2,922,863	3,148,176								895,234	3,148,176	
		End	1,696,977	2,126,822	2,556,684	2,986,563	3,416,458	3,846,370	4,276,299	4,706,245	5,136,207	5,566,186	5,996,182								1,696,977	5,996,182	
G13x52	Outboard	Start	2,011,692	2,520,649	3,029,623	3,538,616	4,047,626	4,556,655	5,065,701	5,574,766	6,083,849	Exceeds MOP							40	120	2,011,692	6,083,849	
		Min	1,059,825	1,326,359	1,592,898	1,859,442	2,125,990	2,392,543	2,659,101	2,925,664	3,192,231										1,059,825	3,192,231	
		End	2,010,390	2,519,016	3,027,661	3,536,324	4,045,005	4,553,704	5,062,420	5,571,155	6,079,908										2,010,390	6,079,908	
	Inboard	Start	1,999,552	2,505,473	3,011,413	3,517,370	4,023,346	4,529,339	5,035,350	5,541,380	6,047,428										1,999,552	6,047,428	
		Min	1,053,474	1,318,421	1,583,372	1,848,328	2,113,289	2,378,254	2,643,224	2,908,199	3,173,179										1,053,474	3,173,179	
		End	1,998,257	2,503,851	3,009,462	3,515,092	4,020,740	4,526,405	5,032,089	5,537,791	6,043,511										1,998,257	6,043,511	

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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	120	130	140	150	160	170	180	190					200
Pressure Torque Output: Start/Min./End (lbf-in)																							
G13x240	Start	Outboard	2,348,314	2,944,843	3,541,399	4,137,983	4,734,595	5,331,235	5,927,903	Exceeds MOP										40	2,348,314	100	5,927,903
	Min		1,240,133	1,552,638	1,865,150	2,177,670	2,490,197	2,802,731	3,115,272		1,240,133	3,115,272											
	End		2,346,793	2,942,935	3,539,105	4,135,303	4,731,528	5,327,782	5,924,064		2,346,793	5,924,064											
	Start	Inboard	2,348,314	2,944,843	3,541,399	4,137,983	4,734,595	5,331,235	5,927,903		2,348,314	5,927,903											
	Min		1,240,133	1,552,638	1,865,150	2,177,670	2,490,197	2,802,731	3,115,272		1,240,133	3,115,272											
	End		2,346,793	2,942,935	3,539,105	4,135,303	4,731,528	5,327,782	5,924,064		2,346,793	5,924,064											
G13x244	Start	Outboard	2,853,905	3,577,734	4,301,593	5,025,483	5,749,404	Exceeds MOP												40	2,853,905	83	5,966,586
	Min		1,505,744	1,884,887	2,264,039	2,643,199	3,022,366		1,505,744	3,136,118													
	End		2,852,057	3,575,417	4,298,807	5,022,228	5,745,680		2,852,057	5,962,722													
	Start	Inboard	2,853,905	3,577,734	4,301,593	5,025,483	5,749,404		2,853,905	5,966,586													
	Min		1,505,744	1,884,887	2,264,039	2,643,199	3,022,366		1,505,744	3,136,118													
	End		2,852,057	3,575,417	4,298,807	5,022,228	5,745,680		2,852,057	5,962,722													
G13x248	Start	Outboard	3,408,294	4,271,577	5,134,893	5,998,242	Exceeds MOP												40	3,408,294	70	5,998,242	
	Min		1,796,820	2,248,956	2,701,102	3,153,256		1,796,820	3,153,256														
	End		3,406,086	4,268,810	5,131,567	5,994,357		3,406,086	5,994,357														
	Start	Inboard	3,408,294	4,271,577	5,134,893	5,998,242		3,408,294	5,998,242														
	Min		1,796,820	2,248,956	2,701,102	3,153,256		1,796,820	3,153,256														
	End		3,406,086	4,268,810	5,131,567	5,994,357		3,406,086	5,994,357														
G13x252	Start	Outboard	4,011,245	5,026,122	6,041,036	Exceeds MOP													40	4,011,245	60	6,041,036	
	Min		2,113,299	2,644,780	3,176,270		2,113,299	3,176,270															
	End		4,008,647	5,022,867	6,037,123		4,008,647	6,037,123															
	Start	Inboard	4,011,245	5,026,122	6,041,036		4,011,245	6,041,036															
	Min		2,113,299	2,644,780	3,176,270		2,113,299	3,176,270															
	End		4,008,647	5,022,867	6,037,123		4,008,647	6,037,123															

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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	120	130	140	150	160	170	180	190	200								
			Pressure Torque Output: Start/Min./End (lbf-in)																								
G01x08-SR0	Start	24,151																	Please consult factory	15,182	17,164	19,147	Exceeds MOP	169	14,983	192	19,544
	Min	10,918																		6,245	7,309	8,366			6,139		8,577
	End	17,415																			8,454	10,435			12,416		8,256
G01x08-SR1	Start	18,180																	Please consult factory	10,248	12,229	14,211	Exceeds MOP	128	9,851	192	22,538
	Min	8,628																		4,515	5,567	6,616			4,303		11,005
	End	14,424																			6,499	8,479			10,459		6,103
G01x08-SR2	Start	15,199																	Please consult factory	8,046	10,027	12,008	Exceeds MOP	107	7,452	192	24,297
	Min	7,405																		3,703	4,751	5,797			3,388		12,261
	End	12,666																			5,520	7,499			9,478		4,926
G01x08-SR3	Start	13,246																	Please consult factory	7,677	9,658	11,639	Exceeds MOP	94	6,489	192	25,909
	Min	6,476																		3,604	4,650	5,694			2,974		13,197
	End	11,055																			5,493	7,471			9,450		4,306
G01x08-SR4	Start	11,239																	Please consult factory	5,165	7,145	9,125	Exceeds MOP	80	5,165	192	27,357
	Min	5,579																		2,432	3,479	4,522			2,432		14,104
	End	9,609																			3,541	5,519			7,497		3,541
G01x09-SR0	Start	24,092																	Please consult factory	16,829	19,358	21,887	Exceeds MOP	132	14,806	200	32,007
	Min	10,902																		7,138	8,486	9,828			6,052		15,171
	End	17,355																			10,100	12,626			15,153		8,079
G01x09-SR1	Start	18,121																	Please consult factory	9,712	12,239	14,767	Exceeds MOP	100	9,712	200	35,000
	Min	8,612																		4,238	5,582	6,918			4,238		17,562
	End	14,365																			5,964	8,489			11,014		5,964
G01x09-SR2	Start	15,140																	Please consult factory	8,945	11,472	13,999	Exceeds MOP	84	7,429	200	36,760
	Min	7,390																		4,189	5,524	6,855			3,386		18,813
	End	12,606																			6,418	8,942			11,467		4,903
G01x09-SR3	Start	13,186																	Please consult factory	8,030	10,557	13,084	Exceeds MOP	74	6,515	200	38,372
	Min	6,460																		3,801	5,134	6,464			2,998		19,747
	End	10,996																			5,845	8,369			10,893		4,331
G01x09-SR4	Start	11,180																	Please consult factory	4,426	6,952	9,478	Exceeds MOP	60	4,426	200	39,819
	Min	5,563																		2,051	3,388	4,719			2,051		20,653
	End	9,550																			2,803	5,326			7,850		2,803

