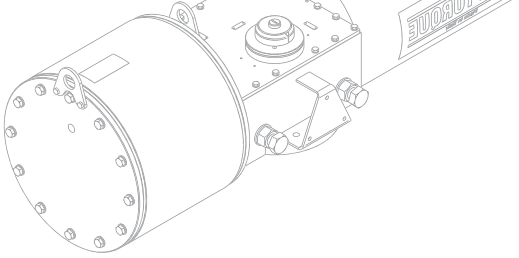
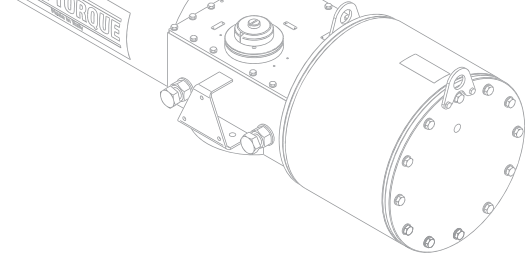
AIR TORQUE HEAVY DUTY
AT-HD EXTENDED SERIES

Metric technical catalogue

FLUIDTECHNIK® bohemia

AIR TORQUE®





CONTENTS

1. GENERAL DIMENSIONS - PNEUMATIC Pag. 4

1.1 Double-acting Actuators without tie rods Pag. 4

1.2 Double-acting Actuators with tie rods Pag. 6

1.3 Spring-return Actuators without tie rods Pag. 7

1.4 Spring-return Actuators with tie rods Pag. 13

2. GENERAL DIMENSIONS - HYDRAULIC Pag. 16

2.1 Double-acting Actuators Pag. 16

2.2 Spring-return Actuators Pag. 18

3. DATA FOR AT-HD LIFTING Pag. 20

3.1 Double-acting Actuators without tie rods Pag. 20

3.2 Double-acting Actuators with tie rods Pag. 22

3.3 Spring-return Actuators without tie rods Pag. 23

3.4 Spring-return Actuators with tie rods Pag. 29

4. OUTPUT TORQUE - PNEUMATIC Pag. 32

4.1 Double-acting Actuators Symmetric Yoke Pag. 32

4.2 Double-acting Actuators Canted Yoke Pag. 36

4.3 Spring-return Actuators Symmetric Yoke Pag. 40

4.4 Spring-return Actuators Canted Yoke Pag. 56

5. OUTPUT TORQUE - HYDRAULIC Pag. 72

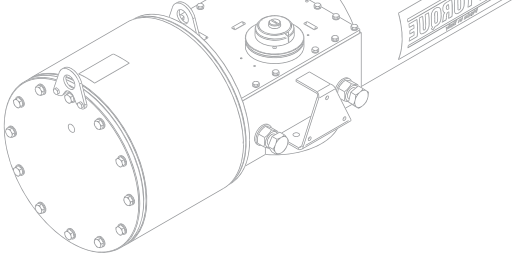
5.1 Double-acting Actuators Symmetric Yoke Pag. 72

5.2 Double-acting Actuators Canted Yoke Pag. 75

5.3 Spring-return Actuators Symmetric Yoke Pag. 78

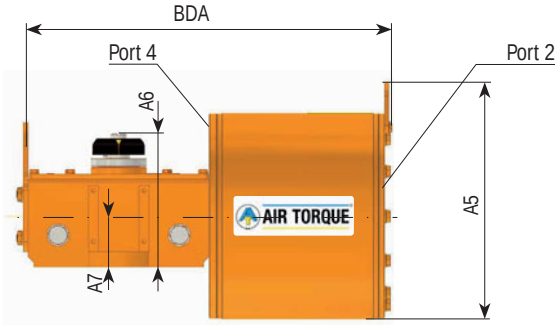
5.4 Spring-return Actuators Canted Yoke Pag. 88

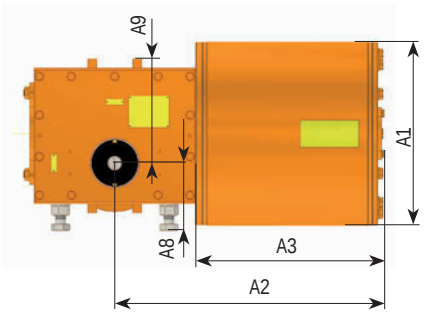
6. DIMENSIONS AT-HD ACTUATOR INTERFACE Pag. 98



General dimensions - PNEUMATIC

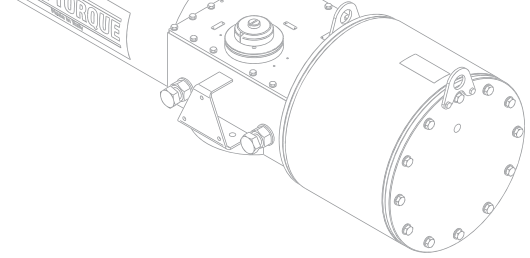
Double-Acting Actuators without tie rods (mm)





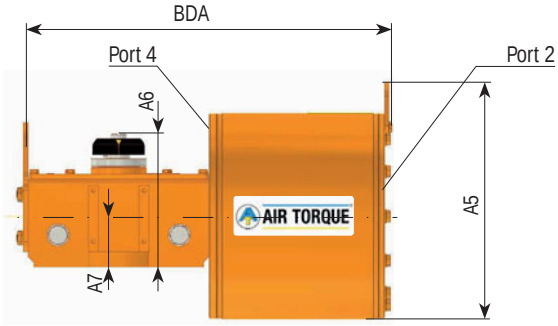
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	BDA	Port 2 Port 4
AT-HD C 065 D_ P235 (0)	254	529	350	317	263	100	149	230	731	3/8"
AT-HD C 065 D_ P285 (0)	305	529	350	368	263	100	149	230	731	3/8"
AT-HD C 065 D_ P335 (0)	356	541	363	416	263	100	149	230	744	1/2"
AT-HD C 065 D_ P385 (0)	407	541	362	468	263	100	149	230	740	1/2"
AT-HD C 085 D_ P235 (0)	254	622	405	317	292	115	169	260	834	3/8"
AT-HD C 085 D_ P285 (0)	305	623	406	368	292	115	169	260	835	3/8"
AT-HD C 085 D_ P335 (0)	356	633	416	416	292	115	169	260	845	1/2"
AT-HD C 085 D_ P385 (0)	407	636	419	468	292	115	169	260	848	1/2"
AT-HD C 085 D_ P435 (0)	458	663	445	519	292	115	169	260	875	3/4"
AT-HD C 085 D_ P485 (0)	508	648	631	567	292	115	169	260	860	3/4"
AT-HD C 100 D_ P335 (1)	356	718	474	416	307	123	200	310	975	1/2"
AT-HD C 100 D_ P385 (1)	407	715	471	468	307	123	200	310	972	1/2"
AT-HD C 100 D_ P435 (1)	458	712	468	519	307	123	200	310	969	3/4"
AT-HD C 100 D_ P485 (1)	508	718	474	567	307	123	200	310	975	3/4"
AT-HD C 100 D_ P535 (1)	559	739	495	654	307	123	200	310	995	1"
AT-HD C 100 D_ P585 (1)	610	754	510	708	307	123	200	310	1013	1"
AT-HD C 100 D_ P635 (1)	661	752	508	757	307	123	200	310	1021	1"
AT-HD C 130 D_ P435 (1)	458	884	568	519	336	137	260	406	1193	3/4"
AT-HD C 130 D_ P485 (1)	508	889	573	567	336	137	260	406	1198	3/4"
AT-HD C 130 D_ P535 (1)	559	884	568	618	336	137	260	406	1208	1"
AT-HD C 130 D_ P585 (1)	610	920	604	708	336	137	260	406	1229	1"
AT-HD C 130 D_ P635 (1)	660	922	606	757	336	137	260	406	1237	1"

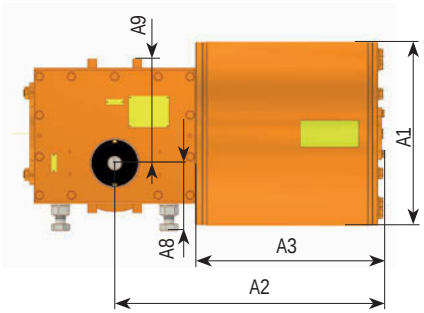
- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



General dimensions - PNEUMATIC

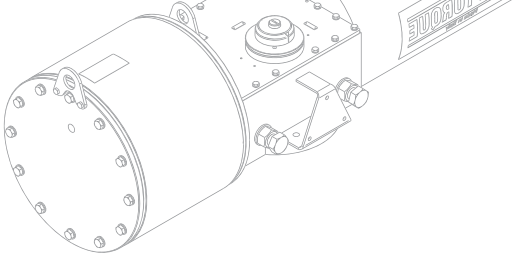
Double-Acting Actuators without tie rods (mm)





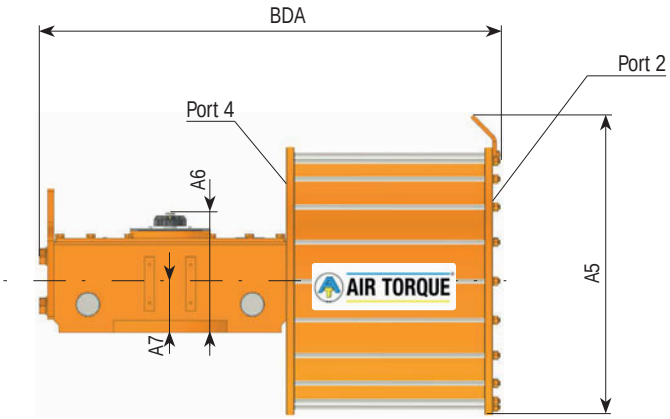
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	BDA	Port 2 Port 4
AT-HD C 130 D_ P685 (1)	715	936	620	811	336	137	260	406	1245	1”
AT-HD C 160 D_ P485 (1)	508	1003	637	933	376	162	310	470	1418	3 / 4”
AT-HD C 160 D_ P535 (1)	559	1013	647	654	376	162	310	470	1428	3 / 4”
AT-HD C 160 D_ P585 (1)	610	1026	660	708	376	162	310	470	1438	1”
AT-HD C 160 D_ P635 (1)	661	1028	662	757	376	162	310	470	1443	1”
AT-HD C 160 D_ P685 (1)	715	1035	669	812	376	162	310	470	1447	1”
AT-HD C 200 D_ P585 (1)	610	1241	805	708	404	174	341	525	1723	1”
AT-HD C 200 D_ P635 (1)	661	1243	807	756	404	174	341	525	1725	1”
AT-HD C 200 D_ P685 (1)	715	1245	809	812	404	174	341	525	1727	1”

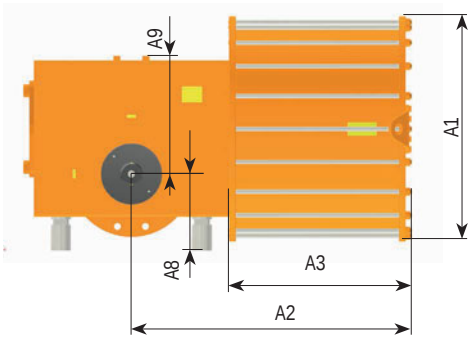
- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



General dimensions - PNEUMATIC

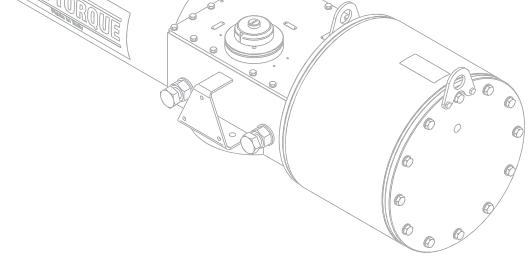
Double-Acting Actuators with tie rods (mm)





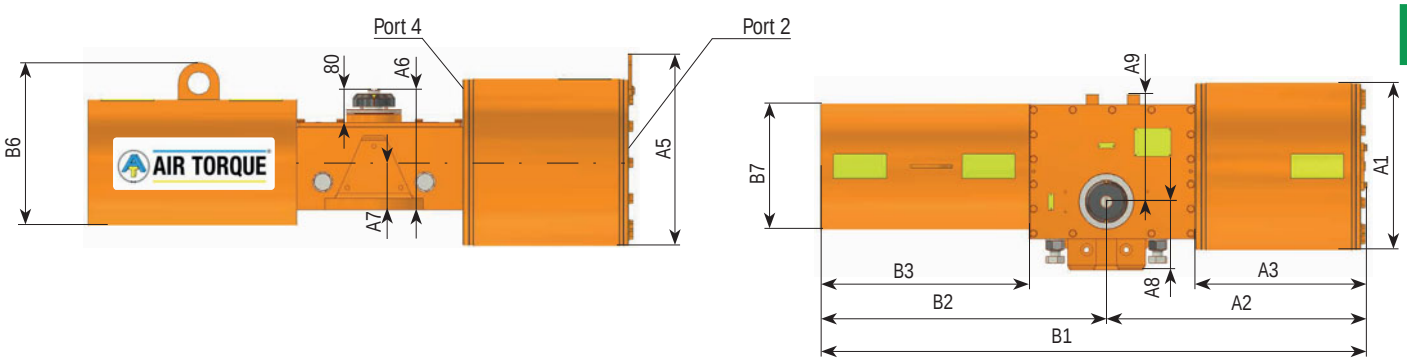
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	BDA	Port 2 Port 4
AT-HD C 130 D_ P735 (1)	845	935	619	947	336	137	260	406	1245	1”
AT-HD C 160 D_ P735 (1)	838	1040	674	947	376	162	310	470	1452	1”
AT-HD C 160 D_ P785 (1)	903	1062	702	1019	376	162	310	470	1480	1”
AT-HD C 160 D_ P835 (1)	950	1062	696	1057	376	162	310	470	1459	1”
AT-HD C 200 D_ P735 (1)	840	1249	813	947	404	174	341	525	1729	1”
AT-HD C 200 D_ P785 (1)	905	1253	817	1019	404	174	341	525	1735	1”
AT-HD C 200 D_ P835 (1)	950	1260	824	1061	404	174	341	525	1742	1”
AT-HD C 200 D_ P885 (1)	1000	1260	824	1114	404	174	341	525	1742	1”
AT-HD C 200 D_ P935 (1)	1070	1292	856	1179	404	174	341	525	1774	1”
AT-HD C 200 D_ P985 (1)	1120	1291	855	1229	404	174	341	525	1773	1”
AT-HD C 200 D_ P1050 (1)	1185	1291	885	1294	404	174	341	525	1773	1”
AT-HD C 200 D_ P1150 (1)	1285	1296	860	1397	404	174	341	525	1778	1”

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



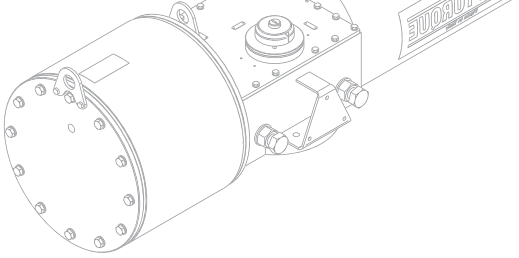
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



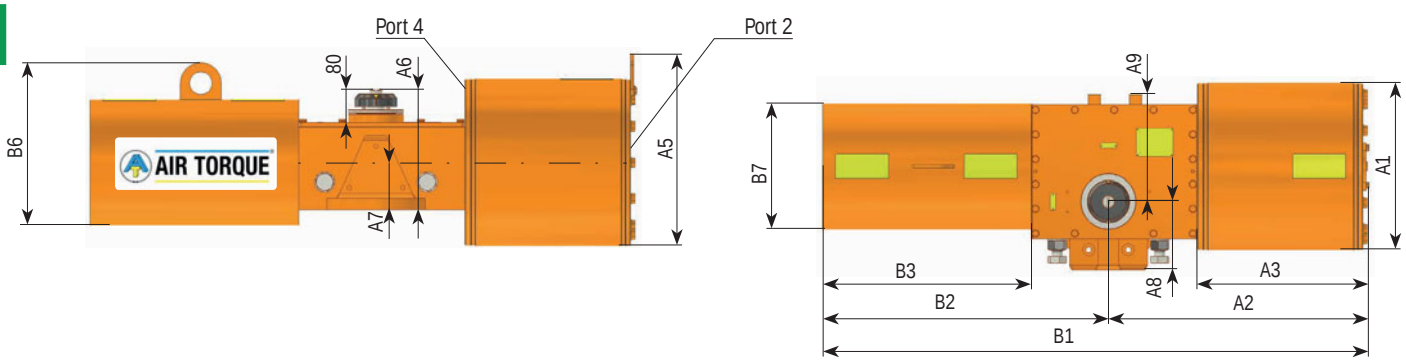
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 065 SC02 P235 (0)	254	529	350	317	263	100	149	230	1127	598	419	363	273	3/8"
AT-HD C 065 SC02 P285 (0)	305	529	350	368	263	100	149	230	1127	598	419	363	273	3/8"
AT-HD C 065 SC02 P335 (0)	356	541	363	416	263	100	149	230	1139	598	419	363	273	1/2"
AT-HD C 065 SC02 P385 (0)	407	541	362	468	263	100	149	230	1138	598	419	363	273	1/2"
AT-HD C 065 SC04 P235 (0)	254	529	350	317	263	100	149	230	1127	598	419	363	273	3/8"
AT-HD C 065 SC04 P285 (0)	305	529	350	368	263	100	149	230	1127	598	419	363	273	3/8"
AT-HD C 065 SC04 P335 (0)	356	541	363	416	263	100	149	230	1139	598	419	363	273	1/2"
AT-HD C 065 SC04 P385 (0)	407	541	362	468	263	100	149	230	1138	598	419	363	273	1/2"
AT-HD C 065 SC06 P235 (0)	254	529	350	317	263	100	149	230	1217	688	509	395	305	3/8"
AT-HD C 065 SC06 P285 (0)	305	529	350	368	263	100	149	230	1217	688	509	395	305	3/8"
AT-HD C 065 SC06 P335 (0)	356	541	363	416	263	100	149	230	1230	688	509	395	305	1/2"
AT-HD C 065 SC06 P385 (0)	407	541	362	468	263	100	149	230	1229	668	509	395	305	1/2"
AT-HD C 065 SC08 P235 (0)	254	529	350	317	263	100	149	230	1217	688	509	395	305	3/8"
AT-HD C 065 SC08 P285 (0)	305	529	350	368	263	100	149	230	1217	688	509	395	305	3/8"
AT-HD C 065 SC08 P335 (0)	356	541	363	416	263	100	149	230	1230	688	509	395	305	1/2"
AT-HD C 065 SC08 P385 (0)	407	541	362	468	263	100	149	230	1229	668	509	395	305	1/2"
AT-HD C 085 SC02 P235 (0)	254	622	405	317	292	115	169	260	1440	818	629	456	356	3/8"
AT-HD C 085 SC02 P285 (0)	305	623	406	368	292	115	169	260	1441	818	629	456	356	3/8"
AT-HD C 085 SC02 P335 (0)	356	633	416	416	292	115	169	260	1451	818	629	456	356	1/2"
AT-HD C 085 SC02 P385 (0)	407	636	419	468	292	115	169	260	1454	818	629	456	356	1/2"
AT-HD C 085 SC02 P435 (0)	458	663	445	519	292	115	169	260	1480	818	629	456	356	3/4"
AT-HD C 085 SC02 P485 (0)	508	648	631	567	292	115	169	260	1466	818	629	456	356	3/4"
AT-HD C 085 SC04 P235 (0)	254	622	405	317	292	115	169	260	1440	818	629	456	356	3/8"
AT-HD C 085 SC04 P285 (0)	305	623	406	368	292	115	169	260	1441	818	629	456	356	3/8"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



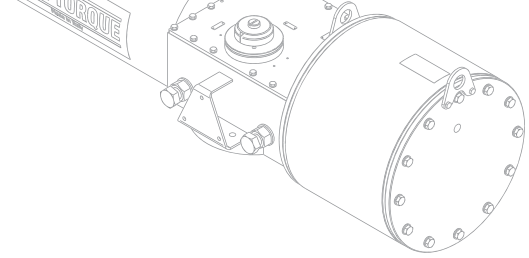
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



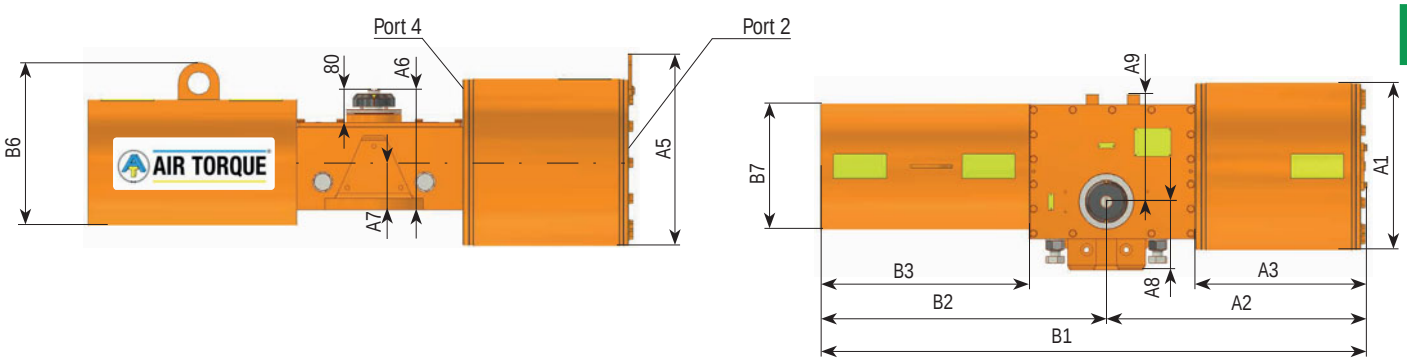
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 085 SC04 P335 (0)	356	633	416	416	292	115	169	260	1.451	818	629	456	356	1/2"
AT-HD C 085 SC04 P385 (0)	407	636	419	468	292	115	169	260	1.454	818	629	456	356	1/2"
AT-HD C 085 SC04 P435 (0)	458	663	445	519	292	115	169	260	1.480	818	629	456	356	3/4"
AT-HD C 085 SC04 P485 (0)	508	648	631	567	292	115	169	260	1.466	818	629	456	356	3/4"
AT-HD C 085 SC06 P235 (0)	254	622	405	317	292	115	169	260	1.440	818	629	456	356	3/8"
AT-HD C 085 SC06 P285 (0)	305	623	406	368	292	115	169	260	1.441	818	629	456	356	3/8"
AT-HD C 085 SC06 P335 (0)	356	633	416	416	292	115	169	260	1.451	818	629	456	356	1/2"
AT-HD C 085 SC06 P385 (0)	407	636	419	468	292	115	169	260	1.454	818	629	456	356	1/2"
AT-HD C 085 SC06 P435 (0)	458	663	445	519	292	115	169	260	1.480	818	629	456	356	3/4"
AT-HD C 085 SC06 P485 (0)	508	648	631	567	292	115	169	260	1.466	818	629	456	356	3/4"
AT-HD C 085 SC08 P235 (0)	254	622	405	317	292	115	169	260	1.525	903	714	456	356	3/8"
AT-HD C 085 SC08 P285 (0)	305	623	406	368	292	115	169	260	1.526	903	714	456	356	3/8"
AT-HD C 085 SC08 P335 (0)	356	633	416	416	292	115	169	260	1.536	903	714	456	356	1/2"
AT-HD C 085 SC08 P385 (0)	407	636	419	468	292	115	169	260	1.539	903	714	456	356	1/2"
AT-HD C 085 SC08 P435 (0)	458	663	445	519	292	115	169	260	1.566	903	714	456	356	3/4"
AT-HD C 085 SC08 P485 (0)	508	648	631	567	292	115	169	260	1.551	903	714	456	356	3/4"
AT-HD C 100 SC02 P335 (1)	356	718	474	416	307	123	200	310	1.675	957	739	506	406	1/2"
AT-HD C 100 SC02 P385 (1)	407	715	471	468	307	123	200	310	1.672	957	739	506	406	1/2"
AT-HD C 100 SC02 P435 (1)	458	712	468	519	307	123	200	310	1.669	957	739	506	406	3/4"
AT-HD C 100 SC02 P485 (1)	508	718	474	567	307	123	200	310	1.675	957	739	506	406	3/4"
AT-HD C 100 SC02 P535 (1)	559	739	495	654	307	123	200	310	1.696	957	739	506	406	1"
AT-HD C 100 SC02 P585 (1)	610	754	510	708	307	123	200	310	1.711	957	739	506	406	1"
AT-HD C 100 SC02 P635 (1)	661	752	508	757	307	123	200	310	1.709	957	739	506	406	1"
AT-HD C 100 SC04 P335 (1)	356	718	474	416	307	123	200	310	1.745	1.027	809	506	406	1/2"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



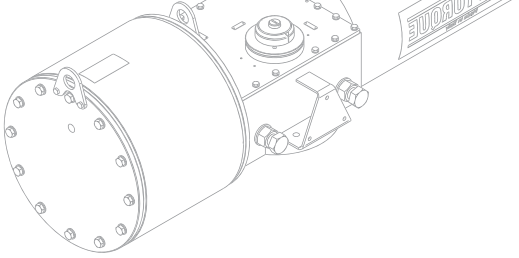
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



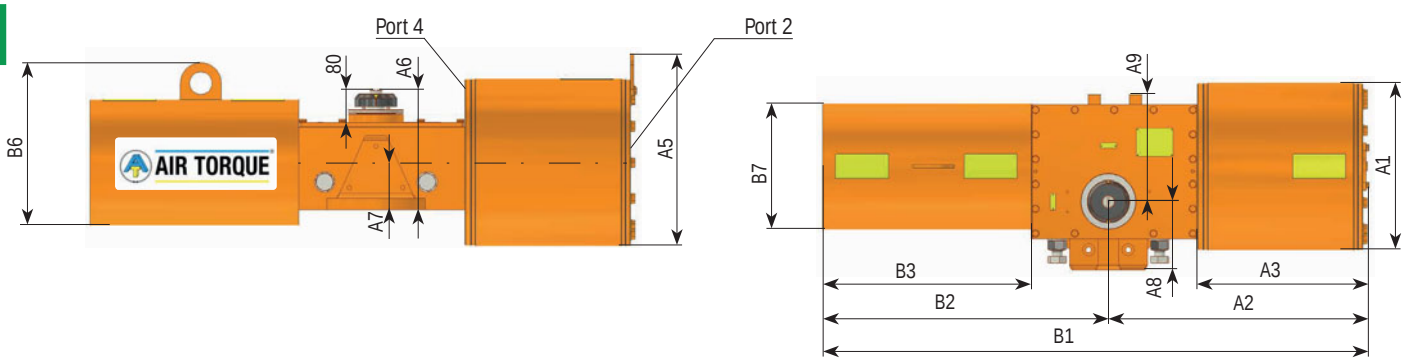
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 100 SC04 P385 (1)	407	715	471	468	307	123	200	310	1.742	1.027	809	506	406	1 / 2”
AT-HD C 100 SC04 P435 (1)	458	712	468	519	307	123	200	310	1.739	1.027	809	506	406	3 / 4”
AT-HD C 100 SC04 P485 (1)	508	718	474	567	307	123	200	310	1.745	1.027	809	506	406	3 / 4”
AT-HD C 100 SC04 P535 (1)	559	739	495	654	307	123	200	310	1.766	1.027	809	506	406	1”
AT-HD C 100 SC04 P585 (1)	610	754	510	708	307	123	200	310	1.781	1.027	809	506	406	1”
AT-HD C 100 SC04 P635 (1)	661	752	508	757	307	123	200	310	1.779	1.027	809	506	406	1”
AT-HD C 100 SC06 P335 (1)	356	718	474	416	307	123	200	310	1.745	1.027	809	506	406	1 / 2”
AT-HD C 100 SC06 P385 (1)	407	715	471	468	307	123	200	310	1.742	1.027	809	506	406	1 / 2”
AT-HD C 100 SC06 P435 (1)	458	712	468	519	307	123	200	310	1.739	1.027	809	506	406	3 / 4”
AT-HD C 100 SC06 P485 (1)	508	718	474	567	307	123	200	310	1.745	1.027	809	506	406	3 / 4”
AT-HD C 100 SC06 P535 (1)	559	739	495	654	307	123	200	310	1.766	1.027	809	506	406	1”
AT-HD C 100 SC06 P585 (1)	610	754	510	708	307	123	200	310	1.781	1.027	809	506	406	1”
AT-HD C 100 SC06 P635 (1)	661	752	508	757	307	123	200	310	1.779	1.027	809	506	406	1”
AT-HD C 100 SC08 P335 (1)	356	718	474	416	307	123	200	310	2.038	1.320	1101	506	406	1 / 2”
AT-HD C 100 SC08 P385 (1)	407	715	471	468	307	123	200	310	2.035	1.320	1101	506	406	1 / 2”
AT-HD C 100 SC08 P435 (1)	458	712	468	519	307	123	200	310	2.032	1.320	1101	506	406	3 / 4”
AT-HD C 100 SC08 P485 (1)	508	718	474	567	307	123	200	310	2.038	1.320	1101	506	406	3 / 4”
AT-HD C 100 SC08 P535 (1)	559	739	495	654	307	123	200	310	2.059	1.320	1101	506	406	1”
AT-HD C 100 SC08 P585 (1)	610	754	510	708	307	123	200	310	2.074	1.320	1101	506	406	1”
AT-HD C 100 SC08 P635 (1)	661	752	508	757	307	123	200	310	2.072	1.320	1101	506	406	1”
AT-HD C 130 SC02 P435 (1)	458	884	568	519	336	137	260	406	2.250	1.366	1101	506	406	3 / 4”
AT-HD C 130 SC02 P485 (1)	508	889	573	567	336	137	260	406	2.255	1.366	1101	506	406	3 / 4”
AT-HD C 130 SC02 P535 (1)	559	884	568	618	336	137	260	406	2.259	1.366	1101	506	406	1”
AT-HD C 130 SC02 P585 (1)	610	920	604	708	336	137	260	406	2.286	1.366	1101	506	406	1”

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



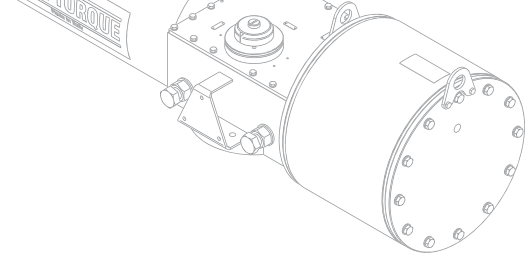
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



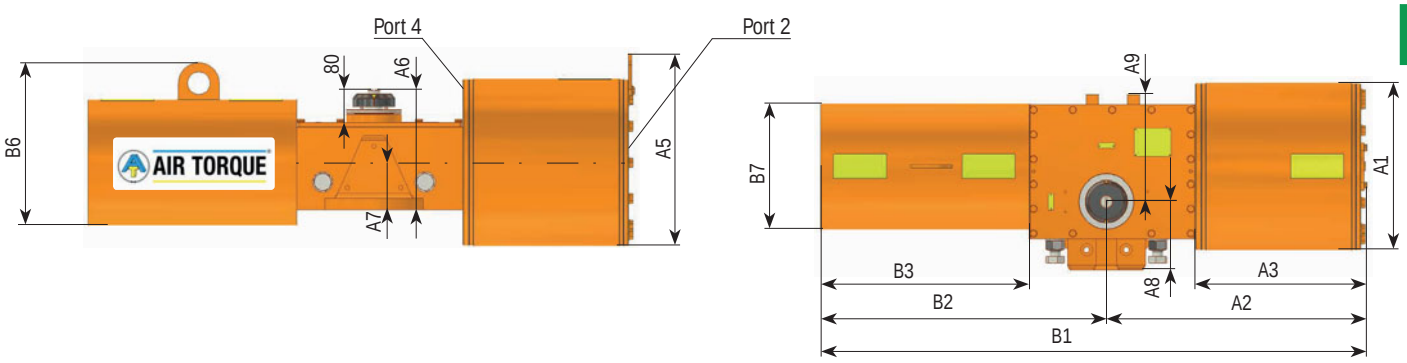
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 130 SC02 P635 (1)	660	922	606	757	336	137	260	406	2.288	1.366	1101	506	406	1"
AT-HD C 130 SC02 P685 (1)	715	936	620	811	336	137	260	406	2.302	1.366	1101	506	406	1"
AT-HD C 130 SC04 P435 (1)	458	884	568	519	336	137	260	406	2.360	1.476	1.211	608	508	3/4"
AT-HD C 130 SC04 P485 (1)	508	889	573	567	336	137	260	406	2.365	1.476	1.211	608	506	3/4"
AT-HD C 130 SC04 P535 (1)	559	884	568	618	336	137	260	406	2.369	1.366	1.211	608	508	1"
AT-HD C 130 SC04 P585 (1)	610	920	604	708	336	137	260	406	2.396	1.366	1.211	608	508	1"
AT-HD C 130 SC04 P635 (1)	660	922	606	757	336	137	260	406	2.398	1.476	1.211	608	508	1"
AT-HD C 130 SC04 P685 (1)	715	936	620	811	336	137	260	406	2.412	1.476	1.211	608	508	1"
AT-HD C 130 SC06 P435 (1)	458	884	568	519	336	137	260	406	2.300	1.416	1151	608	508	3/4"
AT-HD C 130 SC06 P485 (1)	508	889	573	567	336	137	260	406	2.305	1.416	1151	608	508	3/4"
AT-HD C 130 SC06 P535 (1)	559	884	568	618	336	137	260	406	2.309	1.416	1151	608	508	1"
AT-HD C 130 SC06 P585 (1)	610	920	604	708	336	137	260	406	2.336	1.416	1151	608	508	1"
AT-HD C 130 SC06 P635 (1)	660	922	606	757	336	137	260	406	2.338	1.416	1151	608	508	1"
AT-HD C 130 SC06 P685 (1)	715	936	620	811	336	137	260	406	2.352	1.416	1151	608	508	1"
AT-HD C 130 SC08 P435 (1)	458	884	568	519	336	137	260	406	2.360	1.476	1.211	608	508	3/4"
AT-HD C 130 SC08 P485 (1)	508	889	573	567	336	137	260	406	2.365	1.476	1.211	608	508	3/4"
AT-HD C 130 SC08 P535 (1)	559	884	568	618	336	137	260	406	2.369	1.476	1.211	608	508	1"
AT-HD C 130 SC08 P585 (1)	610	920	604	708	336	137	260	406	2.396	1.366	1.211	608	508	1"
AT-HD C 130 SC08 P635 (1)	660	922	606	757	336	137	260	406	2.398	1.476	1.211	608	508	1"
AT-HD C 130 SC08 P685 (1)	715	936	620	811	336	137	260	406	2.412	1.476	1.211	608	508	1"
AT-HD C 160 SC02 P485 (1)	508	1003	637	567	376	162	310	470	2.710	1707	1.341	618	508	3/4"
AT-HD C 160 SC02 P535 (1)	559	1013	647	654	376	162	310	470	2.720	1707	1.341	618	508	1"
AT-HD C 160 SC02 P585 (1)	610	1026	660	708	376	162	310	470	2.733	1707	1.341	618	508	1"
AT-HD C 160 SC02 P635 (1)	661	1028	662	757	376	162	310	470	2.735	1707	1.341	618	508	1"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



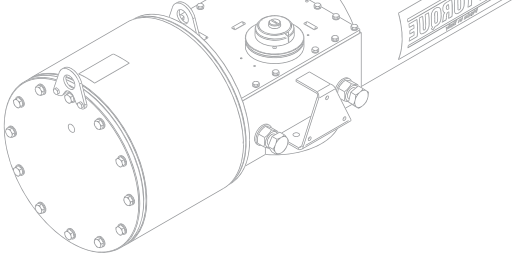
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



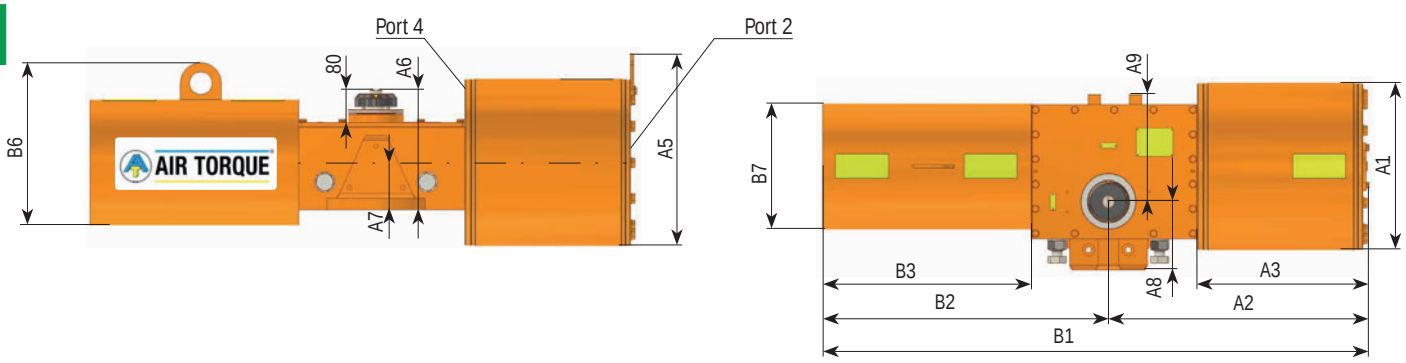
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 160 SC02 P685 (1)	715	1035	669	812	376	162	310	470	2.742	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P485 (1)	508	1003	637	567	376	162	310	470	2.710	1.707	1.341	618	508	3 / 4"
AT-HD C 160 SC04 P535 (1)	508	1013	647	654	376	162	310	470	2.720	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P585 (1)	610	1026	660	708	376	162	310	470	2.733	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P635 (1)	661	1028	662	757	376	162	310	470	2.735	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P685 (1)	715	1035	669	812	376	162	310	470	2.742	1.707	1.341	618	508	1"
AT-HD C 160 SC06 P485 (1)	508	1003	637	567	376	162	310	470	2.817	1.814	1.448	669	559	3 / 4"
AT-HD C 160 SC06 P535 (1)	559	1013	647	654	376	162	310	470	2.827	1.814	1.448	669	559	1"
AT-HD C 160 SC06 P585 (1)	610	1026	660	708	376	162	310	470	2.840	1.814	1.448	669	559	1"
AT-HD C 160 SC06 P635 (1)	661	1028	662	757	376	162	310	470	2.842	1.814	1.448	669	559	1"
AT-HD C 160 SC06 P685 (1)	715	1035	669	812	376	162	310	470	2.849	1.814	1.448	669	559	1"
AT-HD C 160 SC08 P485 (1)	508	1003	637	567	376	162	310	470	2.905	1.902	1.536	720	610	3 / 4"
AT-HD C 160 SC08 P535 (1)	559	1013	647	654	376	162	310	470	2.915	1.902	1.536	720	610	1"
AT-HD C 160 SC08 P585 (1)	610	1026	660	708	376	162	310	470	2.928	1.902	1.536	720	610	1"
AT-HD C 160 SC08 P635 (1)	661	1028	662	757	376	162	310	470	2.842	1.902	1.536	720	610	1"
AT-HD C 160 SC08 P685 (1)	715	1035	669	812	376	162	310	470	2.937	1.902	1.536	720	610	1"
AT-HD C 200 SC02 P585 (1)	610	1241	805	708	404	174	341	525	3.346	2105	1.669	872	762	1"
AT-HD C 200 SC02 P635 (1)	661	1243	807	756	404	174	341	525	3.348	2105	1.669	872	762	1"
AT-HD C 200 SC02 P685 (1)	715	1245	809	812	404	174	341	525	3.350	2105	1.669	872	762	1"
AT-HD C 200 SC04 P585 (1)	610	1241	805	708	404	174	341	525	3.346	2105	1.669	872	762	1"
AT-HD C 200 SC04 P635 (1)	661	1243	807	756	404	174	341	525	3.348	2105	1.669	872	762	1"
AT-HD C 200 SC04 P685 (1)	715	1245	809	812	404	174	341	525	3.350	2105	1.669	872	762	1"
AT-HD C 200 SC06 P585 (1)	610	1241	805	708	404	174	341	525	3.406	2165	1.729	923	813	1"
AT-HD C 200 SC06 P635 (1)	661	1243	807	756	404	174	341	525	3.408	2165	1.729	923	813	1"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



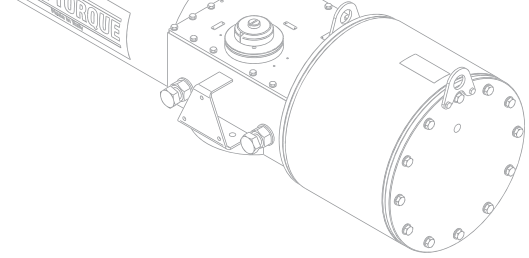
General dimensions - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



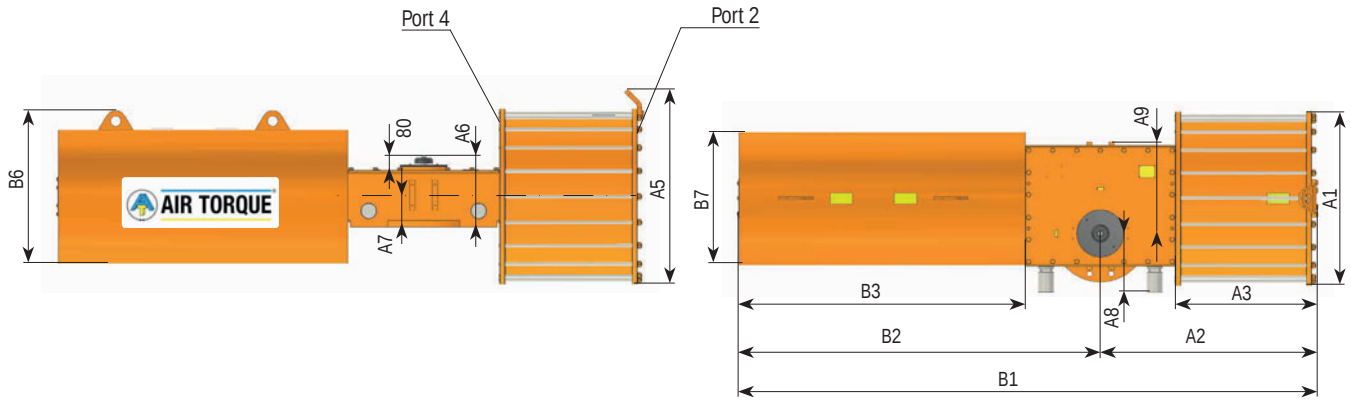
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 200 SC06 P685 (1)	715	1.245	809	812	404	174	341	525	3.410	2.165	1.729	923	813	1”
AT-HD C 200 SC08 P585 (1)	610	1.241	805	708	404	174	341	525	3.406	2.165	1.729	923	813	1”
AT-HD C 200 SC08 P635 (1)	661	1.243	807	756	404	174	341	525	3.408	2.165	1.729	923	813	1”
AT-HD C 200 SC08 P685 (1)	715	1.245	809	812	404	174	341	525	3.410	2.165	1.729	923	813	1”

