

# **Bettis GHC-Series**

## Pneumatic Spring-Return Actuator Torque Chart Metric

**BETTIS™**



# Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure, (barg)														MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)						
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12					12.5	13	13.5			
		Pressure Torque Output: Start/Min./End (Nm)																							
GHC2x12-SR0	Start	3,796						Please consult factory	3,919	4,499	5,661	6,242	7,403	7,984	Exceeds MOP						6.6	3,454	10.5	7,984	
	Min	2,028							1,312	1,561	2,057	2,304	2,798	3,044		1,111	3,044								
	End	3,947							1,658	2,061	2,865	3,268	4,072	4,475		1,337	4,475								
GHC2x12-SR1	Start	2,971					Please consult factory	2,854	3,435	4,596	5,176	6,338	6,919	8,080	Exceeds MOP						5.2	2,506	10.0	8,080	
	Min	1,631						990	1,238	1,732	1,979	2,471	2,717	3,209		840	3,209								
	End	3,270							1,275	1,677	2,482	2,884	3,688	4,091		4,896	1,034	4,896							
GHC2x12-SR2	Start	2,563					Please consult factory	2,650	3,231	3,811	4,973	5,553	6,715	7,295	Exceeds MOP						4.5	2,070	9.7	8,109	
	Min	1,425						957	1,204	1,451	1,943	2,190	2,681	2,927		708	3,271								
	End	2,893							1,280	1,682	2,084	2,889	3,291	4,096		4,498	878	5,061							
GHC2x12-SR3	Start	2,294					Please consult factory	1,803	2,964	3,544	4,125	5,286	5,866	7,028	7,609	Exceeds MOP						4.0	1,803	9.4	8,073
	Min	1,277						613	1,109	1,356	1,602	2,094	2,340	2,832	3,077		613	3,274							
	End	2,579							745	1,549	1,951	2,353	3,158	3,560	4,364		4,767	745	5,089						
GHC2x12-SR4	Start	2,044					Please consult factory	2,149	3,310	3,890	4,471	5,632	6,213	7,374	7,955	Exceeds MOP						3.6	1,685	9.0	7,955
	Min	1,127						765	1,259	1,506	1,752	2,244	2,490	2,981	3,227		565	3,227							
	End	2,233							994	1,799	2,201	2,603	3,407	3,810	4,614		5,017	673	5,017						

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Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure, (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)														
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5													
		Pressure Torque Output: Start/Min./End (Nm)																																	
GHC3x14-SR0	Start	6,342																	Please consult factory	5,600	7,324	8,186	9,909	10,771	11,633	13,358	14,220	Exceeds MOP	7.4	5,428	12.5	14,220			
	Min	3,457																1,828		2,562	2,927	3,655	4,018	4,382	5,107	5,470	1,754						5,470		
	End	6,961																		2,260	3,439	4,029	5,209	5,798	6,388	7,569	8,159						2,142	8,159	
GHC3x14-SR1	Start	5,201																	Please consult factory	5,927	6,789	8,512	9,374	11,098	11,960	12,822	Exceeds MOP	6.1	4,377	11.9	14,374				
	Min	2,854																2,091		2,456	3,183	3,546	4,272	4,634	4,997	1,431						5,649			
	End	5,772																		2,810	3,400	4,579	5,169	6,349	6,939	7,529						1,749	8,591		
GHC3x14-SR2	Start	4,529																	Please consult factory	4,093	4,955	6,678	7,539	9,263	10,125	11,848	13,572	Exceeds MOP	5.4	3,921	11.4	14,262			
	Min	2,489																1,371		1,737	2,466	2,829	3,555	3,917	4,642	5,005	5,367						1,297	5,656	
	End	5,021																		1,712	2,302	3,481	4,071	5,250	5,840	7,020	7,610						8,200	1,594	8,672
GHC3x14-SR3	Start	3,951																	Please consult factory	3,878	4,739	5,601	7,324	8,186	9,909	10,771	12,495	13,357	14,219	Exceeds MOP	4.7	3,361	11.0	14,219	
	Min	2,175																1,330		1,696	2,060	2,787	3,149	3,874	4,236	4,960	5,322	5,684	1,110						5,684
	End	4,374																		1,700	2,290	2,879	4,058	4,648	5,827	6,417	7,597	8,187	8,777						1,346
GHC3x14-SR4	Start	3,454																	Please consult factory	4,433	5,295	6,156	7,879	8,741	10,464	11,326	13,050	13,912	Exceeds MOP	4.1	2,883	10.7	14,257		
	Min	1,905																1,609		1,973	2,336	3,061	3,423	4,148	4,510	5,234	5,596	950						5,740	
	End	3,819																		2,197	2,786	3,376	4,555	5,144	6,324	6,914	8,093	8,683						1,136	8,919
GHC3x16-SR0	Start	6,326																	Please consult factory	6,349	8,631	9,773	12,056	13,197	Exceeds MOP	5.7	5,664	9.4	14,111						
	Min	3,452																2,151		3,118	3,600	4,562	5,042	Exceeds MOP						1,858	5,426				
	End	6,938																2,772		4,334	5,115	6,677	7,459									2,303	8,084		
GHC3x16-SR1	Start	5,185																	Please consult factory	5,255	6,396	7,537	9,820		10,961	13,244	14,386	Exceeds MOP	4.6			4,342	9.0	14,386	
	Min	2,850																1,809		2,293	2,775	3,737	4,217	5,177	5,656	1,420	5,656								
	End	5,748																		2,350	3,131	3,912	5,474	6,255	7,818	8,599	1,725			8,599					
GHC3x16-SR2	Start	4,513																	Please consult factory	6,005	7,147	8,288	10,570	11,712	13,995	Exceeds MOP	4.1	3,952	8.6	14,223					
	Min	2,485																2,185		2,667	3,148	4,108	4,588	5,546	Exceeds MOP						1,314	5,642			
	End	4,997																3,021		3,802	4,583	6,145	6,926	8,489									1,615	8,645	
GHC3x16-SR3	Start	3,935																	Please consult factory	3,229	4,370	6,652	7,793	8,934		11,217	12,358	Exceeds MOP	3.5	3,229			8.3	14,184	
	Min	2,170																1,056		1,543	2,506	2,987	3,467	4,426	4,906	1,056	5,672								
	End	4,351																		1,256	2,036	3,598	4,379	5,160	6,722	7,503	1,256				8,753				
GHC3x16-SR4	Start	3,438																	Please consult factory	3,784	4,925	7,207	8,348	9,489	11,772	12,913	Exceeds MOP	3.1	2,871	8.1	14,283				
	Min	1,900																1,338		1,820	2,781	3,261	3,741	4,699	5,179	949						5,754			
	End	3,795																		1,752	2,533	4,095	4,876	5,657	7,219	8,000						1,127	8,937		

