

Biffi FGC-Series

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



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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)																				
FGC01x08	Start	Outboard	814	959	1,103	1,392	1,536	1,681	1,970	2,114	2,404	2,548	2,837	2,982	3,127	3,416	3,561	3,705	Exceeds MOP	2.8	757	13.2	3,763
	Min.		513	601	689	865	953	1,041	1,217	1,305	1,481	1,570	1,746	1,834	1,922	2,098	2,186	2,275			477		2,310
	End		1,174	1,382	1,590	2,007	2,215	2,423	2,840	3,048	3,465	3,674	4,091	4,299	4,508	4,925	5,133	5,342			1,091		5,426
	Start	Inboard	1,154	1,359	1,564	1,973	2,178	2,383	2,793	2,998	3,408	3,613	4,023	4,229	4,434	4,844	5,049	5,255			1,072		5,337
	Min.		505	592	679	852	939	1,026	1,200	1,286	1,460	1,547	1,721	1,808	1,894	2,068	2,155	2,242			470		2,277
	End		799	941	1,083	1,366	1,508	1,650	1,934	2,076	2,360	2,502	2,786	2,928	3,070	3,354	3,496	3,638			742		3,695
FGC01x09	Start	Outboard	1,044	1,228	1,411	1,779	1,962	2,146	2,514	2,697	3,065	3,249	3,616	Exceeds MOP	-	-	-	-	-	2.8	970	10.4	3,764
	Min.		654	766	878	1,102	1,214	1,326	1,550	1,662	1,885	1,997	2,221		-	-	-	-	-		609		2,311
	End		1,505	1,770	2,035	2,564	2,829	3,094	3,624	3,889	4,419	4,684	5,214		-	-	-	-	-		1,399		5,426
	Start	Inboard	1,485	1,746	2,008	2,531	2,792	3,054	3,577	3,838	4,362	4,623	5,147		-	-	-	-	-		1,380		5,356
	Min.		647	757	868	1,090	1,200	1,311	1,533	1,643	1,865	1,976	2,197		-	-	-	-	-		602		2,286
	End		1,028	1,209	1,390	1,752	1,933	2,114	2,476	2,658	3,020	3,201	3,564		-	-	-	-	-		956		3,709
FGC01x10	Start	Outboard	1,393	1,636	1,879	2,366	2,609	2,852	3,338	3,581	Exceeds MOP	-	-	-	-	-	-	-	-	2.8	1,296	7.9	3,776
	Min.		868	1,017	1,165	1,461	1,609	1,757	2,053	2,201		-	-	-	-	-	-	-	-		809		2,320
	End		2,009	2,359	2,710	3,410	3,761	4,112	4,813	5,163		-	-	-	-	-	-	-	-		1,868		5,444
	Start	Inboard	1,988	2,335	2,682	3,377	3,724	4,071	4,766	5,113		-	-	-	-	-	-	-	-		1,850		5,391
	Min.		862	1,009	1,155	1,449	1,596	1,743	2,037	2,184		-	-	-	-	-	-	-	-		803		2,302
	End		1,377	1,617	1,857	2,338	2,578	2,819	3,300	3,540		-	-	-	-	-	-	-	-		1,281		3,732
FGC01x12	Start	Outboard	2,011	2,359	2,706	3,402	3,750	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.8	1,872	5.5	3,750
	Min.		1,247	1,459	1,671	2,094	2,306		-	-	-	-	-	-	-	-	-	-	-		1,163		2,306
	End		2,899	3,400	3,902	4,905	5,407		-	-	-	-	-	-	-	-	-	-	-		2,698		5,407
	Start	Inboard	2,879	3,377	3,875	4,871	5,369		-	-	-	-	-	-	-	-	-	-	-		2,679		5,369
	Min.		1,241	1,452	1,662	2,084	2,295		-	-	-	-	-	-	-	-	-	-	-		1,157		2,295
	End		1,993	2,338	2,683	3,373	3,718		-	-	-	-	-	-	-	-	-	-	-		1,855		3,718
FGC01x14	Start	Outboard	2,451	2,873	3,296	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2,281	4.6	3,803	
	Min.		1,517	1,775	2,032		-	-	-	-	-	-	-	-	-	-	-	-		-		1,415	2,341
	End		3,533	4,142	4,752		-	-	-	-	-	-	-	-	-	-	-	-		-		3,289	5,483
	Start	Inboard	3,513	4,118	4,724		-	-	-	-	-	-	-	-	-	-	-	-		-		3,270	5,452
	Min.		1,512	1,768	2,024		-	-	-	-	-	-	-	-	-	-	-	-		-		1,409	2,332
	End		2,432	2,852	3,271		-	-	-	-	-	-	-	-	-	-	-	-		-		2,264	3,775

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)																				
FGC2x09	Start	Outboard	1,264	1,486	1,708	2,153	2,376	2,598	3,043	3,265	3,711	3,933	4,378	4,601	4,824	5,269	5,492	-	-	2.8	1,175	12.9	5,670
	Min.		792	927	1,063	1,334	1,469	1,605	1,876	2,011	2,282	2,418	2,689	2,824	2,960	3,231	3,367	-	-		737		3,475
	End		1,822	2,142	2,463	3,104	3,425	3,745	4,387	4,707	5,349	5,670	6,312	6,633	6,954	7,596	7,917	Exceeds MOP	-		1,694		8,174
	Start	Inboard	1,797	2,113	2,430	3,063	3,379	3,696	4,329	4,645	5,279	5,595	6,229	6,546	6,863	7,496	7,813	-	-		1,671		8,067
	Min.		783	917	1,051	1,319	1,453	1,587	1,855	1,989	2,257	2,391	2,659	2,793	2,927	3,196	3,330	-	-		729		3,437
	End		1,245	1,464	1,683	2,122	2,341	2,560	2,999	3,218	3,657	3,876	4,315	4,534	4,754	5,193	5,413	-	-		1,157		5,588
FGC2x10	Start	Outboard	1,687	1,981	2,275	2,864	3,158	3,453	4,041	4,336	4,925	5,219	-	-	-	-	-	-	-	2.8	1,569	9.7	5,632
	Min.		1,051	1,230	1,410	1,768	1,947	2,127	2,485	2,664	3,023	3,202	-	-	-	-	-	-	-		980		3,453
	End		2,431	2,856	3,280	4,128	4,553	4,977	5,826	6,250	7,099	7,524	Exceeds MOP	-	-	-	-	-	-		2,262		8,119
	Start	Inboard	2,406	2,827	3,247	4,087	4,507	4,927	5,768	6,188	7,029	7,449	-	-	-	-	-	-	-		2,238		8,038
	Min.		1,043	1,221	1,398	1,754	1,932	2,110	2,465	2,643	2,999	3,177	-	-	-	-	-	-	-		972		3,426
	End		1,667	1,958	2,249	2,831	3,122	3,413	3,996	4,287	4,869	5,160	-	-	-	-	-	-	-		1,551		5,568
FGC2x12	Start	Outboard	2,434	2,855	3,276	4,119	4,540	4,961	-	-	-	-	-	-	-	-	-	-	-	2.8	2,266	6.9	5,719
	Min.		1,510	1,766	2,022	2,535	2,791	3,047	-	-	-	-	-	-	-	-	-	-	-		1,407		3,509
	End		3,509	4,116	4,723	5,937	6,545	7,152	Exceeds MOP	-	-	-	-	-	-	-	-	-	-		3,266		8,245
	Start	Inboard	3,484	4,086	4,689	5,895	6,498	7,101	-	-	-	-	-	-	-	-	-	-	-		3,243		8,187
	Min.		1,502	1,757	2,012	2,522	2,777	3,032	-	-	-	-	-	-	-	-	-	-	-		1,400		3,491
	End		2,413	2,831	3,249	4,084	4,502	4,919	-	-	-	-	-	-	-	-	-	-	-		2,246		5,671
FGC2x14	Start	Outboard	2,967	3,478	3,990	5,014	5,525	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2,762	5.6	5,628
	Min.		1,837	2,148	2,459	3,082	3,393	-	-	-	-	-	-	-	-	-	-	-	-		1,712		3,456
	End		4,277	5,014	5,752	7,227	7,965	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-		3,982		8,113
	Start	Inboard	4,251	4,985	5,718	7,185	7,918	-	-	-	-	-	-	-	-	-	-	-	-		3,958		8,065
	Min.		1,830	2,140	2,450	3,070	3,380	-	-	-	-	-	-	-	-	-	-	-	-		1,705		3,442
	End		2,945	3,453	3,961	4,977	5,485	-	-	-	-	-	-	-	-	-	-	-	-		2,742		5,587
FGC2x16	Start	Outboard	3,933	4,608	5,283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	3,663	4.2	5,553
	Min.		2,428	2,838	3,249	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2,264		3,413
	End		5,669	6,642	7,615	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-		5,280		8,005
	Start	Inboard	5,643	6,612	7,581	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5,256		7,968
	Min.		2,422	2,831	3,241	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2,258		3,405
	End		3,909	4,580	5,252	-	-	-	-	-	-	-	-	-	-	-	-	-	-		3,641		5,520

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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)																					
FGC3x10	Start	Outboard	2,032	2,387	2,742	3,452	3,807	4,163	4,873	5,228	5,939	6,294	7,004	7,360	7,715	8,426	8,782	9,137	9,493	2.8	1,890	13.8	9,706	
	Min.		1,274	1,491	1,709	2,143	2,361	2,578	3,013	3,230	3,665	3,882	4,317	4,535	4,752	5,187	5,405	5,622	5,840					
	End		2,968	3,486	4,004	5,041	5,560	6,078	7,116	7,634	8,672	9,190	10,228	10,747	11,266	12,304	12,823	13,343	13,862					
	Start	Inboard	2,919	3,429	3,940	4,960	5,471	5,981	7,002	7,513	8,534	9,045	10,066	10,577	11,088	12,110	12,621	13,132	13,643					
	Min.		1,257	1,471	1,685	2,114	2,329	2,543	2,972	3,187	3,615	3,830	4,259	4,474	4,688	5,117	5,332	5,546	5,761					
	End		1,998	2,347	2,696	3,395	3,744	4,093	4,792	5,142	5,841	6,190	6,889	7,239	7,588	8,288	8,638	8,987	9,337					
FGC3x12	Start	Outboard	2,938	3,446	3,955	4,972	5,481	5,990	7,007	7,516	8,534	9,043	Exceeds MOP	-	-	-	-	-	-	-	2.8	2,734	9.8	9,857
	Min.		1,832	2,143	2,454	3,077	3,388	3,699	4,322	4,633	5,255	5,567		-	-	-	-	-	-					
	End		4,290	5,032	5,775	7,260	8,003	8,746	10,232	10,975	12,461	13,205		-	-	-	-	-	-					
	Start	Inboard	4,240	4,975	5,709	7,178	7,913	8,647	10,117	10,851	12,321	13,056		-	-	-	-	-	-					
	Min.		1,816	2,124	2,432	3,049	3,357	3,666	4,283	4,591	5,208	5,517		-	-	-	-	-	-					
	End		2,902	3,404	3,907	4,912	5,415	5,918	6,924	7,426	8,432	8,935		-	-	-	-	-	-					
FGC3x14	Start	Outboard	3,583	4,201	4,819	6,056	6,674	7,293	8,530	9,148	Exceeds MOP	-	-	-	-	-	-	-	-	-	2.8	3,335	8.1	9,891
	Min.		2,230	2,609	2,987	3,743	4,121	4,500	5,256	5,634		-	-	-	-	-	-	-	-	-				
	End		5,231	6,134	7,037	8,843	9,746	10,649	12,455	13,359		-	-	-	-	-	-	-	-	-				
	Start	Inboard	5,181	6,076	6,970	8,759	9,654	10,549	12,338	13,233		-	-	-	-	-	-	-	-	-				
	Min.		2,214	2,590	2,965	3,716	4,092	4,468	5,219	5,594		-	-	-	-	-	-	-	-	-				
	End		3,546	4,158	4,770	5,995	6,607	7,219	8,444	9,057		-	-	-	-	-	-	-	-	-				
FGC3x16	Start	Outboard	4,752	5,569	6,385	8,017	8,833	9,649	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.8	4,426	6.2	9,976
	Min.		2,950	3,449	3,948	4,946	5,445	5,944		-	-	-	-	-	-	-	-	-	-	-				
	End		6,940	8,131	9,323	11,707	12,898	14,090		-	-	-	-	-	-	-	-	-	-	-				
	Start	Inboard	6,889	8,072	9,255	11,621	12,804	13,988		-	-	-	-	-	-	-	-	-	-	-				
	Min.		2,935	3,432	3,928	4,921	5,418	5,914		-	-	-	-	-	-	-	-	-	-	-				
	End		4,714	5,524	6,334	7,953	8,763	9,573		-	-	-	-	-	-	-	-	-	-	-				
FGC3x20	Start	Outboard	7,582	8,875	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	7,065	3.9	9,910	
	Min.		4,688	5,478		-	-	-	-	-	-	-	-	-	-	-	-	-	-					-
	End		11,072	12,960		-	-	-	-	-	-	-	-	-	-	-	-	-	-					-
	Start	Inboard	11,018	12,897		-	-	-	-	-	-	-	-	-	-	-	-	-	-					-
	Min.		4,676	5,464		-	-	-	-	-	-	-	-	-	-	-	-	-	-					-
	End		7,540	8,826		-	-	-	-	-	-	-	-	-	-	-	-	-	-					-

