

Bettis G-Series

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

BETTIS™



Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5
Pressure Torque Output: Start/Min./End (Nm)																							
G01x08	Outboard	Start	959	1,129	1,299	1,639	1,809	1,979	2,320	2,490	2,830	3,000	3,341	3,511	3,682	4,022	4,193	4,363	Exceeds MOP	2.8	13.2	891	4,431
		Min	520	609	699	877	967	1,056	1,235	1,324	1,503	1,593	1,771	1,861	1,950	2,129	2,219	2,308				484	2,344
		End	958	1,128	1,298	1,637	1,807	1,977	2,317	2,487	2,827	2,997	3,338	3,508	3,678	4,018	4,188	4,359				890	4,427
	Inboard	Start	943	1,110	1,277	1,612	1,779	1,947	2,281	2,449	2,784	2,951	3,286	3,454	3,622	3,957	4,124	4,292				876	4,359
		Min	512	599	687	863	951	1,039	1,215	1,303	1,479	1,567	1,743	1,831	1,919	2,095	2,183	2,271				476	2,306
		End	942	1,109	1,276	1,610	1,777	1,945	2,279	2,446	2,781	2,948	3,283	3,451	3,618	3,953	4,120	4,288				875	4,355
G01x09	Outboard	Start	1,229	1,445	1,662	2,094	2,311	2,527	2,960	3,176	3,609	3,825	4,258	Exceeds MOP						2.8	10.4	1,143	4,432
		Min	664	777	891	1,118	1,231	1,345	1,572	1,686	1,913	2,027	2,254									618	2,345
		End	1,228	1,444	1,660	2,092	2,308	2,524	2,957	3,173	3,605	3,822	4,254									1,142	4,427
	Inboard	Start	1,213	1,426	1,640	2,067	2,281	2,494	2,921	3,135	3,563	3,776	4,204									1,127	4,375
		Min	655	767	879	1,104	1,216	1,328	1,552	1,664	1,889	2,001	2,225									610	2,315
		End	1,212	1,425	1,638	2,065	2,278	2,492	2,919	3,132	3,559	3,773	4,200									1,126	4,371
G01x10	Outboard	Start	1,641	1,927	2,213	2,785	3,072	3,358	3,931	4,217	Exceeds MOP									2.8	7.9	1,526	4,446
		Min	881	1,031	1,182	1,482	1,632	1,783	2,083	2,233												821	2,354
		End	1,639	1,925	2,211	2,783	3,069	3,355	3,927	4,213												1,525	4,442
	Inboard	Start	1,624	1,908	2,191	2,758	3,042	3,325	3,893	4,176												1,511	4,403
		Min	873	1,021	1,170	1,468	1,617	1,766	2,063	2,212												813	2,331
		End	1,623	1,906	2,189	2,755	3,039	3,322	3,889	4,172												1,509	4,399
G01x12	Outboard	Start	2,368	2,777	3,187	4,006	4,416	Exceeds MOP												2.8	5.5	2,204	4,416
		Min	1,266	1,480	1,695	2,125	2,340															1,180	2,340
		End	2,365	2,774	3,184	4,002	4,411															2,202	4,411
	Inboard	Start	2,351	2,758	3,165	3,979	4,386															2,188	4,386
		Min	1,257	1,470	1,684	2,111	2,324															1,172	2,324
		End	2,349	2,755	3,162	3,975	4,381															2,186	4,381
G01x14	Outboard	Start	2,886	3,383	3,881	Exceeds MOP														2.8	4.6	2,686	4,478
		Min	1,540	1,801	2,062																	1,435	2,375
		End	2,883	3,380	3,877																	2,684	4,474
	Inboard	Start	2,869	3,364	3,859																	2,671	4,453
		Min	1,531	1,791	2,050																	1,427	2,362
		End	2,866	3,361	3,855																	2,669	4,449

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

Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End	Operating Pressure (barg)														MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12					12.5	13
		Pressure Torque Output: Start/Min./End (Nm)																			
G2x09	Start	1,488	1,750	2,012	2,535	2,797	3,059	3,583	3,845	4,369	4,631	5,155	5,417	5,679	6,204	6,466	Exceeds MOP	2.8	12.9	1,383	6,676
	Min	803	941	1,078	1,353	1,491	1,628	1,903	2,041	2,316	2,453	2,728	2,866	3,003	3,279	3,416				748	3,526
	End	1,487	1,748	2,010	2,533	2,795	3,057	3,580	3,842	4,365	4,627	5,151	5,413	5,675	6,199	6,461				1,382	6,671
	Start	1,468	1,727	1,985	2,502	2,761	3,019	3,537	3,795	4,313	4,571	5,089	5,348	5,607	6,124	6,383				1,365	6,591
	Min	793	929	1,064	1,336	1,472	1,607	1,879	2,015	2,286	2,422	2,694	2,830	2,965	3,237	3,373				739	3,482
	End	1,467	1,725	1,984	2,500	2,758	3,017	3,534	3,792	4,309	4,568	5,085	5,343	5,602	6,120	6,378				1,364	6,585
G2x10	Start	1,986	2,332	2,679	3,372	3,718	4,065	4,758	5,105	5,799	6,145	Exceeds MOP	2.8	9.7	1,847	6,631					
	Min	1,067	1,248	1,430	1,794	1,976	2,158	2,521	2,703	3,067	3,249				994	3,504					
	End	1,984	2,330	2,677	3,369	3,715	4,062	4,755	5,101	5,794	6,140				1,846	6,626					
	Start	1,966	2,309	2,652	3,339	3,682	4,025	4,712	5,055	5,742	6,086				1,829	6,567					
	Min	1,056	1,236	1,416	1,777	1,957	2,137	2,497	2,677	3,038	3,218				984	3,470					
	End	1,965	2,307	2,650	3,336	3,679	4,022	4,708	5,051	5,738	6,081				1,827	6,562					
G2x12	Start	2,866	3,362	3,858	4,849	5,345	5,841	Exceeds MOP	2.8	6.9	2,668	6,734									
	Min	1,532	1,792	2,052	2,572	2,832	3,092				1,428	3,560									
	End	2,864	3,359	3,855	4,845	5,341	5,837				2,666	6,729									
	Start	2,846	3,339	3,831	4,816	5,309	5,802				2,649	6,688									
	Min	1,521	1,780	2,038	2,555	2,813	3,071				1,418	3,536									
	End	2,844	3,336	3,828	4,812	5,305	5,797				2,647	6,683									
G2x14	Start	3,493	4,095	4,698	5,903	6,506	Exceeds MOP	2.8	5.6	3,252	6,626										
	Min	1,864	2,179	2,495	3,127	3,443				1,737	3,506										
	End	3,490	4,092	4,694	5,898	6,500				3,249	6,621										
	Start	3,473	4,072	4,671	5,870	6,469				3,234	6,589										
	Min	1,853	2,167	2,482	3,110	3,424				1,728	3,487										
	End	3,470	4,069	4,668	5,865	6,464				3,231	6,584										
G2x16	Start	4,630	5,425	6,220	Exceeds MOP	2.8	4.2	4,313	6,538												
	Min	2,463	2,880	3,296				2,297	3,463												
	End	4,627	5,421	6,215				4,309	6,533												
	Start	4,611	5,402	6,193				4,294	6,510												
	Min	2,453	2,868	3,283				2,287	3,449												
	End	4,607	5,398	6,188				4,291	6,505												

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Torque - Pneumatic Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5		
Pressure Torque Output: Start/Min./End (Nm)																									
G3x10	Outboard	Start	2,403	2,823	3,243	4,082	4,502	4,922	5,762	6,182	7,022	7,442	8,282	8,702	9,123	9,963	10,384	10,804	11,224	2.8	13.8	2,235	11,477		
		Min	1,291	1,512	1,732	2,173	2,393	2,613	3,054	3,274	3,715	3,935	4,376	4,596	4,817	5,257	5,478	5,698	5,919			1,203		6,051	
		End	2,402	2,822	3,241	4,080	4,500	4,920	5,759	6,179	7,019	7,439	8,278	8,698	9,119	9,959	10,379	10,799	11,219			2,234		11,472	
	Inboard	Start	2,365	2,779	3,192	4,019	4,433	4,846	5,674	6,088	6,915	7,329	8,157	8,571	8,985	9,813	10,227	10,641	11,055			2,200		11,303	
		Min	1,272	1,489	1,706	2,140	2,357	2,574	3,008	3,225	3,659	3,876	4,310	4,527	4,744	5,179	5,396	5,613	5,830			1,185		5,960	
		End	2,364	2,778	3,191	4,017	4,431	4,844	5,671	6,085	6,912	7,326	8,153	8,567	8,980	9,808	10,222	10,636	11,050			2,199		11,298	
G3x12	Outboard	Start	3,473	4,075	4,676	5,879	6,481	7,082	8,285	8,887	10,091	10,692	Exceeds MOP								2.8	9.8	3,233	11,655	
		Min	1,857	2,172	2,488	3,119	3,434	3,749	4,380	4,696	5,327	5,642								1,731			6,147		
		End	3,472	4,073	4,674	5,876	6,478	7,079	8,282	8,883	10,086	10,687								3,231			11,650		
	Inboard	Start	3,436	4,031	4,626	5,816	6,411	7,007	8,197	8,793	9,984	10,579											3,198		11,532
		Min	1,837	2,149	2,461	3,086	3,398	3,710	4,334	4,646	5,271	5,583											1,712		6,083
		End	3,434	4,029	4,624	5,814	6,409	7,004	8,194	8,789	9,979	10,574											3,196		11,527
G3x14	Outboard	Start	4,236	4,967	5,698	7,160	7,892	8,623	10,086	10,817	Exceeds MOP									2.8	8.1	3,944	11,695		
		Min	2,261	2,644	3,027	3,794	4,177	4,561	5,327	5,711												2,107		6,171	
		End	4,234	4,965	5,696	7,157	7,888	8,619	10,081	10,812												3,942		11,689	
	Inboard	Start	4,198	4,923	5,648	7,098	7,823	8,548	9,998	10,723												3,909		11,593	
		Min	2,241	2,621	3,001	3,761	4,141	4,521	5,281	5,662												2,089		6,118	
		End	4,197	4,921	5,645	7,094	7,819	8,544	9,993	10,718												3,907		11,588	
G3x16	Outboard	Start	5,619	6,584	7,549	9,479	10,444	11,410	Exceeds MOP											2.8	6.2	5,233	11,796		
		Min	2,990	3,496	4,001	5,013	5,519	6,025														2,788		6,227	
		End	5,617	6,581	7,546	9,475	10,440	11,404														5,231		11,790	
	Inboard	Start	5,582	6,540	7,499	9,416	10,375	11,334														5,198		11,718	
		Min	2,970	3,473	3,975	4,980	5,483	5,985														2,769		6,186	
		End	5,579	6,537	7,496	9,412	10,371	11,329														5,196		11,712	
G3x20	Outboard	Start	8,965	10,494	Exceeds MOP														2.8	3.9	8,354	11,718			
		Min	4,751	5,552																	4,431		6,193		
		End	8,961	10,489																			8,350	11,712	
	Inboard	Start	8,927	10,450																			8,318	11,669	
		Min	4,732	5,530																			4,413	6,168	
		End	8,923	10,446																			8,315	11,663	

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Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5
			Pressure Torque Output: Start/Min./End (Nm)																				
G4x12	Outboard	Start	4,206	4,935	5,664	7,121	7,850	8,579	10,038	10,767	12,225	12,954	14,413	15,143	15,872	17,331	18,061	18,791	19,521	2.8	13.8	3,915	19,959
		Min	2,250	2,632	3,014	3,779	4,161	4,543	5,308	5,690	6,455	6,837	7,602	7,984	8,367	9,132	9,514	9,897	10,279			2,097	10,509
		End	4,203	4,931	5,660	7,116	7,845	8,573	10,030	10,759	12,216	12,945	14,403	15,132	15,861	17,319	18,048	18,777	19,507			3,912	19,944
	Inboard	Start	4,140	4,858	5,576	7,011	7,729	8,447	9,884	10,602	12,038	12,757	14,193	14,912	15,630	17,068	17,786	18,505	19,224			3,853	19,655
		Min	2,215	2,592	2,968	3,721	4,098	4,474	5,227	5,604	6,357	6,734	7,487	7,864	8,240	8,994	9,370	9,747	10,124			2,065	10,350
		End	4,137	4,855	5,572	7,006	7,724	8,441	9,877	10,594	12,030	12,747	14,183	14,901	15,619	17,055	17,774	18,492	19,210			3,850	19,641
G4x14	Outboard	Start	5,133	6,020	6,906	8,679	9,566	10,453	12,226	13,113	14,887	15,774	17,549	18,436	19,323	21,098	21,985	22,873	Exceeds MOP	2.8	13.4	4,779	23,583
		Min	2,741	3,205	3,670	4,600	5,065	5,530	6,459	6,924	7,854	8,319	9,249	9,714	10,179	11,110	11,575	12,040				2,555	12,412
		End	5,130	6,016	6,901	8,673	9,559	10,445	12,218	13,104	14,877	15,763	17,536	18,423	19,309	21,083	21,970	22,857				4,776	23,566
	Inboard	Start	5,067	5,943	6,818	8,569	9,445	10,321	12,072	12,948	14,700	15,576	17,328	18,205	19,081	20,834	21,710	22,587				4,717	23,288
		Min	2,706	3,165	3,624	4,542	5,001	5,461	6,379	6,838	7,757	8,216	9,134	9,594	10,053	10,971	11,431	11,890				2,522	12,258
		End	5,064	5,939	6,813	8,563	9,438	10,313	12,064	12,939	14,690	15,565	17,316	18,192	19,067	20,819	21,695	22,571				4,714	23,271
G4x16	Outboard	Start	6,815	7,986	9,157	11,499	12,670	13,841	16,183	17,354	19,697	20,868	23,212	Exceeds MOP	2.8	10.1	6,347	23,446					
		Min	3,627	4,241	4,855	6,082	6,696	7,310	8,537	9,151	10,379	10,992	12,220				3,382	12,343					
		End	6,811	7,980	9,150	11,491	12,661	13,831	16,172	17,342	19,683	20,854	23,195				6,343	23,430					
	Inboard	Start	6,749	7,909	9,069	11,389	12,549	13,709	16,029	17,190	19,510	20,671	22,992				6,286	23,224					
		Min	3,593	4,201	4,809	6,025	6,633	7,241	8,457	9,065	10,281	10,889	12,105				3,350	12,227					
		End	6,745	7,904	9,063	11,381	12,540	13,699	16,018	17,177	19,496	20,656	22,976				6,281	23,208					
G4x20	Outboard	Start	10,883	12,739	14,596	18,310	20,167	22,024	Exceeds MOP	2.8	6.3	10,140	23,138										
		Min	5,769	6,742	7,714	9,660	10,633	11,605				5,380	12,189										
		End	10,875	12,730	14,586	18,297	20,153	22,008				10,133	23,122										
	Inboard	Start	10,817	12,662	14,508	18,200	20,046	21,892				10,078	23,000										
		Min	5,734	6,701	7,668	9,602	10,569	11,536				5,348	12,117										
		End	10,809	12,653	14,498	18,187	20,032	21,877				10,071	22,983										
G4x24	Outboard	Start	15,906	18,606	21,306	Exceeds MOP	2.8	4.3	14,826	22,926													
		Min	8,406	9,819	11,233				7,840	12,081													
		End	15,895	18,593	21,291				14,816	22,910													
	Inboard	Start	15,840	18,529	21,218				14,765	22,831													
		Min	8,371	9,779	11,187				7,808	12,032													
		End	15,829	18,516	21,203				14,754	22,815													
G4x28	Outboard	Start	22,402	Exceeds MOP	2.8	3.1	20,879	23,163															
		Min	11,852				11,054	12,250															
		End	22,386				20,864	23,146															
	Inboard	Start	22,336				20,817	23,095															
		Min	11,817				11,022	12,215															
		End	22,320				20,802	23,078															
G4x220	Outboard	Start	21,699	Exceeds MOP	2.8	3.2	20,219	23,180															
		Min	11,503				10,727	12,279															
		End	21,684				20,204	23,164															
	Inboard	Start	21,699				20,219	23,180															
		Min	11,503				10,727	12,279															
		End	21,684				20,204	23,164															

