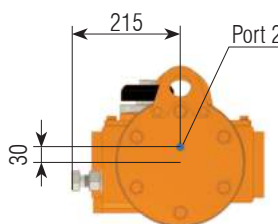
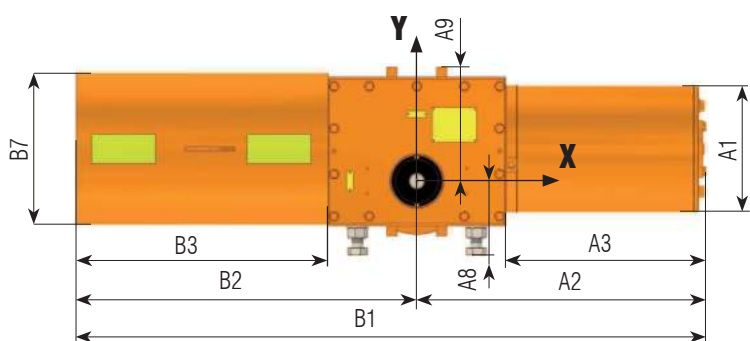
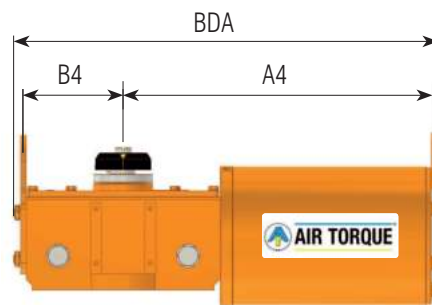
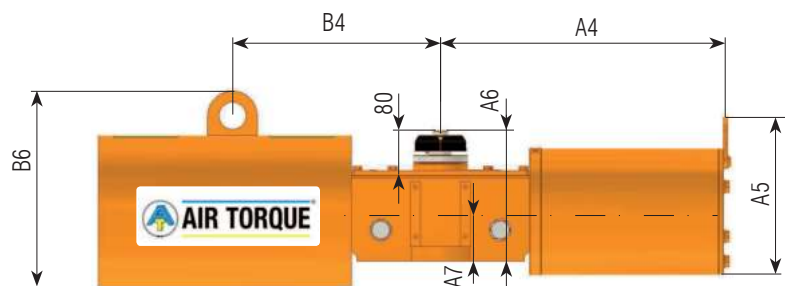


Dimensions in mm

SPRING RETURN

DOUBLE ACTING

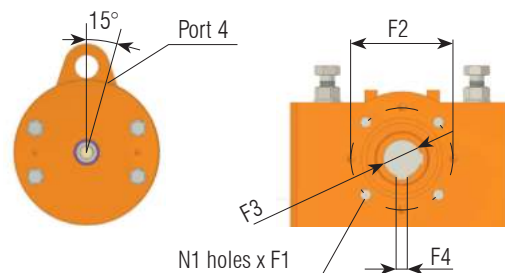
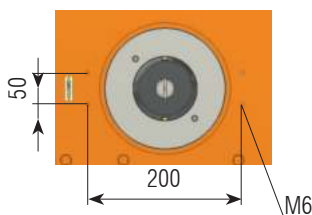


Center of gravity

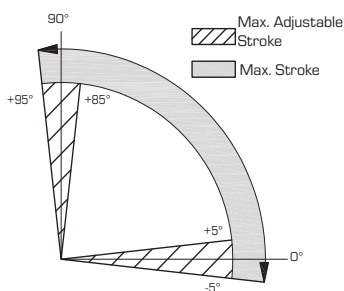
SR	SET	DA	
		X	Y
	02	153	56
	04	-3	59
	06	-10	59
	08	-69	59

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	254				254
A2	529				529
A3	350				350
A4	518				518
A5	317				317
A6	263				263
A7	100				100
A8	149				149
A9	230				230
B1	1127	1127	1217	1217	-
B2	598	598	688	688	-
B3	419	419	509	509	-
B4	398	398	418	418	184
BDA	-	-	-	-	731
B6	363	363	395	395	-
∅ B7	273	273	305	305	-
WEIGHT (Kg)	178	181	201	204	125



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F16	F14
N1	4	4
∅ F1	M20X30	M16x30
∅ F2	165	140
∅ F3	60D10	60D10
F4	18D10	18D10
Connection keyed bore depth	90	90

Air Connection

PORT 2 AND 4	3/8" NPT	G3/8"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	7,5	7,2	7,5	7,2	0,5 ÷ 1,8	0,5 ÷ 1,8	0,6 ÷ 2,1	0,8 ÷ 2,0	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 4.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		4 bar		5 bar		6 bar		7 bar		8 bar		9,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	1029	1005	1647	1609	2058	2011	2470	2413	2882	2815	3294	3217	3911	3820	M.O.P. exceeded	
Run	590	576	944	922	1180	1153	1416	1383	1652	1614	1888	1845	2242	2190		
End	1029	1005	1647	1609	2058	2011	2470	2413	2882	2815	3294	3217	3911	3820		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	900		623	829	1035	1241	1446	1652	1858	2064	2270	2476	2682	2887	3093	3505
	Run	433		275	393	511	629	747	865	983	1101	1219	1337	1455	1573	1691	1927
	End	612		335	541	747	953	1158	1364	1570	1776	1982	2188	2394	2599	2805	3217
SET 04	Start	1300				763	969	1174	1380	1586	1792	1998	2204	2410	2615	2821	3233
	Run	626				318	436	554	672	790	908	1026	1144	1262	1380	1498	1734
	End	884				347	553	758	964	1170	1376	1582	1788	1994	2199	2405	2817
SET 06	Start	1800					834	1040	1246	1452	1658	1864	2070	2275	2481	2893	
	Run	867					313	431	549	667	785	903	1021	1139	1257	1493	
	End	1224					258	464	670	876	1082	1288	1494	1699	1905	2317	
SET 08	Start	2400										1250	1456	1662	1867	2073	2485
	Run	1156										496	614	732	850	968	1204
	End	1632										482	688	894	1099	1305	1717

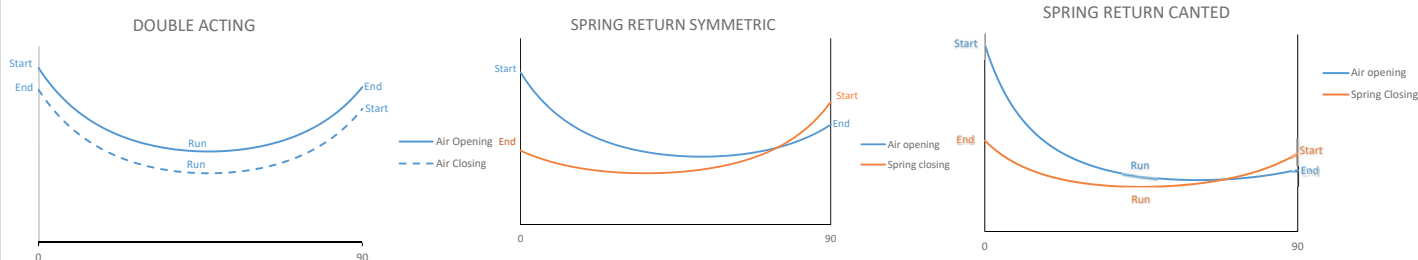
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		4 bar		5 bar		5,5 bar		6,5 bar		7,5 bar		8 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	1275	843	1530	1011	2040	1348	2551	1686	2806	1854	3316	2191	3826	2528	M.O.P. exceeded	
Run	581	568	697	681	930	908	1162	1135	1278	1249	1511	1476	1743	1703		
End	863	1246	1035	1495	1380	1993	1725	2492	1898	2741	2243	3239	2588	3737		

SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	763			1015	1270	1525	1780	2035	2290	2545	2800	3055	3310	3565	3820	M.O.P. exceeded	
	Run	439			374	491	607	723	839	955	1072	1188	1304	1420	1536	1653		
	End	771			445	618	790	963	1135	1308	1480	1653	1825	1998	2170	2343		
SET 04	Start	1102				927	1182	1437	1692	1947	2202	2457	2713	2968	3223	3478	3988	
	Run	634				296	412	528	644	760	877	993	1109	1225	1341	1458	1690	
	End	1113				278	451	624	796	969	1141	1314	1486	1659	1831	2004	2349	
SET 06	Start	1526							1264	1519	1774	2029	2284	2539	2794	3050	3560	
	Run	878							400	516	633	749	865	981	1097	1214	1446	
	End	1542							372	545	717	890	1063	1235	1408	1580	1925	
SET 08	Start	2034										1260	1515	1770	2026	2281	2536	3046
	Run	1170										340	456	572	689	805	921	1153
	End	2055										209	381	554	726	899	1072	1417

Note:

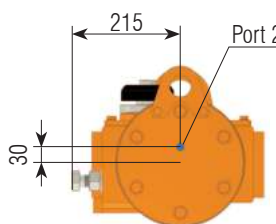
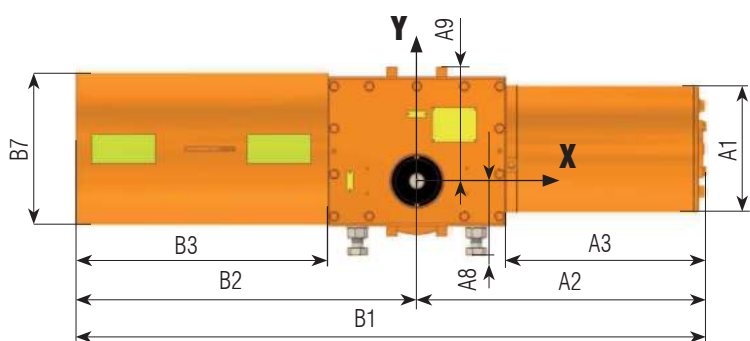
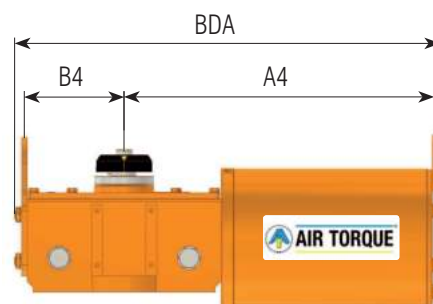
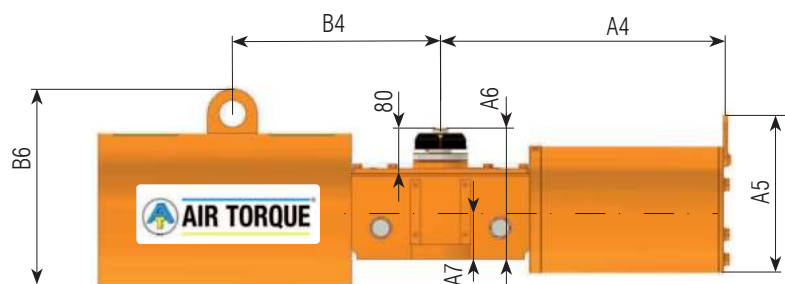
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

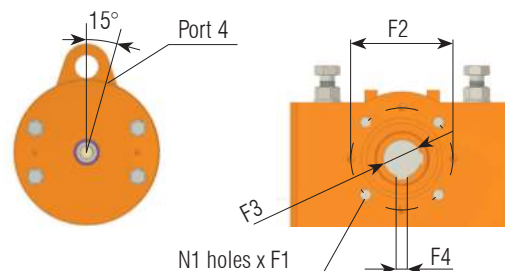
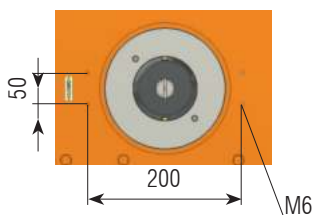


Center of gravity

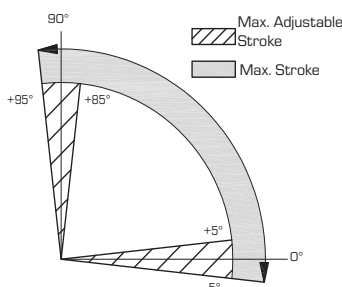
		X	Y
SR	SET	193	55
	02	37	60
	04	30	60
	06	-24	60
	08	-30	60

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	305				305
A2	529				529
A3	350				350
A4	518				518
A5	368				368
A6	263				263
A7	100				100
A8	149				149
A9	230				230
B1	1127	1127	1217	1217	-
B2	598	598	688	688	-
B3	419	419	509	509	-
B4	398	398	418	418	184
BDA	-	-	-	-	731
B6	363	363	395	395	-
∅ B7	273	273	305	305	-
WEIGHT (Kg)	201	204	224	227	145



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F16	F14
N1	4	4
∅ F1	M20X30	M16x30
∅ F2	165	140
∅ F3	60D10	60D10
F4	18D10	18D10
Connection keyed bore depth	90	90

Air Connection

PORT 2 AND 4	3/8" NPT	G3/8"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	11	12	11	12	0,8 ÷ 1,7	0,8 ÷ 1,7	0,8 ÷ 2,5	1,0 ÷ 2,2	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 4.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		6 bar		6,5 bar		7 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		1525	1502	1830	1802	2441	2402	3051	3003	3356	3303	3661	3604	3966	3904	M.O.P. exceeded	
Run		875	861	1049	1033	1399	1377	1749	1722	1924	1894	2099	2066	2274	2238		
End		1525	1502	1830	1802	2441	2402	3051	3003	3356	3303	3661	3604	3966	3904		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	900	913	1218	1523	1829	2134	2439	2744	3049	3354	3659	3964	M.O.P. exceeded			
	Run	433	441	616	791	966	1141	1316	1491	1665	1840	2015	2190				
	End	612	625	930	1235	1541	1846	2151	2456	2761	3066	3371	3676				
SET 04	Start	1300	641	946	1251	1557	1862	2167	2472	2777	3082	3387	3692	3997	M.O.P. exceeded		
	Run	626	248	423	598	773	948	1123	1298	1473	1648	1823	1997	2172			
	End	884	225	530	835	1141	1446	1751	2056	2361	2666	2971	3276	3581			
SET 06	Start	1800			911	1217	1522	1827	2132	2437	2742	3047	3352	3657	3962	M.O.P. exceeded	
	Run	867			357	532	707	882	1057	1232	1407	1582	1757	1932	2107		
	End	1224			335	641	946	1251	1556	1861	2166	2471	2776	3081	3386		
SET 08	Start	2400					1114	1419	1724	2029	2334	2639	2944	3249	3554	3859	M.O.P. exceeded
	Run	1156					418	593	768	943	1118	1293	1468	1643	1818	1992	
	End	1632					346	651	956	1261	1566	1871	2176	2481	2786	3091	

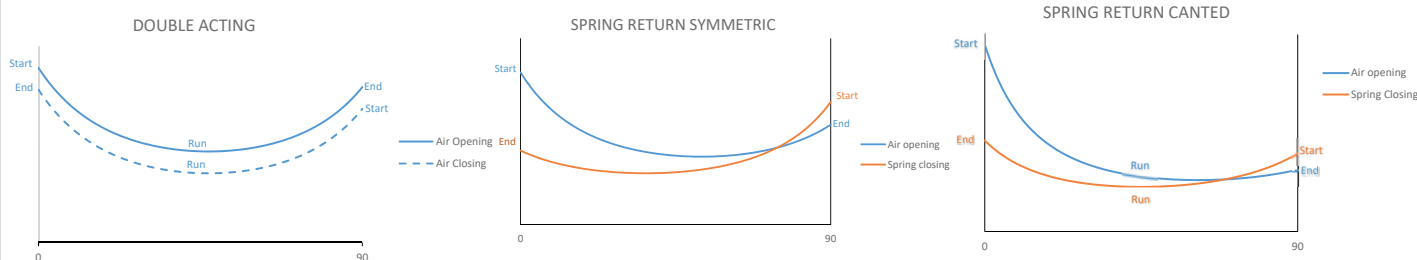
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		1890	1259	2268	1510	2646	1762	3024	2014	3402	2266	3780	2517	M.O.P. exceeded			
Run		861	848	1033	1017	1205	1187	1378	1356	1550	1526	1722	1695				
End		1279	1861	1534	2233	1790	2605	2046	2977	2302	3349	2557	3721				

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	763	1119	1497	1875	2253	2631	3009	3387	3765	M.O.P. exceeded					
	Run	439	422	594	767	939	1111	1283	1455	1628						
	End	771	516	771	1027	1283	1539	1794	2050	2306						
SET 04	Start	1102		1155	1533	1911	2289	2667	3045	3423	3801	M.O.P. exceeded				
	Run	634		399	571	744	916	1088	1260	1432	1605					
	End	1113		432	688	944	1200	1455	1711	1967	2223					
SET 06	Start	1526			1104	1483	1861	2239	2617	2995	3373	3751	M.O.P. exceeded			
	Run	878			328	500	672	844	1016	1189	1361	1533				
	End	1542			264	520	776	1032	1287	1543	1799	2054				
SET 08	Start	2034					1347	1725	2103	2481	2859	3237	3615	3993	M.O.P. exceeded	
	Run	1170					379	552	724	896	1068	1240	1413	1585		
	End	2055					267	523	779	1034	1290	1546	1802	2057		

Note:

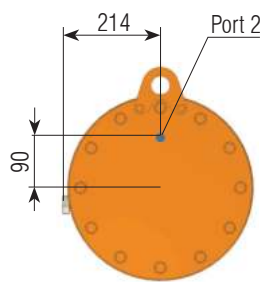
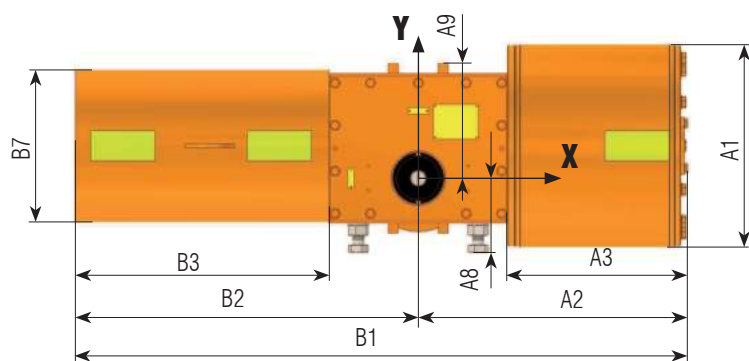
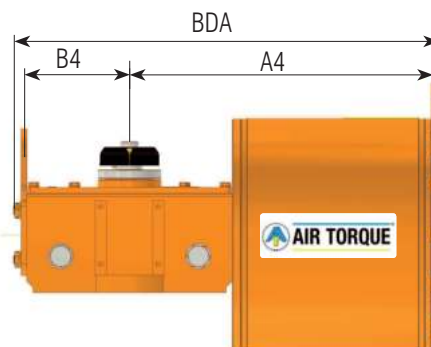
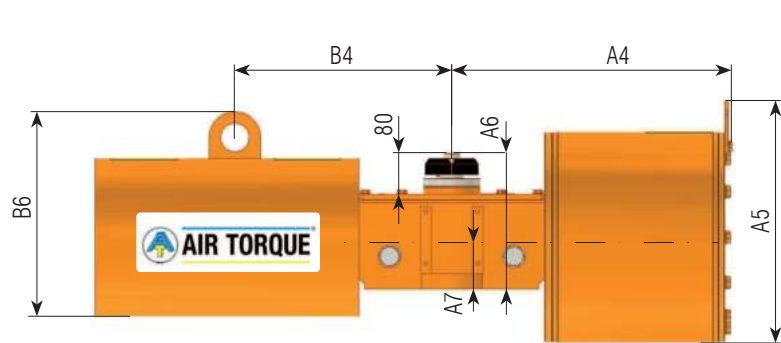
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