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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)																				
FGC4x12	Start	Outboard	3,572	4,191	4,810	6,047	6,667	7,286	8,524	9,143	10,382	11,001	12,240	12,859	13,479	14,718	15,337	15,957	16,577	2.8	3,324	13.8	16,949
	Min.		2,217	2,594	2,971	3,724	4,101	4,478	5,231	5,608	6,362	6,739	7,492	7,869	8,246	9,000	9,377	9,754	10,131				
	End		5,152	6,045	6,937	8,723	9,616	10,508	12,294	13,188	14,974	15,867	17,654	18,548	19,441	21,228	22,122	23,016	23,910				
	Start	Inboard	5,069	5,948	6,827	8,584	9,463	10,343	12,101	12,980	14,739	15,618	17,378	18,257	19,137	20,897	21,776	22,656	23,537				
	Min.		2,187	2,559	2,930	3,674	4,046	4,417	5,161	5,533	6,276	6,648	7,392	7,764	8,135	8,879	9,251	9,623	9,995				
End	3,510	4,119	4,727	5,945	6,553	7,162	8,380	8,989	10,207	10,816	12,034	12,643	13,252	14,471	15,080	15,689	16,299						
FGC4x14	Start	Outboard	4,359	5,112	5,865	7,371	8,123	8,876	10,383	11,136	12,642	13,395	14,902	15,656	16,409	17,916	18,670	19,424	2.8	Exceeds MOP	13.4	20,027	
	Min.		2,701	3,159	3,617	4,534	4,992	5,450	6,366	6,825	7,741	8,199	9,116	9,574	10,033	10,949	11,408	11,866					
	End		6,288	7,373	8,459	10,631	11,717	12,803	14,975	16,062	18,235	19,321	21,494	22,581	23,668	25,842	26,929	28,016					
	Start	Inboard	6,204	7,276	8,348	10,492	11,564	12,636	14,781	15,853	17,998	19,071	21,216	22,289	23,362	25,508	26,581	27,654					
	Min.		2,672	3,125	3,578	4,484	4,938	5,391	6,298	6,751	7,658	8,111	9,018	9,471	9,925	10,832	11,285	11,739					
End	4,296	5,039	5,781	7,266	8,008	8,750	10,235	10,978	12,463	13,206	14,692	15,435	16,178	17,664	18,407	19,150							
FGC4x16	Start	Outboard	5,788	6,782	7,776	9,765	10,759	11,754	13,743	14,737	16,727	17,722	19,711	2.8	Exceeds MOP	10.1	19,910						
	Min.		3,575	4,180	4,785	5,994	6,599	7,204	8,414	9,019	10,229	10,834	12,044										
	End		8,348	9,782	11,216	14,084	15,519	16,953	19,822	21,257	24,126	25,561	28,431										
	Start	Inboard	8,264	9,684	11,104	13,944	15,364	16,784	19,625	21,046	23,887	25,308	28,150										
	Min.		3,547	4,147	4,747	5,948	6,548	7,148	8,349	8,949	10,150	10,750	11,951										
End	5,723	6,706	7,689	9,656	10,639	11,623	13,590	14,574	16,542	17,526	19,494												
FGC4x20	Start	Outboard	9,242	10,818	12,395	15,549	17,126	18,703	2.8	Exceeds MOP	6.3	19,649											
	Min.		5,686	6,644	7,603	9,521	10,479	11,438															
	End		13,330	15,604	17,878	22,427	24,702	26,976															
	Start	Inboard	13,243	15,503	17,763	22,283	24,543	26,804															
	Min.		5,661	6,616	7,571	9,480	10,435	11,389															
End	9,171	10,736	12,301	15,431	16,996	18,561																	
FGC4x24	Start	Outboard	13,508	15,800	18,093	2.8	Exceeds MOP	4.3	28,081														
	Min.		8,285	9,678	11,071																		
	End		19,483	22,790	26,097																		
	Start	Inboard	19,394	22,686	25,978																		
	Min.		8,265	9,655	11,045																		
End	13,430	15,710	17,990																				
FGC4x28	Start	Outboard	19,023	2.8	Exceeds MOP	3.1	12,059																
	Min.		11,681																				
	End		27,439																				
	Start	Inboard	27,346																				
	Min.		11,667																				
End	18,937																						
FGC4x220	Start	Outboard	18,427	2.8	Exceeds MOP	3.2	12,123																
	Min.		11,337																				
	End		26,579																				
	Start	Inboard	26,568																				
	Min.		11,357																				
End	18,398																						

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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)																							
FGC5x16	Start		7,463	8,744	10,024	12,585	13,866	15,147	17,708	18,989	21,551	22,833	25,395	26,676	27,958	30,521	31,802	33,084	34,365	2.8	6,951	13.8	35,134			
	Min.	Outboard	4,606	5,385	6,164	7,721	8,500	9,279	10,837	11,616	13,173	13,952	15,510	16,289	17,068	18,627	19,406	20,185	20,964					4,295	21,431	
	End		10,764	12,611	14,458	18,151	19,998	21,846	25,540	27,388	31,083	32,930	36,626	38,474	40,322	44,018	45,867	47,715	49,564					10,026	50,673	
	Start		10,570	12,384	14,198	17,827	19,642	21,456	25,086	26,901	30,531	32,346	35,977	37,793	39,608	43,240	45,056	46,872	48,688					9,844	49,778	
	Min.	Inboard	4,535	5,302	6,069	7,602	8,369	9,136	10,670	11,438	12,972	13,739	15,273	16,040	16,807	18,342	19,109	19,876	20,644					4,228	21,104	
	End		7,326	8,583	9,841	12,356	13,614	14,871	17,387	18,645	21,161	22,419	24,935	26,194	27,452	29,969	31,228	32,486	33,745					6,823	34,500	
FGC5x20	Start		11,929	13,963	15,997	20,064	22,098	24,132	28,201	30,235	34,304	36,338	40,407	42,442	44,477	Exceeds MOP	-	-	-	2.8	11,116	11.3	45,698			
	Min.	Outboard	7,335	8,572	9,808	12,281	13,517	14,754	17,227	18,464	20,937	22,173	24,647	25,883	27,120		-	-	-					6,841	27,862	
	End		17,205	20,138	23,071	28,938	31,871	34,805	40,672	43,606	49,475	52,409	58,278	61,212	64,147		-	-	-					16,032	65,908	
	Start		17,006	19,905	22,805	28,605	31,505	34,405	40,206	43,107	48,908	51,809	57,611	60,513	63,414		-	-	-					15,846	65,155	
	Min.	Inboard	7,268	8,494	9,719	12,169	13,395	14,620	17,071	18,296	20,747	21,972	24,423	25,649	26,874		-	-	-					6,778	27,610	
	End		11,786	13,796	15,806	19,826	21,836	23,846	27,866	29,877	33,898	35,908	39,930	41,941	43,952		-	-	-					10,983	45,158	
FGC5x24	Start		17,445	20,405	23,364	29,283	32,243	35,203	41,123	44,083	Exceeds MOP	-	-	-	-	-	-	-	-	2.8	16,262	7.7	45,267			
	Min.	Outboard	10,696	12,495	14,293	17,890	19,689	21,487	25,084	26,883		-	-	-	-	-	-	-	-					-	9,977	27,602
	End		25,161	29,429	33,697	42,234	46,503	50,771	59,309	63,578		-	-	-	-	-	-	-	-					-	23,454	65,286
	Start		24,954	29,188	33,422	41,890	46,124	50,359	58,828	63,062		-	-	-	-	-	-	-	-					-	23,261	64,756
	Min.	Inboard	10,634	12,422	14,210	17,787	19,575	21,363	24,940	26,728		-	-	-	-	-	-	-	-					-	9,919	27,444
	End		17,296	20,230	23,164	29,034	31,968	34,903	40,773	43,708		-	-	-	-	-	-	-	-					-	16,122	44,882
FGC5x28	Start		24,577	28,753	32,928	41,280	45,456	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.8	22,907	5.5	45,456			
	Min.	Outboard	15,088	17,627	20,166	25,243	27,782		-	-	-	-	-	-	-	-	-	-	-					-	14,073	27,782
	End		35,447	41,469	47,491	59,537	65,560		-	-	-	-	-	-	-	-	-	-	-					-	33,038	65,560
	Start		35,232	41,218	47,205	59,179	65,166		-	-	-	-	-	-	-	-	-	-	-					-	32,838	65,166
	Min.	Inboard	15,033	17,562	20,092	25,151	27,681		-	-	-	-	-	-	-	-	-	-	-					-	14,021	27,681
	End		24,419	28,568	32,717	41,016	45,166		-	-	-	-	-	-	-	-	-	-	-					-	22,759	45,166
FGC5x32	Start		32,225	37,686	43,148	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	30,041	4.2	45,332			
	Min.	Outboard	19,754	23,074	26,393		-	-	-	-	-	-	-	-	-	-	-	-	-					-	18,426	27,721
	End		46,477	54,353	62,230		-	-	-	-	-	-	-	-	-	-	-	-	-					-	43,326	65,381
	Start		46,253	54,092	61,932		-	-	-	-	-	-	-	-	-	-	-	-	-					-	43,118	65,067
	Min.	Inboard	19,706	23,017	26,329		-	-	-	-	-	-	-	-	-	-	-	-	-					-	18,381	27,654
	End		32,058	37,491	42,924		-	-	-	-	-	-	-	-	-	-	-	-	-					-	29,884	45,098
FGC5x36	Start		40,903	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	38,136	3.3	45,054			
	Min.	Outboard	25,045		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					23,363	27,568	
	End		58,993		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					-	55,002	64,980
	Start		58,759		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					-	54,783	64,723
	Min.	Inboard	25,005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					-	23,326	27,524
	End		40,725		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					-	37,970	44,859

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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)																				
FGC5x220	Start	Outboard	23,730	27,776	31,822	39,914	43,960		-	-	-	-	-	-	-	-	-	-	-	2.8	22,112	5.7	45,579
	Min.		14,593	17,052	19,512	24,432	26,892		-	-	-	-	-	-	-	-	-	-	-		13,609		27,876
	End		34,225	40,060	45,895	57,566	63,402	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-		31,891		65,736
	Start	Inboard	34,197	40,027	45,857	57,519	63,350		-	-	-	-	-	-	-	-	-	-	-		31,865		65,683
	Min.		14,615	17,079	19,542	24,469	26,933		-	-	-	-	-	-	-	-	-	-	-		13,630		27,918
	End		23,701	27,742	31,783	39,866	43,907		-	-	-	-	-	-	-	-	-	-	-		22,085		45,524
FGC5x224	Start	Outboard	34,762	40,659		-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	32,403	3.9	45,377
	Min.		21,314	24,898		-	-	-	-	-	-	-	-	-	-	-	-	-	-		19,881		27,765
	End		50,136	58,641	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-		46,734		65,445
	Start	Inboard	50,095	58,593		-	-	-	-	-	-	-	-	-	-	-	-	-	-		46,695		65,392
	Min.		21,347	24,936		-	-	-	-	-	-	-	-	-	-	-	-	-	-		19,911		27,808
	End		34,720	40,610		-	-	-	-	-	-	-	-	-	-	-	-	-	-		32,364		45,322

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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)																				
FGC7x20	Start		14,554	17,041	19,529	24,504	26,992	29,480	34,456	36,944	41,921	44,410	49,388	51,877	54,366	59,345	61,834	64,324	66,814	2.8	13,559	13.8	68,308
	Min.	Outboard	8,968	10,482	11,995	15,022	16,536	18,050	21,077	22,591	25,618	27,132	30,160	31,674	33,188	36,216	37,730	39,244	40,759				
	End		20,991	24,578	28,166	35,342	38,930	42,518	49,695	53,284	60,462	64,052	71,231	74,821	78,411	85,592	89,183	92,773	96,364				
	Start		20,682	24,218	27,754	34,826	38,363	41,900	48,974	52,511	59,586	63,124	70,200	73,738	77,277	84,354	87,894	91,433	94,972				
	Min.	Inboard	8,861	10,356	11,852	14,843	16,339	17,835	20,826	22,322	25,314	26,810	29,802	31,298	32,794	35,786	37,283	38,779	40,275				
	End		14,337	16,788	19,239	24,141	26,593	29,045	33,948	36,400	41,305	43,757	48,662	51,115	53,568	58,474	60,927	63,381	65,834				
FGC7x24	Start		21,327	24,951	28,576	35,825	39,450	43,075	50,326	53,952	61,203	64,829	72,081	75,708	79,334	86,587	-	-	-	2.8	19,877	12.3	88,764
	Min.	Outboard	13,098	15,302	17,506	21,915	24,119	26,324	30,732	32,937	37,346	39,551	43,960	46,165	48,370	52,780	-	-	-				
	End		30,759	35,987	41,214	51,670	56,899	62,127	72,584	77,813	88,272	93,502	103,962	109,192	114,422	124,884	Exceeds MOP	-	-				
	Start		30,441	35,615	40,790	51,139	56,314	61,489	71,841	77,016	87,369	92,545	102,899	108,076	113,253	123,608	-	-	-				
	Min.	Inboard	12,997	15,184	17,372	21,747	23,934	26,122	30,497	32,685	37,060	39,248	43,624	45,812	48,000	52,376	-	-	-				
	End		21,101	24,688	28,275	35,449	39,037	42,624	49,799	53,387	60,564	64,152	71,329	74,917	78,506	85,684	-	-	-				
FGC7x28	Start		30,092	35,210	40,329	50,568	55,687	60,807	71,047	76,168	86,409	-	-	-	-	-	-	-	-	2.8	28,044	8.7	88,458
	Min.	Outboard	18,497	21,611	24,725	30,953	34,068	37,182	43,412	46,526	52,756	-	-	-	-	-	-	-	-				
	End		43,401	50,783	58,166	72,933	80,317	87,701	102,470	109,855	124,627	Exceeds MOP	-	-	-	-	-	-	-				
	Start		43,070	50,397	57,725	72,381	79,709	87,038	101,697	109,027	123,688	-	-	-	-	-	-	-	-				
	Min.	Inboard	18,404	21,503	24,602	30,800	33,899	36,998	43,196	46,296	52,495	-	-	-	-	-	-	-	-				
	End		29,856	34,935	40,014	50,174	55,254	60,335	70,496	75,577	85,740	-	-	-	-	-	-	-	-				
FGC7x32	Start		39,487	46,185	52,883	66,281	72,980	79,680	-	-	-	-	-	-	-	-	-	-	-	2.8	36,808	6.6	87,719
	Min.	Outboard	24,231	28,305	32,379	40,527	44,602	48,676	-	-	-	-	-	-	-	-	-	-	-				
	End		56,951	66,612	76,273	95,596	105,258	114,921	Exceeds MOP	-	-	-	-	-	-	-	-	-	-				
	Start		56,607	66,211	75,814	95,022	104,627	114,232	Exceeds MOP	-	-	-	-	-	-	-	-	-	-				
	Min.	Inboard	24,148	28,208	32,268	40,389	44,449	48,510	-	-	-	-	-	-	-	-	-	-	-				
	End		39,240	45,897	52,554	65,869	72,527	79,185	-	-	-	-	-	-	-	-	-	-	-				
FGC7x36	Start		50,148	58,637	67,126	84,104	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	46,753	5.2	87,500
	Min.	Outboard	30,734	35,896	41,058	51,383	-	-	-	-	-	-	-	-	-	-	-	-	-				
	End		72,328	84,571	96,814	121,302	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-				
	Start		71,969	84,152	96,335	120,703	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-				
	Min.	Inboard	30,661	35,811	40,961	51,261	-	-	-	-	-	-	-	-	-	-	-	-	-				
	End		49,888	58,334	66,779	83,671	-	-	-	-	-	-	-	-	-	-	-	-	-				

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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)																					
FGC7x220	Start	Outboard	28,908	33,849	38,790	48,674	53,616	58,559	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.8	26,931	6.9	67,456
	Min.		17,815	20,822	23,828	29,842	32,849	35,856		-	-	-	-	-	-	-	-	-	-	-		16,613		41,269
	End		41,693	48,820	55,947	70,202	77,330	84,459		-	-	-	-	-	-	-	-	-	-	-		38,843		97,291
	Start	Inboard	41,653	48,772	55,892	70,134	77,255	84,376		-	-	-	-	-	-	-	-	-	-	-		38,805		97,196
	Min.		17,843	20,855	23,866	29,889	32,901	35,913		-	-	-	-	-	-	-	-	-	-	-		16,639		41,334
	End		28,873	33,809	38,744	48,616	53,553	58,489		-	-	-	-	-	-	-	-	-	-	-		26,899		67,376
FGC7x224	Start	Outboard	42,453	49,669	56,885	71,317	78,533	85,750	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.8	39,567	6.1	87,194
	Min.		26,074	30,462	34,850	43,627	48,015	52,404		-	-	-	-	-	-	-	-	-	-	-		24,319		53,282
	End		61,230	71,637	82,044	102,859	113,268	123,676		-	-	-	-	-	-	-	-	-	-	-		57,067		125,758
	Start	Inboard	61,170	71,567	81,964	102,759	113,157	123,556		-	-	-	-	-	-	-	-	-	-	-		57,012		125,636
	Min.		26,115	30,510	34,906	43,696	48,092	52,487		-	-	-	-	-	-	-	-	-	-	-		24,357		53,366
	End		42,403	49,610	56,817	71,232	78,440	85,648		-	-	-	-	-	-	-	-	-	-	-		39,520		87,090
FGC7x228	Start	Outboard	59,983	70,187	80,391	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	55,902	4.3	86,514	
	Min.		36,871	43,079	49,288		-	-	-	-	-	-	-	-	-	-	-	-	-		-		34,388	53,013
	End		86,513	101,230	115,947		-	-	-	-	-	-	-	-	-	-	-	-	-		-		80,626	124,778
	Start	Inboard	86,429	101,131	115,834		-	-	-	-	-	-	-	-	-	-	-	-	-		-		80,548	124,656
	Min.		36,930	43,148	49,366		-	-	-	-	-	-	-	-	-	-	-	-	-		-		34,443	53,097
	End		59,912	70,104	80,296		-	-	-	-	-	-	-	-	-	-	-	-	-		-		55,835	86,411