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## Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure, (barg)																MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)		
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5	13					13.5	
GHC4x20-SR0	Start	14,243						Please consult factory	16,413	18,588	22,938	25,113	Exceeds MOP							6.6	14,673	9.8	28,594
	Min	7,280					5,224		6,162	8,023	8,951	4,466		10,430									
	End	13,448					6,455		7,961	10,973	12,480	5,250		14,890									
GHC4x20-SR1	Start	10,698			Please consult factory	9,989	12,164	14,339	18,688	20,863	25,214	27,389	Exceeds MOP						4.9	9,555	9.2	28,259	
	Min	5,710				3,223	4,158	5,087	6,936	7,858	9,701	10,621		3,035	10,990								
	End	11,172				3,970	5,475	6,981	9,994	11,500	14,512	16,018		3,668	16,621								
GHC4x20-SR2	Start	9,339			Please consult factory	11,758	13,933	16,108	20,457	22,632	26,982	Exceeds MOP						4.1	7,844	8.8	28,288		
	Min	4,919				4,034	4,962	5,887	7,732	8,654	10,495		2,340	11,047									
	End	9,402				5,327	6,833	8,339	11,351	12,857	15,869		2,616	16,773									
GHC4x20-SR3	Start	7,852			Please consult factory	8,897	13,246	15,421	17,596	21,945	24,120	28,470	Exceeds MOP						3.7	7,593	8.5	28,470	
	Min	4,147				2,980	4,836	5,759	6,681	8,523	9,443	11,282		2,417	11,282								
	End	7,913				3,800	6,811	8,317	9,823	12,835	14,342	17,354		2,896	17,354								
GHC4x20-SR4	Start	6,469	5,835	8,009	10,183	14,532	16,707	18,882	23,231	25,406	Exceeds MOP						3.0	5,835	8.1	28,016			
	Min	3,450	1,850	2,786	3,712	5,557	6,478	7,398	9,237	10,157		1,850	11,260										
	End	6,627	2,169	3,675	5,181	8,192	9,698	11,204	14,216	15,722		2,169	17,530										

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# Torque - Pneumatic

## Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)		Operating Pressure, (barg)															MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)								
			3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12	12.5					13	13.5						
			Pressure Torque Output: Start/Min./End (Nm)																										
GHC5x24-SR0	Start	29,047								Please consult factory	34,583	42,750	46,834	55,002	59,086	63,171	Exceeds MOP					7.1	31,316	11.2	64,805				
	Min	14,454									10,637	14,170	15,921	19,409	21,149	22,886										9,203	23,580		
	End	25,726									12,772	18,433	21,263	26,925	29,756	32,587										10,508	33,719		
GHC5x24-SR1	Start	24,302								Please consult factory	26,178	34,345	38,428	46,596	50,679	58,848	62,932	Exceeds MOP					5.9	25,362	10.8	65,383			
	Min	12,187									7,811	11,356	13,108	16,594	18,331	21,800	23,533										7,451	24,572	
	End	21,877									9,021	14,681	17,511	23,172	26,003	31,664	34,495										8,455	36,193	
GHC5x24-SR2	Start	21,771								Please consult factory	25,523	29,606	37,772	41,855	50,023	54,107	62,275	Exceeds MOP					5.3	23,890	10.3	64,726			
	Min	10,675									7,584	9,368	12,882	14,628	18,105	19,842	23,307										6,859	24,346	
	End	18,447									8,719	11,549	17,209	20,040	25,700	28,531	34,192										7,588	35,891	
GHC5x24-SR3	Start	17,487								Please consult factory	24,371	28,454	32,537	40,704	44,787	52,954	57,038	Exceeds MOP					4.1	17,023	9.9	64,390			
	Min	8,747									7,992	9,745	11,488	14,963	16,695	20,158	21,887										4,771	25,000	
	End	15,513									10,169	12,999	15,829	21,489	24,319	29,980	32,810										5,076	37,905	
GHC5x24-SR4	Start	14,563								Please consult factory	18,625	26,790	30,873	34,956	43,122	47,206	55,373	59,457	Exceeds MOP					3.6	15,359	9.7	65,175		
	Min	7,340									5,999	9,499	11,236	12,971	16,433	18,162	21,620	23,347										4,574	25,765
	End	13,092									7,430	13,090	15,919	18,749	24,409	27,239	32,900	35,731										5,167	39,694