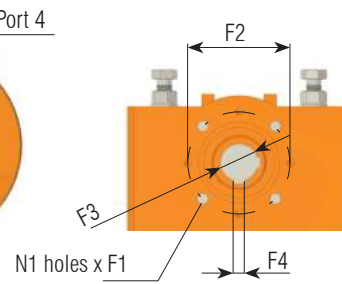
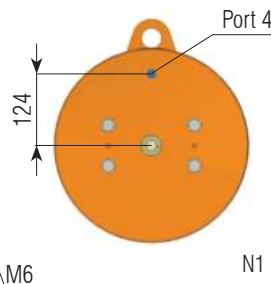
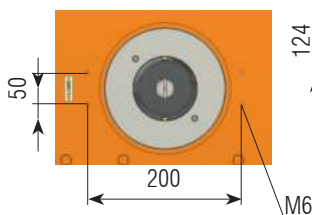


Center of gravity

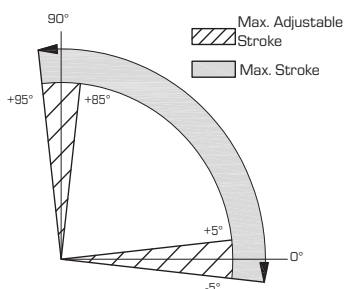
		X	Y	
SR	DA	208	57	
	SET	02	68	59
		04	62	59
		06	9	60
08		4	60	

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	356				356
A2	541				541
A3	363				363
A4	531				531
A5	416				416
A6	263				263
A7	100				100
A8	149				149
A9	230				230
B1	1139	1139	1230	1230	-
B2	598	598	688	688	-
B3	419	419	509	509	-
B4	398	398	418	418	184
BDA	-	-	-	-	744
B6	363	363	395	395	-
∅ B7	273	273	305	305	-
WEIGHT (Kg)	226	229	251	254	172



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F16	F14
N1	4	4
∅ F1	M20X30	M16x30
∅ F2	165	140
∅ F3	60D10	60D10
F4	18D10	18D10
Connection keyed bore depth	90	90

Air Connection

PORT 2 AND 4	1/2" NPT	G1/2"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	15	16	15	16	0,8 ÷ 1,3	0,8 ÷ 1,3	0,8 ÷ 1,9	0,7 ÷ 1,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,7 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 4.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	2119	2095	2543	2514	2966	2933	3390	3352	3814	3771	M.O.P. exceeded					
Run	1215	1201	1458	1441	1701	1682	1944	1922	2187	2162						
End	2119	2095	2543	2514	2966	2933	3390	3352	3814	3771						

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	900	1507	1931	2354	2778	3202	3626	M.O.P. exceeded								
	Run	433	781	1024	1267	1510	1753	1996									
	End	612	1219	1643	2066	2490	2914	3338									
SET 04	Start	1300	1235	1659	2082	2506	2930	3354	3777	M.O.P. exceeded							
	Run	626	589	832	1075	1318	1560	1803	2046								
	End	884	819	1243	1666	2090	2514	2938	3361								
SET 06	Start	1800	895	1319	1742	2166	2590	3014	3437	3861	M.O.P. exceeded						
	Run	867	348	591	834	1077	1320	1563	1806	2049							
	End	1224	319	743	1166	1590	2014	2438	2861	3285							
SET 08	Start	2400			1334	1758	2182	2606	3029	3453	3877	M.O.P. exceeded					
	Run	1156			545	788	1031	1274	1517	1760	2002						
	End	1632			566	990	1414	1838	2261	2685	3109						

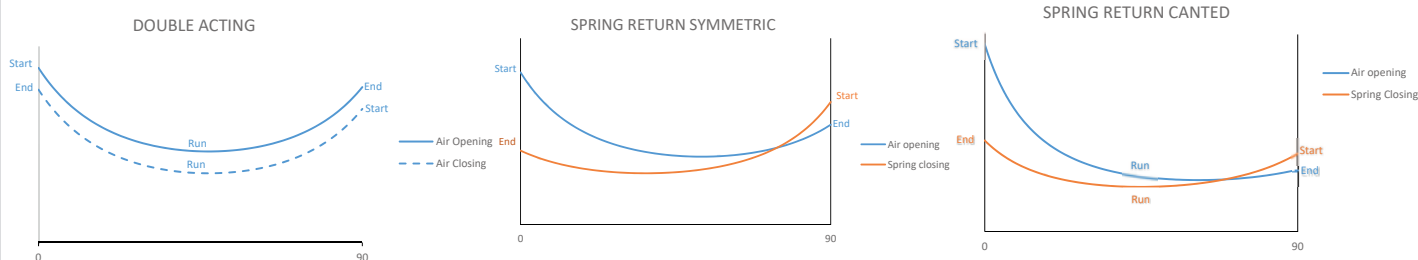
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	2625	1756	3150	2107	3676	2458	M.O.P. exceeded									
Run	1196	1183	1435	1419	1674	1656										
End	1776	2596	2131	3115	2486	3634										

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	763	1855	2380	2905	3430	3955	M.O.P. exceeded								
	Run	439	757	996	1235	1475	1714									
	End	771	1013	1368	1724	2079	2434									
SET 04	Start	1102	1512	2037	2562	3087	3612	M.O.P. exceeded								
	Run	634	562	801	1040	1280	1519									
	End	1113	674	1029	1385	1740	2095									
SET 06	Start	1526	1084	1609	2134	2659	3184	3709	M.O.P. exceeded							
	Run	878	318	557	797	1036	1275	1514								
	End	1542	250	606	961	1316	1671	2026								
SET 08	Start	2034			1620	2145	2670	3195	3720	M.O.P. exceeded						
	Run	1170			504	743	982	1222	1461							
	End	2055			452	807	1163	1518	1873							

Note:

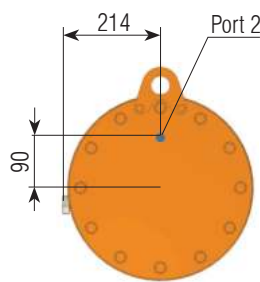
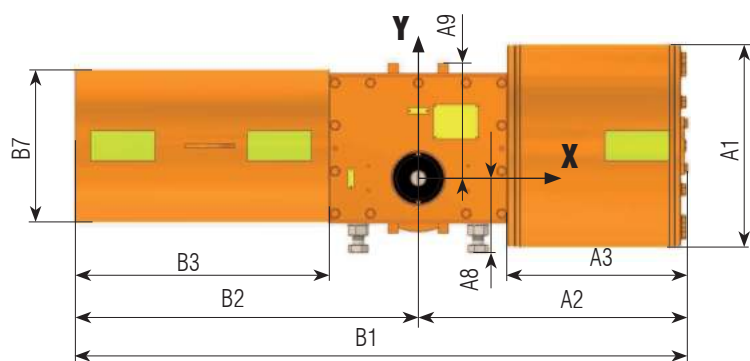
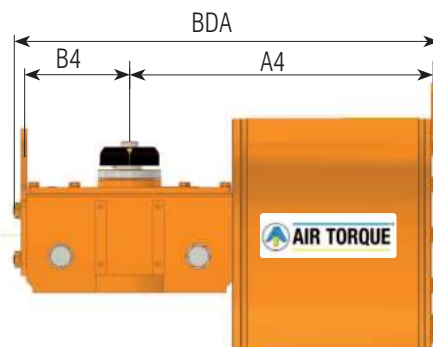
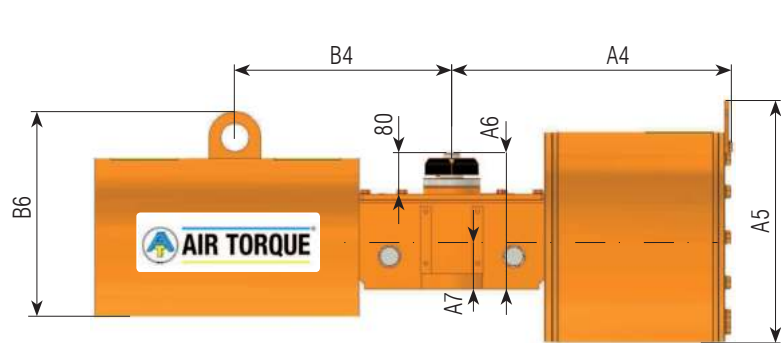
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

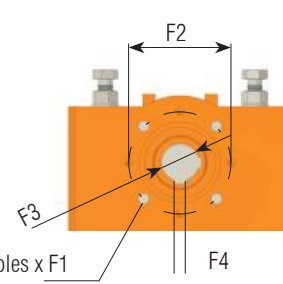
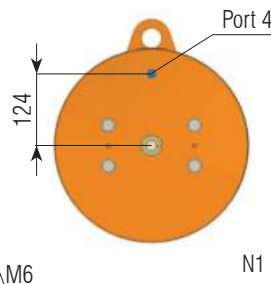
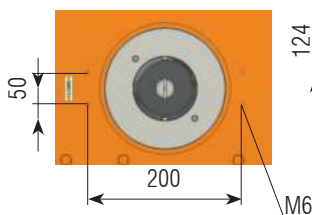


Center of gravity

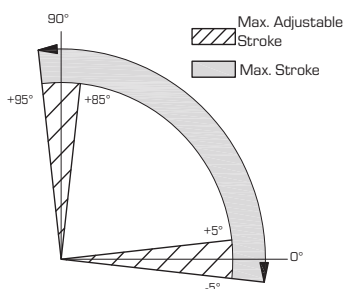
		X	Y
SR	DA	246	58
	SET	02	114
	04	108	60
	06	58	60
	08	52	60

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	407				407
A2	541				541
A3	362				362
A4	530				530
A5	468				468
A6	263				263
A7	100				100
A8	149				149
A9	230				230
B1	1139	1139	1229	1229	-
B2	598	598	688	688	-
B3	419	419	509	509	-
B4	398	398	418	418	184
BDA	-	-	-	-	740
B6	363	363	395	395	-
∅ B7	273	273	305	305	-
WEIGHT (Kg)	256	260	281	284	202



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F16	F14
N1	4	4
∅ F1	M20X30	M16x30
∅ F2	165	140
∅ F3	60D10	60D10
F4	18D10	18D10
Connection keyed bore depth	90	90

Air Connection

PORT 2 AND 4	1/2" NPT	G1/2"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	21	21	21	21	1,1 ÷ 1,3	1,1 ÷ 1,3	1,1 ÷ 1,9	1,0 ÷ 1,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,7 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 4.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

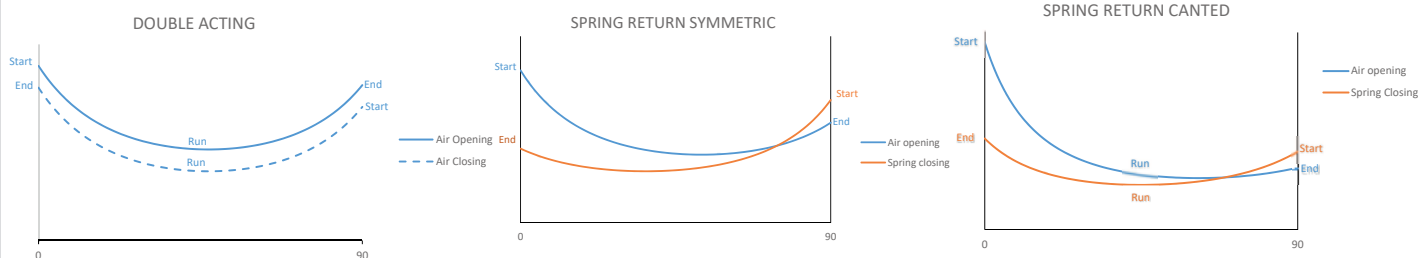
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	2809	2786	3371	3343	3933	3900	M.O.P. exceeded									
Run	1611	1597	1933	1916	2255	2236										
End	2809	2786	3371	3343	3933	3900										
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	900	2197	2759	3321	3883	M.O.P. exceeded									
	Run	433	1177	1499	1822	2144										
	End	612	1909	2471	3033	3595										
SET 04	Start	1300	1925	2487	3049	3611	M.O.P. exceeded									
	Run	626	985	1307	1629	1951										
	End	884	1509	2071	2633	3195										
SET 06	Start	1800	1585	2147	2709	3271	3833	M.O.P. exceeded								
	Run	867	744	1066	1388	1710	2032									
	End	1224	1009	1571	2133	2695	3257									
SET 08	Start	2400	1177	1739	2301	2863	3425	3987	M.O.P. exceeded							
	Run	1156	455	777	1099	1421	1743	2066								
	End	1632	409	971	1533	2095	2657	3219								

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	3481	2335	M.O.P. exceeded													
Run	1586	1572														
End	2355	3452														
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	763	2710	3407	M.O.P. exceeded											
	Run	439	1147	1464												
	End	771	1592	2063												
SET 04	Start	1102	2368	3064	3760	M.O.P. exceeded										
	Run	634	952	1269	1586											
	End	1113	1253	1724	2195											
SET 06	Start	1526	1940	2636	3332	M.O.P. exceeded										
	Run	878	708	1025	1342											
	End	1542	829	1300	1771											
SET 08	Start	2034	1426	2122	2818	3514	M.O.P. exceeded									
	Run	1170	415	733	1050	1367										
	End	2055	321	792	1263	1734										

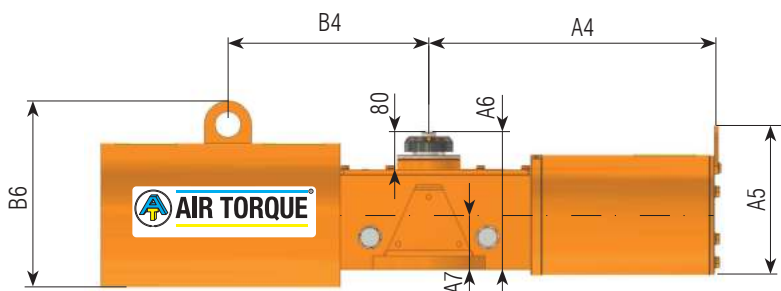
Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

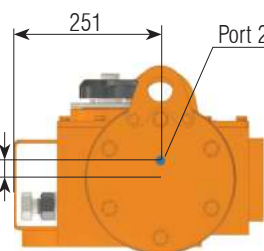
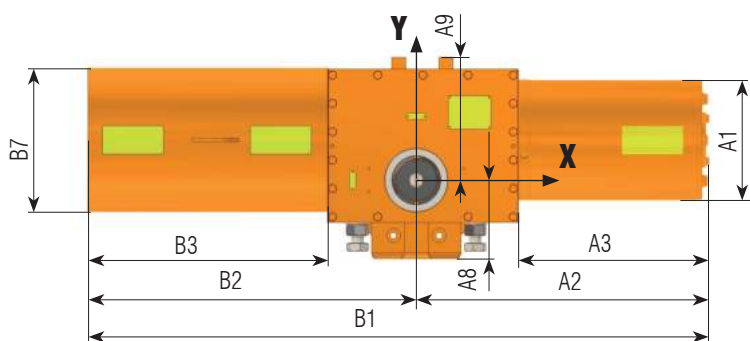
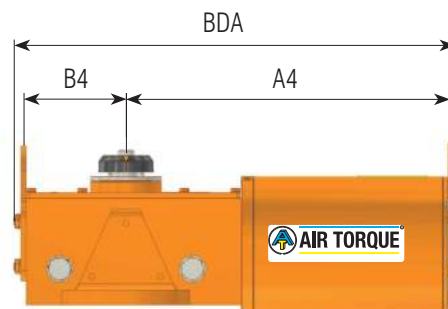


Dimensions in mm

SPRING RETURN



DOUBLE ACTING

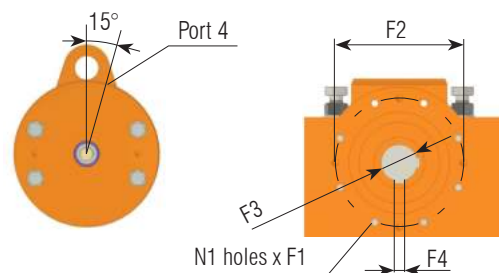
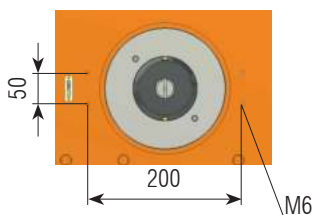


Center of gravity

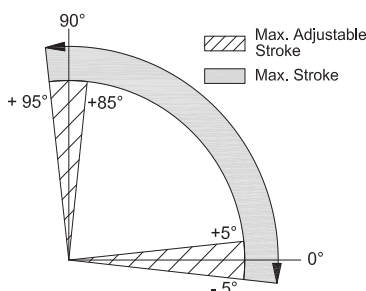
SR	SET	DA	
		X	Y
	02	-113	73
	04	-118	73
	06	-130	74
	08	-171	74

Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	254				254
A2	622				622
A3	405				405
A4	611				611
A5	317				317
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1440	1440	1440	1525	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	834
B6	456	456	456	456	-
Ø B7	356	356	356	356	-
WEIGHT (Kg)	280	284	293	311	161



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
Ø F1	M16X30	M20X30
Ø F2	254	165
Ø F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Air Connection

PORT 2 AND 4	3/8" NPT	G3/8"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	9,9	9,5	9,5	10,2	0,7 ÷ 2,8	0,7 ÷ 2,8	1,1 ÷ 2,8	1,1 ÷ 2,6	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3.5 bar		4.5 bar		5.5 bar		7 bar		8 bar		9 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	1287	1238	1802	1733	2317	2228	2832	2724	3604	3466	4119	3962	4634	4457	5149	4952
Run	750	722	1051	1010	1351	1299	1651	1588	2101	2021	2401	2310	2702	2598	3002	2887
End	1430	1376	2002	1926	2574	2476	3147	3026	4005	3851	4577	4402	5149	4952	5721	5502

SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	1500				1040	1297	1554	1812	2069	2327	2584	2842	3099	3357	3614	4129	
	Run	654				546	696	846	997	1147	1297	1447	1597	1747	1897	2047	2347	
	End	1020				788	1074	1361	1647	1933	2219	2505	2791	3077	3363	3649	4221	
SET 04	Start	2250								1302	1559	1817	2074	2332	2589	2847	3104	3619
	Run	982								669	819	969	1120	1270	1420	1570	1720	2020
	End	1530								897	1183	1469	1755	2041	2327	2613	2899	3471
SET 06	Start	3500													1739	1997	2254	2769
	Run	1527													874	1024	1174	1475
	End	2380													1077	1363	1649	2221
SET 08	Start	4750														1147	1404	1919
	Run	2073														479	629	929
	End	3230														113	399	971

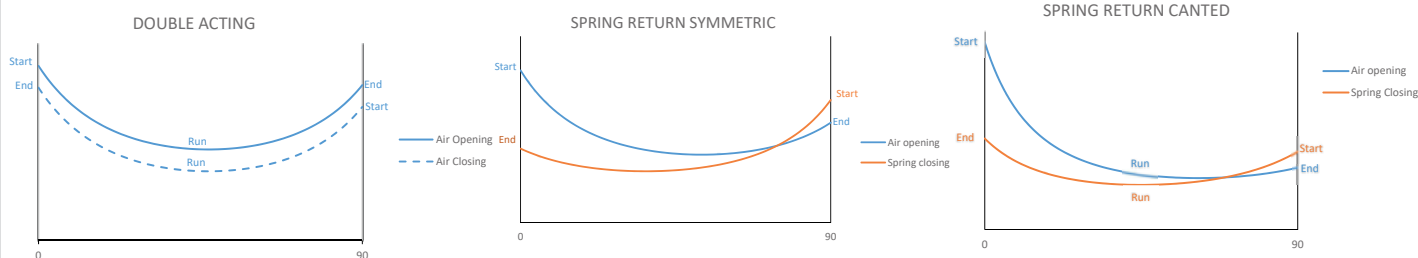
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3.5 bar		4.5 bar		5.5 bar		7 bar		8 bar		9,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	1925	984	2695	1377	3465	1771	4235	2164	5391	2754	6161	3148	7316	3738	M.O.P. exceeded	
Run	735	722	1028	1011	1322	1300	1616	1589	2057	2022	2351	2311	2791	2744		
End	1086	2024	1521	2834	1955	3644	2390	4454	3041	5668	3476	6478	4127	7693		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	1204			1154	1539	1924	2309	2694	3079	3464	3849	4235	4620	5005	5390	6160
	Run	699			329	476	623	770	917	1064	1211	1358	1504	1651	1798	1945	2239
	End	1541			317	534	751	968	1186	1403	1620	1837	2054	2272	2489	2706	3141
SET 04	Start	1807								2308	2693	3078	3463	3848	4233	4618	5388
	Run	1050								713	860	1007	1154	1301	1448	1595	1889
	End	2313								800	1017	1234	1451	1669	1886	2103	2538
SET 06	Start	2812										1789	2174	2560	2945	3330	4100
	Run	1634										423	570	717	864	1011	1305
	End	3601										229	446	664	881	1098	1533
SET 08	Start																
	Run																
	End																