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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)																					
FGC8x24	Start	Outboard	25,179	29,459	33,740	42,302	46,583	50,864	59,427	63,709	72,273	76,555	85,120	89,402	93,685	102,252	106,535	110,818	115,102	2.8	23,467	13.8	117,672	
	Min.		15,466	18,069	20,672	25,879	28,482	31,086	36,292	38,896	44,103	46,707	51,914	54,518	57,122	62,330	64,934	67,538	70,142					
	End		36,324	42,499	48,674	61,025	67,201	73,378	85,731	91,908	104,262	110,440	122,796	128,974	135,153	147,511	153,690	159,870	166,049					
	Start	Inboard	35,775	41,859	47,943	60,111	66,195	72,280	84,450	90,536	102,707	108,793	120,966	127,053	133,140	145,315	151,403	157,491	163,579					
	Min.		15,273	17,844	20,416	25,558	28,129	30,701	35,844	38,415	43,558	46,130	51,273	53,845	56,417	61,561	64,133	66,705	69,277					
	End		24,798	29,015	33,232	41,667	45,885	50,102	58,538	62,757	71,194	75,412	83,850	88,069	92,289	100,728	104,948	109,168	113,388					
FGC8x28	Start	Outboard	35,557	41,607	47,657	59,759	65,810	71,862	83,966	90,018	102,124	108,177	120,285	126,339	132,393	2.8	33,137	11.9	143,292					
	Min.		21,860	25,540	29,221	36,584	40,265	43,946	51,309	54,991	62,354	66,036	73,400	77,082	80,764									
	End		51,295	60,023	68,752	86,210	94,940	103,670	121,131	129,863	147,327	156,059	173,526	182,260	190,994									
	Start	Inboard	50,731	59,365	68,000	85,269	93,905	102,541	119,814	128,451	145,727	154,366	171,644	180,284	188,924					Exceeds MOP	-	-	-	-
	Min.		21,676	25,327	28,977	36,279	39,930	43,580	50,882	54,534	61,836	65,488	72,791	76,442	80,094									
	End		35,165	41,150	47,135	59,106	65,092	71,078	83,052	89,039	101,014	107,002	118,978	124,967	130,956									
FGC8x32	Start	Outboard	46,686	54,607	62,528	78,372	86,294	94,217	110,063	117,987	133,835	141,760	2.8	43,517	9.0	141,760								
	Min.		28,652	33,470	38,288	47,924	52,742	57,561	67,198	72,016	81,654	86,473												
	End		67,350	78,777	90,205	113,061	124,490	135,920	158,780	170,211	193,074	204,507												
	Start	Inboard	66,769	78,100	89,430	112,093	123,425	134,758	157,424	168,758	191,427	202,763					Exceeds MOP	-	-	-	-			
	Min.		28,479	33,268	38,057	47,636	52,426	57,215	66,795	71,585	81,165	85,955												
	End		46,283	54,136	61,990	77,699	85,555	93,410	109,122	116,978	132,692	140,549												
FGC8x36	Start	Outboard	59,314	69,356	79,398	99,484	109,527	119,571	139,659	2.8	55,297	7.1	141,668											
	Min.		36,355	42,461	48,568	60,782	66,889	72,996	85,210															
	End		85,568	100,054	114,542	143,518	158,006	172,496	201,476															
	Start	Inboard	84,968	99,355	113,742	142,518	156,907	171,296	200,076					Exceeds MOP	-	-	-	-						
	Min.		36,193	42,273	48,353	60,513	66,593	72,673	84,834															
	End		58,897	68,870	78,843	98,789	108,763	118,737	138,687															
FGC8x40	Start	Outboard	73,441	85,854	98,267	123,094	135,509	2.8	68,476	5.8	142,958													
	Min.		44,968	52,515	60,062	75,157	82,704																	
	End		105,948	123,855	141,763	177,579	195,488																	
	Start	Inboard	105,328	123,131	140,935	176,544	194,350					Exceeds MOP	-	-	-	-								
	Min.		44,819	52,342	59,864	74,909	82,432																	
	End		73,010	85,351	97,692	122,375	134,717																	

Note:
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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)																				
FGC8x224	Start	Outboard	50,003	58,505	67,007	84,012	92,516	101,019	-	-	-	-	-	-	-	-	-	-	-	2.8	46,603	6.9	116,326
	Min.		30,717	35,887	41,058	51,399	56,570	61,741	-	-	-	-	-	-	-	-	-	-	-		28,649		71,049
	End		72,136	84,401	96,666	121,198	133,465	145,733	Exceeds MOP	-	-	-	-	-	-	-	-	-	-		67,230		167,815
	Start	Inboard	72,061	84,314	96,566	121,073	133,327	145,582	-	-	-	-	-	-	-	-	-	-	-		67,161		167,641
	Min.		30,762	35,940	41,119	51,475	56,654	61,832	-	-	-	-	-	-	-	-	-	-	-		28,691		71,154
	End		49,951	58,444	66,937	83,924	92,418	100,913	-	-	-	-	-	-	-	-	-	-	-		46,554		116,204
FGC8x228	Start	Outboard	70,759	82,800	94,842	118,927	130,971	-	-	-	-	-	-	-	-	-	-	-	-	2.8	65,943	5.9	140,606
	Min.		43,504	50,830	58,156	72,809	80,135	-	-	-	-	-	-	-	-	-	-	-	-		40,574		85,997
	End		102,079	119,450	136,822	171,568	188,942	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-		95,131		202,842
	Start	Inboard	101,973	119,326	136,680	171,390	188,746	-	-	-	-	-	-	-	-	-	-	-	-		95,033		202,632
	Min.		43,568	50,905	58,242	72,917	80,254	-	-	-	-	-	-	-	-	-	-	-	-		40,634		86,124
	End		70,685	82,713	94,743	118,803	130,833	-	-	-	-	-	-	-	-	-	-	-	-		65,874		140,458
FGC8x232	Start	Outboard	93,017	108,800	124,584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	86,704	4.5	140,368
	Min.		57,089	66,689	76,289	-	-	-	-	-	-	-	-	-	-	-	-	-	-		53,249		85,889
	End		134,188	156,957	179,727	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-		125,081		202,498
	Start	Inboard	134,049	156,795	179,541	-	-	-	-	-	-	-	-	-	-	-	-	-	-		124,952		202,289
	Min.		57,173	66,788	76,402	-	-	-	-	-	-	-	-	-	-	-	-	-	-		53,328		86,016
	End		92,919	108,686	124,453	-	-	-	-	-	-	-	-	-	-	-	-	-	-		86,613		140,221
FGC8x236	Start	Outboard	118,273	138,298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	110,264	3.6	142,303
	Min.		72,494	84,672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		67,624		87,107
	End		170,624	199,512	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-		159,069		205,290
	Start	Inboard	170,447	199,306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		158,904		205,077
	Min.		72,602	84,797	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		67,724		87,236
	End		118,149	138,153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		110,148		142,154

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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)																				
FGC10x28	Start	Outboard	46,435	54,341	62,248	78,062	85,970	93,878	109,696	117,605	133,424	141,335	157,157	165,069	172,981	188,806	196,719	204,632	212,546	2.8	43,273	13.8	217,295
	Min.		28,563	33,375	38,186	47,809	52,621	57,433	67,057	71,869	81,494	86,306	95,932	100,745	105,558	115,184	119,997	124,811	129,624				
	End		66,984	78,388	89,793	112,605	124,012	135,420	158,237	169,646	192,466	203,877	226,700	238,113	249,526	272,354	283,769	295,184	306,600				
	Start	Inboard	65,984	77,222	88,461	110,940	122,180	133,421	155,904	167,147	189,634	200,878	223,368	234,614	245,860	268,354	279,603	290,851	302,100				
	Min.		28,210	32,962	37,715	47,220	51,973	56,726	66,233	70,986	80,493	85,247	94,755	99,509	104,263	113,772	118,526	123,281	128,035				
	End		45,735	53,524	61,314	76,895	84,686	92,477	108,060	115,853	131,439	139,232	154,821	162,615	170,411	186,002	193,798	201,595	209,392				
FGC10x32	Start	Outboard	61,055	71,419	81,783	102,513	112,879	123,245	143,979	154,346	175,082	185,451	206,190	216,560	226,930	247,673	258,045	268,417	278,790	2.8	56,909	13.8	285,014
	Min.		37,488	43,793	50,098	62,709	69,015	75,321	87,933	94,239	106,852	113,158	125,772	132,079	138,386	151,001	157,308	163,616	169,924				
	End		88,072	103,022	117,973	147,876	162,829	177,782	207,690	222,645	252,558	267,515	297,431	312,390	327,349	357,270	372,232	387,194	402,156				
	Start	Inboard	87,054	101,834	116,614	146,178	160,961	175,744	205,312	220,097	249,670	264,457	294,033	308,822	323,611	353,193	367,984	382,776	397,569				
	Min.		37,148	43,396	49,645	62,142	68,391	74,641	87,139	93,389	105,888	112,138	124,639	130,889	137,140	149,641	155,892	162,143	168,394				
	End		60,339	70,583	80,828	101,319	111,565	121,812	142,306	152,554	173,051	183,300	203,800	214,051	224,302	244,805	255,057	265,310	275,563				
FGC10x36	Start	Outboard	77,644	90,794	103,944	130,247	143,399	156,551	182,857	196,011	222,321	235,476	261,788	274,945	2.8	72,384	10.9	285,471					
	Min.		47,609	55,607	63,606	79,603	87,602	95,601	111,600	119,600	135,599	143,599	159,600	167,600									
	End		112,002	130,971	149,940	187,882	206,854	225,826	263,773	282,748	320,699	339,676	377,632	396,611									
	Start	Inboard	110,961	129,757	148,553	186,147	204,945	223,744	261,344	280,145	317,749	336,552	374,160	392,965					Exceeds MOP	104,414	10.9	411,794	
	Min.		47,283	55,228	63,172	79,061	87,006	94,951	110,841	118,787	134,678	142,624	158,516	166,462									
	End		76,910	89,937	102,965	129,022	142,052	155,081	181,143	194,174	220,238	233,271	259,338	272,372									
FGC10x40	Start	Outboard	96,202	112,467	128,732	161,263	177,530	193,797	226,332	242,601	275,140	2.8	89,697	8.8	284,902								
	Min.		58,926	68,817	78,708	98,491	108,382	118,274	138,058	147,950	167,736												
	End		138,773	162,234	185,697	232,623	256,088	279,553	326,486	349,954	396,892												
	Start	Inboard	137,708	160,991	184,276	230,847	254,134	277,421	323,999	347,289	393,871					Exceeds MOP	129,388	8.8	410,974				
	Min.		58,617	68,456	78,296	97,976	107,817	117,657	137,338	147,179	166,862												
	End		95,448	111,586	127,725	160,005	176,145	192,286	224,570	240,713	273,000												

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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)																				
FGC10x228	Start	Outboard	92,220	107,924	123,629	155,041	170,748	186,456	-	-	-	-	-	-	-	-	-	-	-	2.8	85,939	6.9	214,732
	Min.		56,732	66,289	75,846	94,960	104,518	114,076	-	-	-	-	-	-	-	-	-	-	-		52,909		131,280
	End		133,029	155,682	178,336	223,648	246,305	268,964	Exceeds MOP	-	-	-	-	-	-	-	-	-	-		123,968		309,753
	Start	Inboard	132,906	155,538	178,171	223,442	246,078	268,716	-	-	-	-	-	-	-	-	-	-	-		123,853		309,467
	Min.		56,815	66,386	75,957	95,100	104,671	114,243	-	-	-	-	-	-	-	-	-	-	-		52,987		131,473
	End		92,120	107,807	123,494	154,872	170,562	186,253	-	-	-	-	-	-	-	-	-	-	-		85,845		214,498
FGC10x232	Start	Outboard	121,459	142,079	162,699	203,943	224,566	245,189	-	-	-	-	-	-	-	-	-	-	-	2.8	113,211	6.9	282,315
	Min.		74,581	87,126	99,670	124,761	137,306	149,852	-	-	-	-	-	-	-	-	-	-	-		69,563		172,435
	End		175,206	204,950	234,695	294,189	323,938	353,688	Exceeds MOP	-	-	-	-	-	-	-	-	-	-		163,309		407,241
	Start	Inboard	175,044	204,761	234,478	293,917	323,639	353,362	-	-	-	-	-	-	-	-	-	-	-		163,158		406,866
	Min.		74,691	87,254	99,817	124,944	137,508	150,072	-	-	-	-	-	-	-	-	-	-	-		69,666		172,688
	End		121,327	141,924	162,522	203,720	224,321	244,922	-	-	-	-	-	-	-	-	-	-	-		113,088		282,007
FGC10x236	Start	Outboard	154,637	180,829	207,021	259,410	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	144,161	5.4	280,366
	Min.		94,823	110,754	126,685	158,548	-	-	-	-	-	-	-	-	-	-	-	-	-		88,450		171,294
	End		223,065	260,847	298,630	374,201	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-		207,953		404,430
	Start	Inboard	222,860	260,606	298,355	373,855	-	-	-	-	-	-	-	-	-	-	-	-	-		207,761		404,057
	Min.		94,962	110,916	126,871	158,781	-	-	-	-	-	-	-	-	-	-	-	-	-		88,580		171,546
	End		154,468	180,632	206,796	259,127	-	-	-	-	-	-	-	-	-	-	-	-	-		144,004		280,060
FGC10x240	Start	Outboard	191,755	224,175	256,596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	178,787	4.4	282,534
	Min.		117,457	137,173	156,889	-	-	-	-	-	-	-	-	-	-	-	-	-	-		109,570		172,663
	End		276,608	323,374	370,142	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-		257,902		407,558
	Start	Inboard	276,353	323,076	369,801	-	-	-	-	-	-	-	-	-	-	-	-	-	-		257,664		407,182
	Min.		117,629	137,374	157,120	-	-	-	-	-	-	-	-	-	-	-	-	-	-		109,731		172,916
	End		191,546	223,931	256,317	-	-	-	-	-	-	-	-	-	-	-	-	-	-		178,592		282,226