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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	120	130	140	150	160	170	180	190					200					
			Pressure Torque Output: Start/Min./End (lbf-in)																									
G01x10-SR0	Start	24,019							Please consult factory	14,921	18,276	21,631	24,987	28,343	31,700	35,057	Exceeds MOP	100	166	14,921	37,071							
	Min	10,883							6,123	7,919	9,701	11,477	13,248	15,016	16,784	6,123				17,844								
	End	17,283							8,194	11,545	14,897	18,250	21,603	24,956	28,310	8,194				30,322								
G01x10-SR1	Start	18,049					Please consult factory	11,206	14,560	17,915	21,270	24,625	27,981	31,337	34,693	38,050	Exceeds MOP	76	166	9,864	40,065							
	Min	8,593					5,045	6,820	8,588	10,355	12,119	13,883	15,646	17,408	19,170	4,331				20,228								
	End	14,293					7,456	10,807	14,159	17,510	20,862	24,215	27,568	30,921	34,275	6,116				36,287								
G01x10-SR2	Start	15,067					Please consult factory	9,612	12,966	16,320	19,675	23,029	26,385	29,741	33,097	36,453	39,810	Exceeds MOP	64	166	7,600	41,825						
	Min	7,371					4,554	6,322	8,086	9,850	11,612	13,374	15,136	16,898	18,659	20,420	3,489				21,477							
	End	12,534					7,084	10,435	13,786	17,137	20,489	23,841	27,193	30,546	33,899	37,253	5,074				39,265							
G01x10-SR3	Start	13,114					Please consult factory	7,871	11,224	14,578	17,932	21,286	24,641	27,997	31,353	34,709	38,065	41,422	Exceeds MOP	56	166	6,529	43,437					
	Min	6,441					3,729	5,497	7,261	9,024	10,786	12,548	14,310	16,071	17,832	19,593	21,354	3,019				22,411						
	End	10,924					5,686	9,036	12,386	15,737	19,088	22,440	25,792	29,144	32,497	35,851	39,204	4,346				41,217						
G01x10-SR4	Start	11,107					Please consult factory	5,965	9,318	12,671	16,025	19,379	22,734	26,089	29,444	32,800	36,156	39,513	42,870	Exceeds MOP	48	166	5,295	44,884				
	Min	5,544					2,880	4,647	6,410	8,172	9,933	11,695	13,456	15,216	16,977	18,738	20,499	22,260	2,526				23,317					
	End	9,478					4,341	7,690	11,040	14,391	17,742	21,093	24,445	27,797	31,149	34,502	37,855	41,209	3,671				43,221					
G01x12-SR0	Start	23,908					Please consult factory	14,960	19,773	24,587	29,401	34,215	Exceeds MOP														14,960	37,104
	Min	10,854					6,164	8,733	11,282	13,822	16,356	Exceeds MOP														6,164	17,876	
	End	17,171					8,233	13,041	17,850	22,659	27,469	Exceeds MOP														8,233	30,355	
G01x12-SR1	Start	17,937					Please consult factory	13,141	17,954	22,767	27,580	32,394	37,209	Exceeds MOP													9,772	40,098
	Min	8,564					6,090	8,628	11,160	13,690	16,217	18,744	Exceeds MOP													4,304	20,260	
	End	14,181					9,390	14,198	19,006	23,815	28,624	33,434	Exceeds MOP													6,025	36,320	
G01x12-SR2	Start	14,956					Please consult factory	10,089	14,901	19,714	24,527	29,340	34,154	38,969	Exceeds MOP												7,202	41,858
	Min	7,341					4,827	7,361	9,890	12,416	14,942	17,469	19,994	Exceeds MOP													3,300	21,509
	End	12,423					7,561	12,368	17,176	21,984	26,793	31,603	36,412	Exceeds MOP												4,676	39,298	
G01x12-SR3	Start	13,002	6,889	11,701	16,513	21,326	26,139	30,952	35,766	40,581	Exceeds MOP																6,408	43,470
	Min	6,412	3,233	5,770	8,299	10,826	13,352	15,878	18,403	20,928	Exceeds MOP																2,978	22,443
	End	10,812	4,705	9,512	14,319	19,127	23,936	28,744	33,554	38,364	Exceeds MOP																4,224	41,250
G01x12-SR4	Start	10,996	8,337	13,148	17,960	22,773	27,586	32,400	37,214	42,028	Exceeds MOP																4,969	44,917
	Min	5,515	4,154	6,683	9,209	11,735	14,259	16,784	19,309	21,834	Exceeds MOP																2,377	23,349
	End	9,366	6,710	11,517	16,324	21,132	25,940	30,749	35,559	40,368	Exceeds MOP																3,345	43,254

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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	120	130	140	150	160	170	180	190				
Pressure Torque Output: Start/Min./End (lbf-in)																						
G01x14-SR0	Start	23,818			16,307	22,162	28,017	33,872	Exceeds MOP										57	14,551	91	34,458
	Min	10,830		Please consult factory	6,908	10,020	13,112	16,196												5,965		16,504
	End	17,082			9,579	15,427	21,276	27,126												7,824		27,711
G01x14-SR1	Start	17,847		Please consult factory	13,447	19,301	25,155	31,010	Exceeds MOP										43	9,349	91	37,451
	Min	8,541			6,274	9,358	12,436	15,511		18,584										4,100		18,891
	End	14,091			9,695	15,543	21,392	27,241		33,091										5,602		33,676
G01x14-SR2	Start	14,866	9,353	15,207	21,061	26,915	32,770	38,626	Exceeds MOP										36	7,012	91	39,211
	Min	7,318	4,461	7,543	10,618	13,690	16,763	19,834										3,222		20,141		
	End	12,333	6,826	12,674	18,522	24,370	30,220	36,069										4,487		36,654		
G01x14-SR3	Start	12,912	10,965	16,819	22,673	28,527	34,382	40,238	Exceeds MOP										32	6,283	91	40,823
	Min	6,389	5,405	8,481	11,554	14,626	17,697	20,768										2,934		21,075		
	End	10,723	8,777	14,625	20,473	26,322	32,171	38,021										4,100		38,606		
G01x14-SR4	Start	10,906	12,413	18,266	24,120	29,975	35,830	41,685	Exceeds MOP										27	4,804	91	42,271
	Min	5,491	6,318	9,390	12,462	15,533	18,603	21,674										2,313		21,981		
	End	9,276	10,782	16,630	22,478	28,326	34,176	40,025										3,181		40,611		

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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	120	130	140	150	160	170	180	190					200										
Pressure Torque Output: Start/Min./End (lbf-in)																																	
G2x09-SR1	Start	31,250																	Please consult factory	20,526	23,588	26,650	29,712	Exceeds MOP	141	17,771	187	31,856					
	Min	14,530																8,977		10,602	12,223	13,840	7,507			14,971							
	End	23,918																		13,203	16,262	19,322	22,382			10,451		24,524					
G2x09-SR2	Start	26,989																	Please consult factory	17,143	20,203	23,264	26,326	29,388	32,450	Exceeds MOP	123	15,000	187	34,594			
	Min	12,723																7,627		9,249	10,867	12,482	14,094	15,707	6,487			16,834					
	End	21,182																		11,344	14,402	17,461	20,520	23,580	26,639			9,204		28,782			
G2x09-SR3	Start	24,181																	Please consult factory	13,293	16,352	19,413	22,473	25,534	28,596	31,658	34,720	Exceeds MOP	110	13,293	187	36,864	
	Min	11,400																5,734		7,362	8,982	10,598	12,211	13,824	15,434	17,044	5,734			18,171			
	End	18,914																		8,034	11,092	14,150	17,208	20,266	23,325	26,385	29,445			8,034		31,587	
G2x09-SR4	Start	21,573																	Please consult factory	12,737	15,796	18,856	21,916	24,977	28,038	31,100	34,161	37,224	Exceeds MOP	99	12,431	187	39,368
	Min	10,059																5,464		7,093	8,714	10,329	11,942	13,555	15,165	16,775	18,385	5,300			19,512		
	End	16,412																		7,584	10,641	13,698	16,756	19,814	22,873	25,932	28,991	32,051			7,278		34,193
G2x10-SR1	Start	31,162																	Please consult factory	19,217	23,279	27,341	31,404	Exceeds MOP	107	17,998	141	31,810					
	Min	14,507																8,290		10,449	12,597	14,741	7,639			14,956							
	End	23,831																		11,895	15,953	20,012	24,072			10,677		24,478					
G2x10-SR2	Start	26,901																	Please consult factory	17,893	21,955	26,016	30,079	34,142	Exceeds MOP	92	14,645	141	34,548				
	Min	12,700																8,037		10,186	12,329	14,468	16,605	6,309			16,818						
	End	21,095																		12,094	16,152	20,211	24,270	28,330			8,848		28,736				
G2x10-SR3	Start	24,094																	Please consult factory	16,102	20,163	24,225	28,286	32,349	36,411	Exceeds MOP	83	13,260	141	36,818			
	Min	11,377																7,242		9,390	11,532	13,671	15,807	17,942	5,730			18,156					
	End	18,827																		10,842	14,900	18,958	23,016	27,075	31,135			8,002		31,541			
G2x10-SR4	Start	21,485																	Please consult factory	14,546	18,606	22,667	26,728	30,790	34,853	38,915	Exceeds MOP	74	12,110	141	39,322		
	Min	10,036																6,442		8,594	10,737	12,876	15,012	17,148	19,283	5,142			19,496				
	End	16,325																		9,391	13,448	17,506	21,564	25,623	29,682	33,741			6,957		34,147		
G2x12-SR1	Start	31,026																	Please consult factory	21,028	26,855	32,682	Exceeds MOP	74	17,532	100	32,682						
	Min	14,471																9,277		12,362	15,435	7,413			15,435								
	End	23,695																		13,704	19,527	25,350			10,211		25,350						
G2x12-SR2	Start	26,765																	Please consult factory	17,939	23,766	29,593	35,420	Exceeds MOP	65	15,026	100	35,420					
	Min	12,664																8,086		11,164	14,233	17,297	6,538			17,297							
	End	20,959																		12,140	17,962	23,784	29,607			9,229		29,607					
G2x12-SR3	Start	23,957																	Please consult factory	14,383	20,209	26,035	31,863	37,690	Exceeds MOP	58	13,218	100	37,690				
	Min	11,341																6,354		9,438	12,508	15,573	18,634	5,733			18,634						
	End	18,691																		9,124	14,945	20,767	26,590	32,412			7,960		32,412				
G2x12-SR4	Start	21,349																	Please consult factory	16,887	22,713	28,539	34,366	40,194	Exceeds MOP	52	12,227	100	40,194				
	Min	10,000																7,709		10,785	13,851	16,913	19,975	5,231			19,975						
	End	16,189																		11,731	17,552	23,374	29,196	35,019			7,074		35,019				