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



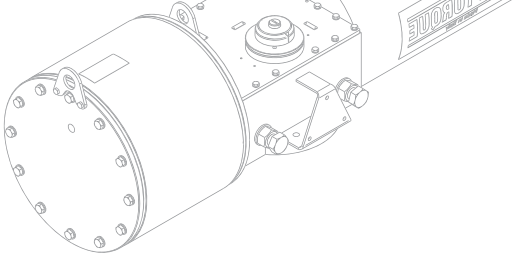
General dimensions - PNEUMATIC

Spring-Return Actuators with tie rods (mm)



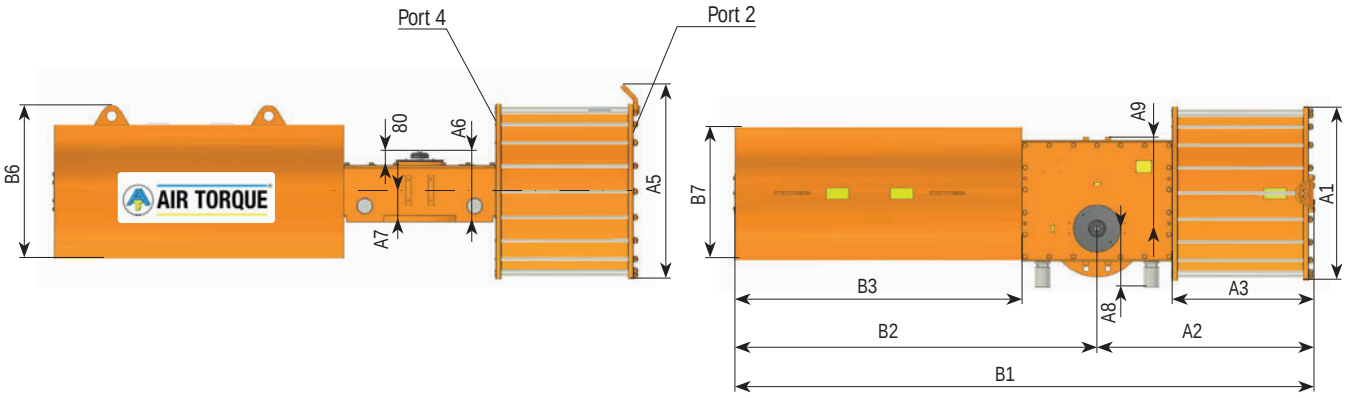
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 130 SC02 P735 (1)	845	935	619	947	336	137	260	406	2.301	1.366	1101	506	406	1"
AT-HD C 130 SC04 P735 (1)	845	935	619	947	336	137	260	406	2.411	1.476	1.211	608	508	1"
AT-HD C 130 SC06 P735 (1)	845	935	619	947	336	137	260	406	2.351	1.416	1151	608	508	1"
AT-HD C 130 SC08 P735 (1)	845	935	619	947	336	137	260	406	2.411	1.476	1.211	608	508	1"
AT-HD C 160 SC02 P735 (1)	838	1040	674	942	376	162	310	470	2.747	1.707	1.341	618	508	1"
AT-HD C 160 SC02 P785 (1)	903	1062	702	1019	376	162	310	470	2.767	1.707	1.341	618	508	1"
AT-HD C 160 SC02 P835 (1)	950	1062	702	1601	376	162	310	470	2.767	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P735 (1)	838	1040	674	942	376	162	310	470	2.747	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P785 (1)	903	1062	702	1019	376	162	310	470	2.767	1.707	1.341	618	508	1"
AT-HD C 160 SC04 P835 (1)	950	1062	702	1601	376	162	310	470	2.767	1.707	1.341	618	508	1"
AT-HD C 160 SC06 P735 (1)	838	1040	674	942	376	162	310	470	2.854	1.814	1.448	669	559	1"
AT-HD C 160 SC06 P785 (1)	903	1062	702	1019	376	162	310	470	2.876	1.814	1.448	669	559	1"
AT-HD C 160 SC06 P835 (1)	950	1062	702	1601	376	162	310	470	2.876	1.814	1.448	669	559	1"
AT-HD C 160 SC08 P735 (1)	838	1040	674	942	376	162	310	470	2.942	1.902	1.536	720	610	1"
AT-HD C 160 SC08 P785 (1)	903	1062	702	1019	376	162	310	470	2.964	1.902	1.536	720	610	1"
AT-HD C 160 SC08 P835 (1)	950	1062	702	1601	376	162	310	470	2.964	1.902	1.536	720	610	1"
AT-HD C 200 SC02 P735 (1)	840	1249	813	943	404	174	341	525	3.354	2105	1.669	872	762	1"
AT-HD C 200 SC02 P785 (1)	905	1253	817	1019	404	174	341	525	3.358	2105	1.669	872	762	1"
AT-HD C 200 SC02 P835 (1)	950	1260	824	1061	404	174	341	525	3.365	2105	1169	872	762	1"
AT-HD C 200 SC02 P885 (1)	1000	1260	824	1114	404	174	341	525	3.365	2105	1.669	872	762	1"
AT-HD C 200 SC02 P935 (1)	1070	1292	856	1179	404	174	341	525	3.397	2105	1169	872	762	1"
AT-HD C 200 SC02 P985 (1)	1120	1291	855	1229	404	174	341	525	3.396	2105	1.669	872	762	1"
AT-HD C 200 SC02 P1050 (1)	1185	1291	885	1294	404	174	341	525	3.396	2105	1169	872	762	1"
AT-HD C 200 SC02 P1150 (1)	1285	1296	860	1397	404	174	341	525	3.401	2105	1.669	872	762	1"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



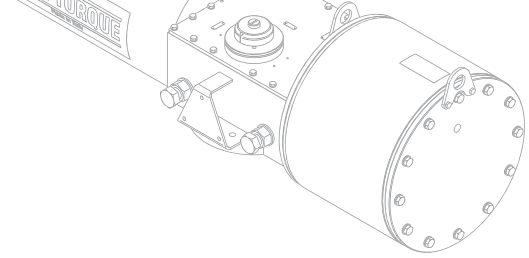
General dimensions - PNEUMATIC

Spring-Return Actuators with tie rods (mm)



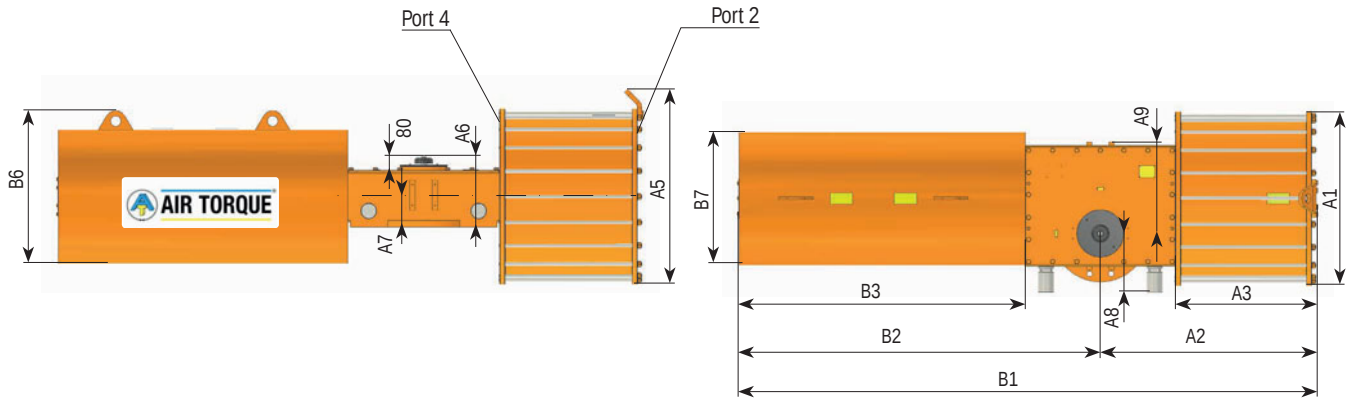
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 200 SC04 P735 (1)	840	1.249	813	943	404	174	341	525	3.354	2.105	1.669	872	762	1"
AT-HD C 200 SC04 P785 (1)	905	1.253	817	1.019	404	174	341	525	3.358	2.105	1.669	872	762	1"
AT-HD C 200 SC04 P835 (1)	950	1.260	824	1.061	404	174	341	525	3.365	2.105	1169	872	762	1"
AT-HD C 200 SC04 P885 (1)	1.000	1.260	824	1114	404	174	341	525	3.365	2.105	1.669	872	762	1"
AT-HD C 200 SC04 P935 (1)	1.070	1.292	856	1179	404	174	341	525	3.397	2.105	1169	872	762	1"
AT-HD C 200 SC04 P985 (1)	1120	1.291	855	1.229	404	174	341	525	3.396	2.105	1.669	872	762	1"
AT-HD C 200 SC04 P1050 (1)	1185	1.291	885	1.294	404	174	341	525	3.396	2.105	1169	872	762	1"
AT-HD C 200 SC04 P1150 (1)	1.285	1.296	860	1.397	404	174	341	525	3.401	2.105	1.669	872	762	1"
AT-HD C 200 SC06 P735 (1)	840	1.249	813	943	404	174	341	525	3.414	2.165	1.729	923	813	1"
AT-HD C 200 SC06 P785 (1)	905	1.253	817	1.019	404	174	341	525	3.418	2.165	1.729	923	813	1"
AT-HD C 200 SC06 P835 (1)	950	1.260	824	1.061	404	174	341	525	3.425	2.165	1.729	923	813	1"
AT-HD C 200 SC06 P885 (1)	1.000	1.260	824	1114	404	174	341	525	3.425	3.165	1.729	923	813	1"
AT-HD C 200 SC06 P935 (1)	1.070	1.292	856	1179	404	174	341	525	3.457	2.165	1.729	923	813	1"
AT-HD C 200 SC06 P985 (1)	1120	1.291	855	1.229	404	174	341	525	3.456	3.165	1.729	923	813	1"
AT-HD C 200 SC06 P1050 (1)	1185	1.291	885	1.294	404	174	341	525	3.456	2.165	1.729	923	813	1"
AT-HD C 200 SC06 P1150 (1)	1.285	1.296	860	1.397	404	174	341	525	3.461	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P735 (1)	840	1.249	813	943	404	174	341	525	3.414	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P785 (1)	905	1.253	817	1.019	404	174	341	525	3.418	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P835 (1)	950	1.260	824	1.061	404	174	341	525	3.425	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P885 (1)	1.000	1.260	824	1114	404	174	341	525	3.425	3.165	1.729	923	813	1"
AT-HD C 200 SC08 P935 (1)	1.070	1.292	856	1179	404	174	341	525	3.457	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P985 (1)	1120	1.291	855	1.229	404	174	341	525	3.456	3.165	1.729	923	813	1"
AT-HD C 200 SC08 P1050 (1)	1185	1.291	885	1.294	404	174	341	525	3.456	2.165	1.729	923	813	1"
AT-HD C 200 SC08 P1150 (1)	1.285	1.296	860	1.397	404	174	341	525	3.461	2.165	1.729	923	813	1"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



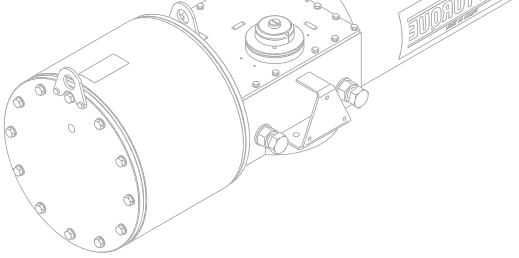
General dimensions - PNEUMATIC

Spring-Return Actuators with tie rods (mm)



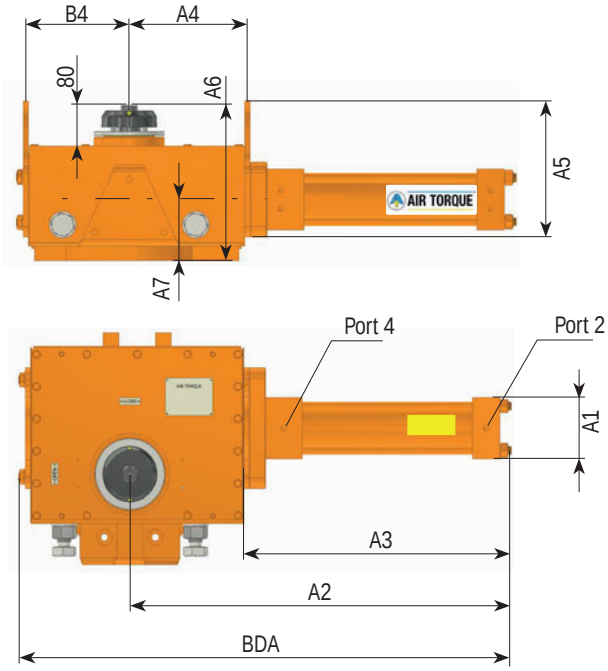
ACTUATOR	Ø A1	A2	A3	A5	A6	A7	A8	A9	B1	B2	B3	B6	Ø B7	Port 2 Port 4
AT-HD C 200 SC10 P735 (1)	840	1.249	813	943	404	174	341	525	3.414	2165	1729	923	813	1"
AT-HD C 200 SC10 P785 (1)	905	1.253	817	1.019	404	174	341	525	3.418	2165	1729	923	813	1"
AT-HD C 200 SC10 P835 (1)	950	1.260	824	1.061	404	174	341	525	3.425	2165	1729	923	813	1"
AT-HD C 200 SC10 P885 (1)	1000	1.260	824	1114	404	174	341	525	3.425	3165	1729	923	813	1"
AT-HD C 200 SC10 P935 (1)	1070	1.292	856	1179	404	174	341	525	3.457	2165	1729	923	813	1"
AT-HD C 200 SC10 P985 (1)	1120	1.291	855	1229	404	174	341	525	3.456	3165	1729	923	813	1"
AT-HD C 200 SC10 P1050 (1)	1185	1.291	885	1294	404	174	341	525	3.456	2165	1729	923	813	1"
AT-HD C 200 SC10 P1150 (1)	1285	1.296	860	1397	404	174	341	525	3.461	2165	1729	923	813	1"

- *NPT threads standard for pneumatic connections. Other connections available on request.*
- *For port 2 and port 4 position refer to the datasheet.*



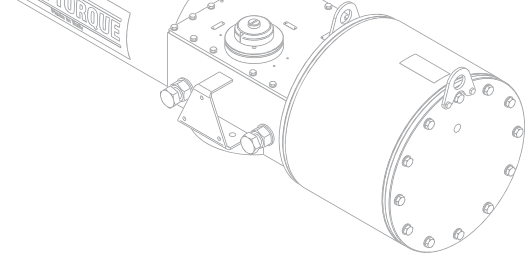
General dimensions - HYDRAULIC

Double-acting Actuators (mm)



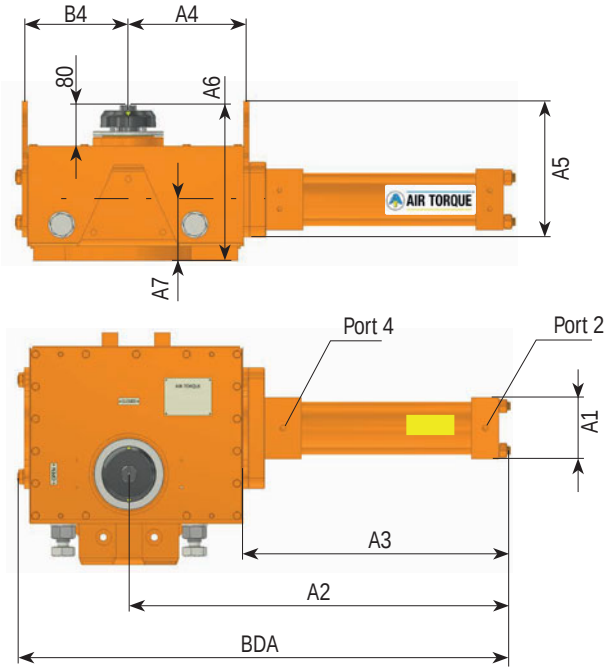
ACTUATOR	Ø A1	A2	A3	A4	A5	Port 2 Port 4	Approx. WEIGHT (kg)	Approx. Displacement volume (l)
AT-HD C 065...H 040	60	702	523	184	262,5	3/8"	77	0,4
AT-HD C 065...H 050	75	706	527	184	262,5	1/2"	81	0,6
AT-HD C 065...H 063	90	708	529	184	262,5	1/2"	85	1,0
AT-HD C 065...H 080	114	732	553	184	262,5	3/4"	95	1,5
AT-HD C 085...H 040	60	740	523	222	262,5	3/8"	108	0,4
AT-HD C 085...H 050	75	744	527	222	262,5	1/2"	113	0,6
AT-HD C 085...H 063	90	746	529	222	262,5	1/2"	117	1,0
AT-HD C 085...H 080	114	770	553	222	262,5	3/4"	127	1,5
AT-HD C 085...H 100	126	777	560	222	262,5	3/4"	137	2,4
AT-HD C 100...H 063	90	986	742	252	322,5	1/2"	169	1,5
AT-HD C 100...H 080	114	1010	766	252	322,5	3/4"	181	2,5
AT-HD C 100...H 100	126	1017	773	252	322,5	3/4"	193	3,9
AT-HD C 100...H 125	164	1052	808	252	322,5	1"	228	6,2
AT-HD C 100...H 140	198	1071	808	252	322,5	1"	249	7,7
AT-HD C 100...H 160	198	1071	827	252	322,5	1"	278	10,1

- *For dimensions on drawing not show in table, refer to datasheet.*
- *NPT threads standard for hydraulic connections. Other connections available on requests.*



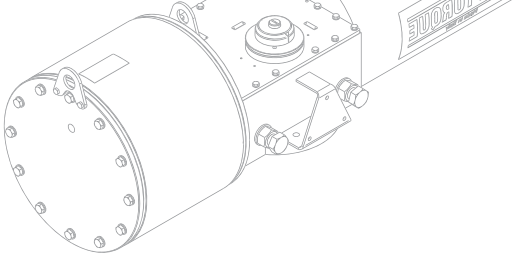
General dimensions - HYDRAULIC

Double-acting Actuators (mm)



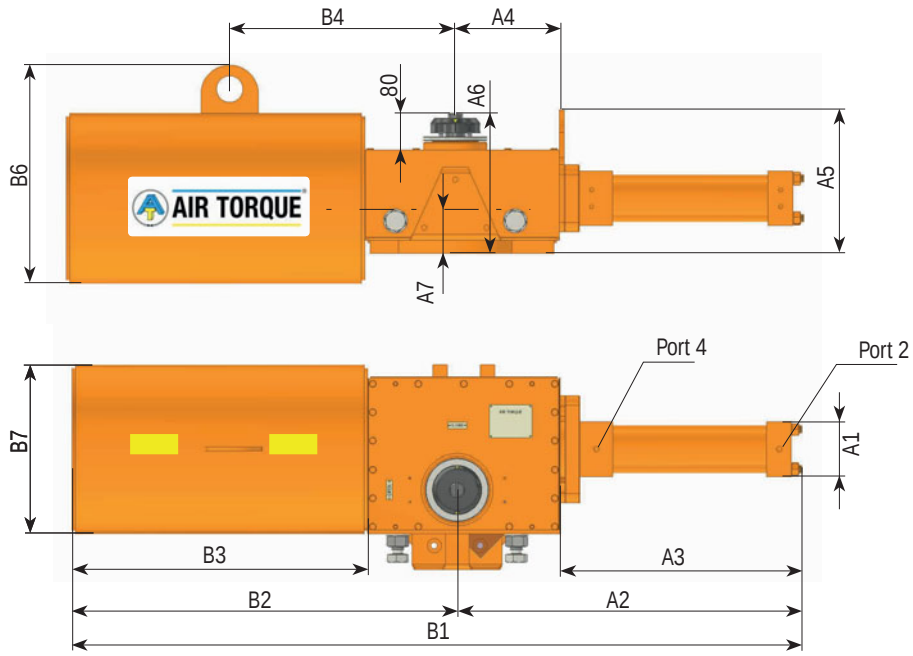
ACTUATOR	Ø A1	A2	A3	A4	A5	Port 2 Port 4	Approx. WEIGHT (kg)	Approx. Displacement volume (l)
AT-HD C 130...H 063	90	1.058	742	324	322,5	1 / 2"	250	1,5
AT-HD C 130...H 080	114	1.082	766	324	322,5	3 / 4"	262	2,5
AT-HD C 130...H 100	126	1.089	773	324	322,5	3 / 4"	274	3,9
AT-HD C 130...H 125	164	1124	808	324	322,5	1"	308	6,2
AT-HD C 130...H 140	198	1143	827	324	322,5	1"	330	7,7
AT-HD C 130...H 160	198	1143	827	324	322,5	1"	359	10,1
AT-HD C 160...H 125	164	1.329	963	376	390,0	1"	591	8,0
AT-HD C 160...H 140	198	1.348	982	376	390,0	1"	613	10,0
AT-HD C 160...H 160	198	1.348	982	376	390,0	1"	640	13,1
AT-HD C 160...H 200	240	1.405	1.039	376	390,0	1"	741	20,4
AT-HD C 200...H 125	164	1.399	963	446	390,0	1"	802	8,0
AT-HD C 200...H 140	198	1.418	982	446	390,0	1"	824	10,0
AT-HD C 200...H 160	198	1.418	982	446	390,0	1"	851	13,1
AT-HD C 200...H 200	240	1.475	1.039	446	390,0	1"	952	20,4

- *For dimensions on drawing not show in table, refer to datasheets.*
- *NPT threads standard for hydraulic connections. Other connections available on request.*



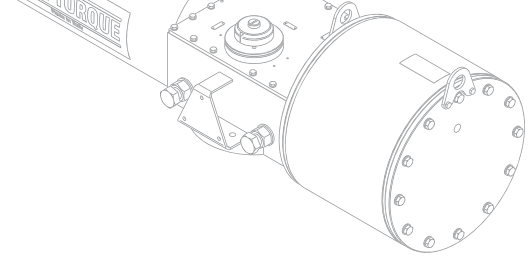
General dimensions - HYDRAULIC

Spring-return Actuators (mm)



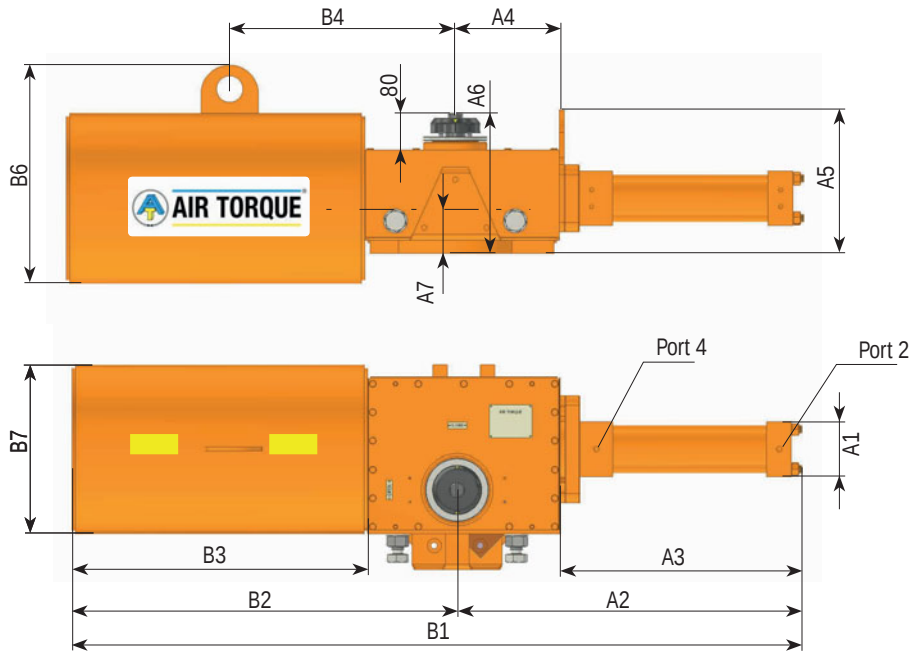
ACTUATOR	Ø A1	A2	A3	A4	A5	Port 2 Port 4	Approx.WEIGHT(*) (SO2 ÷ SO8) (kg)	Approx. Displacement volume (l)
AT-HD C 065...H 040	60	702	523	184	262,5	3 / 8"	130 ÷ 156	0,4
AT-HD C 065...H 050	75	706	527	184	262,5	1 / 2"	134 ÷ 160	0,6
AT-HD C 065...H 063	90	708	529	184	262,5	1 / 2"	138 ÷ 164	1,0
AT-HD C 065...H 080	114	732	553	184	262,5	3 / 4"	148 ÷ 174	1,5
AT-HD C 085...H 040	60	740	523	222	262,5	3 / 8"	227 ÷ 258	0,4
AT-HD C 085...H 050	75	744	527	222	262,5	1 / 2"	232 ÷ 263	0,6
AT-HD C 085...H 063	90	746	529	222	262,5	1 / 2"	236 ÷ 267	1,0
AT-HD C 085...H 080	114	770	553	222	262,5	3 / 4"	246 ÷ 277	1,5
AT-HD C 085...H 100	126	777	560	222	262,5	3 / 4"	256 ÷ 287	2,4
AT-HD C 100...H 063	90	986	742	252	322,5	1 / 2"	371 ÷ 524	1,5
AT-HD C 100...H 080	114	1.010	766	252	322,5	3 / 4"	383 ÷ 536	2,5
AT-HD C 100...H 100	126	1.017	773	252	322,5	3 / 4"	395 ÷548	3,9
AT-HD C 100...H 125	164	1.052	808	252	322,5	1"	430 ÷ 583	6,2
AT-HD C 100...H 140	198	1.071	808	252	322,5	1"	451 ÷ 604	7,7
AT-HD C 100...H 160	198	1.071	827	252	322,5	1"	480 ÷ 633	10,1

- *(*) The actuator weight depends on the spring module selected, refer to the datasheets.*
- *For dimensions on drawing not show in table, refer to datasheets.*
- *NPT threads standard for hydraulic connections. Other connections available on request.*



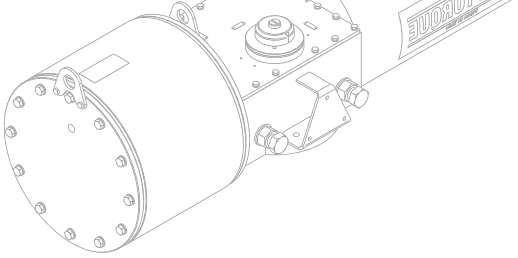
General dimensions - HYDRAULIC

Spring-return Actuators (mm)



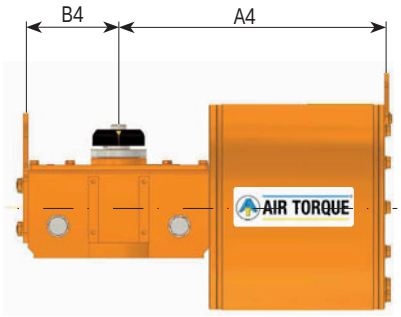
ACTUATOR	Ø A1	A2	A3	A4	A5	Port 2 Port 4	Approx.WEIGHT(*) (S02 ÷ S08) (kg)	Approx. Displacement volume (l)
AT-HD C 130...H 063	90	1.058	742	324	322,5	1 / 2"	575 ÷ 796	1,5
AT-HD C 130...H 080	114	1.082	766	324	322,5	3 / 4"	587 ÷ 808	2,5
AT-HD C 130...H 100	126	1.089	773	324	322,5	3 / 4"	599 ÷ 820	3,9
AT-HD C 130...H 125	164	1124	808	324	322,5	1"	633 ÷ 854	6,2
AT-HD C 130...H 140	198	1143	827	324	322,5	1"	655 ÷ 876	7,7
AT-HD C 130...H 160	198	1143	827	324	322,5	1"	684 ÷ 905	10,1
AT-HD C 160...H 125	164	1.329	963	376	390,0	1"	1168 ÷ 1.514	8,0
AT-HD C 160...H 140	198	1.348	982	376	390,0	1"	1.190 ÷ 1.536	10,0
AT-HD C 160...H 160	198	1.348	982	376	390,0	1"	1.217 ÷ 1.563	13,1
AT-HD C 160...H 200	240	1.405	1.039	376	390,0	1"	1.318 ÷ 1.664	20,4
AT-HD C 200...H 125	164	1.399	963	446	390,0	1"	1.991 ÷ 2.512	8,0
AT-HD C 200...H 140	198	1.418	982	446	390,0	1"	2.013 ÷ 2.534	10,0
AT-HD C 200...H 160	198	1.418	982	446	390,0	1"	2.040 ÷ 2.561	13,1
AT-HD C 200...H 200	240	1.475	1.039	446	390,0	1"	2.141 ÷ 2.662	20,4

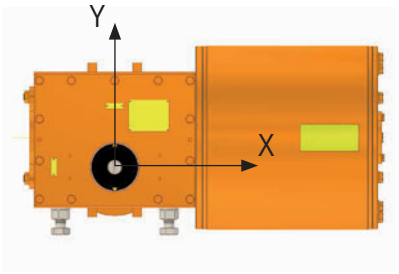
- *(*) The actuator weight depends on the spring module selected, refer to the datasheets.*
- *For dimensions on drawing not show in table, refer to datasheets.*
- *NPT threads standard for hydraulic connections. Other connections available on request.*



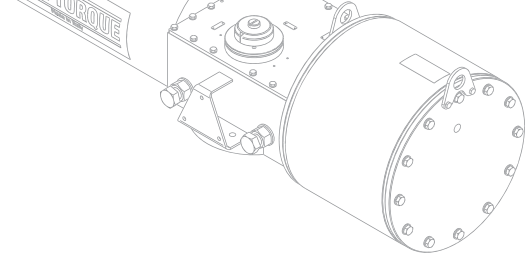
Data for AT-HD lifting - PNEUMATIC

Double-Acting Actuators without tie rods (mm)



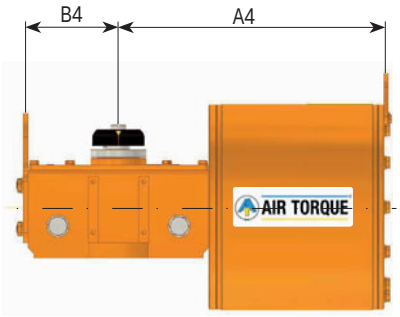


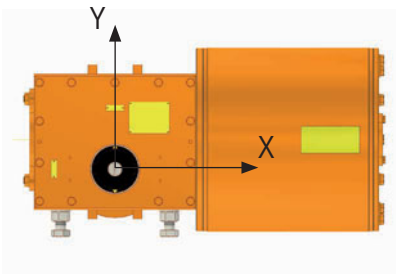
	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 065 D_ P235 (0)	518	184	153	56	125
AT-HD C 065 D_ P285 (0)	518	184	193	55	145
AT-HD C 065 D_ P335 (0)	531	184	208	57	172
AT-HD C 065 D_ P385 (0)	530	184	246	58	202
AT-HD C 085 D_ P235 (0)	611	194	165	65	161
AT-HD C 085 D_ P285 (0)	612	194	195	67	186
AT-HD C 085 D_ P335 (0)	422	194	233	69	213
AT-HD C 085 D_ P385 (0)	625	194	258	71	244
AT-HD C 085 D_ P435 (0)	652	194	301	74	290
AT-HD C 085 D_ P485 (0)	637	194	318	75	341
AT-HD C 100 D_ P335 (1)	707	227	223	73	267
AT-HD C 100 D_ P385 (1)	704	227	249	76	297
AT-HD C 100 D_ P435 (1)	701	227	277	79	341
AT-HD C 100 D_ P485 (1)	707	227	311	82	396
AT-HD C 100 D_ P535 (1)	701	227	330	84	453
AT-HD C 100 D_ P585 (1)	715	227	360	86	529
AT-HD C 100 D_ P635 (1)	721	227	390	88	604
AT-HD C 130 D_ P435 (1)	873	273	290	100	436
AT-HD C 130 D_ P485 (1)	878	273	345	103	493
AT-HD C 130 D_ P535 (1)	875	273	374	106	549
AT-HD C 130 D_ P585 (1)	882	273	415	109	629
AT-HD C 130 D_ P635 (1)	890	273	420	111	707



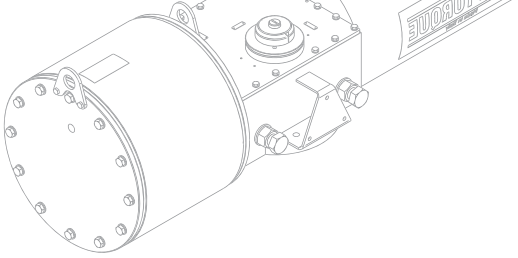
Data for AT-HD lifting - PNEUMATIC

Double-Acting Actuators without tie rods (mm)



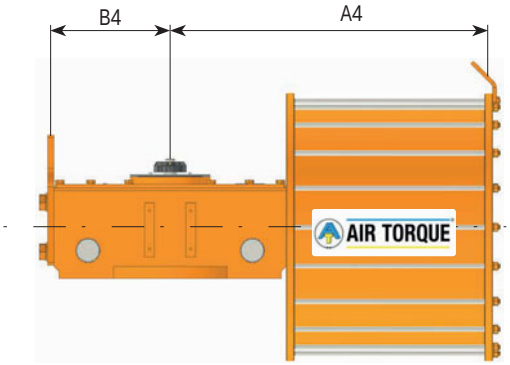


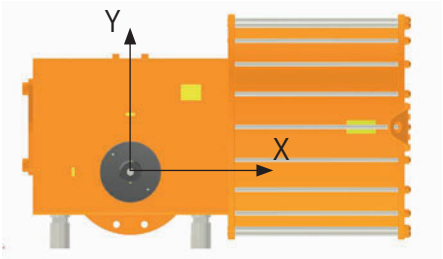
	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 130 D_ P685 (1)	900	273	745	114	816
AT-HD C 160 D_ P485 (1)	933	376	244	131	751
AT-HD C 160 D_ P535 (1)	976	376	290	134	809
AT-HD C 160 D_ P585 (1)	987	376	324	136	885
AT-HD C 160 D_ P635 (1)	945	376	373	138	960
AT-HD C 160 D_ P685 (1)	998	376	424	141	1088
AT-HD C 200 D_ P585 (1)	1203	466	385	158	1075
AT-HD C 200 D_ P635 (1)	1206	466	420	161	1152
AT-HD C 200 D_ P685 (1)	1208	466	465	164	1271



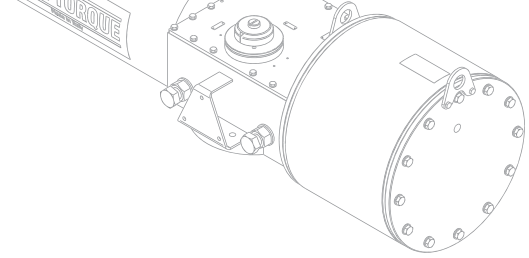
Data for AT-HD lifting - PNEUMATIC

Double-Acting Actuators with tie rods (mm)



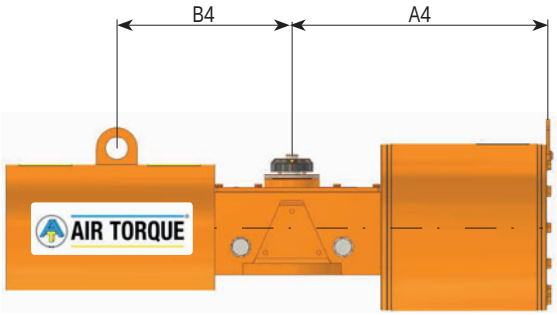


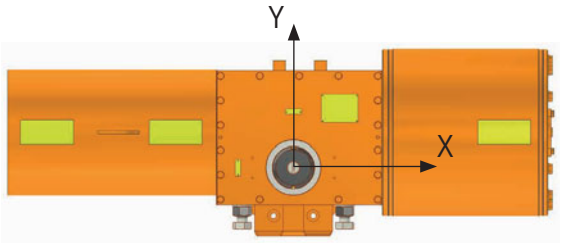
	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 130 D_ P735 (1)	877	273	479	115	896
AT-HD C 160 D_ P735 (1)	1.000	376	442	143	1188
AT-HD C 160 D_ P785 (1)	1.020	376	465	143	1.250
AT-HD C 160 D_ P835 (1)	1.020	376	49	146	1.413
AT-HD C 200 D_ P735 (1)	1.210	466	499	168	1152
AT-HD C 200 D_ P785 (1)	1.207	466	513	168	1.442
AT-HD C 200 D_ P835 (1)	1.213	466	550	172	1.628
AT-HD C 200 D_ P885 (1)	1.215	466	567	174	1.732
AT-HD C 200 D_ P935 (1)	1.237	466	596	176	1.861
AT-HD C 200 D_ P985 (1)	1.238	466	619	177	2.005
AT-HD C 200 D_ P1050 (1)	1.239	466	647	180	2.240
AT-HD C 200 D_ P1150 (1)	1.248	466	683	183	2.645



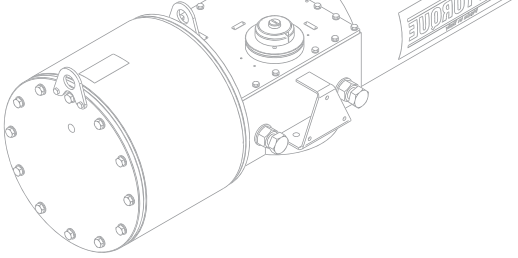
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



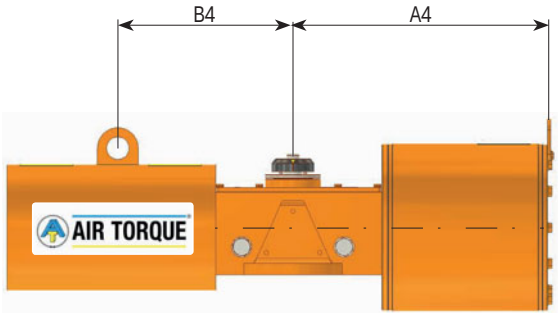


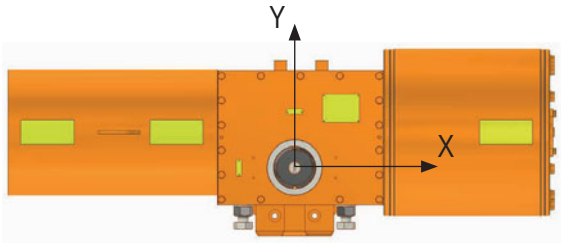
	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 065 SC02 P235 (0)	518	398	-3	59	178
AT-HD C 065 SC02 P285 (0)	518	398	-10	59	201
AT-HD C 065 SC02 P335 (0)	531	418	-69	59	226
AT-HD C 065 SC02 P385 (0)	530	418	-73	59	256
AT-HD C 065 SC04 P235 (0)	518	398	37	60	181
AT-HD C 065 SC04 P285 (0)	518	398	30	60	204
AT-HD C 065 SC04 P335 (0)	531	418	-24	60	229
AT-HD C 065 SC04 P385 (0)	530	418	-30	60	260
AT-HD C 065 SC06 P235 (0)	518	398	68	59	201
AT-HD C 065 SC06 P285 (0)	518	398	62	59	224
AT-HD C 065 SC06 P335 (0)	531	418	9	60	251
AT-HD C 065 SC06 P385 (0)	530	418	4	60	281
AT-HD C 065 SC08 P235 (0)	518	398	114	59	204
AT-HD C 065 SC08 P285 (0)	518	398	108	60	227
AT-HD C 065 SC08 P335 (0)	531	418	58	60	254
AT-HD C 065 SC08 P385 (0)	530	418	52	60	284
AT-HD C 085 SC02 P235 (0)	611	477	-113	73	280
AT-HD C 085 SC02 P285 (0)	612	477	-132	75	304
AT-HD C 085 SC02 P335 (0)	622	477	-85	76	332
AT-HD C 085 SC02 P385 (0)	625	477	-39	77	364
AT-HD C 085 SC02 P435 (0)	652	477	16	77	410
AT-HD C 085 SC02 P485 (0)	637	477	57	78	461
AT-HD C 085 SC04 P235 (0)	611	477	-118	73	284
AT-HD C 085 SC04 P285 (0)	612	477	-77	74	308



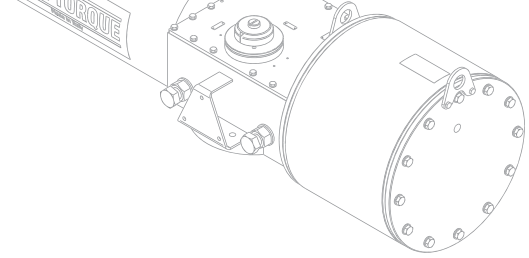
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



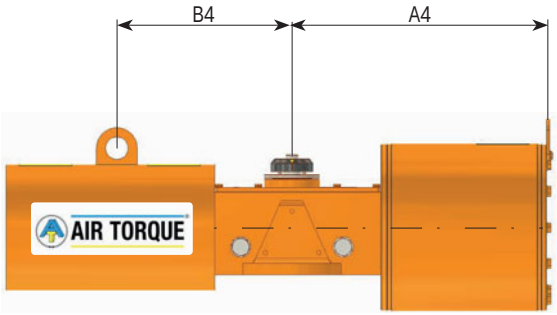


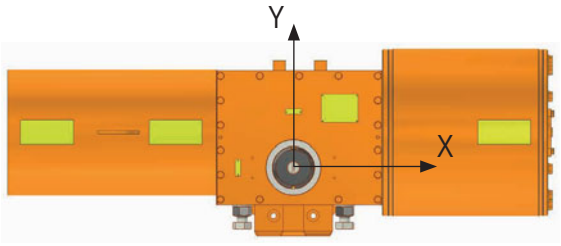
	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 085 SC04 P335 (0)	622	477	-32	75	336
AT-HD C 085 SC04 P385 (0)	625	477	9	76	367
AT-HD C 085 SC04 P435 (0)	652	477	66	77	414
AT-HD C 085 SC04 P485 (0)	637	477	102	78	465
AT-HD C 085 SC06 P235 (0)	611	477	-130	74	293
AT-HD C 085 SC06 P285 (0)	612	477	-90	75	317
AT-HD C 085 SC06 P335 (0)	622	477	-45	75	345
AT-HD C 085 SC06 P385 (0)	625	477	-4	76	377
AT-HD C 085 SC06 P435 (0)	652	477	53	77	423
AT-HD C 085 SC06 P485 (0)	637	477	92	72	474
AT-HD C 085 SC08 P235 (0)	611	562	-171	74	311
AT-HD C 085 SC08 P285 (0)	612	562	-132	75	336
AT-HD C 085 SC08 P335 (0)	622	562	-85	76	363
AT-HD C 085 SC08 P385 (0)	625	562	-39	77	395
AT-HD C 085 SC08 P435 (0)	652	562	16	77	441
AT-HD C 085 SC08 P485 (0)	637	562	57	78	492
AT-HD C 100 SC02 P335 (1)	707	548	-114	85	470
AT-HD C 100 SC02 P385 (1)	704	548	-79	86	500
AT-HD C 100 SC02 P435 (1)	701	548	-33	87	543
AT-HD C 100 SC02 P485 (1)	707	548	16	88	598
AT-HD C 100 SC02 P535 (1)	701	548	62	89	655
AT-HD C 100 SC02 P585 (1)	715	548	105	90	731
AT-HD C 100 SC02 P635 (1)	721	548	152	91	806
AT-HD C 100 SC04 P335 (1)	707	578	-146	86	486