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																									
FGC01x08-SR0	Start	2,313	-	-	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	2,219	2,418	2,617	Exceeds MOP	11.7	2,100	13.2	2,696				
	Min.	1,234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	727	813	899						809	676	933	
	End	2,403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	891	1,029	1,167									809
FGC01x08-SR1	Start	1,742	-	-	-	-	-	-	-	-	-	Please consult factory	1,437	1,834	2,033	2,232	2,629	2,828	3,027	Exceeds MOP	8.8	1,357	13.2	3,107				
	Min.	971	-	-	-	-	-	-	-	-	-	-	500	670	755	840	1,009	1,093	1,178						581	466	1,212	
	End	1,993	-	-	-	-	-	-	-	-	-	-	636	911	1,048	1,186	1,461	1,599	1,737									581
FGC01x08-SR2	Start	1,457	-	-	-	-	-	-	-	Please consult factory	1,082	1,480	1,679	2,076	2,275	2,474	2,871	3,070	3,269	Exceeds MOP	7.4	1,043	13.2	3,349				
	Min.	831	-	-	-	-	-	-	-	-	392	562	646	815	900	984	1,153	1,237	1,321						480	375	1,355	
	End	1,751	-	-	-	-	-	-	-	-	508	783	920	1,196	1,333	1,471	1,746	1,884	2,022									480
FGC01x08-SR3	Start	1,270	-	-	-	-	-	-	Please consult factory	1,106	1,305	1,702	1,901	2,299	2,497	2,696	3,094	3,293	3,492	Exceeds MOP	6.5	908	13.2	3,571				
	Min.	727	-	-	-	-	-	-	-	414	499	668	752	921	1,005	1,089	1,258	1,342	1,426						419	329	1,460	
	End	1,528	-	-	-	-	-	-	-	557	694	970	1,107	1,382	1,520	1,658	1,933	2,071	2,209									419
FGC01x08-SR4	Start	1,077	-	-	-	-	-	710	909	1,306	1,505	1,902	2,101	2,498	2,697	2,896	3,294	3,492	3,691	Exceeds MOP	5.5	710	13.2	3,771				
	Min.	626	-	-	-	-	Please consult factory	264	349	518	602	771	855	1,024	1,108	1,192	1,361	1,445	1,529						336	264	1,563	
	End	1,329	-	-	-	-	-	336	474	749	886	1,161	1,299	1,574	1,712	1,850	2,125	2,263	2,400									336
FGC01x09-SR0	Start	2,307	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	2,512	2,766	3,019	3,527	3,781	4,035	4,288	9.1	657	13.8				
	Min.	1,232	-	-	-	-	-	-	-	-	-	-	-	-	855	964	1,072	1,289	1,397	1,505	1,613				778	657	1,677	
	End	2,395	-	-	-	-	-	-	-	-	-	-	-	-	1,094	1,270	1,446	1,797	1,973	2,149	2,324							778
FGC01x09-SR1	Start	1,736	-	-	-	-	-	-	Please consult factory	1,401	1,655	2,162	2,415	2,923	3,176	3,430	3,937	4,191	4,445	4,699	6.9	464	13.8	4,851				
	Min.	969	-	-	-	-	-	-	-	486	595	811	919	1,134	1,242	1,350	1,565	1,672	1,780	1,887					576	464	1,952	
	End	1,985	-	-	-	-	-	-	-	611	787	1,138	1,313	1,664	1,840	2,016	2,367	2,543	2,719	2,894								576
FGC01x09-SR2	Start	1,451	-	-	-	-	-	1,136	1,643	1,897	2,404	2,657	3,165	3,418	3,672	4,179	4,433	4,687	4,941	5.8	373	13.8	5,093					
	Min.	830	-	-	-	-	-	Please consult factory	416	632	740	955	1,063	1,278	1,385	1,493	1,708	1,815	1,922					2,030	475	373	2,094	
	End	1,743	-	-	-	-	-	-	545	896	1,071	1,422	1,598	1,949	2,125	2,301	2,652	2,828	3,003					3,179				475
FGC01x09-SR3	Start	1,264	-	-	-	-	1,105	1,359	1,866	2,119	2,626	2,880	3,387	3,641	3,895	4,402	4,656	4,910	5,163	5.1	328	13.8	5,316					
	Min.	725	-	-	-	-	Please consult factory	415	523	738	846	1,061	1,168	1,383	1,490	1,598	1,813	1,920	2,028					2,135	416	328	2,199	
	End	1,520	-	-	-	-	-	556	732	1,083	1,258	1,609	1,785	2,136	2,312	2,487	2,839	3,014	3,190					3,366				416
FGC01x09-SR4	Start	1,072	-	-	-	1,052	1,305	1,558	2,065	2,319	2,826	3,079	3,587	3,840	4,094	4,602	4,855	5,109	5,363	4.1	217	13.8	5,515					
	Min.	624	-	-	-	Please consult factory	411	519	626	841	949	1,163	1,271	1,486	1,593	1,700	1,915	2,023	2,130					2,238	257	217	2,302	
	End	1,321	-	-	-	-	573	748	923	1,274	1,450	1,801	1,977	2,328	2,504	2,679	3,031	3,206	3,382					3,558				257

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC01x10-SR0	Start	2,301	-	-	-	-	-	Please consult factory	2,143	2,479	3,153	3,489	4,163	4,499	4,836	Exceeds MOP	-	-	-	6.9	2,076	11.4	5,105
	Min.	1,230	-	-	-	-	-	Please consult factory	696	842	1,130	1,273	1,560	1,703	1,846	Exceeds MOP	-	-	-	6.9	667	11.4	1,960
	End	2,385	-	-	-	-	-	-	Please consult factory	839	1,072	1,538	1,771	2,237	2,470	2,703	Exceeds MOP	-	-	-	6.9	792	11.4
FGC01x10-SR1	Start	1,729	-	-	-	Please consult factory	1,544	1,880	2,553	2,890	3,563	3,900	4,573	4,910	5,246	Exceeds MOP	-	-	-	5.2	1,342	11.4	5,516
	Min.	967	-	-	-	Please consult factory	549	692	979	1,121	1,407	1,549	1,835	1,977	2,120	Exceeds MOP	-	-	-	5.2	462	11.4	2,234
	End	1,975	-	-	-	Please consult factory	710	943	1,409	1,642	2,108	2,341	2,807	3,040	3,273	Exceeds MOP	-	-	-	5.2	570	11.4	3,460
FGC01x10-SR2	Start	1,444	-	-	Please consult factory	1,449	1,786	2,122	2,795	3,132	3,805	4,142	4,815	5,152	5,488	Exceeds MOP	-	-	-	4.4	1,046	11.4	5,758
	Min.	828	-	-	Please consult factory	551	694	837	1,122	1,265	1,550	1,692	1,977	2,120	2,262	Exceeds MOP	-	-	-	4.4	379	11.4	2,376
	End	1,733	-	-	Please consult factory	762	995	1,228	1,694	1,927	2,393	2,626	3,092	3,325	3,558	Exceeds MOP	-	-	-	4.4	482	11.4	3,745
FGC01x10-SR3	Start	1,257	-	Please consult factory	999	1,672	2,008	2,345	3,018	3,354	4,028	4,364	5,038	5,374	5,711	Exceeds MOP	-	-	-	3.9	932	11.4	5,980
	Min.	723	-	Please consult factory	371	657	800	942	1,228	1,370	1,655	1,798	2,082	2,225	2,367	Exceeds MOP	-	-	-	3.9	342	11.4	2,481
	End	1,510	-	Please consult factory	483	949	1,181	1,414	1,880	2,113	2,580	2,813	3,279	3,512	3,745	Exceeds MOP	-	-	-	3.9	436	11.4	3,932
FGC01x10-SR4	Start	1,065	Please consult factory	862	1,199	1,872	2,208	2,544	3,217	3,554	4,227	4,564	5,237	5,574	5,911	Exceeds MOP	-	-	-	3.3	728	11.4	6,180
	Min.	622	Please consult factory	332	475	760	903	1,045	1,330	1,473	1,758	1,900	2,185	2,328	2,470	Exceeds MOP	-	-	-	3.3	275	11.4	2,584
	End	1,311	Please consult factory	442	675	1,140	1,373	1,606	2,072	2,305	2,771	3,004	3,471	3,704	3,937	Exceeds MOP	-	-	-	3.3	349	11.4	4,124
FGC01x12-SR0	Start	2,290	-	-	Please consult factory	2,245	2,728	3,211	4,177	4,660	Exceeds MOP	-	-	-	-	-	-	-	-	4.8	2,052	8.0	5,142
	Min.	1,227	-	-	Please consult factory	743	950	1,157	1,568	1,773	Exceeds MOP	-	-	-	-	-	-	-	-	4.8	659	8.0	1,978
	End	2,370	-	-	Please consult factory	910	1,244	1,578	2,247	2,581	Exceeds MOP	-	-	-	-	-	-	-	-	4.8	776	8.0	2,916
FGC01x12-SR1	Start	1,719	-	Please consult factory	1,690	2,656	3,138	3,621	4,587	5,070	Exceeds MOP	-	-	-	-	-	-	-	-	3.7	1,400	8.0	5,553
	Min.	964	-	Please consult factory	613	1,024	1,229	1,433	1,842	2,047	Exceeds MOP	-	-	-	-	-	-	-	-	3.7	489	8.0	2,251
	End	1,959	-	Please consult factory	811	1,480	1,814	2,148	2,817	3,151	Exceeds MOP	-	-	-	-	-	-	-	-	3.7	610	8.0	3,486
FGC01x12-SR2	Start	1,433	967	1,449	1,932	2,898	3,380	3,863	4,829	5,312	Exceeds MOP	-	-	-	-	-	-	-	-	3.0	967	8.0	5,795
	Min.	824	348	554	759	1,168	1,372	1,576	1,985	2,189	Exceeds MOP	-	-	-	-	-	-	-	-	3.0	348	8.0	2,394
	End	1,717	427	762	1,096	1,764	2,099	2,433	3,102	3,436	Exceeds MOP	-	-	-	-	-	-	-	-	3.0	427	8.0	3,770
FGC01x12-SR3	Start	1,246	1,189	1,672	2,155	3,120	3,603	4,086	5,052	5,535	Exceeds MOP	-	-	-	-	-	-	-	-	2.7	900	8.0	6,018
	Min.	720	455	660	864	1,273	1,477	1,682	2,090	2,294	Exceeds MOP	-	-	-	-	-	-	-	-	2.7	331	8.0	2,499
	End	1,495	614	948	1,283	1,951	2,285	2,620	3,289	3,623	Exceeds MOP	-	-	-	-	-	-	-	-	2.7	414	8.0	3,957
FGC01x12-SR4	Start	1,054	1,389	1,871	2,354	3,320	3,802	4,285	5,251	5,734	Exceeds MOP	-	-	-	-	-	-	-	-	2.3	713	8.0	6,217
	Min.	618	558	763	967	1,376	1,580	1,784	2,193	2,397	Exceeds MOP	-	-	-	-	-	-	-	-	2.3	271	8.0	2,601
	End	1,295	806	1,140	1,475	2,143	2,477	2,812	3,480	3,815	Exceeds MOP	-	-	-	-	-	-	-	-	2.3	338	8.0	4,149

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																					
FGC01x14-SR0	Start	2,281	-	Please consult factory	2,103	3,278	3,865	4,452	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.9	1,986	6.3	4,805
	Min.	1,224	-	Please consult factory	684	1,188	1,438	1,687	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.9	633	6.3	1,837
	End	2,357	-	Please consult factory	811	1,624	2,031	2,438	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.9	730	6.3	2,682
FGC01x14-SR1	Start	1,710	1,339	1,926	2,514	3,688	4,275	4,863	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	1,339	6.3	5,215
	Min.	961	466	717	966	1,464	1,713	1,961	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	466	6.3	2,111
	End	1,947	568	975	1,381	2,194	2,601	3,008	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	568	6.3	3,252
FGC01x14-SR2	Start	1,425	1,581	2,168	2,755	3,930	4,517	5,105	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.5	994	6.3	5,457
	Min.	822	612	861	1,110	1,607	1,855	2,104	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.5	362	6.3	2,253
	End	1,705	853	1,259	1,666	2,479	2,886	3,293	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.5	446	6.3	3,537
FGC01x14-SR3	Start	1,238	1,804	2,391	2,978	4,153	4,740	5,327	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.2	864	6.3	5,680
	Min.	717	718	967	1,215	1,712	1,961	2,209	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.2	318	6.3	2,358
	End	1,482	1,040	1,446	1,853	2,666	3,073	3,479	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.2	389	6.3	3,723
FGC01x14-SR4	Start	1,045	2,003	2,590	3,178	4,352	4,939	5,527	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	1.9	712	6.3	5,879
	Min.	616	821	1,069	1,318	1,815	2,063	2,312	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	1.9	273	6.3	2,461
	End	1,283	1,232	1,638	2,045	2,858	3,265	3,671	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	1.9	337	6.3	3,915