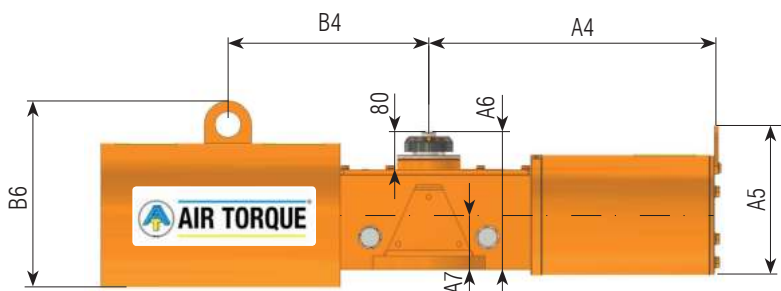
Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

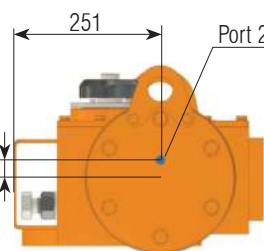
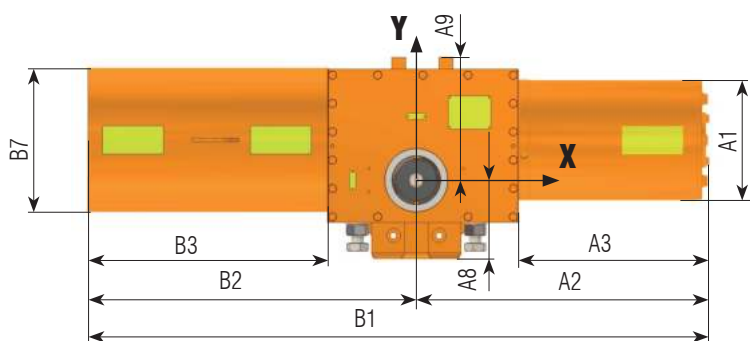
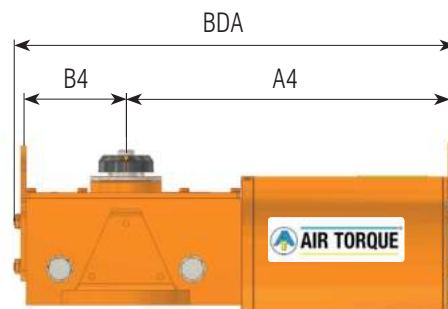


Dimensions in mm

SPRING RETURN



DOUBLE ACTING

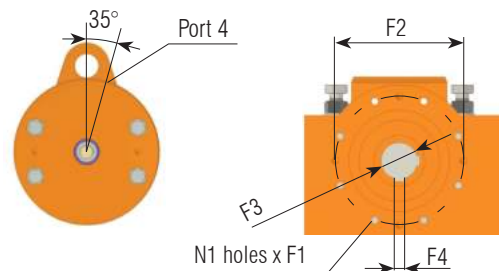
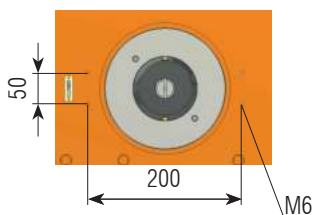


Center of gravity

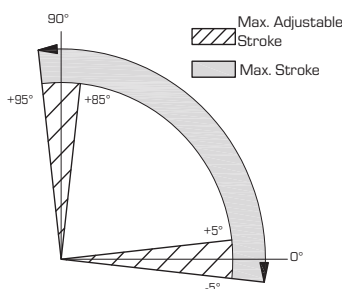
SR	SET	DA	
		X	Y
	02	-72	74
	04	-77	74
	06	-90	75
	08	-132	75

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	305				305
A2	623				623
A3	406				406
A4	612				612
A5	368				368
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1441	1441	1441	1526	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	835
B6	456	456	456	456	-
∅ B7	356	356	356	356	-
WEIGHT (Kg)	304	308	317	336	186



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
∅ F1	M16X30	M20X30
∅ F2	254	165
∅ F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Air Connection

PORT 2 AND 4	3/8" NPT	G3/8"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	15,1	13,8	14,5	14,8	1,0 ÷ 3,7	1,0 ÷ 3,7	1,0 ÷ 4,1	1,4 ÷ 4,0	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3,5 bar		4,5 bar		5,5 bar		7 bar		8 bar		9 bar		9,5 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	1908	1858	2671	2602	3434	3345	4197	4089	5342	5204	6105	5947	6868	6691	M.O.P. exceeded	
Run	1112	1083	1557	1517	2002	1950	2447	2384	3114	3034	3559	3467	4004	3901		
End	2120	2065	2968	2891	3816	3717	4663	4543	5935	5782	6783	6608	7631	7434		

SPRING RETURN OUTPUT TORQUE (Nm)																			
SPRING	Position	Spring - torque	Supply pressure - opening																
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar		
SET 02	Start	1500		1269	1651	2032	2414	2796	3177	3559	3940	4322	4703	5085	5466	5848	6611		
	Run	654		680	903	1125	1347	1570	1792	2015	2237	2460	2682	2905	3127	3349	3794		
	End	1020		1044	1468	1892	2316	2739	3163	3587	4011	4435	4859	5283	5707	6131	6979		
SET 04	Start	2250			1141	1522	1904	2286	2667	3049	3430	3812	4193	4575	4956	5338	6101		
	Run	982			575	798	1020	1243	1465	1688	1910	2132	2355	2577	2800	3022	3467		
	End	1530			718	1142	1566	1989	2413	2837	3261	3685	4109	4533	4957	5381	6229		
SET 06	Start	3500							1817	2199	2580	2962	3343	3725	4106	4488	5251		
	Run	1527							920	1142	1365	1587	1809	2032	2254	2477	2922		
	End	2380							1163	1587	2011	2435	2859	3283	3707	4131	4979		
SET 08	Start	4750											1730	2112	2493	2875	3256	3638	4401
	Run	2073											819	1042	1264	1487	1709	1931	2376
	End	3230											761	1185	1609	2033	2457	2881	3729

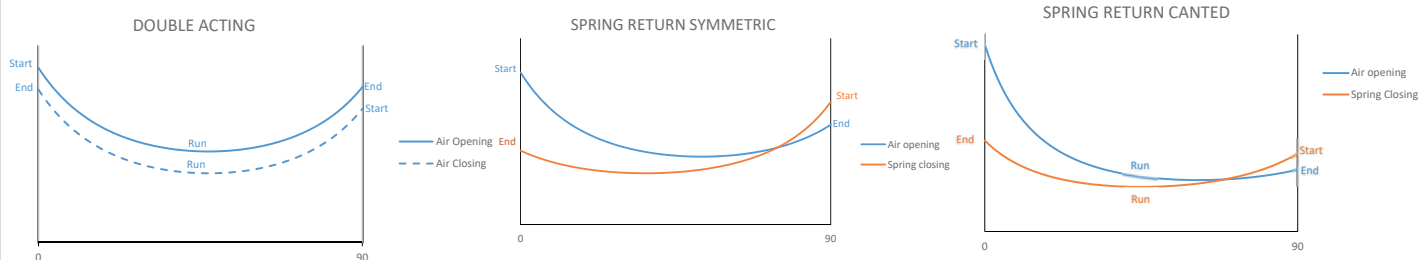
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6,5 bar		7 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	2853	1469	3424	1763	3995	2057	4565	2350	5136	2644	6277	3232	7418	3820	M.O.P. exceeded	
Run	1089	1078	1306	1294	1524	1510	1742	1725	1960	1941	2395	2373	2831	2804		
End	1610	3023	1932	3628	2254	4233	2576	4837	2897	5442	3541	6651	4185	7861		

SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	1204	1312	1883	2453	3024	3595	4165	4736	5307	5877	6448	7019	7589	M.O.P. exceeded			
	Run	699	389	607	825	1043	1260	1478	1696	1914	2131	2349	2567	2785				
	End	1541	406	728	1050	1372	1693	2015	2337	2659	2981	3303	3625	3947				
SET 04	Start	1807				2252	2823	3394	3964	4535	5105	5676	6247	6817	7388	7959	M.O.P. exceeded	
	Run	1050				692	910	1128	1346	1563	1781	1999	2217	2434	2652	2870		
	End	2313				769	1090	1412	1734	2056	2378	2700	3022	3344	3666	3988		
SET 06	Start	2812					2105	2676	3247	3817	4388	4959	5529	6100	6670	7241	M.O.P. exceeded	
	Run	1634					544	762	979	1197	1415	1632	1850	2068	2286	2721		
	End	3601						407	729	1051	1373	1695	2017	2339	2661	2983		
SET 08	Start	3819											3672	4242	4813	5384	6525	
	Run	2218											1048	1266	1483	1701	2137	
	End	4888											1010	1332	1654	1976	2620	

Note:

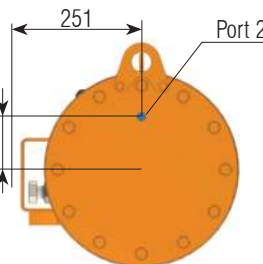
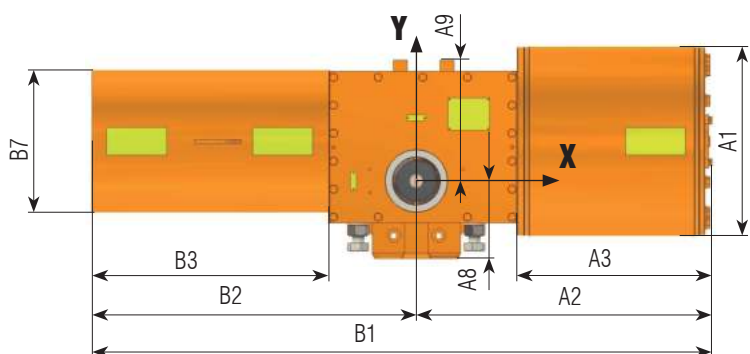
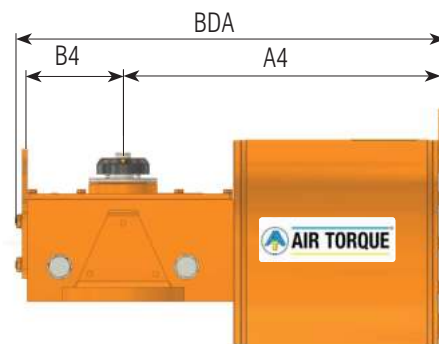
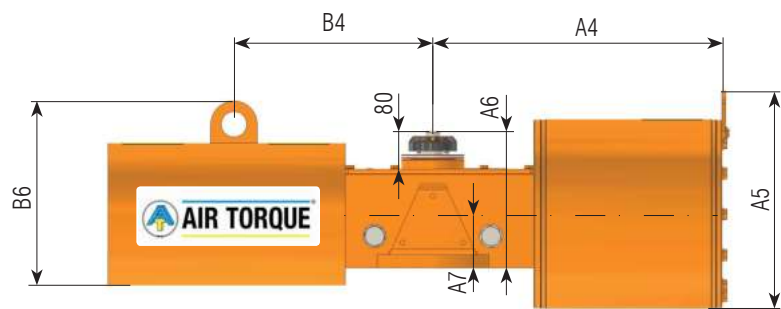
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

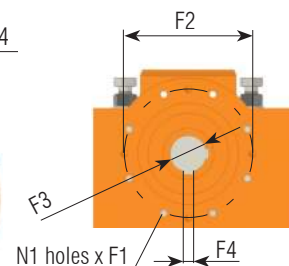
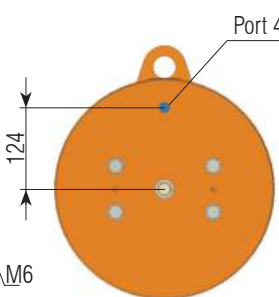
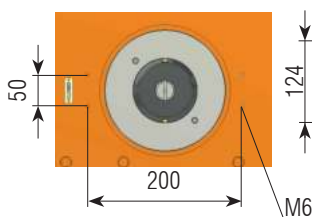


Center of gravity

SR	SET	DA	
		X	Y
	02	-26	75
	04	-32	75
	06	-45	75
	08	-85	76

Actuator dimensions

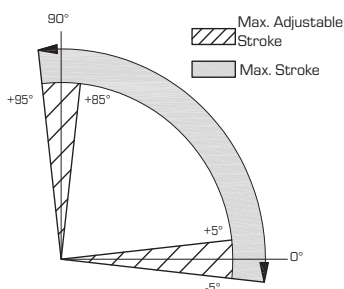
SPRING SET	02	04	06	08	DA
Ø A1	356				356
A2	633				633
A3	416				416
A4	622				622
A5	416				416
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1451	1451	1451	1536	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	845
B6	456	456	456	456	-
Ø B7	356	356	356	356	-
WEIGHT (Kg)	332	336	345	363	213



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
Ø F1	M16X30	M20X30
Ø F2	254	165
Ø F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1/2" NPT	G1/2"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	20,1	19,4	19,3	20,8	1,1 ÷ 2,7	1,1 ÷ 2,7	1,1 ÷ 3,8	0,9 ÷ 3,3	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,7 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		6 bar		6,5 bar		7 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		2650	2601	3180	3121	4240	4161	5300	5201	5830	5721	6360	6242	6890	6762	M.O.P. exceeded	
Run		1545	1516	1854	1819	2472	2426	3090	3032	3399	3336	3708	3639	4017	3942		
End		2944	2890	3533	3468	4711	4623	5889	5779	6478	6357	7066	6935	7655	7513		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	1500	1630	2160	2690	3220	3750	4280	4810	5340	5870	6400	6930	7460	M.O.P. exceeded		
	Run	654	890	1199	1508	1817	2126	2435	2744	3053	3362	3671	3980	4289			
	End	1020	1444	2033	2622	3211	3800	4389	4978	5566	6155	6744	7333	7922			
SET 04	Start	2250		1650	2180	2710	3240	3770	4300	4830	5360	5890	6420	6950	7480	M.O.P. exceeded	
	Run	982		872	1181	1490	1799	2108	2417	2726	3035	3344	3653	3962	4271		
	End	1530		1283	1872	2461	3050	3639	4228	4816	5405	5994	6583	7172	7761		
SET 06	Start	3500			1330	1860	2390	2920	3450	3980	4510	5040	5570	6100	6630	7160	M.O.P. exceeded
	Run	1527			636	945	1254	1563	1872	2181	2490	2799	3108	3416	3725	4034	
	End	2380			622	1211	1800	2389	2978	3566	4155	4744	5333	5922	6511	7100	
SET 08	Start	4750							2600	3130	3660	4190	4720	5250	5780	6310	7370
	Run	2073							1326	1635	1944	2253	2562	2871	3180	3489	4107
	End	3230							1728	2316	2905	3494	4083	4672	5261	5850	7027

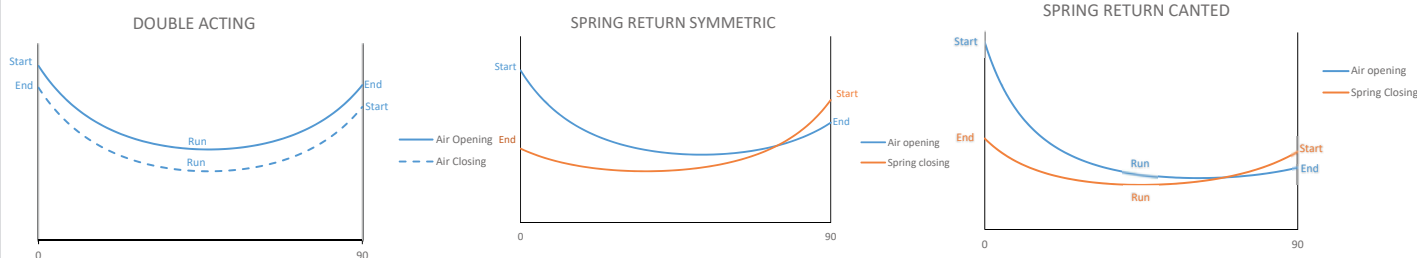
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		3963	2050	4756	2460	5548	2869	6341	3279	7134	3689	M.O.P. exceeded					
Run		1512	1505	1815	1806	2117	2106	2420	2407	2722	2708						
End		2236	4218	2683	5062	3130	5906	3577	6749	4025	7593						

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	1204	2422	3215	4007	4800	5593	6385	7178	7971	M.O.P. exceeded						
	Run	699	813	1115	1418	1720	2023	2325	2628	2930							
	End	1541	1032	1479	1926	2373	2821	3268	3715	4162							
SET 04	Start	1807		2443	3236	4028	4821	5614	6406	7199	7991	M.O.P. exceeded					
	Run	1050		765	1068	1370	1672	1975	2277	2580	2882						
	End	2313		876	1323	1770	2218	2665	3112	3559	4006						
SET 06	Start	2812			1947	2740	3533	4325	5118	5911	6703	7496	M.O.P. exceeded				
	Run	1634			484	786	1088	1391	1693	1996	2298	2601					
	End	3601			318	765	1213	1660	2107	2554	3001	3449					
SET 08	Start	3819						3038	3831	4624	5416	6209	7002	7794	M.O.P. exceeded		
	Run	2218						806	1109	1411	1714	2016	2318	2621			
	End	4888						653	1100	1547	1994	2442	2889	3336			

Note:

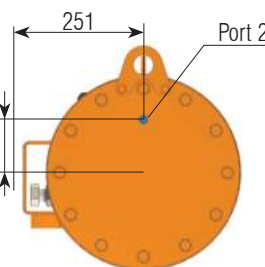
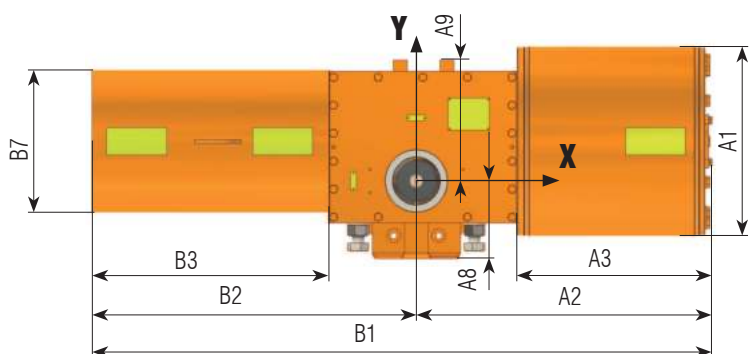
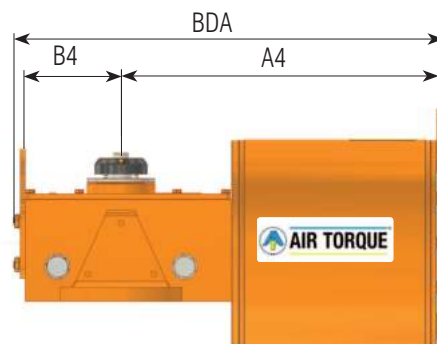
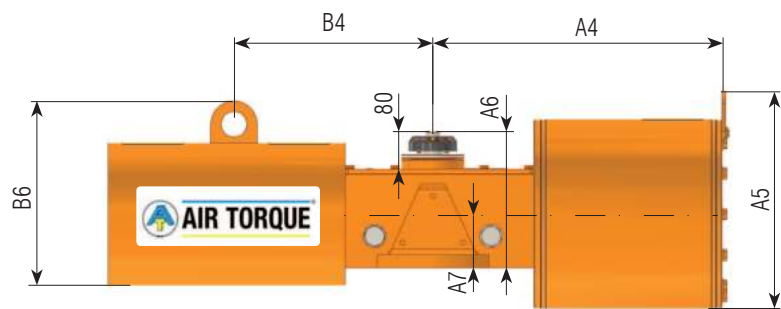
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