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Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)			
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5		
Pressure Torque Output: Start/Min./End (Nm)																									
G5x16	Outboard	Start	8,787	10,295	11,802	14,818	16,326	17,834	20,850	22,358	25,374	26,883	29,900	31,408	32,917	35,934	37,443	38,952	40,461	2.8	8,184	13.8	41,367		
		Min	4,673	5,463	6,254	7,834	8,624	9,414	10,995	11,785	13,366	14,156	15,737	16,527	17,317	18,898	19,689	20,479	21,270					4,357	21,744
		End	8,784	10,292	11,799	14,813	16,320	17,828	20,843	22,351	25,366	26,874	29,890	31,398	32,906	35,923	37,431	38,940	40,448					8,182	41,353
	Inboard	Start	8,636	10,118	11,600	14,565	16,048	17,530	20,496	21,979	24,945	26,428	29,394	30,877	32,361	35,328	36,811	38,295	39,779					8,043	40,669
		Min	4,594	5,371	6,148	7,702	8,479	9,256	10,810	11,587	13,141	13,918	15,472	16,249	17,027	18,581	19,358	20,136	20,913					4,283	21,379
		End	8,633	10,115	11,596	14,560	16,042	17,525	20,489	21,971	24,936	26,419	29,384	30,867	32,350	35,316	36,799	38,283	39,766					8,040	40,656
G5x20	Outboard	Start	14,046	16,440	18,834	23,623	26,018	28,413	33,203	35,598	40,389	42,784	47,575	49,971	52,367	Exceeds MOP				2.8	13,088	11.3	53,804		
		Min	7,443	8,697	9,951	12,460	13,715	14,969	17,478	18,733	21,242	22,497	25,006	26,261	27,516									6,941	28,269
		End	14,041	16,434	18,828	23,616	26,010	28,404	33,192	35,586	40,375	42,770	47,560	49,955	52,350									13,084	53,787
	Inboard	Start	13,894	16,263	18,632	23,371	25,740	28,110	32,849	35,219	39,959	42,329	47,070	49,440	51,811									12,946	53,233
		Min	7,363	8,604	9,846	12,328	13,569	14,811	17,293	18,535	21,017	22,259	24,742	25,983	27,225									6,867	27,970
		End	13,889	16,258	18,626	23,363	25,732	28,100	32,838	35,207	39,946	42,315	47,054	49,424	51,794									12,942	53,216
G5x24	Outboard	Start	20,540	24,024	27,509	34,478	37,962	41,447	48,417	51,902	Exceeds MOP									2.8	19,146	7.7	53,296		
		Min	10,852	12,677	14,502	18,151	19,976	21,801	25,450	27,275														10,122	28,005
		End	20,533	24,016	27,500	34,466	37,950	41,434	48,401	51,885														19,140	53,279
	Inboard	Start	20,388	23,847	27,306	34,225	37,684	41,144	48,063	51,523														19,005	52,907
		Min	10,773	12,584	14,396	18,019	19,830	21,642	25,265	27,077														10,048	27,801
		End	20,382	23,840	27,297	34,214	37,672	41,130	48,048	51,506														18,999	52,890
G5x28	Outboard	Start	28,937	33,853	38,769	48,603	53,520	Exceeds MOP												2.8	26,971	5.5	53,520		
		Min	15,308	17,884	20,460	25,612	28,188																	14,278	28,188
		End	28,927	33,842	38,757	48,587	53,502																	26,962	53,502
	Inboard	Start	28,785	33,676	38,567	48,350	53,242																	26,829	53,242
		Min	15,229	17,791	20,354	25,479	28,042																	14,204	28,042
		End	28,776	33,665	38,555	48,334	53,224																	26,820	53,224
G5x32	Outboard	Start	37,941	44,371	50,801	Exceeds MOP														2.8	35,369	4.2	53,374		
		Min	20,042	23,410	26,778																			18,695	28,126
		End	37,929	44,357	50,785																			35,358	53,356
	Inboard	Start	37,790	44,194	50,599																			35,228	53,161
		Min	19,963	23,318	26,673																			18,621	28,015
		End	37,777	44,180	50,583																			35,216	53,144
G5x36	Outboard	Start	48,159	Exceeds MOP																2.8	44,901	3.3	53,047		
		Min	25,410																					23,704	27,970
		End	48,143																					44,886	53,029
	Inboard	Start	48,007																					44,759	52,880
		Min	25,331																					23,630	27,883
		End	47,992																					44,745	52,862

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Torque - Pneumatic Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5
Pressure Torque Output: Start/Min./End (Nm)																							
G5x220	Start	Outboard	27,939	32,703	37,466	46,994	51,758	Exceeds MOP											2.8	26,034	5.7	53,664	
	Min		14,806	17,301	19,797	24,788	27,284															13,807	28,282
	End		27,930	32,692	37,454	46,979	51,741															26,026	53,646
	Start	Inboard	27,939	32,703	37,466	46,994	51,758															26,034	53,664
	Min		14,806	17,301	19,797	24,788	27,284															13,807	28,282
	End		27,930	32,692	37,454	46,979	51,741															26,026	53,646
G5x224	Start	Outboard	40,928	47,872	Exceeds MOP														2.8	38,151	3.9	53,426	
	Min		21,625	25,261																		20,171	28,170
	End		40,915	47,856																		38,139	53,409
	Start	Inboard	40,928	47,872																		38,151	53,426
	Min		21,625	25,261																		20,171	28,170
	End		40,915	47,856																		38,139	53,409

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

Torque - Pneumatic Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5			
Pressure Torque Output: Start/Min./End (Nm)																									
G7x20	Start	Outboard	17,134	20,063	22,991	28,849	31,778	34,707	40,565	43,495	49,354	52,284	58,144	61,075	64,005	69,867	72,798	75,729	78,660	2.8	15,963	13.8	80,419		
	Min	Outboard	9,099	10,635	12,170	15,242	16,777	18,313	21,385	22,920	25,992	27,528	30,600	32,136	33,672	36,745	38,281	39,817	41,353					8,485	42,275
	End	Outboard	17,130	20,058	22,985	28,841	31,770	34,698	40,555	43,484	49,342	52,271	58,130	61,059	63,989	69,849	72,779	75,710	78,640					15,959	80,399
	Start	Inboard	16,899	19,788	22,677	28,456	31,345	34,235	40,015	42,905	48,686	51,577	57,358	60,249	63,141	68,924	71,815	74,707	77,599					15,743	79,334
	Min	Inboard	8,976	10,491	12,006	15,036	16,551	18,066	21,097	22,612	25,643	27,158	30,189	31,704	33,220	36,251	37,767	39,282	40,798					8,370	41,708
	End	Inboard	16,894	19,783	22,671	28,448	31,337	34,226	40,005	42,894	48,674	51,564	57,344	60,234	63,125	68,906	71,797	74,688	77,579					15,739	79,314
G7x24	Start	Outboard	25,108	29,375	33,642	42,177	46,445	50,713	59,249	63,517	72,054	76,323	84,861	89,131	93,400	101,940	Exceeds MOP	2.8	23,401	12.3	23,401	104,502			
	Min	Outboard	13,289	15,525	17,762	22,235	24,471	26,708	31,181	33,418	37,891	40,128	44,602	46,839	49,076	53,550							12,394	54,892	
	End	Outboard	25,102	29,368	33,634	42,167	46,433	50,700	59,234	63,501	72,036	76,304	84,840	89,108	93,377	101,914							23,395	104,475	
	Start	Inboard	24,872	29,100	33,328	41,784	46,013	50,241	58,699	62,928	71,386	75,616	84,075	88,305	92,536	100,996							23,181	103,535	
	Min	Inboard	13,166	15,381	17,597	22,029	24,245	26,461	30,893	33,109	37,542	39,758	44,191	46,407	48,623	53,056							12,279	54,386	
	End	Inboard	24,866	29,093	33,320	41,774	46,001	50,229	58,684	62,912	71,368	75,597	84,054	88,283	92,512	100,971							23,175	103,509	
G7x28	Start	Outboard	35,427	41,453	47,480	59,533	65,561	71,588	83,644	89,672	101,730	Exceeds MOP	2.8	33,017	8.7	33,017	104,142								
	Min	Outboard	18,766	21,926	25,086	31,405	34,565	37,725	44,045	47,205	53,526							17,503	54,790						
	End	Outboard	35,418	41,443	47,468	59,518	65,544	71,570	83,623	89,650	101,704							33,008	104,116						
	Start	Inboard	35,191	41,178	47,165	59,140	65,128	71,117	83,094	89,083	101,062							32,797	103,458						
	Min	Inboard	18,643	21,782	24,921	31,200	34,339	37,478	43,757	46,897	53,176							17,387	54,432						
	End	Inboard	35,182	41,168	47,153	59,125	65,112	71,099	83,073	89,061	101,037							32,788	103,432						
G7x32	Start	Outboard	46,488	54,374	62,260	78,033	85,920	93,807	Exceeds MOP	2.8	43,334	6.6	43,334	103,272											
	Min	Outboard	24,585	28,718	32,852	41,119	45,253	49,386							22,931	54,347									
	End	Outboard	46,476	54,360	62,244	78,013	85,898	93,783							43,323	103,246									
	Start	Inboard	46,252	54,099	61,945	77,640	85,487	93,335							43,114	102,753									
	Min	Inboard	24,461	28,574	32,687	40,913	45,026	49,140							22,816	54,076									
	End	Inboard	46,241	54,085	61,930	77,620	85,466	93,312							43,103	102,728									
G7x36	Start	Outboard	59,039	69,033	79,027	99,016	Exceeds MOP	2.8	55,042	5.2	55,042	103,014													
	Min	Outboard	31,183	36,420	41,657	52,132							29,088	54,227											
	End	Outboard	59,025	69,016	79,007	98,991							55,028	102,988											
	Start	Inboard	58,804	68,758	78,713	98,623							54,822	102,605											
	Min	Inboard	31,059	36,276	41,493	51,927							28,972	54,014											
	End	Inboard	58,789	68,741	78,693	98,598							54,808	102,580											

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Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)	
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13
Pressure Torque Output: Start/Min./End (Nm)																						
G7x220	Start	Outboard	34,033	39,850	45,668	57,304	63,123	68,942	Exceeds MOP										2.8	31,706	6.9	79,416
	Min		18,075	21,126	24,176	30,278	33,328	36,379		16,855	41,871											
	End		34,025	39,840	45,657	57,290	63,107	68,924		31,698	79,396											
	Start	Inboard	34,033	39,850	45,668	57,304	63,123	68,942		31,706	79,416											
	Min		18,075	21,126	24,176	30,278	33,328	36,379		16,855	41,871											
	End		34,025	39,840	45,657	57,290	63,107	68,924		31,698	79,396											
G7x224	Start	Outboard	49,981	58,475	66,970	83,962	92,458	100,954	Exceeds MOP										2.8	46,583	6.1	102,653
	Min		26,454	30,907	35,359	44,264	48,716	53,169		24,674	54,059											
	End		49,968	58,461	66,954	83,940	92,434	100,929		46,571	102,628											
	Start	Inboard	49,981	58,475	66,970	83,962	92,458	100,954		46,583	102,653											
	Min		26,454	30,907	35,359	44,264	48,716	53,169		24,674	54,059											
	End		49,968	58,461	66,954	83,940	92,434	100,929		46,571	102,628											
G7x228	Start	Outboard	70,618	82,631	94,645	Exceeds MOP													2.8	65,813	4.3	101,853
	Min		37,410	43,708	50,007		34,890	53,786														
	End		70,601	82,610	94,621		65,797	101,828														
	Start	Inboard	70,618	82,631	94,645		65,813	101,853														
	Min		37,410	43,708	50,007		34,890	53,786														
	End		70,601	82,610	94,621		65,797	101,828														