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																					
FGC2x09-SR1	Start	2,994	-	-	-	-	-	-	-	-	-	Please consult factory	2,637	2,944	3,251	3,866	4,173	Exceeds MOP	-	9.7	2,453	12.9	4,418	
	Min.	1,638	-	-	-	-	-	-	-	-	-	892	1,024	1,155	1,417	1,548	-	-	813		1,653			
	End	3,303	-	-	-	-	-	-	-	-	-	1,125	1,338	1,550	1,976	2,189	-	-	997		2,359			
FGC2x09-SR2	Start	2,586	-	-	-	-	-	-	-	Please consult factory	2,093	2,400	3,014	3,321	3,628	4,242	4,549	Exceeds MOP	-	8.5	2,093	12.9	4,795	
	Min.	1,432	-	-	-	-	-	-	-	714	846	1,108	1,239	1,369	1,630	1,760	-	-	714		1,864			
	End	2,926	-	-	-	-	-	-	-	-	894	1,107	1,532	1,745	1,958	2,383	2,596	-	-		894		2,766	
FGC2x09-SR3	Start	2,317	-	-	-	-	-	-	-	Please consult factory	2,407	2,713	3,327	3,634	3,941	4,556	4,863	Exceeds MOP	-	7.6	1,854	12.9	5,108	
	Min.	1,284	-	-	-	-	-	-	-	867	998	1,259	1,390	1,520	1,781	1,911	-	-	630		2,015			
	End	2,612	-	-	-	-	-	-	-	-	1,163	1,376	1,801	2,013	2,226	2,652	2,864	-	-		780		3,035	
FGC2x09-SR4	Start	2,067	-	-	-	-	-	Please consult factory	1,832	2,139	2,753	3,060	3,674	3,981	4,288	4,902	5,209	Exceeds MOP	-	6.8	1,709	12.9	5,455	
	Min.	1,134	-	-	-	-	-	624	756	1,018	1,148	1,409	1,540	1,670	1,931	2,061	-	-	571		2,165			
	End	2,266	-	-	-	-	-	-	775	988	1,413	1,625	2,051	2,263	2,476	2,901	3,114	-	-		690		3,284	
FGC2x10-SR1	Start	2,986	-	-	-	-	-	-	-	Please consult factory	2,598	3,412	3,820	Exceeds MOP	-	-	-	-	-	-	7.4	2,516	9.7	4,390
	Min.	1,635	-	-	-	-	-	-	-	876	1,225	1,399	1,399	-	-	-	-	-	-	841		1,642		
	End	3,291	-	-	-	-	-	-	-	-	1,097	1,662	1,944	-	-	-	-	-	-	1,041		2,339		
FGC2x10-SR2	Start	2,578	-	-	-	-	-	Please consult factory	2,567	2,974	3,789	4,197	Exceeds MOP	-	-	-	-	-	-	-	6.3	1,997	9.7	4,767
	Min.	1,430	-	-	-	-	-	918	1,092	1,439	1,612	1,612	-	-	-	-	-	-	-	674		1,854		
	End	2,914	-	-	-	-	-	-	1,223	1,505	2,069	2,351	-	-	-	-	-	-	-	828		2,747		
FGC2x10-SR3	Start	2,309	-	-	-	-	-	Please consult factory	2,066	2,880	3,288	4,102	4,510	Exceeds MOP	-	-	-	-	-	-	5.7	1,822	9.7	5,080
	Min.	1,281	-	-	-	-	-	723	1,070	1,244	1,590	1,762	1,762	-	-	-	-	-	-	618		2,004		
	End	2,600	-	-	-	-	-	-	927	1,491	1,773	2,338	2,620	-	-	-	-	-	-	758		3,015		
FGC2x10-SR4	Start	2,059	-	-	-	-	-	Please consult factory	2,005	2,412	3,227	3,634	4,449	4,856	Exceeds MOP	-	-	-	-	-	5.1	1,679	9.7	5,426
	Min.	1,132	-	-	-	-	-	700	874	1,221	1,394	1,739	1,912	-	-	-	-	-	-	559		2,154		
	End	2,254	-	-	-	-	-	-	895	1,177	1,741	2,023	2,588	2,870	-	-	-	-	-	669		3,265		
FGC2x12-SR1	Start	2,973	-	-	-	-	-	Please consult factory	2,898	3,483	Exceeds MOP	-	-	-	-	-	-	-	-	-	5.1	2,431	6.9	4,535
	Min.	1,631	-	-	-	-	-	1,008	1,258	1,258	-	-	-	-	-	-	-	-	-	807		1,705		
	End	3,272	-	-	-	-	-	-	1,306	1,710	-	-	-	-	-	-	-	-	-	982		2,439		
FGC2x12-SR2	Start	2,565	-	-	Please consult factory	2,691	3,275	3,859	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.5	2,106	6.9	4,911
	Min.	1,426	-	-	974	1,223	1,471	1,471	-	-	-	-	-	-	-	-	-	-	-	724		1,917		
	End	2,895	-	-	1,308	1,713	2,118	2,118	-	-	-	-	-	-	-	-	-	-	-	903		2,847		
FGC2x12-SR3	Start	2,296	-	Please consult factory	1,835	3,004	3,588	4,173	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.0	1,835	6.9	5,225
	Min.	1,277	-	626	1,126	1,374	1,622	1,622	-	-	-	-	-	-	-	-	-	-	-	626		2,068		
	End	2,581	-	767	1,577	1,982	2,386	2,386	-	-	-	-	-	-	-	-	-	-	-	767		3,115		
FGC2x12-SR4	Start	2,045	-	Please consult factory	2,182	3,350	3,934	4,519	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.6	1,714	6.9	5,571
	Min.	1,128	-	778	1,276	1,524	1,772	1,772	-	-	-	-	-	-	-	-	-	-	-	578		2,217		
	End	2,235	-	1,017	1,827	2,231	2,636	2,636	-	-	-	-	-	-	-	-	-	-	-	693		3,365		

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC2x14-SR1	Start	2,962	-	-	Please consult factory	3,564	4,274	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.1	2,284	5.6	4,417
	Min.	1,628	-	-	Please consult factory	1,295	1,598	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.1	746	5.6	1,658
	End	3,257	-	-	Please consult factory	1,767	2,259	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.1	880	5.6	2,358
FGC2x14-SR2	Start	2,554	-	Please consult factory	2,519	3,940	4,651	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	2,093	5.6	4,793
	Min.	1,423	-	Please consult factory	903	1,508	1,809	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	720	5.6	1,870
	End	2,880	-	Please consult factory	1,189	2,174	2,666	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	894	5.6	2,765
FGC2x14-SR3	Start	2,285	Please consult factory	2,122	2,832	4,254	4,965	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.3	1,837	5.6	5,107
	Min.	1,274	Please consult factory	752	1,055	1,659	1,960	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.3	630	5.6	2,020
	End	2,566	Please consult factory	965	1,458	2,443	2,935	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.3	769	5.6	3,033
FGC2x14-SR4	Start	2,035	1,757	2,468	3,178	4,600	5,311	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	1,757	5.6	5,453
	Min.	1,124	599	903	1,206	1,809	2,110	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	599	5.6	2,170
	End	2,220	723	1,215	1,708	2,692	3,185	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	723	5.6	3,283
FGC2x16-SR1	Start	2,949	Please consult factory	3,009	3,947	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	2,445	4.2	4,323
	Min.	1,624	Please consult factory	1,061	1,461	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	819	4.2	1,621
	End	3,237	Please consult factory	1,382	2,032	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	992	4.2	2,293
FGC2x16-SR2	Start	2,541	2,447	3,385	4,324	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2,071	4.2	4,700
	Min.	1,419	875	1,275	1,674	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	715	4.2	1,833
	End	2,861	1,139	1,789	2,440	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	879	4.2	2,700
FGC2x16-SR3	Start	2,272	2,760	3,699	4,637	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	1,821	4.2	5,013
	Min.	1,270	1,028	1,427	1,824	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	627	4.2	1,984
	End	2,547	1,408	2,058	2,708	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	757	4.2	2,969
FGC2x16-SR4	Start	2,022	3,106	4,045	4,984	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	1,604	4.2	5,359
	Min.	1,120	1,178	1,576	1,974	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	537	4.2	2,133
	End	2,201	1,658	2,308	2,958	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	617	4.2	3,218

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																							
FGC3x10-SR1	Start	5,231	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	4,797	5,787	6,282	6,777	7,273	10.7	4,500	13.8	7,570			
	Min.	2,864	-	-	-	-	-	-	-	-	-	-	-	-	1,604	2,026	2,235	2,445	2,654					1,477	13.8	2,780
	End	5,816	-	-	-	-	-	-	-	-	-	-	-	-	2,036	2,714	3,053	3,392	3,731							
FGC3x10-SR2	Start	4,559	-	-	-	-	-	-	-	-	-	Please consult factory	4,557	5,052	5,547	6,537	7,033	7,528	8,023	9.3	3,864	13.8	8,320			
	Min.	2,499	-	-	-	-	-	-	-	-	-	-	1,562	1,772	1,982	2,401	2,610	2,818	3,027					1,266	13.8	3,152
	End	5,065	-	-	-	-	-	-	-	-	-	-	2,030	2,368	2,707	3,385	3,724	4,063	4,402							
FGC3x10-SR3	Start	3,981	-	-	-	-	-	-	-	Please consult factory	3,718	4,213	5,203	5,698	6,193	7,184	7,679	8,174	8,669	8.1	3,322	13.8	8,967			
	Min.	2,185	-	-	-	-	-	-	-	-	1,255	1,466	1,886	2,095	2,304	2,721	2,930	3,138	3,347					1,086	13.8	3,472
	End	4,418	-	-	-	-	-	-	-	-	1,591	1,929	2,607	2,946	3,284	3,962	4,301	4,640	4,979							
FGC3x10-SR4	Start	3,484	-	-	-	-	-	-	Please consult factory	3,284	4,274	4,768	5,758	6,253	6,749	7,739	8,234	8,729	9,225	7.2	2,987	13.8	9,522			
	Min.	1,915	-	-	-	-	-	-	-	1,114	1,534	1,744	2,162	2,370	2,579	2,996	3,204	3,412	3,621					987	13.8	3,746
	End	3,863	-	-	-	-	-	-	-	1,410	2,087	2,426	3,103	3,442	3,781	4,459	4,798	5,137	5,476							
FGC3x12-SR1	Start	5,215	-	-	-	-	-	-	Please consult factory	4,567	5,992	6,704	Exceeds MOP	-	-	-	-	-	-	7.4	4,425	9.8	7,843			
	Min.	2,859	-	-	-	-	-	-	-	1,509	2,115	2,416	-	-	-	-	-	-	1,448					9.8	2,898	
	End	5,793	-	-	-	-	-	-	-	1,879	2,854	3,341	-	-	-	-	-	-								1,782
FGC3x12-SR2	Start	4,543	-	-	-	-	-	Please consult factory	4,606	5,318	6,742	7,454	Exceeds MOP	-	-	-	-	-		-	6.5	3,894	9.8			
	Min.	2,494	-	-	-	-	-	-	1,585	1,887	2,489	2,790	-	-	-	-	-	-	1,281	9.8				3,270		
	End	5,042	-	-	-	-	-	-	2,063	2,550	3,525	4,013	-	-	-	-	-	-							1,576	9.8
FGC3x12-SR3	Start	3,965	-	-	-	-	Please consult factory	3,828	5,252	5,964	7,388	8,100	Exceeds MOP	-	-	-	-	-			-	5.7	3,401			
	Min.	2,180	-	-	-	-	-	1,305	1,909	2,209	2,810	3,109	-	-	-	-	-	-	1,122	9.8	3,589					
	End	4,395	-	-	-	-	-	1,666	2,640	3,128	4,102	4,590	-	-	-	-	-	-						1,373	9.8	5,370
FGC3x12-SR4	Start	3,468	-	-	Please consult factory	2,959	3,671	4,383	5,807	6,519	7,944	8,656	Exceeds MOP	-	-	-	-	-				-	5.0			
	Min.	1,910	-	-	-	978	1,282	1,584	2,185	2,485	3,084	3,384	-	-	-	-	-	-	978	9.8	3,863					
	End	3,839	-	-	-	1,188	1,675	2,162	3,137	3,624	4,599	5,086	-	-	-	-	-	-				1,188		9.8	5,866	

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC3x14-SR1	Start	5,203	-	-	-	-	-	Please consult factory	6,008	6,875	Exceeds MOP	-	-	-	-	-	-	-	-	6.1	4,447	-	7,916
	Min.	2,855	-	-	-	-	-	Please consult factory	2,125	2,492	Exceeds MOP	-	-	-	-	-	-	-	-	6.1	1,461	8.1	2,931
	End	5,774	-	-	-	-	-	-	2,865	3,459	Exceeds MOP	-	-	-	-	-	-	-	-	6.1	1,797	8.1	4,171
FGC3x14-SR2	Start	4,531	-	-	-	Please consult factory	4,157	5,025	6,759	7,626	Exceeds MOP	-	-	-	-	-	-	-	-	5.3	3,811	-	8,667
	Min.	2,490	-	-	-	Please consult factory	1,397	1,766	2,500	2,865	Exceeds MOP	-	-	-	-	-	-	-	-	5.3	1,249	8.1	3,304
	End	5,023	-	-	-	1,756	2,350	3,537	4,130	Exceeds MOP	-	-	-	-	-	-	-	-	-	5.3	1,519	8.1	4,842
FGC3x14-SR3	Start	3,953	-	-	Please consult factory	3,937	4,804	5,671	7,405	8,272	Exceeds MOP	-	-	-	-	-	-	-	-	4.7	3,417	-	9,313
	Min.	2,176	-	-	Please consult factory	1,355	1,722	2,089	2,820	3,185	Exceeds MOP	-	-	-	-	-	-	-	-	4.7	1,132	8.1	3,622
	End	4,377	-	-	1,740	2,333	2,927	4,114	4,707	Exceeds MOP	-	-	-	-	-	-	-	-	-	4.7	1,384	8.1	5,420
FGC3x14-SR4	Start	3,455	-	-	Please consult factory	4,492	5,359	6,226	7,960	8,827	Exceeds MOP	-	-	-	-	-	-	-	-	4.1	2,932	-	9,868
	Min.	1,906	-	-	Please consult factory	1,633	1,999	2,364	3,094	3,459	Exceeds MOP	-	-	-	-	-	-	-	-	4.1	970	8.1	3,896
	End	3,821	-	-	2,237	2,830	3,423	4,610	5,204	Exceeds MOP	-	-	-	-	-	-	-	-	-	4.1	1,169	8.1	5,916
FGC3x16-SR1	Start	5,186	-	-	Please consult factory	5,319	6,467	7,614	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.6	4,402	-	8,073
	Min.	2,850	-	-	Please consult factory	1,836	2,322	2,807	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.6	1,444	6.2	3,000
	End	5,751	-	-	2,394	3,179	3,964	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.6	1,766	6.2	4,278
FGC3x16-SR2	Start	4,514	-	Please consult factory	3,775	6,070	7,217	8,365	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.0	3,775	-	8,824
	Min.	2,485	-	Please consult factory	1,237	2,212	2,696	3,179	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.0	1,237	6.2	3,372
	End	5,000	-	1,495	3,065	3,850	4,636	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.0	1,495	6.2	4,950
FGC3x16-SR3	Start	3,936	Please consult factory	3,274	4,422	6,716	7,863	9,011	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.5	3,274	-	9,470
	Min.	2,171	Please consult factory	1,075	1,564	2,533	3,016	3,498	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.5	1,075	6.2	3,691
	End	4,353	1,287	2,072	3,642	4,427	5,213	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.5	1,287	6.2	5,527
FGC3x16-SR4	Start	3,439	Please consult factory	3,830	4,977	7,271	8,419	9,566	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.1	2,912	-	10,025
	Min.	1,901	Please consult factory	1,356	1,841	2,808	3,290	3,772	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.1	965	6.2	3,965
	End	3,797	1,783	2,568	4,139	4,924	5,709	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.1	1,155	6.2	6,023
FGC3x20-SR1	Start	5,154	4,728	6,550	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	4,364	-	8,007
	Min.	2,840	1,592	2,365	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	1,436	3.9	2,979
	End	5,703	1,989	3,236	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	1,740	3.9	4,233
FGC3x20-SR2	Start	4,482	5,479	7,300	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	4,022	-	8,757
	Min.	2,475	1,970	2,738	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	1,351	3.9	3,352
	End	4,952	2,661	3,907	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	1,663	3.9	4,904
FGC3x20-SR3	Start	3,904	6,125	7,946	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	3,211	-	9,403
	Min.	2,161	2,292	3,058	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	1,056	3.9	3,670
	End	4,306	3,238	4,484	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	1,244	3.9	5,481
FGC3x20-SR4	Start	3,407	6,680	8,502	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	2,674	-	9,959
	Min.	1,891	2,567	3,332	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	872	3.9	3,944
	End	3,750	3,734	4,981	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	992	3.9	5,978