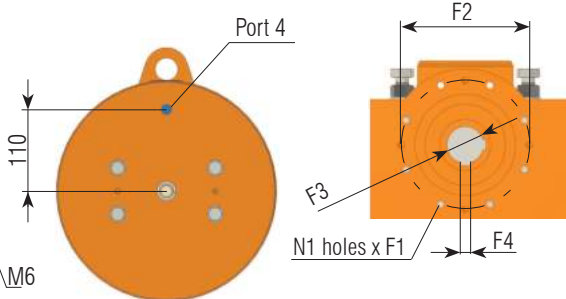
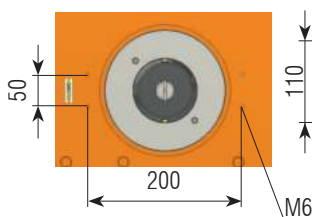


Center of gravity

		X	Y
SR	SET	02	18
		04	9
		06	-4
		08	-39

Actuator dimensions

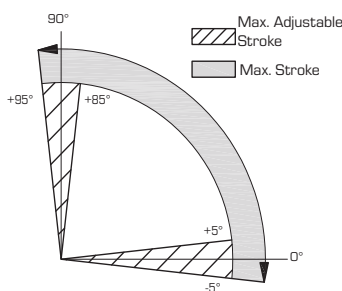
SPRING SET	02	04	06	08	DA
∅ A1	407				407
A2	636				636
A3	419				419
A4	625				625
A5	468				468
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1454	1454	1454	1539	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	848
B6	456	456	456	456	-
∅ B7	356	356	356	356	-
WEIGHT (Kg)	364	367	377	395	244



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
∅ F1	M16X30	M20X30
∅ F2	254	165
∅ F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1/2" NPT	G1/2"
--------------	----------	-------

Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	28	26	27	31	1,4 ÷ 2,8	1,4 ÷ 2,8	1,4 ÷ 3,6	1,2 ÷ 3,2	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,7 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	3514	3464	4217	4157	4919	4850	5622	5543	6325	6236	7028	6929	M.O.P. exceeded			
Run	2048	2020	2458	2424	2868	2828	3278	3232	3687	3636	4097	4040				
End	3904	3849	4685	4619	5466	5389	6247	6159	7028	6929	7808	7699				

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	1500	2494	3197	3899	4602	5305	6008	6710	7413	M.O.P. exceeded					
	Run	654	1394	1804	2213	2623	3033	3443	3852	4262						
	End	1020	2404	3185	3966	4747	5528	6308	7089	7870						
SET 04	Start	2250	1984	2687	3389	4092	4795	5498	6200	6903	7606	M.O.P. exceeded				
	Run	982	1067	1476	1886	2296	2706	3115	3525	3935	4344					
	End	1530	1654	2435	3216	3997	4778	5558	6339	7120	7901					
SET 06	Start	3500		1837	2539	3242	3945	4648	5350	6053	6756	7459	M.O.P. exceeded			
	Run	1527		931	1341	1750	2160	2570	2980	3389	3799	4209				
	End	2380		1185	1966	2747	3528	4308	5089	5870	6651	7432				
SET 08	Start	4750			1689	2392	3095	3798	4500	5203	5906	6609	7311	M.O.P. exceeded		
	Run	2073			795	1205	1615	2024	2434	2844	3254	3663	4073			
	End	3230			716	1497	2278	3058	3839	4620	5401	6182	6963			

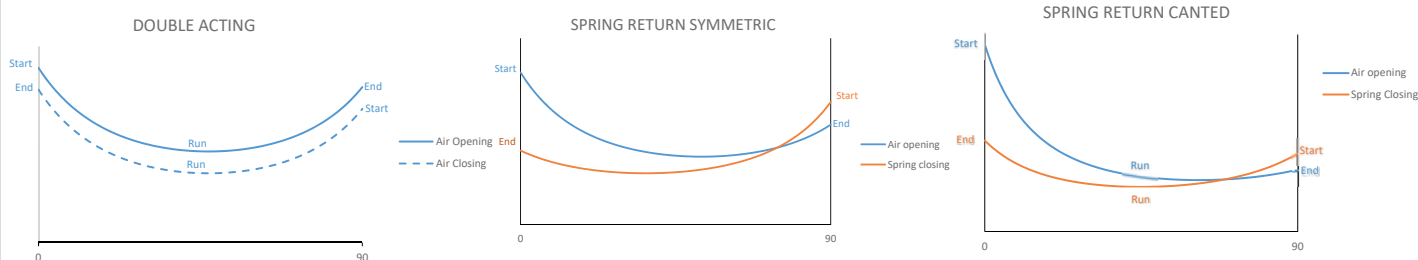
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	5255	2725	6306	3270	7357	3816	M.O.P. exceeded									
Run	2005	2001	2406	2401	2807	2801										
End	2965	5609	3558	6731	4151	7853										

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	1204	3714	4765	5816	6867	7918	M.O.P. exceeded									
	Run	699	1306	1707	2108	2509	2910										
	End	1541	1761	2354	2947	3540	4133										
SET 04	Start	1807	2942	3993	5044	6095	7146	M.O.P. exceeded									
	Run	1050	956	1357	1758	2159	2560										
	End	2313	1158	1751	2344	2937	3530										
SET 06	Start	2812		2705	3756	4807	5858	6909	7960	M.O.P. exceeded							
	Run	1634		773	1174	1575	1976	2377	2778								
	End	3601		746	1339	1932	2525	3118	3711								
SET 08	Start	3819				3520	4571	5622	6673	7724	M.O.P. exceeded						
	Run	2218				990	1391	1792	2193	2594							
	End	4888				925	1518	2111	2704	3297							

Note:

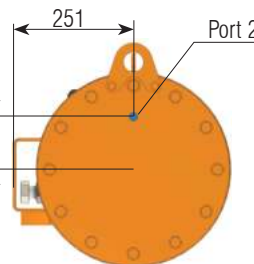
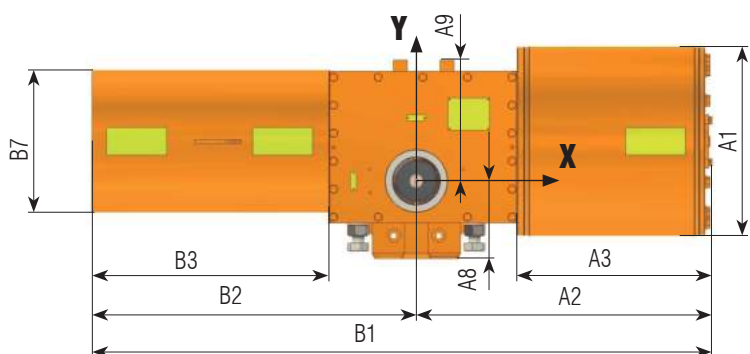
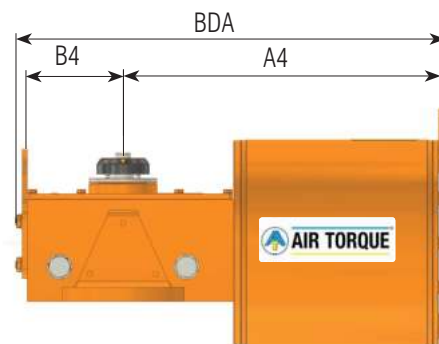
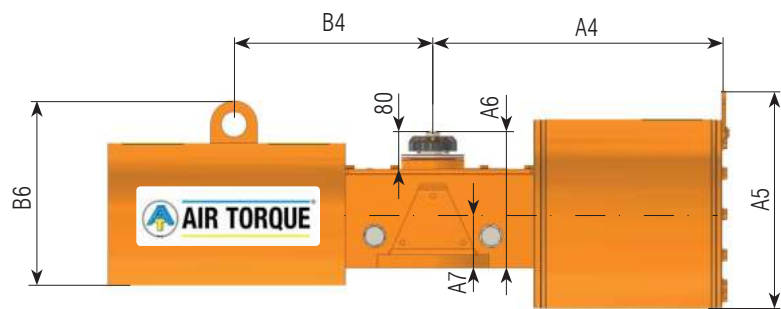
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

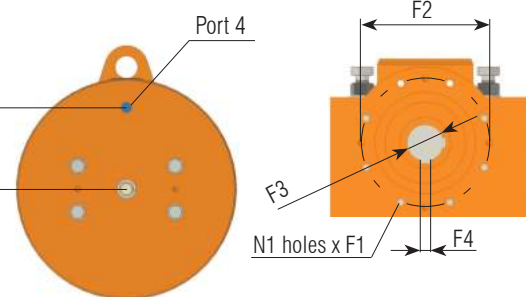
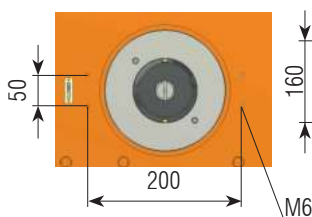


Center of gravity

SR	SET	DA	
		X	Y
	02	301	74
	04	72	77
	06	66	77
	08	53	77
	08	16	77

Actuator dimensions

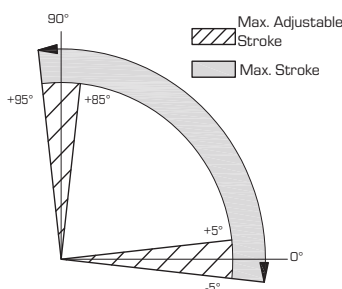
SPRING SET	02	04	06	08	DA
Ø A1	458				458
A2	638				638
A3	420				420
A4	627				627
A5	519				519
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1455	1455	1455	1541	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	850
B6	456	456	456	456	-
Ø B7	356	356	356	356	-
WEIGHT (Kg)	407	411	420	438	287



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
Ø F1	M16X30	M20X30
Ø F2	254	165
Ø F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	3/4" NPT	G3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	33	33	31	35	1,2 ÷ 1,7	1,2 ÷ 1,7	1,2 ÷ 2,4	1,0 ÷ 2,1	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

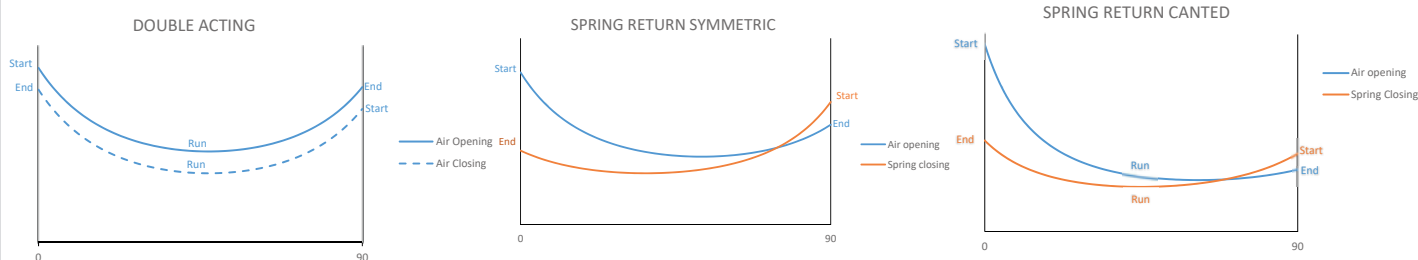
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	4499	4450	5399	5340	6299	6230	7199	7120	M.O.P. exceeded							
Run	2623	2594	3148	3113	3672	3632	4197	4151								
End	4999	4944	5999	5933	6999	6922	7999	7911								
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	1500	3479	4379	5279	6179	7079	M.O.P. exceeded								
	Run	654	1969	2493	3018	3542	4067									
	End	1020	3499	4499	5499	6499	7499									
SET 04	Start	2250	2969	3869	4769	5669	6569	7469	M.O.P. exceeded							
	Run	982	1641	2166	2691	3215	3740	4264								
	End	1530	2749	3749	4749	5749	6749	7748								
SET 06	Start	3500	2119	3019	3919	4819	5719	6619	7518	M.O.P. exceeded						
	Run	1527	1096	1621	2145	2670	3194	3719	4244							
	End	2380	1499	2499	3499	4499	5499	6498	7498							
SET 08	Start	4750		2169	3069	3969	4869	5769	6668	7568	M.O.P. exceeded					
	Run	2073		1075	1600	2124	2649	3174	3698	4223						
	End	3230		1249	2249	3249	4249	5248	6248	7248						

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	6729	3496	M.O.P. exceeded													
Run	2568	2567														
End	3796	7196														
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	1204	5188	6534	7880	M.O.P. exceeded										
	Run	699	1868	2382	2895											
	End	1541	2592	3352	4111											
SET 04	Start	1807	4416	5762	7108	M.O.P. exceeded										
	Run	1050	1518	2032	2545											
	End	2313	1989	2749	3508											
SET 06	Start	2812	3128	4474	5820	7165	M.O.P. exceeded									
	Run	1634	934	1448	1961	2475										
	End	3601	984	1744	2503	3262										
SET 08	Start	3819		3187	4533	5879	7224	M.O.P. exceeded								
	Run	2218		863	1376	1890	2403									
	End	4888		737	1496	2255	3014									

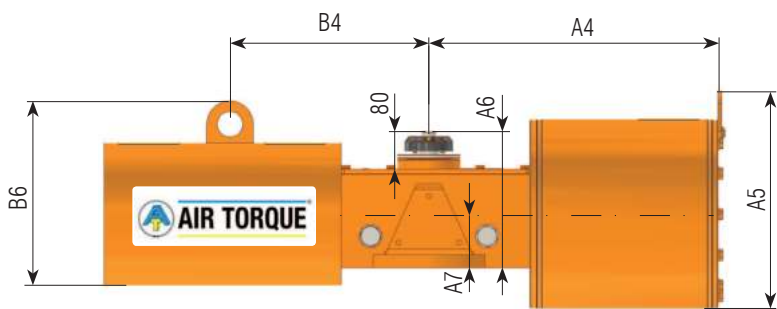
Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

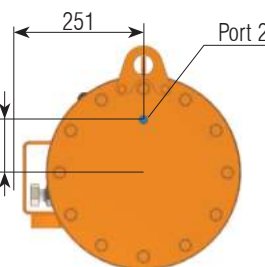
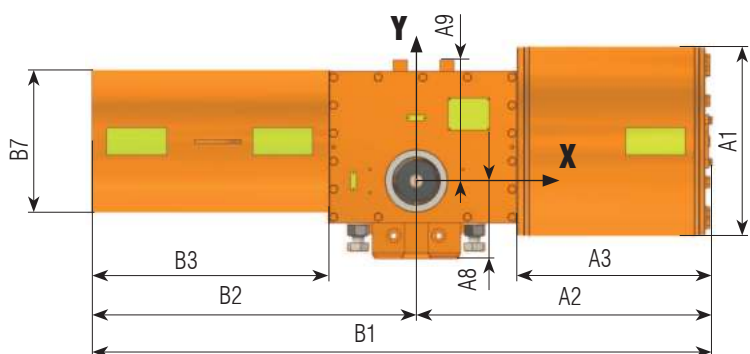
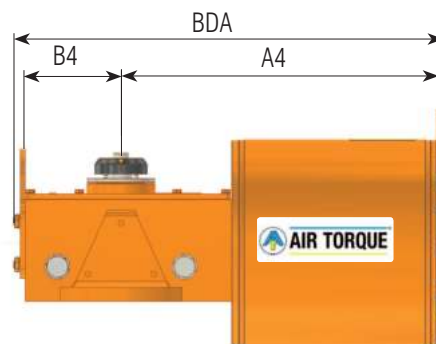


Dimensions in mm

SPRING RETURN



DOUBLE ACTING

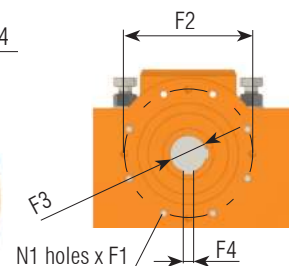
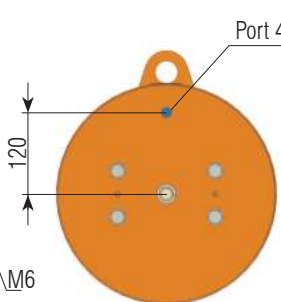
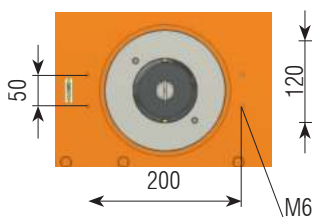


Center of gravity

		X	Y
SR	DA	318	75
	SET	02	107
		04	102
		06	92
08		57	

Actuator dimensions

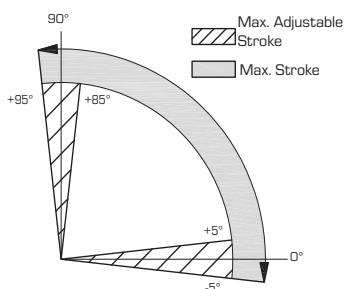
SPRING SET	02	04	06	08	DA
∅ A1	508				508
A2	648				648
A3	631				631
A4	637				637
A5	567				567
A6	292				292
A7	115				115
A8	169				169
A9	260				260
B1	1466	1466	1466	1551	-
B2	818	818	818	903	-
B3	629	629	629	714	-
B4	477	477	477	562	194
BDA	-	-	-	-	860
B6	456	456	456	456	-
∅ B7	356	356	356	356	-
WEIGHT (Kg)	461	465	474	492	341



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F25	F16
N1	8	4
∅ F1	M16X30	M20X30
∅ F2	254	165
∅ F3	72D10	72D10
F4	20D10	20D10
Connection keyed bore depth	120	120

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	3/4" NPT	G 3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	46	42	44	45	1,5 ÷ 1,8	1,5 ÷ 1,8	1,5 ÷ 2,4	1,3 ÷ 2,1	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 8.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	5606	5557	6728	6669	M.O.P. exceeded											
Run	3269	3240	3922	3888	M.O.P. exceeded											
End	6229	6175	7475	7410	M.O.P. exceeded											

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	1500	4586	5708	6829	M.O.P. exceeded										
	Run	654	2614	3268	3921	M.O.P. exceeded										
	End	1020	4729	5975	7221	M.O.P. exceeded										
SET 04	Start	2250	4076	5198	6319	7440	M.O.P. exceeded									
	Run	982	2287	2940	3594	4248	M.O.P. exceeded									
	End	1530	3979	5225	6471	7717	M.O.P. exceeded									
SET 06	Start	3500	3226	4348	5469	6590	7712	M.O.P. exceeded								
	Run	1527	1741	2395	3049	3702	4356	M.O.P. exceeded								
	End	2380	2729	3975	5221	6467	7713	M.O.P. exceeded								
SET 08	Start	4750	2376	3498	4619	5740	6862	7983	M.O.P. exceeded							
	Run	2073	1196	1850	2503	3157	3811	4464	M.O.P. exceeded							
	End	3230	1479	2725	3971	5217	6463	7709	M.O.P. exceeded							

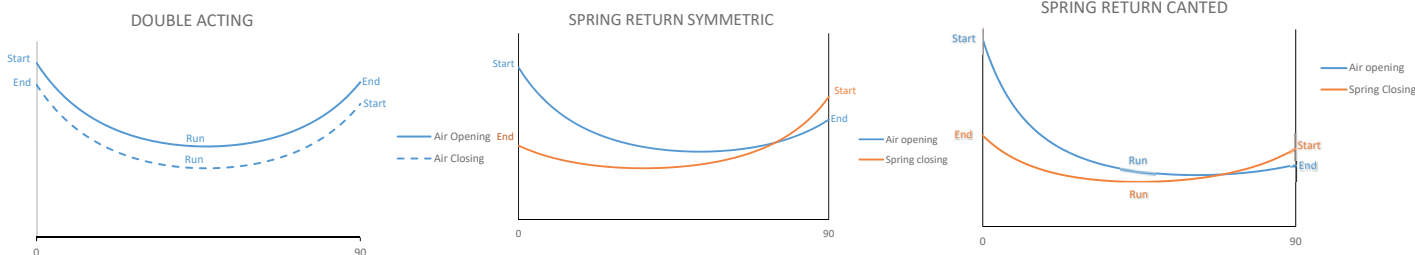
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	M.O.P. exceeded															
Run	M.O.P. exceeded															
End	M.O.P. exceeded															