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Torque - Pneumatic Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5	
		Pressure Torque Output: Start/Min./End (Nm)																					
G8x24	Start	Outboard	29,645	34,685	39,725	49,805	54,846	59,886	69,968	75,009	85,093	90,134	100,219	105,261	110,304	120,389	125,433	130,476	135,519	2.8	13.8	27,629	138,546
	Min	Outboard	15,691	18,332	20,973	26,255	28,896	31,538	36,820	39,462	44,745	47,386	52,669	55,311	57,953	63,237	65,878	68,520	71,162			14,634	72,748
	End	Outboard	29,641	34,680	39,719	49,798	54,838	59,878	69,958	74,998	85,080	90,121	100,204	105,246	110,287	120,372	125,414	130,457	135,500			27,625	138,525
	Start	Inboard	29,228	34,198	39,168	49,110	54,081	59,052	68,995	73,966	83,910	88,883	98,828	103,801	108,774	118,720	123,694	128,668	133,642			27,240	136,626
	Min	Inboard	15,473	18,077	20,682	25,891	28,496	31,101	36,311	38,916	44,126	46,731	51,942	54,547	57,152	62,363	64,969	67,574	70,180			14,431	71,743
	End	Inboard	29,224	34,193	39,163	49,103	54,073	59,043	68,985	73,956	83,898	88,870	98,813	103,785	108,758	118,703	123,676	128,649	133,622			27,236	136,606
G8x28	Start	Outboard	41,864	48,987	56,111	70,359	77,484	84,609	98,860	105,986	120,239	127,366	141,622	148,750	155,878	Exceeds MOP	2.8	11.9	39,015	168,710			
	Min	Outboard	22,177	25,912	29,646	37,116	40,850	44,585	52,055	55,790	63,261	66,996	74,467	78,203	81,939				20,684	88,663			
	End	Outboard	41,858	48,980	56,103	70,349	77,473	84,597	98,846	105,971	120,222	127,348	141,601	148,728	155,855				39,009	168,685			
	Start	Inboard	41,447	48,501	55,555	69,664	76,719	83,775	97,887	104,943	119,057	126,115	140,231	147,289	154,348				38,625	167,055			
	Min	Inboard	21,959	25,657	29,355	36,752	40,450	44,149	51,546	55,245	62,642	66,341	73,740	77,439	81,138				20,480	87,798			
	End	Inboard	41,441	48,493	55,547	69,654	76,708	83,762	97,872	104,928	119,040	126,096	140,210	147,268	154,325				38,620	167,030			
G8x32	Start	Outboard	54,967	64,293	73,620	92,274	101,601	110,929	129,587	138,916	157,576	166,906	Exceeds MOP	2.8	9.0	51,237	166,906						
	Min	Outboard	29,069	33,957	38,845	48,621	53,509	58,398	68,175	73,064	82,841	87,730				27,113	87,730						
	End	Outboard	54,959	64,284	73,609	92,260	101,587	110,913	129,568	138,896	157,552	166,882				51,229	166,882						
	Start	Inboard	54,550	63,806	73,063	91,578	100,836	110,095	128,613	137,873	156,393	165,654				50,847	165,654						
	Min	Inboard	28,850	33,702	38,554	48,257	53,109	57,961	67,666	72,518	82,223	87,076				26,910	87,076						
	End	Inboard	54,542	63,797	73,052	91,565	100,822	110,079	128,594	137,853	156,370	165,630				50,840	165,630						
G8x36	Start	Outboard	69,835	81,658	93,482	117,130	128,955	140,781	164,433	Exceeds MOP	2.8	7.1	65,106	166,798									
	Min	Outboard	36,883	43,079	49,274	61,666	67,861	74,057	86,450				34,405	87,689									
	End	Outboard	69,825	81,646	93,468	117,113	128,936	140,760	164,409				65,096	166,774									
	Start	Inboard	69,418	81,172	92,926	116,435	128,190	139,946	163,459				64,717	165,811									
	Min	Inboard	36,665	42,824	48,983	61,302	67,461	73,621	85,940				34,202	87,172									
	End	Inboard	69,408	81,160	92,912	116,418	128,172	139,926	163,435				64,707	165,786									
G8x40	Start	Outboard	86,469	101,083	115,698	144,930	159,546	Exceeds MOP	2.8	5.8	80,623	168,316											
	Min	Outboard	45,622	53,279	60,936	76,250	83,907				42,559	88,501											
	End	Outboard	86,456	101,068	115,681	144,908	159,523				80,611	168,291											
	Start	Inboard	86,052	100,596	115,142	144,234	158,781				80,234	167,509											
	Min	Inboard	45,404	53,024	60,645	75,886	83,507				42,356	88,079											
	End	Inboard	86,039	100,582	115,125	144,213	158,758				80,222	167,485											

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Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5		
Pressure Torque Output: Start/Min./End (Nm)																									
G8x224	Outboard	Start	58,873	68,883	78,893	98,915	108,926	118,938	Exceeds MOP										2.8	54,869	6.9	136,960			
		Min	31,163	36,409	41,655	52,146	57,392	62,639														29,065	72,082		
		End	58,865	68,873	78,882	98,900	108,910	118,921															54,861	136,940	
	Inboard	Start	58,873	68,883	78,893	98,915	108,926	118,938															54,869	136,960	
		Min	31,163	36,409	41,655	52,146	57,392	62,639															29,065	72,082	
		End	58,865	68,873	78,882	98,900	108,910	118,921															54,861	136,940	
G8x228	Outboard	Start	83,311	97,488	111,666	140,023	154,203	Exceeds MOP											2.8	77,640	5.9	165,547			
		Min	44,137	51,569	59,002	73,867	81,301															41,164	87,247		
		End	83,299	97,474	111,649	140,003	154,181																77,629	165,523	
	Inboard	Start	83,311	97,488	111,666	140,023	154,203																77,640	165,547	
		Min	44,137	51,569	59,002	73,867	81,301																41,164	87,247	
		End	83,299	97,474	111,649	140,003	154,181																77,629	165,523	
G8x232	Outboard	Start	109,517	128,099	146,683	Exceeds MOP													2.8	102,084	4.5	165,267			
		Min	57,919	67,658	77,398																		54,023	87,138	
		End	109,500	128,080	146,661																			102,069	165,243
	Inboard	Start	109,517	128,099	146,683																		102,084	165,267	
		Min	57,919	67,658	77,398																			54,023	87,138
		End	109,500	128,080	146,661																			102,069	165,243
G8x236	Outboard	Start	139,253	162,830	Exceeds MOP														2.8	129,823	3.6	167,545			
		Min	73,549	85,903																			68,607	88,374	
		End	139,233	162,806																				129,804	167,521
	Inboard	Start	139,253	162,830																			129,823	167,545	
		Min	73,549	85,903																				68,607	88,374
		End	139,233	162,806																				129,804	167,521

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

Torque - Pneumatic Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5		
Pressure Torque Output: Start/Min./End (Nm)																									
G10x28	Outboard	Start	54,673	63,981	73,290	91,910	101,221	110,532	129,155	138,467	157,093	166,407	185,036	194,351	203,666	222,299	231,616	240,933	250,251	2.8	50,949	13.8	255,842		
		Min	28,978	33,859	38,740	48,503	53,385	58,266	68,030	72,912	82,676	87,559	97,324	102,207	107,090	116,856	121,739	126,622	131,506					27,025	134,436
		End	54,661	63,967	73,274	91,890	101,199	110,508	129,127	138,437	157,059	166,371	184,995	194,308	203,622	222,250	231,565	240,880	250,196					50,938	255,786
	Inboard	Start	53,907	63,088	72,270	90,634	99,817	109,001	127,369	136,553	154,924	164,110	182,484	191,672	200,860	219,237	228,426	237,616	246,806					50,235	252,320
		Min	28,577	33,392	38,206	47,835	52,650	57,465	67,095	71,911	81,541	86,357	95,989	100,805	105,621	115,253	120,070	124,886	129,703					26,652	132,593
		End	53,895	63,074	72,254	90,614	99,795	108,977	127,341	136,524	154,891	164,075	182,444	191,630	200,816	219,189	228,376	237,564	246,752					50,224	252,265
G10x32	Outboard	Start	71,885	84,088	96,291	120,698	132,903	145,108	169,520	181,726	206,141	218,349	242,767	254,977	267,187	291,609	303,821	316,033	328,246	2.8	67,005	13.8	335,574		
		Min	38,032	44,429	50,826	63,619	70,017	76,414	89,209	95,607	108,403	114,801	127,597	133,996	140,395	153,192	159,591	165,991	172,390					35,473	176,230
		End	71,870	84,070	96,270	120,672	132,874	145,076	169,483	181,687	206,096	218,301	242,714	254,921	267,128	291,545	303,754	315,964	328,174					66,990	335,500
	Inboard	Start	71,120	83,195	95,270	119,423	131,499	143,577	167,733	179,812	203,972	216,053	240,215	252,297	264,380	288,547	300,631	312,716	324,801					66,290	332,052
		Min	37,632	43,961	50,291	62,952	69,282	75,613	88,274	94,605	107,268	113,599	126,262	132,594	138,926	151,590	157,922	164,255	170,587					35,100	174,387
		End	71,104	83,177	95,249	119,396	131,471	143,546	167,697	179,773	203,927	216,005	240,163	252,242	264,322	288,484	300,565	312,647	324,730					66,276	331,980
G10x36	Outboard	Start	91,417	106,900	122,383	153,352	168,837	184,322	215,295	230,783	261,759	277,248	308,228	323,719	Exceeds MOP					2.8	85,224	10.9	336,112		
		Min	48,300	56,414	64,529	80,758	88,874	96,989	113,220	121,335	137,567	145,683	161,916	170,032										45,054	176,526
		End	91,397	106,877	122,357	153,318	168,800	184,282	215,248	230,732	261,702	277,188	308,161	323,648										85,206	336,039
	Inboard	Start	90,652	106,007	121,363	152,076	167,433	182,791	213,509	228,869	259,590	274,952	305,677	321,040										84,510	333,331
		Min	47,899	55,947	63,995	80,091	88,139	96,188	112,285	120,334	136,432	144,482	160,581	168,630										44,680	175,070
		End	90,632	105,984	121,336	152,043	167,397	182,751	213,463	228,819	259,534	274,892	305,610	320,970										84,491	333,258
G10x40	Outboard	Start	113,268	132,418	151,568	189,870	209,022	228,175	266,483	285,637	323,948	Exceeds MOP								2.8	105,609	8.8	335,442		
		Min	59,781	69,815	79,850	99,920	109,955	119,991	140,062	150,098	170,170													55,767	176,192
		End	113,244	132,389	151,535	189,829	208,977	228,125	266,424	285,575	323,878													105,586	335,369
	Inboard	Start	112,503	131,525	150,547	188,594	207,619	226,644	264,696	283,723	321,779													104,894	333,197
		Min	59,380	69,348	79,316	99,252	109,221	119,189	139,127	149,096	169,035													55,393	175,017
		End	112,478	131,496	150,514	188,553	207,574	226,595	264,639	283,662	321,709													104,871	333,124

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

Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)			
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5		
Pressure Torque Output: Start/Min./End (Nm)																								
G10x228	Start	108,580	127,070	145,560	182,544	201,038	219,532	Exceeds MOP											2.8	101,184	6.9	252,824		
	Min	57,555	67,251	76,946	96,338	106,035	115,731															53,677	133,186	
	End	108,556	127,042	145,528	182,505	200,994	219,484															101,162	252,769	
	Start	108,580	127,070	145,560	182,544	201,038	219,532															101,184	252,824	
	Min	57,555	67,251	76,946	96,338	106,035	115,731															53,677	133,186	
	End	108,556	127,042	145,528	182,505	200,994	219,484															101,162	252,769	
G10x232	Start	143,005	167,283	191,561	240,121	264,402	288,685	Exceeds MOP											2.8	133,295	6.9	332,396		
	Min	75,664	88,390	101,117	126,571	139,299	152,027															70,573	174,938	
	End	142,974	167,246	191,519	240,068	264,345	288,622															133,266	332,323	
	Start	143,005	167,283	191,561	240,121	264,402	288,685															133,295	332,396	
	Min	75,664	88,390	101,117	126,571	139,299	152,027															70,573	174,938	
	End	142,974	167,246	191,519	240,068	264,345	288,622															133,266	332,323	
G10x236	Start	182,069	212,907	243,746	305,428	336,270	Exceeds MOP												2.8	169,734	5.5	336,270		
	Min	96,199	112,361	128,524	160,849	177,013																89,734	177,013	
	End	182,029	212,860	243,693	305,361	336,197																169,697	336,197	
	Start	182,069	212,907	243,746	305,428	336,270																169,734	336,270	
	Min	96,199	112,361	128,524	160,849	177,013																89,734	177,013	
	End	182,029	212,860	243,693	305,361	336,197																169,697	336,197	
G10x240	Start	225,771	263,943	302,115	Exceeds MOP														2.8	210,503	4.4	332,655		
	Min	119,161	139,164	159,166																			111,161	175,169
	End	225,722	263,885	302,049																			210,457	332,582
	Start	225,771	263,943	302,115																			210,503	332,655
	Min	119,161	139,164	159,166																			111,161	175,169
	End	225,722	263,885	302,049																			210,457	332,582