Note:
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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																												
FGC4x12-SR2	Start	9,406	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	8,855	10,560	11,413	12,265	13,118	11.0	8,855	13.8	13,630								
	Min.	4,939	-	-	-	-	-	-	-	-	-	-	-	2,771	3,509	3,875	4,241	4,605	2,771					13.8	4,823						
	End	9,499	-	-	-	-	-	-	-	-	-	-	-	3,316	4,497	5,087	5,678	6,268								3,316	6,623				
FGC4x12-SR3	Start	7,919	-	-	-	-	-	-	-	-	-	Please consult factory	8,638	9,490	10,343	12,048	12,901	13,753		14,606	9.2	2,265	13.8					5,621			
	Min.	4,168	-	-	-	-	-	-	-	-	-	-	2,856	3,223	3,588	4,316	4,679	5,042	5,404	2,265				13.8	5,621						
	End	8,010	-	-	-	-	-	-	-	-	-	-	3,620	4,210	4,801	5,981	6,572	7,163	7,753							2,676	8,107				
FGC4x12-SR4	Start	6,536	-	-	-	-	-	-	-	Please consult factory	7,367	8,219	9,924	10,776	11,629	13,334	14,186	15,039	15,892		7.7	6,003	13.8					16,404			
	Min.	3,471	-	-	-	-	-	-	-	-	2,498	2,863	3,590	3,953	4,315	5,039	5,401	5,762	6,123	1,909				13.8	6,340						
	End	6,724	-	-	-	-	-	-	-	-	3,230	3,820	5,001	5,591	6,182	7,362	7,953	8,543	9,134							2,286	9,488				
FGC4x14-SR1	Start	10,750	-	-	-	-	-	-	-	-	-	-	Please consult factory	10,140	11,180	13,259	14,299	15,339	Exceeds MOP		10.3	9,724	13.4					16,171			
	Min.	5,726	-	-	-	-	-	-	-	-	-	-	-	3,282	3,730	4,621	5,065	5,508		3,102				13.4	5,862						
	End	11,246	-	-	-	-	-	-	-	-	-	-	-	4,074	4,794	6,234	6,954	7,674								3,786	8,251				
FGC4x14-SR2	Start	9,391	-	-	-	-	-	-	-	-	-	Please consult factory	8,790	10,869	11,909	12,949	15,028	16,068	17,108		Exceeds MOP	9.0	8,790					13.4	17,940		
	Min.	4,935	-	-	-	-	-	-	-	-	-	-	2,747	3,646	4,092	4,536	5,423	5,865	6,307	2,747				13.4	6,661						
	End	9,477	-	-	-	-	-	-	-	-	-	-	3,271	4,711	5,431	6,151	7,591	9,031	3,271							9,608					
FGC4x14-SR3	Start	7,903	-	-	-	-	-	-	-	Please consult factory	9,239	10,278	12,357	13,397	14,437	16,516	17,556	18,596			Exceeds MOP	7.6	7,368				13.4	19,428			
	Min.	4,163	-	-	-	-	-	-	-	-	3,119	3,564	4,451	4,894	5,336	6,218	6,660	7,100		2,310				13.4	7,453						
	End	7,988	-	-	-	-	-	-	-	-	4,036	4,756	6,196	6,916	7,636	9,076	9,796	10,516	2,741							11,092					
FGC4x14-SR4	Start	6,520	-	-	-	-	-	Please consult factory	7,407	8,446	10,525	11,564	13,643	14,683	15,723	17,802	18,842	19,882			Exceeds MOP	6.3	5,952				13.4	20,714			
	Min.	3,466	-	-	-	-	-	-	2,519	2,964	3,850	4,292	5,174	5,615	6,055	6,936	7,377	7,817		1,891				13.4	8,169						
	End	6,701	-	-	-	-	-	-	3,258	3,978	5,417	6,137	7,577	8,297	9,017	10,457	11,177	11,897	2,251							12,473					
FGC4x16-SR1	Start	10,730	-	-	-	-	-	-	-	Please consult factory	11,689	13,066	15,820	Exceeds MOP	-	-	-	-			-	7.8	9,762				10.1	16,096			
	Min.	5,720	-	-	-	-	-	-	-	-	3,952	4,542	5,716		-	-	-	-		-	-			3,121	5,833						
	End	11,218	-	-	-	-	-	-	-	-	5,147	6,100	8,007						-							-			-	-	-
FGC4x16-SR2	Start	9,371	-	-	-	-	-	Please consult factory	9,328	10,705	13,458	14,835	17,589	Exceeds MOP								-	-				-	-			
	Min.	4,929	-	-	-	-	-	-	2,984	3,578	4,757	5,343	6,514		-	-	-	-		-	-	2,745	6,631								
	End	9,448	-	-	-	-	-	-	3,644	4,597	6,504	7,457	9,364						-					-	-	-	-	-	3,262	9,555	
FGC4x16-SR3	Start	7,884	-	-	-	-	Please consult factory	8,063	10,816	12,193	14,946	16,323	19,077	Exceeds MOP																	-
	Min.	4,157	-	-	-	-	-	2,616	3,797	4,384	5,555	6,139	7,307		-	-	-	-		-	-	2,257	7,423								
	End	7,960	-	-	-	-	-	3,222	5,128	6,082	7,989	8,942	10,849						-					-	-	-	-	-	2,650	11,040	
FGC4x16-SR4	Start	6,501	-	-	Please consult factory	6,596	7,972	9,349	12,102	13,478	16,232	17,609	20,363	Exceeds MOP																	-
	Min.	3,460	-	-	-	2,174	2,765	3,353	4,523	5,107	6,274	6,857	8,023		-	-	-	-		-	-	1,935	8,139								
	End	6,673	-	-	-	2,697	3,650	4,603	6,509	7,463	9,369	10,323	12,230						-					-	-	-	-	-	2,315	12,421	

Note:
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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC4x20-SR1	Start	10,691	-	-	Please consult factory	10,134	12,325	14,515	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.9	9,696	6.3	15,829
	Min.	5,708	-	-	Please consult factory	3,290	4,232	5,167	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.9	3,101	6.3	5,727
	End	11,161	-	-	Please consult factory	4,070	5,587	7,104	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.9	3,767	6.3	8,014
FGC4x20-SR2	Start	9,331	-	-	Please consult factory	11,903	14,094	16,284	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	7,961	6.3	17,598
	Min.	4,917	-	-	Please consult factory	4,100	5,035	5,967	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	2,396	6.3	6,525
	End	9,391	-	-	Please consult factory	5,427	6,944	8,461	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	2,697	6.3	9,371
FGC4x20-SR3	Start	7,844	-	Please consult factory	9,011	13,391	15,582	17,772	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.6	7,259	6.3	19,086
	Min.	4,145	-	Please consult factory	3,033	4,902	5,832	6,761	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.6	2,275	6.3	7,317
	End	7,902	-	Please consult factory	3,879	6,912	8,429	9,946	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.6	2,665	6.3	10,856
FGC4x20-SR4	Start	6,461	5,917	8,107	10,297	14,677	16,868	19,058	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.0	5,917	6.3	20,372
	Min.	3,448	1,889	2,831	3,765	5,623	6,551	7,478	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.0	1,889	6.3	8,034
	End	6,616	2,227	3,743	5,260	8,293	9,810	11,326	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.0	2,227	6.3	12,237
FGC4x24-SR1	Start	10,662	Please consult factory	10,525	13,715	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	9,887	4.3	15,629
	Min.	5,699	Please consult factory	3,463	4,830	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	3,188	4.3	5,645
	End	11,119	Please consult factory	4,340	6,550	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	3,899	4.3	7,875
FGC4x24-SR2	Start	9,303	9,104	12,294	15,484	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	9,104	4.3	17,398
	Min.	4,908	2,900	4,272	5,630	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	2,900	4.3	6,444
	End	9,350	3,488	5,698	7,907	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	3,488	4.3	9,232
FGC4x24-SR3	Start	7,815	10,592	13,782	16,972	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	7,402	4.3	18,886
	Min.	4,136	3,715	5,072	6,426	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	2,343	4.3	7,236
	End	7,861	4,973	7,182	9,392	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	2,764	4.3	10,717
FGC4x24-SR4	Start	6,432	11,878	15,068	18,258	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	6,136	4.3	20,172
	Min.	3,439	4,441	5,793	7,143	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	1,990	4.3	7,953
	End	6,575	6,354	8,563	10,772	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	2,378	4.3	12,098
FGC4x28-SR1	Start	10,540	15,041	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	8,736	3.1	15,942
	Min.	5,662	5,438	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	2,730	3.1	5,821
	End	10,943	7,468	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	3,101	3.1	8,092
FGC4x28-SR2	Start	9,180	16,810	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	8,703	3.1	17,711
	Min.	4,870	6,237	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	2,768	3.1	6,619
	End	9,173	8,825	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	3,211	3.1	9,449
FGC4x28-SR3	Start	7,693	18,298	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	6,588	3.1	19,199
	Min.	4,099	7,030	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2,029	3.1	7,412
	End	7,685	10,310	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2,201	3.1	10,934

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																								
FGC5x16-SR2	Start	21,889	-	-	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	24,756	26,516	28,276	12.3	24,053	13.8	29,332				
	Min.	10,711	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,215	7,991	8,761					6,902	7,701	9,220	
	End	18,617	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,188	9,408								10,628
FGC5x16-SR3	Start	17,605	-	-	-	-	-	-	-	-	-	Please consult factory	18,890	20,650	22,409	25,928	27,688	29,448	31,208	9.9	18,538	13.8	32,264				
	Min.	8,784	-	-	-	-	-	-	-	-	-	-	5,576	6,349	7,114	8,632	9,388	10,141	10,893					5,420	6,126	11,343	
	End	15,683	-	-	-	-	-	-	-	-	-	-	6,370	7,590	8,809	11,248	12,468	13,687	14,907								6,126
FGC5x16-SR4	Start	14,681	-	-	-	-	-	-	-	-	Please consult factory	16,032	17,791	21,309	23,069	24,828	28,347	30,107	31,867	33,627	8.3	15,328	13.8	34,683			
	Min.	7,376	-	-	-	-	-	-	-	-	-	4,838	5,607	7,125	7,880	8,632	10,133	10,882	11,630	12,378					4,528	5,145	12,826
	End	13,262	-	-	-	-	-	-	-	-	-	-	5,633	6,852	9,291	10,510	11,730	14,169	15,388	16,608							
FGC5x20-SR1	Start	24,369	-	-	-	-	-	-	-	-	-	Please consult factory	27,874	33,496	36,308	39,120	Exceeds MOP	-	-	-	8.6	25,625	11.3	40,807			
	Min.	12,207	-	-	-	-	-	-	-	-	-	-	8,536	10,972	12,181	13,385	-	-	-	7,547					8,638	14,107	
	End	21,973	-	-	-	-	-	-	-	-	-	-	10,196	14,093	16,042	17,991	-	-	-								8,638
FGC5x20-SR2	Start	21,838	-	-	-	-	-	-	-	-	Please consult factory	28,490	31,301	36,924	39,735	42,547	Exceeds MOP	-	-	-	7.7	23,992	11.3	44,234			
	Min.	10,695	-	-	-	-	-	-	-	-	-	8,864	10,083	12,501	13,704	14,904	-	-	-	6,885					7,659	15,623	
	End	18,543	-	-	-	-	-	-	-	-	-	-	10,776	12,724	16,621	18,570	20,519	-	-								-
FGC5x20-SR3	Start	17,554	-	-	-	-	-	Please consult factory	22,988	25,799	31,421	34,232	39,855	42,667	45,479	Exceeds MOP	-	-	-	6.2	18,491	11.3	47,166				
	Min.	8,768	-	-	-	-	-	-	7,376	8,587	10,993	12,192	14,584	15,777	16,970	-	-	-	5,410					6,093	17,686		
	End	15,609	-	-	-	-	-	-	9,210	11,159	15,055	17,004	20,901	22,849	24,798	-	-	-								6,093	25,968
FGC5x20-SR4	Start	14,629	-	-	-	Please consult factory	16,975	19,786	25,407	28,218	33,840	36,651	42,274	45,086	47,898	Exceeds MOP	-	-	-	5.2	15,289	11.3	49,585				
	Min.	7,360	-	-	-	-	5,263	6,481	8,890	10,088	12,478	13,671	16,055	17,246	18,437	-	-	-	4,523					5,118	19,151		
	End	13,188	-	-	-	-	6,287	8,235	12,131	14,079	17,976	19,924	23,821	25,770	27,719	-	-	-								5,118	28,888
FGC5x24-SR1	Start	24,332	-	-	-	-	Please consult factory	26,468	34,675	38,779	Exceeds MOP	-	-	-	-	-	-	-	-	5.9	25,647	7.7	40,420				
	Min.	12,196	-	-	-	-	-	7,923	11,482	13,241	-	-	-	-	-	-	-	-	7,561					8,653	13,943		
	End	21,920	-	-	-	-	-	9,222	14,910	17,755	-	-	-	-	-	-	-	-								8,653	18,892
FGC5x24-SR2	Start	21,801	-	-	-	Please consult factory	25,792	29,895	38,102	42,206	Exceeds MOP	-	-	-	-	-	-	-	-	5.3	24,151	7.7	43,848				
	Min.	10,684	-	-	-	-	7,688	9,478	13,008	14,761	-	-	-	-	-	-	-	-	6,961					7,768	15,460		
	End	18,490	-	-	-	-	8,906	11,750	17,438	20,283	-	-	-	-	-	-	-	-								7,768	21,420
FGC5x24-SR3	Start	17,517	-	-	Please consult factory	24,620	28,723	32,827	41,034	45,138	Exceeds MOP	-	-	-	-	-	-	-	-	4.1	17,235	7.7	46,779				
	Min.	8,756	-	-	-	8,085	9,845	11,597	15,087	16,828	-	-	-	-	-	-	-	-	4,854					5,223	17,524		
	End	15,556	-	-	-	10,341	13,185	16,029	21,718	24,562	-	-	-	-	-	-	-	-								5,223	25,700
FGC5x24-SR4	Start	14,592	-	Please consult factory	18,833	27,039	31,142	35,246	43,453	47,557	Exceeds MOP	-	-	-	-	-	-	-	-	3.6	15,551	7.7	49,198				
	Min.	7,349	-	-	6,075	9,591	11,336	13,078	16,557	18,294	-	-	-	-	-	-	-	-	4,645					5,299	18,989		
	End	13,135	-	-	7,574	13,262	16,106	18,950	24,638	27,483	-	-	-	-	-	-	-	-								5,299	28,620