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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	120	130	140	150	160	170	180	190					200
			Pressure Torque Output: Start/Min./End (lbf-in)																				
G2x14-SR1	Start	30,918	Please consult factory	16,834	23,921	31,009	Exceeds MOP													60	16,834	81	31,718
	Min	14,443		7,065	10,835	14,577		7,065	14,951														
	End	23,587		9,514	16,595	23,677		9,514	24,386														
G2x14-SR2	Start	26,657	Please consult factory	19,572	26,659	33,747	Exceeds MOP													53	14,611	81	34,455
	Min	12,636		8,975	12,713	16,442		6,342	16,814														
	End	20,851		13,771	20,853	27,935		8,815	28,643														
G2x14-SR3	Start	23,850	Please consult factory	14,755	21,842	28,929	36,016	Exceeds MOP												48	13,338	81	36,725
	Min	11,313		6,577	10,324	14,055	17,779		5,823	18,151													
	End	18,583		9,496	16,577	23,658	30,740		8,080	31,448													
G2x14-SR4	Start	21,241	Please consult factory	17,259	24,345	31,433	38,520	Exceeds MOP												43	12,299	81	39,229
	Min	9,972		7,931	11,669	15,396	19,120		5,296	19,492													
	End	16,081		12,102	19,183	26,264	33,347		7,146	34,055													
G2x16-SR1	Start	30,778	Please consult factory	20,978	30,339	Exceeds MOP														46	17,234	61	31,275
	Min	14,406		9,303	14,250		7,308	14,744															
	End	23,447		13,654	23,008		9,913	23,943															
G2x16-SR2	Start	26,517	14,356	23,716	33,077	Exceeds MOP														40	14,356	61	34,013
	Min	12,599	6,235	11,190	16,116		6,235	16,608															
	End	20,712	8,560	17,912	27,265		8,560	28,201															
G2x16-SR3	Start	23,710	16,626	25,986	35,346	Exceeds MOP														36	12,882	61	36,283
	Min	11,276	7,599	12,534	17,453		5,610	17,945															
	End	18,443	11,365	20,717	30,071		7,624	31,006															
G2x16-SR4	Start	21,101	19,129	28,490	37,850	Exceeds MOP														32	11,642	61	38,786
	Min	9,935	8,949	13,878	18,794		4,976	19,286															
	End	15,942	13,971	23,324	32,677		6,490	33,612															

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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	120	130	140	150	160	170	180	190					200			
Pressure Torque Output: Start/Min./End (lbf-in)																										
G3x10-SR1	Start	54,852																		155	32,033	200	54,072			
	Min	25,381																	155					32,033	200	54,072
	End	41,804																								
G3x10-SR2	Start	47,805																		135	27,643	200	48,068			
	Min	22,145																	135					27,643	200	48,068
	End	36,406																								
G3x10-SR3	Start	41,745																		118	23,972	200	64,122			
	Min	19,361																	118					23,972	200	64,122
	End	31,759																								
G3x10-SR4	Start	36,532																		104	21,117	200	68,118			
	Min	16,968																	104					21,117	200	68,118
	End	27,765																								
G3x12-SR1	Start	54,686																		108	32,064	142	56,012			
	Min	25,337																	108					32,064	142	56,012
	End	41,638																								
G3x12-SR2	Start	47,639																		94	27,606	142	61,412			
	Min	22,102																	94					27,606	142	61,412
	End	36,241																								
G3x12-SR3	Start	41,579																		82	23,807	142	66,062			
	Min	19,318																	82					23,807	142	66,062
	End	31,593																								
G3x12-SR4	Start	36,366																		72	20,763	142	70,057			
	Min	16,924																	72					20,763	142	70,057
	End	27,599																								
G3x14-SR1	Start	54,555																		88	31,347	117	56,218			
	Min	25,303																	88					31,347	117	56,218
	End	41,507																								
G3x14-SR2	Start	47,508																		77	27,316	117	61,618			
	Min	22,067																	77					27,316	117	61,618
	End	36,110																								
G3x14-SR3	Start	41,448																		68	24,249	117	66,268			
	Min	19,283																	68					24,249	117	66,268
	End	31,462																								
G3x14-SR4	Start	36,235																		59	20,529	117	70,264			
	Min	16,890																	59					20,529	117	70,264
	End	27,468																								

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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	120	130	140	150	160	170	180	190					200									
			Pressure Torque Output: Start/Min./End (lbf-in)																													
G3x16-SR1	Start	54,385			Please consult factory	35,106	46,446	57,787	Exceeds MOP														67	31,704	90	57,787						
	Min	25,258				15,194	21,203	27,183																		13,379	27,183					
	End	41,338				22,067	33,402	44,738																			18,667	44,738				
G3x16-SR2	Start	47,338		Please consult factory	29,167	40,506	51,846	63,187	Exceeds MOP														58	26,899	90	63,187						
	Min	22,023				12,523	18,535	24,513		30,479																	11,311	30,479				
	End	35,940				17,777	29,111	40,446		51,782																		15,510	51,782			
G3x16-SR3	Start	41,278		Please consult factory	33,816	45,156	56,496	67,837	Exceeds MOP														51	23,612	90	67,837						
	Min	19,239				15,404	21,384	27,348		33,304																		9,983	33,304			
	End	31,292				23,834	35,168	46,503		57,839																			13,634	57,839		
G3x16-SR4	Start	36,065	Please consult factory	26,474	37,812	49,151	60,492	71,833	Exceeds MOP														45	20,805	90	71,833						
	Min	16,845		11,869	17,857	23,822	29,777	35,730																				8,852	35,730			
	End	27,298		17,711	29,044	40,379	51,714	63,050																					12,045	63,050		
G3x20-SR1	Start	54,047	Please consult factory	45,454	Exceeds MOP																		42	31,046	56	56,262						
	Min	25,169		20,744																									13,097	26,442		
	End	40,999		32,411																										18,009	43,213	
G3x20-SR2	Start	47,000	32,844	50,855	Exceeds MOP																		37	27,441	56	61,662						
	Min	21,934	14,549	24,057																									11,673	29,739		
	End	35,602	21,452	39,455																										16,052	50,257	
G3x20-SR3	Start	40,939	37,494	55,504	Exceeds MOP																		32	23,086	56	66,312						
	Min	19,150	17,416	26,893																										9,776	32,565	
	End	30,954	27,510	45,512																											13,108	56,314
G3x20-SR4	Start	35,727	41,489	59,500	Exceeds MOP																		28	19,878	56	70,307						
	Min	16,756	19,861	29,321																											8,432	34,993
	End	26,960	32,720	50,723																												11,118