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

Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)														
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5													
Pressure Torque Output: Start/Min./End (Nm)																																			
G13x40	Start	Outboard	145,241	169,804	194,367	243,498	268,064	292,631	341,768	366,337	415,479	440,051	489,198	513,772	538,348	587,501	612,079	636,658	661,237	2.8	135,416	13.8	675,985												
	Min	Outboard	76,647	89,515	102,383	128,119	140,988	153,857	179,595	192,464	218,204	231,074	256,815	269,686	282,557	308,299	321,171	334,043	346,915					135,328	134,023	354,638									
	End	Outboard	145,147	169,694	194,242	243,340	267,890	292,441	341,546	366,100	415,210	439,766	488,881	513,439	537,999	587,120	611,682	636,245	660,809								70,772	133,936	669,122						
	Start	Inboard	143,749	168,063	192,378	241,011	265,328	289,647	338,286	362,607	411,251	435,575	484,224	508,550	532,877	581,533	605,862	630,192	654,523											330,660	343,402	351,048			
	Min	Inboard	75,867	88,604	101,342	126,819	139,557	152,296	177,774	190,513	215,992	228,732	254,213	266,954	279,695	305,177	317,919	330,660	343,402														668,688	654,099	668,688
	End	Inboard	143,656	167,954	192,253	240,855	265,156	289,459	338,067	362,372	410,985	435,293	483,910	508,221	532,531	581,156	605,469	629,784	654,099																
Start	Outboard	176,328	206,106	235,885	295,446	325,228	355,011	414,579	444,365	503,938	533,727	593,306	623,097	652,889	Exceeds MOP	164,417	11.4	676,723																	
Min	Outboard	92,974	108,572	124,170	155,367	170,965	186,564	217,763	233,362	264,563	280,163	311,364	326,965	342,567					163,024	86,007	352,082														
End	Outboard	176,214	205,973	235,732	295,255	325,017	354,781	414,311	444,077	503,612	533,381	592,921	622,693	652,466								162,919	670,618	670,618											
Start	Inboard	174,836	204,365	233,896	292,959	322,492	352,026	411,097	440,634	499,710	529,250	588,332	617,874	647,417											196,217	103,430	359,968								
Min	Inboard	92,194	107,661	123,129	154,066	169,534	185,003	215,941	231,411	262,351	277,821	308,762	324,233	339,705														194,824	102,702	357,444					
End	Inboard	174,723	204,233	233,744	292,769	322,283	351,798	410,831	440,349	499,387	528,907	587,951	617,474	646,998																	194,698	680,813	680,813		
Start	Outboard	210,413	245,904	281,397	352,384	387,879	423,376	494,371	529,870	600,872	636,374	Exceeds MOP	230,802	8.3	689,576																				
Min	Outboard	110,866	129,454	148,042	185,220	203,809	222,398	259,578	278,168	315,349	333,940					229,409	120,854	359,663																	
End	Outboard	210,277	245,745	281,214	352,156	387,628	423,101	494,051	529,527	600,483	635,962								229,261	685,004	685,004														
Start	Inboard	208,921	244,163	279,407	349,897	385,144	420,391	490,890	526,140	596,644	631,898											229,261	685,004	685,004											
Min	Inboard	110,085	128,543	147,001	183,919	202,378	220,837	257,756	276,217	313,138	331,598														229,261	685,004	685,004								
End	Inboard	208,786	244,005	279,226	349,671	384,894	420,119	490,572	525,799	596,258	631,489																	229,261	685,004	685,004					
Start	Outboard	247,482	289,184	330,887	414,296	456,002	497,709	581,127	622,837	Exceeds MOP	230,802	8.3	689,576																						
Min	Outboard	130,318	152,157	173,996	217,674	239,514	261,354	305,035	326,876					229,409	120,854	359,663																			
End	Outboard	247,322	288,997	330,673	414,027	455,707	497,387	580,750	622,434								229,261	685,004	685,004																
Start	Inboard	245,990	287,443	328,897	411,809	453,266	494,725	577,645	619,107											229,261	685,004	685,004													
Min	Inboard	129,538	151,246	172,955	216,374	238,083	259,793	303,214	324,925														229,261	685,004	685,004										
End	Inboard	245,831	287,257	328,684	411,542	452,973	494,405	577,271	618,706																	229,261	685,004	685,004							

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

Torque - Pneumatic

Double-Acting Actuator

Actuator Model	Stroke Direction Start/Min./End		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)	
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13
Pressure Torque Output: Start/Min./End (Nm)																						
G13x240	Start	Outboard	288,989	337,867	386,745	484,508	533,392	582,278	Exceeds MOP										2.8	269,439	6.9	670,276
	Min		152,514	178,119	203,725	254,938	280,545	306,152		142,272	352,247											
	End		288,802	337,648	386,495	484,194	533,047	581,900		269,264	669,842											
	Start	Inboard	288,989	337,867	386,745	484,508	533,392	582,278		269,439	670,276											
	Min		152,514	178,119	203,725	254,938	280,545	306,152		142,272	352,247											
	End		288,802	337,648	386,495	484,194	533,047	581,900		269,264	669,842											
G13x244	Start	Outboard	351,164	410,471	469,781	588,405	647,720	Exceeds MOP											2.8	327,441	5.7	671,447
	Min		185,168	216,233	247,299	309,432	340,499		172,742	352,927												
	End		350,936	410,206	469,477	588,024	647,301		327,229	671,012												
	Start	Inboard	351,164	410,471	469,781	588,405	647,720		327,441	671,447												
	Min		185,168	216,233	247,299	309,432	340,499		172,742	352,927												
	End		350,936	410,206	469,477	588,024	647,301		327,229	671,012												
G13x248	Start	Outboard	419,334	490,068	560,804	Exceeds MOP													2.8	391,041	4.8	673,985
	Min		220,951	257,997	295,043		206,132	354,319														
	End		419,062	489,750	560,440		390,787	673,549														
	Start	Inboard	419,334	490,068	560,804		391,041	673,985														
	Min		220,951	257,997	295,043		206,132	354,319														
	End		419,062	489,750	560,440		390,787	673,549														
G13x252	Start	Outboard	493,472	576,627	659,784	Exceeds MOP													2.8	460,211	4.1	676,416
	Min		259,856	303,403	346,951		242,437	355,660														
	End		493,153	576,254	659,357		459,913	675,978														
	Start	Inboard	493,472	576,627	659,784		460,211	676,416														
	Min		259,856	303,403	346,951		242,437	355,660														
	End		493,153	576,254	659,357		459,913	675,978														

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)																
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5														
Pressure Torque Output: Start/Min./End (Nm)																																				
G01x08-SR0	Start	2,729																	Please consult factory	1,806	1,968	2,131	Exceeds MOP	11.7	1,708	13.2	2,196									
	Min.	1,234																754		841	928	702			962											
	End	1,968																		1,046	1,208	1,370			948		1,435									
G01x08-SR1	Start	2,054																	Please consult factory	1,170	1,494	1,657	Exceeds MOP	8.8	1,105	13.2	2,534									
	Min.	975																516		689	775	860			1,032		1,117	1,203	1,237							
	End	1,630																		746	1,071	1,233			1,395		1,720	1,882	2,044	2,109						
G01x08-SR2	Start	1,717																	Please consult factory	882	1,206	1,369	Exceeds MOP	7.4	849	13.2	2,733									
	Min.	837																404		576	661	832			918		1,003	1,174	1,259	1,345	1,379					
	End	1,431																		596	921	1,083			1,407		1,569	1,732	2,056	2,218	2,381	2,446				
G01x08-SR3	Start	1,497																	Please consult factory	902	1,064	1,388	Exceeds MOP	6.5	739	13.2	2,915									
	Min.	732																425		511	682	767			938		1,024	1,109	1,280	1,365	1,450	1,485				
	End	1,249																		655	817	1,141			1,303		1,628	1,790	1,952	2,277	2,439	2,601	2,666			
G01x08-SR4	Start	1,270																	Please consult factory	578	741	1,065	Exceeds MOP	5.5	578	13.2	3,079									
	Min.	630																272		358	529	614			785		870	1,041	1,126	1,212	1,382	1,468	1,553	1,587		
	End	1,086																		395	557	881			1,043		1,368	1,530	1,854	2,016	2,179	2,503	2,665	2,828	2,893	
G01x09-SR0	Start	2,722																	Please consult factory	2,045	2,253	2,460	Exceeds MOP	9.1	1,672	13.8	3,621									
	Min.	1,232																883		994	1,103	1,323			1,432		1,542	1,651	1,651	1,651	1,651	1,716				
	End	1,961																		1,285	1,492	1,699			2,113		2,320	2,527	2,734	2,734	2,734	2,734	2,859			
G01x09-SR1	Start	2,047																	Please consult factory	1,141	1,348	1,762	Exceeds MOP	6.9	1,099	13.8	3,959									
	Min.	973																502		612	831	940			1,159		1,268	1,377	1,595	1,703	1,812	1,921	1,921	1,987		
	End	1,623																		717	924	1,338			1,545		1,959	2,166	2,373	2,787	2,994	3,201	3,408	3,533		
G01x09-SR2	Start	1,711																	Please consult factory	926	1,340	1,547	Exceeds MOP	5.8	843	13.8	4,158									
	Min.	835																428		647	756	974			1,083		1,301	1,410	1,518	1,736	1,845	1,954	2,063	2,128		
	End	1,424																		640	1,054	1,261			1,675		1,881	2,295	2,502	2,709	3,123	3,331	3,538	3,745	3,869	
G01x09-SR3	Start	1,490																	Please consult factory	901	1,108	1,522	Exceeds MOP	5.1	735	13.8	4,340									
	Min.	730																426		535	753	862			1,080		1,189	1,406	1,515	1,624	1,842	1,951	2,059	2,168	2,233	
	End	1,242																		654	861	1,274			1,481		1,895	2,102	2,516	2,723	2,930	3,344	3,551	3,758	3,965	4,090
G01x09-SR4	Start	1,263																	Please consult factory	857	1,064	1,271	Exceeds MOP	4.1	485	13.8	4,503									
	Min.	629																421		530	639	856			965		1,183	1,291	1,509	1,618	1,727	1,944	2,053	2,162	2,270	2,336
	End	1,079																		674	880	1,087			1,501		1,708	2,121	2,328	2,742	2,949	3,156	3,570	3,778	3,985	4,192

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)					
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5			
Pressure Torque Output: Start/Min./End (Nm)																									
G01x10-SR0	Start	2,714						Please consult factory	1,744	2,019	2,568	2,843	3,393	3,668	3,943	Exceeds MOP				6.9	1,689	11.4	4,164		
	Min.	1,230							723	870	1,162	1,307	1,598	1,742	1,887		693	2,003							
	End	1,953							984	1,258	1,807	2,082	2,632	2,906	3,181		929	3,401							
G01x10-SR1	Start	2,039				Please consult factory	1,257	1,532	2,082	2,357	2,907	3,182	3,732	4,007	4,282	Exceeds MOP				5.2	1,093	11.4	4,502		
	Min.	971					565	711	1,001	1,146	1,435	1,579	1,868	2,012	2,157		478	2,272							
	End	1,615					834	1,108	1,658	1,932	2,481	2,756	3,306	3,580	3,855		669	4,075							
G01x10-SR2	Start	1,702			Please consult factory	1,181	1,456	1,731	2,281	2,556	3,106	3,380	3,930	4,206	4,481	Exceeds MOP				4.4	852	11.4	4,701		
	Min.	833				565	710	854	1,143	1,288	1,576	1,721	2,009	2,154	2,298		391	2,414							
	End	1,416				896	1,170	1,445	1,994	2,269	2,818	3,093	3,642	3,917	4,192		566	4,411							
G01x10-SR3	Start	1,482			Please consult factory	814	1,364	1,638	1,913	2,463	2,738	3,288	3,563	4,113	4,388	4,663	Exceeds MOP				3.9	759	11.4	4,883	
	Min.	728				382	671	816	960	1,249	1,393	1,682	1,826	2,115	2,259	2,404		352	2,519						
	End	1,234				567	1,116	1,391	1,665	2,214	2,489	3,038	3,313	3,863	4,137	4,412		512	4,632						
G01x10-SR4	Start	1,255			Please consult factory	703	978	1,527	1,802	2,077	2,626	2,901	3,451	3,726	4,276	4,551	4,826	Exceeds MOP				3.3	593	11.4	5,046
	Min.	626				341	485	774	919	1,063	1,352	1,496	1,784	1,929	2,217	2,362	2,506		283	2,621					
	End	1,071				519	794	1,343	1,617	1,892	2,441	2,716	3,265	3,540	4,089	4,364	4,639		410	4,858					
G01x12-SR0	Start	2,701			Please consult factory	1,827	2,222	2,616	3,405	3,799	Exceeds MOP								4.8	1,669	8.0	4,194			
	Min.	1,226				770	980	1,189	1,605	1,813												685	2,021		
	End	1,940				1,067	1,461	1,855	2,643	3,037												909	3,431		
G01x12-SR1	Start	2,027			Please consult factory	1,377	2,165	2,560	2,954	3,743	4,138	Exceeds MOP							3.7	1,140	8.0	4,532			
	Min.	968				631	1,047	1,254	1,462	1,876	2,083											506	2,290		
	End	1,602				953	1,741	2,135	2,529	3,317	3,711											717	4,105		
G01x12-SR2	Start	1,690	787	1,181	1,576	2,364	2,759	3,153	3,942	4,336	Exceeds MOP							3.0	787	8.0	4,731				
	Min.	829	359	567	775	1,189	1,396	1,603	2,017	2,224											359	2,431			
	End	1,404	502	896	1,290	2,077	2,471	2,865	3,654	4,048											502	4,442			
G01x12-SR3	Start	1,469	969	1,364	1,758	2,546	2,941	3,335	4,124	4,519	Exceeds MOP							2.7	733	8.0	4,913				
	Min.	724	466	674	881	1,295	1,502	1,709	2,123	2,330											341	2,537			
	End	1,222	722	1,116	1,510	2,298	2,692	3,086	3,874	4,268											486	4,662			
G01x12-SR4	Start	1,242	1,133	1,527	1,921	2,710	3,104	3,499	4,288	4,682	Exceeds MOP							2.3	581	8.0	5,077				
	Min.	623	570	777	984	1,398	1,605	1,811	2,225	2,432											279	2,639			
	End	1,058	949	1,343	1,737	2,524	2,918	3,312	4,101	4,495											397	4,889			

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)	
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13
Pressure Torque Output: Start/Min./End (Nm)																						
G01x14-SR0	Start	2,691	Please consult factory	1,711	2,671	3,150	3,630	Exceeds MOP											3.9	1,615	6.3	3,918
	Min.	1,224		710	1,220	1,473	1,726													658		1,878
	End	1,930		951	1,910	2,389	2,868													855		3,156
G01x14-SR1	Start	2,016	1,090	1,570	2,049	3,009	3,489	3,968	Exceeds MOP										3.0	1,090	6.3	4,256
	Min.	965	481	735	988	1,493	1,745	1,996										481		2,147		
	End	1,592	667	1,146	1,625	2,583	3,063	3,542										667		3,830		
G01x14-SR2	Start	1,680	1,289	1,769	2,248	3,208	3,687	4,167	Exceeds MOP										2.5	809	6.3	4,455
	Min.	827	626	879	1,131	1,634	1,886	2,138										373		2,289		
	End	1,393	1,003	1,482	1,962	2,920	3,399	3,879										524		4,166		
G01x14-SR3	Start	1,459	1,471	1,951	2,430	3,390	3,869	4,349	Exceeds MOP										2.2	704	6.3	4,637
	Min.	722	733	985	1,236	1,740	1,992	2,243										328		2,394		
	End	1,211	1,224	1,703	2,182	3,140	3,620	4,099										457		4,387		
G01x14-SR4	Start	1,232	1,635	2,114	2,594	3,553	4,033	4,513	Exceeds MOP										1.9	580	6.3	4,801
	Min.	620	836	1,087	1,339	1,842	2,094	2,346										281		2,496		
	End	1,048	1,450	1,929	2,408	3,367	3,846	4,325										396		4,613		