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	1204	6844	M.O.P. exceeded												
	Run	699	2500	M.O.P. exceeded												
	End	1541	3527	M.O.P. exceeded												
SET 04	Start	1807	6072	7749	M.O.P. exceeded											
	Run	1050	2150	2790	M.O.P. exceeded											
	End	2313	2924	3870	M.O.P. exceeded											
SET 06	Start	2812	4784	6461	M.O.P. exceeded											
	Run	1634	1566	2206	M.O.P. exceeded											
	End	3601	1919	2865	M.O.P. exceeded											
SET 08	Start	3819	3497	5174	6851	M.O.P. exceeded										
	Run	2218	981	1621	2261	M.O.P. exceeded										
	End	4888	912	1858	2804	M.O.P. exceeded										

Note:

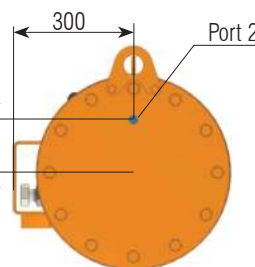
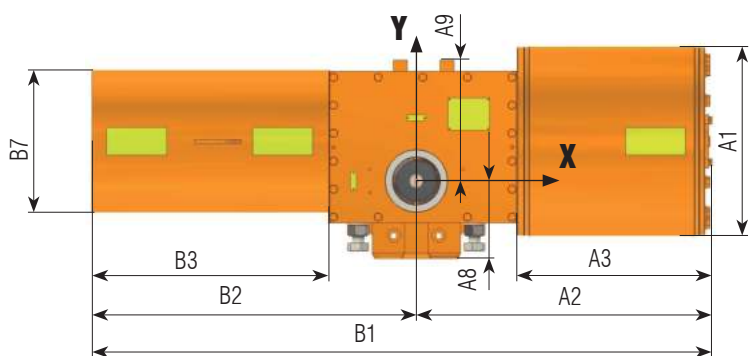
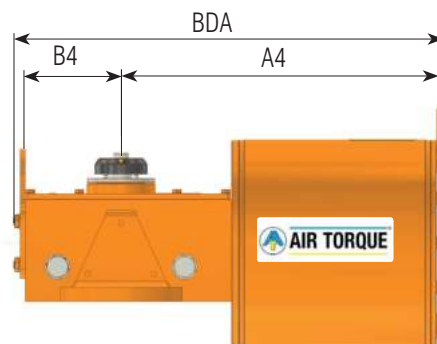
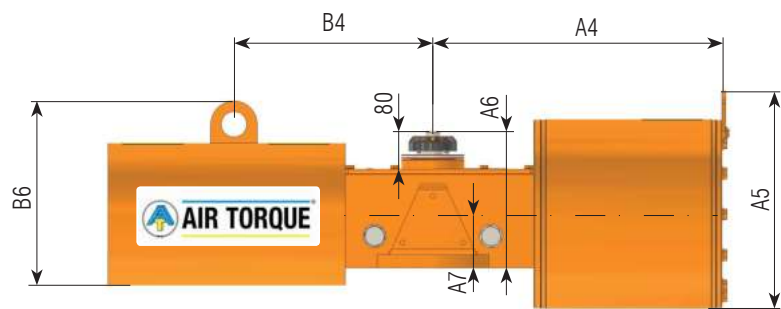
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

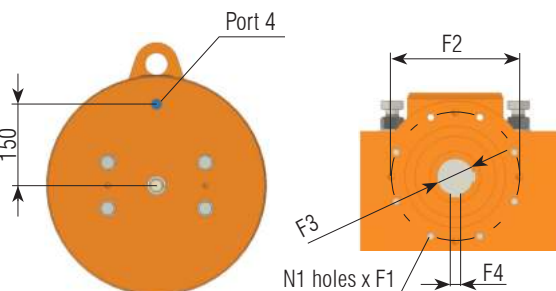
SPRING RETURN

DOUBLE ACTING



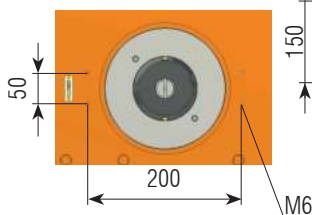
Center of gravity

		X	Y
SR	SET	02	-79
		04	-110
		06	-130
		08	-263

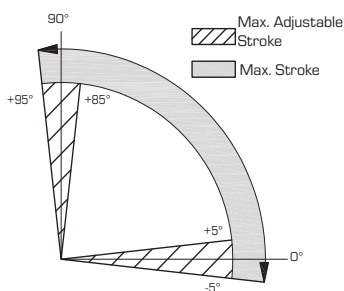


Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	407				407
A2	715				715
A3	471				471
A4	704				704
A5	468				468
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1672	1742	1742	2035	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	972
B6	506	506	506	506	-
Ø B7	406	406	406	406	-
WEIGHT (Kg)	500	516	537	652	297



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
Ø F1	M20X30	M16X30
Ø F2	298	254
Ø F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Air Connection

PORT 2 AND 4	1/2" NPT	G 1/2"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	32	31	31	32	1,6 ÷ 5,3	1,6 ÷ 5,3	2,6 ÷ 6,6	2,3 ÷ 5,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 2,7 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3,5 bar		4,5 bar		5,5 bar		6 bar		7 bar		8 bar		8,5 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	4885	4588	6839	6424	8793	8259	10746	10095	11723	11012	13677	12848	15631	14683	M.O.P. exceeded	
Run	2558	2491	3581	3487	4604	4484	5627	5480	6138	5978	7162	6975	8185	7971		
End	4750	4613	6650	6458	8549	8303	10449	10148	11399	11070	13299	12915	15199	14760		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	5876					4387	5389	6417	7469	8546	9648	10774	11926	13102	14302	15345
	Run	2648					1751	2278	2815	3363	3923	4495	5079	5677	6286	6909	7493
	End	4017					2347	3264	4204	5167	6153	7163	8195	9251	10330	11432	12536
SET 04	Start	7092						5431	6435	7458	8503	9568	10653	11759	12886	15200	
	Run	3196						2186	2713	3248	3793	4346	4911	5485	6069	7270	
	End	4848						2958	3875	4812	5767	6742	7737	8750	9783	11906	
SET 06	Start	8916							5039	6011	6998	8002	9023	10060	11113	13268	
	Run	4018							1790	2314	2838	3365	3899	4440	4988	6108	
	End	6095							2084	2972	3874	4792	5726	6674	7638	9611	
SET 08	Start	10489										5594	6561	7542	8537	9545	11604
	Run	4795										2001	2523	3043	3567	4095	5170
	End	7395										2350	3234	4132	5043	5966	7853

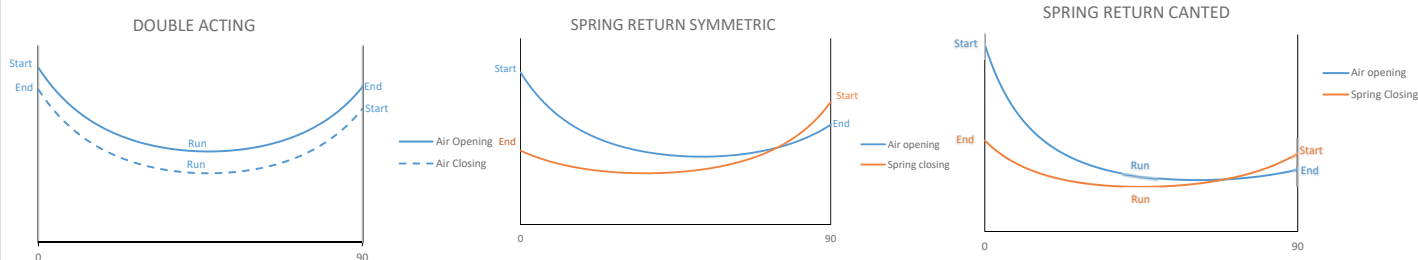
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6 bar		6,5 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	6559	3764	7871	4517	9183	5270	10494	6023	11806	6776	14430	8282	15741	9035	M.O.P. exceeded	
Run	2449	2476	2939	2971	3428	3466	3918	3961	4408	4456	5388	5447	5877	5942		
End	3752	6336	4503	7603	5253	8870	6004	10138	6754	11405	8255	13939	9006	15206		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	4869					4577	5890	7237	8616	10029	11475	12955	14467	M.O.P. exceeded		
	Run	2770					1035	1539	2041	2552	3073	3605	4149	4705			
	End	5518					1106	1812	2535	3278	4038	4817	5614	6430			
SET 04	Start	5877						5973	7293	8640	10015	11417	12847	14305	15790	M.O.P. exceeded	
	Run	3343						1424	1926	2429	2938	3456	3982	4518	5064		
	End	6660						1576	2285	3009	3749	4504	5274	6059	6859		
SET 06	Start	7388							6766	8071	9397	10745	12115	13507	14921	M.O.P. exceeded	
	Run	4202							1501	2006	2507	3010	3518	4032	4554		
	End	8372							1582	2283	2996	3720	4457	5206	5968		
SET 08	Start	8685									6232	7512	8810	10127	11463	12817	15581
	Run	4995									1031	1682	2186	2684	3184	3687	4709
	End	10159									1097	1785	2484	3193	3912	4641	6131

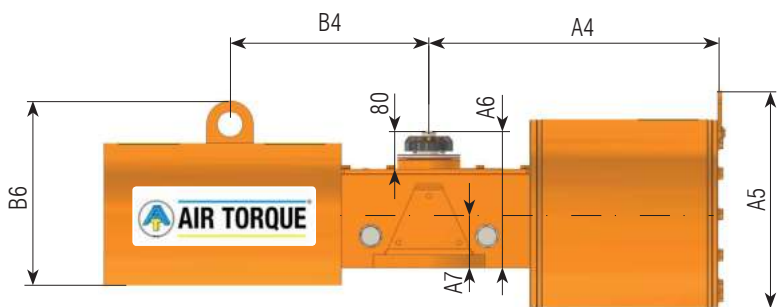
Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

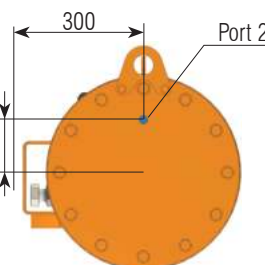
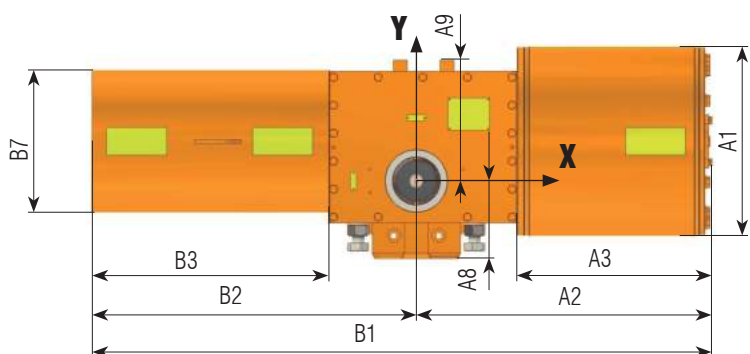
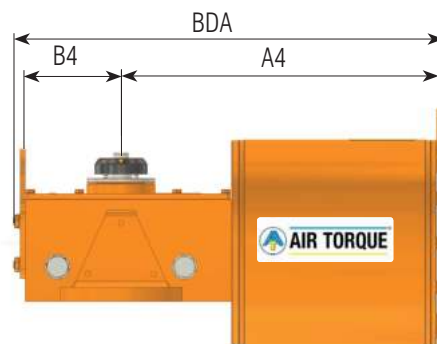


Dimensions in mm

SPRING RETURN

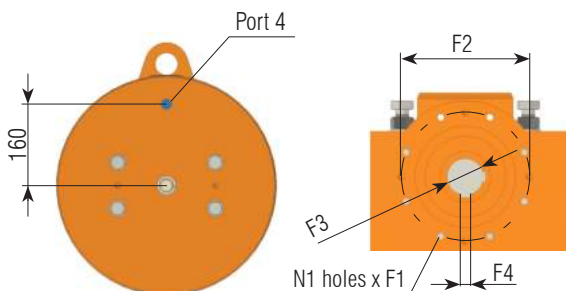


DOUBLE ACTING



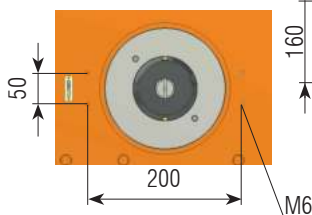
Center of gravity

SR	SET	DA	
		X	Y
	02	-33	87
	04	-63	87
	06	-85	88
	08	-212	89

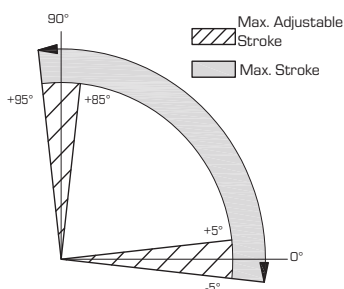


Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	458				458
A2	712				712
A3	468				468
A4	701				701
A5	519				519
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1669	1739	1739	2032	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	969
B6	506	506	506	506	-
∅ B7	406	406	406	406	-
WEIGHT (Kg)	543	560	581	675	341



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
∅ F1	M20X30	M16X30
∅ F2	298	254
∅ F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Air Connection

PORT 2 AND 4	3/4" NPT	G 3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	40	39	39	41	1,4 ÷ 3,4	1,4 ÷ 3,4	1,7 ÷ 5,1	1,5 ÷ 4,5	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE (AS)

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6 bar		6,5 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	6255	5894	7506	7072	8757	8251	10008	9430	11259	10609	13761	12966	15011	14145	M.O.P. exceeded	
Run	3275	3200	3930	3840	4585	4479	5240	5119	5895	5759	7205	7039	7860	7679		
End	6082	5925	7298	7110	8515	8294	9731	9479	10947	10664	13380	13034	14596	14219		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	5876			4350	5638	6965	8334	9743	11192	12683	14213	14570	15821	M.O.P. exceeded		
	Run	2648			1732	2408	3101	3812	4544	5296	6069	6863	7087	7743			
	End	4017			2314	3491	4706	5959	7250	8579	9946	11351	11809	12982			
SET 04	Start	7092				4686	5955	7257	8593	9962	11366	12802	14273	15777	M.O.P. exceeded		
	Run	3196				1790	2461	3143	3839	4551	5280	6026	6789	7569			
	End	4848				2277	3436	4627	5850	7104	8389	9706	11055	12435			
SET 06	Start	8916						5820	7083	8374	9691	11035	12405	13803	15227	M.O.P. exceeded	
	Run	4018						2212	2882	3560	4248	4948	5660	6386	7125		
	End	6095							2797	3952	5132	6337	7567	8822	10102		
SET 08	Start	10489							5676	6918	8183	9471	10781	12114	13470	14849	M.O.P. exceeded
	Run	4795							2045	2713	3381	4056	4741	5436	6141	6858	
	End	7395							2424	3561	4719	5898	7098	8320	9563	10828	

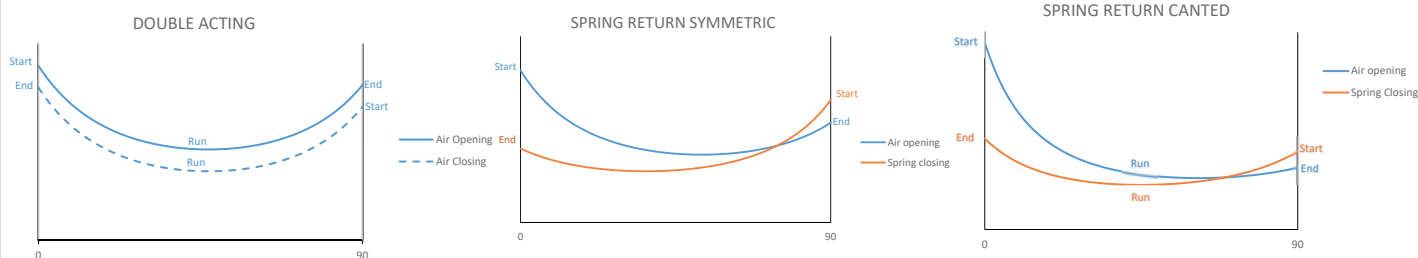
CANTED YOKE (AC)

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	8399	4835	10078	5802	11758	6769	13438	7736	15117	8703	M.O.P. exceeded					
Run	3136	3180	3763	3816	4390	4452	5017	5088	5644	5724						
End	4805	8138	5766	9766	6727	11394	7688	13021	8649	14649						

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	4869			5842	7570	9353	11190	13082	15028	M.O.P. exceeded						
	Run	2770			1520	2165	2824	3500	4196	4911							
	End	5518			1785	2715	3674	4663	5683	6732							
SET 04	Start	5877				6292	7996	9744	11538	13377	15261	M.O.P. exceeded					
	Run	3343				1547	2189	2838	3500	4177	4870						
	End	6660				1747	2663	3603	4569	5559	6574						
SET 06	Start	7388					6153	7814	9511	11244	13012	14817	M.O.P. exceeded				
	Run	4202					1231	1908	2550	3195	3850	4515					
	End	8372						1253	2145	3057	3989	4940					5911
SET 08	Start	8685							7621	9289	10988	12717	14476	M.O.P. exceeded			
	Run	4995							1725	2368	3007	3650	4301				
	End	10159							1844	2742	3656	4588	5536				

Note:

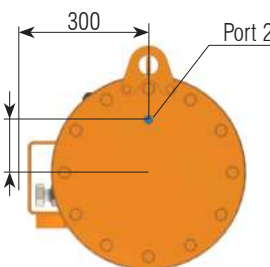
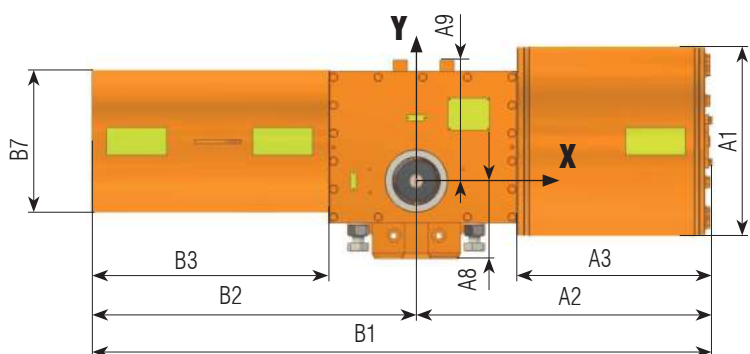
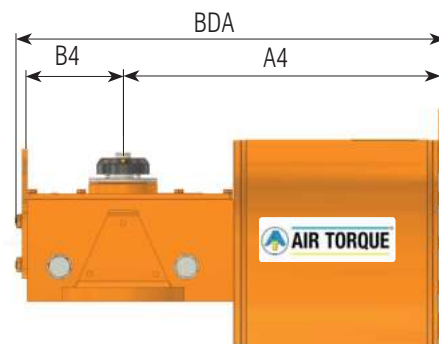
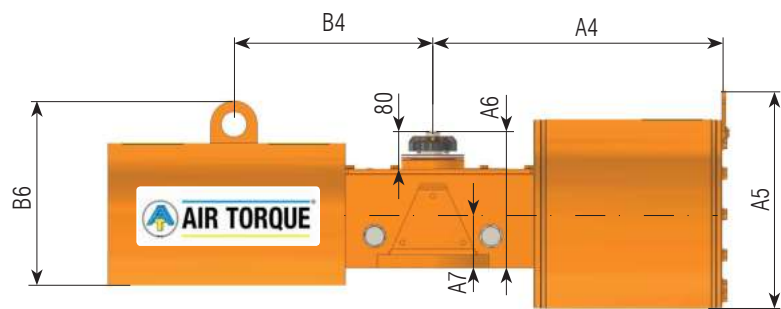
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