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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	120	130	140	150	160	170	180	190					200													
			Pressure Torque Output: Start/Min./End (lbf-in)																																	
G4x12-SR2	Start	98,222																			Please consult factory	64,145	72,644	81,144	89,645	98,147	159	63,295	200	98,147						
	Min	43,627																					25,740	30,300	34,833	39,346		43,848		25,281	43,848					
	End	68,842																						34,789	43,282	51,776		60,271		68,766	33,940	68,766				
G4x12-SR3	Start	82,692																			Please consult factory	57,947	66,445	74,943	83,442	91,942	100,443	108,944	134	52,849	200	108,944				
	Min	36,816																					23,886	28,423	32,938	37,439	41,931	46,413		50,895		21,142	50,895			
	End	58,052																						33,325	41,816	50,308	58,801	67,295		75,790		84,286	28,231	84,286		
G4x12-SR4	Start	68,243																			Please consult factory	50,295	58,791	67,288	75,785	84,283	92,782	101,282	109,783	118,285	111	42,650	200	118,285		
	Min	30,684																					21,356	25,873	30,372	34,860	39,341	43,815	48,287	52,759		57,223		17,259	57,223	
	End	48,718																						30,783	39,273	47,763	56,254	64,746	73,239	81,733		90,228		98,724	23,143	98,724
G4x14-SR1	Start	112,239																			Please consult factory	70,663	81,028	91,393	101,759	112,126	Exceeds MOP	69,627	194	116,273						
	Min	50,660																					28,861	34,403	39,914	45,405		50,886		28,304	53,074					
	End	81,473																						39,927	50,284	60,642		71,001		81,360	38,892	85,505				
G4x14-SR2	Start	98,063																			Please consult factory	73,100	83,463	93,827	104,192	114,559	124,926	Exceeds MOP	63,774	194	129,073					
	Min	43,585																					30,577	36,100	41,597	47,077	52,548		58,013		25,573	60,199				
	End	68,683																						43,737	54,093	64,450	74,808		85,167		95,526	34,418	99,671			
G4x14-SR3	Start	82,532																			Please consult factory	52,814	63,174	73,535	83,897	94,261	104,625	114,990	125,356	135,724	Exceeds MOP	52,814	194	139,871		
	Min	36,774																					21,158	26,715	32,225	37,713	43,187	48,651	54,109	59,561		65,014		21,158	67,194	
	End	57,893																						28,195	38,548	48,902	59,257	69,612	79,969	90,327		100,686		111,046	28,195	115,190
G4x14-SR4	Start	68,084																			Please consult factory	51,795	62,154	72,514	82,875	93,238	103,601	113,965	124,330	134,697	145,064	Exceeds MOP	42,472	194	149,211	
	Min	30,642																					22,189	27,691	33,169	38,632	44,088	49,539	54,988	60,431	65,874		71,318		17,198	73,496
	End	48,559																						32,281	42,633	52,986	63,340	73,695	84,050	94,407	104,765		115,124		125,484	22,966
G4x16-SR1	Start	112,034																			Please consult factory	79,730	93,455	107,182	Exceeds MOP	70,123	147	116,791								
	Min	50,606																					33,739	41,033		48,296		28,599	53,370							
	End	81,268																						48,987		62,703		76,419	39,387	86,022						
G4x16-SR2	Start	97,858																			Please consult factory	65,082	78,805	92,530	106,255	119,981	Exceeds MOP	63,710	147	129,590						
	Min	43,531																					26,308	33,649	40,936	48,193		55,431		25,569	60,495					
	End	68,478																						35,726	49,439	63,153		76,869		90,585	34,354	100,188				
G4x16-SR3	Start	82,327																			Please consult factory	62,158	75,880	89,603	103,327	117,052	130,779	Exceeds MOP	52,553	147	140,388					
	Min	36,720																					26,204	33,499	40,757	47,993	55,219		62,438		21,050	67,489				
	End	57,688																						37,533	51,245	64,958	78,672		92,388		106,105	27,935	115,707			
G4x16-SR4	Start	67,879																			Please consult factory	44,058	57,778	71,498	85,220	98,943	112,667	126,393	140,119	Exceeds MOP	42,686	147	149,728			
	Min	30,588																					18,086	25,403	32,664	39,898	47,117	54,333	61,539		68,746		17,349	73,791		
	End	48,354																						24,550	38,260	51,971	65,683	79,396	93,111		106,826		120,543	23,179	130,145	

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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	120	130	140	150	160	170	180	190					200												
			Pressure Torque Output: Start/Min./End (lbf-in)																																
G4x20-SR1	Start	111,621				Please consult factory	89,330	111,165	Exceeds MOP																	71	69,680	92	115,532						
	Min	50,497					38,912	50,464																					28,432	52,769					
	End	80,856					58,581	80,400																						38,944	84,764				
G4x20-SR2	Start	97,445	Please consult factory	58,464	80,296	102,130	123,965	Exceeds MOP																			60	58,464	92	128,332					
	Min	43,422		22,806	34,513	46,079	57,593																							22,806	59,894				
	End	68,065		29,112	50,929	72,747	94,566																								29,112	98,930			
G4x20-SR3	Start	81,914	Please consult factory	69,262	91,094	112,927	134,762	Exceeds MOP																				52	51,797	92	139,129				
	Min	36,611		30,063	41,615	53,115	64,595																								20,722	66,890			
	End	57,275		44,631	66,448	88,266	110,085																								27,179	114,449			
G4x20-SR4	Start	67,466	Please consult factory	56,771	78,602	100,434	122,268	144,103	Exceeds MOP																				43	41,491	92	148,470			
	Min	30,479		24,949	36,484	47,971	59,439	70,899																								16,789	73,191		
	End	47,941		37,255	59,070	80,886	102,704	124,523																								21,985	128,887		
G4x24-SR1	Start	111,323	Please consult factory	73,392	105,194	Exceeds MOP																							49	70,211	63	114,735			
	Min	50,419		30,462	47,342																												28,758	52,379	
	End	80,558		42,654	74,433																												39,476	83,967	
G4x24-SR2	Start	97,147	Please consult factory	86,191	117,993	Exceeds MOP																								43	63,931	63	127,534		
	Min	43,344		37,683	54,479																												25,809	59,504	
	End	67,767		56,819	88,599																												34,575	98,133	
G4x24-SR3	Start	81,616	65,188	96,989	128,791	Exceeds MOP																								36	52,468	63	138,332		
	Min	36,532	27,942	44,761	61,488																											21,135	66,502		
	End	56,977	40,561	72,339	104,118																											27,850	113,652		
G4x24-SR4	Start	67,168	74,528	106,329	138,131	Exceeds MOP																									30	42,729	63	147,672	
	Min	30,401	34,383	51,110	67,798																												17,512	72,803	
	End	47,644	54,999	86,777	118,556																											23,222	128,090		
G4x28-SR1	Start	110,048	92,701	Exceeds MOP																											34	65,762	45	115,151	
	Min	50,083	41,119																														26,750	52,986	
	End	79,284	61,949																														35,030	84,383	
G4x28-SR2	Start	95,872	105,501	Exceeds MOP																												30	60,603	45	127,950
	Min	43,007	48,278																														24,393	60,112	
	End	66,493	76,115																														31,250	98,549	
G4x28-SR3	Start	80,341	116,298	Exceeds MOP																												25	48,953	45	138,748
	Min	36,196	55,304																														19,610	67,107	
	End	55,703	91,634																														24,338	114,068	

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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	120	130	140	150	160	170	180	190					200								
			Pressure Torque Output: Start/Min./End (lbf-in)																												
G5x16-SR2	Start	228,703																			Please consult factory	175,940	193,488	211,037	179	174,185	200	211,037			
	Min	93,776																				65,664	75,229	84,696		64,701		84,696			
	End	135,275																					82,529	100,071		117,615		80,775	117,615		
G5x16-SR3	Start	183,905																			Please consult factory	144,703	162,247	179,793	197,340	214,888	232,437	144	134,177	200	232,437
	Min	77,094																				56,388	65,844	75,235	84,576	93,884	103,175		50,656		103,175
	End	113,882																				74,693	92,231	109,771	127,312	144,855	162,398		64,170		162,398
G5x16-SR4	Start	153,351																			Please consult factory	127,221	144,763	162,306	179,851	197,396	214,943	121	111,435	200	250,041
	Min	64,784																				51,092	60,492	69,835	79,139	88,416	97,684		42,545		116,180
	End	96,284																				70,163	87,699	105,237	122,775	140,315	157,856		54,382		192,942
G5x20-SR1	Start	254,555																			Please consult factory	199,246	227,280	255,315	283,352			125	185,230	164	294,567
	Min	107,205																				77,940	93,025	107,985	122,879				70,327		128,824
	End	159,530																				104,239	132,264	160,290	188,317				90,228		199,529
G5x20-SR2	Start	228,169																			Please consult factory	196,011	224,043	252,077	280,112	308,149		112	173,587	164	319,364
	Min	93,634																				76,684	91,766	106,724	121,615	136,462			64,466		142,387
	End	134,741																				102,594	130,617	158,641	186,667	214,695			80,177		225,906
G5x20-SR3	Start	183,371																			Please consult factory	133,325	161,352	189,381	217,411	245,443	273,477	90	133,325	164	340,764
	Min	76,952																				50,290	65,459	80,432	95,312	110,135	124,926		50,290		160,342
	End	113,348																				63,319	91,337	119,356	147,378	175,400	203,425		63,319		270,690
G5x20-SR4	Start	152,817																			Please consult factory	122,903	150,929	178,956	206,984	235,015	263,047	76	111,693	164	358,368
	Min	64,642																				48,866	63,876	78,758	93,575	108,351	123,109		42,790		173,185
	End	95,750																				65,846	93,863	121,881	149,900	177,922	205,944		54,640		301,234
G5x24-SR1	Start	254,170																			Please consult factory	202,761	243,680	284,601				86	186,394	112	292,785
	Min	107,102																				79,871	101,816	123,561					70,998		127,898
	End	159,145																				107,753	148,658	189,566					91,391		197,748
G5x24-SR2	Start	227,784																			Please consult factory	186,641	227,558	268,477	309,398			77	174,366	112	317,582
	Min	93,531																				71,638	93,676	115,472	137,142				64,937		141,464
	End	134,356																				93,226	134,130	175,036	215,943				80,956		224,125
G5x24-SR3	Start	182,985																			Please consult factory	126,212	167,126	208,041	248,958	289,877	330,798	60	126,212	112	338,982
	Min	76,850																				46,434	68,601	90,382	112,024	133,592	155,123		46,434		159,424
	End	112,963																				56,208	97,108	138,010	178,914	219,820	260,727		56,208		268,909
G5x24-SR4	Start	152,431																			Please consult factory	143,815	184,729	225,644	266,562	307,481	348,401	52	111,086	112	356,586
	Min	64,539																				60,135	81,859	103,450	124,988	146,494	167,975		42,518		172,269
	End	95,365																				86,752	127,652	168,554	209,458	250,364	291,271		54,033		299,453