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Torque - Pneumatic

Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)															
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5													
			Pressure Torque Output: Start/Min./End (Nm)																																	
G2x09-SR1	Start	3,531																		Please consult factory	2,148	2,398	2,649	3,151	3,402	Exceeds MOP	9.7	1,997	12.9	3,603						
	Min.	1,642																				923	1,056	1,190	1,455			1,587		842	1,693					
	End	2,702																					1,320	1,571	1,822			2,323		2,574	1,170	2,774				
G2x09-SR2	Start	3,049																		Please consult factory	1,705	1,955	2,457	2,708	2,959	3,460	3,711	Exceeds MOP	8.5	1,705	12.9	3,912				
	Min.	1,437																				738	872	1,137	1,270	1,402	1,666			1,798		738	1,904			
	End	2,393																				1,050	1,300	1,801	2,052	2,303	2,804			3,055		1,050	3,255			
G2x09-SR3	Start	2,732																		Please consult factory	1,961	2,212	2,713	2,964	3,215	3,717	3,968	Exceeds MOP	7.6	1,510	12.9	4,168				
	Min.	1,288																				892	1,025	1,289	1,421	1,554	1,817			1,949		652	2,055			
	End	2,137																				1,367	1,617	2,118	2,369	2,620	3,121			3,372		916	3,572			
G2x09-SR4	Start	2,437																		Please consult factory	1,492	1,743	2,244	2,495	2,996	3,247	3,498	4,000	4,251	Exceeds MOP	6.8	1,392	12.9	4,451		
	Min.	1,137																				646	779	1,044	1,177	1,441	1,573	1,705	1,969			2,101		592	2,206	
	End	1,854																				910	1,160	1,661	1,912	2,413	2,663	2,914	3,415			3,666		809	3,867	
G2x10-SR1	Start	3,521																		Please consult factory	2,115	2,781	3,114							Exceeds MOP	7.4	2,049	9.7	3,580		
	Min.	1,639																				907	1,260	1,436											871	1,682
	End	2,693																				1,288	1,953	2,286											1,221	2,751
G2x10-SR2	Start	3,039																		Please consult factory	2,092	2,424	3,090	3,423						Exceeds MOP	6.3	1,626	9.7	3,889		
	Min.	1,435																				945	1,121	1,472	1,648										698	1,893
	End	2,383																				1,436	1,769	2,434	2,767										971	3,232
G2x10-SR3	Start	2,722																		Please consult factory	1,683	2,348	2,681	3,347	3,679					Exceeds MOP	5.7	1,483	9.7	4,145		
	Min.	1,285																				746	1,098	1,273	1,624	1,799									639	2,044
	End	2,127																				1,088	1,753	2,086	2,751	3,084									889	3,549
G2x10-SR4	Start	2,428																		Please consult factory	1,633	1,966	2,631	2,964	3,629	3,962				Exceeds MOP	5.1	1,367	9.7	4,428		
	Min.	1,134																				722	899	1,250	1,425	1,775	1,950								580	2,195
	End	1,844																				1,051	1,383	2,048	2,380	3,045	3,378								785	3,844
G2x12-SR1	Start	3,505																		Please consult factory	2,361	2,838								Exceeds MOP	5.1	1,979	6.9	3,698		
	Min.	1,635																				1,040	1,293												836	1,747
	End	2,677																				1,533	2,010												1,152	2,869
G2x12-SR2	Start	3,024																		Please consult factory	2,193	2,670	3,147							Exceeds MOP	4.5	1,715	6.9	4,007		
	Min.	1,431																				1,001	1,253	1,505											748	1,957
	End	2,368																				1,537	2,014	2,491											1,060	3,350
G2x12-SR3	Start	2,707																		Please consult factory	1,494	2,449	2,927	3,404						Exceeds MOP	4.0	1,494	6.9	4,263		
	Min.	1,281																				648	1,154	1,405	1,656										648	2,108
	End	2,112																				900	1,854	2,331	2,808										900	3,667
G2x12-SR4	Start	2,412																		Please consult factory	1,777	2,732	3,209	3,687						Exceeds MOP	3.6	1,396	6.9	4,546		
	Min.	1,130																				802	1,306	1,557	1,808										599	2,259
	End	1,829																				1,195	2,149	2,626	3,103										813	3,962

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5	
Pressure Torque Output: Start/Min./End (Nm)																								
G2x14-SR1	Start	3,493			Please consult factory	2,904	3,485	Exceeds MOP												4.1	1,859	5.6	3,601	
	Min.	1,632				1,331	1,637																775	1,699
	End	2,665				2,077	2,657																	1,032
G2x14-SR2	Start	3,012			Please consult factory	2,052	3,214	Exceeds MOP												3.7	1,704	5.6	3,911	
	Min.	1,428				930	1,543		1,848														745	1,909
	End	2,356				1,397	2,558		3,138															1,049
G2x14-SR3	Start	2,695			Please consult factory	1,728	2,309	Exceeds MOP												3.3	1,496	5.6	4,167	
	Min.	1,278				776	1,083		1,694	1,999													652	2,060
	End	2,100				1,134	1,714		2,875	3,455														902
G2x14-SR4	Start	2,400	1,431	2,011	2,592	3,753	4,334	Exceeds MOP												3.0	1,431	5.6	4,450	
	Min.	1,127	620	928	1,235	1,845	2,151														620		2,212	
	End	1,817	848	1,428	2,009	3,169	3,749																848	3,865
G2x16-SR1	Start	3,477			Please consult factory	2,451	3,218	Exceeds MOP												3.2	1,991	4.2	3,525	
	Min.	1,628				1,094	1,499																849	1,661
	End	2,649				1,623	2,390																	1,164
G2x16-SR2	Start	2,996	1,993	2,760	3,527	Exceeds MOP														2.8	1,687	4.2	3,834	
	Min.	1,423	902	1,307	1,711																739		1,872	
	End	2,340	1,338	2,104	2,871																		1,032	3,177
G2x16-SR3	Start	2,679	2,250	3,017	3,784	Exceeds MOP														2.5	1,483	4.2	4,090	
	Min.	1,274	1,055	1,459	1,862																649		2,023	
	End	2,084	1,655	2,421	3,188																		889	3,494
G2x16-SR4	Start	2,384	2,533	3,300	4,067	Exceeds MOP														2.2	1,306	4.2	4,373	
	Min.	1,123	1,207	1,610	2,013																557		2,174	
	End	1,801	1,950	2,716	3,482																		724	3,789

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)																			
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5																	
			Pressure Torque Output: Start/Min./End (Nm)																																					
G3x10-SR1	Start	6,197																			Please consult factory	3,871	4,673	5,074	5,476	5,877	10.7	3,630	13.8	6,118										
	Min.	2,868																				1,656	2,083	2,295	2,507	2,719					1,528	2,846								
	End	4,723																					2,397	3,199	3,601	4,002					4,403	2,157	4,644							
G3x10-SR2	Start	5,401																			Please consult factory	3,678	4,080	4,481	5,283	5,684	6,086	6,487	9.3	3,117	13.8	6,728								
	Min.	2,502																				1,609	1,822	2,034	2,458	2,670	2,881	3,092					1,310	3,219						
	End	4,113																					2,391	2,792	3,193	3,995	4,396	4,798					5,199	1,830	5,439					
G3x10-SR3	Start	4,717																			Please consult factory	3,001	3,402	4,204	4,605	5,006	5,808	6,210	6,611	7,012	8.1	2,680	13.8	7,253						
	Min.	2,188																				1,295	1,509	1,933	2,145	2,356	2,779	2,990	3,201	3,412					1,124	3,538				
	End	3,588																					1,873	2,274	3,076	3,477	3,878	4,680	5,081	5,482					5,883	1,552	6,124			
G3x10-SR4	Start	4,128																			Please consult factory	2,650	3,452	3,853	4,655	5,056	5,457	6,260	6,661	7,062	7,464	7.2	2,410	13.8	7,705					
	Min.	1,917																				1,150	1,575	1,787	2,210	2,421	2,632	3,054	3,265	3,475	3,686					1,021	3,813			
	End	3,137																					1,660	2,462	2,863	3,664	4,065	4,466	5,268	5,669	6,071					6,472	1,420	6,712		
G3x12-SR1	Start	6,179																			Please consult factory	3,685	4,839	5,416										Exceeds MOP	7.4	3,569	9.8	6,339		
	Min.	2,863																				1,560	2,173	2,478															1,498	2,965
	End	4,705																					2,212	3,365	3,942															2,096
G3x12-SR2	Start	5,382																			Please consult factory	3,718	4,295	5,449	6,026									Exceeds MOP	6.5	3,141	9.8	6,950		
	Min.	2,497																				1,633	1,939	2,548	2,852														1,325	3,338
	End	4,095																					2,431	3,008	4,161	4,738														1,854
G3x12-SR3	Start	4,698																			Please consult factory	3,089	4,243	4,820	5,974	6,551								Exceeds MOP	5.7	2,743	9.8	7,475		
	Min.	2,183																				1,346	1,957	2,261	2,869	3,172													1,161	3,657
	End	3,570																					1,962	3,115	3,692	4,845	5,422													1,616
G3x12-SR4	Start	4,109																			Please consult factory	2,387	2,964	3,541	4,695	5,272	6,426	7,003						Exceeds MOP	5.0	2,387	9.8	7,926		
	Min.	1,912																				1,012	1,319	1,625	2,233	2,537	3,143	3,446											1,012	3,931
	End	3,118																					1,397	1,974	2,551	3,704	4,281	5,434	6,011											1,397
G3x14-SR1	Start	6,164																			Please consult factory	4,852	5,555											Exceeds MOP	6.1	3,588	8.1	6,398		
	Min.	2,859																				2,183	2,555																2,115	2,999
	End	4,690																					3,379	4,081																2,115
G3x14-SR2	Start	5,368																			Please consult factory	3,355	4,057	5,463	6,165									Exceeds MOP	5.3	3,074	8.1	7,009		
	Min.	2,493																				1,443	1,816	2,558	2,928														1,293	3,372
	End	4,080																					2,068	2,770	4,175	4,877														1,787
G3x14-SR3	Start	4,683																			Please consult factory	3,178	3,880	4,583	5,988	6,691								Exceeds MOP	4.7	2,756	8.1	7,534		
	Min.	2,179																				1,396	1,768	2,139	2,879	3,248													1,171	3,691
	End	3,555																					2,050	2,752	3,454	4,859	5,561													1,629
G3x14-SR4	Start	4,094																			Please consult factory	3,629	4,331	5,034	6,439	7,142								Exceeds MOP	4.1	2,365	8.1	7,985		
	Min.	1,908																				1,675	2,045	2,415	3,154	3,523													1,004	3,965
	End	3,103																					2,639	3,341	4,043	5,448	6,150													1,375

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5
Pressure Torque Output: Start/Min./End (Nm)																							
G3x16-SR1	Start	6,145			Please consult factory	4,289	5,218	6,148	Exceeds MOP										4.6	3,546	6.2	6,519	
	Min.	2,854				1,888	2,380	2,870														1,492	3,066
	End	4,671				2,816	3,745	4,673															2,073
G3x16-SR2	Start	5,348			Please consult factory	3,041	4,899	5,828	Exceeds MOP										4.0	3,041	6.2	7,129	
	Min.	2,488				1,279	2,265	2,754		3,243												1,279	3,438
	End	4,061				1,754	3,612	4,540		5,469													1,754
G3x16-SR3	Start	4,664			Please consult factory	2,637	3,566	5,425	Exceeds MOP										3.5	2,637	6.2	7,655	
	Min.	2,174				1,112	1,606	2,586		3,075	3,562											1,112	3,758
	End	3,536				1,510	2,439	4,296		5,225	6,154												1,510
G3x16-SR4	Start	4,075			Please consult factory	3,089	4,018	5,876	Exceeds MOP										3.1	2,346	6.2	8,106	
	Min.	1,903				1,393	1,883	2,861		3,349	3,837											998	4,032
	End	3,084				2,099	3,027	4,885		5,813	6,742												1,356
G3x20-SR1	Start	6,106	3,815	5,291	Exceeds MOP														2.9	3,520	3.9	6,472	
	Min.	2,844	1,644	2,426																		1,486	3,048
	End	4,632	2,342	3,817																			2,047
G3x20-SR2	Start	5,310	4,425	5,901	Exceeds MOP														2.6	3,245	3.9	7,082	
	Min.	2,478	2,022	2,800																		1,396	3,421
	End	4,022	3,138	4,613																			1,958
G3x20-SR3	Start	4,626	4,951	6,426	Exceeds MOP														2.2	2,590	3.9	7,607	
	Min.	2,164	2,344	3,120																		1,095	3,740
	End	3,497	3,822	5,297																			1,462
G3x20-SR4	Start	4,037	5,402	6,878	Exceeds MOP														1.9	2,156	3.9	8,059	
	Min.	1,893	2,620	3,394																		904	4,014
	End	3,046	4,411	5,886																			1,166