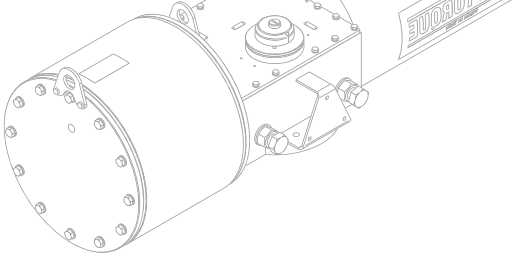
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)



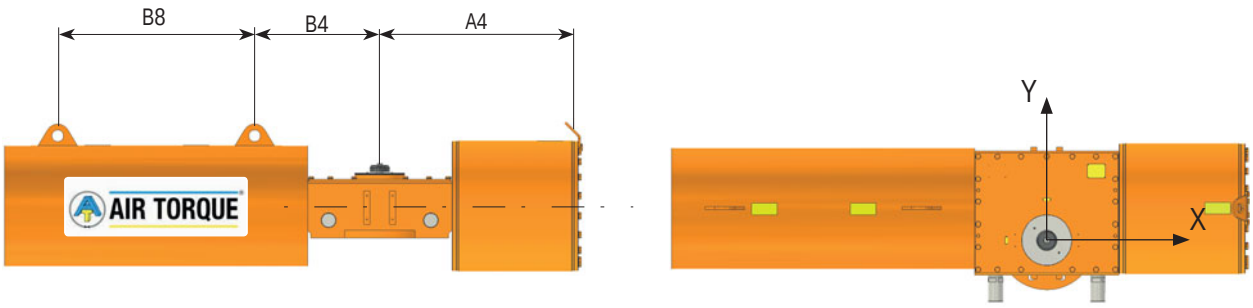


	Lifting point		Center of gravity (approx.)		
ACTUATOR	A4	B4	X	Y	Approx WEIGHT (kg)
AT-HD C 100 SC04 P385 (1)	704	578	-110	86	516
AT-HD C 100 SC04 P435 (1)	701	578	-63	87	560
AT-HD C 100 SC04 P485 (1)	707	578	-12	88	615
AT-HD C 100 SC04 P535 (1)	701	578	35	89	671
AT-HD C 100 SC04 P585 (1)	715	578	80	90	748
AT-HD C 100 SC04 P635 (1)	721	578	127	91	823
AT-HD C 100 SC06 P335 (1)	707	578	-166	86	507
AT-HD C 100 SC06 P385 (1)	704	578	-130	87	537
AT-HD C 100 SC06 P435 (1)	701	578	-85	88	581
AT-HD C 100 SC06 P485 (1)	707	578	-33	89	636
AT-HD C 100 SC06 P535 (1)	701	578	15	90	692
AT-HD C 100 SC06 P585 (1)	715	578	60	91	769
AT-HD C 100 SC06 P635 (1)	721	578	108	92	844
AT-HD C 100 SC08 P335 (1)	707	735	-313	87	600
AT-HD C 100 SC08 P385 (1)	704	735	-263	88	652
AT-HD C 100 SC08 P435 (1)	701	735	-212	89	675
AT-HD C 100 SC08 P485 (1)	707	735	-167	90	751
AT-HD C 100 SC08 P535 (1)	701	735	-100	91	786
AT-HD C 100 SC08 P585 (1)	-715	735	-66	91	863
AT-HD C 100 SC08 P635 (1)	721	735	-3	92	938
AT-HD C 130 SC02 P435 (1)	873	781	174	112	761
AT-HD C 130 SC02 P485 (1)	878	781	-62	115	814
AT-HD C 130 SC02 P535 (1)	875	781	-62	114	872
AT-HD C 130 SC02 P585 (1)	882	781	1	116	954

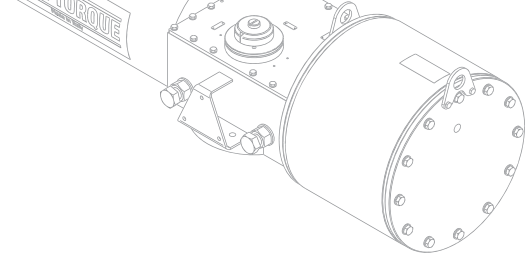


Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)

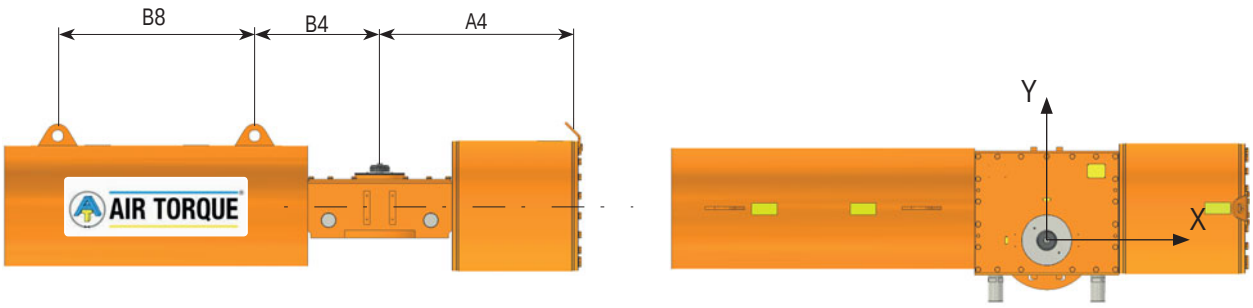


	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 130 SC02 P635 (1)	890	781	-	53	117	1.032
AT-HD C 130 SC02 P685 (1)	900	781	-	112	118	1141
AT-HD C 130 SC04 P435 (1)	873	829	-	-304	115	913
AT-HD C 130 SC04 P485 (1)	878	829	-	-247	116	969
AT-HD C 130 SC04 P535 (1)	875	829	-	-200	117	1.024
AT-HD C 130 SC04 P585 (1)	882	829	-	-129	118	1105
AT-HD C 130 SC04 P635 (1)	890	829	-	-76	119	1184
AT-HD C 130 SC04 P685 (1)	900	829	-	-13	120	1.292
AT-HD C 130 SC06 P435 (1)	873	766	-	-307	115	942
AT-HD C 130 SC06 P485 (1)	878	766	-	-256	116	1.000
AT-HD C 130 SC06 P535 (1)	875	766	-	-201	117	1.054
AT-HD C 130 SC06 P585 (1)	882	766	-	-136	118	1135
AT-HD C 130 SC06 P635 (1)	890	766	-	-84	119	1.214
AT-HD C 130 SC06 P685 (1)	900	766	-	-22	120	1.322
AT-HD C 130 SC08 P435 (1)	873	829	-	-339	116	981
AT-HD C 130 SC08 P485 (1)	878	829	-	-284	117	1.038
AT-HD C 130 SC08 P535 (1)	875	829	-	-238	118	1.093
AT-HD C 130 SC08 P585 (1)	882	829	-	-174	118	1174
AT-HD C 130 SC08 P635 (1)	890	829	-	-121	119	1.253
AT-HD C 130 SC08 P685 (1)	900	829	-	-57	120	1.361
AT-HD C 160 SC02 P485 (1)	933	638	810	-299	146	1.330
AT-HD C 160 SC02 P535 (1)	976	638	810	-250	146	1.390
AT-HD C 160 SC02 P585 (1)	987	638	810	-200	147	1.465
AT-HD C 160 SC02 P635 (1)	945	638	810	-145	148	1.540

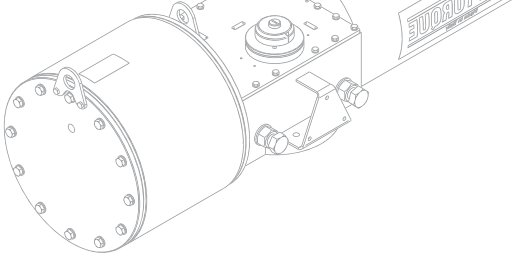


Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)

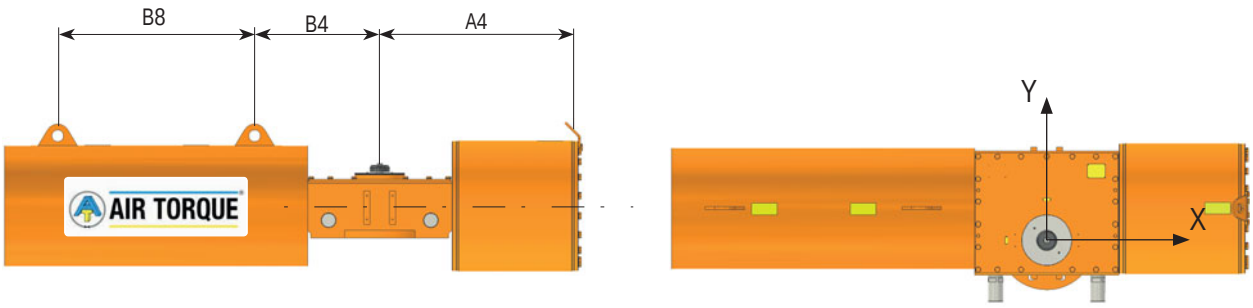


	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 160 SC02 P685 (1)	998	638	810	-73	149	1.659
AT-HD C 160 SC04 P485 (1)	933	638	810	-328	146	1.349
AT-HD C 160 SC04 P535 (1)	976	638	810	-278	147	1.406
AT-HD C 160 SC04 P585 (1)	987	638	810	-228	147	1.484
AT-HD C 160 SC04 P635 (1)	945	638	810	-172	148	1.556
AT-HD C 160 SC04 P685 (1)	998	638	810	-98	149	1.678
AT-HD C 160 SC06 P485 (1)	933	634	913	-387	147	1.454
AT-HD C 160 SC06 P535 (1)	976	634	913	-338	148	1.514
AT-HD C 160 SC06 P585 (1)	987	634	913	-288	149	1.588
AT-HD C 160 SC06 P635 (1)	945	634	913	-233	149	1.662
AT-HD C 160 SC06 P685 (1)	998	634	913	-160	150	1.784
AT-HD C 160 SC08 P485 (1)	933	720	998	-501	148	1.673
AT-HD C 160 SC08 P535 (1)	976	720	998	-460	150	1.731
AT-HD C 160 SC08 P585 (1)	987	720	998	-411	150	1.807
AT-HD C 160 SC08 P635 (1)	945	720	998	-358	151	1.882
AT-HD C 160 SC08 P685 (1)	998	720	998	286	152	2.004
AT-HD C 200 SC02 P585 (1)	1.203	866	900	-452	180	2.264
AT-HD C 200 SC02 P635 (1)	1.206	866	900	-407	181	2.341
AT-HD C 200 SC02 P685 (1)	1.208	866	900	-344	182	2.461
AT-HD C 200 SC04 P585 (1)	1.203	866	900	-515	181	2.441
AT-HD C 200 SC04 P635 (1)	1.206	866	900	-471	182	2.518
AT-HD C 200 SC04 P685 (1)	1.208	866	900	-409	183	2.674
AT-HD C 200 SC06 P585 (1)	1.203	956	900	-571	183	2.621
AT-HD C 200 SC06 P635 (1)	1.206	956	900	-529	183	2.698

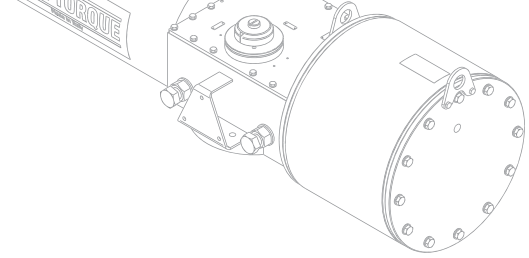


Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators without tie rods (mm)

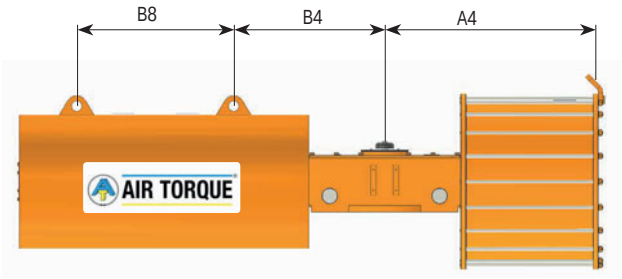


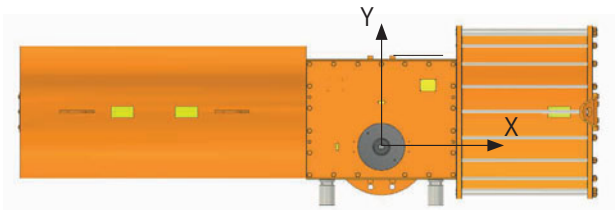
	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 200 SC06 P685 (1)	1.208	956	900	-468	183	2.818
AT-HD C 200 SC08 P585 (1)	1.203	956	900	-617	184	2.786
AT-HD C 200 SC08 P635 (1)	1.206	956	900	-576	184	2.863
AT-HD C 200 SC08 P685 (1)	1.208	956	900	-517	185	2.982



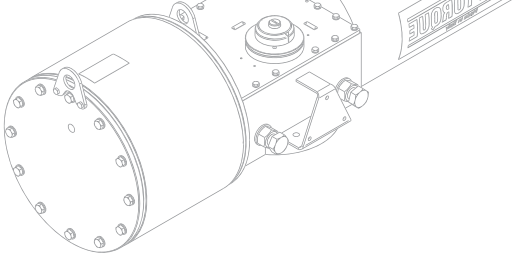
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators with tie rods (mm)



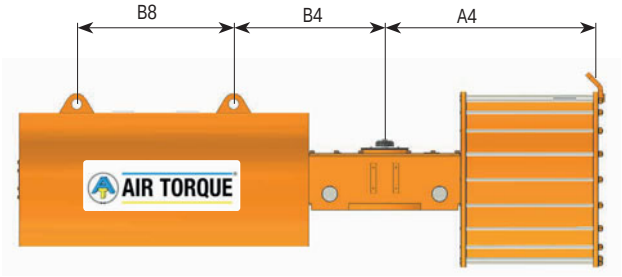


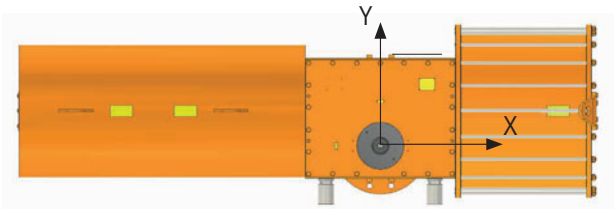
	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 130 SC02 P735 (1)	877	781	-	142	119	1.218
AT-HD C 130 SC04 P735 (1)	877	829	-	17	120	1.371
AT-HD C 130 SC06 P735 (1)	877	766	-	10	120	1.402
AT-HD C 130 SC08 P735 (1)	877	829	-	-23	121	1.439
AT-HD C 160 SC02 P735 (1)	1000	638	810	-32	150	1.765
AT-HD C 160 SC02 P785 (1)	1020	638	810	-4	150	1.828
AT-HD C 160 SC02 P835 (1)	1020	638	810	58	150	1.891
AT-HD C 160 SC04 P735 (1)	1000	638	810	-56	150	1.785
AT-HD C 160 SC04 P785 (1)	1020	638	810	-15	150	1.847
AT-HD C 160 SC04 P835 (1)	1020	638	810	48	151	2.010
AT-HD C 160 SC06 P735 (1)	1000	634	913	-116	151	1.861
AT-HD C 160 SC06 P785 (1)	1020	634	913	-85	150	1.953
AT-HD C 160 SC06 P835 (1)	1020	634	913	-22	151	2.116
AT-HD C 160 SC08 P735 (1)	1000	634	998	-240	152	2.111
AT-HD C 160 SC08 P785 (1)	1020	634	998	-207	152	2.172
AT-HD C 160 SC08 P835 (1)	1020	634	998	-135	152	2.336
AT-HD C 200 SC02 P735 (1)	1210	866	900	-289	183	2.588
AT-HD C 200 SC02 P785 (1)	1207	866	900	-324	183	2.631
AT-HD C 200 SC02 P835 (1)	1213	866	900	-192	184	2.818
AT-HD C 200 SC02 P885 (1)	1215	866	900	-156	185	2.922
AT-HD C 200 SC02 P935 (1)	1237	866	900	-146	185	3.050
AT-HD C 200 SC02 P985 (1)	1238	866	900	-98	185	3194
AT-HD C 200 SC02 P1050 (1)	1239	866	900	-31	187	3.429
AT-HD C 200 SC02 P1150 (1)	1248	866	900	96	188	3.835



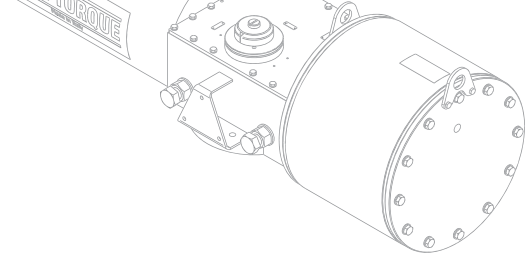
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators with tie rods (mm)



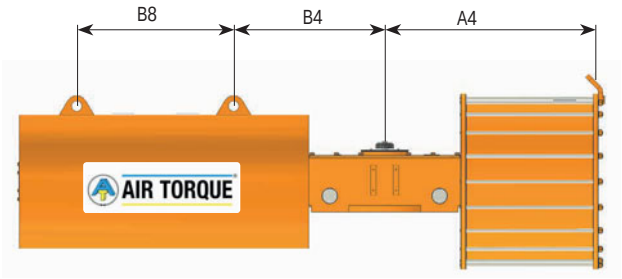


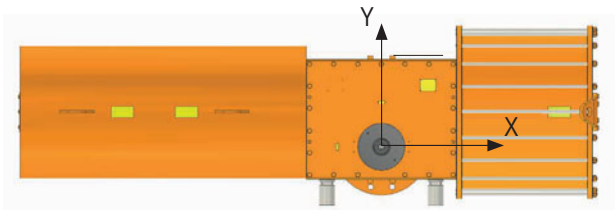
	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 200 SC04 P735 (1)	1.210	866	900	-352	184	2.764
AT-HD C 200 SC04 P785 (1)	1.207	866	900	-324	183	2.807
AT-HD C 200 SC04 P835 (1)	1.213	866	900	-258	184	2.996
AT-HD C 200 SC04 P885 (1)	1.215	866	900	-222	185	3.098
AT-HD C 200 SC04 P935 (1)	1.237	866	900	-168	186	3.227
AT-HD C 200 SC04 P985 (1)	1.238	866	900	-121	186	3.370
AT-HD C 200 SC04 P1050 (1)	1.239	866	900	-56	187	3.605
AT-HD C 200 SC04 P1150 (1)	1.248	866	900	34	189	4.012
AT-HD C 200 SC06 P735 (1)	1.210	956	900	-412	185	2.994
AT-HD C 200 SC06 P785 (1)	1.207	956	900	-408	184	2.987
AT-HD C 200 SC06 P835 (1)	1.213	956	900	-320	185	3174
AT-HD C 200 SC06 P885 (1)	1.215	956	900	-283	186	3.279
AT-HD C 200 SC06 P935 (1)	1.237	956	900	-249	186	3.407
AT-HD C 200 SC06 P985 (1)	1.238	956	900	-201	187	3.551
AT-HD C 200 SC06 P1050 (1)	1.239	956	900	-134	188	3.785
AT-HD C 200 SC06 P1150 (1)	1.248	956	900	-24	189	4192
AT-HD C 200 SC08 P735 (1)	1.210	956	900	-462	185	3109
AT-HD C 200 SC08 P785 (1)	1.207	956	900	-440	185	2.987
AT-HD C 200 SC08 P835 (1)	1.213	956	900	-370	186	3.338
AT-HD C 200 SC08 P885 (1)	1.215	956	900	-334	187	3.443
AT-HD C 200 SC08 P935 (1)	1.237	956	900	-290	187	3.571
AT-HD C 200 SC08 P985 (1)	1.238	956	900	-208	187	3.551
AT-HD C 200 SC08 P1050 (1)	1.239	956	900	-171	189	3.949
AT-HD C 200 SC08 P1150 (1)	1.248	956	900	-75	190	4.356



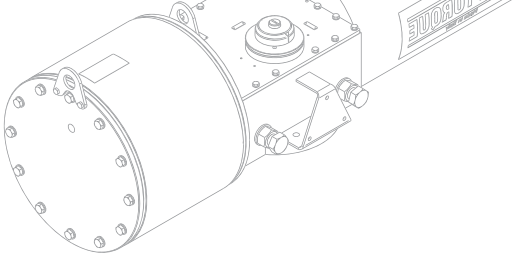
Data for AT-HD lifting - PNEUMATIC

Spring-Return Actuators with tie rods (mm)





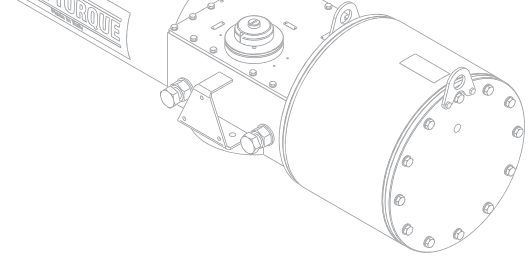
	Lifting point			Center of gravity (approx.)		
ACTUATOR	A4	B4	B8	X	Y	Approx WEIGHT (kg)
AT-HD C 200 SC10 P735 (1)	1.210	956	900	-508	186	3.160
AT-HD C 200 SC10 P785 (1)	1.207	956	900	-466	186	3.270
AT-HD C 200 SC10 P835 (1)	1.213	956	900	-397	186	3.450
AT-HD C 200 SC10 P885 (1)	1.215	956	900	-358	186	3.550
AT-HD C 200 SC10 P935 (1)	1.237	956	900	-320	187	3.670
AT-HD C 200 SC10 P985 (1)	1.238	956	900	-263	188	3.826
AT-HD C 200 SC10 P1050 (1)	1.239	956	900	-200	188	4.050
AT-HD C 200 SC10 P1150 (1)	1.248	956	900	-98	189	4.470



Output Torque - PNEUMATIC

Double-acting Actuators Symmetric Yoke (Nm)

Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 065 S D P235 (0)	Start	1.029	1.005	1.441	1.408	1.853	1.810	2.264	2.212	2.676	2.614	3.088	3.016		
	Run	590	576	826	807	1.062	1.038	1.298	1.268	1.534	1.499	1.770	1.729		
	End	1.029	1.005	1.441	1.408	1.853	1.810	2.264	2.212	2.676	2.614	3.088	3.016		
AT-HD 065 S D P285 (0)	Start	1.525	1.502	2.135	2.102	2.746	2.703	3.356	3.303	3.966	3.904				
	Run	875	861	1.224	1.205	1.574	1.550	1.924	1.894	2.274	2.238				
	End	1.525	1.502	2.135	2.102	2.746	2.703	3.356	3.303	3.966	3.904				
AT-HD 065 S D P335 (0)	Start	2.119	2.095	2.966	2.933	3.814	3.771								
	Run	1.215	1.201	1.701	1.682	2.187	2.162								
	End	2.119	2.095	2.966	2.933	3.814	3.771								
AT-HD 065 S D P385 (0)	Start	2.809	2.786	3.933	3.900										
	Run	1.611	1.597	2.255	2.236										
	End	2.809	2.786	3.933	3.900										
AT-HD 085 S D P235 (0)	Start	1.287	1.238	1.802	1.733	2.317	2.228	2.832	2.724	3.347	3.219	3.862	3.714	5.149	4.952
	Run	750	722	1.051	1.010	1.351	1.299	1.651	1.588	1.951	1.876	2.251	2.165	3.002	2.887
	End	1.430	1.376	2.002	1.926	2.574	2.476	3.147	3.026	3.719	3.576	4.291	4.127	5.721	5.502
AT-HD 085 S D P285 (0)	Start	1.908	1.858	2.671	2.602	3.434	3.345	4.197	4.089	4.960	4.832	5.723	5.575		
	Run	1.112	1.083	1.557	1.517	2.002	1.950	2.447	2.384	2.892	2.817	3.337	3.250		
	End	2.120	2.065	2.968	2.891	3.816	3.717	4.663	4.543	5.511	5.369	6.359	6.195		
AT-HD 085 S D P335 (0)	Start	2.650	2.601	3.710	3.641	4.770	4.681	5.830	5.721	6.890	6.762				
	Run	1.545	1.516	2.163	2.123	2.781	2.729	3.399	3.336	4.017	3.942				
	End	2.944	2.890	4.122	4.045	5.300	5.201	6.478	6.357	7.655	7.513				
AT-HD 085 S D P385 (0)	Start	3.514	3.464	4.919	4.850	6.325	6.236								
	Run	2.048	2.020	2.868	2.828	3.687	3.636								
	End	3.904	3.849	5.466	5.389	7.028	6.929								
AT-HD 085 S D P435 (0)	Start	4.499	4.450	6.299	6.230										
	Run	2.623	2.594	3.672	3.632										
	End	4.999	4.944	6.999	6.922										
AT-HD 085 S D P485 (0)	Start	5.606	5.557												
	Run	3.269	3.240												
	End	6.229	6.175												
AT-HD 100 S D P335 (1)	Start	3.684	3.444	5.157	4.822	6.631	6.200	8.104	7.578	9.578	8.955	11.052	10.333	14.735	13.777
	Run	1.929	1.870	2.700	2.618	3.472	3.366	4.244	4.114	5.015	4.862	5.787	5.610	7.716	7.480
	End	3.582	3.462	5.015	4.847	6.448	6.232	7.880	7.617	9.313	9.002	10.746	10.387	14.328	13.850
AT-HD 100 S D P385 (1)	Start	4.885	4.588	6.839	6.424	8.793	8.259	10.746	10.095	12.700	11.930	14.654	13.765		
	Run	2.558	2.491	3.581	3.487	4.604	4.484	5.627	5.480	6.650	6.477	7.673	7.473		
	End	4.750	4.613	6.650	6.458	8.549	8.303	10.449	10.148	12.349	11.993	14.249	13.838		

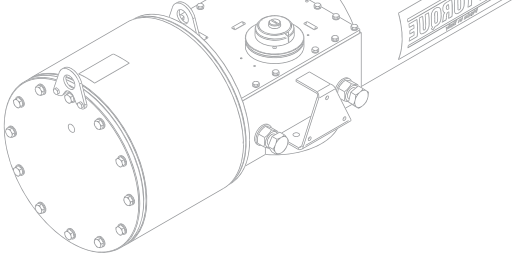


AIR TORQUE

Output Torque - PNEUMATIC

Double-acting Actuators Symmetric Yoke (Nm)

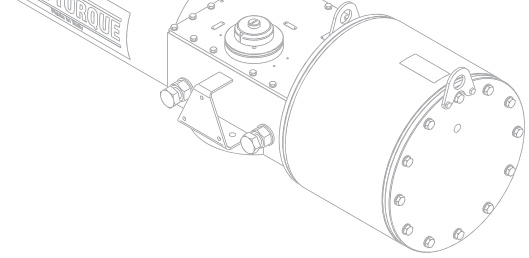
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 100 S D P435 (1)	Start	6.255	5.894	8.757	8.251	11.259	10.609	13.761	12.966						
	Run	3.275	3.200	4.585	4.479	5.895	5.759	7.205	7.039						
	End	6.082	5.925	8.515	8.294	10.947	10.664	13.380	13.034						
AT-HD 100 S D P485 (1)	Start	7.794	7.360	10.912	10.304	14.029	13.248								
	Run	4.081	3.996	5.713	5.594	7.346	7.192								
	End	7.578	7.399	10.610	10.358	13.641	13.318								
AT-HD 100 S D P535 (1)	Start	9.502	8.988	13.303	12.583										
	Run	4.975	4.879	6.966	6.831										
	End	9.240	9.035	12.935	12.649										
AT-HD 100 S D P585 (1)	Start	11.380	10.776	15.932	15.087										
	Run	5.959	5.850	8.342	8190										
	End	11.065	10.833	15.491	15166										
AT-HD 100 S D P635 (1)	Start	13.426	12.726												
	Run	7.030	6.909												
	End	13.055	12.793												
AT-HD 130 S D P385 (1)	Start	5.775	5.895	8.085	8.253	10.395	10.612	12.705	12.970	15.015	15.328	17.325	17.686	23.101	23.581
	Run	3.118	3.113	4.365	4.359	5.613	5.604	6.860	6.850	8.107	8.095	9.354	9.340	12.472	12.454
	End	5.504	5.792	7.706	8109	9.907	10.426	12.109	12.743	14.310	15.059	16.512	17.376	22.016	23.168
AT-HD 130 S D P435 (1)	Start	7.395	7.572	10.353	10.601	13.311	13.630	16.269	16.659	19.227	19.688	22.185	22.717	29.580	30.289
	Run	3.993	3.999	5.590	5.599	7.187	7.198	8.784	8.798	10.381	10.398	11.978	11.997	15.970	15.996
	End	7.048	7.440	9.867	10.416	12.686	13.391	15.505	16.367	18.324	19.343	21.143	22.319	28.191	29.759
AT-HD 130 S D P485 (1)	Start	9.215	9.456	12.901	13.239	16.586	17.021	20.272	20.804	23.958	24.587	27.644	28.369		
	Run	4.975	4.994	6.965	6.992	8.955	8.989	10.945	10.987	12.935	12.985	14.925	14.982		
	End	8.782	9.291	12.295	13.007	15.808	16.723	19.320	20.440	22.833	24156	26.346	27.872		
AT-HD 130 S D P535 (1)	Start	11.234	11.547	15.728	16166	20.222	20.785	24.716	25.404	29.209	30.023				
	Run	6.066	6.098	8.492	8.538	10.918	10.977	13.344	13.417	15.770	15.856				
	End	10.707	11.345	14.990	15.883	19.272	20.421	23.555	24.959	27.838	29.497				
AT-HD 130 S D P585 (1)	Start	13.454	13.846	18.836	19.384	24.217	24.922	29.599	30.460						
	Run	7.264	7.312	10.170	10.237	13.075	13.162	15.981	16.087						
	End	12.822	13.603	17.951	19.044	23.080	24.485	28.209	29.927						
AT-HD 130 S D P635 (1)	Start	15.874	16.351	22.223	22.891	28.573	29.431								
	Run	8.570	8.635	11.998	12.089	15.427	15.543								
	End	15.128	16.064	21.180	22.490	27.231	28.916								
AT-HD 130 S D P685 (1)	Start	18.493	19.063	25.891	26.688										
	Run	9.985	10.068	13.979	14.095										
	End	17.625	18.729	24.675	26.220										



Output Torque - PNEUMATIC

Double-acting Actuators Symmetric Yoke (Nm)

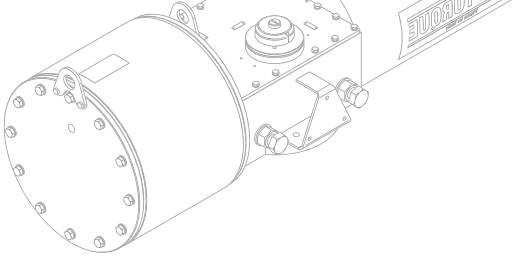
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 130 S D P735 (1)	Start	21.606	22.220												
	Run	11.665	11.735												
	End	20.591	21.831												
AT-HD 160 S D P485 (1)	Start			17.556	15.708	22.571	20.196	27.587	24.684	32.603	29.172	37.619	33.660	50.159	44.880
	Run			9.025	8.718	11.604	11.209	14.183	13.700	16.761	16.191	19.340	18.682	25.787	24.909
	End			16.911	16.265	21.742	20.912	26.574	25.560	31.405	30.207	36.237	34.854	48.316	46.472
AT-HD 160 S D P535 (1)	Start	15.288	13.718	21.403	19.205	27.519	24.693	33.634	30.180	39.749	35.667	45.864	41.155		
	Run	7.860	7.614	11.004	10.659	14.147	13.705	17.291	16.751	20.435	19.796	23.579	22.842		
	End	14.727	14.205	20.617	19.887	26.508	25.569	32.398	31.251	38.289	36.933	44.180	42.615		
AT-HD 160 S D P585 (1)	Start	18.309	16.464	25.632	23.049	32.956	29.635	40.279	36.220	47.603	42.806	54.926	49.391		
	Run	9.413	9.138	13.178	12.793	16.943	16.448	20.708	20.103	24.473	23.758	28.238	27.413		
	End	17.636	17.048	24.691	23.867	31.745	30.686	38.800	37.506	45.854	44.325	52.908	51.144		
AT-HD 160 S D P635 (1)	Start	21.602	19.457	30.242	27.239	38.883	35.022	47.523	42.805	56.164	50.588				
	Run	11.105	10.799	15.548	15.119	19.990	19.438	24.432	23.758	28.874	28.077				
	End	20.808	20.147	29.131	28.206	37.454	36.265	45.777	44.324	54.101	52.383				
AT-HD 160 S D P685 (1)	Start	25.166	22.697	35.233	31.776	45.299	40.855	55.366	49.934						
	Run	12.938	12.597	18.113	17.636	23.289	22.675	28.464	27.714						
	End	24.242	23.502	33.939	32.903	43.635	42.304	53.332	51.705						
AT-HD 160 S D P735 (1)	Start	29.402	26.547	41.163	37.166	52.924	47.785								
	Run	15.116	14.734	21.162	20.628	27.208	26.522								
	End	28.322	27.489	39.651	38.485	50.979	49.480								
AT-HD 160 S D P785 (1)	Start	33.538	30.307	46.954	42.430										
	Run	17.242	16.821	24.139	23.549										
	End	32.306	31.382	45.229	43.935										
AT-HD 160 S D P835 (1)	Start	37.947	34.314	53.126	48.040										
	Run	19.509	19.045	27.312	26.663										
	End	36.553	35.532	51.174	49.744										
AT-HD 200 S D P535 (1)	Start			26.754	24.007	34.398	30.866	42.042	37.725	49.686	44.584	57.331	51.443	76.441	68.591
	Run			13.754	13.324	17.684	17.131	21.614	20.938	25.544	24.745	29.474	28.552	39.298	38.070
	End			25.771	24.859	33.135	31.961	40.498	39.064	47.861	46.166	55.224	53.268	73.633	71.025
AT-HD 200 S D P585 (1)	Start	22.886	20.580	32.040	28.812	41.195	37.044	50.349	45.275	59.503	53.507	68.658	61.739	91.544	82.319
	Run	11.766	11.422	16.472	15.991	21.178	20.560	25.885	25.129	30.591	29.698	35.297	34.267	47.063	45.689
	End	22.045	21.310	30.863	29.834	39.681	38.358	48.499	46.882	57.318	55.406	66.136	63.930	88.181	85.240
AT-HD 200 S D P635 (1)	Start	27.002	24.321	37.803	34.049	48.603	43.778	59.404	53.506	70.205	63.235	81.006	72.963		
	Run	13.882	13.499	19.434	18.898	24.987	24.298	30.540	29.697	36.093	35.097	41.645	40.496		
	End	26.010	25.184	36.414	35.257	46.818	45.331	57.222	55.405	67.626	65.478	78.030	75.552		



Output Torque - PNEUMATIC

Double-acting Actuators Symmetric Yoke (Nm)

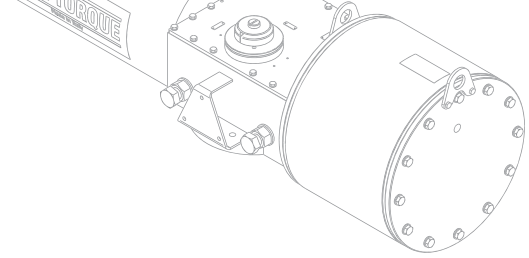
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 200 S D P685 (1)	Start	31.458	28.371	44.041	39.720	56.624	51.068	69.208	62.417	81.791	73.766	94.374	85.114		
	Run	16.173	15.747	22.642	22.045	29.111	28.344	35.580	34.643	42.049	40.942	48.518	47.240		
	End	30.302	29.378	42.423	41.129	54.544	52.880	66.665	64.632	78.786	76.383	90.907	88.134		
AT-HD 200 S D P735 (1)	Start	36.753	33.184	51.454	46.458	66.155	59.731	80.856	73.005	95.557	86.278				
	Run	18.895	18.418	26.452	25.785	34.010	33.152	41.568	40.519	49.126	47.886				
	End	35.402	34.361	49.563	48.106	63.724	61.850	77.885	75.595	92.046	89.340				
AT-HD 200 S D P785 (1)	Start	41.923	37.884	58.692	53.037	75.461	68.191	92.231	83.344						
	Run	21.553	21.026	30.174	29.437	38.795	37.847	47.416	46.258						
	End	40.383	39.228	56.536	54.919	72.689	70.610	88.842	86.301						
AT-HD 200 S D P835 (1)	Start	47.434	42.893	66.407	60.050	85.380	77.207								
	Run	24.386	23.806	34.140	33.329	43.894	42.851								
	End	45.691	44.414	63.967	62.180	82.244	79.946								
AT-HD 200 S D P885 (1)	Start	53.284	48.211	74.598	67.495	95.912	86.779								
	Run	27.394	26.758	38.351	37.461	49.308	48.164								
	End	51.327	49.921	71.858	69.890	92.388	89.858								
AT-HD 200 S D P935 (1)	Start	59.475	53.838	83.265	75.373										
	Run	30.576	29.881	42.807	41.834										
	End	57.290	55.748	80.206	78.047										
AT-HD 200 S D P985 (1)	Start	66.006	59.774	92.409	83.684										
	Run	33.934	33.176	47.508	46.447										
	End	63.581	61.895	89.014	86.653										
AT-HD 200 S D P1050 (1)	Start	75.005	67.954												
	Run	38.560	37.716												
	End	72.250	70.365												
AT-HD 200 S D P1150 (1)	Start	89.972	81.558												
	Run	46.255	45.267												
	End	86.667	84.452												



Output Torque - PNEUMATIC

Double-acting Actuators Canted Yoke (Nm)

Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 065 C D P235 (0)	Start	1.275	843	1.785	1180	2.296	1.517	2.806	1.854	3.316	2191	3.826	2.528		
	Run	581	568	813	795	1.046	1.022	1.278	1.249	1.511	1.476	1.743	1.703		
	End	863	1.246	1.208	1.744	1.553	2.242	1.898	2.741	2.243	3.239	2.588	3.737		
AT-HD 065 C D P285 (0)	Start	1.890	1.259	2.646	1.762	3.402	2.266								
	Run	861	848	1.205	1187	1.550	1.526								
	End	1.279	1.861	1.790	2.605	2.302	3.349								
AT-HD 065 C D P335 (0)	Start	2.625	1.756	3.676	2.458										
	Run	1196	1183	1.674	1.656										
	End	1.776	2.596	2.486	3.634										
AT-HD 065 C D P385 (0)	Start	3.481	2.335												
	Run	1.586	1.572												
	End	2.355	3.452												
AT-HD 085 C D P235 (0)	Start	1.925	984	2.695	1.377	3.465	1.771	4.235	2164	5.006	2.557	5.776	2.951		
	Run	735	722	1.028	1.011	1.322	1.300	1.616	1.589	1.910	1.877	2.204	2.166		
	End	1.086	2.024	1.521	2.834	1.955	3.644	2.390	4.454	2.824	5.263	3.258	6.073		
AT-HD 085 C D P285 (0)	Start	2.853	1.469	3.995	2.057	5136	2.644	6.277	3.232	7.418	3.820				
	Run	1.089	1.078	1.524	1.510	1.960	1.941	2.395	2.373	2.831	2.804				
	End	1.610	3.023	2.254	4.233	2.897	5.442	3.541	6.651	4185	7.861				
AT-HD 085 C D P335 (0)	Start	3.963	2.050	5.548	2.869	7134	3.689								
	Run	1.512	1.505	2117	2106	2.722	2.708								
	End	2.236	4.218	3130	5.906	4.025	7.593								
AT-HD 085 C D P385 (0)	Start	5.255	2.725	7.357	3.816										
	Run	2.005	2.001	2.807	2.801										
	End	2.965	5.609	4151	7.853										
AT-HD 085 C D P435 (0)	Start	6.729	3.496												
	Run	2.568	2.567												
	End	3.796	7196												
AT-HD 100 C D P335 (1)	Start	4.946	2.826	6.925	3.956	8.904	5.086	10.882	6.217	12.861	7.347	14.839	8.477		
	Run	1847	1858	2.586	2.602	3.324	3.345	4.063	4.089	4.802	4.832	5.541	5.575		
	End	2.830	4.756	3.962	6.659	5.094	8.561	6.226	10.464	7.358	12.366	8.490	14.268		
AT-HD 100 C D P385 (1)	Start	6.559	3.764	9183	5.270	11.806	6.776	14.430	8.282						
	Run	2.449	2.476	3.428	3.466	4.408	4.456	5.388	5.447						
	End	3.752	6.336	5.253	8.870	6.754	11.405	8.255	13.939						
AT-HD 100 C D P435 (1)	Start	8.399	4.835	11.758	6.769	15117	8.703								
	Run	3136	3180	4.390	4.452	5.644	5.724								
	End	4.805	8138	6.727	11.394	8.649	14.649								

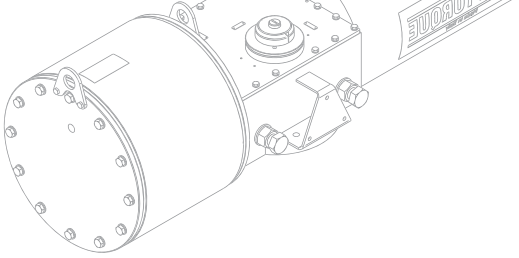


AIR TORQUE

Output Torque - PNEUMATIC

Double-acting Actuators Canted Yoke (Nm)