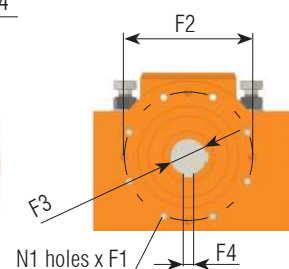
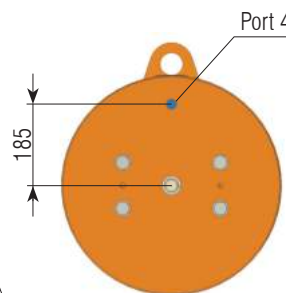
SPRING RETURN

DOUBLE ACTING



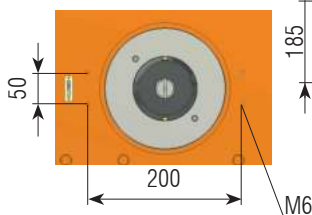
Center of gravity

		X	Y
SR	SET	02	16
		04	-12
		06	-33
		08	-167

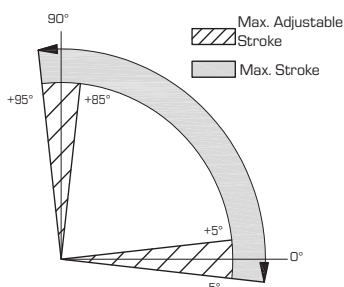


Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	508				508
A2	718				718
A3	474				474
A4	707				707
A5	567				567
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1675	1745	1745	2038	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	975
B6	506	506	506	506	-
∅ B7	406	406	406	406	-
WEIGHT (Kg)	598	615	636	751	396



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
∅ F1	M20X30	M16X30
∅ F2	298	254
∅ F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Air Connection

PORT 2 AND 4	3/4" NPT	G 3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	50	45	48	48	1,8 ÷ 3,6	1,8 ÷ 3,6	1,8 ÷ 5,3	1,6 ÷ 4,6	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	7794	7360	9353	8832	10912	10304	12470	11776	14029	13248	15588	14720	M.O.P. exceeded			
Run	4081	3996	4897	4795	5713	5594	6530	6393	7346	7192	8162	7991				
End	7578	7399	9094	8878	10610	10358	12126	11838	13641	13318	15157	14797				

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	5876		4959	6593	8290	10051	11874	13760	14511	M.O.P. exceeded					
	Run	2648		2052	2907	3790	4704	5650	6628	7056						
	End	4017		2870	4365	5919	7532	9204	10935	11754						
SET 04	Start	7092			5599	7216	8884	10605	12378	14203	M.O.P. exceeded					
	Run	3196			2274	3121	3991	4885	5805	6753						
	End	4848			3112	4589	6116	7692	9317	10991						
SET 06	Start	8916				5780	7358	8977	10638	12340	14084	15870	M.O.P. exceeded			
	Run	4018				2191	3027	3875	4741	5626	6532	7459				
	End	6095				2761	4203	5684	7203	8762	10360	11996				
SET 08	Start	10489					5941	7498	9091	10719	12382	14081	15815	M.O.P. exceeded		
	Run	4795					2189	3020	3858	4709	5575	6459	7360			
	End	7395					2667	4092	5550	7041	8566	10124	11714			

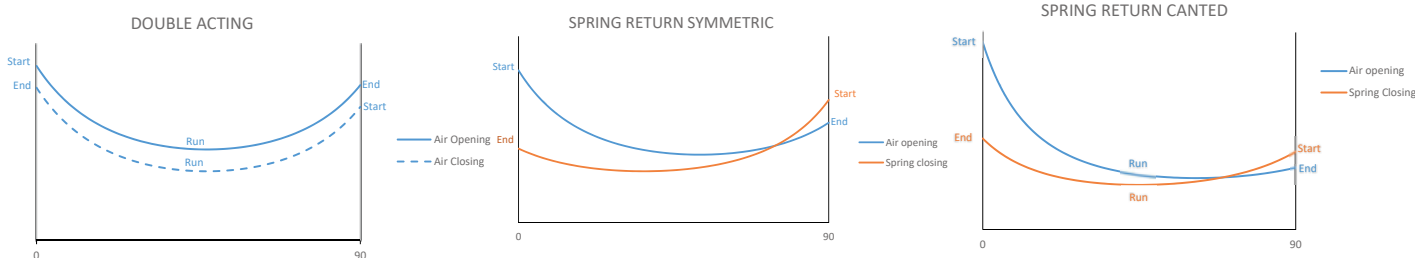
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	10465	6038	12558	7246	14651	8453	M.O.P. exceeded									
Run	3907	3971	4689	4766	5470	5560										
End	5987	10163	7185	12196	8382	14228										

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	4869	4548	6658	8853	11132	13495	15944	M.O.P. exceeded							
	Run	2770	1024	1826	2639	3479	4347	5247								
	End	5518	1091	2224	3405	4632	5906	7226								
SET 04	Start	5877		5418	7518	9689	11929	14239	M.O.P. exceeded							
	Run	3343		1208	2010	2817	3644	4494								
	End	6660		1278	2406	3573	4779	6024								
SET 06	Start	7388			5699	7762	9880	12054	14284	M.O.P. exceeded						
	Run	4202			950	1888	2688	3495	4319							
	End	8372			1009	2117	3255	4425	5625							
SET 08	Start	8685					7977	10068	12207	14393	M.O.P. exceeded					
	Run	4995					1865	2662	3460	4270						
	End	10159					2036	3161	4313	5491						

Note:

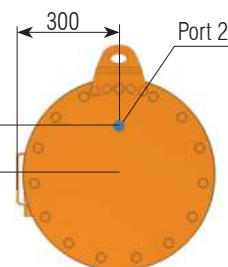
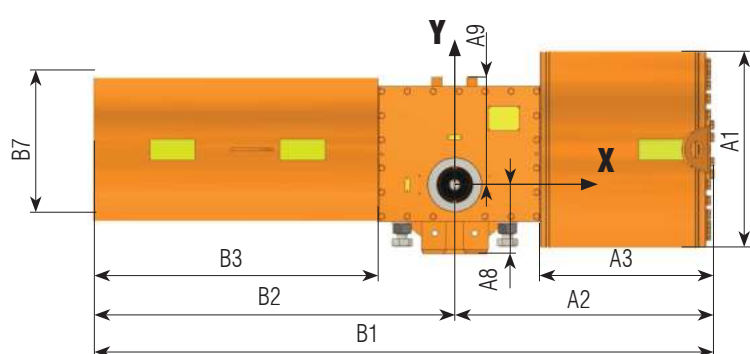
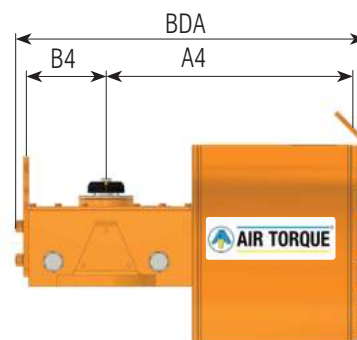
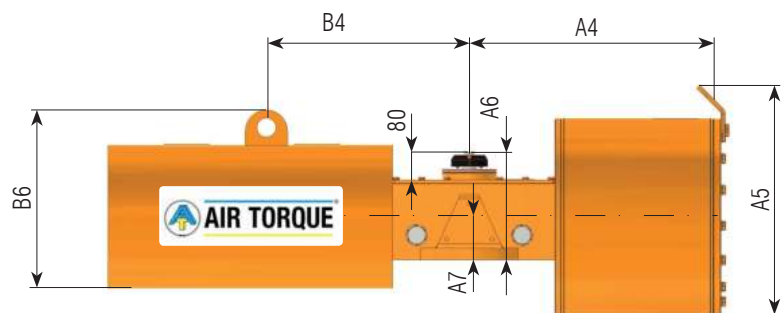
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

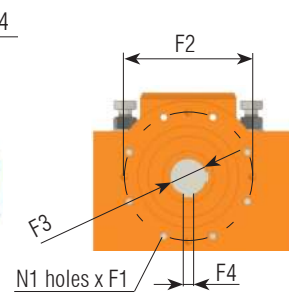
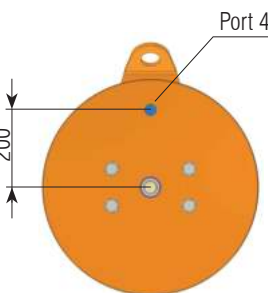
SPRING RETURN

DOUBLE ACTING



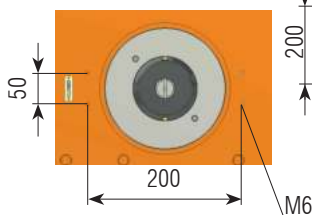
Center of gravity

SR	SET	DA	
		X	Y
	02	62	89
	04	35	89
	06	15	90
	08	-100	91

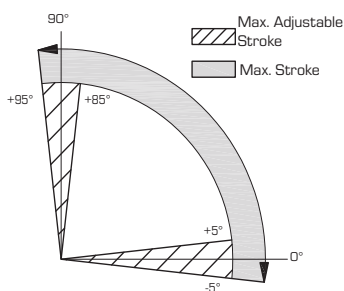


Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	559				559
A2	739				739
A3	495				495
A4	701				701
A5	654				654
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1696	1766	1766	2059	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	995
B6	506	506	506	506	-
∅ B7	406	406	406	406	-
WEIGHT (Kg)	655	671	692	786	453



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
∅ F1	M20X30	M16X30
∅ F2	298	254
∅ F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	63	58	61	62	1,2 ÷ 1,9	1,2 ÷ 1,9	1,2 ÷ 2,8	1,0 ÷ 2,5	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

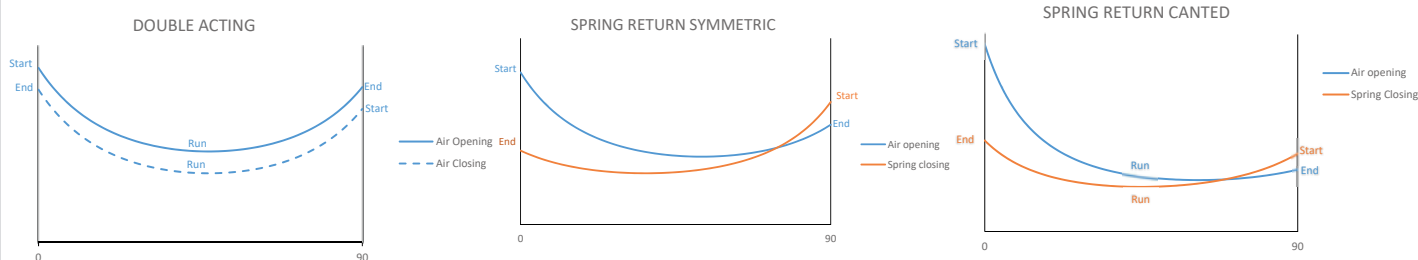
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	9502	8988	11403	10785	13303	12583	15204	14380	M.O.P. exceeded							
Run	4975	4879	5971	5855	6966	6831	7961	7807								
End	9240	9035	11087	10842	12935	12649	14783	14456								
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	5876	5113	7121	9223	11419	13708	14810	M.O.P. exceeded							
	Run	2648	2133	3182	4274	5414	6601	7213								
	End	4017	3011	4848	6773	8786	10887	12034								
SET 04	Start	7092		6103	8101	10176	12329	14559	M.O.P. exceeded							
	Run	3196		2539	3583	4662	5780	6937								
	End	4848		3572	5399	7299	9272	11317								
SET 06	Start	8916			6618	8574	10592	12672	14813	M.O.P. exceeded						
	Run	4018			2637	3665	4717	5798	6910							
	End	6095			3527	5315	7161	9065	11027							
SET 08	Start	10489			5228	7111	9047	11035	13076	15169	M.O.P. exceeded					
	Run	4795			1798	2815	3835	4873	5936	7025						
	End	7395			2014	3737	5510	7331	9202	11122						

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	12759	7373	15311	8848	M.O.P. exceeded											
Run	4764	4849	5717	5819												
End	7300	12411	8759	14893												
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	4869	6865	9562	12384	15332	M.O.P. exceeded									
	Run	2770	1903	2901	3939	5022										
	End	5518	2336	3786	5307	6896										
SET 04	Start	5877	5617	8195	10877	13663	M.O.P. exceeded									
	Run	3343	1286	2263	3256	4282										
	End	6660	1384	2770	4213	5713										
SET 06	Start	7388		6343	8886	11513	14222	M.O.P. exceeded								
	Run	4202		1332	2315	3295	4296									
	End	8372		1355	2721	4133	5591									
SET 08	Start	8685			7019	9548	12148	14817	M.O.P. exceeded							
	Run	4995			1487	2466	3438	4427								
	End	10159			1520	2881	4281	5720								

Note:

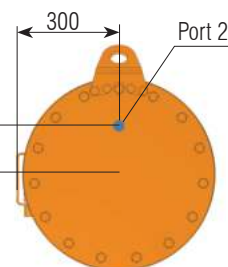
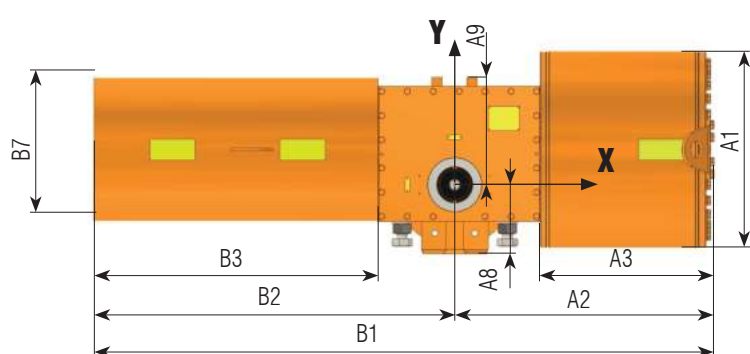
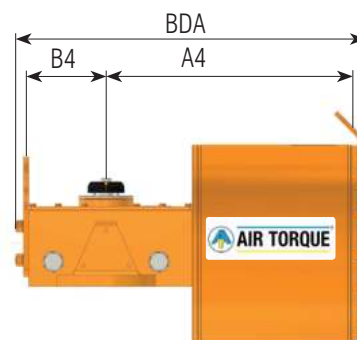
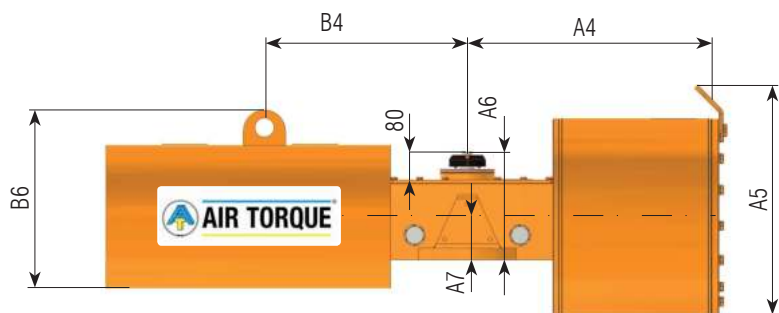
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

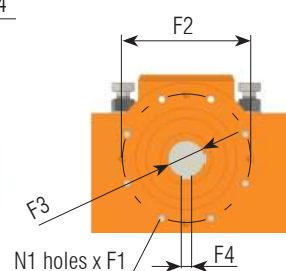
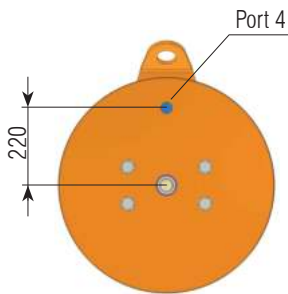
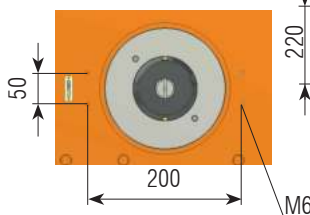


Center of gravity

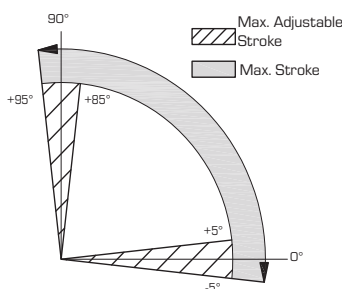
		X	Y	
SR	DA	360	86	
	SET	02	105	90
		04	80	90
		06	60	91
08		-66	91	

Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	610				610
A2	754				754
A3	510				510
A4	715				715
A5	708				708
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1711	1781	1781	2074	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	1013
B6	506	506	506	506	-
∅ B7	406	406	406	406	-
WEIGHT (Kg)	731	748	769	863	529



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
∅ F1	M20X30	M16X30
∅ F2	298	254
∅ F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	77	69	74	73	1,4 ÷ 2,0	1,4 ÷ 2,0	1,4 ÷ 2,8	1,2 ÷ 2,5	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

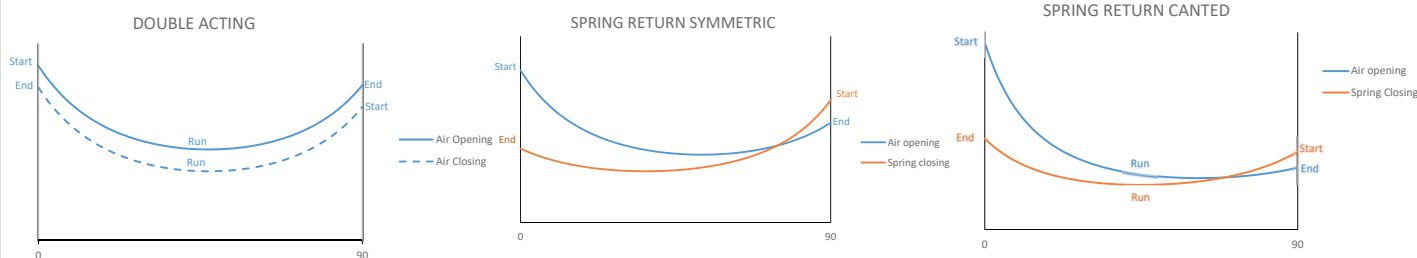
DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	11380	10776	13656	12931	15932	15087	M.O.P. exceeded										
Run	5959	5850	7150	7020	8342	8190											
End	11065	10833	13278	12999	15491	15166											
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	5876	7096	9623	12284	15080	M.O.P. exceeded										
	Run	2648	3169	4482	5863	7313											
	End	4017	4825	7140	9580	12147											
SET 04	Start	7092	6079	8480	10991	13614	M.O.P. exceeded										
	Run	3196	2527	3780	5086	6447											
	End	4848	3550	5746	8046	10451											
SET 06	Start	8916		6976	9340	11792	14333	M.O.P. exceeded									
	Run	4018		2826	4065	5341	6661										
	End	6095		3854	6016	8260	10587										
SET 08	Start	10489		5573	7846	10195	12619	15118	M.O.P. exceeded								
	Run	4795		1989	3204	4435	5698	6998									
	End	7395		2330	4410	6561	8783	11075									

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	15280	8841	M.O.P. exceeded													
Run	5705	5815														
End	8742	14880														
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	4869	9528	12921	M.O.P. exceeded											
	Run	2770	2888	4137												
	End	5518	3768	5596												
SET 04	Start	5877	8163	11386	14758	M.O.P. exceeded										
	Run	3343	2251	3444	4685											
	End	6660	2753	4487	6303											
SET 06	Start	7388	6313	9367	12541	15834	M.O.P. exceeded									
	Run	4202	1320	2496	3675	4889										
	End	8372	1338	2980	4686	6459										
SET 08	Start	8685		7483	10536	13689	M.O.P. exceeded									
	Run	4995		1671	2837	4010										
	End	10159		1770	3413	5112										

Note:

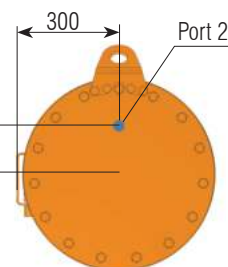
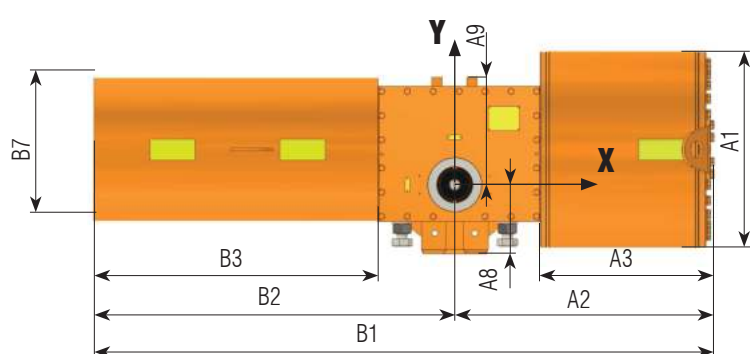
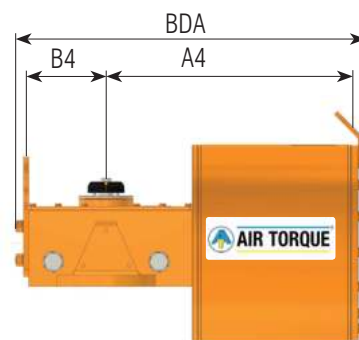
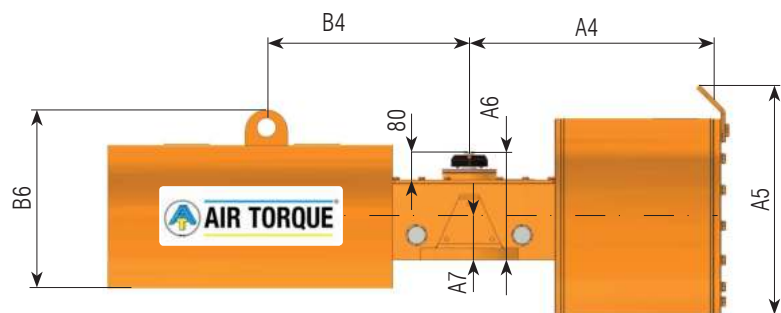
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

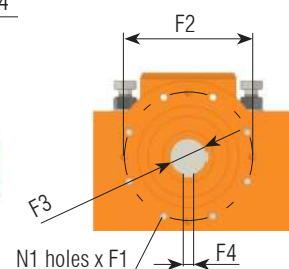
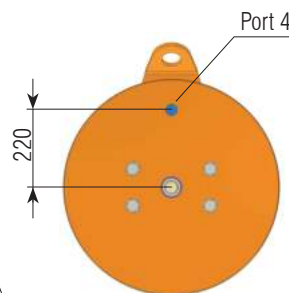
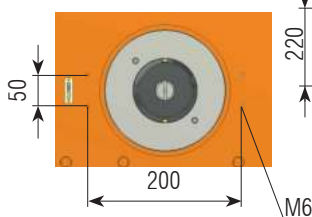


Center of gravity

		X	Y	
SR	DA	390	88	
	SET	02	152	91
		04	127	91
		06	108	92
08		-3	92	

Actuator dimensions

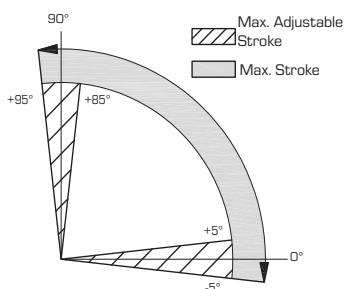
SPRING SET	02	04	06	08	DA
∅ A1	661				661
A2	752				752
A3	508				508
A4	721				721
A5	757				757
A6	307				307
A7	123				123
A8	200				200
A9	310				310
B1	1709	1779	1779	2072	-
B2	957	1027	1027	1320	-
B3	739	809	809	1101	-
B4	548	578	578	735	227
BDA	-	-	-	-	1021
B6	506	506	506	506	-
∅ B7	406	406	406	406	-
WEIGHT (Kg)	806	823	844	938	604



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F30	F25
N1	8	8
∅ F1	M20X30	M16X30
∅ F2	298	254
∅ F3	80D10	80D10
F4	22D10	22D10
Connection keyed bore depth	140	140

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	92	80	88	85	1,7 ÷ 2,0	1,7 ÷ 2,0	1,7 ÷ 2,7	1,5 ÷ 2,3	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 16.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

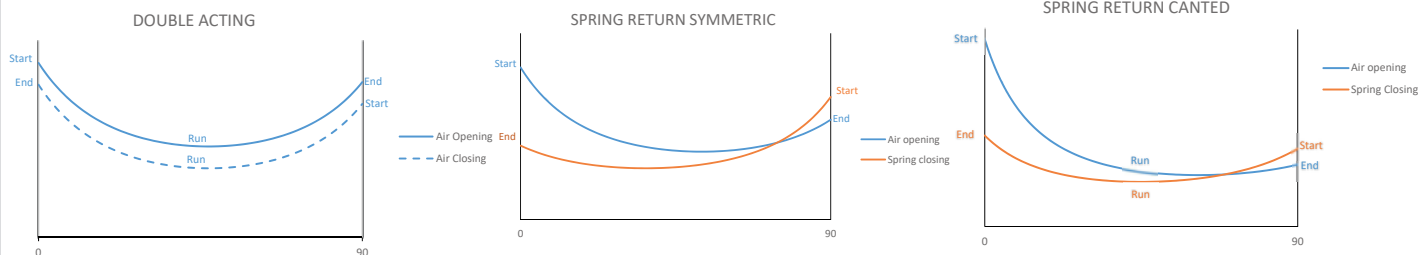
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	13426	12726	M.O.P. exceeded													
Run	7030	6909														
End	13055	12793														
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	5876	9362	12501	14602	M.O.P. exceeded										
	Run	2648	4347	5975	7104											
	End	4017	6901	9779	11840											
SET 04	Start	7092	8233	11195	14311	M.O.P. exceeded										
	Run	3196	3652	5191	6809											
	End	4848	5520	8232	11090											
SET 06	Start	8916	6743	9531	12441	15476	M.O.P. exceeded									
	Run	4018	2703	4164	5679	7254										
	End	6095	3641	6190	8855	11635										
SET 08	Start	10489	5348	8029	10815	13706	M.O.P. exceeded									
	Run	4795	1865	3300	4759	6264										
	End	7395	2124	4578	7130	9780										

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	M.O.P. exceeded															
Run																
End																
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	4869	12571	M.O.P. exceeded												
	Run	2770	4008													
	End	5518	5408													
SET 04	Start	5877	11054	15031	M.O.P. exceeded											
	Run	3343	3322	4785												
	End	6660	4308	6450												
SET 06	Start	7388	9054	12797	M.O.P. exceeded											
	Run	4202	2378	3770												
	End	8372	2811	4824												
SET 08	Start	8685	7181	10781	14522	M.O.P. exceeded										
	Run	4995	1552	2929	4318											
	End	10159	1607	3545	5560											

Note:

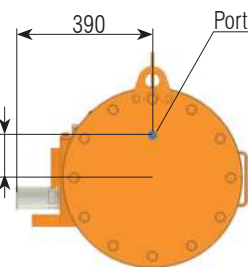
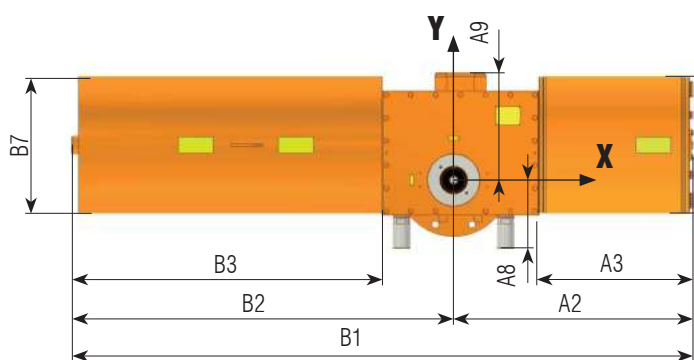
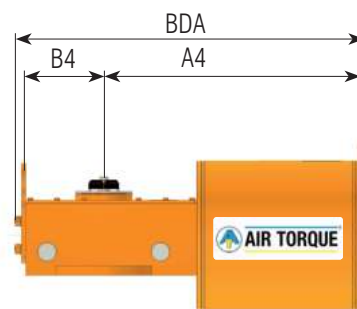
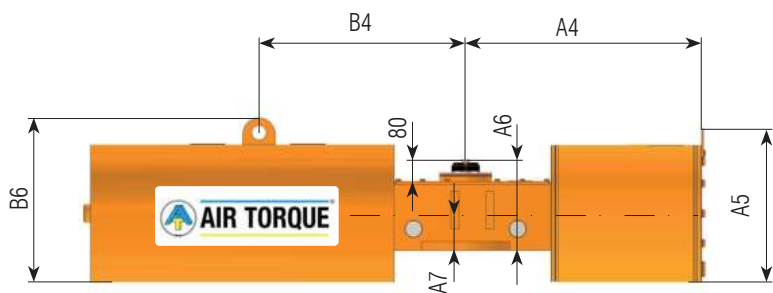
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

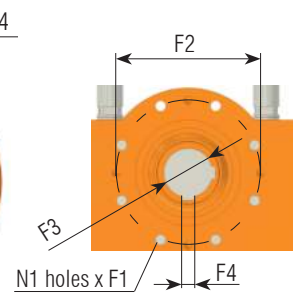
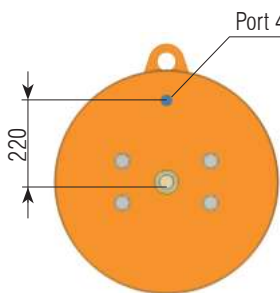
SPRING RETURN

DOUBLE ACTING



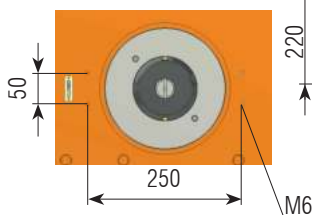
Center of gravity

SR	SET	DA	
		X	Y
	02	290	100
	04	174	112
	06	-304	115
	08	-307	115

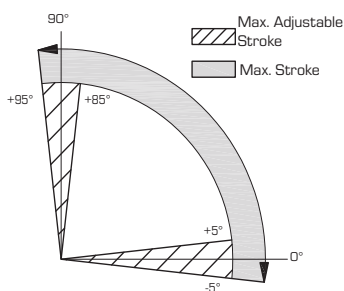


Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	458				458
A2	884				884
A3	568				568
A4	873				873
A5	519				519
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2250	2360	2300	2360	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1193
B6	506	608	608	608	-
Ø B7	406	508	508	508	-
WEIGHT (Kg)	761	913	942	981	436



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
Ø F1	M30X30	M20X30
Ø F2	356	298
Ø F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	3/4" NPT	G 3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	54	48	53	52	1,9 ÷ 7,4	1,9 ÷ 7,4	2,6 ÷ 7,4	2,3 ÷ 6,5	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3,5 bar		4,5 bar		5,5 bar		7 bar		8 bar		9 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	7395	7572	10353	10601	13311	13630	16269	16659	20706	21203	23664	24231	26622	27260	29580	30289
Run	3993	3999	5590	5599	7187	7198	8784	8798	11179	11198	12776	12797	14373	14397	15970	15996
End	7048	7440	9867	10416	12686	13391	15505	16367	19734	20831	22553	23807	25372	26783	28191	29759

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	8393				5882	7408	8978	10591	12246	13945	15688	17473	19302	19459	20938	23896
	Run	3733				2472	3296	4139	5003	5889	6798	7729	8683	9660	9798	10596	12192
	End	5782				3260	4624	6028	7471	8953	10475	12036	13637	15277	15584	16937	19643
SET 04	Start	11849							7863	9374	10915	12488	14090	15724	17388	19082	22563
	Run	5270							3250	4069	4899	5744	6603	7477	8367	9273	11134
	End	8163							4209	5559	6937	8343	9776	11238	12728	14246	17365
SET 06	Start	14811									8434	9921	11433	12969	14530	16115	19358
	Run	6677									3394	4205	5022	5849	6688	7538	9275
	End	10503									4265	5596	6948	8323	9721	11141	14048
SET 08	Start	17773												11049	12544	14061	17154
	Run	7905												4469	5283	6104	7769
	End	12244												5648	6984	8338	11103

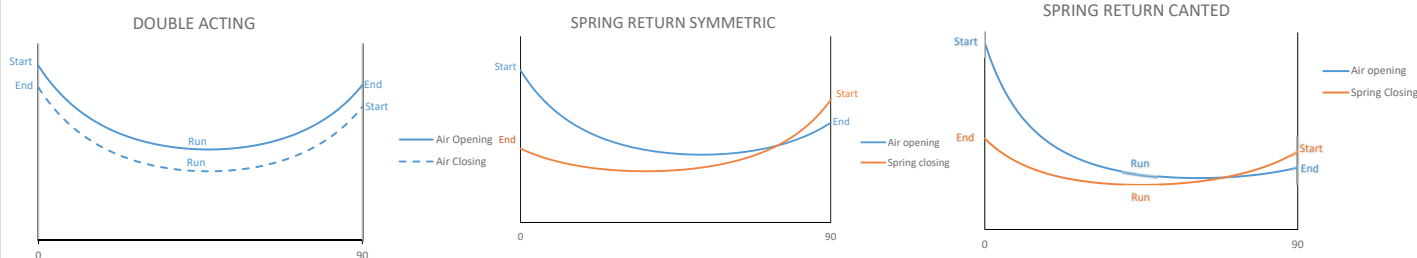
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		5 bar		5,5 bar		6,5 bar		7 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	10756	5981	12907	7177	15058	8374	17210	9570	21512	11962	23663	13158	27965	15551	M.O.P. exceeded	
Run	3782	3960	4539	4753	5295	5545	6052	6337	7565	7921	8321	8713	9834	10297		
End	5364	11124	6437	13348	7510	15573	8583	17798	10728	22247	11801	24472	13947	28921		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	6720				8555	10775	13058	15404	17812	20284	22818	25415	28074	28303	M.O.P. exceeded	
	Run	3918				2126	2901	3693	4505	5337	6189	7064	7959	8877	9021		
	End	8645				2409	3446	4514	5611	6739	7897	9085	10303	11551	11790		
SET 04	Start	9487						9283	11436	13634	15876	18163	20494	22870	25291	27755	M.O.P. exceeded
	Run	5531						2002	2775	3546	4327	5120	5927	6748	7584	8434	
	End	12205						2095	3101	4128	5176	6245	7336	8448	9581	10736	
SET 06	Start	11848									12267	14430	16629	18863	21133	23439	28157
	Run	6975									2862	3628	4398	5175	5963	6762	8393
	End	15704									3128	4140	5169	6215	7278	8358	10570
SET 08	Start	14230											13924	16070	18246	20451	24951
	Run	8296											3003	3777	4547	5319	6885
	End	18307											3143	4145	5161	6192	8295

Note:

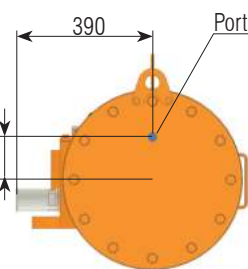
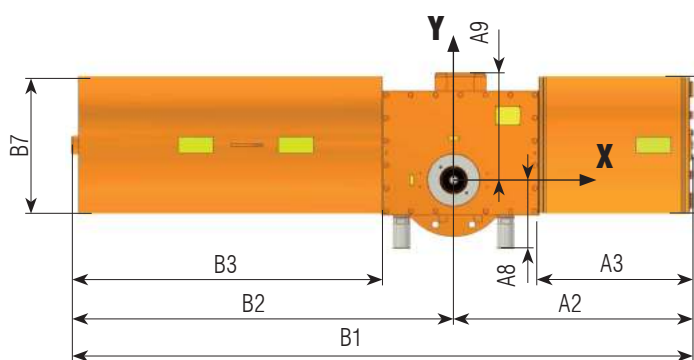
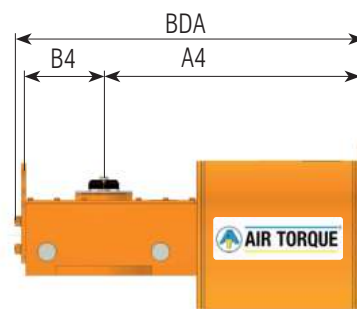
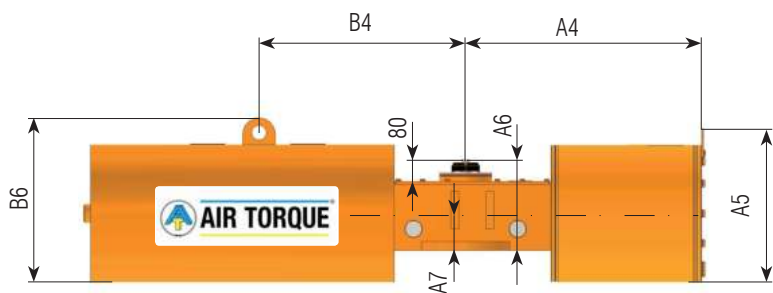
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

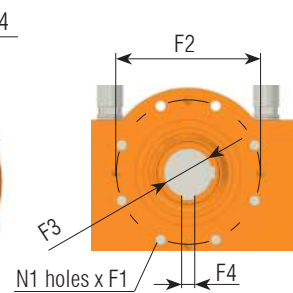
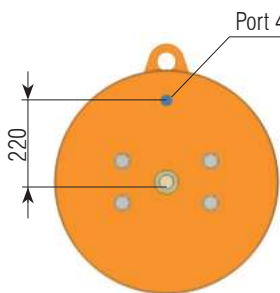
SPRING RETURN

DOUBLE ACTING



Center of gravity

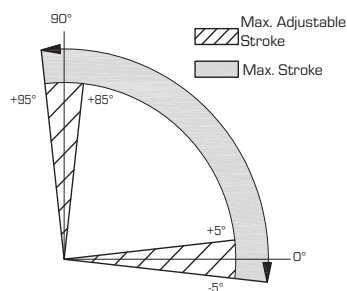
		X	Y
SR	SET	02	115
		04	116
		06	116
		08	117



Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	508				508
A2	889				889
A3	573				573
A4	878				878
A5	567				567
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2255	2365	2305	2365	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1198
B6	506	608	608	608	-
Ø B7	406	508	508	508	-
WEIGHT (Kg)	814	969	1000	1038	493

Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
Ø F1	M30X30	M20X30
Ø F2	356	298
Ø F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	3/4" NPT	G 3/4"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	67	59	64	64	2,3 ÷ 7,4	2,3 ÷ 7,4	2,8 ÷ 9,2	2,4 ÷ 8,0	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 4,0 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3,5 bar		4,5 bar		5 bar		5,5 bar		6,5 bar		7,5 bar		8 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		9215	9456	12901	13239	16586	17021	18429	18913	20272	20804	23958	24587	27644	28369	M.O.P. exceeded	
Run		4975	4994	6965	6992	8955	8989	9950	9988	10945	10987	12935	12985	14925	14982		
End		8782	9291	12295	13007	15808	16723	17564	18581	19320	20440	22833	24156	26346	27872		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	8393		5100	6980	8928	10942	13024	15172	17388	19671	20117	21960	23803	25646	27489	M.O.P. exceeded
	Run	3733		2046	3066	4113	5192	6305	7454	8638	9858	10153	11148	12142	13136	14131	
	End	5782		2562	4242	5983	7785	9649	11574	13561	15608	16186	17872	19558	21244	22929	
SET 04	Start	11849					8184	10080	12024	14014	16052	18138	20271	22452	24680	26956	28834
	Run	5270					3426	4450	5495	6562	7653	8769	9909	11075	12265	13482	14568
	End	8163					4496	6190	7928	9708	11532	13400	15311	17266	19264	21305	23248
SET 06	Start	14811							9483	11361	13278	15232	17225	19255	21323	23430	27757
	Run	6677							3967	4983	6015	7065	8133	9220	10327	11454	13768
	End	10503							5203	6884	8600	10350	12135	13955	15810	17699	21582
SET 08	Start	17773									11345	13217	15120	17056	19023	21021	25114
	Run	7905									4631	5648	6675	7716	8772	9843	12034
	End	12244									5912	7584	9285	11015	12774	14562	18225