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)														MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)																
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12					12.5	13	13.5													
Pressure Torque Output: Start/Min./End (Nm)																																				
G4x12-SR2	Start	11,098																Please consult factory	7,203	8,596	9,293	9,989	10,686	11.0	7,203	13.8	11,104									
	Min.	4,929															2,884		3,631	4,002	4,372	4,741	2,884		4,962											
	End	7,778																	3,887	5,278	5,974	6,670	7,366		3,887		7,784									
G4x12-SR3	Start	9,343																Please consult factory	7,031	7,727	8,423	9,816	10,513	11,209	11,906	9.2	5,917	13.8	12,324							
	Min.	4,160															2,957		3,328	3,698	4,435	4,803	5,171	5,538	5,758											
	End	6,559																	4,249	4,944	5,640	7,032	7,728	8,424	9,120		9,538									
G4x12-SR4	Start	7,710																Please consult factory	5,998	6,694	8,086	8,782	9,479	10,871	11,568	12,264	12,961	7.7	4,884	13.8	13,379					
	Min.	3,467															2,581		2,950	3,687	4,055	4,422	5,155	5,521	5,888	6,254	6,473									
	End	5,504																	3,793	4,488	5,880	6,576	7,271	8,663	9,359	10,055	10,751		11,169							
G4x14-SR1	Start	12,681																Please consult factory	8,252	9,101	10,800	11,649	12,499	Exceeds MOP	10.3	7,912	13.4	13,178								
	Min.	5,724															3,405		3,858	4,761	5,210	5,659	3,222			6,018										
	End	9,205																	4,779	5,628	7,325	8,174	9,023			4,440		9,702								
G4x14-SR2	Start	11,080																Please consult factory	7,151	8,849	9,698	10,547	12,246	13,095	13,945	Exceeds MOP	9.0	7,151	13.4	14,624						
	Min.	4,924															2,860		3,769	4,221	4,671	5,569	6,017	6,465	2,860			6,823								
	End	7,760																	3,834	5,531	6,380	7,228	8,926	9,774	10,623			3,834		11,302						
G4x14-SR3	Start	9,325																Please consult factory	7,522	8,371	10,069	10,918	11,767	13,466	14,315	15,165	Exceeds MOP	7.6	5,994	13.4	15,844					
	Min.	4,155															3,223		3,674	4,573	5,021	5,469	6,363	6,809	7,256	2,405			7,613							
	End	6,541																	4,739	5,588	7,285	8,133	8,982	10,679	11,528	12,377			3,212		13,056					
G4x14-SR4	Start	7,692																Please consult factory	6,031	6,879	8,577	9,426	11,124	11,973	12,823	14,521	15,371	16,220	Exceeds MOP	6.3	4,842	13.4	16,900			
	Min.	3,462															2,602		3,053	3,950	4,398	5,292	5,738	6,185	7,077	7,523	7,969	1,967			8,325					
	End	5,486																	3,826	4,674	6,371	7,219	8,916	9,764	10,613	12,310	13,159	14,008			2,638		14,687			
G4x16-SR1	Start	12,658																Please consult factory	9,517	10,642	12,891								Exceeds MOP	7.8	7,943	10.1	13,116			
	Min.	5,718															4,083		4,680	5,870											3,242		5,988			
	End	9,182																	6,043	7,167	9,415												4,470	9,640		
G4x16-SR2	Start	11,056																Please consult factory	7,590	8,714	10,963	12,088	14,337						Exceeds MOP	6.8	7,140	10.1	14,562			
	Min.	4,918															3,100		3,701	4,894	5,489	6,675											2,858	6,793		
	End	7,737																	4,273	5,397	7,644	8,768	11,016											3,824	11,240	
G4x16-SR3	Start	9,302																Please consult factory	6,561	8,810	9,934	12,183	13,308	15,557					Exceeds MOP	5.7	5,887	10.1	15,782			
	Min.	4,149															2,714		3,910	4,505	5,691	6,282	7,465											2,351	7,584	
	End	6,518																	3,779	6,026	7,150	9,397	10,521	12,769											3,105	12,994
G4x16-SR4	Start	7,669																Please consult factory	5,368	6,492	7,617	9,865	10,990	13,239	14,363	16,613			Exceeds MOP	4.8	4,919	10.1	16,838			
	Min.	3,456															2,253		2,851	3,447	4,632	5,224	6,406	6,996	8,177										2,012	8,296
	End	5,463																	3,164	4,287	5,411	7,658	8,781	11,029	12,152	14,400										2,715

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5			
Pressure Torque Output: Start/Min./End (Nm)																										
G4x20-SR1	Start	12,611			Please consult factory	8,247	10,036	11,825	Exceeds MOP										4.9	7,890	6.3	12,899				
	Min.	5,705				3,413	4,366	5,314															3,221	5,881		
	End	9,135				4,775	6,562	8,350																4,417	9,423	
G4x20-SR2	Start	11,010			Please consult factory	9,694	11,483	13,272	Exceeds MOP										4.1	6,474	6.3	14,345				
	Min.	4,906				4,230	5,176	6,120															2,505	6,686		
	End	7,690				6,375	8,163	9,950																3,157	11,023	
G4x20-SR3	Start	9,255		Please consult factory	7,336	10,914	12,703	14,492	Exceeds MOP										3.6	5,905	6.3	15,565				
	Min.	4,136				3,136	5,029	5,971		6,912														2,370	7,476	
	End	6,471				4,553	8,129	9,916		11,704															3,123	12,777
G4x20-SR4	Start	7,623	4,814	6,603	8,391	11,969	13,758	15,547	Exceeds MOP										3.0	4,814	6.3	16,620				
	Min.	3,444	1,965	2,919	3,864	5,747	6,686	7,625															1,965	8,188		
	End	5,417	2,610	4,397	6,185	9,760	11,547	13,335																2,610	14,408	
G4x24-SR1	Start	12,578	Please consult factory	8,566	11,172	Exceeds MOP													3.4	8,045	4.3	12,736				
	Min.	5,697		3,588	4,972																			3,310	5,798	
	End	9,102		5,093	7,697																				4,572	9,259
G4x24-SR2	Start	10,976	7,407	10,013	12,618	Exceeds MOP													3.0	7,407	4.3	14,182				
	Min.	4,897	3,015	4,403	5,780																			3,015	6,603	
	End	7,657	4,090	6,694	9,298																				4,090	10,860
G4x24-SR3	Start	9,221	8,627	11,233	13,838	Exceeds MOP													2.5	6,021	4.3	15,402				
	Min.	4,128	3,827	5,202	6,572																			2,438	7,394	
	End	6,438	5,843	8,447	11,051																				3,240	12,613
G4x24-SR4	Start	7,589	9,682	12,288	14,894	Exceeds MOP													2.1	4,992	4.3	16,457				
	Min.	3,435	4,549	5,919	7,286																			2,067	8,106	
	End	5,383	7,475	10,078	12,682																				2,788	14,245
G4x28-SR1	Start	12,434	12,255	Exceeds MOP															2.3	7,105	3.1	12,991				
	Min.	5,659	5,588																					2,847	5,976	
	End	8,958	8,779																						3,633	9,515
G4x28-SR2	Start	10,832	13,701	Exceeds MOP															2.1	7,080	3.1	14,437				
	Min.	4,859	6,394																						2,881	6,781
	End	7,513	10,380																							3,763
G4x28-SR3	Start	9,077	14,921	Exceeds MOP															1.7	5,357	3.1	15,657				
	Min.	4,090	7,185																						2,121	7,572
	End	6,294	12,133																							2,576

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)														MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)									
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12					12.5	13	13.5						
			Pressure Torque Output: Start/Min./End (Nm)																										
G5x16-SR2	Start	25,840																		Please consult factory	20,136	21,573	23,011	12.3	19,561	13.8	23,874		
	Min.	10,595																			7,560	8,343	9,121					7,244	9,586
	End	15,284																				9,582	11,019					12,456	9,007
G5x16-SR3	Start	20,778																		Please consult factory	15,366	16,803	18,241	9.9	15,078	13.8	26,292		
	Min.	8,710																			5,836	6,616	7,391					5,679	11,673
	End	12,867																				7,456	8,893					10,330	7,168
G5x16-SR4	Start	17,326																		Please consult factory	13,043	14,480	17,355	8.3	12,468	13.8	28,281		
	Min.	7,320																			5,053	5,829	7,367					4,740	13,142
	End	10,879																				6,596	8,033					10,907	6,022
G5x20-SR1	Start	28,761																		Please consult factory	22,681	27,275	29,572	8.6	20,843	11.3	33,248		
	Min.	12,112																			8,897	11,363	12,587					7,900	14,537
	End	18,024																				11,947	16,539					18,835	10,110
G5x20-SR2	Start	25,780																		Please consult factory	23,186	25,483	30,077	7.7	19,511	11.3	36,049		
	Min.	10,579																			9,226	10,459	12,907					7,228	16,070
	End	15,224																				12,631	14,927					19,519	8,957
G5x20-SR3	Start	20,718																		Please consult factory	18,714	21,010	25,604	6.2	15,039	11.3	38,467		
	Min.	8,694																			7,656	8,882	11,319					5,669	18,098
	End	12,807																				10,803	13,099					17,691	7,130
G5x20-SR4	Start	17,266																		Please consult factory	13,814	16,110	20,703	5.2	12,436	11.3	40,456		
	Min.	7,304																			5,482	6,714	9,155					4,734	19,549
	End	10,818																				7,367	9,663					14,254	5,990
G5x24-SR1	Start	28,717																		Please consult factory	21,532	28,238	31,591	5.9	20,862	7.7	32,932		
	Min.	12,101																			8,279	11,880	13,661					7,914	14,372
	End	17,981																				10,798	17,502					20,853	10,128
G5x24-SR2	Start	25,736																		Please consult factory	20,982	24,334	31,040	5.3	19,641	7.7	35,734		
	Min.	10,568																			8,036	9,847	13,421					7,304	15,905
	End	15,180																				10,427	13,779					20,482	9,087
G5x24-SR3	Start	20,675																		Please consult factory	20,047	23,399	26,752	4.1	14,013	7.7	38,151		
	Min.	8,683																			8,373	10,156	11,930					5,110	17,935
	End	12,763																				12,136	15,487					18,839	6,104
G5x24-SR4	Start	17,222																		Please consult factory	15,331	22,036	25,388	3.6	12,650	7.7	40,140		
	Min.	7,292																			6,304	9,864	11,632					4,858	19,386
	End	10,775																				8,884	15,587					18,938	6,204

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)			
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5		
Pressure Torque Output: Start/Min./End (Nm)																								
G5x28-SR1	Start	28,531			Please consult factory	28,516	33,256	Exceeds MOP											4.1	19,983	5.5	33,256		
	Min.	12,051				12,090	14,608															7,496	14,608	
	End	17,795					17,779		22,518														9,250	22,518
G5x28-SR2	Start	25,550		Please consult factory	21,837	31,317	Exceeds MOP												3.7	18,993	5.5	36,058		
	Min.	10,518				8,563		13,631	16,140													7,009	16,140	
	End	14,994						11,283	20,760	25,499													8,440	25,499
G5x28-SR3	Start	20,488	14,776	19,515	24,255	33,735	Exceeds MOP												3.0	14,776	5.5	38,476		
	Min.	8,633	5,590	8,148	10,669	15,674		18,169														5,590	18,169	
	End	12,577	6,866	11,604	16,342	25,820		30,558														6,866	30,558	
G5x28-SR4	Start	17,036	16,765	21,504	26,244	35,724	Exceeds MOP												2.6	12,973	5.5	40,465		
	Min.	7,243	7,127	9,642	12,143	17,131		19,620														5,091	19,620	
	End	10,589	10,317	15,055	19,793	29,271		34,009														6,527	34,009	
G5x32-SR1	Start	28,456		Please consult factory	24,489	30,695	Exceeds MOP												3.2	20,765	4.2	33,178		
	Min.	12,031				9,953		13,265															7,939	14,581
	End	17,719						13,754	19,958														10,031	22,440
G5x32-SR2	Start	25,475	21,084	27,290	33,497	Exceeds MOP													2.8	18,601	4.2	35,980		
	Min.	10,498	8,170	11,505	14,801																	6,809	16,113	
	End	14,919	10,529	16,734	22,939																	8,048	25,421	
G5x32-SR3	Start	20,413	23,502	29,708	35,915	Exceeds MOP													2.3	14,813	4.2	38,398		
	Min.	8,613	10,285	13,567	16,837																	5,627	18,142	
	End	12,502	15,589	21,794	27,999																	6,903	30,480	
G5x32-SR4	Start	16,961	25,490	31,697	37,904	Exceeds MOP													1.9	11,837	4.2	40,387		
	Min.	7,222	11,762	15,028	18,290																	4,489	19,593	
	End	10,513	19,040	25,245	31,449																	5,391	33,931	
G5x36-SR1	Start	28,380	28,184	Exceeds MOP			Exceeds MOP												2.5	20,314	3.3	32,905		
	Min.	12,011	11,944																				7,710	14,452
	End	17,644	17,447																				9,581	22,168
G5x36-SR2	Start	25,399	30,985	Exceeds MOP			Exceeds MOP												2.3	19,968	3.3	35,707		
	Min.	10,478	13,485																				7,579	15,985
	End	14,843	20,428																				9,414	25,148
G5x36-SR3	Start	20,338	33,403	Exceeds MOP			Exceeds MOP												1.8	14,517	3.3	38,125		
	Min.	8,593	15,530																				5,483	18,014
	End	12,426	25,488																				6,608	30,208