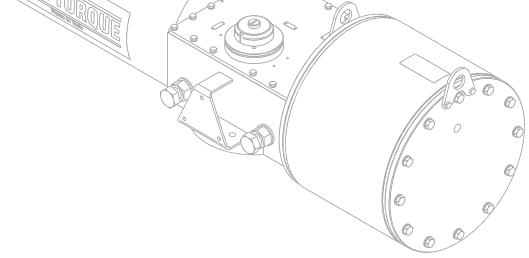
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 100 C D P485 (1)	Start	10.465	6.038	14.651	8.453										
	Run	3.907	3.971	5.470	5.560										
	End	5.987	10.163	8.382	14.228										
AT-HD 100 C D P535 (1)	Start	12.759	7.373												
	Run	4.764	4.849												
	End	7.300	12.411												
AT-HD 100 C D P585 (1)	Start	15.280	8.841												
	Run	5.705	5.815												
	End	8.742	14.880												
AT-HD 130 C D P385 (1)	Start	8.400	4.657	11.760	6.519	15.120	8.382	18.480	10.244	21.840	12.107	25.200	13.970		
	Run	2.954	3.083	4.135	4.317	5.317	5.550	6.499	6.783	7.680	8.017	8.862	9.250		
	End	4.189	8.660	5.865	12.124	7.541	15.588	9.216	19.052	10.892	22.516	12.568	25.980		
AT-HD 130 C D P435 (1)	Start	10.756	5.981	15.058	8.374	19.361	10.766	23.663	13.158	27.965	15.551				
	Run	3.782	3.960	5.295	5.545	6.808	7.129	8.321	8.713	9.834	10.297				
	End	5.364	11.124	7.510	15.573	9.656	20.022	11.801	24.472	13.947	28.921				
AT-HD 130 C D P485 (1)	Start	13.403	7.469	18.764	10.457	24.125	13.445	29.486	16.432						
	Run	4.713	4.946	6.598	6.924	8.484	8.902	10.369	10.881						
	End	6.684	13.891	9.358	19.448	12.032	25.004	14.705	30.561						
AT-HD 130 C D P535 (1)	Start	16.340	9.121	22.877	12.769	29.413	16.418								
	Run	5.746	6.039	8.045	8.455	10.343	10.871								
	End	8.149	16.963	11.409	23.748	14.669	30.533								
AT-HD 130 C D P585 (1)	Start	19.569	10.936	27.397	15.310										
	Run	6.882	7.241	9.634	10.138										
	End	9.759	20.339	13.663	28.474										
AT-HD 130 C D P635 (1)	Start	23.088	12.915												
	Run	8.119	8.552												
	End	11.515	24.019												
AT-HD 130 C D P685 (1)	Start	26.899	15.057												
	Run	9.459	9.970												
	End	13.415	28.003												
AT-HD 160 C D P485 (1)	Start			20.497	13.839	26.354	17.794	32.210	21.748	38.067	25.702	43.923	29.656	58.564	39.541
	Run			8.567	8.588	11.015	11.041	13.463	13.495	15.910	15.949	18.358	18.402	24.477	24.536
	End			14.320	19.413	18.411	24.959	22.502	30.506	26.594	36.052	30.685	41.599	40.913	55.465
AT-HD 160 C D P535 (1)	Start	17.850	12.086	24.990	16.921	32.130	21.755	39.270	26.590	46.410	31.425	53.550	36.259		
	Run	7.461	7.500	10.445	10.500	13.429	13.500	16.413	16.500	19.398	19.500	22.382	22.500		
	End	12.470	16.954	17.458	23.735	22.446	30.517	27.435	37.298	32.423	44.080	37.411	50.861		



Output Torque - PNEUMATIC

Double-acting Actuators Canted Yoke (Nm)

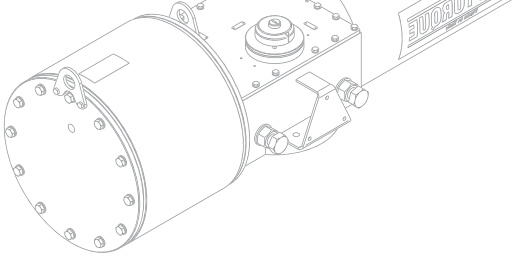
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 160 C D P585 (1)	Start	21.377	14.505	29.928	20.308	38.478	26.110	47.029	31.912	55.580	37.714				
	Run	8.935	9.001	12.509	12.601	16.082	16.202	19.656	19.802	23.230	23.403				
	End	14.934	20.347	20.908	28.486	26.881	36.624	32.855	44.763	38.829	52.902				
AT-HD 160 C D P635 (1)	Start	25.221	17.142	35.310	23.999	45.399	30.856	55.487	37.713						
	Run	10.542	10.637	14.758	14.892	18.975	19.147	23.191	23.402						
	End	17.620	24.046	24.668	33.664	31.716	43.282	38.764	52.901						
AT-HD 160 C D P685 (1)	Start	29.384	19.997	41.137	27.996	52.891	35.995								
	Run	12.281	12.409	17.194	17.372	22.106	22.336								
	End	20.528	28.050	28.739	39.270	36.950	50.491								
AT-HD 160 C D P735 (1)	Start	34.329	23.389	48.061	32.745										
	Run	14.348	14.514	20.087	20.319										
	End	23.983	32.808	33.576	45.932										
AT-HD 160 C D P785 (1)	Start	39.159	26.702	54.822	37.383										
	Run	16.367	16.569	22.913	23.197										
	End	27.357	37.455	38.299	52.437										
AT-HD 160 C D P835 (1)	Start	44.306	30.232												
	Run	18.518	18.760												
	End	30.952	42.407												
AT-HD 200 C D P535 (1)	Start	22.313	15.108	31.238	21.151	40.163	27.194	49.088	33.238	58.013	39.281	66.938	45.324	89.250	60.432
	Run	9.326	9.375	13.056	13.125	16.786	16.875	20.517	20.625	24.247	24.375	27.977	28.125	37.303	37.500
	End	15.588	21.192	21.823	29.669	28.058	38.146	34.293	46.623	40.528	55.099	46.763	63.576	62.351	84.768
AT-HD 200 C D P585 (1)	Start	26.721	18.132	37.410	25.384	48.098	32.637	58.786	39.890	69.475	47.143	80.163	54.395		
	Run	11.168	11.251	15.636	15.752	20.103	20.252	24.570	24.753	29.038	29.253	33.505	33.754		
	End	18.668	25.434	26.135	35.607	33.602	45.780	41.069	55.954	48.536	66.127	56.003	76.301		
AT-HD 200 C D P635 (1)	Start	31.527	21.428	44.138	29.999	56.748	38.570	69.359	47.141	81.970	55.713	94.580	64.284		
	Run	13.177	13.297	18.448	18.615	23.718	23.934	28.989	29.253	34.260	34.571	39.531	39.890		
	End	22.025	30.057	30.835	42.080	39.645	54.103	48.455	66.126	57.265	78.149	66.075	90.172		
AT-HD 200 C D P685 (1)	Start	36.730	24.997	51.421	34.995	66.113	44.994	80.805	54.992	95.497	64.991				
	Run	15.351	15.511	21.492	21.715	27.633	27.920	33.773	34.124	39.914	40.329				
	End	25.660	35.063	35.923	49.088	46.187	63.113	56.451	77.138	66.715	91.163				
AT-HD 200 C D P735 (1)	Start	42.911	29.237	60.076	40.931	77.241	52.626	94.405	64.321						
	Run	17.935	18.142	25.109	25.399	32.283	32.656	39.458	39.913						
	End	29.978	41.011	41.970	57.415	53.961	73.819	65.952	90.223						
AT-HD 200 C D P785 (1)	Start	48.948	33.377	68.528	46.728	88.107	60.079								
	Run	20.458	20.712	28.642	28.996	36.825	37.281								
	End	34.196	46.819	47.874	65.546	61.552	84.274								



Output Torque - PNEUMATIC

Double-acting Actuators Canted Yoke (Nm)

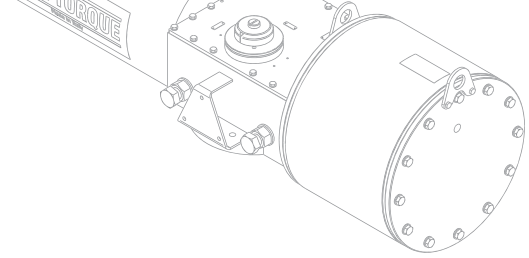
Actuator model	Position	2.5 bar		3.5 bar		4.5 bar		5.5 bar		6.5 bar		7.5 bar		10 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 200 C D P835 (1)	**Start**	55.382	37.790	77.535	52.907	99.688	68.023								
	Run	23.148	23.450	32.407	32.830	41.666	42.210								
	End	38.691	53.009	54.167	74.212	69.643	95.416								
AT-HD 200 C D P885 (1)	**Start**	62.214	42.476	87.099	59.466										
	Run	26.003	26.357	36.404	36.900										
	End	43.463	59.581	60.848	83.414										
AT-HD 200 C D P935 (1)	**Start**	69.442	47.434	97.219	66.407										
	Run	29.024	29.434	40.633	41.208										
	End	48.513	66.536	67.918	93.150										
AT-HD 200 C D P985 (1)	**Start**	77.068	52.664												
	Run	32.211	32.680												
	End	53.840	73.872												
AT-HD 200 C D P1050 (1)	**Start**	87.574	59.871												
	Run	36.603	37.151												
	End	61.180	83.981												



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 065 S SC02 P235 (0)	Start	900		623	829	1035	1241	1446	1652	1858	2064	2270	2682	3093	3505
	Run	433		275	393	511	629	747	865	983	1101	1219	1455	1691	1927
	End	612		335	541	747	953	1158	1364	1570	1776	1982	2394	2805	3217
AT-HD 065 S SC02 P285 (0)	Start	900	913	1218	1523	1829	2134	2439	2744	3049	3354	3659			
	Run	433	441	616	791	966	1141	1316	1491	1665	1840	2015			
	End	612	625	930	1235	1541	1846	2151	2456	2761	3066	3371			
AT-HD 065 S SC02 P335 (0)	Start	900	1507	1931	2354	2778	3202	3626							
	Run	433	781	1024	1267	1510	1753	1996							
	End	612	1219	1643	2066	2490	2914	3338							
AT-HD 065 S SC02 P385 (0)	Start	900	2197	2759	3321	3883									
	Run	433	1177	1499	1822	2144									
	End	612	1909	2471	3033	3595									
AT-HD 065 S SC04 P235 (0)	Start	1300				763	969	1174	1380	1586	1792	1998	2410	2821	3233
	Run	626				318	436	554	672	790	908	1026	1262	1498	1734
	End	884				347	553	758	964	1170	1376	1582	1994	2405	2817
AT-HD 065 S SC04 P285 (0)	Start	1300	641	946	1251	1557	1862	2167	2472	2777	3082	3387	3997		
	Run	626	248	423	598	773	948	1123	1298	1473	1648	1823	2172		
	End	884	225	530	835	1141	1446	1751	2056	2361	2666	2971	3581		
AT-HD 065 S SC04 P335 (0)	Start	1300	1235	1659	2082	2506	2930	3354	3777						
	Run	626	589	832	1075	1318	1560	1803	2046						
	End	884	819	1243	1666	2090	2514	2938	3361						
AT-HD 065 S SC04 P385 (0)	Start	1300	1925	2487	3049	3611									
	Run	626	985	1307	1629	1951									
	End	884	1509	2071	2633	3195									
AT-HD 065 S SC06 P235 (0)	Start	1800						834	1040	1246	1452	1658	2070	2481	2893
	Run	867						313	431	549	667	785	1021	1257	1493
	End	1224						258	464	670	876	1082	1494	1905	2317
AT-HD 065 S SC06 P285 (0)	Start	1800			911	1217	1522	1827	2132	2437	2742	3047	3657		
	Run	867			357	532	707	882	1057	1232	1407	1582	1932		
	End	1224			335	641	946	1251	1556	1861	2166	2471	3081		
AT-HD 065 S SC06 P335 (0)	Start	1800	895	1319	1742	2166	2590	3014	3437	3861					
	Run	867	348	591	834	1077	1320	1563	1806	2049					
	End	1224	319	743	1166	1590	2014	2438	2861	3285					
AT-HD 065 S SC06 P385 (0)	Start	1800	1585	2147	2709	3271	3833								
	Run	867	744	1066	1388	1710	2032								
	End	1224	1009	1571	2133	2695	3257								

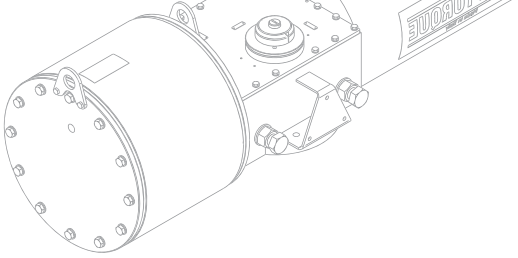


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

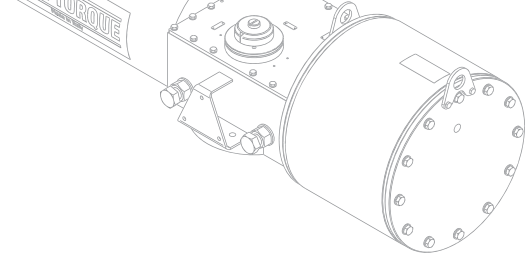
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 065 S SC08 P235 (0)	Start	2.400										1.250	1.662	2.073	2.485
	Run	1156										496	732	968	1.204
	End	1.632										482	894	1.305	1.717
AT-HD 065 S SC08 P285 (0)	Start	2.400					1114	1.419	1.724	2.029	2.334	2.639	3.249	3.859	
	Run	1156					418	593	768	943	1118	1.293	1.643	1.992	
	End	1.632					346	651	956	1.261	1.566	1.871	2.481	3.091	
AT-HD 065 S SC08 P335 (0)	Start	2.400			1.334	1.758	2.182	2.606	3.029	3.453	3.877				
	Run	1156			545	788	1.031	1.274	1.517	1.760	2.002				
	End	1.632			566	990	1.414	1.838	2.261	2.685	3.109				
AT-HD 065 S SC08 P385 (0)	Start	2.400	1177	1.739	2.301	2.863	3.425	3.987							
	Run	1156	455	777	1.099	1.421	1.743	2.066							
	End	1.632	409	971	1.533	2.095	2.657	3.219							
AT-HD 085 S SC02 P235 (0)	Start	1.500				1.040	1.297	1.554	1.812	2.069	2.327	2.584	3.099	3.614	4.129
	Run	654				546	696	846	997	1147	1.297	1.447	1.747	2.047	2.347
	End	1.020				788	1.074	1.361	1.647	1.933	2.219	2.505	3.077	3.649	4.221
AT-HD 085 S SC02 P285 (0)	Start	1.500		1.269	1.651	2.032	2.414	2.796	3177	3.559	3.940	4.322	5.085	5.848	6.611
	Run	654		680	903	1125	1.347	1.570	1.792	2.015	2.237	2.460	2.905	3.349	3.794
	End	1.020		1.044	1.468	1.892	2.316	2.739	3163	3.587	4.011	4.435	5.283	6131	6.979
AT-HD 085 S SC02 P335 (0)	Start	1.500	1.630	2160	2.690	3.220	3.750	4.280	4.810	5.340	5.870	6.400	7.460		
	Run	654	890	1199	1.508	1.817	2126	2.435	2.744	3.053	3.362	3.671	4.289		
	End	1.020	1.444	2.033	2.622	3.211	3.800	4.389	4.978	5.566	6155	6.744	7922		
AT-HD 085 S SC02 P385 (0)	Start	1.500	2.494	3197	3.899	4.602	5.305	6.008	6.710	7.413					
	Run	654	1.394	1.804	2.213	2.623	3.033	3.443	3.852	4.262					
	End	1.020	2.404	3185	3.966	4.747	5.528	6.308	7089	7870					
AT-HD 085 S SC02 P435 (0)	Start	1.500	3.479	4.379	5.279	6179	7079								
	Run	654	1969	2.493	3.018	3.542	4.067								
	End	1.020	3.499	4.499	5.499	6.499	7499								
AT-HD 085 S SC02 P485 (0)	Start	1.500	4.586	5.708	6.829										
	Run	654	2.614	3.268	3.921										
	End	1.020	4.729	5.975	7221										
AT-HD 085 S SC04 P235 (0)	Start	2.250							1.302	1559	1.817	2.074	2.589	3104	3.619
	Run	982							669	819	969	1120	1.420	1.720	2.020
	End	1.530							897	1183	1.469	1.755	2.327	2.899	3.471
AT-HD 085 S SC04 P285 (0)	Start	2.250			1141	1522	1904	2.286	2.667	3.049	3.430	3.812	4.575	5.338	6101
	Run	982			575	798	1020	1243	1465	1688	1910	2132	2.577	3.022	3.467
	End	1.530			718	1142	1566	1989	2.413	2.837	3.261	3.685	4.533	5.381	6.229



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

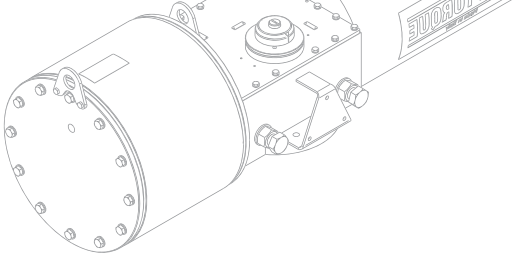
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 085 S SC04 P335 (0)	Start	2.250		1.650	2.180	2.710	3.240	3.770	4.300	4.830	5.360	5.890	6.950		
	Run	982		872	1.181	1.490	1.799	2.108	2.417	2.726	3.035	3.344	3.962		
	End	1.530		1.283	1.872	2.461	3.050	3.639	4.228	4.816	5.405	5.994	7.172		
AT-HD 085 S SC04 P385	Start	2.250	1.984	2.687	3.389	4.092	4.795	5.498	6.200	6.903	7.606				
	Run	982	1.067	1.476	1.886	2.296	2.706	3.115	3.525	3.935	4.344				
	End	1.530	1.654	2.435	3.216	3.997	4.778	5.558	6.339	7.120	7.901				
AT-HD 085 S SC04 P435 (0)	Start	2.250	2.969	3.869	4.769	5.669	6.569	7.469							
	Run	982	1.641	2.166	2.691	3.215	3.740	4.264							
	End	1.530	2.749	3.749	4.749	5.749	6.749	7.748							
AT-HD 085 S SC04 P485 (0)	Start	2.250	4.076	5.198	6.319	7.440									
	Run	982	2.287	2.940	3.594	4.248									
	End	1.530	3.979	5.225	6.471	7.717									
AT-HD 085 S SC06 P235 (0)	Start	3.500											1.739	2.254	2.769
	Run	1.527											874	1.174	1.475
	End	2.380											1.077	1.649	2.221
AT-HD 085 S SC06 P285 (0)	Start	3.500							1.817	2.199	2.580	2.962	3.725	4.488	5.251
	Run	1.527							920	1.142	1.365	1.587	2.032	2.477	2.922
	End	2.380							1.163	1.587	2.011	2.435	3.283	4.131	4.979
AT-HD 085 S SC06 P335 (0)	Start	3.500			1.330	1.860	2.390	2.920	3.450	3.980	4.510	5.040	6.100	7.160	
	Run	1.527			636	945	1.254	1.563	1.872	2.181	2.490	2.799	3.416	4.034	
	End	2.380			622	1.211	1.800	2.389	2.978	3.566	4.155	4.744	5.922	7.100	
AT-HD 085 S SC06 P385 (0)	Start	3.500		1.837	2.539	3.242	3.945	4.648	5.350	6.053	6.756	7.459			
	Run	1.527		931	1.341	1.750	2.160	2.570	2.980	3.389	3.799	4.209			
	End	2.380		1.185	1.966	2.747	3.528	4.308	5.089	5.870	6.651	7.432			
AT-HD 085 S SC06 P435 (0)	Start	3.500	2.119	3.019	3.919	4.819	5.719	6.619	7.518						
	Run	1.527	1.096	1.621	2.145	2.670	3.194	3.719	4.244						
	End	2.380	1.499	2.499	3.499	4.499	5.499	6.498	7.498						
AT-HD 085 S SC06 P485 (0)	Start	3.500	3.226	4.348	5.469	6.590	7.712								
	Run	1.527	1.741	2.395	3.049	3.702	4.356								
	End	2.380	2.729	3.975	5.221	6.467	7.713								
AT-HD 085 S SC08 P235 (0)	Start	4.750												1.404	1.919
	Run	2.073												629	929
	End	3.230												399	971
AT-HD 085 S SC08 P285 (0)	Start	4.750									1.730	2.112	2.875	3.638	4.401
	Run	2.073									819	1.042	1.487	1.931	2.376
	End	3.230									761	1.185	2.033	2.881	3.729



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

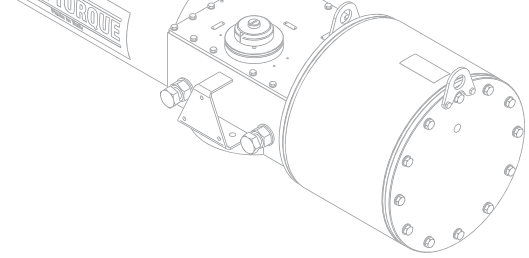
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 085 S SC08 P335 (0)	Start	4.750							2.600	3.130	3.660	4.190	5.250	6.310	7.370
	Run	2.073							1.326	1.635	1.944	2.253	2.871	3.489	4.107
	End	3.230							1.728	2.316	2.905	3.494	4.672	5.850	7.027
AT-HD 085 S SC08 P385 (0)	Start	4.750			1.689	2.392	3.095	3.798	4.500	5.203	5.906	6.609			
	Run	2.073			795	1.205	1.615	2.024	2.434	2.844	3.254	3.663			
	End	3.230			716	1.497	2.278	3.058	3.839	4.620	5.401	6.182			
AT-HD 085 S SC08 P435 (0)	Start	4.750		2.169	3.069	3.969	4.869	5.769	6.668	7.568					
	Run	2.073		1.075	1.600	2.124	2.649	3.174	3.698	4.223					
	End	3.230		1.249	2.249	3.249	4.249	5.248	6.248	7.248					
AT-HD 085 S SC08 P485 (0)	Start	4.750	2.376	3.498	4.619	5.740	6.862	7.983							
	Run	2.073	1.196	1.850	2.503	3.157	3.811	4.464							
	End	3.230	1.479	2.725	3.971	5.217	6.463	7.709							
AT-HD 100 S SC02 P335 (1)	Start	5.876								4.436	5.191	5.960	7.540	9.176	10.869
	Run	2.648								1.777	2.174	2.577	3.400	4.250	5.129
	End	4.017								2.393	3.083	3.786	5.232	6.730	8.282
AT-HD 100 S SC02 P385 (1)	Start	5.876					4.387	5.389	6.417	7.469	8.546	9.648	11.926	14.302	15.345
	Run	2.648					1.751	2.278	2.815	3.363	3.923	4.495	5.677	6.909	7.493
	End	4.017					2.347	3.264	4.204	5.167	6.153	7.163	9.251	11.432	12.536
AT-HD 100 S SC02 P435 (1)	Start	5.876			4.350	5.638	6.965	8.334	9.743	11.192	12.683	14.213	15.821		
	Run	2.648			1.732	2.408	3.101	3.812	4.544	5.296	6.069	6.863	7.743		
	End	4.017			2.314	3.491	4.706	5.959	7.250	8.579	9.946	11.351	12.982		
AT-HD 100 S SC02 P485 (1)	Start	5.876		4.959	6.593	8.290	10.051	11.874	13.760	14.511					
	Run	2.648		2.052	2.907	3.790	4.704	5.650	6.628	7.056					
	End	4.017		2.870	4.365	5.919	7.532	9.204	10.935	11.754					
AT-HD 100 S SC02 P535 (1)	Start	5.876	5.113	7.121	9.223	11.419	13.708	14.810							
	Run	2.648	2.133	3.182	4.274	5.414	6.601	7.213							
	End	4.017	3.011	4.848	6.773	8.786	10.887	12.034							
AT-HD 100 S SC02 P585 (1)	Start	5.876	7.096	9.623	12.284	15.080									
	Run	2.648	3.169	4.482	5.863	7.313									
	End	4.017	4.825	7.140	9.580	12.147									
AT-HD 100 S SC02 P635 (1)	Start	5.876	9.362	12.501	14.602										
	Run	2.648	4.347	5.975	7.104										
	End	4.017	6.901	9.779	11.840										
AT-HD 100 S SC04 P335 (1)	Start	7.092										4.994	6.502	8.056	9.657
	Run	3.196										1.954	2.748	3.560	4.393
	End	4.848										2.559	3.937	5.359	6.824



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 100 S SC04 P385 (1)	Start	7.092							5.431	6.435	7.458	8.503	10.653	12.886	15.200
	Run	3.196							2.186	2.713	3.248	3.793	4.911	6.069	7.270
	End	4.848							2.958	3.875	4.812	5.767	7.737	9.783	11.906
AT-HD 100 S SC04 P435 (1)	Start	7.092				4.686	5.955	7.257	8.593	9.962	11.366	12.802	15.777		
	Run	3.196				1.790	2.461	3.143	3.839	4.551	5.280	6.026	7.569		
	End	4.848				2.277	3.436	4.627	5.850	7.104	8.389	9.706	12.435		
AT-HD 100 S SC04 P485 (1)	Start	7.092			5.599	7.216	8.884	10.605	12.378	14.203					
	Run	3.196			2.274	3.121	3.991	4.885	5.805	6.753					
	End	4.848			3.112	4.589	6.116	7.692	9.317	10.991					
AT-HD 100 S SC04 P535 (1)	Start	7.092		6.103	8.101	10.176	12.329	14.559							
	Run	3.196		2.539	3.583	4.662	5.780	6.937							
	End	4.848		3.572	5.399	7.299	9.272	11.317							
AT-HD 100 S SC04 P585 (1)	Start	7.092	6.079	8.480	10.991	13.614									
	Run	3.196	2.527	3.780	5.086	6.447									
	End	4.848	3.550	5.746	8.046	10.451									
AT-HD 100 S SC04 P635 (1)	Start	7.092	8.233	11.195	14.311										
	Run	3.196	3.652	5.191	6.809										
	End	4.848	5.520	8.232	11.090										
AT-HD 100 S SC06 P335 (1)	Start	8.916											5.103	6.576	8.087
	Run	4.018											1.825	2.615	3.409
	End	6.095											2.143	3.489	4.869
AT-HD 100 S SC06 P385 (1)	Start	8.916								5.039	6.011	6.998	9.023	11.113	13.268
	Run	4.018								1.790	2.314	2.838	3.899	4.988	6.108
	End	6.095								2.084	2.972	3.874	5.726	7.638	9.611
AT-HD 100 S SC06 P435 (1)	Start	8.916						5.820	7.083	8.374	9.691	11.035	13.803		
	Run	4.018						2.212	2.882	3.560	4.248	4.948	6.386		
	End	6.095						2.797	3.952	5.132	6.337	7.567	10.102		
AT-HD 100 S SC06 P485 (1)	Start	8.916				5.780	7.358	8.977	10.638	12.340	14.084	15.870			
	Run	4.018				2.191	3.027	3.875	4.741	5.626	6.532	7.459			
	End	6.095				2.761	4.203	5.684	7.203	8.762	10.360	11.996			
AT-HD 100 S SC06 P535 (1)	Start	8.916			6.618	8.574	10.592	12.672	14.813						
	Run	4.018			2.637	3.665	4.717	5.798	6.910						
	End	6.095			3.527	5.315	7.161	9.065	11.027						
AT-HD 100 S SC06 P585 (1)	Start	8.916		6.976	9.340	11.792	14.333								
	Run	4.018		2.826	4.065	5.341	6.661								
	End	6.095		3.854	6.016	8.260	10.587								

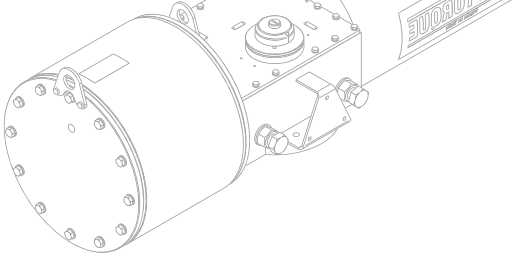


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

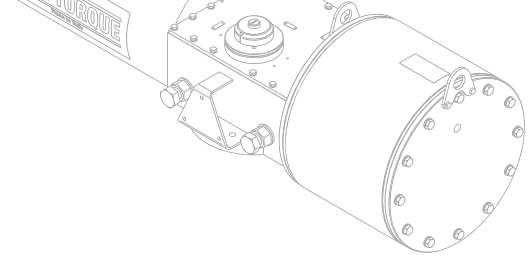
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 100 S SC06 P635 (1)	**Start**	8.916	6.743	9.531	12.441	15.476									
	Run	4.018	2.703	4.164	5.679	7.254									
	End	6.095	3.641	6.190	8.855	11.635									
AT-HD 100 S SC08 P335 (1)	**Start**	10.489													6.642
	Run	4.795													2.566
	End	7.395													3.308
AT-HD 100 S SC08 P385 (1)	**Start**	10.489										5.594	7.542	9.545	11.604
	Run	4.795										2.001	3.043	4.095	5.170
	End	7.395										2.350	4.132	5.966	7.853
AT-HD 100 S SC08 P435 (1)	**Start**	10.489							5.676	6.918	8.183	9.471	12.114	14.849	
	Run	4.795							2.045	2.713	3.381	4.056	5.436	6.858	
	End	7.395							2.424	3.561	4.719	5.898	8.320	10.828	
AT-HD 100 S SC08 P485 (1)	**Start**	10.489					5.941	7.498	9.091	10.719	12.382	14.081			
	Run	4.795					2.189	3.020	3.858	4.709	5.575	6.459			
	End	7.395					2.667	4.092	5.550	7.041	8.566	10.124			
AT-HD 100 S SC08 P535 (1)	**Start**	10.489			5.228	7.111	9.047	11.035	13.076	15.169					
	Run	4.795			1.798	2.815	3.835	4.873	5.936	7.025					
	End	7.395			2.014	3.737	5.510	7.331	9.202	11.122					
AT-HD 100 S SC08 P585 (1)	**Start**	10.489		5.573	7.846	10.195	12.619	15.118							
	Run	4.795		1.989	3.204	4.435	5.698	6.998							
	End	7.395		2.330	4.410	6.561	8.783	11.075							
AT-HD 100 S SC08 P635 (1)	**Start**	10.489	5.348	8.029	10.815	13.706									
	Run	4.795	1.865	3.300	4.759	6.264									
	End	7.395	2.124	4.578	7.130	9.780									
AT-HD 130 S SC02 P385 (1)	**Start**	8.393						5.596	6.778	7.986	9.221	10.482	13.083	15.789	18.600
	Run	3.733						2.317	2.957	3.607	4.270	4.945	6.337	7.783	9.286
	End	5.782						3.005	4.061	5.141	6.245	7.373	9.702	12.127	14.648
AT-HD 130 S SC02 P435 (1)	**Start**	8.393				5.882	7.408	8.978	10.591	12.246	13.945	15.688	19.302	20.938	23.896
	Run	3.733				2.472	3.296	4.139	5.003	5.889	6.798	7.729	9.660	10.596	12.192
	End	5.782				3.260	4.624	6.028	7.471	8.953	10.475	12.036	15.277	16.937	19.643
AT-HD 130 S SC02 P485 (1)	**Start**	8.393		5.100	6.980	8.928	10.942	13.024	15.172	17.388	19.671	20.117	23.803	27.489	
	Run	3.733		2.046	3.066	4.113	5.192	6.305	7.454	8.638	9.858	10.153	12.142	14.131	
	End	5.782		2.562	4.242	5.983	7.785	9.649	11.574	13.561	15.608	16.186	19.558	22.929	
AT-HD 130 S SC02 P535 (1)	**Start**	8.393	5.278	7.587	9.996	12.505	15.113	17.821	19.031	21.278	23.525	25.772			
	Run	3.733	2.143	3.392	4.685	6.027	7.422	8.869	9.567	10.780	11.992	13.205			
	End	5.782	2.721	4.784	6.938	9.184	11.521	13.949	15.193	17.248	19.304	21.359			



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 S SC02 P585 (1)	Start	8.393	7.558	10.454	13.492	16.673	19.997	21.224	23.915	26.606	29.296				
	Run	3.733	3.377	4.930	6.555	8.256	10.032	10.751	12.203	13.654	15.106				
	End	5.782	4.758	7.348	10.068	12.920	15.901	17.199	19.660	22.122	24.583				
AT-HD 130 S SC02 P635 (1)	Start	8.393	10.155	13.738	17.520	19.714	22.889	26.063	29.238						
	Run	3.733	4.770	6.687	8.708	9.935	11.649	13.362	15.074						
	End	5.782	7.081	10.289	13.679	15.817	18.721	21.625	24.530						
AT-HD 130 S SC02 P685 (1)	Start	8.393	13.097	17.482	20.207	23.905	27.604								
	Run	3.733	6.344	8.688	10.201	12.197	14.193								
	End	5.782	9.715	13.645	16.268	19.651	23.035								
AT-HD 130 S SC02 P735 (1)	Start	8.393	16.769	20.243	24.564	28.885									
	Run	3.733	8.307	10.221	12.553	14.884									
	End	5.782	13.006	16.301	20.254	24.207									
AT-HD 130 S SC04 P385 (1)	Start	11.849										7.763	10.134	12.579	15.098
	Run	5.270										3.196	4.479	5.792	7.142
	End	8.163										4.120	6.238	8.424	10.678
AT-HD 130 S SC04 P435 (1)	Start	11.849							7.863	9.374	10.915	12.488	15.724	19.082	22.563
	Run	5.270							3.250	4.069	4.899	5.744	7.477	9.273	11.134
	End	8.163							4.209	5.559	6.937	8.343	11.238	14.246	17.365
AT-HD 130 S SC04 P485 (1)	Start	11.849					8.184	10.080	12.024	14.014	16.052	18.138	22.452	26.956	28.834
	Run	5.270					3.426	4.450	5.495	6.562	7.653	8.769	11.075	13.482	14.568
	End	8.163					4.496	6.190	7.928	9.708	11.532	13.400	17.266	21.305	23.248
AT-HD 130 S SC04 P535 (1)	Start	11.849			7.318	9.608	11.970	14.402	16.904	19.477	22.121	24.835	27.925		
	Run	5.270			2.953	4.196	5.466	6.769	8.109	9.484	10.898	12.348	14.077		
	End	8.163			3.722	5.769	7.879	10.055	12.295	14.599	16.968	19.402	22.416		
AT-HD 130 S SC04 P585 (1)	Start	11.849		7.737	10.505	13.373	16.343	19.414	22.586	25.860	26.956	29.647			
	Run	5.270		3.182	4.678	6.219	7.809	9.451	11.147	12.896	13.554	15.007			
	End	8.163		4.097	6.570	9.135	11.792	14.543	17.386	20.321	21.530	23.991			
AT-HD 130 S SC04 P635 (1)	Start	11.849	7.464	10.728	14.132	17.678	21.364	25.192	26.897						
	Run	5.270	3.033	4.799	6.625	8.522	10.494	12.539	13.522						
	End	8.163	3.853	6.769	9.814	12.988	16.291	19.722	21.476						
AT-HD 130 S SC04 P685 (1)	Start	11.849	10.147	14.098	18.241	22.575	27.100	28.962							
	Run	5.270	4.486	6.607	8.823	11.140	13.558	14.637							
	End	8.163	6.250	9.783	13.492	17.375	21.434	23.365							
AT-HD 130 S SC04 P735 (1)	Start	11.849	13.459	18.283	23.367	26.545									
	Run	5.270	6.265	8.846	11.564	13.332									
	End	8.163	9.212	13.529	18.086	21.154									

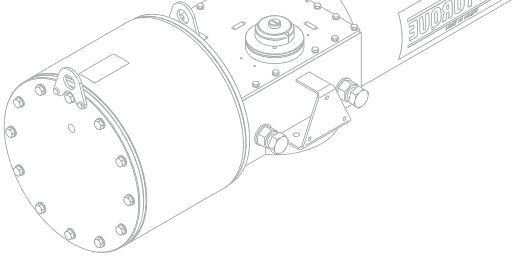


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

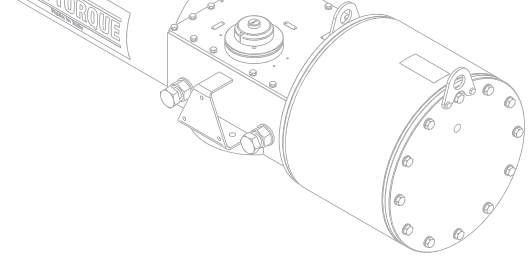
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 S SC06 P385 (1)	Start	14.811												10.007	12.381
	Run	6.677												4.251	5.533
	End	10.503												5.673	7.797
AT-HD 130 S SC06 P435 (1)	Start	14.811									8.434	9.921	12.969	16.115	19.358
	Run	6.677									3.394	4.205	5.849	7.538	9.275
	End	10.503									4.265	5.596	8.323	11.141	14.048
AT-HD 130 S SC06 P485 (1)	Start	14.811							9.483	11.361	13.278	15.232	19.255	23.430	27.757
	Run	6.677							3.967	4.983	6.015	7.065	9.220	11.454	13.768
	End	10.503							5.203	6.884	8.600	10.350	13.955	17.699	21.582
AT-HD 130 S SC06 P535 (1)	Start	14.811					9.432	11.726	14.076	16.483	18.947	21.467	26.676		
	Run	6.677					3.939	5.180	6.444	7.735	9.055	10.403	13.190		
	End	10.503					5.158	7.211	9.315	11.471	13.679	15.938	20.612		
AT-HD 130 S SC06 P585 (1)	Start	14.811				10.757	13.550	16.424	19.380	22.416	25.533	28.731			
	Run	6.677				4.657	6.162	7.704	9.287	10.911	12.579	14.289			
	End	10.503				6.344	8.844	11.418	14.067	16.789	19.586	22.457			
AT-HD 130 S SC06 P635 (1)	Start	14.811			11.472	14.801	18.243	21.797	25.464	29.244					
	Run	6.677			5.044	6.834	8.678	10.580	12.542	14.563					
	End	10.503			6.984	9.964	13.048	16.235	19.524	22.917					
AT-HD 130 S SC06 P685 (1)	Start	14.811		11.440	15.328	19.369	23.563	27.910							
	Run	6.677		5.026	7.116	9.281	11.525	13.850							
	End	10.503		6.955	10.436	14.057	17.818	21.719							
AT-HD 130 S SC06 P735 (1)	Start	14.811	10.838	15.367	20.105	25.051									
	Run	6.677	4.701	7.137	9.675	12.322									
	End	10.503	6.416	10.471	14.717	19.154									
AT-HD 130 S SC08 P435 (1)	Start	17.773											11.049	14.061	17.154
	Run	7.905											4.469	6.104	7.769
	End	12.244											5.648	8.338	11.103
AT-HD 130 S SC08 P485 (1)	Start	17.773									11.345	13.217	17.056	21.021	25.114
	Run	7.905									4.631	5.648	7.716	9.843	12.034
	End	12.244									5.912	7.584	11.015	14.562	18.225
AT-HD 130 S SC08 P535 (1)	Start	17.773							12.110	14.413	16.762	19.159	24.093	29.216	
	Run	7.905							5.048	6.294	7.559	8.845	11.488	14.227	
	End	12.244							6.596	8.653	10.753	12.896	17.312	21.899	
AT-HD 130 S SC08 P585 (1)	Start	17.773					11.606	14.357	17.174	20.060	23.013	26.033			
	Run	7.905					4.773	6.263	7.780	9.328	10.909	12.525			
	End	12.244					6.145	8.603	11.121	13.702	16.344	19.048			



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 S SC08 P635 (1)	Start	17.773				12.805	16.092	19.473	22.948	26.517					
	Run	7.905				5.424	7.198	9.013	10.874	12.784					
	End	12.244				7.216	10.154	13.177	16.286	19.482					
AT-HD 130 S SC08 P685 (1)	Start	17.773		9.580	13.309	17.164	21.147	25.258	29.496						
	Run	7.905		3.661	5.698	7.774	9.910	12.111	14.377						
	End	12.244		4.337	7.666	11.112	14.675	18.355	22.151						
AT-HD 130 S SC08 P735 (1)	Start	17.773	9.001	13.346	17.865	22.557	27.424								
	Run	7.905	3.337	5.718	8.150	10.665	13.269								
	End	12.244	3.820	7.700	11.739	15.937	20.294								
AT-HD 160 S SC02 P485 (1)	Start	14.462					11.206	13.777	16.412	19.109	21.870	24.694	30.532	36.623	39.340
	Run	6.666					4.375	5.702	7.053	8.432	9.840	11.280	14.253	17.353	18.845
	End	10.183					5.898	8.226	10.613	13.058	15.563	18.126	23.428	28.965	31.804
AT-HD 160 S SC02 P535 (1)	Start	14.462			10.030	13.137	16.339	19.634	23.023	26.506	30.084	33.755	38.103	44.219	50.334
	Run	6.666			3.762	5.373	7.016	8.699	10.428	12.202	14.025	15.894	18.209	21.356	24.500
	End	10.183			4.834	7.647	10.547	13.534	16.609	19.771	23.020	26.357	30.656	36.335	42.014
AT-HD 160 S SC02 P585 (1)	Start	14.462		10.599	14.353	18.241	22.263	26.421	30.714	35.141	39.703	40.446	47.769	55.093	
	Run	6.666		4.060	5.998	7.988	10.041	12.159	14.346	16.599	18.921	19.414	23.181	26.946	
	End	10.183		5.349	8.747	12.271	15.920	19.693	23.593	27.617	31.766	32.831	39.632	46.433	
AT-HD 160 S SC02 P635 (1)	Start	14.462	10.229	14.655	19.269	24.071	29.061	34.238	39.603	41.025	45.345	49.665	58.306		
	Run	6.666	3.866	6.153	8.513	10.962	13.503	16.139	18.870	19.713	21.935	24.156	28.598		
	End	10.183	5.014	9.022	13.204	17.560	22.091	26.796	31.675	33.369	37.381	41.393	49.417		
AT-HD 160 S SC02 P685 (1)	Start	14.462	13.868	19.223	24.833	30.698	36.818	39.514	44.547	49.581	54.614	59.647			
	Run	6.666	5.749	8.490	11.350	14.338	17.452	18.935	21.525	24.113	26.700	29.288			
	End	10.183	8.308	13.162	18.252	23.578	29.142	31.966	36.640	41.314	45.988	50.662			
AT-HD 160 S SC02 P735 (1)	Start	14.462	18.357	24.890	31.770	38.997	42.105	47.985	53.866	59.746					
	Run	6.666	8.047	11.379	14.883	18.562	20.268	23.292	26.316	29.339					
	End	10.183	12.377	18.303	24.552	31.124	34.372	39.833	45.293	50.754					
AT-HD 160 S SC02 P785 (1)	Start	14.462	22.916	30.674	38.885	42.843	49.550	56.258							
	Run	6.666	10.373	14.325	18.504	20.648	24.097	27.545							
	End	10.183	16.512	23.557	31.022	35.057	41.286	47.515							
AT-HD 160 S SC02 P835 (1)	Start	14.462	27.964	37.112	42.307	49.896	57.486								
	Run	6.666	12.945	17.602	20.372	24.275	28.177								
	End	10.183	21.095	29.409	34.560	41.607	48.655								
AT-HD 160 S SC04 P485 (1)	Start	20.659							11.369	13.848	16.372	18.940	24.209	29.654	35.277
	Run	9.524							3.798	5.123	6.439	7.764	10.466	13.247	16.114
	End	14.547							4.228	6.471	8.755	11.080	15.853	20.791	25.894

