

# Torque - Pneumatic Double-Acting Actuator

Actuator Model	Metric Unit	Stroke Direction	Operating Pressure, barg																MinOP barg	MOP barg	
			2.7	3	3.2	3.5	3.7	4	4.2	4.5	4.7	5	5.5	6	6.5	7	7.5	8			8.5
			Air Torque Output, Nm																		
CBB315	Start	Outboard	74	84	90	99	106	115	121	131	137	146	162	177	193	209	224	240	256	2.8	8.3
	Min		41	46	50	55	58	63	66	71	75	80	88	96	105	113	122	130	138		
	End		78	87	94	103	109	119	125	134	141	150	166	181	197	213	229	244	260		
CBB315	Start	Inboard	74	83	90	99	105	115	121	130	136	146	161	177	192	208	224	239	255	2.8	8.3
	Min		41	46	50	55	58	63	66	71	75	80	88	96	105	113	122	130	138		
	End		78	88	94	103	110	119	125	135	141	150	166	182	198	213	229	245	261		
CBB420	Start	Outboard	166	186	199	220	233	253	267	287	300	321	354	388	421	455	489	522	556	2.8	8.3
	Min		94	105	112	123	130	141	149	160	167	178	197	215	233	252	270	289	307		
	End		171	191	204	224	238	258	271	291	305	325	358	392	426	459	493	526	560		
CBB420	Start	Inboard	165	185	198	218	231	251	265	285	298	318	351	385	418	451	485	518	552	2.8	8.3
	Min		94	105	112	123	130	141	149	160	167	178	197	215	233	252	270	289	307		
	End		172	192	206	226	239	260	273	294	307	327	361	395	429	463	496	530	564		
CBB520	Start	Outboard	266	297	319	351	372	404	425	457	478	510								2.8	4.8
	Min		149	166	178	195	207	224	236	253	265	282									
	End		272	304	325	357	378	410	431	463	484	516									
CBB520	Start	Inboard	264	295	316	348	369	401	422	454	475	506								2.8	4.8
	Min		149	166	178	195	207	224	236	253	265	282									
	End		274	306	328	360	381	413	434	466	488	520									
CBB525	Start	Outboard	338	379	406	447	474	514	542	582	609	650	718	786	854	922	990	1,058	1,125	2.8	8.3
	Min		182	204	218	239	253	275	289	310	324	346	381	417	453	488	524	559	595		
	End		349	390	417	458	485	526	554	595	622	663	731	799	867	936	1,004	1,072	1,140		
CBB525	Start	Inboard	338	379	406	446	474	514	541	582	609	650	718	786	854	922	990	1,057	1,125	2.8	8.3
	Min		182	204	218	239	253	275	289	310	324	346	381	417	453	488	524	559	595		
	End		349	390	417	458	485	526	554	594	622	663	731	799	867	935	1,004	1,072	1,140		
CBB725	Start	Outboard	690	771	825	906	960	1,041	1,095	1,176	1,230	1,311	1,446							2.8	5.5
	Min		368	411	439	481	509	552	580	623	651	693	764								
	End		706	787	841	922	976	1,058	1,112	1,193	1,247	1,329	1,464								
CBB725	Start	Inboard	690	771	825	906	960	1,041	1,095	1,176	1,230	1,311	1,446							2.8	5.5
	Min		368	411	439	481	509	552	580	623	651	693	764								
	End		705	787	841	922	976	1,057	1,112	1,193	1,247	1,328	1,464								