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)											
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5										
		Pressure Torque Output: Start/Min./End (Nm)																														
G7x20-SR3	Start	41,412																	Please consult factory	32,888	35,690	41,294	44,096	46,899	49,701	10.1	30,647	13.8	51,383			
	Min.	17,172																12,657		14,175	17,182	18,676	20,168	21,654	11,433		22,546					
	End	25,072																16,550		19,352	24,954	27,756	30,557	33,359	14,310		35,040					
G7x20-SR4	Start	34,751																	Please consult factory	25,507	28,308	33,911	36,713	39,515	45,119	47,921	50,723	53,526	8.5	25,507	13.8	55,208
	Min.	14,493																9,569		11,095	14,106	15,601	17,091	20,060	21,542	23,023	24,500	25,387				
	End	21,249																12,007		14,808	20,409	23,210	26,011	31,614	34,415	37,217	40,019	41,700				
G7x24-SR1	Start	56,874																	Please consult factory	47,063	51,162	55,262	63,461			Exceeds MOP	42,964	12.3	65,921			
	Min.	23,400																18,198		20,413	22,614	26,988			15,961		28,297					
	End	33,928																24,120		28,218	32,317	40,514			20,022		42,973					
G7x24-SR2	Start	50,212																	Please consult factory	38,591	42,690	50,888	54,987	59,086	67,285	Exceeds MOP	37,771	12.3	69,745			
	Min.	20,721																14,519		16,748	21,150	23,335	25,514	29,857	14,071		31,157					
	End	30,104																18,486		22,584	30,780	34,878	38,976	47,173	17,667		49,633					
G7x24-SR3	Start	41,356																	Please consult factory	31,386	35,484	43,681	47,780	55,978	60,077	64,176	72,375	Exceeds MOP	31,386	12.3	74,835	
	Min.	17,157																11,839		14,064	18,454	20,634	24,975	27,142	29,303	33,625	34,919					
	End	25,016																15,048		19,145	27,340	31,438	39,634	43,732	47,830	56,027	58,487					
G7x24-SR4	Start	34,695																	Please consult factory	27,014	35,210	39,309	47,505	51,604	59,802	63,901	68,001	76,200	Exceeds MOP	26,195	12.3	78,660
	Min.	14,478																10,395		14,802	16,982	21,322	23,486	27,807	29,963	32,119	36,431	37,722				
	End	21,192																13,514		21,708	25,805	34,000	38,098	46,293	50,392	54,490	62,687	65,146				
G7x28-SR1	Start	56,648																	Please consult factory	46,112	51,916	63,524				Exceeds MOP	42,630	8.7	65,846			
	Min.	23,340																17,762		20,900	27,106				15,858		28,342					
	End	33,702																23,169		28,972	40,577				19,688		42,898					
G7x28-SR2	Start	49,986																	Please consult factory	38,330	49,936	55,740	67,349			Exceeds MOP	37,169	8.7	69,671			
	Min.	20,661																14,455		20,722	23,817	29,974			13,818		31,202					
	End	29,879																18,225		29,829	35,631	47,237			17,064		49,558					
G7x28-SR3	Start	41,130																	Please consult factory	31,814	37,616	43,419	55,026	60,830	72,439	Exceeds MOP	30,653	8.7	74,761			
	Min.	17,097																12,149		15,288	18,392	24,552	27,620	33,742	11,514		34,963					
	End	24,790																15,476		21,277	27,079	38,683	44,485	56,091	14,316		58,412					
G7x28-SR4	Start	34,469																	Please consult factory	35,638	41,441	47,244	58,851	64,655	76,263	Exceeds MOP	25,194	8.7	78,585			
	Min.	14,417																15,104		18,188	21,260	27,385	30,440	36,547	9,474		37,767					
	End	20,967																22,136		27,937	33,738	45,342	51,145	62,751	11,694		65,072					

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)			
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5	
Pressure Torque Output: Start/Min./End (Nm)																							
G7x32-SR1	Start	56,555				Please consult factory	48,431	56,037	Exceeds MOP										5.1	42,347	6.6	65,163	
	Min.	23,315					19,035	23,125														15,718	27,992
	End	33,610						25,488		33,091													19,406
G7x32-SR2	Start	49,894			Please consult factory	44,651	52,256	Exceeds MOP											4.6	38,567	6.6	68,988	
	Min.	20,636					17,901		21,976	26,020												14,602	30,854
	End	29,786							24,545	32,148	39,751												18,462
G7x32-SR3	Start	41,038		Please consult factory	34,532	49,741	57,346	64,951	Exceeds MOP										3.7	29,969	6.6	74,078	
	Min.	17,072				13,642	21,767	25,793		29,807												11,155	34,617
	End	24,698					18,194	33,399		41,002	48,605												13,632
G7x32-SR4	Start	34,376	Please consult factory	30,752	38,356	53,565	61,170	68,776	Exceeds MOP										3.2	26,190	6.6	77,902	
	Min.	14,393				12,507	16,568	24,612		28,621	32,621											10,038	37,421
	End	20,874					17,251	24,853		40,058	47,661	55,265											12,690
G7x36-SR1	Start	56,463		Please consult factory	61,161	Exceeds MOP													4.1	43,796	5.2	65,020	
	Min.	23,291					25,876															16,530	27,931
	End	33,517						38,214															20,853
G7x36-SR2	Start	49,801	Please consult factory	45,691	64,986	Exceeds MOP													3.6	37,973	5.2	68,845	
	Min.	20,611					18,477	28,753														14,294	30,793
	End	29,694						25,584	44,874														17,869
G7x36-SR3	Start	40,945	31,487	41,134	50,781	70,075	Exceeds MOP												3.0	31,487	5.2	73,934	
	Min.	17,047	12,007	17,206	22,336	32,524														12,007		34,556	
	End	24,605	15,150	24,794	34,438	53,728																15,150	57,586
G7x36-SR4	Start	34,284	35,312	44,958	54,605	73,900	Exceeds MOP												2.5	25,666	5.2	77,759	
	Min.	14,368	14,965	20,085	25,177	35,332														9,771		37,360	
	End	20,782	21,809	31,453	41,098	60,388																12,166	64,246
G7xT28-SR1	Start	55,946	Please consult factory	45,397	57,001	Exceeds MOP													3.4	43,076	4.3	63,964	
	Min.	23,153					17,568	23,820														16,300	27,533
	End	33,001						22,454	34,055														20,134
G7xT28-SR2	Start	49,285	37,618	49,222	60,826	Exceeds MOP													3.0	37,618	4.3	67,788	
	Min.	20,473	14,261	20,531	26,709															14,261		30,397	
	End	29,178	17,514	29,114	40,715																	17,514	47,676
G7xT28-SR3	Start	40,429	42,708	54,311	65,915	Exceeds MOP													2.5	31,105	4.3	72,878	
	Min.	16,910	18,203	24,363	30,492															11,955		34,163	
	End	24,089	26,368	37,968	49,569																	14,768	56,530
G7XT28-SR4	Start	33,768	46,533	58,136	69,740	Exceeds MOP													2.1	25,648	4.3	76,702	
	Min.	14,230	21,072	27,197	33,305															9,917		36,968	
	End	20,265	33,027	44,628	56,229																	12,148	63,190

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)														
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5													
		Pressure Torque Output: Start/Min./End (Nm)																																	
G8x24-SR1	Start	84,093																	11.9	56,787	13.8	75,104													
	Min.	36,545																Please consult factory					22,591	25,189	27,772	30,346									
	End	56,718																					30,380	35,199	40,019	44,838									
G8x24-SR2	Start	67,668																	9.7	44,226	13.8	83,747													
	Min.	30,152																Please consult factory					47,118	51,937	56,756	66,395	71,215	76,035	80,855						
	End	48,076																					19,334	21,907	24,470	29,575	32,122	34,664	37,204						
G8x24-SR3	Start	57,376																	8.2	37,034	13.8	91,011													
	Min.	25,604																Please consult factory					39,925	44,744	54,381	59,200	64,019	73,659	78,478	83,298	88,119				
	End	40,813																					16,419	18,991	24,104	26,651	29,194	34,273	36,808	39,342	41,876				
G8x28-SR1	Start	83,822																	8.4	56,710	11.9	104,591													
	Min.	36,473																Please consult factory					58,078	64,917	78,596	85,437	92,277	Exceeds MOP							
	End	56,447																					22,870	26,553	33,849	37,477	41,098								
G8x28-SR2	Start	67,397																	6.8	43,470	11.9	113,235													
	Min.	30,081																Please consult factory					46,205	53,044	66,721	73,560	87,240	94,080	100,921	Exceeds MOP					
	End	47,805																					18,942	22,594	29,848	33,462	40,674	44,272	47,870						
G8x28-SR3	Start	57,105																	5.8	37,059	11.9	120,498													
	Min.	25,532																Please consult factory					39,794	53,469	60,307	73,985	80,824	94,504	101,344	108,184	Exceeds MOP				
	End	40,542																					16,442	23,717	27,333	34,545	38,143	45,337	48,929	52,522					
G8x32-SR1	Start	83,712																	6.4	56,571	9.0	103,234													
	Min.	36,444																Please consult factory					67,338	76,312	94,259	103,234	Exceeds MOP								
	End	56,338																					27,862	32,647	42,158	46,899									
G8x32-SR2	Start	67,287																	5.2	43,681	9.0	111,877													
	Min.	30,052																Please consult factory					49,064	58,036	75,982	84,955	102,903	111,877	Exceeds MOP						
	End	47,695																					20,488	25,263	34,753	39,483	48,925	53,643							
G8x32-SR3	Start	56,995																	4.4	36,590	9.0	119,141													
	Min.	25,503																Please consult factory					29,475	38,446	56,388	65,360	83,305	92,279	Exceeds MOP						
	End	40,433																					47,356	56,328	65,300	83,245	92,219	110,166		119,141					
G8x36-SR1	Start	83,603																	5.0	55,537	7.1	103,385													
	Min.	36,415																Please consult factory					66,929	78,321	101,107	Exceeds MOP									
	End	56,228																					21,527	27,660	33,732		45,792								
G8x36-SR2	Start	67,178																	4.1	43,676	7.1	112,029													
	Min.	30,023																Please consult factory					64,180	75,572	86,964	109,750	Exceeds MOP								
	End	47,586																					28,166	39,556	50,947	73,729									
G8x36-SR3	Start	56,885																	3.4	34,993	7.1	119,292													
	Min.	25,474																Please consult factory					64,180	75,572	86,964	109,750	Exceeds MOP								
	End	40,323																					37,271	48,662	71,444	82,836		94,228	117,014						

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5			
Pressure Torque Output: Start/Min./End (Nm)																										
G8x40-SR1	Start	83,493			Please consult factory	82,476	96,573	Exceeds MOP												4.1	57,103	5.8	105,031			
	Min.	36,386				35,954	43,413																	22,396	47,877	
	End	56,118				55,101	69,196																		29,732	77,653
G8x40-SR2	Start	67,068	Please consult factory	48,832	62,927	91,120	105,216	Exceeds MOP												3.3	43,193	5.8	113,675			
	Min.	29,994		20,404	27,895	42,761	50,174																	17,382	54,618	
	End	47,476		29,242	43,336	71,524	85,619																		23,605	94,076
G8x40-SR3	Start	56,776	42,000	56,095	70,191	98,383	112,480	Exceeds MOP												2.8	36,362	5.8	120,939			
	Min.	25,445	17,683	25,162	32,598	47,421	54,821																	14,661	59,261	
	End	40,214	25,440	39,533	53,626	81,815	95,910																		19,803	104,367
G8xT32-SR1	Start	82,718	Please consult factory	66,319	84,260	Exceeds MOP														3.2	55,555	4.5	102,201			
	Min.	36,181		27,590	37,138																				21,795	46,627
	End	55,344		38,947	56,885																					28,185
G8xT32-SR2	Start	66,293	57,023	74,963	92,903	Exceeds MOP														2.6	42,672	4.5	110,845			
	Min.	29,790	24,995	34,485	43,936																			17,332	53,373	
	End	46,701	37,433	55,370	73,307																				23,083	91,246
G8xT32-SR3	Start	56,001	64,287	82,226	100,167	Exceeds MOP														2.2	35,585	4.5	118,108			
	Min.	25,241	29,715	39,163	48,594																			14,470	58,016	
	End	39,439	47,723	65,660	83,598																				19,026	101,537
G8xT36-SR1	Start	82,499	77,196	99,976	Exceeds MOP															2.6	58,974	3.6	104,532			
	Min.	36,123	33,434	45,493																				23,690	47,896	
	End	55,125	49,823	72,599																					31,602	77,154
G8xT36-SR2	Start	66,074	85,840	108,619	Exceeds MOP															2.1	44,839	3.6	113,175			
	Min.	29,732	40,262	52,244																				18,544	54,637	
	End	46,482	66,245	89,021																					25,250	93,576
G8xT36-SR3	Start	55,782	93,104	115,883	Exceeds MOP															1.7	33,881	3.6	120,439			
	Min.	25,183	44,927	56,888																				13,599	59,280	
	End	39,220	76,536	99,312																					17,322	103,867

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)						
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5				
		Pressure Torque Output: Start/Min./End (Nm)																								
G10x28-SR2	Start	156,369																	Please consult factory	124,945	133,850	142,756	12.1	117,821	13.8	148,100
	Min.	64,909																48,271		53,091	57,882	44,388		60,747		
	End	95,262																		63,844	72,748	81,652		56,722		86,994
G10x28-SR3	Start	142,592																	Please consult factory	113,644	131,453	140,358	11.0	113,644	13.8	163,514
	Min.	57,027																41,521		51,254	56,063	41,521		68,469		
	End	79,852																50,911		68,716	77,619	50,911		100,769		
G10x28-SR4	Start	114,264																	Please consult factory	90,821	108,626	117,530	8.8	87,260	13.8	176,303
	Min.	46,725																34,256		43,898	48,670	32,302		79,848		
	End	67,065																43,628		61,429	70,331	40,068		129,091		
G10x32-SR1	Start	193,931																	Please consult factory	164,934	176,644	188,355	11.4	150,882	13.8	207,094
	Min.	78,995																63,646		69,983	76,281	55,977		86,310		
	End	113,386																84,395		96,103	107,812	70,347		126,546		
G10x32-SR2	Start	156,225																	Please consult factory	136,369	148,078	159,787	9.2	117,637	13.8	225,366
	Min.	64,871																54,462		60,747	67,005	44,302		111,765		
	End	95,118																75,266		86,972	98,678	56,538		164,243		
G10x32-SR3	Start	142,448																	Please consult factory	116,661	128,367	151,783	8.3	111,978	13.8	240,779
	Min.	56,989																43,201		49,595	62,210	40,615		109,412		
	End	79,708																53,926		65,631	89,041	49,245		178,018		
G10x32-SR4	Start	114,120																	Please consult factory	94,332	106,037	129,450	6.7	87,309	13.8	253,569
	Min.	46,687																36,190		42,523	55,044	32,348		120,539		
	End	66,922																47,138		58,841	82,248	40,116		206,340		
G10x36-SR1	Start	193,787																	Please consult factory	151,759	181,534	196,422	8.9	148,782	10.9	208,333
	Min.	78,956																56,474		72,630	80,617	54,835		86,986		
	End	113,242																71,224		100,992	115,877	68,247		127,785		
G10x36-SR2	Start	156,081																	Please consult factory	125,374	155,145	170,032	7.2	116,443	10.9	226,605
	Min.	64,832																48,537		64,543	72,475	43,668		102,433		
	End	94,974																64,273		94,038	108,921	55,344		165,482		
G10x36-SR3	Start	142,304																	Please consult factory	125,903	140,788	170,559	6.6	113,995	10.9	242,019
	Min.	56,950																48,273		56,326	72,248	41,751		110,078		
	End	79,564																63,166		78,048	107,813	51,262		179,257		
G10x36-SR4	Start	113,976																	Please consult factory	94,041	108,924	138,692	5.3	88,088	10.9	254,808
	Min.	46,648																36,054		44,096	59,975	32,800		121,204		
	End	66,778																46,847		61,727	91,488	40,895		207,579		