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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	120	130	140	150	160	170	180	190					200		
			Pressure Torque Output: Start/Min./End (lbf-in)																						
G5x28-SR1	Start	252,521			179,961	237,813	295,668	Exceeds MOP												60	179,961	80	295,668		
	Min	106,664		Please consult factory	68,033	99,238	129,995															68,033		129,995	
	End	157,497			84,960	142,793	200,629																84,960		200,629
G5x28-SR2	Start	226,135			204,758	262,610	320,465	Exceeds MOP												54	170,048	80	320,465		
	Min	93,091		Please consult factory	81,990	112,910	143,554															63,105		143,554	
	End	132,708			111,337	169,170	227,007																76,639		227,007
G5x28-SR3	Start	181,337			168,309	226,158	284,010	Exceeds MOP												44	133,602	80	341,865		
	Min	76,412		Please consult factory	69,757	100,514	131,051		161,503													51,018		161,503	
	End	111,315			98,292	156,121	213,954		271,791														63,596		271,791
G5x28-SR4	Start	150,783	128,068		185,913	243,761	301,613	Exceeds MOP												37	110,715	80	359,468		
	Min	64,102	52,212		83,002	113,526	143,958		174,344													42,828		174,344	
	End	93,717	71,010		128,836	186,665	244,498		302,335														53,662		302,335
G5x32-SR1	Start	251,855			210,961	286,714	Exceeds MOP													46	180,661	61	294,289		
	Min	106,487		Please consult factory	84,983	125,375																	68,558		129,391
	End	156,831			115,950	191,678																	85,660		199,251
G5x32-SR2	Start	225,469			235,758	311,511	Exceeds MOP													41	167,583	61	319,086		
	Min	92,913		Please consult factory	98,743	138,949																	61,893		142,952
	End	132,042			142,327	218,056																	74,175		225,629
G5x32-SR3	Start	180,670	181,409		257,158	332,911	Exceeds MOP													33	128,387	61	340,486		
	Min	76,235	76,899		117,032	156,922																	48,314		160,905
	End	110,649	111,387		187,111	262,839																	58,382		270,412
G5x32-SR4	Start	150,116	199,012		274,761	350,514	Exceeds MOP													28	108,119	61	358,090		
	Min	63,924	90,067		129,971	169,771																	41,565		173,747
	End	93,051	141,931		217,655	293,383																	51,067		300,956
G5x36-SR1	Start	251,188	215,722				Exceeds MOP													36	177,306	48	292,558		
	Min	106,310	87,685																				66,873		128,610
	End	156,164	120,710																				82,306		197,520
G5x36-SR2	Start	224,802	240,519				Exceeds MOP													33	173,291	48	317,355		
	Min	92,735	101,430																				65,191		142,174
	End	131,375	147,087																				79,881		223,898
G5x36-SR3	Start	180,004	261,920				Exceeds MOP													26	127,465	48	338,755		
	Min	76,058	119,684																				47,965		160,130
	End	109,982	191,871																				57,460		268,681

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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	120	130	140	150	160	170	180	190					200		
Pressure Torque Output: Start/Min./End (lbf-in)																									
G7x20-SR3	Start	366,531																	147	272,999	200	454,257			
	Min	151,987																					102,148	199,276	309,613
	End	221,909																							
G7x20-SR4	Start	307,573																	124	228,212	200	488,107			
	Min	128,271																					86,037	224,419	368,556
	End	188,067																							
G7x24-SR1	Start	503,373																	138	381,336	178	581,464			
	Min	207,111																					141,857	249,399	378,359
	End	300,288																							
G7x24-SR2	Start	444,416																	122	335,147	178	615,314			
	Min	183,396																					124,998	274,715	437,302
	End	266,446																							
G7x24-SR3	Start	366,031																	101	275,154	178	660,362			
	Min	151,853																					103,341	308,015	515,667
	End	221,410																							
G7x24-SR4	Start	307,073																	85	228,981	178	694,213			
	Min	128,138																					86,487	332,829	574,610
	End	187,568																							
G7x28-SR1	Start	501,375																	97	376,063	126	581,493			
	Min	206,578																					139,674	250,161	378,388
	End	298,290																							
G7x28-SR2	Start	442,417																	86	332,002	126	615,343			
	Min	182,863																					123,973	275,474	437,331
	End	264,448																							
G7x28-SR3	Start	364,033																	71	270,817	126	660,392			
	Min	151,320																					101,638	308,770	515,696
	End	219,412																							
G7x28-SR4	Start	305,075																	60	226,769	126	694,242			
	Min	127,605																					85,927	333,583	574,639
	End	185,570																							

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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	120	130	140	150	160	170	180	190					200		
Pressure Torque Output: Start/Min./End (lbf-in)																									
G7x32-SR1	Start	500,556				Please consult factory	430,782	523,604	Exceeds MOP										74	375,092	96	579,299			
	Min	206,359				169,624	219,453															139,275		249,111	
	End	297,472					227,716	320,514															172,039		376,195
G7x32-SR2	Start	441,598			Please consult factory	371,817	464,633	557,454	Exceeds MOP										66	334,692	96	613,149			
	Min	182,644				145,815	195,636	244,959															125,590		274,427
	End	263,630					193,866	286,659		379,457														156,750	
G7x32-SR3	Start	363,214		Please consult factory	324,054	416,865	509,681	602,502	Exceeds MOP										54	268,370	96	658,198			
	Min	151,101				130,683	180,255	229,408		278,384													100,451		307,729
	End	218,593					179,443	272,231		365,023	457,821													123,773	
G7x32-SR4	Start	304,256	Please consult factory	265,099	357,905	450,715	543,531	636,353	Exceeds MOP										46	227,978	96	692,048			
	Min	127,386				106,886	156,412	205,512		254,433	303,262												86,754		332,543
	End	184,751					145,604	238,386		331,174	423,966	516,764												108,493	
G7x36-SR1	Start	499,737		Please consult factory	393,918	511,661	Exceeds MOP												59	382,144	76	582,310			
	Min	206,141				149,748		213,205															143,304		250,840
	End	296,653						190,860	308,574															179,089	
G7x36-SR2	Start	440,779		Please consult factory	427,768	545,512	Exceeds MOP												52	333,578	76	616,160			
	Min	182,425				176,081		238,761															125,140		276,150
	End	262,811						249,803	367,517															155,637	
G7x36-SR3	Start	362,395	Please consult factory	355,079	472,817	590,560	Exceeds MOP												43	272,667	76	661,209			
	Min	150,882				147,482		210,064	272,224														102,975		309,443
	End	217,774						210,460	328,168	445,882														128,069	
G7x36-SR4	Start	303,437	271,198	388,930	506,667	624,410	Exceeds MOP												36	224,107	76	695,059			
	Min	127,167	110,334	173,014	235,159	297,116																84,812		334,255	
	End	183,932	151,702	269,403	387,111	504,825																104,623		575,456	
G7xT28-SR1	Start	495,168	Please consult factory	390,989	532,612	Exceeds MOP													49	376,828	63	575,101			
	Min	204,921					149,594	225,835															141,839		248,467
	End	292,085						187,933	329,520															173,775	
G7xT28-SR2	Start	436,210	Please consult factory	424,840	566,463	Exceeds MOP													43	325,709	63	608,952			
	Min	181,206					175,930	251,314															122,241		273,787
	End	258,243						246,876	388,463															147,770	
G7xT28-SR3	Start	357,826	328,274	469,888	611,511	Exceeds MOP													36	271,631	63	654,000			
	Min	149,663	134,496	209,915	284,701																	103,803		307,092	
	End	213,206	183,662	325,240	466,828																		127,034		509,306
G7xT28-SR4	Start	298,868	362,125	503,739	645,362	Exceeds MOP													30	220,520	63	687,850			
	Min	125,947	160,176	235,010	309,565																	84,220		331,907	
	End	179,364	242,605	384,183	525,771																		101,036		568,249