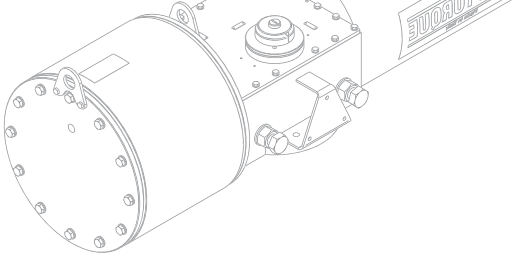


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

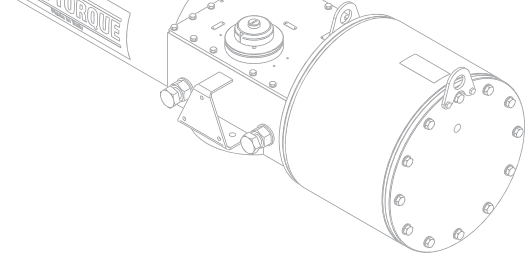
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 160 S SC04 P535 (1)	Start	20.659					11.302	14.329	17.422	20.581	23.806	27.096	33.875	40.917	48.222
	Run	9.524					3.761	5.375	6.982	8.608	10.260	11.942	15.399	18.986	22.705
	End	14.547					4.167	6.906	9.706	12.566	15.488	18.471	24.621	31.015	37.653
AT-HD 160 S SC04 P585 (1)	Start	20.659				13.051	16.730	20.504	24.371	28.334	32.390	36.541	45.126	54.089	57.780
	Run	9.524				4.702	6.625	8.568	10.549	12.573	14.642	16.757	21.130	25.691	27.735
	End	14.547				5.750	9.079	12.496	16.001	19.593	23.273	27.041	34.839	42.988	46.902
AT-HD 160 S SC04 P635 (1)	Start	20.659			13.995	18.374	22.885	27.527	32.301	37.206	42.243	47.410	53.669		
	Run	9.524			5.200	7.473	9.789	12.162	14.597	17.096	19.661	22.292	25.620		
	End	14.547			6.604	10.568	14.654	18.862	23.193	27.645	32.219	36.915	43.085		
AT-HD 160 S SC04 P685 (1)	Start	20.659		13.952	19.066	24.357	29.827	35.476	41.303	47.308	53.491	55.010			
	Run	9.524		5.178	7.829	10.542	13.335	16.215	19.182	22.240	25.387	26.310			
	End	14.547		6.565	11.194	15.988	20.948	26.074	31.365	36.822	42.444	44.330			
AT-HD 160 S SC04 P735 (1)	Start	20.659	13.158	19.117	25.319	31.764	38.453	45.385	52.561	55.109					
	Run	9.524	4.759	7.855	11.033	14.323	17.731	21.262	24.913	26.361					
	End	14.547	5.847	11.240	16.860	22.705	28.777	35.075	41.598	44.422					
AT-HD 160 S SC04 P785 (1)	Start	20.659	17.324	24.336	31.664	39.309	47.271	55.550	58.329						
	Run	9.524	6.931	10.531	14.272	18.167	22.221	26.435	28.018						
	End	14.547	9.617	15.969	22.615	29.555	36.789	44.317	47.412						
AT-HD 160 S SC04 P835 (1)	Start	20.659	21.897	30.089	38.687	47.690	52.849								
	Run	9.524	9.282	13.469	17.850	22.435	25.197								
	End	14.547	13.759	21.186	28.989	37.170	42.323								
AT-HD 160 S SC06 P485 (1)	Start	25.824									12.378	14.826	19.829	24.974	30.261
	Run	11.904									3.335	5.082	7.719	10.374	13.082
	End	18.184									3.628	5.842	10.368	15.027	19.817
AT-HD 160 S SC06 P535 (1)	Start	25.824						10.425	13.380	16.388	19.448	22.561	28.944	35.539	42.343
	Run	11.904						1.164	4.287	5.917	7.521	9.132	12.409	15.778	19.249
	End	18.184						1.862	4.534	7.254	10.023	12.841	18.624	24.602	30.776
AT-HD 160 S SC06 P585 (1)	Start	25.824					12.720	16.314	19.984	23.729	27.549	31.445	39.464	47.785	56.408
	Run	11.904					3.715	5.878	7.799	9.733	11.694	13.688	17.781	22.020	26.413
	End	18.184					3.937	7.187	10.508	13.899	17.360	20.891	28.163	35.716	43.549
AT-HD 160 S SC06 P635 (1)	Start	25.824			10.105	14.288	18.575	22.968	27.466	32.068	36.776	41.589	51.531		
	Run	11.904			809	4.790	7.066	9.342	11.651	14.006	16.410	18.865	23.928		
	End	18.184			1.573	5.355	9.233	13.210	17.284	21.455	25.725	30.092	39.118		
AT-HD 160 S SC06 P685 (1)	Start	25.824		10.065	14.946	19.970	25.137	30.447	35.899	41.494	47.231	53.112			
	Run	11.904		764	5.147	7.792	10.458	13.177	15.962	18.816	21.738	24.734			
	End	18.184		1.537	5.950	10.496	15.175	19.985	24.929	30.005	35.213	40.554			



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 160 S SC06 P735 (1)	Start	25.824		14.995	20.880	26.961	33.236	39.705	46.370	53.229					
	Run	11.904		5.173	8.264	11.393	14.603	17.904	21.299	24.793					
	End	18.184		5.994	11.320	16.826	22.514	28.382	34.431	40.661					
AT-HD 160 S SC06 P785 (1)	Start	25.824	13.287	19.950	26.867	34.037	41.460	49.137	57.067						
	Run	11.904	4.234	7.781	11.344	15.012	18.799	22.709	26.748						
	End	18.184	4.449	10.478	16.741	23.240	29.974	36.943	44.148						
AT-HD 160 S SC06 P835 (1)	Start	25.824	17.638	25.384	33.454	41.850	50.569	59.613							
	Run	11.904	6.575	10.584	14.715	18.997	23.438	28.043							
	End	18.184	8.385	15.398	22.712	30.328	38.244	46.462							
AT-HD 160 S SC08 P485 (1)	Start	32.022											15.057	19.969	24.995
	Run	14.762											3.811	7.150	9.782
	End	22.548											4.235	8.677	13.225
AT-HD 160 S SC08 P535 (1)	Start	32.022								11.759	14.692	17.667	23.745	29.993	36.411
	Run	14.762								146	3.405	5.912	9.133	12.362	15.653
	End	22.548								1.254	3.905	6.595	12.094	17.750	23.564
AT-HD 160 S SC08 P585 (1)	Start	32.022						11.689	15.205	18.782	22.420	26.118	33.699	41.522	49.590
	Run	14.762						68	3.975	6.516	8.441	10.364	14.264	18.266	22.382
	End	22.548						1.190	4.368	7.603	10.894	14.242	21.107	28.198	35.516
AT-HD 160 S SC08 P635 (1)	Start	32.022					13.856	18.056	22.340	26.709	31.162	35.701	45.032	54.702	
	Run	14.762					2.477	6.124	8.400	10.669	12.963	15.290	20.057	24.987	
	End	22.548					3.149	6.946	10.822	14.776	18.809	22.921	31.381	40.156	
AT-HD 160 S SC08 P685 (1)	Start	32.022				15.192	20.124	25.171	30.334	35.611	41.003	46.511	57.871		
	Run	14.762				3.961	7.233	9.874	12.537	15.244	18.001	20.811	26.601		
	End	22.548				4.357	8.817	13.384	18.059	22.840	27.728	32.722	43.032		
AT-HD 160 S SC08 P735 (1)	Start	32.022			16.062	21.860	27.814	33.926	40.195	46.620	53.203	59.943			
	Run	14.762			4.928	8.148	11.240	14.380	17.587	20.867	24.224	27.656			
	End	22.548			5.143	10.387	15.777	21.313	26.994	32.822	38.795	44.914			
AT-HD 160 S SC08 P785 (1)	Start	32.022		15.172	21.770	28.572	35.579	42.790	50.205	57.824					
	Run	14.762		3.939	8.101	11.631	15.228	18.914	22.695	26.577					
	End	22.548		4.339	10.307	16.464	22.811	29.347	36.074	42.990					
AT-HD 160 S SC08 P835 (1)	Start	32.022	12.958	20.359	28.022	35.946	44.131	52.579							
	Run	14.762	1.478	7.357	11.347	15.416	19.598	23.906							
	End	22.548	2.337	9.030	15.965	23.143	30.564	38.228							
AT-HD 200 S SC02 P535 (1)	Start	30.989								21.493	25.353	29.281	37.343	45.679	54.289
	Run	14.285								8.062	10.070	12.094	16.225	20.481	24.870
	End	21.820								10.359	13.852	17.409	24.714	32.273	40.087

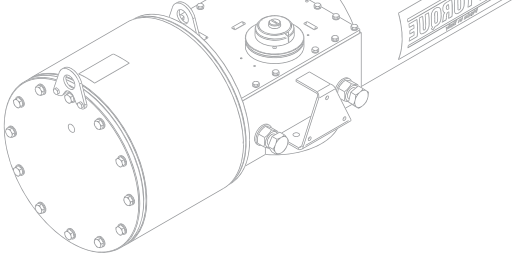


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

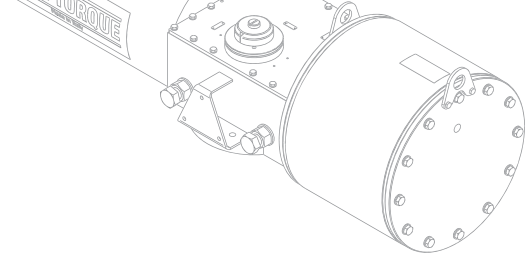
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 S SC02 P585 (1)	Start	30.989						21.401	26.029	30.755	35.580	40.504	50.645	61.180	72.108
	Run	14.285						8.014	10.419	12.853	15.324	17.841	23.014	28.379	33.943
	End	21.820						10.275	14.464	18.745	23.116	27.579	36.779	46.344	56.275
AT-HD 200 S SC02 P635 (1)	Start	30.989					24.252	29.795	35.475	41.291	47.245	53.335	65.926	79.065	84.824
	Run	14.285					9.499	12.359	15.270	18.243	21.279	24.384	30.797	37.484	40.653
	End	21.820					12.856	17.875	23.020	28.293	33.694	39.221	50.657	62.601	68.639
AT-HD 200 S SC02 P685 (1)	Start	30.989				26.012	32.534	39.241	46.135	53.214	60.479	67.929	83.388	90.066	
	Run	14.285				10.410	13.764	17.196	20.713	24.322	28.022	31.817	39.685	43.350	
	End	21.820				14.449	20.356	26.435	32.687	39.111	45.708	52.477	66.533	73.506	
AT-HD 200 S SC02 P735 (1)	Start	30.989			27.160	34.837	42.767	50.950	59.387	68.078	77.022	79.724	94.425		
	Run	14.285			11.003	14.944	18.996	23.169	27.466	31.893	36.444	38.028	45.593		
	End	21.820			15.489	22.442	29.632	37.056	44.716	52.612	60.743	63.903	77.555		
AT-HD 200 S SC02 P785 (1)	Start	30.989		25.987	34.718	43.779	53.171	62.892	72.943	83.324	85.817	94.201			
	Run	14.285		10.397	14.884	19.512	24.300	29.251	34.369	39.652	41.164	45.478			
	End	21.820		14.426	22.335	30.550	39.072	47.900	57.035	66.475	69.561	77.347			
AT-HD 200 S SC02 P835 (1)	Start	30.989	23.070	32.845	43.043	53.664	64.707	76.172	81.171	90.657					
	Run	14.285	8.885	13.924	19.137	24.551	30.176	36.012	38.772	43.655					
	End	21.820	11.785	20.638	29.883	39.520	49.549	59.970	65.246	74.056					
AT-HD 200 S SC02 P885 (1)	Start	30.989	29.049	40.352	52.189	64.558	77.460	83.386	94.042						
	Run	14.285	11.975	17.763	23.800	30.100	36.667	39.912	45.397						
	End	21.820	17.199	27.442	38.180	49.414	61.142	67.303	77.199						
AT-HD 200 S SC02 P935 (1)	Start	30.989	35.550	48.547	62.208	76.533	83.872	95.767							
	Run	14.285	15.309	21.944	28.903	36.196	40.163	46.284							
	End	21.820	23.089	34.876	47.279	60.299	67.755	78.801							
AT-HD 200 S SC02 P985 (1)	Start	30.989	42.604	57.473	73.160	82.427	95.628								
	Run	14.285	18.913	26.491	34.479	39.419	46.212								
	End	21.820	29.484	42.978	57.232	66.413	78.672								
AT-HD 200 S SC02 P1050 (1)	Start	30.989	52.651	70.245	81.824	96.825									
	Run	14.285	24.036	32.995	39.109	46.827									
	End	21.820	38.600	54.581	65.853	79.784									
AT-HD 200 S SC02 P1150 (1)	Start	30.989	70.204	84.784											
	Run	14.285	32.974	40.632											
	End	21.820	54.544	68.601											
AT-HD 200 S SC04 P535 (1)	Start	41.319											28.658	36.411	44.370
	Run	19.047											10.750	14.773	18.860
	End	29.094											13.812	20.830	28.039



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 S SC04 P585 (1)	Start	41.319										31.603	41.007	50.706	60.700
	Run	19.047										12.286	17.137	22.102	27.203
	End	29.094										16.478	24.993	33.782	42.845
AT-HD 200 S SC04 P635 (1)	Start	41.319								32.336	37.862	43.490	55.055	67.030	79.416
	Run	19.047								12.666	15.519	18.409	24.324	30.432	36.740
	End	29.094								17.141	22.144	27.242	37.725	48.588	59.833
AT-HD 200 S SC04 P685 (1)	Start	41.319						30.428	36.834	43.379	50.063	56.886	70.952	85.574	
	Run	19.047						11.674	14.991	18.352	21.773	25.258	32.429	39.877	
	End	29.094						15.414	21.213	27.141	33.199	39.386	52.148	65.428	
AT-HD 200 S SC04 P735 (1)	Start	41.319				26.317	33.708	41.289	49.061	57.022	65.174	73.516	90.770		
	Run	19.047				9.518	13.377	17.281	21.261	25.327	29.485	33.735	42.524		
	End	29.094				11.694	18.383	25.248	32.290	39.509	46.904	54.476	70.149		
AT-HD 200 S SC04 P785 (1)	Start	41.319			26.206	34.649	43.339	52.277	61.462	70.894	80.574	90.502			
	Run	19.047			9.460	13.863	18.332	22.904	27.592	32.400	37.330	42.387			
	End	29.094			11.593	19.234	27.105	35.206	43.536	52.096	60.886	69.905			
AT-HD 200 S SC04 P835 (1)	Start	41.319		24.453	33.965	43.794	53.939	64.401	75.180	86.276	97.688				
	Run	19.047		8.526	13.510	18.565	23.754	29.091	34.583	40.235	46.044				
	End	29.094		10.008	18.616	27.517	36.713	46.203	55.987	66.065	76.437				
AT-HD 200 S SC04 P885 (1)	Start	41.319	20.892	31.462	42.433	53.803	65.573	77.742	90.311						
	Run	19.047	6.544	12.213	17.867	23.685	29.689	35.887	42.290						
	End	29.094	6.787	16.350	26.284	36.589	47.266	58.313	69.732						
AT-HD 200 S SC04 P935 (1)	Start	41.319	26.984	39.068	51.650	64.730	78.308	92.384							
	Run	19.047	9.870	16.140	22.584	29.259	36.175	43.345							
	End	29.094	12.297	23.236	34.637	46.501	58.827	71.615							
AT-HD 200 S SC04 P985 (1)	Start	41.319	33.557	47.302	61.660	76.631	92.216								
	Run	19.047	13.299	20.362	27.693	35.322	43.259								
	End	29.094	18.246	30.696	43.715	57.304	71.463								
AT-HD 200 S SC04 P1050 (1)	Start	41.319	42.860	59.001	75.934	93.659									
	Run	19.047	18.086	26.337	34.967	43.994									
	End	29.094	26.671	41.303	56.672	72.775									
AT-HD 200 S SC04 P1150 (1)	Start	41.319	58.963	79.368											
	Run	19.047	26.317	36.716											
	End	29.094	41.269	59.790											
AT-HD 200 S SC06 P535 (1)	Start	51.648													35.822
	Run	23.809													13.437
	End	36.367													17.265

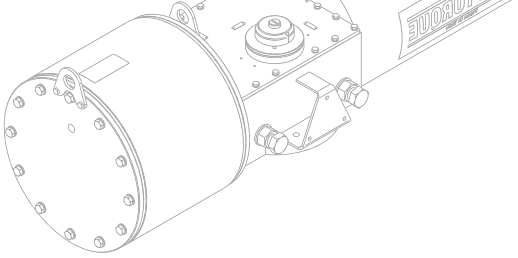


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

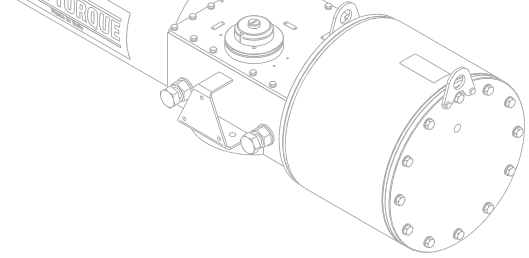
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 S SC06 P585 (1)	Start	51.648												41.826	51.259
	Run	23.809												16.561	21.421
	End	36.367												22.698	31.241
AT-HD 200 S SC06 P635 (1)	Start	51.648										34.987	45.936	57.213	68.819
	Run	23.809										12.999	18.684	24.473	30.405
	End	36.367										16.509	26.420	36.635	47.156
AT-HD 200 S SC06 P685 (1)	Start	51.648								34.881	41.217	47.664	60.894	74.569	88.690
	Run	23.809								12.944	16.246	19.573	26.355	33.338	40.537
	End	36.367								16.413	22.147	27.985	39.971	52.371	65.185
AT-HD 200 S SC06 P735 (1)	Start	51.648						32.896	40.268	47.792	55.469	63.297	79.410	96.132	
	Run	23.809						11.898	15.754	19.638	23.578	27.583	35.807	44.327	
	End	36.367						14.617	21.289	28.101	35.055	42.150	56.763	71.942	
AT-HD 200 S SC06 P785 (1)	Start	51.648					34.843	43.311	51.976	60.840	69.901	79.161	98.273		
	Run	23.809					12.924	17.328	21.789	26.327	30.957	35.680	45.417		
	End	36.367					16.379	24.043	31.891	39.922	48.138	56.537	73.887		
AT-HD 200 S SC06 P835 (1)	Start	51.648				35.275	44.882	54.742	64.856	75.223	85.843	96.717			
	Run	23.809				13.151	18.140	23.206	28.380	33.671	39.087	44.625			
	End	36.367				16.770	25.465	34.396	43.563	52.964	62.601	72.474			
AT-HD 200 S SC06 P885 (1)	Start	51.648			33.983	44.753	55.843	67.253	78.983	91.033					
	Run	23.809			12.471	18.073	23.771	29.606	35.589	41.730					
	End	36.367			15.600	25.349	35.394	45.737	56.376	67.312					
AT-HD 200 S SC06 P935 (1)	Start	51.648		30.784	42.718	55.051	67.782	80.912	94.440						
	Run	23.809		10.773	17.022	23.364	29.876	36.573	43.465						
	End	36.367		12.706	23.506	34.676	46.216	58.126	70.406						
AT-HD 200 S SC06 P985 (1)	Start	51.648		38.602	52.163	66.214	80.756	95.789							
	Run	23.809		14.889	21.884	29.074	36.494	44.152							
	End	36.367		19.781	32.059	44.794	57.985	71.631							
AT-HD 200 S SC06 P1050 (1)	Start	51.648	34.388	49.658	65.562	82.099	99.270								
	Run	23.809	12.685	20.598	28.741	37.179	45.925								
	End	36.367	15.967	29.791	44.203	59.203	74.792								
AT-HD 200 S SC06 P1150 (1)	Start	51.648	49.623	68.774	88.837										
	Run	23.809	20.580	30.382	40.612										
	End	36.367	29.759	47.115	65.319										
AT-HD 200 S SC08 P585 (1)	Start	59.912													44.439
	Run	27.618													17.094
	End	42.186													22.638



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

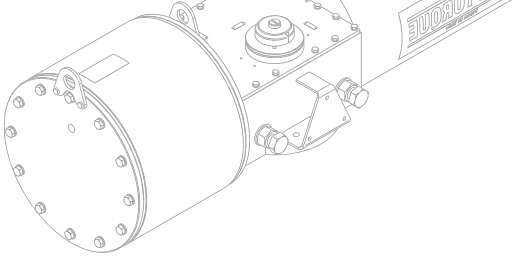
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 S SC08 P635 (1)	Start	59.912												50.185	61.360
	Run	27.618												20.072	25.822
	End	42.186												27.839	37.960
AT-HD 200 S SC08 P685 (1)	Start	59.912										40.965	53.733	66.885	80.422
	Run	27.618										15.279	21.903	28.654	35.572
	End	42.186										19.494	31.052	42.966	55.238
AT-HD 200 S SC08 P735 (1)	Start	59.912								41.088	48.502	56.048	71.531	87.540	
	Run	27.618								15.343	19.203	23.094	31.029	39.202	
	End	42.186								19.606	26.316	33.148	47.177	61.694	
AT-HD 200 S SC08 P785 (1)	Start	59.912						36.753	45.131	53.681	62.401	71.292	89.585		
	Run	27.618						13.054	17.455	21.876	26.355	30.907	40.245		
	End	42.186						15.683	23.265	31.005	38.903	46.960	63.549		
AT-HD 200 S SC08 P835 (1)	Start	59.912					38.273	47.801	57.548	67.513	77.697	88.099			
	Run	27.618					13.862	18.840	23.865	28.975	34.180	39.487			
	End	42.186					17.059	25.682	34.507	43.536	52.767	62.201			
AT-HD 200 S SC08 P885 (1)	Start	59.912				38.149	48.864	59.855	71.122	82.664	94.482				
	Run	27.618				13.796	19.390	25.050	30.820	36.715	42.743				
	End	42.186				16.946	26.644	36.597	46.806	57.271	67.993				
AT-HD 200 S SC08 P935 (1)	Start	59.912			36.179	48.099	60.364	72.971	85.922	99.217					
	Run	27.618			12.748	18.994	25.311	31.765	38.377	45.157					
	End	42.186			15.164	25.951	37.057	48.483	60.227	72.290					
AT-HD 200 S SC08 P985 (1)	Start	59.912		32.191	45.311	58.855	72.822	87.212							
	Run	27.618		10.587	17.548	24.537	31.689	39.035							
	End	42.186		11.557	23.428	35.691	48.347	61.396							
AT-HD 200 S SC08 P1050 (1)	Start	59.912		42.892	58.227	74.109	90.537								
	Run	27.618		16.287	24.215	32.347	40.731								
	End	42.186		21.238	35.123	49.514	64.413								
AT-HD 200 S SC08 P1150 (1)	Start	59.912	42.858	61.317	80.563										
	Run	27.618	16.269	25.800	35.644										
	End	42.186	21.207	37.922	55.366										
AT-HD 200 S SC10 P635 (1)	Start	68.176													54.321
	Run	31.467													21.440
	End	48.133													29.275
AT-HD 200 S SC10 P685 (1)	Start	68.176											46.920	59.674	72.766
	Run	31.467											17.587	24.206	30.930
	End	48.133											22.576	34.122	45.983



Output Torque - PNEUMATIC

Spring-Return Actuators Symmetric Yoke (Nm)

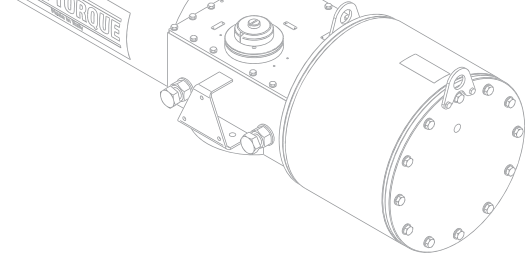
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 S SC10 P785 (1)	**Start**	68.176								46.869	55.330	63.940	81.610	99.881	
	Run	31.467								17.561	21.962	26.401	35.456	44.783	
	End	48.133								22.530	30.188	37.986	53.999	70.569	
AT-HD 200 S SC10 P835 (1)	**Start**	68.176							50.623	60.282	70.134	80.177			
	Run	31.467							19.521	24.520	29.581	34.723			
	End	48.133							25.928	34.673	43.597	52.699			
AT-HD 200 S SC10 P885 (1)	**Start**	68.176						52.861	63.775	74.932	86.331	97.972			
	Run	31.467						20.683	26.316	32.040	37.869	43.810			
	End	48.133						27.953	37.837	47.945	58.279	68.837			
AT-HD 200 S SC10 P935 (1)	**Start**	68.176					53.354	65.565	78.077	90.891					
	Run	31.467					20.938	27.236	33.650	40.198					
	End	48.133					28.400	39.458	50.796	62.414					
AT-HD 200 S SC10 P985 (1)	**Start**	68.176				51.891	65.420	79.321	93.593						
	Run	31.467				20.179	27.162	34.285	41.576						
	End	48.133				27.075	39.327	51.923	64.865						
AT-HD 200 S SC10 P1050 (1)	**Start**	68.176			51.282	66.665	82.528	98.871							
	Run	31.467			19.864	27.803	35.925	44.268							
	End	48.133			26.524	40.455	54.831	69.653							
AT-HD 200 S SC10 P1150 (1)	**Start**	68.176		54.279	72.903	92.217									
	Run	31.467		21.418	31.000	40.875									
	End	48.133		29.237	46.106	63.617									



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 065 C SC02 P235 (0)	Start	763			1.015	1.270	1.525	1.780	2.035	2.290	2.545	2.800	3.310	3.820	
	Run	439			374	491	607	723	839	955	1.072	1188	1.420	1.653	
	End	771			445	618	790	963	1135	1.308	1.480	1.653	1998	2.343	
AT-HD 065 C SC02 P285 (0)	Start	763	1119	1.497	1.875	2.253	2.631	3.009	3.387	3.765					
	Run	439	422	594	767	939	1111	1.283	1.455	1.628					
	End	771	516	771	1.027	1.283	1.539	1.794	2.050	2.306					
AT-HD 065 C SC02 P335 (0)	Start	763	1.855	2.380	2.905	3.430	3.955								
	Run	439	757	996	1.235	1.475	1.714								
	End	771	1.013	1.368	1.724	2.079	2.434								
AT-HD 065 C SC02 P385 (0)	Start	763	2.710	3.407											
	Run	439	1147	1.464											
	End	771	1.592	2.063											
AT-HD 065 C SC04 P235 (0)	Start	1102				927	1182	1.437	1.692	1.947	2.202	2.457	2.968	3.478	3.988
	Run	634				296	412	528	644	760	877	993	1.225	1.458	1.690
	End	1113				278	451	624	796	969	1141	1.314	1.659	2.004	2.349
AT-HD 065 C SC04 P285 (0)	Start	1102		1155	1.533	1.911	2.289	2.667	3.045	3.423	3.801				
	Run	634		399	571	744	916	1.088	1.260	1.432	1.605				
	End	1113		432	688	944	1.200	1.455	1.711	1.967	2.223				
AT-HD 065 C SC04 P335 (0)	Start	1102	1.512	2.037	2.562	3.087	3.612								
	Run	634	562	801	1.040	1.280	1.519								
	End	1113	674	1.029	1.385	1.740	2.095								
AT-HD 065 C SC04 P385 (0)	Start	1102	2.368	3.064	3.760										
	Run	634	952	1.269	1.586										
	End	1113	1.253	1.724	2195										
AT-HD 065 C SC06 P235 (0)	Start	1.526							1.264	1.519	1.774	2.029	2.539	3.050	3.560
	Run	878							400	516	633	749	981	1.214	1446
	End	1542							372	545	717	890	1.235	1.580	1.925
AT-HD 065 C SC06 P285 (0)	Start	1.526			1104	1.483	1.861	2.239	2.617	2.995	3.373	3.751			
	Run	878			328	500	672	844	1.016	1189	1.361	1.533			
	End	1.542			264	520	776	1.032	1.287	1.543	1.799	2.054			
AT-HD 065 C SC06 P335 (0)	Start	1.526	1.084	1.609	2.134	2.659	3184	3.709							
	Run	878	318	557	797	1.036	1.275	1.514							
	End	1.542	250	606	961	1.316	1.671	2.026							
AT-HD 065 C SC06 P385 (0)	Start	1.526	1.940	2.636	3.332										
	Run	878	708	1.025	1.342										
	End	1.542	829	1.300	1.771										

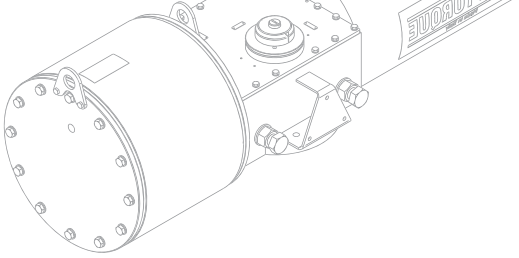


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

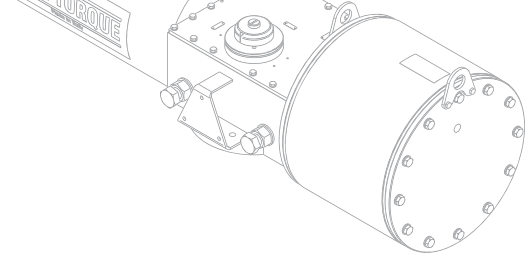
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 065 C SC08 P235 (0)	Start	2.034									1.260	1.515	2.026	2.536	3.046
	Run	1170									340	456	689	921	1153
	End	2.055									209	381	726	1.072	1.417
AT-HD 065 C SC08 P285 (0)	Start	2.034					1.347	1.725	2.103	2.481	2.859	3.237	3.993		
	Run	1170					379	552	724	896	1.068	1.240	1.585		
	End	2.055					267	523	779	1.034	1.290	1.546	2.057		
AT-HD 065 C SC08 P385 (0)	Start	2.034	1.426	2.122	2.818	3.514									
	Run	1170	415	733	1.050	1.367									
	End	2.055	321	792	1.263	1.734									
AT-HD 085 C SC02 P235 (0)	Start	1.204			1154	1.539	1.924	2.309	2.694	3.079	3.464	3.849	4.620	5.390	6160
	Run	699			329	476	623	770	917	1.064	1.211	1.358	1.651	1.945	2.239
	End	1.541			317	534	751	968	1186	1.403	1.620	1.837	2.272	2.706	3141
AT-HD 085 C SC02 P285 (0)	Start	1.204	1.312	1.883	2.453	3.024	3.595	4165	4.736	5.307	5.877	6.448	7589		
	Run	699	389	607	825	1.043	1.260	1.478	1.696	1.914	2131	2.349	2.785		
	End	1.541	406	728	1.050	1.372	1.693	2.015	2.337	2.659	2.981	3.303	3.947		
AT-HD 085 C SC02 P335 (0)	Start	1.204	2.422	3.215	4.007	4.800	5.593	6.385	7178	7.971					
	Run	699	813	1115	1.418	1.720	2.023	2.325	2.628	2.930					
	End	1.541	1.032	1.479	1.926	2.373	2.821	3.268	3.715	4162					
AT-HD 085 C SC02 P385 (0)	Start	1.204	3.714	4.765	5.816	6.867	7.918								
	Run	699	1.306	1.707	2108	2.509	2.910								
	End	1.541	1.761	2.354	2.947	3.540	4133								
AT-HD 085 C SC02 P435 (0)	Start	1.204	5188	6.534	7.880										
	Run	699	1.868	2.382	2.895										
	End	1.541	2.592	3.352	4111										
AT-HD 085 C SC02 P485 (0)	Start	1.204	6.844												
	Run	699	2.500												
	End	1.541	3.527												
AT-HD 085 C SC04 P235 (0)	Start	1.807								2.308	2.693	3.078	3.848	4.618	5.388
	Run	1.050								713	860	1.007	1.301	1.595	1.889
	End	2.313								800	1.017	1.234	1.669	2.103	2.538
AT-HD 085 C SC04 P285 (0)	Start	1.807				2.252	2.823	3.394	3.964	4.535	5105	5.676	6.817	7.959	
	Run	1.050				692	910	1128	1.346	1.563	1.781	1.999	2.434	2.870	
	End	2.313				769	1.090	1.412	1.734	2.056	2.378	2.700	3.344	3.988	
AT-HD 085 C SC04 P335 (0)	Start	1.807		2.443	3.236	4.028	4.821	5.614	6.406	7199	7.991				
	Run	1.050		765	1.068	1.370	1.672	1.975	2.277	2.580	2.882				
	End	2.313		876	1.323	1.770	2.218	2.665	3112	3.559	4.006				



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 085 C SC04 P385 (0)	**Start**	1807	2.942	3.993	5.044	6.095	7146								
	Run	1050	956	1357	1758	2159	2.560								
	End	2313	1158	1751	2.344	2.937	3.530								
AT-HD 085 C SC04 P435 (0)	**Start**	1807	4.416	5.762	7108										
	Run	1050	1518	2.032	2.545										
	End	2313	1989	2.749	3.508										
AT-HD 085 C SC04 P485 (0)	**Start**	1807	6.072	7749											
	Run	1050	2150	2.790											
	End	2313	2.924	3.870											
AT-HD 085 C SC06 P235 (0)	**Start**	2812										1789	2.560	3.330	4100
	Run	1634										423	717	1011	1305
	End	3601										229	664	1098	1533
AT-HD 085 C SC06 P285 (0)	**Start**	2812						2105	2.676	3.247	3.817	4.388	5.529	6.670	7812
	Run	1634						544	762	979	1197	1415	1850	2.286	2.721
	End	3601						407	729	1051	1373	1695	2.339	2.983	3.627
AT-HD 085 C SC06 P335 (0)	**Start**	2812			1947	2.740	3.533	4.325	5118	5.911	6.703	7496			
	Run	1634			484	786	1088	1391	1693	1996	2.298	2.601			
	End	3601			318	765	1213	1660	2107	2.554	3.001	3.449			
AT-HD 085 C SC06 P385 (0)	**Start**	2812		2.705	3.756	4.807	5.858	6.909	7960						
	Run	1634		773	1174	1575	1976	2.377	2.778						
	End	3601		746	1339	1932	2.525	3118	3.711						
AT-HD 085 C SC06 P435 (0)	**Start**	2812	3128	4.474	5.820	7165									
	Run	1634	934	1448	1961	2.475									
	End	3601	984	1744	2.503	3.262									
AT-HD 085 C SC06 P485 (0)	**Start**	2812	4.784	6.461											
	Run	1634	1566	2.206											
	End	3601	1919	2.865											
AT-HD 085 C SC08 P285 (0)	**Start**	3819											4.242	5.384	6.525
	Run	2218											1266	1701	2137
	End	4888											1332	1976	2.620
AT-HD 085 C SC08 P335 (0)	**Start**	3819						3.038	3.831	4.624	5.416	6.209	7794		
	Run	2218						806	1109	1411	1714	2.016	2.621		
	End	4888						653	1100	1547	1994	2.442	3.336		
AT-HD 085 C SC08 P385 (0)	**Start**	3819				3.520	4.571	5.622	6.673	7724					
	Run	2218				990	1391	1792	2193	2.594					
	End	4888				925	1518	2111	2.704	3.297					

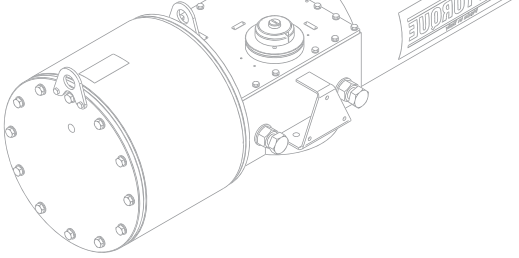


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

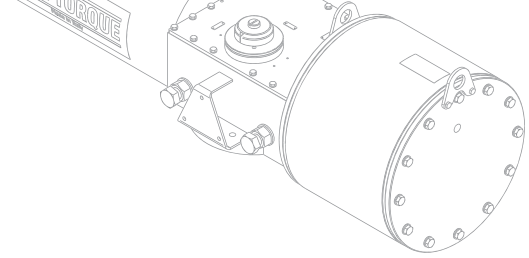
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 085 C SC08 P435 (0)	Start	3.819		3187	4.533	5.879	7.224								
	Run	2.218		863	1.376	1.890	2.403								
	End	4.888		737	1.496	2.255	3.014								
AT-HD 085 C SC08 P485 (0)	Start	3.819	3.497	5174	6.851										
	Run	2.218	981	1.621	2.261										
	End	4.888	912	1.858	2.804										
AT-HD 100 C SC02 P335 (1)	Start	4.869							4.962	5.957	6.970	8.003	10.124	12.321	14.594
	Run	2.770							1185	1.563	1.942	2.325	3.108	3.916	4.751
	End	5.518							1.313	1.847	2.392	2.947	4.089	5.273	6.498
AT-HD 100 C SC02 P385 (1)	Start	4.869				4.577	5.890	7.237	8.616	10.029	11.475	12.955			
	Run	2.770				1.035	1.539	2.041	2.552	3.073	3.605	4.149			
	End	5.518				1106	1.812	2.535	3.278	4.038	4.817	5.614			
AT-HD 100 C SC02 P435 (1)	Start	4.869			5.842	7.570	9.353	11190	13.082	15.028					
	Run	2.770			1.520	2165	2.824	3.500	4196	4.911					
	End	5.518			1.785	2.715	3.674	4.663	5.683	6.732					
AT-HD 100 C SC02 P485 (1)	Start	4.869	4.548	6.658	8.853	11132	13.495	15.944							
	Run	2.770	1.024	1.826	2.639	3.479	4.347	5.247							
	End	5.518	1.091	2.224	3.405	4.632	5.906	7.226							
AT-HD 100 C SC02 P535 (1)	Start	4.869	6.865	9.562	12.384	15.332									
	Run	2.770	1.903	2.901	3.939	5.022									
	End	5.518	2.336	3.786	5.307	6.896									
AT-HD 100 C SC02 P585 (1)	Start	4.869	9.528	12.921											
	Run	2.770	2.888	4137											
	End	5.518	3.768	5.596											
AT-HD 100 C SC02 P635 (1)	Start	4.869	12.571												
	Run	2.770	4.008												
	End	5.518	5.408												
AT-HD 100 C SC04 P335 (1)	Start	5.877									5.718	6.706	8.731	10.818	12.967
	Run	3.343									1.325	1.705	2.462	3.234	4.026
	End	6.660									1.439	1.970	3.058	4181	5.338
AT-HD 100 C SC04 P385 (1)	Start	5.877						5.973	7.293	8.640	10.015	11.417	14.305		
	Run	3.343						1.424	1.926	2.429	2.938	3.456	4.518		
	End	6.660						1.576	2.285	3.009	3.749	4.504	6.059		
AT-HD 100 C SC04 P435 (1)	Start	5.877				6.292	7.996	9.744	11.538	13.377	15.261				
	Run	3.343				1.547	2.189	2.838	3.500	4177	4.870				
	End	6.660				1.747	2.663	3.603	4.569	5.559	6.574				



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 100 C SC04 P485 (1)	Start	5.877		5.418	7.518	9.689	11.929	14.239							
	Run	3.343		1.208	2.010	2.817	3.644	4.494							
	End	6.660		1.278	2.406	3.573	4.779	6.024							
AT-HD 100 C SC04 P535 (1)	Start	5.877	5.617	8.195	10.877	13.663									
	Run	3.343	1.286	2.263	3.256	4.282									
	End	6.660	1.384	2.770	4.213	5.713									
AT-HD 100 C SC04 P585 (1)	Start	5.877	8.163	11.386	14.758										
	Run	3.343	2.251	3.444	4.685										
	End	6.660	2.753	4.487	6.303										
AT-HD 100 C SC04 P635 (1)	Start	5.877	11.054	15.031											
	Run	3.343	3.322	4.785											
	End	6.660	4.308	6.450											
AT-HD 100 C SC06 P335 (1)	Start	7.388											6.852	8.830	10.858
	Run	4.202											1.534	2.294	3.052
	End	8.372											1.628	2.691	3.781
AT-HD 100 C SC06 P385 (1)	Start	7.388								6.766	8.071	9.397	12.115	14.921	
	Run	4.202								1.501	2.006	2.507	3.518	4.554	
	End	8.372								1.582	2.283	2.996	4.457	5.968	
AT-HD 100 C SC06 P435 (1)	Start	7.388					6.153	7.814	9.511	11.244	13.012	14.817			
	Run	4.202					1.231	1.908	2.550	3.195	3.850	4.515			
	End	8.372					1.253	2.145	3.057	3.989	4.940	5.911			
AT-HD 100 C SC06 P485 (1)	Start	7.388			5.699	7.762	9.880	12.054	14.284						
	Run	4.202			950	1.888	2.688	3.495	4.319						
	End	8.372			1.009	2.117	3.255	4.425	5.625						
AT-HD 100 C SC06 P535 (1)	Start	7.388		6.343	8.886	11.513	14.222								
	Run	4.202		1.332	2.315	3.295	4.296								
	End	8.372		1.355	2.721	4.133	5.591								
AT-HD 100 C SC06 P585 (1)	Start	7.388	6.313	9.367	12.541	15.834									
	Run	4.202	1.320	2.496	3.675	4.889									
	End	8.372	1.338	2.980	4.686	6.459									
AT-HD 100 C SC06 P635 (1)	Start	7.388	9.054	12.797											
	Run	4.202	2.378	3.770											
	End	8.372	2.811	4.824											
AT-HD 100 C SC08 P335 (1)	Start	8.685												6.965	8.919
	Run	4.995												1.465	2.227
	End	10.159												1.491	2.542