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)																				
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5																			
		Pressure Torque Output: Start/Min./End (Nm)																																							
G10x40-SR1	Start	193,643																		Please consult factory	160,260	197,139	Exceeds MOP												7.2	149,197	8.8	208,203			
	Min.	78,918																	61,139		81,017	55,083		86,933																	
	End	113,098																	79,722		116,593	68,662		127,655																	
G10x40-SR2	Start	155,937																		Please consult factory	123,218	160,093	178,532	215,411	Exceeds MOP											5.8	115,843	8.8	226,475		
	Min.	64,794																47,386	67,203		77,010	96,533	43,361	102,380																	
	End	94,830																62,118	98,985		117,420	154,291	54,745	165,352																	
G10x40-SR3	Start	142,160																		Please consult factory	120,195	138,632	175,507	193,945	230,825	Exceeds MOP											5.3	112,820	8.8	241,889	
	Min.	56,911																45,181	55,188		74,902	84,687	104,192	41,127	110,026																
	End	79,420																57,460	75,892		112,760	131,194	168,065	50,087	179,127																
G10x40-SR4	Start	113,832																		Please consult factory	114,548	132,984	151,421	188,296	206,735	243,614	Exceeds MOP											4.1	81,364	8.8	254,678
	Min.	46,610																47,135	56,967		66,747	86,218	95,936	115,334	29,105	121,152															
	End	66,634																67,349	85,781		104,214	141,081	159,516	196,387	34,173	207,449															
G10xT32-SR1	Start	192,653																		Please consult factory	163,584						Exceeds MOP											5.7	149,539	6.9	205,721
	Min.	78,653																63,280							55,607	85,944															
	End	112,109																83,046							69,004	125,173															
G10xT32-SR2	Start	154,948																		Please consult factory	135,042	158,448	181,856				Exceeds MOP											4.6	116,317	6.9	223,993
	Min.	64,529																54,106	66,649		79,099				43,942	101,402															
	End	93,840																73,939	97,340		120,743				55,218	162,871															
G10xT32-SR3	Start	141,170																		Please consult factory	150,455	173,862	197,270				Exceeds MOP											4.1	108,325	6.9	239,406
	Min.	56,646																61,856	74,348		86,775				38,950	109,050															
	End	78,430																87,713	111,115		134,518				45,593	176,645															
G10xT32-SR4	Start	112,842																		Please consult factory	93,030	116,433	163,244	186,651	210,059	Exceeds MOP											3.4	88,349	6.9	252,196	
	Min.	46,346																35,837	48,451		73,311	85,669	98,011	33,278	120,179																
	End	65,644																45,836	69,235		116,035	139,437	162,840	41,156	204,967																

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Torque - Pneumatic

Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)				
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5			
Pressure Torque Output: Start/Min./End (Nm)																									
G10xT36-SR1	Start	192,365			Please consult factory	180,056	209,821	Exceeds MOP												4.5	150,292	5.5	209,821		
	Min.	78,577				72,233	88,176																	56,073	88,176
	End	111,821				99,514	129,273																		69,757
G10xT36-SR2	Start	154,660		Please consult factory	138,802	198,328	Exceeds MOP													3.6	114,992	5.5	228,093		
	Min.	64,453				56,179		87,878																43,271	103,610
	End	93,553				77,698		137,212																	53,894
G10xT36-SR3	Start	140,882		Please consult factory	124,454	154,215	Exceeds MOP													3.3	112,549	5.5	243,507		
	Min.	56,569				47,880		63,919																41,353	111,256
	End	78,142				61,718		91,473																	49,816
G10xT36-SR4	Start	112,554	107,482	137,243	167,004	226,531	256,296	Exceeds MOP												2.6	83,675	5.5	256,296		
	Min.	46,269	43,709	59,591	75,350	106,722	122,379																30,763	122,379	
	End	65,356	60,285	90,039	119,794	179,308	209,067																	36,483	209,067
G10xT40-SR1	Start	192,077		Please consult factory	177,094	Exceeds MOP														3.6	147,599	4.4	206,590		
	Min.	78,500					70,692																	54,643	86,502
	End	111,533					96,553																		67,064
G10xT40-SR2	Start	154,372	121,630	158,497	195,366	Exceeds MOP														2.9	114,257	4.4	224,862		
	Min.	64,376	46,955	66,779	86,363																		42,928	101,954	
	End	93,265	60,530	97,389	134,250																			53,158	163,739
G10xT40-SR3	Start	140,594	137,044	173,911	210,779	Exceeds MOP														2.6	107,551	4.4	240,275		
	Min.	56,491	54,759	74,478	94,022																		38,638	109,601	
	End	77,855	74,305	111,164	148,025																			44,818	177,514
G10xT40-SR4	Start	112,266	149,833	186,700	223,569	Exceeds MOP														2.1	83,475	4.4	253,064		
	Min.	46,192	66,327	85,798	105,215																		30,717	120,728	
	End	65,068	102,626	139,486	176,346																			36,283	205,836

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)						
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5					
		Pressure Torque Output: Start/Min./End (Nm)																									
G13x40-SR1	Start	431,434																	Please consult factory	354,862	378,439	402,018	12.5	354,862	13.8	416,165	
	Min.	168,461																127,086		140,112	152,993	127,086					160,679
	End	230,059																		153,537	177,099	200,662					153,537
G13x40-SR2	Start	372,365																	Please consult factory	313,668	360,819	431,552	10.8	304,238	13.8	445,699	
	Min.	146,111																114,559		140,298	153,021	127,086					160,679
	End	200,544																141,885		189,005	212,567	141,885					273,830
G13x40-SR3	Start	310,335																	Please consult factory	254,688	301,833	325,406	9.0	254,688	13.8	481,012	
	Min.	121,257																91,193		117,025	129,746	91,193					212,554
	End	165,254																109,643		156,757	180,316	109,643					335,821
G13x40-SR4	Start	251,267																	Please consult factory	213,511	260,651	284,222	7.3	204,084	13.8	510,546	
	Min.	98,908																78,663		104,263	116,900	78,663					236,632
	End	135,739																98,008		145,118	168,673	98,008					394,851
G13x44-SR1	Start	431,238																	Please consult factory	366,503	395,132		Exceeds MOP	355,051	11.4	418,036	
	Min.	168,408																133,560		149,267		127,216					161,719
	End	229,863																165,170		193,781		153,726					216,670
G13x44-SR2	Start	372,169																	Please consult factory	310,154	367,408	396,037	Exceeds MOP	304,428	11.4	447,570	
	Min.	146,058																112,649		143,881	159,297	109,472					186,867
	End	200,348																138,372		195,590	224,200	132,651					275,700
G13x44-SR3	Start	310,139																	Please consult factory	259,591	316,840	345,466	Exceeds MOP	253,866	11.4	482,883	
	Min.	121,204																93,945		125,157	140,546	90,766					213,566
	End	165,058																114,543		171,755	200,363	108,822					337,690
G13x44-SR4	Start	251,070																	Please consult factory	203,258	260,502	289,125	Exceeds MOP	203,258	11.4	512,417	
	Min.	98,855																73,026		104,212	119,548	73,026					237,640
	End	135,543																87,762		144,968	173,573	87,762					396,721
G13x48-SR1	Start	431,051																	Please consult factory	380,093			Exceeds MOP	352,762	9.7	427,923	
	Min.	168,358																141,063				125,967					167,083
	End	229,677																178,751				151,438					226,550
G13x48-SR2	Start	371,983																	Please consult factory	307,140	375,464	409,627	Exceeds MOP	300,308	9.7	457,457	
	Min.	146,008																111,003		148,253	166,616	107,209					192,146
	End	200,162																135,361		203,640	237,781	128,533					285,580
G13x48-SR3	Start	309,953																	Please consult factory	308,292	342,453	410,776	Exceeds MOP	253,638	9.7	492,770	
	Min.	121,154																120,566		138,951	175,389	90,667					218,807
	End	164,872																163,213		197,351	265,630	108,594					347,571
G13x48-SR4	Start	250,884																	Please consult factory	201,195	235,351	269,509	Exceeds MOP	201,195	9.7	522,304	
	Min.	98,805																71,912		90,656	109,078	71,912					242,857
	End	135,357																85,700		119,834	153,969	85,700					406,601

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5	
Pressure Torque Output: Start/Min./End (Nm)																							
G13x52-SR1	Start	430,865								Please consult factory	367,697	Exceeds MOP							7.4	359,661	8.3	431,986	
	Min.	168,307								134,265										129,824		169,300	
	End	229,491									166,364											158,333	230,611
G13x52-SR2	Start	371,797								Please consult factory	357,052	Exceeds MOP							6.3	300,803	8.3	461,521	
	Min.	145,958								138,334										107,512		194,331	
	End	199,976									185,241											129,028	289,641
G13x52-SR3	Start	309,766								Please consult factory	271,833	Exceeds MOP							5.3	255,762	8.3	496,833	
	Min.	121,104									100,755		122,602	165,619	186,958							91,878	220,976
	End	164,686											126,777	166,927	247,231	287,384							110,717
G13x52-SR4	Start	250,698								Please consult factory	261,192	Exceeds MOP							4.1	188,879	8.3	526,367	
	Min.	98,754									104,642		126,141	147,493	189,991	211,166						65,028	245,015
	End	135,171											145,658	185,807	225,957	306,261	346,414						73,392
G13xT40-SR1	Start	429,380								Please consult factory	Exceeds MOP								6.3	357,395	6.9	413,958	
	Min.	167,907																		129,100		160,080	
	End	228,006																				156,069	212,594
G13xT40-SR2	Start	370,311								Please consult factory	311,517	Exceeds MOP							5.4	302,090	6.9	443,492	
	Min.	145,557									113,967		139,713							108,744		185,260	
	End	198,491											139,735	186,837								130,314	271,625
G13xT40-SR3	Start	308,281								Please consult factory	299,698	Exceeds MOP							4.5	252,569	6.9	478,805	
	Min.	120,703									116,445		141,825	166,975						90,605		211,972	
	End	163,202											154,624	201,725	248,827							107,526	333,615
G13xT40-SR4	Start	249,213								Please consult factory	234,975	Exceeds MOP							3.7	206,699	6.9	508,339	
	Min.	98,354									90,964		141,455	166,432	191,337					75,488		236,051	
	End	133,686											119,458	213,655	260,755	307,857						91,201	392,645
G13xT44-SR1	Start	428,988								Please consult factory	392,775	Exceeds MOP							5.2	358,431	5.7	415,671	
	Min.	167,801									148,623									129,745		161,077	
	End	227,614											191,425									157,103	214,306
G13xT44-SR2	Start	369,919								Please consult factory	365,069	Exceeds MOP							4.5	307,832	5.7	445,205	
	Min.	145,452									143,250		174,003							112,008		186,238	
	End	198,099											193,253	250,455								136,052	273,337
G13xT44-SR3	Start	307,889								Please consult factory	285,908	Exceeds MOP							3.7	251,568	5.7	480,518	
	Min.	120,597									109,027		170,460	200,830						90,129		212,941	
	End	162,810											140,843	255,243	312,445							106,525	335,327
G13xT44-SR4	Start	248,820	200,976	258,208	315,442	429,916	487,156			Exceeds MOP								3.0	200,976	5.7	510,052		
	Min.	98,248	72,393	103,597	134,190	194,794	224,954												72,393		237,018		
	End	133,295	85,481	142,676	199,873	314,273	371,475												85,481		394,357		

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure (barg)																	MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)	
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13	13.5					
Pressure Torque Output: Start/Min./End (Nm)																							
G13xT48-SR1	Start	428,615			Please consult factory	Exceeds MOP														4.1	322,931	4.8	418,565
	Min.	167,700					109,864	162,712															
	End	227,242					121,626	217,198															
G13xT48-SR2	Start	369,547		Please consult factory	338,803	Exceeds MOP														3.7	297,819	4.8	448,099
	Min.	145,351					129,073	187,840															
	End	197,727					167,004	276,228															
G13xT48-SR3	Start	307,516	Please consult factory	305,809	374,116	Exceeds MOP														3.1	251,164	4.8	483,412
	Min.	120,497		119,896	156,548		214,532																
	End	162,437		160,731	228,994		338,219																
G13xT48-SR4	Start	248,448	267,038	335,343	403,650	Exceeds MOP														2.6	212,395	4.8	512,946
	Min.	98,147	108,415	144,837	180,986		238,603																
	End	132,922	151,500	219,761	288,024		397,249																
G13xT52-SR1	Start	428,243	Please consult factory	405,189	Exceeds MOP															3.7	356,982	4.1	421,258
	Min.	167,600		155,514		164,235																	
	End	226,870		203,831		219,889																	
G13xT52-SR2	Start	369,174	Please consult factory	354,379	434,723	Exceeds MOP														3.2	306,173	4.1	450,792
	Min.	145,251		137,609	180,769		189,340																
	End	197,355		182,569	262,861		278,920																
G13xT52-SR3	Start	307,144	309,349	389,691	470,035	Exceeds MOP														2.6	245,077	4.1	486,104
	Min.	120,396	121,884	164,908	207,532		216,021																
	End	162,065	164,269	244,559	324,851		340,910																
G13xT52-SR4	Start	248,075	338,883	419,225	499,570	Exceeds MOP														2.1	194,273	4.1	515,639
	Min.	98,047	146,788	189,286	231,623		240,084																
	End	132,550	223,299	303,589	383,881		399,940																

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