# Torque - Pneumatic Spring-Return Actuator

Actuator Model	Metric Unit	Spring Torque Nm	Operating Pressure, barg																	MinOP barg	MOP barg			
			2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10			10.5	11	11.5
			Air Torque Output, Nm																					
CBB315-SR40	Start	39		31	46	60	74	89	103	117	132	146	160	175	189	203	218	232	246	261	275		2.4	10.7
	Min	16		13	21	29	36	44	52	60	67	75	83	90	98	106	113	121	129	136	144			
	End	22		17	32	47	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271			
CBB415-SR40	Start	80		63	89	114	140	166	192	218	244	270	296										2.5	6.9
	Min	32		25	39	53	67	81	95	109	123	136	150											
	End	44		31	58	85	112	139	166	193	220	247	274											
CBB420-SR40	Start	102		81	111	142	173	203	234	265	295	326	357	387	418	449	479	510	541	571	602		2.6	10.8
	Min	37		31	49	66	83	100	117	134	151	168	185	202	219	236	253	269	286	303	320			
	End	44		37	71	105	139	173	207	241	275	309	344	378	412	446	480	514	548	582	616			
CBB520-SR40	Start	168		136	185	233	282	330	379	427	476	525	573	622	670								2.6	7.6
	Min	59		50	78	105	132	159	186	213	239	266	293	320	346									
	End	68		57	110	164	217	271	324	378	431	484	538	591	645									
CBB525-SR40	Start	177		150	213	275	337	400	462	524	587	649	712	774	836	899	961	1,024	1,086	1,149			2.4	10.1
	Min	76		62	96	129	162	194	227	260	293	325	358	391	424	456	489	522	555	587				
	End	111		85	147	210	272	335	397	460	522	585	648	710	773	835	898	961	1,023	1,086				
CBB725-SR40	Start	386		320	444	568	692	816	940	1,064	1,188	1,312	1,436	1,560									2.5	7.0
	Min	161		126	193	258	324	389	454	519	584	649	714	779										
	End	231		165	289	414	538	662	786	911	1,035	1,159	1,284	1,408										
CBB315-SR60	Start	64			45	59	74	88	102	117	131	145	160	174	188	203	217	231	246				3.6	10.5
	Min	27			18	26	33	41	49	57	64	72	80	87	95	103	110	118	126					
	End	37			21	36	51	66	81	96	111	126	141	156	171	186	201	216	231					
CBB415-SR60	Start	123			86	112	138	164	190	216	242	267	293	319									3.7	7.7
	Min	51			33	48	62	76	90	104	117	131	145	159										
	End	72			41	68	95	122	149	176	203	230	257	284										
CBB420-SR60	Start	163				142	173	203	234	265	295	326	357	387	418	449	479	510	541	572			3.8	10.8
	Min	60				58	75	93	110	127	144	161	178	195	212	229	246	262	279	296				
	End	75				78	112	146	180	214	248	282	316	350	385	419	453	487	521	555				
CBB520-SR60	Start	255				176	225	273	322	370	419	467	516	564	613								3.7	8.0
	Min	96				65	93	121	148	174	201	228	255	282	308									
	End	125				76	129	183	236	290	343	397	450	504	557									
CBB525-SR60	Start	287				219	282	344	406	469	531	593	656	718	781	843	905	968	1,030	1,093			3.7	10.4
	Min	118				82	116	149	182	215	248	281	314	347	380	412	445	478	511	544				
	End	167				100	162	225	287	350	412	475	537	600	663	725	788	850	913	976				
CBB725-SR60	Start	610					569	693	817	941	1,065	1,189	1,314	1,438	1,562								3.8	7.9
	Min	249					228	295	361	426	492	557	622	687	753									
	End	354					314	438	562	687	811	935	1,059	1,184	1,308									

# Torque - Pneumatic Spring-Return Actuator

Actuator Model	Metric Unit	Spring Torque Nm	Operating Pressure, barg																	MinOP barg	MOP barg			
			35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140			150	160	170
			Air Torque Output, Nm																					
CBB315-SR80	Start	89							73	88	102	116	131	145	159	174	188	202	217	231			4.8	10.3
	Min	37							30	38	46	54	61	69	77	84	92	100	108	115				
	End	52								41	56	71	86	101	116	131	146	161	175	190	205			
CBB415-SR80	Start	167							139	165	191	217	243	269	295	320							4.8	8.1
	Min	68							57	71	85	99	113	127	141	155								
	End	97								79	106	133	160	187	214	241	268							
CBB420-SR80	Start	222							177	208	239	269	300	331	361	392	423	453	484	515	545	576	5.0	11.1
	Min	81							69	86	104	121	138	155	172	189	206	223	240	257	274	291		
	End	101								87	121	155	189	223	257	291	326	360	394	428	462	496		
CBB520-SR80	Start	351							281	330	378	427	475	524	573	621							5.0	8.3
	Min	130							110	137	165	192	219	246	273	299								
	End	165								141	194	248	301	355	408	462	515							
CBB525-SR80	Start	400							348	410	473	535	597	660	722	785	847	909	972	1,034	1,097		4.9	11.0
	Min	162							134	168	202	235	268	301	334	367	400	432	465	498	531			
	End	225								174	237	300	362	425	487	550	613	675	738	800	863	926		
CBB725-SR80	Start	820							698	822	946	1,070	1,194	1,318	1,442	1,566	1,690						5.0	8.5
	Min	334							269	336	402	468	533	599	664	730	795							
	End	473								352	476	601	725	849	974	1,098	1,222	1,347						
CBB315-SR100	Start	115									87	102	116	130	145	159	173	188	202	216	231	245	6.0	11.3
	Min	47									35	43	51	58	66	74	82	89	97	105	112	120		
	End	66										46	61	75	90	105	120	135	150	165	180	195		
CBB415-SR100	Start	228										210	236	262	288								6.4	7.9
	Min	83										79	93	108	122									
	End	103										98	125	152	179									
CBB420-SR100	Start	288									211	242	273	303	334	365	395	426	457	488	518	549	6.3	11.4
	Min	104									77	95	112	130	147	164	181	198	215	232	249	266		
	End	128									89	123	157	191	225	259	293	327	361	395	429	464		
CBB520-SR100	Start	480										347	395	444	492	541	590	638					6.7	9.1
	Min	183										134	162	189	217	244	271	297						
	End	246										171	225	278	332	385	439	492						
CBB525-SR100	Start	503									410	472	534	597	659	722	784	847	909	971	1,034	1,096	6.1	11.2
	Min	204									155	189	222	256	289	322	355	388	421	454	486	519		
	End	288									196	258	321	384	446	509	571	634	697	759	822	885		
CBB725-SR100	Start	1,080										982	1,106	1,230	1,354	1,478	1,602						6.5	8.5
	Min	419										367	434	501	567	633	699							
	End	562										465	589	713	838	962	1,086							