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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	120	130	140	150	160	170	180	190					200			
Pressure Torque Output: Start/Min./End (lbf-in)																										
G8x24-SR1	Start	744,286																	Please consult factory	546,171	604,998	663,828	173	504,994	200	663,828
	Min	323,449																218,840		250,367	281,728	196,626		281,728		
	End	501,998																		303,912	362,730	421,552		262,741		421,552
G8x24-SR2	Start	598,913																	Please consult factory	387,396	446,211	505,028	140	387,396	200	740,329
	Min	266,872																155,213		186,721	218,009	155,213		342,302		
	End	425,508																		214,022	272,828	331,637		214,022		566,903
G8x24-SR3	Start	507,818																	Please consult factory	334,066	392,874	451,685	119	328,185	200	804,618
	Min	226,612																134,968		166,411	197,646	131,808		383,626		
	End	361,228																		187,502	246,302	305,104		181,623		657,985
G8x28-SR1	Start	741,887																	Please consult factory	570,106	653,582	737,064	Exceeds MOP	503,330	172	920,742
	Min	322,814																232,617		277,207	321,563	196,632		418,700		
	End	499,599																		327,844	411,307	494,776		261,077		678,428
G8x28-SR2	Start	596,514																	Please consult factory	396,213	479,672	563,137	Exceeds MOP	379,522	172	997,243
	Min	266,239																160,803		205,402	249,690	151,826		478,380		
	End	423,109																		222,838	306,285	389,737		206,149		823,780
G8x28-SR3	Start	505,419																	Please consult factory	377,048	460,502	543,961	Exceeds MOP	326,979	172	1,061,532
	Min	225,979																158,809		203,163	247,301	131,977		519,477		
	End	358,830																		230,478	313,920	397,367		180,416		914,862
G8x32-SR1	Start	740,917																	Please consult factory	579,277	688,794	798,317	Exceeds MOP	502,619	131	918,800
	Min	322,557																237,662		296,077	354,126	196,384		417,780		
	End	498,629																		337,014	446,514	556,021		260,367		676,486
G8x32-SR2	Start	595,544																	Please consult factory	436,764	546,268	655,779	Exceeds MOP	382,014	131	995,301
	Min	265,983																182,677		240,893	298,775	153,324		477,464		
	End	422,140																		263,383	372,871	482,365		208,641		821,838
G8x32-SR3	Start	504,449																	Please consult factory	391,555	501,053	610,557	Exceeds MOP	325,859	131	1,059,590
	Min	225,723																166,693		224,764	282,551	131,542		518,561		
	End	357,860																		244,983	354,464	463,953		179,297		912,920
G8x36-SR1	Start	739,947																	Please consult factory	595,555	734,595	873,643	Exceeds MOP	498,231	103	915,358
	Min	322,300																246,518		320,510	394,074	194,164		416,094		
	End	497,660																		353,289	492,309	631,336		255,979		673,045
G8x36-SR2	Start	594,574																	Please consult factory	393,997	533,023	672,056	Exceeds MOP	380,094	103	991,860
	Min	265,727																159,938		234,028	307,505	152,466		475,784		
	End	421,170																		220,622	359,627	498,640		206,721		818,397
G8x36-SR3	Start	503,479																	Please consult factory	319,266	458,285	597,312	Exceeds MOP	319,266	103	1,056,148
	Min	225,467																128,180		202,309	275,728	128,180		516,881		
	End	356,890																		172,705	311,704	450,709		172,705		909,479

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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	120	130	140	150	160	170	180	190					200	
		Pressure Torque Output: Start/Min./End (lbf-in)																					
G8x40-SR1	Start	738,977	Please consult factory	514,598	686,639	858,687	Exceeds MOP												59	497,394	84	927,509	
	Min	322,043		203,194	295,237	386,321																193,889	422,646
	End	496,690		272,343	444,359	616,383																	255,142
G8x40-SR2	Start	593,604	Please consult factory	419,066	591,099	763,140	Exceeds MOP												48	384,660	84	1,004,010	
	Min	265,471		173,571	264,935	355,676		446,150														155,112	482,310
	End	420,200		245,687	417,695	589,711		761,734														211,286	830,546
G8x40-SR3	Start	502,509	Please consult factory	483,354	655,388	827,429	Exceeds MOP												41	328,531	84	1,068,299	
	Min	225,211		215,762	306,503	396,965		487,280														133,364	523,407
	End	355,920		336,769	508,777	680,793		852,816														181,969	921,628
G8xT32-SR1	Start	732,119	Please consult factory	570,265	789,225	Exceeds MOP													47	504,579	65	898,709	
	Min	320,227		235,256	351,727																	199,877	409,602
	End	489,833		328,002	546,930																		262,327
G8xT32-SR2	Start	586,746	427,819	646,766	865,726	Exceeds MOP													38	384,031	65	975,210	
	Min	263,661	180,289	296,404	411,729															156,812		469,317	
	End	413,343	254,439	473,354	692,281																	210,658	801,750
G8xT32-SR3	Start	495,651	492,108	711,055	930,014	Exceeds MOP													32	316,960	65	1,039,499	
	Min	223,401	222,403	337,831	452,918															129,155		510,415	
	End	349,064	345,521	564,436	783,363																	170,399	892,832
G8xT36-SR1	Start	730,179	585,628	863,642	Exceeds MOP														37	502,227	52	919,246	
	Min	319,714	243,868	391,435																		199,013	420,786
	End	487,893	343,363	621,336																		259,975	676,932
G8xT36-SR2	Start	584,806	662,129	940,143	Exceeds MOP														30	384,131	52	995,747	
	Min	263,149	304,893	451,238																		157,291	480,458
	End	411,403	488,715	766,688																		210,757	822,284
G8xT36-SR3	Start	493,711	726,418	1,004,431	Exceeds MOP														25	309,425	52	1,060,036	
	Min	222,889	346,301	492,359																		125,526	521,555
	End	347,124	579,797	857,769																		162,865	913,366

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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	120	130	140	150	160	170	180	190					200													
			Pressure Torque Output: Start/Min./End (lbf-in)																																	
G10x28-SR2	Start	1,383,986																		Please consult factory	1,091,757	1,200,447	1,309,144	175	1,037,414	200	1,309,144									
	Min	574,494																			419,568	478,406	536,770		389,921		536,770									
	End	843,139																				550,973	659,639		768,313		496,643	768,313								
G10x28-SR3	Start	1,262,044													Please consult factory	1,010,820	1,119,495	1,228,177	1,336,867	1,445,565	159	999,953	200	1,445,565												
	Min	504,734														370,244	429,763	488,621	547,003	605,118		364,251		605,118												
	End	706,748															455,578	564,230	672,889	781,555		890,229		444,714	890,229											
G10x28-SR4	Start	1,011,321												Please consult factory	798,032	906,685	1,015,345	1,124,013	1,232,688	1,341,370	1,450,060	1,558,758	128	776,302	200	1,558,758										
	Min	413,553													300,011	359,055	417,457	475,480	533,271	590,924	648,391	705,844		288,092		705,844										
	End	593,579														380,337	488,966	597,603	706,247	814,898	923,557	1,032,223		1,140,897		358,612	1,140,897									
G10x32-SR1	Start	1,716,433												Please consult factory	1,401,974	1,544,894	1,687,823	1,830,761	165	1,330,516	200	1,830,761														
	Min	699,161													531,876	609,381	686,292	762,748		492,736		762,748														
	End	1,003,552														689,161	832,050	974,948		1,117,854		617,719	1,117,854													
G10x32-SR2	Start	1,382,712												Please consult factory	1,134,985	1,277,880	1,420,784	1,563,696	1,706,617	1,849,546	1,992,483	133	1,034,963	200	1,992,483											
	Min	574,154													443,160	520,142	596,534	672,584	748,384	823,990	899,545		388,708		899,545											
	End	841,865														594,192	737,056	879,928	1,022,809	1,165,699	1,308,597		1,451,503		494,192	1,451,503										
G10x32-SR3	Start	1,260,770												Please consult factory	1,128,518	1,271,405	1,414,301	1,557,205	1,700,117	1,843,037	1,985,966	2,128,904	121	999,927	200	2,128,904										
	Min	504,392													434,801	511,980	588,532	664,672	740,528	816,225	891,778	967,231		364,379		967,231										
	End	705,474														573,251	716,107	858,971	1,001,844	1,144,725	1,287,614	1,430,512		1,573,418		444,688	1,573,418									
G10x32-SR4	Start	1,010,046												Please consult factory	813,101	955,963	1,098,833	1,241,711	1,384,598	1,527,494	1,670,398	1,813,310	1,956,230	2,099,159	2,242,097	97	770,244	200	2,242,097							
	Min	413,212													308,426	385,744	462,207	538,186	613,900	689,443	764,810	840,149	915,369	990,544	1,065,721		284,920		1,065,721							
	End	592,305														395,403	538,234	681,073	823,920	966,776	1,109,640	1,252,513	1,395,394	1,538,283	1,681,181		1,824,087		352,556	1,824,087						
G10x36-SR1	Start	1,715,159												Please consult factory	1,333,483	1,515,175	1,696,877	Exceeds MOP										129	1,315,314	158	1,842,245					
	Min	698,820													494,512	593,452	691,279		620,684	802,337	983,999	484,496	769,006													
	End	1,002,278																											602,520		1,129,336					
G10x36-SR2	Start	1,381,437												Please consult factory	1,131,848	1,313,522	1,495,205	1,676,897	1,858,599	Exceeds MOP										104	1,022,849	158	2,003,968			
	Min	573,813													441,622	539,369	636,294	732,750	828,896		382,243	905,731														
	End	840,591														591,056	772,690	954,333	1,135,986		1,317,648	482,080	1,462,985													
G10x36-SR3	Start	1,259,495												Please consult factory	1,086,605	1,268,269	1,449,943	1,631,626	1,813,318	1,995,020	Exceeds MOP										95	995,776	83	2,140,388		
	Min	504,050													412,160	510,451	607,706	704,337	800,642	896,684		362,261	973,400													
	End	704,200														531,347	712,971	894,605	1,076,249	1,257,902		1,439,564	440,538	1,584,900												
G10x36-SR4	Start	1,008,772												Please consult factory	836,497	1,018,143	1,199,798	1,381,462	1,563,136	1,744,819	1,926,511	2,108,213	Exceeds MOP										77	782,006	83	2,253,581
	Min	412,872													321,371	419,276	516,118	612,395	708,406	804,177	899,864	995,425		291,605	1,071,876											
	End	591,031														418,794	600,400	782,015	963,640	1,145,274	1,326,917	1,508,570		1,690,232	364,315	1,835,569										