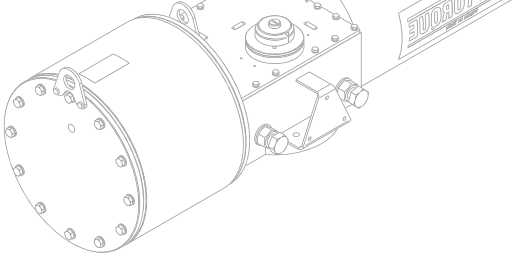


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

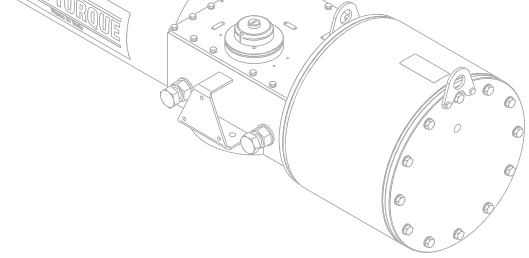
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 100 C SC08 P385 (1)	Start	8.685									6.232	7.512	10.127	12.817	15.581
	Run	4.995									1.031	1.682	2.684	3.687	4.709
	End	10.159									1.097	1.785	3.193	4.641	6.131
AT-HD 100 C SC08 P435 (1)	Start	8.685							7.621	9.289	10.988	12.717			
	Run	4.995							1.725	2.368	3.007	3.650			
	End	10.159							1.844	2.742	3.656	4.588			
AT-HD 100 C SC08 P485 (1)	Start	8.685					7.977	10.068	12.207	14.393					
	Run	4.995					1.865	2.662	3.460	4.270					
	End	10.159					2.036	3.161	4.313	5.491					
AT-HD 100 C SC08 P535 (1)	Start	8.685			7.019	9.548	12.148	14.817							
	Run	4.995			1.487	2.466	3.438	4.427							
	End	10.159			1.520	2.881	4.281	5.720							
AT-HD 100 C SC08 P585 (1)	Start	8.685		7.483	10.536	13.689									
	Run	4.995		1.671	2.837	4.010									
	End	10.159		1.770	3.413	5.112									
AT-HD 100 C SC08 P635 (1)	Start	8.685	7.181	10.781	14.522										
	Run	4.995	1.552	2.929	4.318										
	End	10.159	1.607	3.545	5.560										
AT-HD 130 C SC02 P385 (1)	Start	6.720						8.140	9.859	11.616	13.412	15.246	19.029	22.965	27.054
	Run	3.918						1.979	2.582	3.193	3.816	4.450	5.756	7.114	8.525
	End	8.645						2.215	3.018	3.839	4.679	5.537	7.309	9.154	11.072
AT-HD 130 C SC02 P435 (1)	Start	6.720				8.555	10.775	13.058	15.404	17.812	20.284	22.818	28.074		
	Run	3.918				2.126	2.901	3.693	4.505	5.337	6.189	7.064	8.877		
	End	8.645				2.409	3.446	4.514	5.611	6.739	7.897	9.085	11.551		
AT-HD 130 C SC02 P485 (1)	Start	6.720			10.153	12.986	15.916	18.943	22.068	25.291	28.611	29.260			
	Run	3.918			2.685	3.668	4.681	5.727	6.805	7.917	9.062	9.356			
	End	8.645			3.155	4.480	5.851	7.269	8.733	10.245	11.803	12.248			
AT-HD 130 C SC02 P535 (1)	Start	6.720		11.035	14.539	18.188	21.982	25.920	27.681						
	Run	3.918		2.992	4.206	5.466	6.775	8.134	8.804						
	End	8.645		3.568	5.207	6.915	8.693	10.540	11.492						
AT-HD 130 C SC02 P585 (1)	Start	6.720	10.994	15.205	19.624	24.251	29.086								
	Run	3.918	2.977	4.436	5.962	7.558	9.225								
	End	8.645	3.548	5.518	7.588	9.757	12.025								
AT-HD 130 C SC02 P635 (1)	Start	6.720	14.771	19.982	25.483	28.674									
	Run	3.918	4.286	6.085	7.983	9.151									
	End	8.645	5.315	7.756	10.335	11.967									



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 C SC02 P685 (1)	Start	6.720	19.050	25.427	29.390										
	Run	3.918	5.764	7.964	9.401										
	End	8.645	7.319	10.309	12.311										
AT-HD 130 C SC02 P735 (1)	Start	6.720	24.391	29.443											
	Run	3.918	7.606	9.420											
	End	8.645	9.822	12.336											
AT-HD 130 C SC04 P385 (1)	Start	9.487									9.608	11.292	14.739	18.296	21.960
	Run	5.531									2.121	2.723	3.931	5.166	6.433
	End	12.205									2.247	3.033	4.644	6.307	8.022
AT-HD 130 C SC04 P435 (1)	Start	9.487						9.283	11.436	13.634	15.876	18.163	22.870	27.755	
	Run	5.531						2.002	2.775	3.546	4.327	5.120	6.748	8.434	
	End	12.205						2.095	3.101	4.128	5.176	6.245	8.448	10.736	
AT-HD 130 C SC04 P485 (1)	Start	9.487				9.216	11.904	14.662	17.488	20.384	23.348	26.382			
	Run	5.531				1.978	2.940	3.904	4.886	5.889	6.913	7.960			
	End	12.205				2.064	3.320	4.608	5.930	7.284	8.672	10.093			
AT-HD 130 C SC04 P535 (1)	Start	9.487			10.644	13.976	17.410	20.947	24.587	28.329					
	Run	5.531			2.493	3.665	4.859	6.083	7.341	8.632					
	End	12.205			2.731	4.287	5.893	7.548	9.252	11.005					
AT-HD 130 C SC04 P585 (1)	Start	9.487		11.254	15.279	19.451	23.771	28.238							
	Run	5.531		2.710	4.119	5.566	7.059	8.600							
	End	12.205		3.016	4.897	6.848	8.870	10.962							
AT-HD 130 C SC04 P635 (1)	Start	9.487	10.857	15.604	20.556	25.713									
	Run	5.531	2.569	4.232	5.948	7.729									
	End	12.205	2.830	5.048	7.365	9.779									
AT-HD 130 C SC04 P685 (1)	Start	9.487	14.759	20.506	26.531										
	Run	5.531	3.938	5.931	8.012										
	End	12.205	4.653	7.341	10.163										
AT-HD 130 C SC04 P735 (1)	Start	9.487	19.577	26.592											
	Run	5.531	5.609	8.033											
	End	12.205	6.907	10.191											
AT-HD 130 C SC06 P385 (1)	Start	11.848											11.189	14.555	18.008
	Run	6.975											2.474	3.672	4.878
	End	15.704											2.624	4.198	5.815
AT-HD 130 C SC06 P435 (1)	Start	11.848									12.267	14.430	18.863	23.439	28.157
	Run	6.975									2.862	3.628	5.175	6.762	8.393
	End	15.704									3.128	4.140	6.215	8.358	10.570

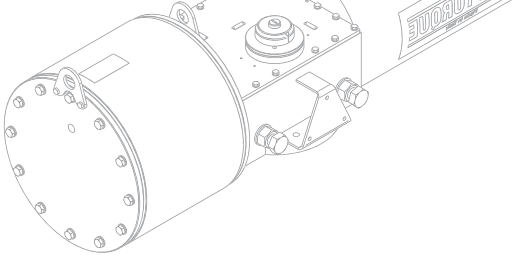


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

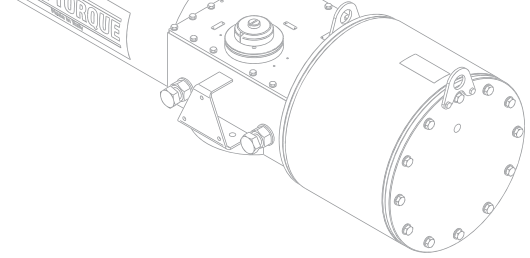
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 C SC06 P485 (1)	Start	11.848						11.115	13.793	16.525	19.312	22.155	28.006		
	Run	6.975						2.447	3.403	4.361	5.331	6.317	8.341		
	End	15.704						2.589	3.841	5.120	6.425	7.757	10.499		
AT-HD 130 C SC06 P535 (1)	Start	11.848				10.464	13.719	17.055	20.474	23.975	27.558				
	Run	6.975				2.207	3.377	4.546	5.735	6.947	8.186				
	End	15.704				2.285	3.807	5.368	6.969	8.609	10.289				
AT-HD 130 C SC06 P585 (1)	Start	11.848			11.701	15.646	19.709	23.889	28.188						
	Run	6.975			2.659	4.054	5.469	6.918	8.404						
	End	15.704			2.863	4.709	6.611	8.569	10.584						
AT-HD 130 C SC06 P635 (1)	Start	11.848		12.009	16.687	21.529	26.534								
	Run	6.975		2.770	4.418	6.100	7.832								
	End	15.704		3.007	5.196	7.463	9.809								
AT-HD 130 C SC06 P685 (1)	Start	11.848	11.208	16.640	22.295	28.172									
	Run	6.975	2.481	4.401	6.365	8.399									
	End	15.704	2.632	5.174	7.822	10.577									
AT-HD 130 C SC06 P735 (1)	Start	11.848	15.764	22.351	29.242										
	Run	6.975	4.095	6.385	8.769										
	End	15.704	4.764	7.849	11.079										
AT-HD 130 C SC08 P385 (1)	Start	14.230													15.250
	Run	8.296													3.484
	End	18.307													3.762
AT-HD 130 C SC08 P435 (1)	Start	14.230											16.070	20.451	24.951
	Run	8.296											3.777	5.319	6.885
	End	18.307											4.145	6.192	8.295
AT-HD 130 C SC08 P485 (1)	Start	14.230								13.824	16.501	19.224	24.808		
	Run	8.296								2.966	3.931	4.890	6.835		
	End	18.307								3.096	4.346	5.618	8.228		
AT-HD 130 C SC08 P535 (1)	Start	14.230						14.334	17.615	20.964	24.381	27.867			
	Run	8.296						3.153	4.324	5.498	6.687	7.895			
	End	18.307						3.335	4.866	6.431	8.029	9.659			
AT-HD 130 C SC08 P585 (1)	Start	14.230				12.979	16.881	20.882	24.980	29.177					
	Run	8.296				2.651	4.065	5.470	6.895	8.349					
	End	18.307				2.702	4.524	6.393	8.309	10.272					
AT-HD 130 C SC08 P635 (1)	Start	14.230			13.980	18.624	23.406	28.323							
	Run	8.296			3.024	4.680	6.348	8.053							
	End	18.307			3.169	5.338	7.573	9.873							



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 130 C SC08 P685 (1)	Start	14.230		13.935	19.357	24.966									
	Run	8.296		3.007	4.937	6.890									
	End	18.307		3148	5.681	8.302									
AT-HD 130 C SC08 P735 (1)	Start	14.230	13.092	19.412	25.984										
	Run	8.296	2.694	4.956	7.243										
	End	18.307	2.755	5.706	8.778										
AT-HD 160 C SC02 P485 (1)	Start	12.885					12.885	15.884	18.957	22104	25.325	28.620	35.431	42.538	45.723
	Run	6.804					3.925	5182	6.460	7764	9.096	10.458	13.270	16.202	17631
	End	12.354					4.862	6.833	8.853	10.922	13.042	15.211	19.699	24.386	26.801
AT-HD 160 C SC02 P535 (1)	Start	12.885			11513	15138	18.872	22.717	26.671	30.734	34.908	39191	44.280	51420	58.560
	Run	6.804			3.344	4.871	6.425	8.018	9.652	11331	13.054	14.822	17028	20.011	22.990
	End	12.354			3.962	6.342	8.797	11325	13.928	16.604	19.354	22179	25.828	30.639	35.449
AT-HD 160 C SC02 P585 (1)	Start	12.885		12177	16.555	21091	25.784	30.635	35.643	40.808	46131	47015	55.565		
	Run	6.804		3.626	5.462	7344	9.286	11289	13.357	15.489	17685	18171	21741		
	End	12.354		4.398	7274	10.256	13.344	16.538	19.839	23.245	26.758	27671	33.432		
AT-HD 160 C SC02 P635 (1)	Start	12.885		16.908	22.291	27893	33.714	39.754	46.014	47691	52.735	57779			
	Run	6.804		5.609	7842	10158	12.561	15.054	17637	18.453	20.560	22.665			
	End	12.354		7506	11045	14.733	18.568	22.550	26.680	28126	31525	34.924			
AT-HD 160 C SC02 P685 (1)	Start	12.885	15.990	22.237	28.782	35.625	42.765	45.927	51804	57680					
	Run	6.804	5.226	7819	10.525	13.350	16.296	17716	20171	22.623					
	End	12.354	6.902	11010	15.318	19.827	24.536	26.938	30.897	34.857					
AT-HD 160 C SC02 P735 (1)	Start	12.885	21227	28.848	36.875	45.308	48.952	55.818							
	Run	6.804	7401	10.552	13.866	17345	18.980	21846							
	End	12.354	10.345	15.361	20.651	26.214	28.976	33.602							
AT-HD 160 C SC02 P785 (1)	Start	12.885	26.545	35.597	45176	49.813	57645								
	Run	6.804	9.601	13.338	17291	19.340	22.608								
	End	12.354	13.845	19.808	26127	29.556	34.833								
AT-HD 160 C SC02 P835 (1)	Start	12.885	32.435	43108	49188	58.049									
	Run	6.804	12.032	16.437	19.079	22.777									
	End	12.354	17724	24.762	29135	35105									
AT-HD 160 C SC04 P485 (1)	Start	18.406									18.831	21826	27973	34.326	40.886
	Run	9.720									5.786	7042	9.598	12.228	14.940
	End	17649									7224	9192	13.232	17412	21731
AT-HD 160 C SC04 P535 (1)	Start	18.406						16.447	20.056	23.741	27503	31341	39.249	47465	55.988
	Run	9.720						4.777	6.301	7840	9.404	10.994	14.264	17656	21174
	End	17649						5.660	8.029	10.450	12.923	15.448	20.653	26.065	31684

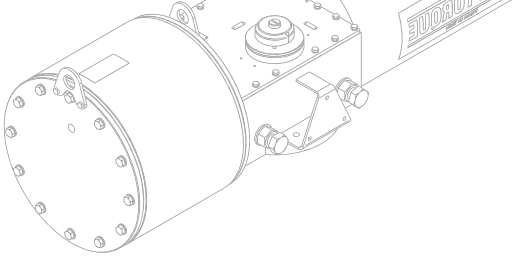


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

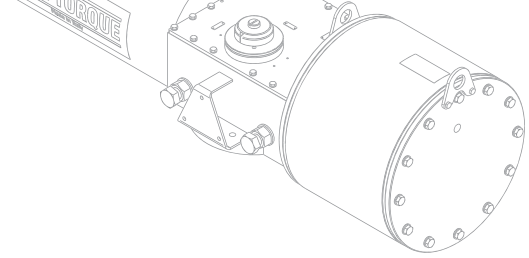
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 160 C SC04 P585 (1)	Start	18.406					19.249	23.651	28.163	32.785	37.517	42.360	52.376		
	Run	9.720					5.962	7.803	9.677	11.591	13.548	15.548	19.684		
	End	17.649					7.499	10.391	13.357	16.398	19.512	22.701	29.302		
AT-HD 160 C SC04 P635 (1)	Start	18.406				21.166	26.429	31.844	37.414	43.136	49.012	55.041			
	Run	9.720				6.766	8.957	11.202	13.505	15.868	18.295	20.783			
	End	17.649				8.759	12.217	15.779	19.444	23.213	27.084	31.060			
AT-HD 160 C SC04 P685 (1)	Start	18.406			21.973	28.146	34.528	41.117	47.915	54.921					
	Run	9.720			7.104	9.670	12.312	15.035	17.842	20.734					
	End	17.649			9.289	13.347	17.545	21.883	26.362	30.981					
AT-HD 160 C SC04 P735 (1)	Start	18.406		22.033	29.268	36.787	44.591	52.678							
	Run	9.720		7.128	10.135	13.246	16.469	19.809							
	End	17.649		9.328	14.084	19.032	24.171	29.501							
AT-HD 160 C SC04 P785 (1)	Start	18.406	19.942	28.121	36.671	45.590	54.879								
	Run	9.720	6.253	9.660	13.198	16.881	20.716								
	End	17.649	7.954	13.330	18.955	24.829	30.952								
AT-HD 160 C SC04 P835 (1)	Start	18.406	25.276	34.833	44.864	55.368									
	Run	9.720	8.479	12.438	16.582	20.918									
	End	17.649	11.459	17.746	24.351	31.275									
AT-HD 160 C SC06 P485 (1)	Start	23.008											22.797	28.799	34.966
	Run	12.150											6.920	9.435	11.998
	End	22.061											8.544	12.486	16.540
AT-HD 160 C SC06 P535 (1)	Start	23.008									22.352	25.983	33.430	41.123	49.062
	Run	12.150									6.732	8.259	11.361	14.548	17.830
	End	22.061									8.251	10.636	15.531	20.591	25.816
AT-HD 160 C SC06 P585 (1)	Start	23.008							22.977	27.346	31.803	36.348	45.703	55.410	
	Run	12.150							6.996	8.829	10.685	12.570	16.441	20.451	
	End	22.061							8.662	11.532	14.461	17.449	23.604	29.997	
AT-HD 160 C SC06 P635 (1)	Start	23.008					21.334	26.458	31.705	37.075	42.567	48.182	59.781		
	Run	12.150					6.301	8.458	10.644	12.871	15.145	17.466	22.255		
	End	22.061					7.583	10.948	14.397	17.927	21.541	25.237	32.877		
AT-HD 160 C SC06 P685 (1)	Start	23.008				22.961	28.989	35.183	41.543	48.071	54.764				
	Run	12.150				6.990	9.514	12.088	14.722	17.420	20.184				
	End	22.061				8.652	12.611	16.683	20.867	25.163	29.572				
AT-HD 160 C SC06 P735 (1)	Start	23.008			24.023	31.116	38.436	45.984	53.759						
	Run	12.150			7.437	10.399	13.436	16.557	19.769						
	End	22.061			9.349	14.009	18.823	23.790	28.910						



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 160 C SC06 P785 (1)	Start	23.008		22.938	31.006	39.371	48.031	56.987							
	Run	12.150		6.980	10.354	13.823	17.404	21.102							
	End	22.061		8.636	13.937	19.438	25.137	31.036							
AT-HD 160 C SC06 P835 (1)	Start	23.008	20.240	29.277	38.692	48.486	58.658								
	Run	12.150	5.835	9.634	13.541	17.592	21.792								
	End	22.061	6.865	12.800	18.991	25.437	32.138								
AT-HD 160 C SC08 P485 (1)	Start	28.530													28.742
	Run	15.065													8.782
	End	27.356													10.906
AT-HD 160 C SC08 P535 (1)	Start	28.530											27.284	34.573	42.060
	Run	15.065											8.166	11.225	14.339
	End	27.356											9.948	14.736	19.657
AT-HD 160 C SC08 P585 (1)	Start	28.530									25.738	30.053	38.896	48.023	57.435
	Run	15.065									7.509	9.333	13.025	16.810	20.702
	End	27.356									8.933	11.766	17.577	23.579	29.772
AT-HD 160 C SC08 P635 (1)	Start	28.530							25.645	30.742	35.937	41.232	52.117		
	Run	15.065							7.469	9.622	11.793	13.995	18.504		
	End	27.356							8.872	12.219	15.632	19.112	26.272		
AT-HD 160 C SC08 P685 (1)	Start	28.530						28.948	34.970	41.127	47.417	53.842			
	Run	15.065						8.869	11.390	13.951	16.559	19.217			
	End	27.356						11.041	14.997	19.043	23.180	27.408			
AT-HD 160 C SC08 P735 (1)	Start	28.530					32.031	39.161	46.474	53.970					
	Run	15.065					10.163	13.135	16.168	19.270					
	End	27.356					13.066	17.751	22.560	27.492					
AT-HD 160 C SC08 P785 (1)	Start	28.530				32.916	41.089	49.501	58.152						
	Run	15.065				10.533	13.936	17.423	20.999						
	End	27.356				13.647	19.019	24.551	30.244						
AT-HD 160 C SC08 P835 (1)	Start	28.530			32.273	41.517	51.067								
	Run	15.065			10.264	14.114	18.070								
	End	27.356			13.225	19.300	25.581								
AT-HD 200 C SC02 P535 (1)	Start	27.610								24.671	29.173	33.756	43.160	52.885	62.931
	Run	14.580								7.166	9.070	10.987	14.895	18.920	23.071
	End	26.473								8.489	11.446	14.456	20.639	27.037	33.651
AT-HD 200 C SC02 P585 (1)	Start	27.610						24.563	29.962	35.476	41.104	46.848	58.679	70.969	83.719
	Run	14.580						7.119	9.401	11.704	14.043	16.423	21.315	26.390	31.652
	End	26.473						8.418	11.964	15.587	19.287	23.064	30.851	38.947	47.353

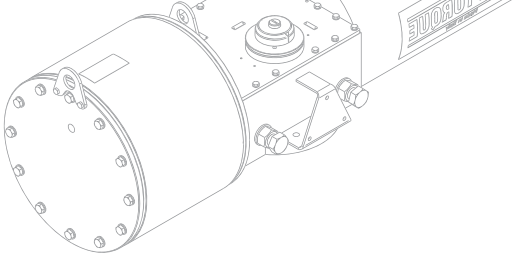


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

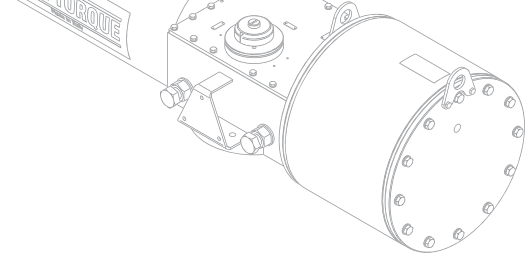
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 C SC02 P635 (1)	Start	27.610					27.889	34.355	40.981	47.767	54.712	61.817	76.507	91.836	98.592
	Run	14.580					8.530	11.237	13.992	16.803	19.675	22.611	28.676	35.001	38.038
	End	26.473					10.602	14.850	19.205	23.668	28.239	32.917	42.597	52.707	57.843
AT-HD 200 C SC02 P685 (1)	Start	27.610				29.943	37.551	45.375	53.417	61.676	70.152	78.844	96.880		
	Run	14.580				9.393	12.567	15.813	19.140	22.553	26.052	29.642	37.083		
	End	26.473				11.951	16.950	22.095	27.387	32.824	38.408	44.138	56.036		
AT-HD 200 C SC02 P735 (1)	Start	27.610			31.282	40.237	49.488	59.035	68.878	79.017	89.453	92.636			
	Run	14.580			9.954	13.683	17.515	21.463	25.526	29.713	34.018	35.550			
	End	26.473			12.831	18.716	24.801	31.085	37.569	44.252	51.135	53.831			
AT-HD 200 C SC02 P785 (1)	Start	27.610		29.913	40.098	50.670	61.626	72.967	84.694	96.806	99.750				
	Run	14.580		9.380	13.625	18.004	22.532	27.215	32.055	37.052	38.522				
	End	26.473		11.931	18.625	25.578	32.791	40.264	47.996	55.987	58.624				
AT-HD 200 C SC02 P835 (1)	Start	27.610	26.510	37.914	49.811	62.201	75.085	88.461	94.326						
	Run	14.580	7.947	12.718	17.649	22.770	28.089	33.609	36.256						
	End	26.473	9.697	17.189	25.013	33.170	41.659	50.481	54.969						
AT-HD 200 C SC02 P885 (1)	Start	27.610	33.485	46.671	60.480	74.911	89.964	96.912							
	Run	14.580	10.874	16.349	22.059	28.017	34.229	37.336							
	End	26.473	14.278	22.948	32.037	41.545	51.472	56.711							
AT-HD 200 C SC02 P935 (1)	Start	27.610	41.069	56.232	72.170	88.883	97.480								
	Run	14.580	14.029	20.303	26.885	33.783	37.573								
	End	26.473	19.264	29.240	39.738	50.759	57.094								
AT-HD 200 C SC02 P985 (1)	Start	27.610	49.298	66.646	84.948	95.792									
	Run	14.580	17.437	24.604	32.159	36.868									
	End	26.473	24.676	36.098	48.163	55.957									
AT-HD 200 C SC02 P1050 (1)	Start	27.610	61.020	81.546	95.089										
	Run	14.580	22.282	30.756	36.574										
	End	26.473	32.392	45.919	55.483										
AT-HD 200 C SC02 P1150 (1)	Start	27.610	81.498	98.544											
	Run	14.580	30.736	38.018											
	End	26.473	45.888	57.811											
AT-HD 200 C SC04 P535 (1)	Start	36.813											32.895	41.939	51.224
	Run	19.439											9.554	13.368	17.236
	End	35.298											11.319	17.259	23.361
AT-HD 200 C SC04 P585 (1)	Start	36.813										36.331	47.301	58.616	70.275
	Run	19.439										11.012	15.605	20.303	25.128
	End	35.298										13.575	20.782	28.221	35.892



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 C SC04 P635 (1)	Start	36.813								37.186	43.632	50.198	63.689	77.660	92.110
	Run	19.439								11.373	14.076	16.810	22.405	28.181	34.147
	End	35.298								14.137	18.371	22.686	31.558	40.753	50.271
AT-HD 200 C SC04 P685 (1)	Start	36.813						34.960	42.432	50.067	57.865	65.826	82.235	99.294	
	Run	19.439						10.432	13.574	16.756	19.992	23.288	30.070	37.114	
	End	35.298						12.675	17.583	22.600	27.727	32.964	43.766	55.006	
AT-HD 200 C SC04 P735 (1)	Start	36.813					38.786	47.630	56.696	65.984	75.494	85.226			
	Run	19.439					12.046	15.742	19.507	23.354	27.285	31.305			
	End	35.298					15.188	20.998	26.958	33.068	39.327	45.736			
AT-HD 200 C SC04 P785 (1)	Start	36.813				39.883	50.021	60.448	71.163	82.168	93.461				
	Run	19.439				12.507	16.737	21.062	25.495	30.043	34.705				
	End	35.298				15.908	22.570	29.426	36.476	43.722	51.162				
AT-HD 200 C SC04 P835 (1)	Start	36.813			39.086	50.552	62.387	74.593	87.168						
	Run	19.439			12.172	16.957	21.865	26.913	32.107						
	End	35.298			15.385	22.919	30.702	38.734	47.015						
AT-HD 200 C SC04 P885 (1)	Start	36.813		36.166	48.964	62.228	75.959	90.157							
	Run	19.439		10.942	16.298	21.799	27.478	33.341							
	End	35.298		13.467	21.875	30.597	39.634	48.985							
AT-HD 200 C SC04 P935 (1)	Start	36.813		45.039	59.716	74.976	90.817								
	Run	19.439		14.662	20.759	27.071	33.613								
	End	35.298		19.295	28.945	38.986	49.419								
AT-HD 200 C SC04 P985 (1)	Start	36.813	38.610	54.644	71.394	88.861									
	Run	19.439	11.972	18.657	25.590	32.806									
	End	35.298	15.072	25.609	36.628	48.131									
AT-HD 200 C SC04 P1050 (1)	Start	36.813	49.462	68.292	88.048										
	Run	19.439	16.505	24.308	32.470										
	End	35.298	22.202	34.587	47.595										
AT-HD 200 C SC04 P1150 (1)	Start	36.813	68.249	92.054											
	Run	19.439	24.290	34.124											
	End	35.298	34.558	50.235											
AT-HD 200 C SC06 P535 (1)	Start	46.016													41.118
	Run	24.299													11.943
	End	44.122													14.149
AT-HD 200 C SC06 P585 (1)	Start	46.016												48.122	59.126
	Run	24.299												14.906	19.507
	End	44.122												18.748	25.978

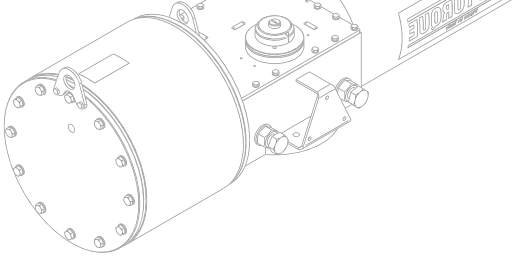


AIR TORQUE

Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

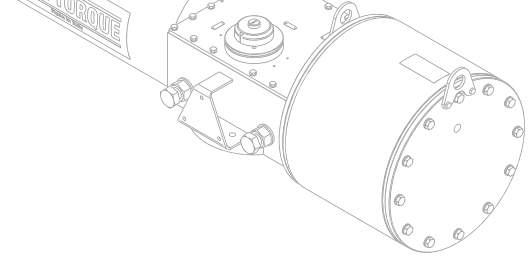
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 C SC06 P635 (1)	Start	46.016											52.916	66.072	79.611
	Run	24.299											16.915	22.394	28.006
	End	44122											21.897	30.543	39.447
AT-HD 200 C SC06 P685 (1)	Start	46.016									47.412	54.933	70.366	86.319	
	Run	24.299									14.607	17.759	24.176	30.779	
	End	44122									18.281	23.222	33.366	43.862	
AT-HD 200 C SC06 P735 (1)	Start	46.016							46.305	55.082	64.037	73.170	91.968		
	Run	24.299							14.141	17.821	21.548	25.337	33.115		
	End	44122							17.554	23.320	29.205	35.210	47.579		
AT-HD 200 C SC06 P785 (1)	Start	46.016						49.854	59.963	70.303	80.874	91.676			
	Run	24.299						15.634	19.855	24.150	28.529	32.994			
	End	44122						19.885	26.527	33.325	40.278	47.387			
AT-HD 200 C SC06 P835 (1)	Start	46.016					51.687	63.190	74.988	87.083	99.473				
	Run	24.299					16.401	21.196	26.090	31.095	36.217				
	End	44122					21.089	28.648	36.406	44.364	52.521				
AT-HD 200 C SC06 P885 (1)	Start	46.016				51.537	64.474	77.785	91.470						
	Run	24.299				16.338	21.730	27.249	32.909						
	End	44122				20.991	29.493	38.246	47.251						
AT-HD 200 C SC06 P935 (1)	Start	46.016			49.163	63.550	78.402	93.720							
	Run	24.299			15.343	21.346	27.505	33.839							
	End	44122			19.431	28.885	38.652	48.733							
AT-HD 200 C SC06 P985 (1)	Start	46.016		44.361	60.180	76.573	93.538								
	Run	24.299		13.320	19.946	26.747	33.764								
	End	44122		16.278	26.670	37.449	48.613								
AT-HD 200 C SC06 P1050 (1)	Start	46.016	39.446	57.259	75.812	95.104									
	Run	24.299	11.227	18.728	26.432	34.412									
	End	44122	13.051	24.750	36.948	49.644									
AT-HD 200 C SC06 P1150 (1)	Start	46.016	57.218	79.559											
	Run	24.299	18.711	27.984											
	End	44122	24.723	39.413											
AT-HD 200 C SC08 P585 (1)	Start	53.379													51.063
	Run	28.187													15.284
	End	51.181													18.622
AT-HD 200 C SC08 P635 (1)	Start	53.379												57.766	70.803
	Run	28.187												18.108	23.550
	End	51.181												23.024	31.590



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

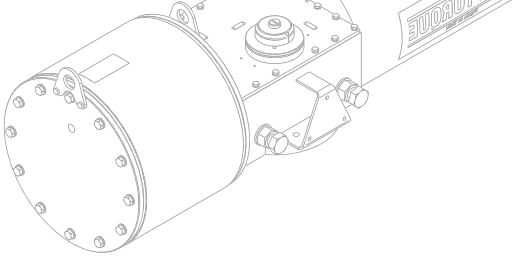
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 C SC08 P685 (1)	Start	53.379										47.010	61.905	77.248	93.040
	Run	28187										13.560	19.840	26.228	32.773
	End	51181										15.962	25.743	35.827	46.214
AT-HD 200 C SC08 P735 (1)	Start	53.379								47.155	55.803	64.605	82.668	99.032	
	Run	28187								13.622	17.283	20.968	28.476	35.250	
	End	51181								16.056	21.735	27.518	39.391	50.156	
AT-HD 200 C SC08 P785 (1)	Start	53.379							51.871	61.844	72.017	82.389			
	Run	28187							15.625	19.815	24.055	28.360			
	End	51181							19.153	25.704	32.388	39.208			
AT-HD 200 C SC08 P835 (1)	Start	53.379						54.985	66.355	77.981	89.861				
	Run	28187						16.939	21.698	26.532	31.456				
	End	51181						21.198	28.668	36.309	44.122				
AT-HD 200 C SC08 P885 (1)	Start	53.379					56.225	69.047	82.190	95.656					
	Run	28187					17.460	22.819	28.278	33.854					
	End	51181					22.012	30.436	39.077	47.935					
AT-HD 200 C SC08 P935 (1)	Start	53.379				55.333	69.640	84.348	99.457						
	Run	28187				17.085	23.067	29.172	35.426						
	End	51181				21.427	30.826	40.496	50.436						
AT-HD 200 C SC08 P985 (1)	Start	53.379			52.081	67.880	84.174								
	Run	28187			15.714	22.333	29.100								
	End	51181			19.291	29.670	40.381								
AT-HD 200 C SC08 P1050 (1)	Start	53.379		49.258	67.148	85.675									
	Run	28187		14.518	22.028	29.722									
	End	51181		17.438	29.189	41.369									
AT-HD 200 C SC08 P1150 (1)	Start	53.379	49.219	70.753	93.204										
	Run	28187	14.501	23.530	32.841										
	End	51181	17.411	31.558	46.322										
AT-HD 200 C SC10 P635 (1)	Start	60.738													62.488
	Run	32106													19.283
	End	58.389													24.169
AT-HD 200 C SC10 P685 (1)	Start	60.738											53.855	68.734	84.007
	Run	32106											15.628	21.902	28.267
	End	58.389											18.499	28.272	38.310
AT-HD 200 C SC10 P735 (1)	Start	60.738										56.477	73.980	92.023	
	Run	32106										16.743	24.094	31.595	
	End	58.389										20.221	31.719	43.581	



Output Torque - PNEUMATIC

Spring-Return Actuators Canted Yoke (Nm)

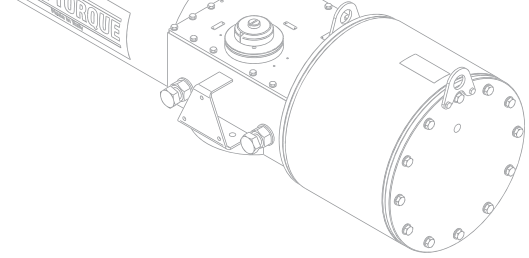
Actuator model (FAIL CLOSE)	Spring torque close		2,5 bar	3,0 bar	3,5 bar	4,0 bar	4,5 bar	5,0 bar	5,5 bar	6,0 bar	6,5 bar	7,0 bar	8,0 bar	9,0 bar	10,0 bar
AT-HD 200 C SC10 P785 (1)	Start	60.738									63.666	73.710	94.324		
	Run	32.106									19.778	23.981	32.548		
	End	58.389									24.942	31.541	45.094		
AT-HD 200 C SC10 P835 (1)	Start	60.738							58.175	69.443	80.935	92.652			
	Run	32.106							17.464	22.199	26.991	31.856			
	End	58.389							21.336	28.738	36.291	43.994			
AT-HD 200 C SC10 P885 (1)	Start	60.738						60.786	73.518	86.533	99.831				
	Run	32.106						18.566	23.901	29.316	34.830				
	End	58.389						23.051	31.415	39.971	48.717				
AT-HD 200 C SC10 P935 (1)	Start	60.738					61.361	75.605	90.202						
	Run	32.106					18.809	24.771	30.841						
	End	58.389					23.428	32.787	42.383						
AT-HD 200 C SC10 P985 (1)	Start	60.738				59.654	75.437	91.653							
	Run	32.106				18.088	24.701	31.442							
	End	58.389				22.307	32.676	43.338							
AT-HD 200 C SC10 P1050 (1)	Start	60.738			58.944	76.889	95.395								
	Run	32.106			17.788	25.307	32.992								
	End	58.389			21.841	33.631	45.799								
AT-HD 200 C SC10 P1150 (1)	Start	60.738		62.440	84166										
	Run	32.106		19.263	28.333										
	End	58.389		24.137	38.414										



Output Torque - HYDRAULIC

Double-acting Actuators Symmetric Yoke (Nm)

Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 065 S D H40 (0)	Start			1.069	473	1.377	609	1.871	828	2.139	946	2.406	1.064	2.767	1.224
	Run			567	271	730	349	992	475	1.133	542	1.275	610	1.466	702
	End			1.009	473	1.298	609	1.765	828	2.017	946	2.269	1.064	2.610	1.224
AT-HD 065 S D H50 (0)	Start			1.671	698	2.151	899	2.924	1.221	3.342	1.396	3.759	1.570		
	Run			885	400	1.140	515	1.550	700	1.771	800	1.992	900		
	End			1.576	698	2.029	899	2.758	1.221	3.152	1.396	3.546	1.570		
AT-HD 065 S D H63 (0)	Start	1.658	968	2.653	1.549	3.415	1.995								
	Run	879	555	1.406	888	1.810	1144								
	End	1.564	968	2.502	1.549	3.221	1.995								
AT-HD 065 S D H80 (0)	Start	2.673	1.849												
	Run	1.417	1.060												
	End	2.521	1.849												
AT-HD 085 S D H40 (0)	Start							2.323	1138	2.655	1.301	2.987	1.463	3.435	1.683
	Run							1.212	610	1.386	697	1.559	784	1.793	902
	End							2.153	1.100	2.460	1.257	2.768	1.414	3.183	1.626
AT-HD 085 S D H50 (0)	Start					2.670	1.235	3.630	1.679	4.148	1.919	4.667	2.159	5.367	2.483
	Run					1.394	662	1.895	900	2.165	1.028	2.436	1.157	2.801	1.330
	End					2.474	1.194	3.363	1.623	3.844	1.855	4.324	2.086	4.973	2.399
AT-HD 085 S D H63 (0)	Start	2.058	1.331	3.293	2.130	4.240	2.743	5.763	3.728	6.586	4.260	7.409	4.793		
	Run	1.074	713	1.719	1.142	2.213	1.470	3.008	1.998	3.437	2.283	3.867	2.568		
	End	1.907	1.287	3.051	2.059	3.928	2.651	5.340	3.603	6.102	4.118	6.865	4.632		
AT-HD 085 S D H80 (0)	Start	3.319	2.542	5.310	4.068	6.836	5.237								
	Run	1.732	1.362	2.771	2.180	3.568	2.806								
	End	3.075	2.457	4.920	3.931	6.335	5.061								
AT-HD 085 S D H100 (0)	Start	5.185	4.335												
	Run	2.706	2.323												
	End	4.805	4.190												
AT-HD 100 S D H63 (1)	Start							7.519	3.508	8.593	4.010	9.667	4.511	11117	5.188
	Run							3.937	1.905	4.499	2.177	5.062	2.449	5.821	2.816
	End							7.311	3.527	8.355	4.031	9.400	4.535	10.810	5.215
AT-HD 100 S D H80 (1)	Start			6.928	4.512	8.920	5.809	12.124	7.896	13.856	9.024	15.588	10152		
	Run			3.628	2.449	4.670	3.154	6.348	4.287	7.255	4.899	8.162	5.511		
	End			6.736	4.536	8.673	5.840	11.789	7.937	13.473	9.071	15.157	10.205		
AT-HD 100 S D H100 (1)	Start	6.766	5.140	10.825	8.225	13.937	10.589								
	Run	3.543	2.791	5.668	4.465	7.298	5.749								
	End	6.579	5.167	10.526	8.268	13.552	10.645								

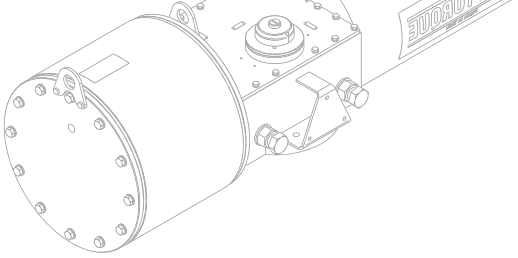


AIR TORQUE

Output Torque - HYDRAULIC

Double-acting Actuators Symmetric Yoke (Nm)

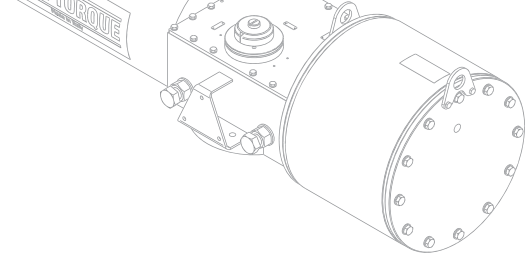
Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 100 S D H125 (1)	Start	10.571	8.766												
	Run	5.535	4.759												
	End	10.279	8.812												
AT-HD 100 S D H140 (1)	Start	13.261	11.328												
	Run	6.943	6.150												
	End	12.894	11.388												
AT-HD 130 S D H63 (1)	Start							8.889	4.508	10.159	5.152	11.429	5.796	13.143	6.665
	Run							4.799	2.381	5.485	2.721	6.171	3.061	7.096	3.520
	End							8.472	4.429	9.682	5.061	10.892	5.694	12.526	6.548
AT-HD 130 S D H80 (1)	Start			8.191	5.797	10.546	7.464	14.334	10.145	16.382	11.594	18.429	13.043	21.194	15.000
	Run			4.422	3.062	5.694	3.942	7.739	5.358	8.845	6.123	9.950	6.888	11.443	7.922
	End			7.806	5.695	10.051	7.333	13.661	9.967	15.612	11.391	17.564	12.815	20.199	14.737
AT-HD 130 S D H100 (1)	Start	7.999	6.604	12.798	10.567	16.478	13.605	22.397	18.492	25.596	21.134	28.796	23.776		
	Run	4.319	3.488	6.910	5.581	8.896	7.185	12.092	9.766	13.820	11.161	15.547	12.557		
	End	7.623	6.489	12.197	10.382	15.704	13.367	21.345	18.168	24.394	20.764	27.444	23.359		
AT-HD 130 S D H125 (1)	Start	12.498	11.263	19.997	18.020	25.746	23.201								
	Run	6.748	5.948	10.797	9.517	13.901	12.253								
	End	11.911	11.065	19.058	17.705	24.537	22.795								
AT-HD 130 S D H140 (1)	Start	15.678	14.555	25.084	23.287										
	Run	8.465	7.687	13.543	12.299										
	End	14.942	14.300	23.907	22.879										
AT-HD 130 S D H160 (1)	Start	20.477	19.523												
	Run	11.056	10.311												
	End	19.516	19.181												
AT-HD 160 S D H100 (1)	Start			17.416	10.866	22.423	13.990	30.478	19.016	34.832	21.732	39.186	24.449	45.064	28.116
	Run			8.954	6.031	11.528	7.765	15.669	10.554	17.907	12.062	20.146	13.570	23.168	15.605
	End			16.776	11.252	21.600	14.487	29.359	19.690	33.553	22.503	37.747	25.316	43.409	29.114
AT-HD 160 S D H125 (1)	Start	17.008	12.357	27.213	19.771	35.036	25.455	47.622	34.599	54.426	39.542				
	Run	8.744	6.858	13.990	10.973	18.012	14.128	24.483	19.203	27.980	21.947				
	End	16.383	12.795	26.213	20.472	33.749	26.358	45.873	35.827	52.426	40.945				
AT-HD 160 S D H140 (1)	Start	21.335	14.544	34.136	23.271	43.950	29.961	59.738	40.724						
	Run	10.968	8.072	17.549	12.916	22.595	16.629	30.711	22.603						
	End	20.551	15.060	32.882	24.097	42.335	31.024	57.543	42.169						
AT-HD 160 S D H160 (1)	Start	27.866	20.481	44.585	32.769	57.404	42.191								
	Run	14.326	11.367	22.921	18.188	29.511	23.417								
	End	26.842	21.208	42.948	33.932	55.295	43.687								