# Torque - Pneumatic

## Double-Acting Actuator

Actuator Model	Metric Unit	Stroke Direction	Operating Pressure,barg																MinOP barg	MOP barg			
			2.7	3	3.2	3.5	3.7	4	4.2	4.5	4.7	5	5.5	6	6.5	7	7.5	8			8.5		
			Air Torque Output,Nm																				
CBA730	Start	Outboard	835	933	999	1,097	1,163	1,261	1,327	1,425	1,490	1,589	1,752	1,916	2,080	2,244	2,408					2.8	7.2
	Min		446	498	532	584	618	670	704	755	790	841	927	1,013	1,099	1,185	1,271						
	End		854	953	1,018	1,117	1,183	1,281	1,347	1,445	1,511	1,610	1,774	1,938	2,102	2,267	2,431						
CBA730	Start	Inboard	835	933	999	1,097	1,162	1,260	1,326	1,424	1,490	1,588	1,752	1,915	2,079	2,243	2,407					2.8	7.2
	Min		446	498	532	584	618	670	704	755	790	841	927	1,013	1,099	1,185	1,271						
	End		854	953	1,019	1,117	1,183	1,282	1,347	1,446	1,512	1,610	1,775	1,939	2,103	2,268	2,432						
CBA830	Start	Outboard	1,107	1,236	1,322	1,451	1,537	1,666	1,752	1,881	1,967	2,096	2,312	2,527								2.8	5.5
	Min		590	657	702	770	815	883	928	995	1,041	1,108	1,221	1,334									
	End		1,128	1,257	1,344	1,473	1,559	1,689	1,775	1,904	1,991	2,120	2,336	2,552									
CBA830	Start	Inboard	1,106	1,235	1,321	1,450	1,536	1,665	1,751	1,880	1,966	2,096	2,311	2,526								2.8	5.5
	Min		590	657	702	770	815	883	928	995	1,041	1,108	1,221	1,334									
	End		1,128	1,258	1,344	1,474	1,560	1,689	1,776	1,905	1,992	2,121	2,337	2,553									
CBA930	Start	Outboard	1,415	1,579	1,689	1,853	1,962	2,126	2,236	2,400	2,509											2.8	4.5
	Min		752	838	895	981	1,039	1,125	1,182	1,268	1,325												
	End		1,439	1,603	1,713	1,877	1,987	2,151	2,261	2,426	2,535												
CBA930	Start	Inboard	1,414	1,578	1,688	1,852	1,961	2,125	2,235	2,399	2,508											2.8	4.5
	Min		752	838	895	981	1,039	1,125	1,182	1,268	1,325												
	End		1,439	1,604	1,714	1,878	1,988	2,152	2,262	2,427	2,536												
CBA1030	Start	Outboard	1,883	2,100	2,245	2,462	2,606															2.8	3.4
	Min		998	1,112	1,188	1,301	1,377																
	End		1,910	2,127	2,272	2,490	2,635																
CBA1030	Start	Inboard	1,882	2,099	2,244	2,461	2,605															2.8	3.4
	Min		998	1,112	1,188	1,301	1,377																
	End		1,911	2,128	2,273	2,491	2,636																