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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	120	130	140	150	160	170	180	190					200	
			Pressure Torque Output: Start/Min./End (lbf-in)																					
G10x40-SR1	Start	1,713,885								Please consult factory	1,445,912	1,670,961	Exceeds MOP							105	1,333,392	128	1,851,007	
	Min	698,480									556,069	677,505		677,505									494,634	773,821
	End	1,001,004										733,090		958,089	958,089									620,594
G10x40-SR2	Start	1,380,163								Please consult factory	1,157,568	1,382,596	Exceeds MOP							84	1,022,557	128	2,012,730	
	Min	573,473									455,706	576,478		576,478									382,280	910,493
	End	839,317										616,771		841,749	1,066,739									481,788
G10x40-SR3	Start	1,258,221								Please consult factory	1,068,972	1,293,989	Exceeds MOP							77	1,001,468	128	2,149,151	
	Min	503,708									402,711	524,457		644,652									365,614	978,160
	End	702,925										513,717		738,686	963,665									446,229
G10x40-SR4	Start	1,007,498								Please consult factory	732,161	957,157	Exceeds MOP							60	732,161	128	2,262,344	
	Min	412,532									264,290	386,783		506,945									264,290	1,076,626
	End	589,757										314,480		539,428	764,386									314,480
G10xT32-SR1	Start	1,705,124								Please consult factory	1,532,903	1,818,610	Exceeds MOP							82	1,304,350	100	1,818,610	
	Min	696,141									606,146	759,504		759,504									481,588	759,504
	End	992,245										820,062		1,105,706	1,105,706									591,558
G10xT32-SR2	Start	1,371,402								Please consult factory	1,123,263	1,408,936	Exceeds MOP							66	1,008,998	100	1,980,332	
	Min	571,134									439,997	593,384		745,209									377,696	896,338
	End	830,558										582,473		868,083	1,153,711									468,233
G10xT32-SR3	Start	1,249,460								Please consult factory	974,028	1,259,684	Exceeds MOP							60	974,028	100	2,116,753	
	Min	501,357									353,226	508,835		661,522									353,226	964,033
	End	694,167										418,794		704,388	989,999									418,794
G10xT32-SR4	Start	998,737								Please consult factory	801,581	1,087,221	Exceeds MOP							49	773,018	100	2,229,946	
	Min	410,193									305,278	459,121		610,806									289,629	1,062,530
	End	580,998										383,886		669,463	955,057									355,329

Note: All Published Torques are Guaranteed Minimum Values. Units are Imperial

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	120	130	140	150	160	170	180	190					200			
			Pressure Torque Output: Start/Min./End (lbf-in)																							
G10xT36-SR1	Start	1,702,575			Please consult factory	1,502,131	1,865,403	Exceeds MOP												65	1,320,502	80	1,865,403			
	Min	695,461				589,932	784,856																	490,939	784,856	
	End	989,697				789,296	1,152,489																		607,706	1,152,489
G10xT36-SR2	Start	1,368,853			Please consult factory	1,300,600	1,663,853	Exceeds MOP												52	1,010,011	80	2,027,125			
	Min	570,454				535,919	729,296		921,418															378,735	921,418	
	End	828,010				759,771	1,122,945		1,486,138																469,245	1,486,138
G10xT36-SR3	Start	1,246,911			Please consult factory	1,073,786	1,437,021	Exceeds MOP												48	1,001,141	80	2,163,546			
	Min	500,673				408,657	604,271		797,199	989,085															368,760	989,085
	End	691,618				518,531	881,686		1,244,860	1,608,053															445,902	1,608,053
G10xT36-SR4	Start	996,188	823,763	1,186,979	1,550,214	1,913,467	2,276,739	Exceeds MOP												38	751,122	80	2,276,739			
	Min	409,512	317,914	512,724	705,005	896,438	1,087,527																	278,093	1,087,527	
	End	578,450	406,063	769,200	1,132,355	1,495,529	1,858,722																	333,438	1,858,722	
G10xT40-SR1	Start	1,700,027			Please consult factory	1,656,729		Exceeds MOP												52	1,296,749	64	1,836,724			
	Min	694,780				673,686																			478,337	770,022
	End	987,149				943,860																			583,959	1,123,816
G10xT40-SR2	Start	1,366,305			Please consult factory	1,368,479	1,818,451	Exceeds MOP												42	1,008,515	64	1,998,446			
	Min	569,773				572,708	811,591																		378,443	906,733
	End	825,461				827,635	1,277,509																		467,750	1,457,465
G10xT40-SR3	Start	1,244,363	1,054,947	1,504,899	1,954,872			Exceeds MOP												38	964,959	64	2,134,867			
	Min	499,990	398,878	640,899	879,378																			349,245	974,400	
	End	689,070	499,696	949,550	1,399,425																			409,728	1,579,380	
G10xT40-SR4	Start	993,639	1,168,140	1,618,092	2,068,065			Exceeds MOP												31	763,201	64	2,248,060			
	Min	408,832	503,217	741,271	978,207																			285,325	1,072,875	
	End	575,902	750,365	1,200,219	1,650,093																			345,514	1,830,049	