Output Torque - HYDRAULIC

Double-acting Actuators Symmetric Yoke (Nm)

Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 160 S D H200 (1)	Start	43.540	34.728												
	Run	22.384	19.275												
	End	41.941	35.961												
AT-HD 200 S D H100 (1)	Start					28.029	17.488	38.098	23.770	43.540	27.165	48.983	30.561	56.330	35.145
	Run					14.410	9.706	19.586	13.193	22.384	15.077	25.182	16.962	28.960	19.506
	End					26.999	18.108	36.698	24.613	41.941	28.129	47.184	31.645	54.261	36.392
AT-HD 200 S D H125 (1)	Start	21.260	15.446	34.016	24.714	43.796	31.819	59.528	43.249	68.032	49.427	76.536	55.605	88.016	63.946
	Run	10.930	8.573	17.488	13.717	22.515	17.660	30.603	24.004	34.975	27.433	39.347	30.862	45.249	35.492
	End	20.479	15.994	32.766	25.590	42.187	32.948	57.341	44.783	65.533	51.181	73.724	57.578	84.783	66.215
AT-HD 200 S D H140 (1)	Start	26.669	18.180	42.670	29.089	54.937	37.452	74.672	50.905	85.339	58.177	96.007	65.450		
	Run	13.710	10.091	21.937	16.145	28.243	20.787	38.389	28.254	43.873	32.290	49.357	36.326		
	End	25.689	18.826	41.102	30.121	52.919	38.781	71.929	52.711	82.204	60.242	92.480	67.772		
AT-HD 200 S D H160 (1)	Start	34.832	25.601	55.732	40.962	71.755	52.738	97.531	71.683						
	Run	17.907	14.209	28.652	22.735	36.889	29.271	50.141	39.786						
	End	33.553	26.509	53.684	42.415	69.119	54.609	93.948	74.226						
AT-HD 200 S D H200 (1)	Start	54.426	43.410	87.081	69.457										
	Run	27.980	24.094	44.769	38.550										
	End	52.426	44.951	83.882	71.921										

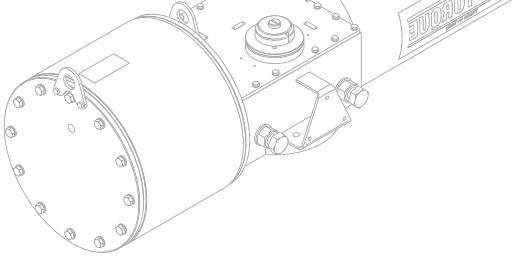


AIR TORQUE

Output Torque - HYDRAULIC

Double-acting Actuators Canted Yoke (Nm)

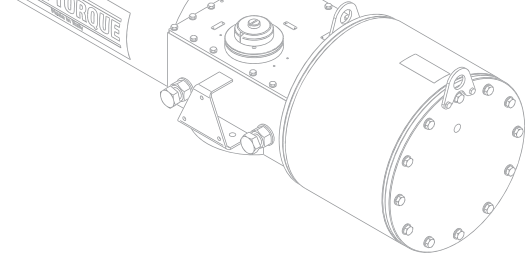
Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 065 C D H40 (0)	Start							2184	731	2.496	836	2.808	940	3.230	1.081
	Run							941	467	1.076	534	1.210	601	1.391	691
	End							1.495	984	1.708	1125	1.922	1.266	2.210	1.456
AT-HD 065 C D H50 (0)	Start			1.950	616	2.511	794	3.413	1.079	3.900	1.233				
	Run			840	394	1.082	507	1.470	690	1.681	788				
	End			1.335	830	1.718	1.069	2.336	1.453	2.669	1.660				
AT-HD 065 C D - H63 (0)	Start	1.935	855	3.096	1.369	3.986	1.762								
	Run	834	547	1.334	875	1.718	1126								
	End	1.324	1152	2.119	1.843	2.728	2.372								
AT-HD 065 C D - H80	Start	3.120	1.633												
	Run	1.344	1.044												
	End	2.136	2.199												
AT-HD 085 C D H40 (0)	Start			1.863	523	2.399	673	3.261	915	3.727	1.046	4.193	1177	4.822	1.353
	Run			658	346	848	446	1152	606	1.317	693	1.481	779	1.704	896
	End			952	903	1.225	1162	1.665	1.580	1.903	1.805	2.141	2.031	2.462	2.335
AT-HD 085 C D H50 (0)	Start	1.820	482	2.912	772	3.749	994	5.095	1.350	5.823	1.543	6.551	1.736	7.534	1.997
	Run	643	319	1.029	511	1.325	658	1.800	894	2.058	1.022	2.315	1150	2.662	1.322
	End	929	832	1.487	1.332	1.914	1.715	2.602	2.331	2.974	2.664	3.345	2.997	3.847	3.446
AT-HD 085 C D H63 (0)	Start	2.889	1.071	4.623	1.713	5.952	2.206								
	Run	1.021	709	1.633	1135	2.103	1.461								
	End	1.475	1.848	2.361	2.957	3.039	3.807								
AT-HD 085 C D H80	Start	4.659	2.045	7.454	3.271										
	Run	1.646	1.354	2.634	2166										
	End	2.379	3.529	3.806	5.646										
AT-HD 085 C D H100 (0)	Start	7.279	3.487												
	Run	2.572	2.309												
	End	3.717	6.017												
AT-HD 100 C D H63 (1)	Start					7.428	2.118	10.096	2.878	11.538	3.290	12.980	3.701	14.927	4.256
	Run					2.773	1.393	3.769	1.893	4.308	2.164	4.846	2.434	5.573	2.799
	End					4.249	3.564	5.776	4.845	6.601	5.537	7.426	6.229	8.540	7.163
AT-HD 100 C D H80 (1)	Start	5.814	2.313	9.302	3.702	11.977	4.766								
	Run	2.171	1.522	3.473	2.435	4.472	3.134								
	End	3.326	3.894	5.322	6.230	6.852	8.022								
AT-HD 100 C D H100 (1)	Start	9.084	4.217	14.535	6.747										
	Run	3.392	2.774	5.427	4.438										
	End	5.197	7.098	8.316	11.357										



Output Torque - HYDRAULIC

Double-acting Actuators Canted Yoke (Nm)

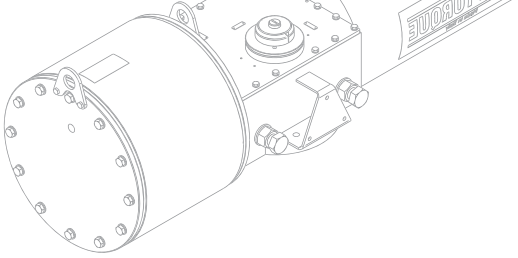
Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 100 C D H125 (1)	Start	14.194	7.192												
	Run	5.300	4.730												
	End	8.121	12.105												
AT-HD 130 C D H63 (1)	Start					9.512	2.620	12.929	3.561	14.777	4.069	16.624	4.578	19.117	5.264
	Run					3.345	1.735	4.547	2.358	5.196	2.694	5.846	3.031	6.723	3.486
	End					4.744	4.872	6.448	6.622	7.369	7.568	8.291	8.514	9.534	9.791
AT-HD 130 C D H80 (1)	Start	7.446	2.862	11.914	4.579	15.339	5.895	20.849	8.013	23.827	9.158	26.806	10.302		
	Run	2.618	1.895	4.189	3.032	5.394	3.904	7.332	5.306	8.379	6.064	9.426	6.822		
	End	3.713	5.322	5.942	8.516	7.650	10.964	10.398	14.902	11.883	17.031	13.369	19.160		
AT-HD 130 C D H100 (1)	Start	11.634	5.217	18.615	8.347	23.967	10.746								
	Run	4.091	3.454	6.546	5.527	8.428	7.116								
	End	5.802	9.702	9.284	15.523	11.953	19.986								
AT-HD 130 C D H125 (1)	Start	18.179	8.896	29.086	14.234										
	Run	6.393	5.891	10.228	9.425										
	End	9.066	16.545	14.506	26.472										
AT-HD 130 C D H140 (1)	Start	22.803	11.496												
	Run	8.019	7.612												
	End	11.373	21.380												
AT-HD 130 C D H160 (1)	Start	29.784	15.421												
	Run	10.474	10.211												
	End	14.854	28.680												
AT-HD 160 C D H100 (1)	Start			20.335	9.574	26.181	12.326	35.586	16.754	40.669	19.147	45.753	21.541	52.616	24.772
	Run			8.499	5.941	10.943	7.649	14.873	10.396	16.998	11.881	19.123	13.366	21.991	15.371
	End			14.206	13.429	18.290	17.290	24.861	23.501	28.412	26.858	31.964	30.215	36.758	34.747
AT-HD 160 C D H125 (1)	Start	19.858	10.887	31.773	17.419	40.908	22.427	55.603	30.483						
	Run	8.300	6.756	13.280	10.809	17.098	13.917	23.240	18.916						
	End	13.873	15.271	22.197	24.434	28.579	31.459	38.845	42.759						
AT-HD 160 C D H140 (1)	Start	24.910	12.814	39.856	20.503	51.315	26.397								
	Run	10.411	7.952	16.658	12.723	21.447	16.380								
	End	17.402	17.975	27.844	28.760	35.849	37.028								
AT-HD 160 C D H160 (1)	Start	32.536	18.045	52.057	28.871										
	Run	13.599	11.197	21.758	17.915										
	End	22.730	25.311	36.367	40.498										
AT-HD 160 C D H200 (1)	Start	50.837	30.597												
	Run	21.248	18.986												
	End	35.515	42.919												



Output Torque - HYDRAULIC

Double-acting Actuators Canted Yoke (Nm)

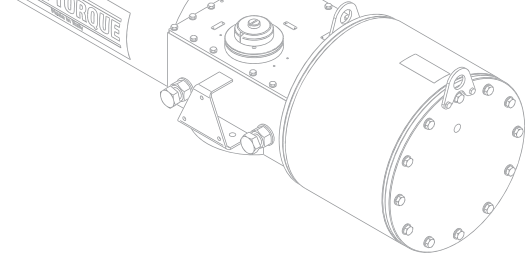
Actuator model	Position	50 bar		80 bar		103 bar		140 bar		160 bar		180 bar		207 bar	
		Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
AT-HD 200 C D H100 (1)	Start			25.418	11.967	32.726	15.407	44.482	20.942	50.837	23.934	57.191	26.926	65.770	30.964
	Run			10.624	7.426	13.678	9.561	18.592	12.995	21.248	14.852	23.904	16.708	27.489	19.214
	End			17.758	16.786	22.863	21.612	31.076	29.376	35.515	33.572	39.954	37.769	45.948	43.434
AT-HD 200 C D H125 (1)	Start	24.823	13.609	39.716	21.774	51.135	28.034	69.504	38.104	79.433	43.548	89.362	48.991		
	Run	10.375	8.445	16.600	13.511	21.372	17.396	29.050	23.645	33.200	27.022	37.350	30.400		
	End	17.341	19.089	27.746	30.542	35.723	39.323	48.556	53.449	55.492	61.085	62.429	68.720		
AT-HD 200 C D H140 (1)	Start	31.138	16.018	49.820	25.629	64.143	32.997	87.185	44.850	99.640	51.257				
	Run	13.014	9.940	20.823	15.903	26.809	20.475	36.440	27.831	41.646	31.806				
	End	21.753	22.468	34.805	35.949	44.811	46.285	60.908	62.911	69.610	71.899				
AT-HD 200 C D H160 (1)	Start	40.669	22.556	65.071	36.089	83.779	46.465								
	Run	16.998	13.996	27.197	22.394	35.016	28.833								
	End	28.412	31.639	45.459	50.623	58.529	65.177								
AT-HD 200 C D H200 (1)	Start	63.546	38.247												
	Run	26.560	23.733												
	End	44.394	53.649												



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 065 S SC02 H40 (0)	Start	900								892	1170	1.459	1.760	2.073	2185
	Run	433								388	534	686	844	1.008	1.066
	End	612								546	792	1.049	1.316	1.594	1.693
AT-HD 065 S SC02 H50 (0)	Start	900				749	961	1.473	1.637	1.876	2195	2.600	3.004	3.409	3.551
	Run	433				312	424	694	779	905	1.078	1.292	1.506	1.721	1.796
	End	612				419	606	1.061	1.206	1.419	1.722	2.090	2.457	2.824	2.953
AT-HD 065 S SC02 H63 (0)	Start	900		947	1.297	1.663	2.048	2.671	2.896	3.217	3.859				
	Run	433		417	601	793	995	1.330	1.449	1.619	1.959				
	End	612		595	904	1.230	1.572	2154	2.358	2.650	3.233				
AT-HD 065 S SC02 H80 (0)	Start	900	1170	2.073	2.471	2.988	3.506								
	Run	433	534	1.008	1.224	1.498	1.772								
	End	612	792	1.594	1.972	2.442	2.913								
AT-HD 065 S SC04 H40 (0)	Start	1.300										1109	1.380	1659	1.758
	Run	626										466	609	755	808
	End	884										629	869	1116	1.205
AT-HD 065 S SC04 H50 (0)	Start	1.300						1122	1.269	1.484	1.927	2.390	2.873	3.375	3.268
	Run	626						472	550	663	896	1139	1.392	1.655	1.608
	End	884						640	771	961	1.355	1.766	2195	2.641	2.575
AT-HD 065 S SC04 H63 (0)	Start	1.300			961	1.293	1.637	2.474	2.742	3134	3.577				
	Run	626			387	563	744	1183	1.323	1.529	1.772				
	End	884			498	792	1.097	1.840	2.078	2.427	2.856				
AT-HD 065 S SC04 H80 (0)	Start	1.300		1.659	2.240	2.853	3.223								
	Run	626		755	1.060	1.382	1.585								
	End	884		1116	1.632	2177	2.535								
AT-HD 065 S SC06 H40 (0)	Start	1.800											994	1.252	1.343
	Run	867											352	493	542
	End	1.224											392	620	701
AT-HD 065 S SC06 H50 (0)	Start	1.800								1.090	1.499	1.921	2.358	2.809	2.970
	Run	867								405	625	848	1078	1.315	1.399
	End	1.224								477	838	1.213	1.600	2.000	2143
AT-HD 065 S SC06 H63 (0)	Start	1.800					1.231	1.997	2.239	2.593	3.327				
	Run	867					482	888	1.016	1.202	1.586				
	End	1.224					602	1.280	1.495	1.809	2.460				
AT-HD 065 S SC06 H80 (0)	Start	1.800		1.252	1.784	2.340	2.919								
	Run	867		493	776	1.069	1.373								
	End	1.224		620	1.092	1.584	2.098								

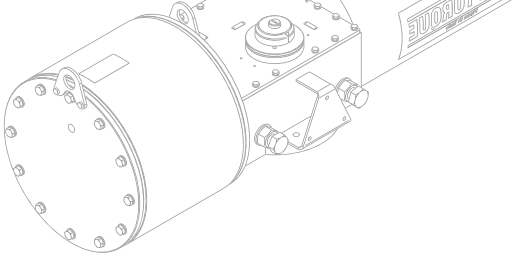


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

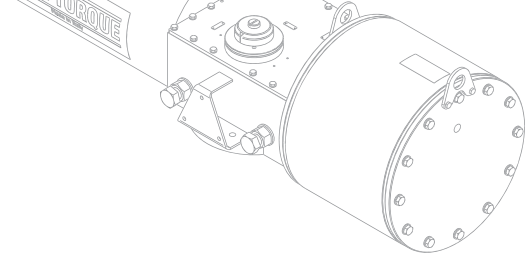
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 065 S SC08 H50 (0)	Start	2.400										1.453	1.860	2.277	2.426
	Run	1156										540	760	981	1.060
	End	1.632										635	996	1.365	1.497
AT-HD 065 S SC08 H63 (0)	Start	2.400						1.524	1.750	2.078	2.755	3.457			
	Run	1156						579	701	876	1.233	1.602			
	End	1.632						698	898	1189	1.788	2.412			
AT-HD 065 S SC08 H80 (0)	Start	2.400			1.325	1.844	2.379	3.677							
	Run	1156			470	751	1.035	1.717							
	End	1.632			522	981	1.456	2.606							
AT-HD 085 S SC02 H40 (0)	Start	1.500									1.289	1.632	1.988	2.356	2.488
	Run	654									550	729	913	1103	1171
	End	1.020									770	1.069	1.378	1.698	1.813
AT-HD 085 S SC02 H50 (0)	Start	1.500						1.649	1.842	2125	2.712	3.329	3.595	4.097	4.273
	Run	654						737	837	984	1.287	1.606	1.754	2.016	2108
	End	1.020						1.083	1.251	1.497	2.008	2.546	2.812	3.259	3.415
AT-HD 085 S SC02 H63 (0)	Start	1.500			1.439	1.874	2.327	3181	3.460	3.859	4.656	5.453	6.251	7.048	7.327
	Run	654			629	854	1088	1.538	1.684	1.892	2.308	2.724	3140	3.555	3.701
	End	1.020			901	1.279	1.673	2.444	2.692	3.047	3.756	4.466	5175	5.885	6133
AT-HD 085 S SC02 H80 (0)	Start	1.500	1289	2.356	3128	3.575	4.218	5.696	6146	6.789					
	Run	654	550	1103	1.502	1.744	2.079	2.850	3.085	3.420					
	End	1.020	770	1.698	2.371	2.794	3.366	4.682	5.082	5.654					
AT-HD 085 S SC02 H100 (0)	Start	1.500	2.712	4.097	5101	6106	7110								
	Run	654	1.287	2.016	2.540	3.064	3.588								
	End	1.020	2.008	3.259	4153	5.047	5.940								
AT-HD 085 S SC04 H40 (0)	Start	2.250											1436	1.765	1883
	Run	982											566	738	799
	End	1.530											724	1010	1112
AT-HD 085 S SC04 H50 (0)	Start	2.250							1.304	1558	2.082	2.624	3187	3.770	3.978
	Run	982							496	630	903	1184	1476	1777	1884
	End	1.530							610	830	1285	1756	2.246	2.752	2.934
AT-HD 085 S SC04 H63 (0)	Start	2.250				1.333	1739	2.722	3.034	3.491	4.441	4.991	5.788	6.586	6.865
	Run	982				511	725	1235	1.397	1632	2123	2.422	2.838	3.254	3.399
	End	1.530				635	988	1841	2113	2.510	3.337	3.861	4.571	5.280	5.528
AT-HD 085 S SC04 H80 (0)	Start	2.250	801	1765	2.449	3164	3.912	5.234	5.684	6.327	7612				
	Run	982	134	738	1093	1464	1850	2.548	2.783	3119	3.789				
	End	1.530	174	1010	1603	2.226	2.877	4.077	4.477	5.049	6193				



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

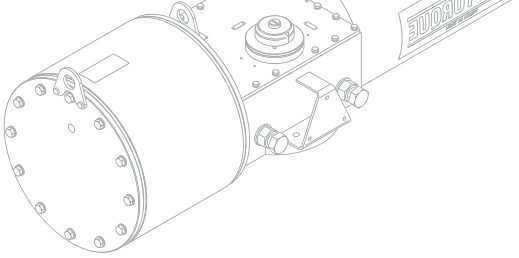
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 085 S SC04 H100 (0)	**Start**	2.250	2.082	3.770	4.994	5.644	6.648								
	Run	982	903	1.777	2.409	2.762	3.286								
	End	1.530	1.285	2.752	3.819	4.442	5.335								
AT-HD 085 S SC06 H50 (0)	**Start**	3.500										1.751	2.254	2.769	2.953
	Run	1.527										622	890	1161	1.256
	End	2.380										708	1144	1.591	1.750
AT-HD 085 S SC06 H63 (0)	**Start**	3.500						1.839	2.118	2.523	3.358	4.225	5123	6.054	6.388
	Run	1.527						669	819	1.032	1.467	1.916	2.381	2.862	3.034
	End	2.380						784	1.026	1.378	2102	2.855	3.637	4.447	4.738
AT-HD 085 S SC06 H80 (0)	**Start**	3.500				2.234	2.895	4.495	5.004	5.748	7.300				
	Run	1.527				880	1.226	2.056	2.319	2.704	3.505				
	End	2.380				1126	1.700	3.090	3.533	4.181	5.533				
AT-HD 085 S SC06 H100 (0)	**Start**	3.500		2.769	3.838	4.958	6.128								
	Run	1.527		1161	1.716	2.295	2.900								
	End	2.380		1.591	2.519	3.493	4.512								
AT-HD 085 S SC08 H50 (0)	**Start**	4.750													2.126
	Run	2.073													705
	End	3.230													744
AT-HD 085 S SC08 H63 (0)	**Start**	4.750									2.504	3.307	4134	4.985	5.289
	Run	2.073									913	1.339	1.771	2.213	2.370
	End	3.230									1.071	1.768	2.486	3.225	3.489
AT-HD 085 S SC08 H80 (0)	**Start**	4.750					2.072	3.557	4.025	4.706	6.115	7.586			
	Run	2.073					674	1.470	1.714	2.068	2.798	3.558			
	End	3.230					697	1.985	2.391	2.983	4.207	5.487			
AT-HD 085 S SC08 H100 (0)	**Start**	4.750			2.950	3.982	5.053	7.656							
	Run	2.073			1151	1.692	2.248	3.595							
	End	3.230			1.458	2.354	3.284	5.548							
AT-HD 100 S SC02 H63	**Start**	5.876									3.117	4185	5.283	6.411	6.813
	Run	2.648									1.066	1.644	2.223	2.812	3.021
	End	4.017									1187	2163	3167	4199	4.566
AT-HD 100 S SC02 H80 (1)	**Start**	5.876						4.516	5137	6.041	7.908	9.852	11.874	13.974	14.727
	Run	2.648						1.819	2.146	2.619	3.591	4.601	5.650	6.739	7130
	End	4.017						2.465	3.033	3.860	5.568	7.350	9.204	11131	11.823
AT-HD 100 S SC02 H100 (1)	**Start**	5.876			3.710	5.081	6.501	9.945	11.043	12.652	14.749				
	Run	2.648			1.390	2117	2.859	4.649	5.219	6.054	7181				
	End	4.017			1.729	2.982	4.280	7.435	8.442	9.918	11.977				



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

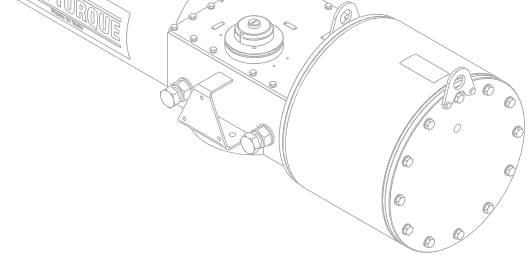
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 100 S SC02 H125 (1)	Start	5.876	3.000	6.231	8.529	10.944	13.475								
	Run	2.648	1.001	2.718	3.914	5.168	6.480								
	End	4.017	1.081	4.034	6.138	8.351	10.673								
AT-HD 100 S SC02 H140 (1)	Start	5.876	4.886	9.175	12.262	14.370									
	Run	2.648	2.014	4.249	5.851	6.983									
	End	4.017	2.804	6.729	9.560	11.622									
AT-HD 100 S SC02 H160 (1)	Start	5.876	7.908	13.974											
	Run	2.648	3.591	6.739											
	End	4.017	5.568	11.131											
AT-HD 100 S SC04 H63	Start	7.092											4.346	5.426	5.809
	Run	3.196											1.608	2.183	2.385
	End	4.848											1.967	2.953	3.304
AT-HD 100 S SC04 H80 (1)	Start	7.092						3.610	4.206	5.072	6.852	8.696	10.605	12.578	13.284
	Run	3.196						1.201	1.532	1.996	2.931	3.893	4.885	5.909	6.276
	End	4.848						1.294	1.839	2.630	4.257	5.944	7.692	9.500	10.148
AT-HD 100 S SC04 H100 (1)	Start	7.092				4.153	5.511	8.784	9.822	11.337	14.486				
	Run	3.196				1.503	2.228	3.939	4.478	5.265	6.900				
	End	4.848				1.790	3.031	6.025	6.975	8.363	11.251				
AT-HD 100 S SC04 H125 (1)	Start	7.092		5.253	7.443	9.728	12.110								
	Run	3.196		2.092	3.240	4.430	5.666								
	End	4.848		2.795	4.797	6.889	9.071								
AT-HD 100 S SC04 H140 (1)	Start	7.092	3.966	8.055	10.970	14.036									
	Run	3.196	1.400	3.559	5.075	6.666									
	End	4.848	1.619	5.357	8.027	10.837									
AT-HD 100 S SC04 H160 (1)	Start	7.092	6.852	12.578											
	Run	3.196	2.931	5.909											
	End	4.848	4.257	9.500											
AT-HD 100 S SC06 H63 (1)	Start	8.916													4.444
	Run	4.018													1.456
	End	6.095													1.541
AT-HD 100 S SC06 H80 (1)	Start	8.916									5.435	7.181	8.977	10.825	11.484
	Run	4.018									2.006	2.934	3.875	4.838	5.181
	End	6.095									2.446	4.041	5.684	7.375	7.978
AT-HD 100 S SC06 H100 (1)	Start	8.916						7.264	8.241	9.664	12.604	15.669			
	Run	4.018						2.977	3.490	4.234	5.763	7.355			
	End	6.095						4.117	5.011	6.312	9.004	11.812			



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 100 S SC06 H125 (1)	Start	8.916			5.996	8153	10.387	15.816							
	Run	4.018			2.306	3.444	4.610	7.431							
	End	6.095			2.958	4.930	6.974	11.947							
AT-HD 100 S SC06 H140 (1)	Start	8.916		6.575	9.320	12185	15170								
	Run	4.018		2.614	4.054	5.545	7.096								
	End	6.095		3.487	5.997	8.620	11.355								
AT-HD 100 S SC06 H160 (1)	Start	8.916	5.435	10.825	14.675										
	Run	4.018	2.006	4.838	6.839										
	End	6.095	2.446	7.375	10.901										
AT-HD 100 S SC08 H80 (1)	Start	10.489										5.770	7.498	9.270	9.900
	Run	4.795										2.097	3.020	3.952	4.281
	End	7.395										2.510	4.092	5.714	6.292
AT-HD 100 S SC08 H100 (1)	Start	10.489						5.850	6.791	8158	10.971	13.890			
	Run	4.795						2140	2.645	3.368	4.840	6.360			
	End	7.395						2.584	3.444	4.695	7.272	9.949			
AT-HD 100 S SC08 H125 (1)	Start	10.489				6.706	8.851	14.030	15.674						
	Run	4.795				2.600	3.732	6.432	7.287						
	End	7.395				3.367	5.330	10.077	11585						
AT-HD 100 S SC08 H140 (1)	Start	10.489		5186	7.827	10.570	13.416								
	Run	4.795		1.775	3194	4.631	6113								
	End	7.395		1.976	4.393	6.905	9.514								
AT-HD 100 S SC08 H160 (1)	Start	10.489		9.270	12.945										
	Run	4.795		3.952	5.868										
	End	7.395		5.714	9.082										
AT-HD 130 S SC02 H63 (1)	Start	8.393										4.208	5.474	6.772	7.233
	Run	3.733										1.552	2.250	2.953	3.202
	End	5.782										1.765	2.896	4.055	4.468
AT-HD 130 S SC02 H80 (1)	Start	8.393						4.590	5.306	6.346	8.489	10.715	13.024	15.415	16.272
	Run	3.733						1.765	2159	2.724	3.877	5.070	6.305	7.584	8.042
	End	5.782						2106	2.746	3.675	5.591	7.582	9.649	11792	12.560
AT-HD 130 S SC02 H100 (1)	Start	8.393				5.241	6.874	10.822	12.076	13.911	17732	19.912	23112	26.311	27.431
	Run	3.733				2123	3.009	5127	5.798	6.779	8.822	10.042	11.769	13.495	14100
	End	5.782				2.688	4147	7.677	8.800	10.444	13.870	15.999	18.925	21.852	22.877
AT-HD 130 S SC02 H125 (1)	Start	8.393		6.564	9.202	11963	14.847	20.062	21812	24.312	29.311				
	Run	3.733		2.841	4.260	5.738	7.280	10123	11.068	12.417	15114				
	End	5.782		3.870	6.228	8.699	11283	16136	17736	20.023	24.596				

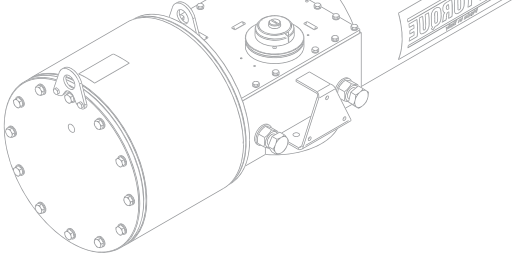


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

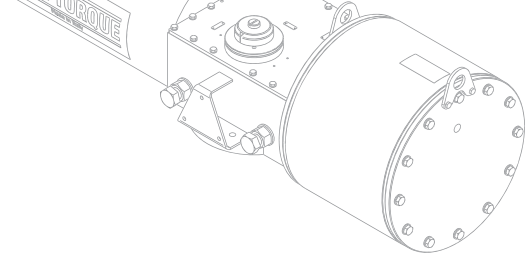
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 130 S SC02 H140 (1)	Start	8.393	5.017	9.941	13.466	17185	19.400	26.612	28.807						
	Run	3.733	2.001	4.655	6.542	8.530	9.766	13.658	14.842						
	End	5.782	2.488	6.889	10.045	13.379	15.530	22127	24135						
AT-HD 130 S SC02 H160 (1)	Start	8.393	8.489	15.415	18.888	22.984	27.079								
	Run	3.733	3.877	7.584	9.490	11.700	13.910								
	End	5.782	5.591	11.792	15.062	18.808	22.555								
AT-HD 130 S SC04 H80 (1)	Start	11.849									5.932	7.977	10.080	12.242	13.013
	Run	5.270									2186	3.313	4.450	5.612	6.026
	End	8163									2.485	4.311	6190	8123	8.812
AT-HD 130 S SC04 H100 (1)	Start	11.849						8.074	9.219	10.884	14.323	17904	21629	25.497	26.884
	Run	5.270						3.366	3.985	4.883	6.727	8.643	10.635	12.702	13.443
	End	8163						4.398	5.420	6.909	9.984	13190	16.528	19.996	21240
AT-HD 130 S SC04 H125 (1)	Start	11.849			6.588	9116	11.730	18.076	20.098	23.062	26.970				
	Run	5.270			2.552	3.930	5.337	8.735	9.817	11.401	13.561				
	End	8163			3.071	5.328	7665	13.344	15156	17813	21543				
AT-HD 130 S SC04 H140 (1)	Start	11.849		7.267	10.481	13.833	17321	25.867	26.466	29.602					
	Run	5.270		2.926	4.666	6.465	8.332	12.900	13.289	14.983					
	End	8163		3.677	6.549	9.546	12.669	20.328	21082	23.950					
AT-HD 130 S SC04 H160 (1)	Start	11.849	5.932	12.242	16.742	21477	26.446								
	Run	5.270	2186	5.612	8.022	10.554	13.209								
	End	8163	2.485	8123	12150	16.392	20.847								
AT-HD 130 S SC06 H80 (1)	Start	14.811											7642	9.689	10.417
	Run	6.677											2.958	4.079	4.473
	End	10.503											3.557	5.388	6.039
AT-HD 130 S SC06 H100 (1)	Start	14.811							6.824	8.404	11651	15.013	18.489	22.080	23.363
	Run	6.677							2.501	3.378	5140	6.947	8.810	10.731	11.418
	End	10.503							2.826	4.239	7144	10154	13.269	16.488	17639
AT-HD 130 S SC06 H125 (1)	Start	14.811				6.726	9.205	15173	17063	19.822	25.550				
	Run	6.677				2.446	3.816	7033	8.046	9.524	12.588				
	End	10.503				2.738	4.955	10.298	11991	14.464	19.601				
AT-HD 130 S SC06 H140 (1)	Start	14.811			8.022	11190	14.467	22.423	24.960	28.677					
	Run	6.677			3168	4.891	6.654	10.915	12.273	14.260					
	End	10.503			3.897	6.731	9.665	16.796	19.072	22.408					
AT-HD 130 S SC06 H160 (1)	Start	14.811		9.689	13.925	18.348	22.958								
	Run	6.677		4.079	6.363	8.735	11202								
	End	10.503		5.388	9179	13142	17276								



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 130 S SC08 H80 (1)	Start	17.773												7.895	8.596
	Run	7.905												2.704	3.109
	End	12.244												2.833	3.458
AT-HD 130 S SC08 H100 (1)	Start	17.773									9.783	13.007	16.326	19.741	20.959
	Run	7.905									3.773	5.534	7.324	9.157	9.809
	End	12.244									4.518	7.397	10.363	13.417	14.506
AT-HD 130 S SC08 H125 (1)	Start	17.773						13.161	14.966	17.596	23.029	28.695			
	Run	7.905						5.617	6.592	8.006	10.918	13.948			
	End	12.244						7.534	9.148	11.498	16.359	21.432			
AT-HD 130 S SC08 H140 (1)	Start	17.773				9.340	12.485	20.067	22.471	25.982					
	Run	7.905				3.527	5.251	9.332	10.619	12.498					
	End	12.244				4.122	6.931	13.708	15.859	19.003					
AT-HD 130 S SC08 H160 (1)	Start	17.773		7.895	11.965	16.192	20.575								
	Run	7.905		2.704	4.969	7.252	9.604								
	End	12.244		2.833	6.466	10.243	14.163								
AT-HD 160 S SC02 H100 (1)	Start	14.462						11.056	12.609	14.867	19.527	24.377	29.418	34.650	36.526
	Run	6.666						4.297	5.101	6.262	8.645	11.118	13.686	16.349	17.304
	End	10.183						5.763	7.168	9.214	13.437	17.838	22.416	27.171	28.877
AT-HD 160 S SC02 H125 (1)	Start	14.462				12.469	16.014	24.609	27.347	31.358	39.728	43.607	50.410	57.213	59.594
	Run	6.666				5.029	6.850	11.236	12.631	14.674	18.934	21.041	24.539	28.037	29.261
	End	10.183				7.042	10.253	18.049	20.535	24.178	31.789	35.767	42.084	48.402	50.613
AT-HD 160 S SC02 H140 (1)	Start	14.462			14.321	18.863	23.588	35.152	38.863	40.385	48.919	57.453			
	Run	6.666			5.982	8.306	10.716	16.604	18.493	19.383	23.772	28.160			
	End	10.183			8.719	12.835	17.122	27.627	31.002	32.775	40.700	48.624			
AT-HD 160 S SC02 H160 (1)	Start	14.462		16.708	22.804	29.213	35.934	46.585	50.486	56.059					
	Run	6.666		7.205	10.317	13.581	17.002	22.572	24.578	27.443					
	End	10.183		10.882	16.411	22.229	28.338	38.532	42.155	47.331					
AT-HD 160 S SC02 H200 (1)	Start	14.462	19.527	34.650	41.430	50.138	58.846								
	Run	6.666	8.645	16.349	19.921	24.399	28.876								
	End	10.183	13.437	27.171	33.745	41.832	49.918								
AT-HD 160 S SC04 H100 (1)	Start	20.659									14.231	18.652	23.207	27.896	29.568
	Run	9.524									5.324	7.616	9.954	12.350	13.203
	End	14.547									6.817	10.820	14.946	19.196	20.713
AT-HD 160 S SC04 H125 (1)	Start	20.659					11.002	18.863	21.341	24.950	32.412	40.200	48.314	56.754	54.958
	Run	9.524					3.596	7.725	8.997	10.845	14.653	18.621	22.752	27.048	26.283
	End	14.547					3.897	11.010	13.255	16.525	23.293	30.364	37.737	45.413	44.281

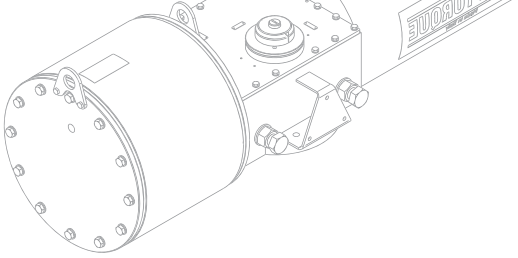


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

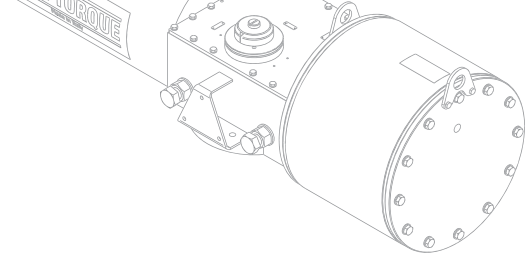
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 160 S SC04 H140 (1)	Start	20.659				13.622	17.936	28.343	31.645	36.471	46.508	52.816			
	Run	9.524				5.004	7.247	12.578	14.262	16.721	21.833	25.180			
	End	14.547				6.267	10.171	19.602	22.597	26.978	36.095	42.292			
AT-HD 160 S SC04 H160 (1)	Start	20.659		11.642	17.223	23.022	29.041	43.712	48.407	55.300					
	Run	9.524		3.947	6.879	9.859	12.934	20.410	22.799	26.308					
	End	14.547		4.475	9.525	14.778	20.235	33.554	37.821	44.090					
AT-HD 160 S SC04 H200 (1)	Start	20.659	14.231	27.896	37.673	47.984	54.209								
	Run	9.524	5.324	12.350	17.333	22.584	25.897								
	End	14.547	6.817	19.196	28.068	37.436	43.586								
AT-HD 160 S SC06 H100 (1)	Start	25.824										14.553	18.881	23.315	24.893
	Run	11.904										4.934	7.225	9.521	10.332
	End	18.184										5.594	9.510	13.524	14.953
AT-HD 160 S SC06 H125 (1)	Start	25.824						14.753	17.109	20.531	27.570	34.869	42.430	50.250	53.049
	Run	11.904						5.043	6.298	8.083	11.705	15.437	19.293	23.276	24.702
	End	18.184						5.775	7.907	11.004	17.378	23.995	30.854	37.955	40.497
AT-HD 160 S SC06 H140 (1)	Start	25.824					13.870	23.738	26.849	31.380	40.750	50.530			
	Run	11.904					4.560	9.738	11.335	13.654	18.437	23.419			
	End	18.184					4.977	13.907	16.725	20.831	29.330	38.209			
AT-HD 160 S SC06 H160 (1)	Start	25.824			13.190	18.705	24.396	38.147	42.516	48.906					
	Run	11.904			4.179	7.134	10.076	17.109	19.337	22.591					
	End	18.184			4.362	9.351	14.503	26.968	30.932	36.734					
AT-HD 160 S SC06 H200 (1)	Start	25.824		23.315	32.505	42.122	52.166								
	Run	11.904		9.521	14.230	19.137	24.252								
	End	18.184		13.524	21.851	30.575	39.695								
AT-HD 160 S SC08 H100 (1)	Start	32.022												18.387	19.891
	Run	14.762												6.304	7.109
	End	22.548												7.246	8.606
AT-HD 160 S SC08 H125 (1)	Start	32.022								15.728	22.439	29.360	36.492	43.833	46.452
	Run	14.762								4.557	8.452	12.036	15.695	19.446	20.781
	End	22.548								4.842	10.912	17.177	23.638	30.294	32.669
AT-HD 160 S SC08 H140 (1)	Start	32.022						18.790	21.753	26.056	34.910	44.095	53.611		
	Run	14.762						6.521	8.092	10.332	14.885	19.579	24.432		
	End	22.548						7.611	10.291	14.186	22.205	30.531	39.165		
AT-HD 160 S SC08 H160 (1)	Start	32.022					19.417	32.456	36.573	42.573	54.997				
	Run	14.762					6.857	13.627	15.736	18.803	25.138				
	End	22.548					8.178	19.981	23.711	29.151	40.424				



Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 160 S SC08 H200 (1)	Start	32.022		18.387	27123	36.202	45.626								
	Run	14.762		6.304	10.883	15.547	20.360								
	End	22.548		7.246	15.151	23.376	31.920								
AT-HD 200 S SC02 H100 (1)	Start	30.989										19180	24.637	30.234	32.225
	Run	14.285										6.843	9.699	12.584	13.606
	End	21.820										8.266	13.204	18.272	20.076
AT-HD 200 S SC02 H125 (1)	Start	30.989						19.433	22.404	26.720	35.606	44.833	54.398	64.303	67.850
	Run	14.285						6.977	8.538	10.776	15.338	20.049	24.925	29.970	31.777
	End	21.820						8.495	11183	15.090	23140	31.505	40186	49182	52.405
AT-HD 200 S SC02 H140 (1)	Start	30.989					18.320	30.767	34.695	40.421	52.272	64.658	77.578	83.491	87.225
	Run	14.285					6.383	12.858	14.872	17.799	23.843	30151	36.727	39.967	41.888
	End	21.820					7.488	18.755	22.314	27.504	38.256	49.504	61.248	67.401	70.868
AT-HD 200 S SC02 H160 (1)	Start	30.989			17.463	24.416	31.597	48.978	54.507	62.599	79.467	88.280			
	Run	14.285			5.921	9.585	13.284	22.164	24.981	29102	37.689	42.432			
	End	21.820			6.713	13.004	19.507	35.267	40.285	47.634	62.967	71.849			
AT-HD 200 S SC02 H200 (1)	Start	30.989		30.234	41.843	54.009	66.731	88.934	96.553						
	Run	14.285		12.584	18.525	24.727	31.207	42.768	46.687						
	End	21.820		18.272	28.794	39.833	51.388	72.455	79.531						
AT-HD 200 S SC04 H100 (1)	Start	41.319												22.005	23.872
	Run	19.047												7193	8.213
	End	29.094												7.793	9.483
AT-HD 200 S SC04 H125 (1)	Start	41.319									27.036	35.626	44.471	53.569	56.814
	Run	19.047									9.898	14.368	18.912	23.565	25.221
	End	29.094									12.345	20119	28130	36.378	39.320
AT-HD 200 S SC04 H140 (1)	Start	41.319						22.505	26185	31.526	42.510	53.894	65.679	77.865	82.224
	Run	19.047						7.469	9.448	12.246	17.907	23.731	29.743	35.950	38170
	End	29.094						8.246	11.574	16.408	26.354	36.672	47.362	58.425	62.384
AT-HD 200 S SC04 H160 (1)	Start	41.319					23.284	39.467	44.571	52.008	67.395	83.466			
	Run	19.047					7.895	16.345	18.963	22.767	30.618	38.803			
	End	29.094					8.951	23.597	28.221	34.962	48.920	63.512			
AT-HD 200 S SC04 H200 (1)	Start	41.319		22.005	32.850	44112	55.791	84.236	93.331						
	Run	19.047		7193	12.932	18.728	24.700	39195	43.827						
	End	29.094		7.793	17.606	27.805	38.392	64.212	72.477						
AT-HD 200 S SC06 H125 (1)	Start	51.648										27.506	35.917	44.533	47.596
	Run	23.809										8.991	13.487	17.959	19.538
	End	36.367										9.742	17.351	25149	27.923