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# Torque - Pneumatic Spring-Return Actuator

Actuator Model	Spring Torque Start/Min./End (Nm)	Operating Pressure, (barg)														MinOP (barg)	Torque @ MinOP (Nm)	MOP (barg)	Torque @ MOP (Nm)																				
		3	3.5	4	5	5.5	6	7	7.5	8.5	9	10	10.5	11	12					12.5	13	13.5																	
		Pressure Torque Output: Start/Min./End (Nm)																																					
GHC10x40-SR1	Start	164,001																	Please consult factory	194,721	239,562	261,984	306,829	329,253	351,677	396,529	Exceeds MOP	7.2	181,270	12.2	405,500								
	Min	79,829																57,476		77,026	86,687	105,907	115,475	125,039	144,116	51,495			147,932										
	End	137,706																		66,502	97,582	113,123	144,206	159,749	175,292	206,379			57,179		212,597								
GHC10x40-SR2	Start	132,083																	Please consult factory	149,626	194,463	216,882	261,723	284,144	328,990	351,413	373,838	Exceeds MOP	5.9	145,143	11.7	405,234							
	Min	65,399																44,558		64,034	73,657	92,810	102,353	121,412	130,927	140,443	42,579			153,749									
	End	115,525																		51,770	82,846	98,386	129,466	145,007	176,090	191,632	207,175			48,662		228,936							
GHC10x40-SR3	Start	120,372																	Please consult factory	146,094	168,510	213,347	235,766	280,607	303,028	347,874	370,297	392,722	Exceeds MOP	5.3	137,127	11.2	401,692						
	Min	57,704																42,389		52,241	71,602	81,202	100,328	109,866	128,914	138,430	147,945	38,370			151,747								
	End	96,624																		47,930	63,468	94,544	110,084	141,164	156,704	187,788	203,330	218,873			41,715		225,090						
GHC10x40-SR4	Start	96,397																	Please consult factory	139,168	161,584	184,001	228,837	251,256	296,097	318,518	363,364	385,788	Exceeds MOP	4.1	98,820	10.9	403,727						
	Min	47,136																44,794		54,445	64,036	83,136	92,662	111,692	121,190	140,185	149,683	27,003			157,278								
	End	81,119																		56,341	71,879	87,416	118,493	134,032	165,112	180,653	211,736	227,279			28,376		239,713						
GHC10x44-SR1	Start	163,871																	Please consult factory	184,968	239,420	266,647	321,104	348,334	402,796									Exceeds MOP	6.0	184,968	10.1	408,243	
	Min	79,789																53,176		76,987	88,713	112,019	123,634	146,800									53,176			149,117			
	End	137,520																		59,742	97,484	116,356	154,101	172,975	210,723											59,742		214,498	
GHC10x44-SR2	Start	131,953																	Please consult factory	152,680	179,904	207,129	261,581	288,808	343,265	370,495									Exceeds MOP	4.8	141,791	9.7	408,618
	Min	65,359																45,928		57,780	69,501	92,772	104,358	127,489	139,043									41,116			155,201		
	End	115,339																		53,886	72,755	91,625	129,367	148,239	185,984	204,858											46,338		231,282
GHC10x44-SR3	Start	120,243																	Please consult factory	171,564	198,788	226,013	280,465	307,692	362,149	389,379									Exceeds MOP	4.4	138,896	9.2	400,271
	Min	57,664																53,599		65,371	77,052	100,290	111,871	134,992	146,546									39,198			151,164		
	End	96,437																		65,584	84,453	103,323	141,065	159,937	197,682	216,556											42,941		224,105
GHC10x44-SR4	Start	96,268																	Please consult factory	105,387	132,609	187,054	214,278	241,503	295,955	323,182	377,639	404,869	Exceeds MOP	3.5	105,387	9.0	404,869						
	Min	47,095																30,017		41,981	65,365	76,967	88,547	111,654	123,187	146,252	157,780	30,017			157,780								
	End	80,933																		32,928	51,795	89,533	108,402	127,272	165,014	183,886	221,631	240,505			32,928		240,505						

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