# Torque - Pneumatic Spring-Return Actuator

Actuator Model	Metric Unit	Spring Torque Nm	Operating Pressure, barg																	MinOP barg	MOP barg				
			2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10			10.5	11	11.5	
			Air Torque Output, Nm																						
CBA730-SR40	Start	484																					2.4	9.3	
	Min	198	409	564	719	874	1,029	1,184	1,338	1,493	1,648	1,803	1,958	2,113	2,268	2,423	2,578								
	End	275	158	242	324	406	488	569	651	732	813	895	976	1,057	1,139	1,220	1,301								
CBA830-SR40	Start	643	549	752	956	1,159	1,363	1,566	1,770	1,973	2,177	2,380	2,584										2.4	7.2	
	Min	262	213	322	430	538	645	752	859	966	1,073	1,180	1,286												
	End	367	708	479	683	887	1,091	1,295	1,500	1,704	1,908	2,112	2,316												
CBA930-SR40	Start	827	708	966	1,225	1,483	1,742	2,001	2,259	2,518													2.4	5.9	
	Min	337	274	413	550	687	823	959	1,095	1,231															
	End	472	356	615	874	1,134	1,393	1,653	1,912	2,171															
CBA1030-SR40	Start	1,112	958	1,300	1,642	1,984	2,326	2,668															2.4	4.8	
	Min	448	367	551	732	913	1,093	1,273																	
	End	623	473	816	1,159	1,501	1,844	2,187																	
CBA730-SR60	Start	764			577	732	887	1,042	1,197	1,352	1,507	1,662	1,817	1,972	2,127	2,282	2,437	2,592					3.6	9.7	
	Min	304			204	289	372	455	537	619	701	782	864	945	1,027	1,108	1,190	1,271							
	End	416			233	388	544	699	855	1,010	1,166	1,321	1,477	1,632	1,788	1,943	2,099	2,254							
CBA830-SR60	Start	1,044			808	1,011	1,215	1,418	1,622	1,825	2,029	2,232	2,436	2,640									3.7	7.6	
	Min	397			267	382	492	601	709	817	924	1,032	1,139	1,246											
	End	515			282	486	690	895	1,099	1,303	1,507	1,711	1,916	2,120											
CBA930-SR60	Start	1,362				1,331	1,590	1,849	2,107	2,366	2,625												3.8	6.2	
	Min	501				487	628	767	905	1,042	1,179														
	End	624				598	857	1,117	1,376	1,636	1,895														
CBA1030-SR60	Start	1,830				1,807	2,149	2,491	2,833														3.8	5.2	
	Min	659				649	837	1,021	1,204																
	End	800				783	1,126	1,468	1,811																
CBA730-SR80	Start	1,079					940	1,095	1,249	1,404	1,559	1,714	1,869	2,024	2,179	2,334	2,489						5.0	10.0	
	Min	405					331	417	501	584	667	749	831	913	995	1,077	1,158								
	End	519						385	540	696	851	1,007	1,162	1,318	1,473	1,629	1,784	1,940							
CBA830-SR80	Start	1,433						1,258	1,461	1,665	1,868	2,072	2,276	2,479									5.0	7.9	
	Min	533						439	552	662	771	880	988	1,096											
	End	675							505	709	914	1,118	1,322	1,526	1,730										
CBA930-SR80	Start	1,833						1,617	1,875	2,134	2,393	2,652											5.0	6.6	
	Min	678						562	705	846	985	1,123													
	End	856							646	905	1,165	1,424	1,683												
CBA1030-SR80	Start	2,388						2,090	2,432	2,774													4.9	5.5	
	Min	911						752	940	1,124															
	End	1,201							911	1,253	1,596														
CBA730-SR100	Start	1,354							1,111	1,266	1,421	1,576	1,731	1,886	2,041	2,196	2,351	2,506					6.2	10.3	
	Min	510							378	465	550	633	717	799	882	964	1,046	1,128							
	End	658							420	575	731	886	1,042	1,197	1,353	1,509	1,664	1,820							
CBA830-SR100	Start	1,835							1,516	1,720	1,923	2,127	2,331	2,534									6.3	8.3	
	Min	667							491	607	720	831	941	1,050											
	End	824							512	716	921	1,125	1,329	1,533											
CBA930-SR100	Start	2,306							1,898	2,156	2,415	2,674											6.3	7.2	
	Min	857							633	779	921	1,062													
	End	1,092							691	951	1,210	1,469													