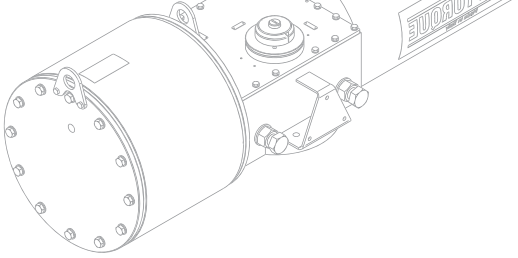


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Symmetric Yoke (Nm)

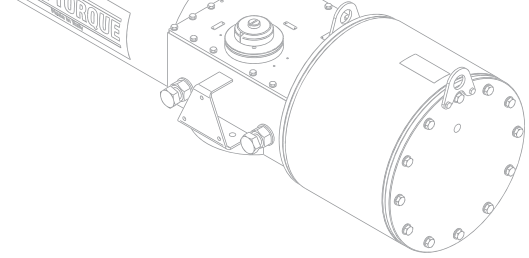
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 200 S SC06 H140 (1)	Start	51.648									34.056	44.840	55.944	67.368	71.442
	Run	23.809									12.510	18.118	23.822	29.664	31.743
	End	36.367									15.667	25.427	35.485	45.840	49.535
AT-HD 200 S SC06 H160 (1)	Start	51.648						31.163	36.013	43.057	57.556	72.601	88.194		
	Run	23.809						10.976	13.537	17.198	24.648	32.334	40.284		
	End	36.367						13.050	17.437	23.813	36.946	50.587	64.735		
AT-HD 200 S SC06 H200 (1)	Start	51.648				35.577	46.631	73.320	81.793	94.182					
	Run	23.809				13.309	19.041	32.701	37.023	43.333					
	End	36.367				17.043	27.049	51.238	58.926	70.171					
AT-HD 200 S SC08 H125 (1)	Start	59.912											29.587	37.935	40.899
	Run	27.618											8.703	13.683	15.244
	End	42.186											9.203	16.753	19.434
AT-HD 200 S SC08 H140 (1)	Start	59.912										38.232	48.961	59.965	63.882
	Run	27.618										13.840	19.440	25.107	27.114
	End	42.186										17.022	26.731	36.697	40.245
AT-HD 200 S SC08 H160 (1)	Start	59.912							29.679	36.507	50.516	64.996	79.947	95.369	
	Run	27.618							8.806	12.924	20.243	27.685	35.330	43.196	
	End	42.186							9.287	15.461	28.139	41.254	54.807	68.798	
AT-HD 200 S SC08 H200 (1)	Start	59.912				29.257	39.965	65.686	73.816	85.675					
	Run	27.618				8.336	14.754	28.039	32.197	38.251					
	End	42.186				8.904	18.590	41.880	49.249	60.002					
AT-HD 200 S SC10 H125 (1)	Start	68.176													34.439
	Run	31.467													10.867
	End	48.133													11.284
AT-HD 200 S SC10 H140 (1)	Start	68.176											42.283	52.968	56.765
	Run	31.467											15.143	20.738	22.704
	End	48.133											18.380	28.050	31.488
AT-HD 200 S SC10 H160 (1)	Start	68.176									43.795	57.844	72.308	87.186	92.491
	Run	31.467									15.943	23.261	30.695	38.306	41.014
	End	48.133									19.748	32.465	45.567	59.054	63.865
AT-HD 200 S SC10 H200 (1)	Start	68.176					33.529	58.513	66.382	77.838					
	Run	31.467					9.908	23.606	27.657	33.528					
	End	48.133					10.462	33.071	40.198	50.580					



Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 065 C SC02 H40 (0)	Start	763								1.029	1.354	1.691	2.042	2.406	2.537
	Run	439								354	493	637	786	941	996
	End	771								455	663	881	1107	1.342	1.426
AT-HD 065 C SC02 H50 (0)	Start	763					1109	1.707	1.898	2177	2.550	3.022	3.495	3.967	
	Run	439					389	643	725	843	1.008	1.211	1.414	1.617	
	End	771					506	891	1.014	1194	1.451	1.763	2.074	2.385	
AT-HD 065 C SC02 H63 (0)	Start	763		1.094	1.501	1.929	2.377	3.106	3.368	3.743					
	Run	439		382	556	738	929	1.247	1.360	1.521					
	End	771		496	758	1.034	1.323	1.817	1.990	2.238					
AT-HD 065 C SC02 H80 (0)	Start	763	1.354	2.406	2.871	3.476									
	Run	439	493	941	1146	1.406									
	End	771	663	1.342	1.663	2.061									
AT-HD 065 C SC04 H40 (0)	Start	1102								674	971	1.278	1.593	1.918	2.034
	Run	634								121	288	422	557	696	746
	End	1113								134	325	522	725	934	1.009
AT-HD 065 C SC04 H50 (0)	Start	1102						1.292	1.464	1.714	2.232	2.772	3.334	3.920	3.796
	Run	634						428	502	609	830	1.060	1.299	1.548	1.505
	End	1113						531	642	803	1136	1.484	1.847	2.225	2171
AT-HD 065 C SC04 H63 (0)	Start	1102		733	1105	1492	1893	2.869	3181	3.639					
	Run	634		164	347	514	685	1101	1.234	1.429					
	End	1113		172	411	660	918	1547	1.749	2.044					
AT-HD 065 C SC04 H80 (0)	Start	1102		1.918	2.596	3.312	3.745								
	Run	634		696	985	1.289	1.483								
	End	1113		934	1.371	1.833	2136								
AT-HD 065 C SC06 H40 (0)	Start	1526												1.438	1.544
	Run	878												440	487
	End	1542												510	578
AT-HD 065 C SC06 H50 (0)	Start	1526									1.726	2.219	2.728	3.253	3.441
	Run	878									565	777	995	1.218	1.298
	End	1542									695	1.012	1.340	1.679	1.800
AT-HD 065 C SC06 H63 (0)	Start	1526					1.414	2.307	2.590	3.002	3.858				
	Run	878					430	815	936	1111	1.476				
	End	1542					495	1.069	1.251	1.517	2.068				
AT-HD 065 C SC06 H80 (0)	Start	1526		1.438	2.059	2.707	3.382								
	Run	878		440	709	986	1.273								
	End	1542		510	909	1.327	1.761								

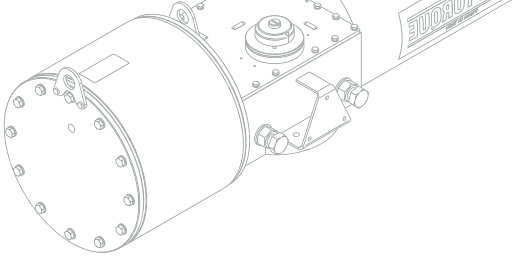


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

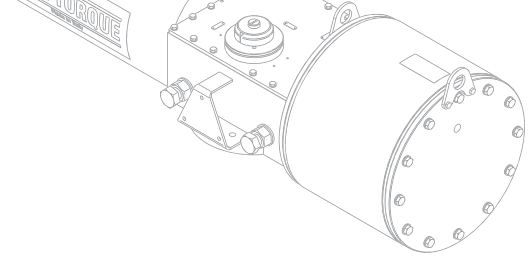
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 065 C SC08 H50 (0)	Start	2.034										1.665	2.140	2.627	2.800
	Run	1170										475	684	894	968
	End	2.055										518	823	1136	1.248
AT-HD 065 C SC08 H63 (0)	Start	2.034						1.748	2.011	2.394	3183				
	Run	1170						512	628	794	1132				
	End	2.055						571	740	987	1.494				
AT-HD 065 C SC08 H80 (0)	Start	2.034				2.121	2.745								
	Run	1170				676	945								
	End	2.055				811	1.212								
AT-HD 085 C SC02 H40 (0)	Start	1.204									1.809	2.291	2.791	3.307	3.492
	Run	699									488	656	829	1.009	1.073
	End	1.541									585	816	1.055	1.302	1.391
AT-HD 085 C SC02 H50 (0)	Start	1.204						2.314	2.586	2.983	3.807	4.674	5.047	5.752	5.998
	Run	699						664	758	896	1182	1.482	1.625	1.872	1.959
	End	1.541						827	957	1147	1.542	1.958	2.165	2.511	2.632
AT-HD 085 C SC02 H63 (0)	Start	1.204			2.020	2.630	3.267	4.466	4.858	5.417	6.536	7.655			
	Run	699			561	774	994	1.421	1.558	1.755	2148	2.541			
	End	1.541			686	978	1.283	1.880	2.072	2.347	2.896	3.445			
AT-HD 085 C SC02 H80 (0)	Start	1.204	1.809	3.307	4.392	5.018	5.921	7.996							
	Run	699	488	1.009	1.384	1.615	1.932	2.661							
	End	1.541	585	1.302	1.823	2.151	2.594	3.612							
AT-HD 085 C SC02 H100 (0)	Start	1.204	3.807	5.752	7161										
	Run	699	1182	1.872	2.368										
	End	1.541	1.542	2.511	3.202										
AT-HD 085 C SC04 H40 (0)	Start	1.807												2.478	2.643
	Run	1.050												649	707
	End	2.313												765	843
AT-HD 085 C SC04 H50 (0)	Start	1.807								2188	2.922	3.684	4.474	5.292	5.584
	Run	1.050								547	804	1.070	1.344	1.627	1.729
	End	2.313								626	977	1.342	1.720	2112	2.253
AT-HD 085 C SC04 H63 (0)	Start	1.807					2.442	3.821	4.260	4.900	6.235	7.007			
	Run	1.050					636	1117	1.269	1.492	1.954	2.239			
	End	2.313					747	1.407	1.617	1.924	2.564	2.971			
AT-HD 085 C SC04 H80 (0)	Start	1.807		2.478	3.437	4.442	5.492	7.347	7.979						
	Run	1.050		649	984	1.333	1.697	2.359	2.581						
	End	2.313		765	1.224	1.705	2.208	3.138	3.448						



Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 085 C SC04 H100 (0)	**Start**	1.807	2.922	5.292	7.010	7.923									
	Run	1.050	804	1.627	2.223	2.561									
	End	2.313	977	2.112	2.937	3.420									
AT-HD 085 C SC06 H50 (0)	**Start**	2.812											3.164	3.887	4.145
	Run	1.634											766	1.021	1.111
	End	3.601											859	1.205	1.328
AT-HD 085 C SC06 H63 (0)	**Start**	2.812							2.973	3.542	4.714	5.930	7.192		
	Run	1.634							697	899	1.310	1.733	2.171		
	End	3.601							768	1.040	1.600	2.183	2.787		
AT-HD 085 C SC06 H80 (0)	**Start**	2.812				3.135	4.064	6.310	7.024						
	Run	1.634				755	1.083	1.865	2.113						
	End	3.601				846	1.289	2.364	2.707						
AT-HD 085 C SC06 H100 (0)	**Start**	2.812		3.887	5.388	6.960									
	Run	1.634		1.021	1.545	2.090									
	End	3.601		1.205	1.923	2.676									
AT-HD 085 C SC08 H63 (0)	**Start**	3.819									3.515	4.643	5.804	6.998	7.424
	Run	2.218									757	1.163	1.571	1.987	2.135
	End	4.888									794	1.333	1.888	2.460	2.663
AT-HD 085 C SC08 H80 (0)	**Start**	3.819					2.909	4.993	5.650	6.606					
	Run	2.218					487	1.286	1.517	1.851					
	End	4.888					505	1.500	1.814	2.272					
AT-HD 085 C SC08 H100 (0)	**Start**	3.819			4.141	5.591	7.093								
	Run	2.218			984	1.496	2.020								
	End	4.888			1.093	1.786	2.505								
AT-HD 100 C SC02 H63 (1)	**Start**	4.869				5.627	7.139								
	Run	2.770				1.506	2.033								
	End	5.518				1.798	2.521								
AT-HD 100 C SC02 H80 (1)	**Start**	4.869						6.064	6.898	8.112	10.618	13.229	15.944		
	Run	2.770						1.604	1.915	2.365	3.290	4.249	5.247		
	End	5.518						1.905	2.353	3.006	4.355	5.762	7.226		
AT-HD 100 C SC02 H100 (1)	**Start**	4.869				6.823	8.729	13.353	14.828						
	Run	2.770				1.887	2.593	4.295	4.837						
	End	5.518				2.313	3.338	5.829	6.624						
AT-HD 100 C SC02 H125 (1)	**Start**	4.869		8.366	11.453	14.695									
	Run	2.770		2.460	3.597	4.788									
	End	5.518		3.143	4.805	6.553									

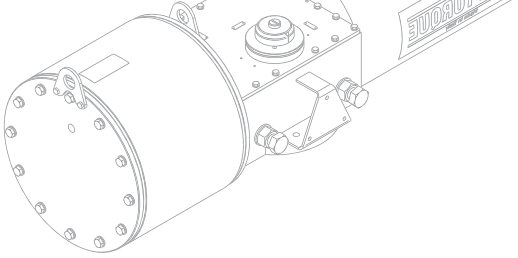


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

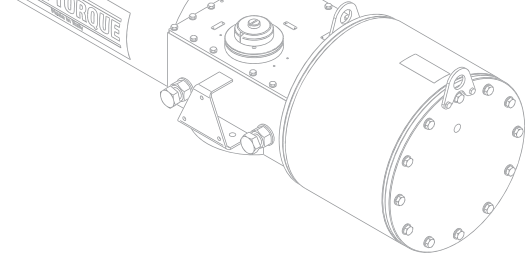
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 100 C SC02 H140 (1)	Start	4.869	6.561	12.319											
	Run	2.770	1.790	3.915											
	End	5.518	2.172	5.272											
AT-HD 100 C SC02 H160 (1)	Start	4.869	10.618												
	Run	2.770	3.290												
	End	5.518	4.355												
AT-HD 100 C SC04 H63 (1)	Start	5.877												7.285	7.800
	Run	3.343												1.923	2.116
	End	6.660												2.281	2.558
AT-HD 100 C SC04 H80 (1)	Start	5.877								6.811	9.200	11.677	14.239		
	Run	3.343								1.744	2.637	3.551	4.494		
	End	6.660								2.026	3.311	4.643	6.024		
AT-HD 100 C SC04 H100 (1)	Start	5.877					7.400	11.795	13.188	15.223					
	Run	3.343					1.966	3.595	4.107	4.856					
	End	6.660					2.343	4.707	5.457	6.554					
AT-HD 100 C SC04 H125 (1)	Start	5.877		7.054	9.994	13.062									
	Run	3.343		1.836	2.930	4.061									
	End	6.660		2.157	3.737	5.390									
AT-HD 100 C SC04 H140 (1)	Start	5.877		10.816	14.730										
	Run	3.343		3.234	4.675										
	End	6.660		4.180	6.288										
AT-HD 100 C SC04 H160 (1)	Start	5.877	9.200												
	Run	3.343	2.637												
	End	6.660	3.311												
AT-HD 100 C SC06 H80 (1)	Start	7.388										9.642	12.054	14.535	15.420
	Run	4.202										2.599	3.495	4.411	4.737
	End	8.372										3.127	4.425	5.760	6.236
AT-HD 100 C SC06 H100 (1)	Start	7.388						9.753	11.066	12.977					
	Run	4.202						2.640	3.129	3.836					
	End	8.372						3.187	3.893	4.921					
AT-HD 100 C SC06 H125 (1)	Start	7.388				10.948	13.948								
	Run	4.202				3.085	4.195								
	End	8.372				3.829	5.443								
AT-HD 100 C SC06 H140 (1)	Start	7.388		8.829	12.514										
	Run	4.202		2.293	3.665										
	End	8.372		2.690	4.672										



Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 100 C SC06 H160 (1)	Start	7.388		14.535											
	Run	4.202		4.411											
	End	8.372		5.760											
AT-HD 100 C SC08 H80 (1)	Start	8.685											10.068	12.447	13.294
	Run	4.995											2.662	3.550	3.864
	End	10159											3161	4.442	4.898
AT-HD 100 C SC08 H100 (1)	Start	8.685							9.118	10.953	14.731				
	Run	4.995							2.303	2.994	4.395				
	End	10159							2.650	3.638	5.673				
AT-HD 100 C SC08 H125 (1)	Start	8.685				9.005	11.884								
	Run	4.995				2.260	3.341								
	End	10159				2.589	4139								
AT-HD 100 C SC08 H140 (1)	Start	8.685			10.510	14193									
	Run	4.995			2.828	4197									
	End	10159			3.399	5.383									
AT-HD 100 C SC08 H160 (1)	Start	8.685		12.447											
	Run	4.995		3.550											
	End	10159		4.442											
AT-HD 130 C SC02 H63 (1)	Start	6.720												9.849	10.521
	Run	3.918												2.579	2.813
	End	8.645												3.013	3.327
AT-HD 130 C SC02 H80 (1)	Start	6.720								9.231	12.348	15.585	18.943	22.422	23.668
	Run	3.918								2.363	3.447	4.567	5.727	6.927	7.357
	End	8.645								2.724	4182	5.696	7.269	8.899	9.483
AT-HD 130 C SC02 H100 (1)	Start	6.720					9.999	15.740	17.565	20.234	25.792	28.962			
	Run	3.918					2.631	4.621	5.251	6172	8.089	9.251			
	End	8.645					3.083	5.769	6.623	7.873	10.480	12106			
AT-HD 130 C SC02 H125 (1)	Start	6.720		9.548	13.384	17.400	21.596	29180							
	Run	3.918		2.473	3.806	5194	6.642	9.328							
	End	8.645		2.872	4.666	6.546	8.512	12.210							
AT-HD 130 C SC02 H140 (1)	Start	6.720		14.459	19.586	24.996	28.218								
	Run	3.918		4178	5.949	7.815	8.991								
	End	8.645		5169	7.570	10106	11.749								
AT-HD 130 C SC02 H160 (1)	Start	6.720	12.348	22.422	27.473										
	Run	3.918	3.447	6.927	8.731										
	End	8.645	4182	8.899	11.392										

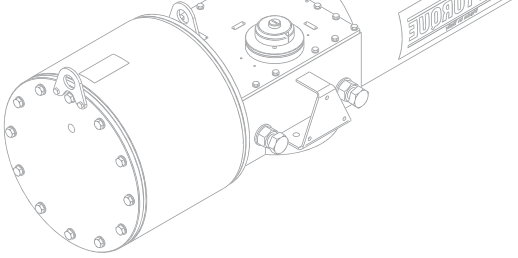


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

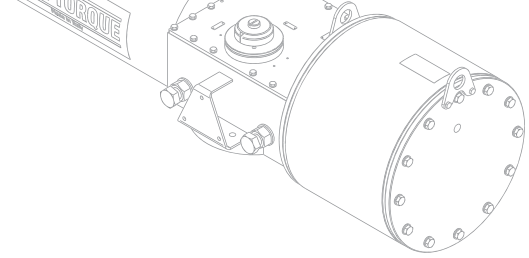
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 130 C SC04 H80 (1)	Start	9.487											14.662	17.807	18.927
	Run	5.531											3.904	4.997	5.384
	End	12.205											4.608	6.079	6.603
AT-HD 130 C SC04 H100 (1)	Start	9.487							13.409	15.831	20.832	26.042			
	Run	5.531							3.467	4.311	6.044	7.843			
	End	12.205							4.022	5.155	7.494	9.933			
AT-HD 130 C SC04 H125 (1)	Start	9.487				13.259	17.062	26.291	29.233						
	Run	5.531				3.415	4.738	7.929	8.944						
	End	12.205				3.953	5.730	10.050	11.429						
AT-HD 130 C SC04 H140 (1)	Start	9.487			15.245	20.120	25.194								
	Run	5.531			4.107	5.797	7.550								
	End	12.205			4.881	7.161	9.536								
AT-HD 130 C SC04 H160 (1)	Start	9.487		17.807	24.352										
	Run	5.531		4.997	7.259										
	End	12.205		6.079	9.142										
AT-HD 130 C SC06 H80 (1)	Start	11.848													15.152
	Run	6.975													3.881
	End	15.704													4.477
AT-HD 130 C SC06 H100 (1)	Start	11.848									16.947	21.837	26.892		
	Run	6.975									4.508	6.207	7.956		
	End	15.704									5.318	7.607	9.977		
AT-HD 130 C SC06 H125 (1)	Start	11.848						22.070	24.818	28.831					
	Run	6.975						6.287	7.239	8.627					
	End	15.704						7.717	9.005	10.886					
AT-HD 130 C SC06 H140 (1)	Start	11.848				16.276	21.043								
	Run	6.975				4.274	5.932								
	End	15.704				5.003	7.236								
AT-HD 130 C SC06 H160 (1)	Start	11.848			20.254	26.687									
	Run	6.975			5.658	7.885									
	End	15.704			6.866	9.881									
AT-HD 130 C SC08 H100 (1)	Start	14.230										18.919	23.747	28.713	
	Run	8.296										4.783	6.467	8.188	
	End	18.307										5.476	7.732	10.055	
AT-HD 130 C SC08 H125 (1)	Start	14.230						19.142	21.769	25.593					
	Run	8.296						4.861	5.779	7.107					
	End	18.307						5.580	6.807	8.595					



Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 130 C SC08 H140 (1)	Start	14.230						29.187							
	Run	8.296						8.352							
	End	18.307						10.277							
AT-HD 130 C SC08 H160 (1)	Start	14.230				23.551	29.926								
	Run	8.296				6.399	8.608								
	End	18.307				7.641	10.622								
AT-HD 160 C SC02 H100 (1)	Start	12.885						12.710	14.521	17.156	22.592	28.250	34.132	40.235	42.424
	Run	6.804						3.852	4.613	5.712	7.966	10.305	12.733	15.252	16.156
	End	12.354						4.748	5.937	7.668	11.243	14.968	18.843	22.867	24.311
AT-HD 160 C SC02 H125 (1)	Start	12.885			10.359	14.358	18.494	28.521	31.716	36.394	46.160	50.705	58.649		
	Run	6.804			2.847	4.545	6.268	10.417	11.736	13.668	17.697	19.713	23.027		
	End	12.354			3.204	5.830	8.548	15.146	17.250	20.334	26.777	30.157	35.509		
AT-HD 160 C SC02 H140 (1)	Start	12.885		11.433	16.518	21.817	27.330	40.821	45.151	46.944	56.908				
	Run	6.804		3.310	5.446	7.645	9.925	15.494	17.281	18.141	22.301				
	End	12.354		3.909	7.249	10.734	14.362	23.253	26.111	27.623	34.336				
AT-HD 160 C SC02 H160 (1)	Start	12.885		19.303	26.415	33.892	41.734	54.183	58.738						
	Run	6.804		6.604	9.547	12.634	15.870	21.164	23.064						
	End	12.354		9.080	13.760	18.685	23.856	32.500	35.569						
AT-HD 160 C SC02 H200 (1)	Start	12.885	22.592	40.235	48.164	58.331									
	Run	6.804	7.966	15.252	18.651	22.895									
	End	12.354	11.243	22.867	28.445	35.295									
AT-HD 160 C SC04 H100 (1)	Start	18.406									16.333	21.491	26.804	32.274	34.225
	Run	9.720									4.728	6.902	9.114	11.380	12.187
	End	17.649									5.584	8.972	12.464	16.062	17.345
AT-HD 160 C SC04 H125 (1)	Start	18.406						21.736	24.627	28.837	37.543	46.629	56.096		
	Run	9.720						7.005	8.209	9.956	13.558	17.311	21.218		
	End	17.649						9.133	11.033	13.801	19.529	25.514	31.755		
AT-HD 160 C SC04 H140 (1)	Start	18.406				15.623	20.655	32.796	36.648	42.279	53.988				
	Run	9.720				4.424	6.552	11.596	13.188	15.515	20.349				
	End	17.649				5.119	8.423	16.405	18.940	22.648	30.365				
AT-HD 160 C SC04 H160 (1)	Start	18.406			19.823	26.589	33.610	50.726	56.204						
	Run	9.720			6.204	9.024	11.932	19.003	21.263						
	End	17.649			7.876	12.322	16.940	28.215	31.827						
AT-HD 160 C SC04 H200 (1)	Start	18.406	16.333	32.274	43.680	55.710									
	Run	9.720	4.728	11.380	16.093	21.059									
	End	17.649	5.584	16.062	23.571	31.501									

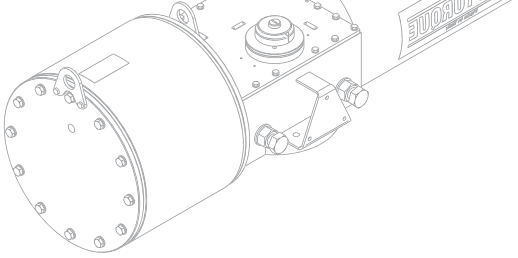


AIR TORQUE

Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

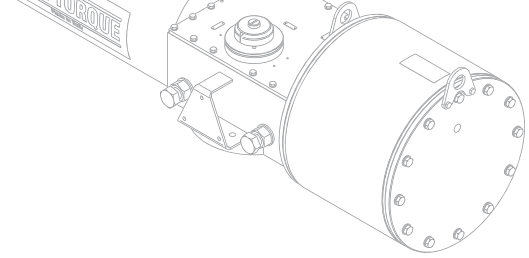
Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 160 C SC06 H100 (1)	Start	23.008											21.690	26.863	28.704
	Run	12.150											6.452	8.627	9.395
	End	22.061											7.817	11.215	12.424
AT-HD 160 C SC06 H125 (1)	Start	23.008							19.624	23.616	31.827	40.342	49.162	58.287	
	Run	12.150							5.571	7.266	10.695	14.225	17.872	21.638	
	End	22.061							6.461	9.081	14.477	20.077	25.882	31.893	
AT-HD 160 C SC06 H140 (1)	Start	23.008						27.356	30.985	36.271	47.203	58.613			
	Run	12.150						8.833	10.345	12.539	17.061	21.773			
	End	22.061						11.539	13.923	17.399	24.592	32.108			
AT-HD 160 C SC06 H160 (1)	Start	23.008				21.486	28.124	44.166	49.263	56.718					
	Run	12.150				6.366	9.153	15.806	17.913	20.991					
	End	22.061				7.683	12.043	22.593	25.948	30.859					
AT-HD 160 C SC06 H200 (1)	Start	23.008		26.863	37.584	48.804									
	Run	12.150		8.627	13.083	17.723									
	End	22.061		11.215	18.262	25.646									
AT-HD 160 C SC08 H100 (1)	Start	28.530													22.789
	Run	15.065													6.240
	End	27.356													6.997
AT-HD 160 C SC08 H125 (1)	Start	28.530									25.761	33.835	42.154	50.719	53.774
	Run	15.065									7.519	10.917	14.378	17.926	19.189
	End	27.356									8.948	14.251	19.719	25.352	27.363
AT-HD 160 C SC08 H140 (1)	Start	28.530							24.961	29.980	40.309	51.025			
	Run	15.065							7.177	9.302	13.612	18.053			
	End	27.356							8.423	11.719	18.506	25.553			
AT-HD 160 C SC08 H160 (1)	Start	28.530					22.236	37.446	42.249	49.249					
	Run	15.065					5.999	12.423	14.417	17.318					
	End	27.356					6.634	16.624	19.781	24.385					
AT-HD 160 C SC08 H200 (1)	Start	28.530			31.224	41.817	52.811								
	Run	15.065			9.825	14.238	18.791								
	End	27.356			12.536	19.497	26.729								
AT-HD 200 C SC02 H100 (1)	Start	27.610										21.973	28.339	34.867	37.190
	Run	14.580										6.003	8.719	11.450	12.417
	End	26.473										6.718	10.898	15.186	16.713
AT-HD 200 C SC02 H125 (1)	Start	27.610						22.267	25.733	30.768	41.135	51.898	63.058	74.614	78.752
	Run	14.580						6.132	7.617	9.738	14.056	18.512	23.123	27.894	29.603
	End	26.473						6.912	9.186	12.493	19.307	26.387	33.735	41.349	44.077



Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 200 C SC02 H140 (1)	**Start**	27.610					20.969	35.489	40.072	46.751	60.578	75.028	90.101	97.035	
	Run	14.580					5.563	11.709	13.614	16.383	22.099	28.065	34.285	37.387	
	End	26.473					6.059	15.595	18.608	23.000	32.101	41.622	51.563	56.794	
AT-HD 200 C SC02 H160 (1)	**Start**	27.610				28.081	36.458	56.735	63.185	72.626	92.305				
	Run	14.580				8.610	12.113	20.511	23.176	27.074	35.195				
	End	26.473				10.728	16.232	29.571	33.818	40.039	53.017				
AT-HD 200 C SC02 H200 (1)	**Start**	27.610		34.867	48.411	62.604	77.446								
	Run	14.580		11.450	17.070	22.936	29.064								
	End	26.473		15.186	24.092	33.436	43.216								
AT-HD 200 C SC04 H125 (1)	**Start**	36.813									31.003	41.024	51.341	61.956	65.741
	Run	19.439									8.744	12.985	17.285	21.687	23.254
	End	35.298									10.078	16.657	23.438	30.418	32.908
AT-HD 200 C SC04 H140 (1)	**Start**	36.813							30.010	36.241	49.054	62.335	76.084	90.300	95.386
	Run	19.439							8.314	10.974	16.335	21.844	27.529	33.400	35.500
	End	35.298							9.425	13.516	21.934	30.667	39.715	49.079	52.430
AT-HD 200 C SC04 H160 (1)	**Start**	36.813						45.504	51.458	60.135	78.086	96.835			
	Run	19.439						14.856	17.334	20.932	28.357	36.098			
	End	35.298						19.601	23.515	29.220	41.034	53.385			
AT-HD 200 C SC04 H200 (1)	**Start**	36.813			37.785	50.923	64.548	97.733							
	Run	19.439			11.625	17.111	22.760	36.469							
	End	35.298			14.530	23.163	32.123	53.977							
AT-HD 200 C SC06 H125 (1)	**Start**	46.016											41.230	51.280	54.853
	Run	24.299											11.990	16.231	17.726
	End	44.122											14.222	20.822	23.170
AT-HD 200 C SC06 H140 (1)	**Start**	46.016									39.058	51.638	64.591	77.919	82.672
	Run	24.299									11.060	16.381	21.779	27.304	29.272
	End	44.122									12.797	21.057	29.570	38.334	41.461
AT-HD 200 C SC06 H160 (1)	**Start**	46.016						35.683	41.341	49.558	66.472	84.024			
	Run	24.299						9.596	12.038	15.509	22.560	29.831			
	End	44.122						10.581	14.295	19.691	30.806	42.351			
AT-HD 200 C SC06 H200 (1)	**Start**	46.016				40.832	53.727	84.863	94.748						
	Run	24.299				11.820	17.255	30.177	34.264						
	End	44.122				13.961	22.430	42.903	49.410						
AT-HD 200 C SC08 H125 (1)	**Start**	53.379												43.476	46.933
	Run	28.187												12.039	13.527
	End	51.181												13.642	15.911

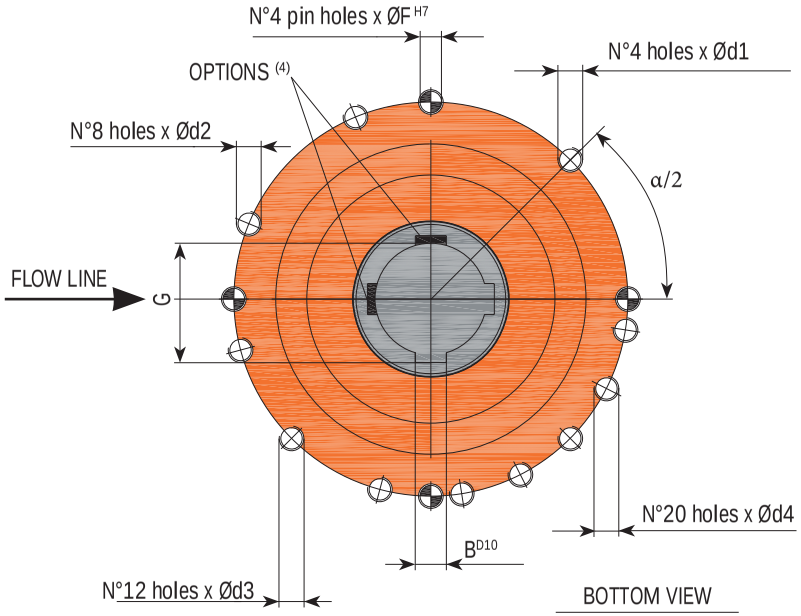


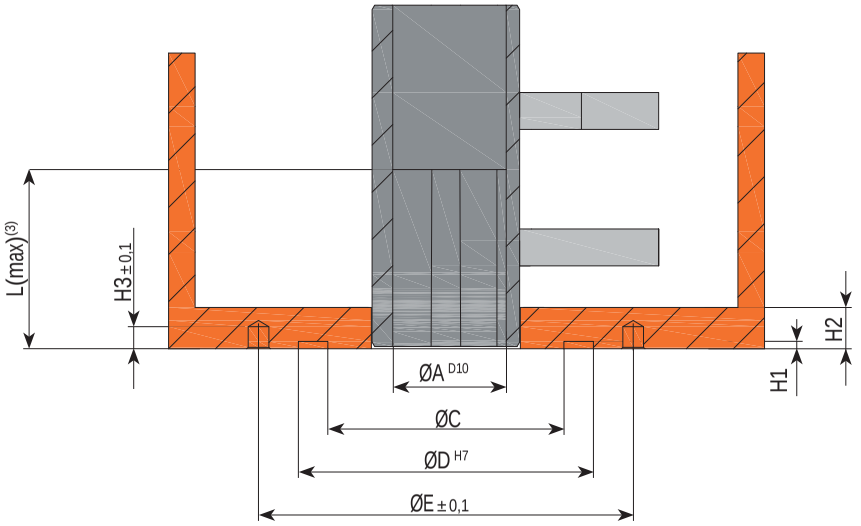
Output Torque - HYDRAULIC

Spring-Return Actuators Canted Yoke (Nm)

Actuator model (FAIL CLOSE)	Spring torque close		35 bar	50 bar	60 bar	70 bar	80 bar	103 bar	110 bar	120 bar	140 bar	160 bar	180 bar	200 bar	207 bar
AT-HD 200 C SC08 H140 (1)	**Start**	53.379										43.823	56.338	69.175	73.744
	Run	28.187										12.190	17.508	22.873	24.772
	End	51.181										13.869	22.086	30.521	33.524
AT-HD 200 C SC08 H160 (1)	**Start**	53.379								41.810	58.152	75.044	92.486		
	Run	28.187								11.314	18.270	25.312	32.543		
	End	51.181								12.549	23.278	34.378	45.849		
AT-HD 200 C SC08 H200 (1)	**Start**	53.379					45.844	75.849	85.334	99.168					
	Run	28.187					13.061	25.647	29.580	35.306					
	End	51.181					15.196	34.908	41.144	50.246					
AT-HD 200 C SC10 H140 (1)	**Start**	60.738											48.446	60.910	65.340
	Run	32.106											13.300	18.619	20.481
	End	58.389											14.948	23.132	26.042
AT-HD 200 C SC10 H160 (1)	**Start**	60.738									50.209	66.599	83.472		
	Run	32.106									14.064	21.009	28.045		
	End	58.389									16.106	26.869	37.958		
AT-HD 200 C SC10 H200 (1)	**Start**	60.738						67.379	76.559	89.924					
	Run	32.106						21.336	25.169	30.725					
	End	58.389						27.382	33.414	42.200					

Dimensions AT-HD ACTUATOR INTERFACE





Dimensions in mm

MODEL ACTUATOR	ISO FLANGE TYPE	A (STD)	A (max)	B(2)	C	D	E	d1	d2	d3	d4	α/2	F	G (min)	H1 (min)	H2	H3	L(max) (3)
AT-HD...065	F14 (1)	60	60	18	89,6	100	140	M16	-	-	-	45°	12	64,4	4,1	30	13	90
AT-HD...065	F16	60	60	18	113	130	165	M20	-	-	-	45°	14	64,4	5,0	30	15	90
AT-HD...085	F16 (1)	72	72	20	113	130	165	M20	-	-	-	45°	14	76,9	5,0	28	15	120
AT-HD...085	F25	72	72	20	160	200	254	-	M16	-	-	22,5°	14	76,9	5,0	28	15	120
AT-HD...100	F25 (1)	80	90	22	160	200	254	-	M16	-	-	22,5°	14	85,4	5,0	33	15	140
AT-HD...100	F30	80	90	22	190	230	298	-	M20	-	-	22,5°	20	85,4	5,0	33	21	140
AT-HD...130	F30 (1)	120	120	32	190	230	298	-	M20	-	-	22,5°	20	127,4	5,0	33	21	190
AT-HD...130	F35	120	120	32	220	260	356	-	M30	-	-	22,5°	20	127,4	8,0	33	21	190
AT-HD...160	F35 (1)	150	150	36	230	260	356	-	M30	-	-	22,5°	20	158,4	8,0	38	21	210
AT-HD...160	F40	150	150	36	270	300	406	-	M36	-	-	22,5°	25	158,4	8,0	38	26	210
AT-HD...200	F40 (1)	180	180	45	270	300	406	-	M36	-	-	22,5°	25	190,4	8,0	38	26	260
AT-HD...200	F48	180	180	45	340	370	483	-	-	M36	-	15°	30	190,4	8,0	38	31	260

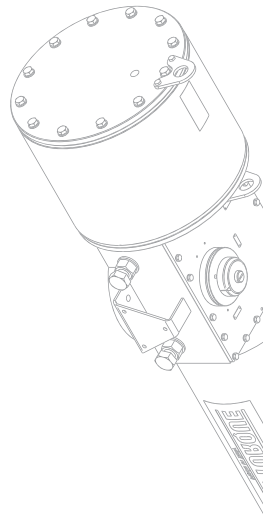
Notes:

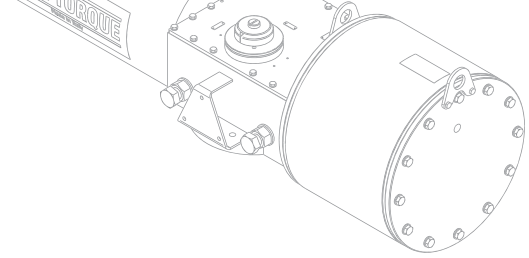
(1) Iso flange connection available on request

(2) Referred to column A(STD)

(3) For minimum valve stem/adaptor engagement on the actuator, refer to ISO 5211

(4) Four keys available on request

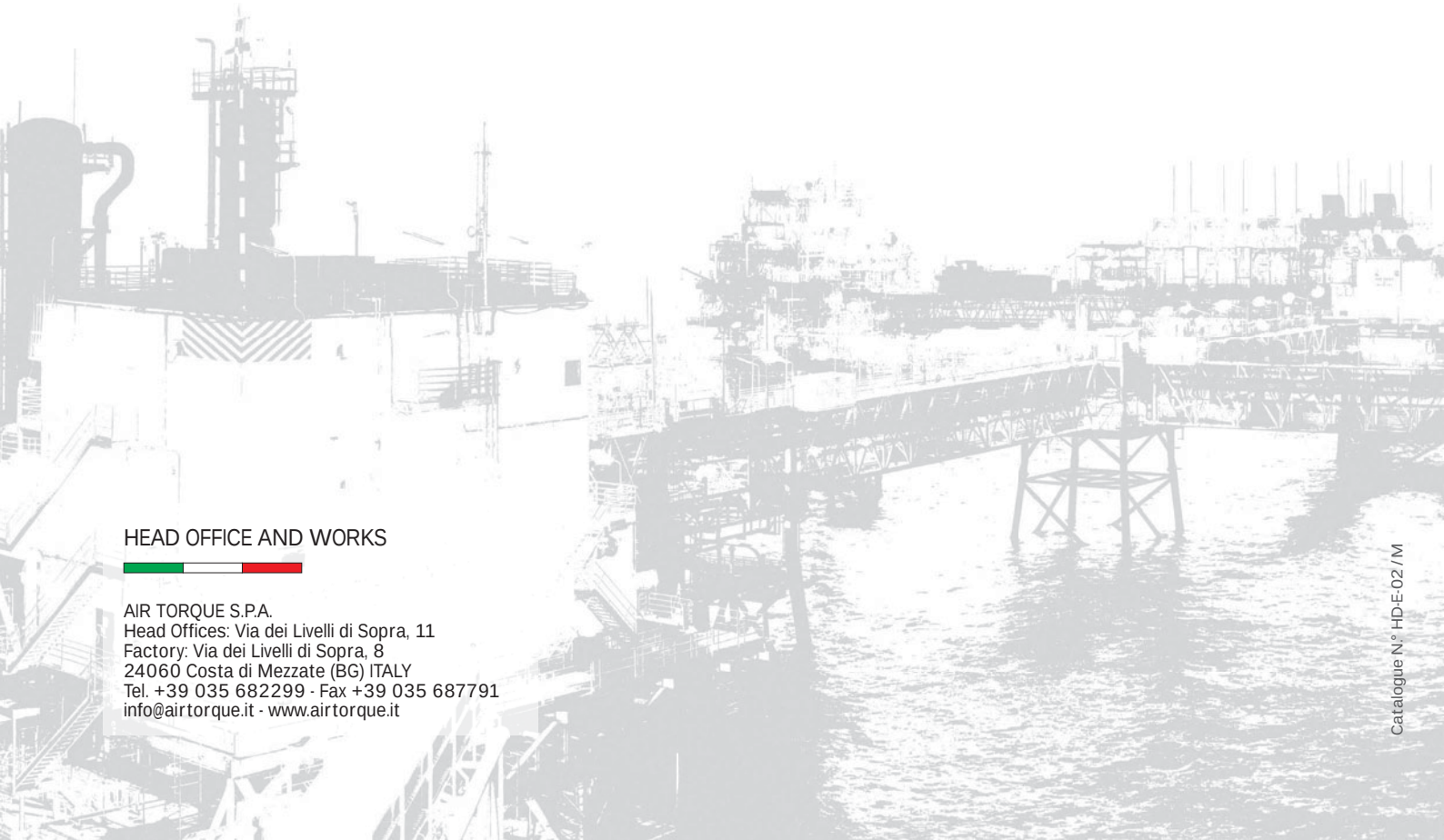




FLUIDTECHNIK®
bohemia

Výhradní zastoupení v ČR:

FLUIDTECHNIK BOHEMIA, s. r. o., Olomoucká 87, 627 00 BRNO, tel.: +420 548 426 811
E-mail: brno@fluidtechnik.eu • www.fluidtechnik.eu



HEAD OFFICE AND WORKS

AIR TORQUE S.P.A.
Head Offices: Via dei Livelli di Sopra, 11
Factory: Via dei Livelli di Sopra, 8
24060 Costa di Mezzate (BG) ITALY
Tel. +39 035 682299 - Fax +39 035 687791
info@airtorque.it - www.airtorque.it

Catalogue N.° HD-E-02 / M