Note:
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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC5x28-SR1	Start	24,174	-	-	Please consult factory	35,015	40,817	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.1	24,572	5.5	40,817
	Min.	12,147	-	-		11,690	14,177		-	-	-	-	-	-	-	-	-	-	-		7,146		14,177
	End	21,692	-	-		15,146	19,167		-	-	-	-	-	-	-	-	-	-	-		7,908		19,167
FGC5x28-SR2	Start	21,643	-	Please consult factory	26,839	38,442	44,245	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	23,358	5.5	44,245
	Min.	10,635	-		8,208	13,215	15,693		-	-	-	-	-	-	-	-	-	-	-		6,666		15,693
	End	18,262	-		9,632	17,674	21,695		-	-	-	-	-	-	-	-	-	-	-		7,219		21,695
FGC5x28-SR3	Start	17,358	18,168	23,969	29,771	41,374	47,176	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.0	18,168	5.5	47,176
	Min.	8,708	5,331	7,863	10,352	15,293	17,755		-	-	-	-	-	-	-	-	-	-	-		5,331		17,755
	End	15,328	5,870	9,890	13,911	21,953	25,975		-	-	-	-	-	-	-	-	-	-	-		5,870		25,975
FGC5x28-SR4	Start	14,434	20,587	26,388	32,190	43,793	49,595	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	2.6	15,946	5.5	49,595
	Min.	7,300	6,888	9,371	11,841	16,763	19,220		-	-	-	-	-	-	-	-	-	-	-		4,876		19,220
	End	12,907	8,790	12,811	16,832	24,874	28,895		-	-	-	-	-	-	-	-	-	-	-		5,574		28,895
FGC5x32-SR1	Start	24,110	Please consult factory	30,086	37,683	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	25,528	4.2	40,722
	Min.	12,128		9,579	12,849		-	-	-	-	-	-	-	-	-	-	-	-	-		7,586		14,150
	End	21,600		11,730	16,995		-	-	-	-	-	-	-	-	-	-	-	-	-		8,571		19,101
FGC5x32-SR2	Start	21,579	25,917	33,513	41,110	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	22,878	4.2	44,149
	Min.	10,615	7,820	11,116	14,370		-	-	-	-	-	-	-	-	-	-	-	-	-		6,466		15,666
	End	18,170	8,993	14,258	19,523		-	-	-	-	-	-	-	-	-	-	-	-	-		6,887		21,629
FGC5x32-SR3	Start	17,294	28,848	36,445	44,042	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	18,214	4.2	47,081
	Min.	8,688	9,973	13,212	16,439		-	-	-	-	-	-	-	-	-	-	-	-	-		5,368		17,729
	End	15,236	13,272	18,537	23,802		-	-	-	-	-	-	-	-	-	-	-	-	-		5,901		25,909
FGC5x32-SR4	Start	14,370	31,267	38,864	46,461	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	14,556	4.2	49,500
	Min.	7,280	11,464	14,688	17,907		-	-	-	-	-	-	-	-	-	-	-	-	-		4,278		19,194
	End	12,815	16,192	21,458	26,723		-	-	-	-	-	-	-	-	-	-	-	-	-		4,610		28,829
FGC5x36-SR1	Start	24,046	34,609	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	24,977	3.3	40,388
	Min.	12,108	11,546		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		7,359		14,022
	End	21,507	14,864		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		8,189		18,870
FGC5x36-SR2	Start	21,515	38,036	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	24,552	3.3	43,815
	Min.	10,595	13,072		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		7,233		15,539
	End	18,077	17,392		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		8,047		21,398
FGC5x36-SR3	Start	17,230	40,968	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	17,852	3.3	46,747
	Min.	8,668	15,150		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5,225		17,602
	End	15,143	21,672		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5,651		25,677
FGC7x20-SR3	Start	35,086	-	-	-	-	-	-	-	-	-	Please consult factory	40,424	43,853	50,712	54,141	57,571	61,001	10.1	37,681	13.8	63,059	
	Min.	17,338	-	-	-	-	-	-	-	-	-		12,116	13,617	16,588	18,064	19,537	21,005		10,901		21,886	
	End	30,551	-	-	-	-	-	-	-	-	-		14,134	16,511	21,265	23,643	26,020	28,398		12,232		29,825	
FGC7x20-SR4	Start	29,444	-	-	-	-	-	-	-	Please consult factory	31,360	34,788	41,646	45,075	48,504	55,362	58,792	62,222	65,652	8.5	31,360	13.8	67,710
	Min.	14,624	-	-	-	-	-	-	-		9,129	10,641	13,617	15,093	16,564	19,496	20,960	22,419	23,879		9,129		24,755
	End	25,895	-	-	-	-	-	-	-	-		10,263	12,639	17,393	19,770	22,147	26,901	29,279	31,656		10,263		35,460

Note:
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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC7x24-SR1	Start	48,183	-	-	-	-	-	-	-	-	-	Please consult factory	57,842	62,859	67,876	77,910	Exceeds MOP	-	-	9.5	52,825	12.3	80,921
	Min.	23,647	-	-	-	-	-	-	-	-	-	-	17,432	19,624	21,799	26,120		-	-		15,215		27,411
	End	41,333	-	-	-	-	-	-	-	-	-	-	20,594	24,071	27,549	34,505		-	-		17,116		36,592
FGC7x24-SR2	Start	42,540	-	-	-	-	-	-	-	Please consult factory	47,443	52,459	62,493	67,510	72,527	82,561	Exceeds MOP	-	-	8.4	46,440	12.3	85,572
	Min.	20,933	-	-	-	-	-	-	-	-	13,862	16,070	20,420	22,578	24,729	29,017		-	-		13,416		30,301
	End	36,677	-	-	-	-	-	-	-	-	-	15,797	19,274	26,230	29,707	33,185		40,141	-		-		15,102
FGC7x24-SR3	Start	35,038	-	-	-	-	-	Please consult factory	38,585	43,600	53,633	58,649	68,682	73,699	78,716	88,751	Exceeds MOP	-	-	7.0	38,585	12.3	91,762
	Min.	17,323	-	-	-	-	-	-	11,304	13,507	17,845	19,997	24,284	26,421	28,556	32,820		-	-		11,304		34,098
	End	30,482	-	-	-	-	-	-	-	12,859	16,336	23,290	26,767	33,723	37,200	40,678		47,634	-		-		12,859
FGC7x24-SR4	Start	29,396	-	-	-	-	Please consult factory	33,205	43,236	48,251	58,283	63,300	73,333	78,350	83,367	93,402	Exceeds MOP	-	-	5.9	32,202	12.3	96,413
	Min.	14,609	-	-	-	-	-	9,949	14,304	16,457	20,742	22,877	27,142	29,271	31,401	35,654		-	-		9,506		36,929
	End	25,826	-	-	-	-	-	-	11,542	18,495	21,972	28,926	32,403	39,358	42,836	46,314		53,270	-		-		10,846
FGC7x28-SR1	Start	47,991	-	-	-	-	-	Please consult factory	56,677	63,781	77,988	Exceeds MOP	-	-	-	-	-	-	6.7	52,416	8.7	80,830	
	Min.	23,587	-	-	-	-	-	-	17,002	20,106	26,237		-	-	-	-	-	-		15,113		27,455	
	End	41,056	-	-	-	-	-	-	-	19,787	24,711		34,559	-	-	-	-	-		-		16,832	36,529
FGC7x28-SR2	Start	42,349	-	-	-	-	Please consult factory	47,123	61,328	68,432	82,639	Exceeds MOP	-	-	-	-	-	-	5.9	45,702	8.7	85,481	
	Min.	20,874	-	-	-	-	-	13,798	19,997	23,054	29,132		-	-	-	-	-	-		13,165		30,345	
	End	36,401	-	-	-	-	-	-	15,575	25,422	30,346		40,195	-	-	-	-	-		-		14,591	42,165
FGC7x28-SR3	Start	34,847	-	-	Please consult factory	39,108	46,210	53,312	67,518	74,621	88,829	Exceeds MOP	-	-	-	-	-	-	4.9	37,688	8.7	91,670	
	Min.	17,264	-	-	-	11,611	14,717	17,784	23,865	26,893	32,935		-	-	-	-	-	-		10,981		34,142	
	End	30,205	-	-	-	-	13,222	18,145	23,068	32,915	37,839		47,688	-	-	-	-	-		-		12,237	49,658
FGC7x28-SR4	Start	29,204	-	-	Please consult factory	43,759	50,861	57,963	72,169	79,272	93,480	Exceeds MOP	-	-	-	-	-	-	4.1	30,977	8.7	96,321	
	Min.	14,550	-	-	-	14,602	17,648	20,681	26,726	29,742	35,769		-	-	-	-	-	-		9,034		36,973	
	End	25,550	-	-	-	-	18,858	23,781	28,704	38,551	43,475		53,324	-	-	-	-	-		-		9,997	55,294

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																					
FGC7x32-SR1	Start	47,913	-	-	-	Please consult factory	59,516	68,824	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	5.1	52,070	6.6	79,994
	Min.	23,563	-	-	-	Please consult factory	18,262	22,304	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	5.1	14,973	6.6	27,110
	End	40,943	-	-	-	Please consult factory	21,754	28,207	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	5.1	16,593	6.6	35,950
FGC7x32-SR2	Start	42,270	-	-	Please consult factory	54,860	64,167	73,475	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.6	47,414	6.6	84,645
	Min.	20,849	-	-	Please consult factory	17,210	21,235	25,229	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.6	13,943	6.6	30,001
	End	36,287	-	-	Please consult factory	20,938	27,390	33,843	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.6	15,777	6.6	41,586
FGC7x32-SR3	Start	34,768	-	Please consult factory	42,435	61,049	70,357	79,665	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	36,851	6.6	90,835
	Min.	17,240	-	Please consult factory	13,091	21,117	25,091	29,053	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	10,624	6.6	33,800
	End	30,092	-	Please consult factory	15,528	28,431	34,883	41,336	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.7	11,658	6.6	49,079
FGC7x32-SR4	Start	29,125	Please consult factory	37,780	47,086	65,700	75,008	84,316	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.2	32,196	6.6	95,486
	Min.	14,526	Please consult factory	12,037	16,048	23,990	27,945	31,897	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.2	9,594	6.6	36,631
	End	25,436	Please consult factory	14,713	21,164	34,067	40,519	46,972	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.2	10,842	6.6	54,715
FGC7x36-SR1	Start	47,834	-	-	Please consult factory	75,096	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	53,843	5.2	79,819
	Min.	23,539	-	-	Please consult factory	25,021	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	15,780	5.2	27,050
	End	40,829	-	-	Please consult factory	32,554	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	17,821	5.2	35,828
FGC7x36-SR2	Start	42,191	-	Please consult factory	56,132	79,747	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	46,687	5.2	84,470
	Min.	20,825	-	Please consult factory	17,779	27,926	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	13,638	5.2	29,941
	End	36,174	-	Please consult factory	21,821	38,190	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	15,273	5.2	41,464
FGC7x36-SR3	Start	34,690	38,709	50,515	62,322	85,936	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	38,709	5.2	90,659
	Min.	17,216	11,471	16,613	21,678	31,735	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	11,471	5.2	33,740
	End	29,978	12,945	21,129	29,314	45,683	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	12,945	5.2	48,957
FGC7x36-SR4	Start	29,047	43,360	55,166	66,973	90,587	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	31,554	5.2	95,310
	Min.	14,502	14,465	19,520	24,548	34,570	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	9,329	5.2	36,572
	End	25,323	18,581	26,765	34,949	51,319	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	10,398	5.2	54,593
FGC7xT28-SR1	Start	47,396	Please consult factory	55,803	70,004	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	52,962	4.3	78,526
	Min.	23,404	Please consult factory	16,809	22,990	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	15,550	4.3	26,658
	End	40,197	Please consult factory	19,180	29,025	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	17,211	4.3	34,932
FGC7xT28-SR2	Start	41,753	46,252	60,453	74,655	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	46,252	4.3	83,177
	Min.	20,690	13,604	19,808	25,910	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	13,604	4.3	29,551
	End	35,542	14,972	24,816	34,661	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	14,972	4.3	40,568
FGC7xT28-SR3	Start	34,251	52,442	66,643	80,845	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	38,241	4.3	89,366
	Min.	17,080	17,597	23,679	29,730	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	11,419	4.3	33,351
	End	29,346	22,465	32,309	42,154	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	12,621	4.3	48,061
FGC7xT28-SR4	Start	28,608	57,093	71,294	85,496	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	31,533	4.3	94,017
	Min.	14,366	20,496	26,540	32,571	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	9,473	4.3	36,184
	End	24,691	28,101	37,945	47,790	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	10,383	4.3	53,697

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																								
FGC8x24-SR1	Start	71,274	-	-	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	70,978	76,877	82,777	88,677	11.9	69,798	13.8	92,217			
	Min.	36,699	-	-	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	21,669	24,237	26,789	29,331					21,152	13.8	30,852
	End	69,216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Please consult factory	25,930	30,019	34,109							
FGC8x24-SR2	Start	57,366	-	-	-	-	-	-	-	-	-	Please consult factory	57,879	63,778	69,677	81,475	87,375	93,274	99,174	9.7	54,340	13.8	102,714				
	Min.	30,200	-	-	-	-	-	-	-	-	-	Please consult factory	18,637	21,178	23,709	28,749	31,263	33,772	36,281					17,104	13.8	37,784	
	End	58,708	-	-	-	-	-	-	-	-	-	Please consult factory	23,467	27,556	31,645	39,823	43,912	48,002	52,091								21,014
FGC8x24-SR3	Start	48,641	-	-	-	-	-	-	-	-	Please consult factory	49,044	54,942	66,738	72,637	78,536	90,334	96,233	102,133	108,033	8.2	45,505	13.8	111,573			
	Min.	25,642	-	-	-	-	-	-	-	-	Please consult factory	15,829	18,369	23,416	25,932	28,441	33,453	35,957	38,460	40,960					14,296	13.8	42,460
	End	49,840	-	-	-	-	-	-	-	-	Please consult factory	19,918	24,006	32,183	36,272	40,361	48,539	52,628	56,718	60,807							
FGC8x28-SR1	Start	71,043	-	-	-	-	-	-	-	-	Please consult factory	71,377	79,748	96,492	104,865	113,238	Exceeds MOP	-	-	-	8.4	69,703	11.9	128,310			
	Min.	36,628	-	-	-	-	-	-	-	-	Please consult factory	21,945	25,585	32,789	36,374	39,947	Exceeds MOP	-	-	-					21,212	11.9	46,366
	End	68,884	-	-	-	-	-	-	-	-	Please consult factory	26,207	32,009	43,616	49,419	55,223	Exceeds MOP	-	-	-							
FGC8x28-SR2	Start	57,136	-	-	-	-	-	Please consult factory	56,763	65,133	81,875	90,246	106,990	115,362	123,735	Exceeds MOP	-	-	-	6.8	53,415	11.9	138,807				
	Min.	30,129	-	-	-	-	-	Please consult factory	18,250	21,857	29,019	32,585	39,702	43,256	46,810	Exceeds MOP	-	-	-					16,797	11.9	53,196	
	End	58,376	-	-	-	-	-	Please consult factory	22,693	28,495	40,100	45,902	57,509	63,312	69,116	Exceeds MOP	-	-	-								20,372
FGC8x28-SR3	Start	48,411	-	-	-	-	Please consult factory	48,883	65,622	73,992	90,733	99,105	115,848	124,221	132,594	Exceeds MOP	-	-	-	5.8	45,535	11.9	147,666				
	Min.	25,572	-	-	-	-	Please consult factory	15,851	23,034	26,604	33,721	37,275	44,374	47,922	51,469	Exceeds MOP	-	-	-					14,401	11.9	57,850	
	End	49,508	-	-	-	-	Please consult factory	19,806	31,409	37,211	48,816	54,618	66,225	72,028	77,832	Exceeds MOP	-	-	-								17,486
FGC8x32-SR1	Start	70,950	-	-	-	-	-	Please consult factory	82,712	93,696	115,664	126,649	Exceeds MOP	-	-	-	-	-	-	6.4	69,533	9.0	126,649				
	Min.	36,600	-	-	-	-	-	Please consult factory	26,878	31,605	40,994	45,671	Exceeds MOP	-	-	-	-	-	-					21,153	9.0	45,671	
	End	68,750	-	-	-	-	-	Please consult factory	34,064	41,677	56,905	64,519	Exceeds MOP	-	-	-	-	-	-								24,928
FGC8x32-SR2	Start	57,043	-	-	-	Please consult factory	60,262	71,244	93,210	104,193	126,161	137,146	Exceeds MOP	-	-	-	-	-	-	5.2	53,673	9.0	137,146				
	Min.	30,101	-	-	-	Please consult factory	19,777	24,493	33,860	38,528	47,850	52,504	Exceeds MOP	-	-	-	-	-	-					16,926	9.0	52,504	
	End	58,241	-	-	-	Please consult factory	25,119	32,731	47,957	55,570	70,798	78,412	Exceeds MOP	-	-	-	-	-	-								20,551
FGC8x32-SR3	Start	48,317	-	-	Please consult factory	58,139	69,121	80,103	102,068	113,052	135,020	146,005	Exceeds MOP	-	-	-	-	-	-	4.4	44,962	9.0	146,005				
	Min.	25,543	-	-	Please consult factory	19,851	24,544	29,220	38,547	43,202	52,509	57,159	Exceeds MOP	-	-	-	-	-	-					14,170	9.0	57,159	
	End	49,374	-	-	Please consult factory	26,222	33,835	41,447	56,673	64,286	79,514	87,128	Exceeds MOP	-	-	-	-	-	-								17,088