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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	120	130	140	150	160	170	180	190	200							
Pressure Torque Output: Start/Min./End (lbf-in)																									
G13x40-SR1	Start	3,818,510																	Please consult factory	3,391,223	3,678,995	182	3,161,015	200	3,678,995
	Min.	1,491,002																1,262,944		1,419,755	1,136,038		1,419,755		
	End	2,036,193																		1,609,183	1,896,769		1,379,124		1,896,769
G13x40-SR2	Start	3,295,711																	Please consult factory	2,789,388	3,077,120	157	2,703,072	200	3,940,395
	Min.	1,293,194																1,021,202		1,178,583	973,481		1,642,566		
	End	1,774,963																1,268,968		1,556,513	1,182,708		2,419,230		
G13x40-SR3	Start	2,746,696																	Please consult factory	2,526,509	2,814,213	131	2,267,586	200	4,252,938
	Min.	1,073,215																956,982		1,112,870	814,571		1,878,954		
	End	1,462,623																1,242,578		1,530,096	983,824		2,967,889		
G13x40-SR4	Start	2,223,896																	Please consult factory	1,924,877	2,212,541	106	1,809,815	200	4,514,338
	Min.	875,407																715,571		871,934	652,062		2,092,061		
	End	1,201,392																902,567		1,190,044	787,580		3,490,350		
G13x44-SR1	Start	3,816,775																	Please consult factory	3,163,819	3,513,233	150	3,163,819	165	3,687,946
	Min.	1,490,534																1,137,814		1,329,889	Exceeds MOP		1,424,824		
	End	2,034,459																1,381,926		1,731,114	1,381,926		1,905,714		
G13x44-SR2	Start	3,293,975																	Please consult factory	2,726,435	3,075,819	129	2,691,497	165	3,949,346
	Min.	1,292,726																986,691		1,178,098	Exceeds MOP		1,647,534		
	End	1,773,228																1,206,056		1,555,214	1,171,140		2,428,175		
G13x44-SR3	Start	2,744,961																	Please consult factory	2,340,253	2,689,607	108	2,270,383	165	4,261,889
	Min.	1,072,747																855,063		1,045,811	816,386		1,883,882		
	End	1,460,889																1,056,443		1,405,571	986,619		2,976,834		
G13x44-SR4	Start	2,222,161																	Please consult factory	1,902,988	2,252,313	87	1,798,193	165	4,523,288
	Min.	874,939																703,817		893,681	645,898		2,096,976		
	End	1,199,658																880,692		1,229,790	775,965		3,499,295		
G13x48-SR1	Start	3,815,127																	Please consult factory	3,341,840	3,758,806	125	3,133,362	140	3,758,806
	Min.	1,490,090																1,236,296		1,463,351	Exceeds MOP		1,463,351		
	End	2,032,812																1,559,831		1,976,528	1,351,489		1,976,528		
G13x48-SR2	Start	3,292,327																	Please consult factory	2,769,354	3,186,289	108	2,685,969	140	4,020,206
	Min.	1,292,282																1,010,611		1,238,255	Exceeds MOP		1,685,408		
	End	1,771,581																1,248,947		1,665,612	1,165,616		2,498,989		
G13x48-SR3	Start	2,743,312																	Please consult factory	2,248,076	2,664,978	90	2,248,076	140	4,332,749
	Min.	1,072,302																804,246		1,032,711	804,246		1,921,486		
	End	1,459,241																964,326		1,380,958	964,326		3,047,648		
G13x48-SR4	Start	2,220,512																	Please consult factory	2,092,590	2,509,476	73	1,800,780	140	4,594,149
	Min.	874,494																807,566		1,031,878	647,614		2,134,417		
	End	1,198,010																1,070,171		1,486,787	778,550		3,570,109		

Note: All Published Torques are Guaranteed Minimum Values. Units are Imperial

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	120	130	140	150	160	170					180	190	200	
Pressure Torque Output: Start/Min./End (lbf-in)																								
G13x52-SR1	Start	3,813,478								Please consult factory	3,314,305	3,804,702	Exceeds MOP							107	3,167,189	120	3,804,702	
	Min.	1,489,645									1,221,346	1,488,335											1,140,107	1,488,335
	End	2,031,164										1,532,314		2,022,394										1,385,294
G13x52-SR2	Start	3,290,678								Please consult factory	3,085,326	3,575,705	Exceeds MOP							92	2,693,035	120	4,066,102	
	Min.	1,291,837									1,183,696	1,448,149											968,612	1,710,024
	End	1,769,933										1,564,714		2,054,776										1,172,677
G13x52-SR3	Start	2,741,663								Please consult factory	2,417,162	2,907,506	Exceeds MOP							77	2,270,062	120	4,378,644	
	Min.	1,071,858									897,921	1,163,765											816,730	1,945,927
	End	1,457,594										1,133,303		1,623,329										986,298
G13x52-SR4	Start	2,218,864								Please consult factory	1,697,926	2,188,236	Exceeds MOP							60	1,697,926	120	4,640,044	
	Min.	874,050									590,354	859,608											590,354	2,158,736
	End	1,196,363										675,763		1,165,755										675,763
G13xT40-SR1	Start	3,800,331								Please consult factory	3,659,461		Exceeds MOP							91	3,141,714	100	3,659,461	
	Min.	1,486,099									1,414,454												1,130,685	1,414,454
	End	2,018,026										1,877,247												1,359,836
G13xT40-SR2	Start	3,277,531								Please consult factory	2,770,342	3,345,588	Exceeds MOP							78	2,655,296	100	3,920,861	
	Min.	1,288,291									1,015,961	1,329,081											952,232	1,637,352
	End	1,756,795										1,249,935		1,824,808										1,134,963
G13xT40-SR3	Start	2,728,517								Please consult factory	2,507,666	3,082,885	Exceeds MOP							65	2,220,066	100	4,233,404	
	Min.	1,068,312									951,835	1,262,305											793,389	1,873,800
	End	1,444,455										1,223,747		1,798,594										936,334
G13xT40-SR4	Start	2,205,717								Please consult factory	2,193,874	2,769,066	Exceeds MOP							53	1,791,256	100	4,494,804	
	Min.	870,504									866,899	1,174,869											646,914	2,086,922
	End	1,183,225										1,171,389		1,746,209										769,032
G13xT44-SR1	Start	3,796,861								Please consult factory	3,492,363		Exceeds MOP							75	3,143,065	83	3,701,946	
	Min.	1,485,163									1,324,188												1,132,058	1,438,125
	End	2,014,558										1,710,258												1,361,185
G13xT44-SR2	Start	3,274,061								Please consult factory	3,055,173	3,753,763	Exceeds MOP							65	2,705,889	83	3,963,346	
	Min.	1,287,355									1,172,496	1,548,616											980,993	1,660,560
	End	1,753,327										1,534,581		2,232,719										1,185,524
G13xT44-SR3	Start	2,725,046								Please consult factory	2,669,155	3,367,716	Exceeds MOP							54	2,250,034	83	4,275,889	
	Min.	1,067,376									1,040,295	1,415,059											810,742	1,896,815
	End	1,440,987										1,385,132		2,083,240										966,282
G13xT44-SR4	Start	2,202,246								Please consult factory	2,232,025	2,930,555	Exceeds MOP							44	1,812,921	83	4,537,288	
	Min.	869,568									888,209	1,261,429											659,695	2,109,869
	End	1,179,756										1,209,516		1,907,594										790,683

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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	120	130	140	150	160	170	180	190					200					
Pressure Torque Output: Start/Min./End (lbf-in)																												
G13xT48-SR1	Start	3,793,563			2,902,742	3,736,449	Exceeds MOP														60	2,902,742	70	3,736,449				
	Min.	1,484,274		Please consult factory	997,811	1,457,320																			997,811	1,457,320		
	End	2,011,262			1,121,018	1,954,185																				1,121,018	1,954,185	
G13xT48-SR2	Start	3,270,764			3,164,142	3,997,849	Exceeds MOP														54	2,663,934	70	3,997,849				
	Min.	1,286,466		Please consult factory	1,232,282	1,679,467																			958,328	1,679,467		
	End	1,750,032			1,643,479	2,476,646																				1,143,595	2,476,646	
G13xT48-SR3	Start	2,721,749			2,643,010	3,476,684	Exceeds MOP														45	2,226,185	70	3,476,684				
	Min.	1,066,486		Please consult factory	1,026,749	1,473,633		1,915,587																		798,174	1,915,587	
	End	1,437,692			1,359,004	2,192,138		3,025,305																		942,449	3,025,305	
G13xT48-SR4	Start	2,198,949	2,070,768	2,904,410	3,738,084	4,571,791	Exceeds MOP														37	1,820,682	70	4,571,791				
	Min.	868,679	801,644	1,248,182	1,689,290	2,128,548																			664,721	2,128,548		
	End	1,176,461	1,048,363	1,881,465	2,714,600	3,547,767																				798,439	3,547,767	
G13xT52-SR1	Start	3,790,266			3,780,860	Exceeds MOP															53	3,094,448	60	3,780,860				
	Min.	1,483,384		Please consult factory	1,481,905																					1,106,305	1,481,905	
	End	2,007,967			1,998,568																						1,312,600	1,998,568
G13xT52-SR2	Start	3,267,466			3,061,677	4,042,260	Exceeds MOP														46	2,669,453	60	4,042,260				
	Min.	1,285,576		Please consult factory	1,177,279	1,703,689																				962,072	1,703,689	
	End	1,746,737			1,541,081	2,521,029																					1,149,111	2,521,029
G13xT52-SR3	Start	2,718,452	2,393,671	3,374,219	4,354,803	Exceeds MOP															38	2,197,565	60	4,354,803				
	Min.	1,065,597	891,482	1,419,743	1,939,637																					782,901	1,939,637	
	End	1,434,397	1,109,826	2,089,740	3,069,688																						913,848	3,069,688
G13xT52-SR4	Start	2,195,652	2,655,071	3,635,619	4,616,203	Exceeds MOP															31	1,772,607	60	4,616,203				
	Min.	867,789	1,116,180	1,635,783	2,152,477																						638,772	2,152,477
	End	1,173,166	1,632,287	2,612,201	3,592,149																							750,395

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