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																					
FGC8x36-SR1	Start	70,857	-	-	Please consult factory	68,267	82,211	96,155	124,045	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	5.0	68,267	7.1	126,834
	Min.	36,571	-	-	Please consult factory	20,615	26,679	32,674	44,578	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	5.0	20,615	7.1	45,764
	End	68,616	-	-	Please consult factory	24,051	33,716	43,382	62,714	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	5.0	24,051	7.1	64,648
FGC8x36-SR2	Start	56,950	-	-	Please consult factory	78,764	92,708	106,652	134,542	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	53,667	7.1	137,331
	Min.	30,072	-	-	Please consult factory	27,724	33,663	39,588	51,415	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	16,943	7.1	52,596
	End	58,107	-	-	Please consult factory	37,944	47,609	57,275	76,607	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	4.1	20,547	7.1	78,541
FGC8x36-SR3	Start	48,224	Please consult factory	45,795	59,737	87,623	101,567	115,511	143,401	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.4	43,007	7.1	146,190
	Min.	25,515	Please consult factory	14,553	20,555	32,433	38,351	44,260	56,072	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.4	13,339	7.1	57,251
	End	49,239	Please consult factory	17,666	27,330	46,660	56,325	65,991	85,323	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	3.4	15,733	7.1	87,257
FGC8x40-SR1	Start	70,764	-	-	Please consult factory	101,241	118,496	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	4.1	70,184	5.8	128,849
	Min.	36,542	-	-	Please consult factory	34,869	42,234	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	4.1	21,476	5.8	46,638
	End	68,481	-	-	Please consult factory	46,907	58,868	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	4.1	25,379	5.8	66,044
FGC8x40-SR2	Start	56,856	Please consult factory	59,977	77,230	111,738	128,993	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.3	53,076	5.8	139,346
	Min.	30,044	Please consult factory	19,694	27,089	41,764	49,081	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.3	16,708	5.8	53,466
	End	57,973	Please consult factory	24,921	36,881	60,800	72,761	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.3	20,138	5.8	79,938
FGC8x40-SR3	Start	48,131	51,584	68,836	86,089	120,597	137,852	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.8	44,683	5.8	148,205
	Min.	25,486	17,078	24,462	31,802	46,432	53,741	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.8	14,092	5.8	58,120
	End	49,105	21,678	33,637	45,597	69,516	81,477	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.8	16,895	5.8	88,653

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

Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																				
FGC8xT32-SR1	Start	70,142	Please	81,525	103,486	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	68,349	4.5	125,447
	Min.	36,351	consult	26,623	36,053		-	-	-	-	-	-	-	-	-	-	-	-	-		20,894		45,416
	End	67,584	factory	33,241	48,463		-	-	-	-	-	-	-	-	-	-	-	-	-		24,108		63,686
FGC8xT32-SR2	Start	56,235	70,063	92,023	113,983	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	52,496	4.5	135,944
	Min.	29,853	24,240	33,608	42,937		-	-	-	-	-	-	-	-	-	-	-	-	-		16,671		52,249
	End	57,076	31,912	47,134	62,356		-	-	-	-	-	-	-	-	-	-	-	-	-		19,735		77,579
FGC8xT32-SR3	Start	47,509	78,922	100,881	122,842	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	43,788	4.5	144,803
	Min.	25,296	28,969	38,296	47,603		-	-	-	-	-	-	-	-	-	-	-	-	-		13,915		56,905
	End	48,208	40,628	55,850	71,072		-	-	-	-	-	-	-	-	-	-	-	-	-		16,275		86,295
FGC8xT36-SR1	Start	69,956	94,838	122,721	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	72,532	3.6	128,298
	Min.	36,294	32,393	44,297		-	-	-	-	-	-	-	-	-	-	-	-	-	-		22,768		46,669
	End	67,316	42,469	61,797		-	-	-	-	-	-	-	-	-	-	-	-	-	-		27,007		65,662
FGC8xT36-SR2	Start	56,048	105,335	133,218	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	55,148	3.6	138,795
	Min.	29,796	39,309	51,135		-	-	-	-	-	-	-	-	-	-	-	-	-	-		17,869		53,498
	End	56,807	56,362	75,690		-	-	-	-	-	-	-	-	-	-	-	-	-	-		21,574		79,555
FGC8xT36-SR3	Start	47,323	114,194	142,077	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	41,702	3.6	147,654
	Min.	25,239	43,981	55,792		-	-	-	-	-	-	-	-	-	-	-	-	-	-		13,055		58,151
	End	47,939	65,078	84,406		-	-	-	-	-	-	-	-	-	-	-	-	-	-		14,829		88,271
FGC10x28-SR4	Start	96,790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8	107,308	13.8	216,300
	Min.	47,257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		30,768		77,743
	End	81,686	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		34,259		109,803

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																									
FGC10x32-SR2	Start	132,353	-	-	-	-	-	-	-	-	-	Please consult factory	167,567	181,898	196,230	224,897	239,231	253,565	267,900	9.2	144,637	13.8	276,502					
	Min.	65,483	-	-	-	-	-	-	-	-	-	-	52,358	58,567	64,747	77,043	83,172	89,288	95,401					42,302	48,311	99,061		
	End	115,915	-	-	-	-	-	-	-	-	-	-	64,204	74,138	84,072	103,941	113,876	123,812	133,748								48,311	139,709
FGC10x32-SR3	Start	120,642	-	-	-	-	-	-	-	-	Please consult factory	143,459	157,789	186,451	200,782	215,114	243,781	258,115	272,449	286,784	8.3	137,728	13.8	295,386				
	Min.	57,788	-	-	-	-	-	-	-	-	-	41,162	47,501	59,974	66,155	72,315	84,583	90,699	96,815	102,915					38,587	102,915	106,574	
	End	97,014	-	-	-	-	-	-	-	-	-	46,104	56,036	75,902	85,836	95,770	115,639	125,574	135,510	145,446								42,131
FGC10x32-SR4	Start	96,668	-	-	-	-	-	-	-	Please consult factory	115,964	130,292	158,950	173,279	201,941	216,272	230,605	259,271	273,605	287,939	302,275	6.7	107,368	13.8	310,876			
	Min.	47,219	-	-	-	-	-	-	-	-	34,628	40,892	53,260	59,401	71,642	77,744	83,842	96,020	102,104	108,188	114,268					30,814	117,912	175,356
	End	81,509	-	-	-	-	-	-	-	-	40,259	50,190	70,053	79,985	99,851	109,784	119,718	139,587	149,523	159,458	169,394							
FGC10x36-SR2	Start	132,231	-	-	-	-	-	-	-	Please consult factory	154,108	190,549	208,770	245,216	263,439	Exceeds MOP	-	-	-	-	7.2	143,176	10.9	278,019				
	Min.	65,445	-	-	-	-	-	-	-	-	46,495	62,318	70,152	85,739	93,514	-	-	-	-	41,671					109,719	140,761		
	End	115,739	-	-	-	-	-	-	-	-	54,876	80,134	92,763	118,024	130,655	-	-	-	-								47,299	140,761
FGC10x36-SR3	Start	120,520	-	-	-	-	-	-	-	Please consult factory	154,772	172,992	209,433	227,654	264,100	282,323	Exceeds MOP	-	-	-	-	6.6	140,197	10.9	296,903			
	Min.	57,750	-	-	-	-	-	-	-	-	46,196	54,160	69,889	77,700	93,267	101,030	-	-	-	-	39,720					107,232	152,459	
	End	96,838	-	-	-	-	-	-	-	-	53,945	66,574	91,832	104,461	129,722	142,353	-	-	-	-								43,843
FGC10x36-SR4	Start	96,545	-	-	-	-	115,608	133,826	170,263	188,482	224,923	243,145	279,590	297,813	Exceeds MOP	-	-	-	-	5.3	108,321	10.9	312,393					
	Min.	47,181	-	-	-	-	34,493	42,446	58,128	65,916	81,440	89,190	104,658	112,391	-	-	-	-	31,264					118,567	176,407			
	End	81,333	-	-	-	-	40,012	52,639	77,894	90,522	115,780	128,410	153,671	166,302	-	-	-	-								34,961	176,407	
FGC10x40-SR1	Start	164,027	-	-	-	-	-	-	-	Please consult factory	197,015	242,156	Exceeds MOP	-	-	-	-	-	-	7.2	183,473	8.8	255,699					
	Min.	79,837	-	-	-	-	-	-	-	-	58,476	78,133	-	-	-	-	-	-	52,469					83,974	108,767			
	End	137,744	-	-	-	-	-	-	-	-	68,092	99,380	-	-	-	-	-	-								58,706	108,767	
FGC10x40-SR2	Start	132,108	-	-	-	-	151,469	196,606	219,175	264,317	Exceeds MOP	-	-	-	-	-	-	-	5.8	142,442	8.8	277,860						
	Min.	65,407	-	-	-	-	45,359	64,943	74,626	93,904	-	-	-	-	-	-	-	41,367					99,667	140,651				
	End	115,563	-	-	-	-	53,047	84,332	99,975	131,264	-	-	-	-	-	-	-								46,790	140,651		
FGC10x40-SR3	Start	120,398	-	-	-	-	147,785	170,353	215,490	238,059	283,201	Exceeds MOP	-	-	-	-	-	-	5.3	138,759	8.8	296,744						
	Min.	57,712	-	-	-	-	43,129	53,033	72,511	82,172	101,419	-	-	-	-	-	-	39,096					107,180	152,349				
	End	96,661	-	-	-	-	49,103	64,744	96,030	111,673	142,962	-	-	-	-	-	-								42,846	152,349		
FGC10x40-SR4	Start	96,423	-	-	Please consult factory	140,709	163,276	185,843	230,980	253,550	298,691	Exceeds MOP	-	-	-	-	-	-	4.1	100,091	8.8	312,234						
	Min.	47,144	-	-	-	45,449	55,159	64,811	84,035	93,624	112,779	-	-	-	-	-	-	27,576					118,516	176,297				
	End	81,157	-	-	-	57,410	73,051	88,693	119,978	135,622	166,910	-	-	-	-	-	-								29,257	176,297		

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Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque 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)																					
FGC10xT32-SR1	Start	163,186	-	-	-	-	Please consult factory	201,084	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	5.7	183,892	6.9	252,661
	Min.	79,577	-	-	-	-	60,597	60,597	-	-	-	-	-	-	-	-	-	-	-	-	5.7	52,987	6.9	83,000
	End	136,531	-	-	-	-	70,912	70,912	-	-	-	-	-	-	-	-	-	-	-	-	5.7	58,997	6.9	106,661
FGC10xT32-SR2	Start	131,268	-	-	Please consult factory	165,941	194,592	223,244	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.6	143,021	6.9	274,821
	Min.	65,148	-	-	Please consult factory	52,004	64,396	76,690	-	-	-	-	-	-	-	-	-	-	-	-	4.6	41,942	6.9	98,704
	End	114,350	-	-	63,078	82,936	102,796	102,796	-	-	-	-	-	-	-	-	-	-	-	-	4.6	47,191	6.9	138,545
FGC10xT32-SR3	Start	119,557	-	-	Please consult factory	184,825	213,476	242,128	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	4.1	133,257	6.9	293,705
	Min.	57,451	-	-	consult	59,624	71,963	84,231	-	-	-	-	-	-	-	-	-	-	-	-	4.1	36,913	6.9	106,217
	End	95,448	-	-	factory	74,776	94,634	114,494	114,494	-	-	-	-	-	-	-	-	-	-	-	4.1	39,032	6.9	150,243
FGC10xT32-SR4	Start	95,582	Please consult factory	114,370	143,017	200,316	228,966	257,619	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	3.4	108,641	6.9	309,196
	Min.	46,883	-	34,276	46,748	71,296	83,494	95,670	-	-	-	-	-	-	-	-	-	-	-	-	3.4	31,736	6.9	117,556
	End	79,944	-	39,154	59,010	98,724	118,583	138,442	138,442	-	-	-	-	-	-	-	-	-	-	-	3.4	35,183	6.9	174,191
FGC10xT36-SR1	Start	162,941	-	-	Please consult factory	221,246	257,680	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	4.5	184,814	5.5	257,680
	Min.	79,501	-	-	Please consult factory	69,454	85,201	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	4.5	53,449	5.5	85,201
	End	136,178	-	-	84,887	110,140	110,140	110,140	110,140	-	-	-	-	-	-	-	-	-	-	-	4.5	59,635	5.5	110,140
FGC10xT36-SR2	Start	131,023	-	Please consult factory	170,544	243,407	279,840	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.6	141,400	5.5	279,840
	Min.	65,073	-	Please consult factory	54,054	85,354	100,882	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.6	41,275	5.5	100,882
	End	113,997	-	66,268	116,771	142,023	142,023	142,023	142,023	-	-	-	-	-	-	-	-	-	-	-	3.6	46,068	5.5	142,023
FGC10xT36-SR3	Start	119,313	Please consult factory	152,999	189,428	262,291	298,724	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.3	138,427	5.5	298,724
	Min.	57,376	-	45,804	61,662	92,881	108,395	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	3.3	39,316	5.5	108,395
	End	95,096	-	52,716	77,966	128,469	153,721	153,721	153,721	-	-	-	-	-	-	-	-	-	-	-	3.3	42,616	5.5	153,721
FGC10xT36-SR4	Start	95,338	132,061	168,489	204,918	277,781	314,215	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.6	102,919	5.5	314,215
	Min.	46,807	42,064	57,749	73,309	104,274	119,726	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	2.6	29,227	5.5	119,726
	End	79,591	51,416	76,665	101,915	152,417	177,670	177,670	177,670	-	-	-	-	-	-	-	-	-	-	-	2.6	31,217	5.5	177,670
FGC10xT40-SR1	Start	162,697	-	Please consult factory	217,620	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	181,517	4.4	253,724
	Min.	79,425	-	Please consult factory	67,927	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	52,027	4.4	83,550
	End	135,825	-	82,374	82,374	82,374	82,374	82,374	82,374	-	-	-	-	-	-	-	-	-	-	-	3.6	57,350	4.4	107,398
FGC10xT40-SR2	Start	130,779	149,525	194,652	239,781	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	140,500	4.4	275,885
	Min.	64,997	44,931	64,524	83,857	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	40,934	4.4	99,247
	End	113,644	51,699	82,978	114,257	114,257	114,257	114,257	114,257	-	-	-	-	-	-	-	-	-	-	-	2.9	45,444	4.4	139,282
FGC10xT40-SR3	Start	119,068	168,409	213,536	258,665	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	132,308	4.4	294,769
	Min.	57,300	52,609	72,091	91,385	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	36,594	4.4	106,761
	End	94,743	63,397	94,676	125,955	125,955	125,955	125,955	125,955	-	-	-	-	-	-	-	-	-	-	-	2.6	38,375	4.4	150,980
FGC10xT40-SR4	Start	95,093	183,899	229,026	274,155	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	102,674	4.4	310,259
	Min.	46,732	64,397	83,620	102,785	Exceeds MOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	29,180	4.4	118,098
	End	79,238	87,346	118,624	149,904	149,904	149,904	149,904	149,904	-	-	-	-	-	-	-	-	-	-	-	2.1	31,047	4.4	174,928

Note:
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