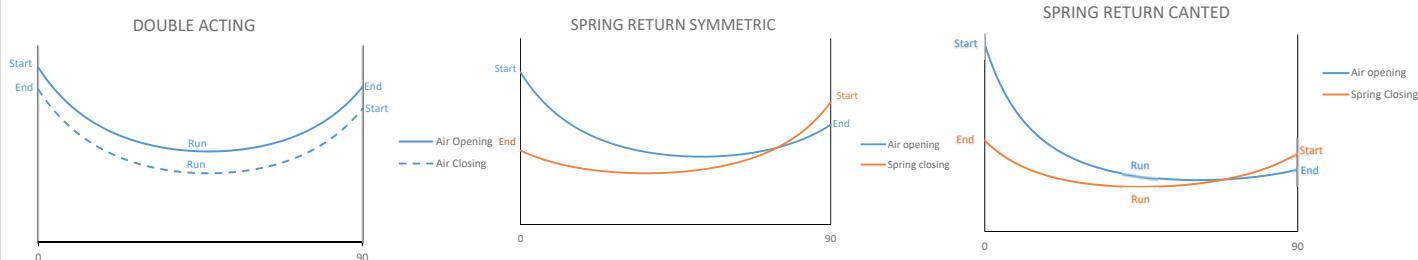
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		13403	7469	16083	8963	18764	10457	21444	11951	24125	13445	26806	14938	29486	16432	M.O.P. exceeded	
Run		4713	4946	5656	5935	6598	6924	7541	7913	8484	8902	9426	9892	10369	10881		
End		6684	13891	8021	16669	9358	19448	10695	22226	12032	25004	13369	27782	14705	30561		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	6720			10153	12986	15916	18943	22068	25291	28611	29260	M.O.P. exceeded				
	Run	3918			2685	3668	4681	5727	6805	7917	9062	9356					
	End	8645			3155	4480	5851	7269	8733	10245	11803	12248					
SET 04	Start	9487				9216	11904	14662	17488	20384	23348	26382	29485	M.O.P. exceeded			
	Run	5531				1978	2940	3904	4886	5889	6913	7960	9031				
	End	12205				2064	3320	4608	5930	7284	8672	10093	11547				
SET 06	Start	11848					11115	13793	16525	19312	22155	25053	28006	M.O.P. exceeded			
	Run	6975					2447	3403	4361	5331	6317	7320	8341				
	End	15704					2589	3841	5120	6425	7757	9115	10499				
SET 08	Start	14230								13824	16501	19224	21993	24808	27669	M.O.P. exceeded	
	Run	8296								2966	3931	4890	5857	6835	7827		
	End	18307								3096	4346	5618	6912	8228	9566		

Note:

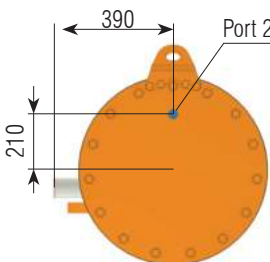
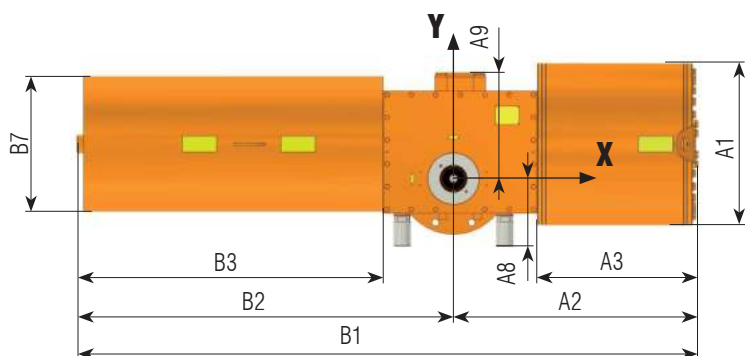
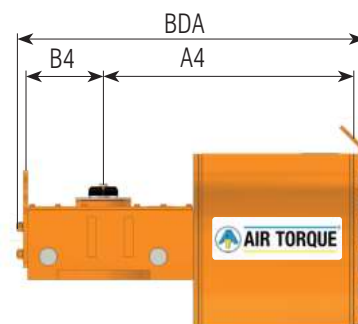
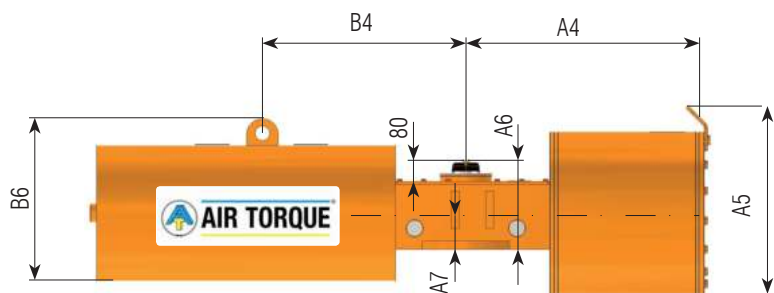
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

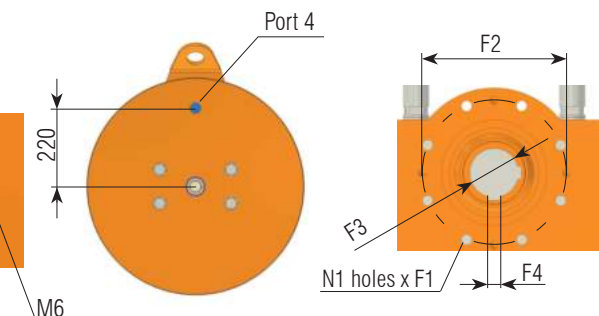
SPRING RETURN

DOUBLE ACTING



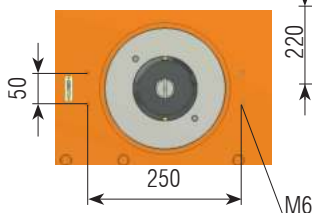
Center of gravity

		X	Y
SR	SET	02	-62
		04	-200
		06	-201
		08	-238

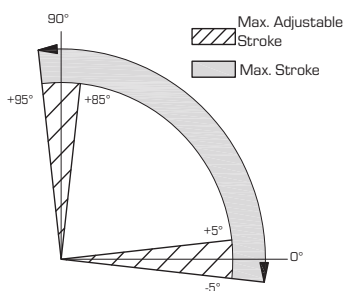


Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	559				559
A2	884				884
A3	568				568
A4	875				875
A5	618				618
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2259	2369	2309	2369	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1208
B6	506	608	608	608	-
∅ B7	406	508	508	508	-
WEIGHT (Kg)	872	1024	1054	1093	549



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
∅ F1	M30X30	M20X30
∅ F2	356	298
∅ F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	1" NPT	G 1"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	83	71	79	77	1,5 ÷ 4,0	1,5 ÷ 4,0	1,5 ÷ 5,6	1,4 ÷ 4,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6,5 bar		7 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	11234	11547	13481	13857	15728	16166	17975	18476	20222	20785	24716	25404	29209	30023	M.O.P. exceeded	
Run	6066	6098	7279	7318	8492	8538	9705	9758	10918	10977	13344	13417	15770	15856		
End	10707	11345	12848	13614	14990	15883	17131	18152	19272	20421	23555	24959	27838	29497		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	8393	5278	7587	9996	12505	15113	17821	19031	21278	23525	25772	28019	M.O.P. exceeded			
	Run	3733	2143	3392	4685	6027	7422	8869	9567	10780	11992	13205	14417				
	End	5782	2721	4784	6938	9184	11521	13949	15193	17248	19304	21359	23414				
SET 04	Start	11849			7318	9608	11970	14402	16904	19477	22121	24835	27620	27925	M.O.P. exceeded		
	Run	5270			2953	4196	5466	6769	8109	9484	10898	12348	13836	14077			
	End	8163			3722	5769	7879	10055	12295	14599	16968	19402	21900	22416			
SET 06	Start	14811					9432	11726	14076	16483	18947	21467	24043	26676	29365	M.O.P. exceeded	
	Run	6677					3939	5180	6444	7735	9055	10403	11782	13190	14628		
	End	10503						5158	7211	9315	11471	13679	15938	18249	20612		
SET 08	Start	17773							12110	14413	16762	19159	21602	24093	26631	29216	M.O.P. exceeded
	Run	7905							5048	6294	7559	8845	10154	11488	12845	14227	
	End	12244							6596	8653	10753	12896	15082	17312	19584	21899	

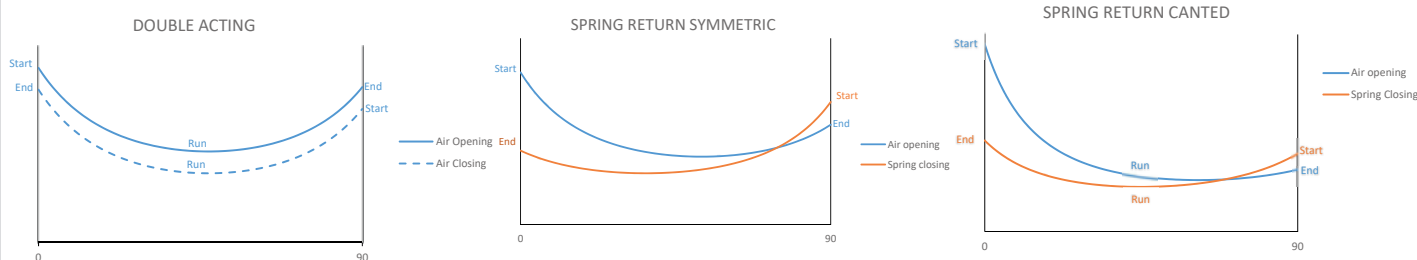
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		7 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	16340	9121	19609	10945	22877	12769	26145	14593	29413	16418	M.O.P. exceeded					
Run	5746	6039	6895	7247	8045	8455	9194	9663	10343	10871						
End	8149	16963	9779	20356	11409	23748	13039	27141	14669	30533						

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	6720		11035	14539	18188	21982	25920	27681	M.O.P. exceeded							
	Run	3918		2992	4206	5466	6775	8134	8804								
	End	8645		3568	5207	6915	8693	10540	11492								
SET 04	Start	9487			10644	13976	17410	20947	24587	28329	M.O.P. exceeded						
	Run	5531			2493	3665	4859	6083	7341	8632							
	End	12205			2731	4287	5893	7548	9252	11005							
SET 06	Start	11848				10464	13719	17055	20474	23975	27558	M.O.P. exceeded					
	Run	6975				2207	3377	4546	5735	6947	8186						
	End	15704				2285	3807	5368	6969	8609	10289						
SET 08	Start	14230						14334	17615	20964	24381	27867	M.O.P. exceeded				
	Run	8296						3153	4324	5498	6687	7895					
	End	18307						3335	4866	6431	8029	9659					

Note:

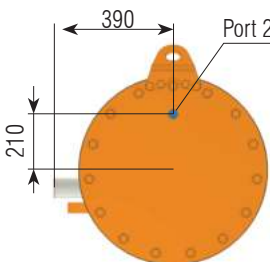
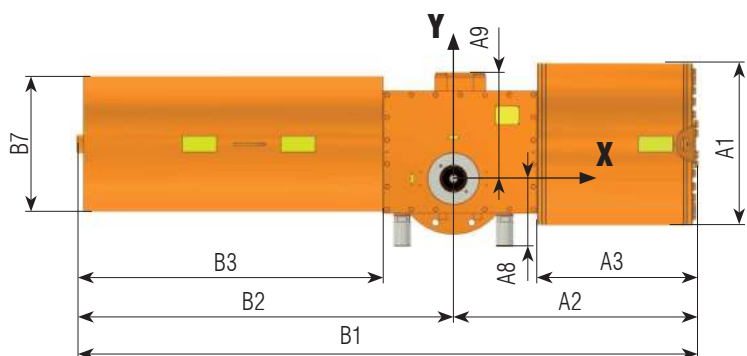
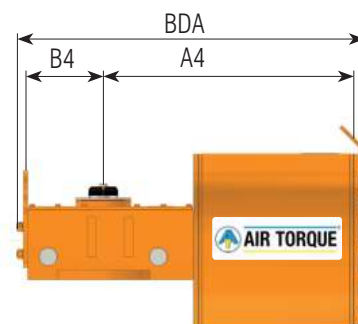
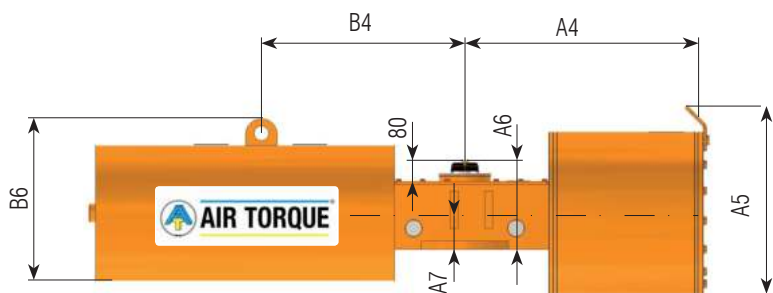
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

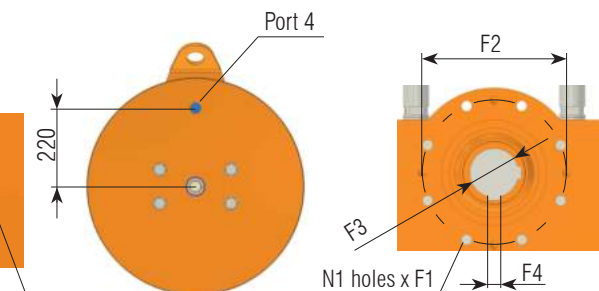
SPRING RETURN

DOUBLE ACTING



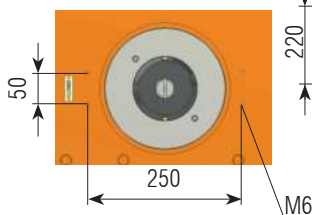
Center of gravity

		X	Y
SR	SET	DA	
		02	1 116
		04	-129 118
		06	-136 118
	08	-174 118	

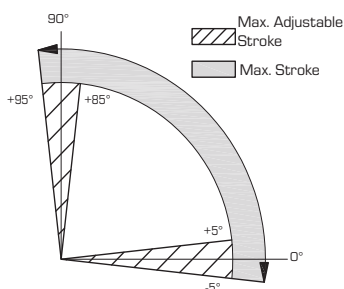


Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	610				610
A2	920				920
A3	604				604
A4	882				882
A5	708				708
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2286	2396	2336	2396	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1229
B6	506	608	608	608	-
Ø B7	406	508	508	508	-
WEIGHT (Kg)	954	1105	1135	1174	629



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
Ø F1	M30X30	M20X30
Ø F2	356	298
Ø F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	101	86	97	94	1,8 ÷ 4,1	1,8 ÷ 4,1	1,6 ÷ 5,5	1,6 ÷ 4,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	13454	13846	16145	16615	18836	19384	21526	22153	24217	24922	26908	27691	M.O.P. exceeded			
Run	7264	7312	8717	8775	10170	10237	11622	11699	13075	13162	14528	14624				
End	12822	13603	15387	16324	17951	19044	20516	21765	23080	24485	25645	27206				

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	8393	7558	10454	13492	16673	19997	21224	23915	26606	29296	M.O.P. exceeded				
	Run	3733	3377	4930	6555	8256	10032	10751	12203	13654	15106					
	End	5782	4758	7348	10068	12920	15901	17199	19660	22122	24583					
SET 04	Start	11849		7737	10505	13373	16343	19414	22586	25860	26956	29647	M.O.P. exceeded			
	Run	5270		3182	4678	6219	7809	9451	11147	12896	13554	15007				
	End	8163		4097	6570	9135	11792	14543	17386	20321	21530	23991				
SET 06	Start	14811				10757	13550	16424	19380	22416	25533	28731	M.O.P. exceeded			
	Run	6677				4657	6162	7704	9287	10911	12579	14289				
	End	10503				6344	8844	11418	14067	16789	19586	22457				
SET 08	Start	17773					11606	14357	17174	20060	23013	26033	29121	M.O.P. exceeded		
	Run	7905					4773	6263	7780	9328	10909	12525	14176			
	End	12244					6145	8603	11121	13702	16344	19048	21814			

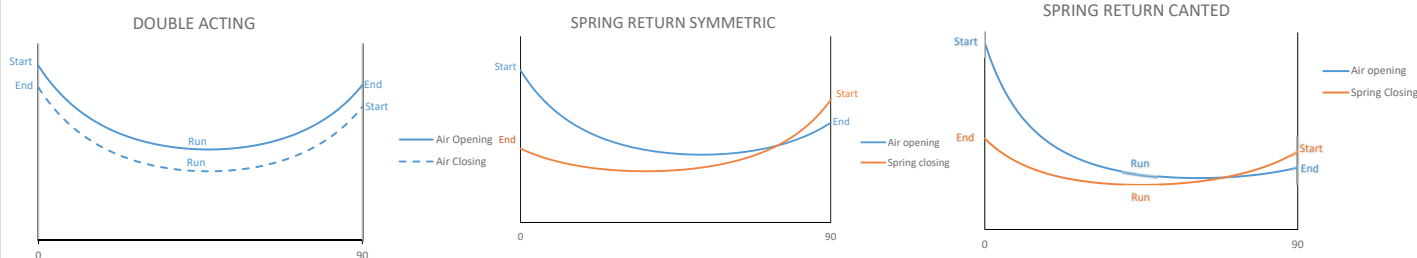
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4.0 bar		6 bar		7 bar		8 bar		10bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	19569	10936	23483	13123	27397	15310	M.O.P. exceeded									
Run	6882	7241	8258	8690	9634	10138										
End	9759	20339	11711	24407	13663	28474										

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	6720	10994	15205	19624	24251	29086	M.O.P. exceeded									
	Run	3918	2977	4436	5962	7558	9225										
	End	8645	3548	5518	7588	9757	12025										
SET 04	Start	9487		11254	15279	19451	23771	28238	M.O.P. exceeded								
	Run	5531		2710	4119	5566	7059	8600									
	End	12205		3016	4897	6848	8870	10962									
SET 06	Start	11848			11701	15646	19709	23889	28188	M.O.P. exceeded							
	Run	6975			2659	4054	5469	6918	8404								
	End	15704			2863	4709	6611	8569	10584								
SET 08	Start	14230				12979	16881	20882	24980	29177	M.O.P. exceeded						
	Run	8296				2651	4065	5470	6895	8349							
	End	18307				2702	4524	6393	8309	10272							

Note:

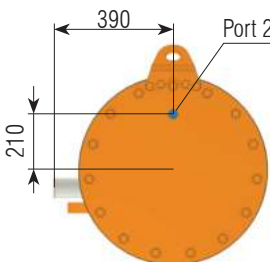
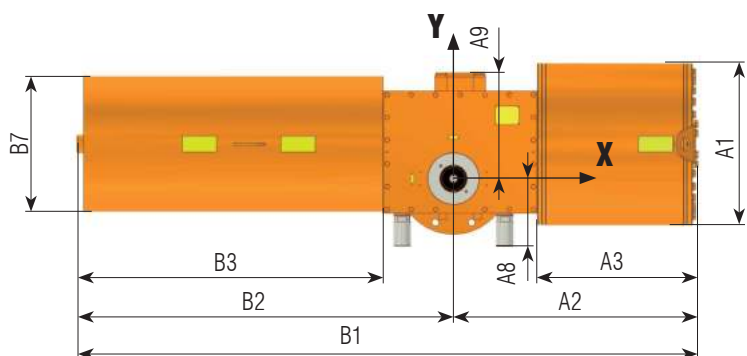
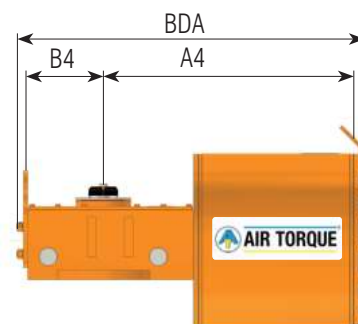
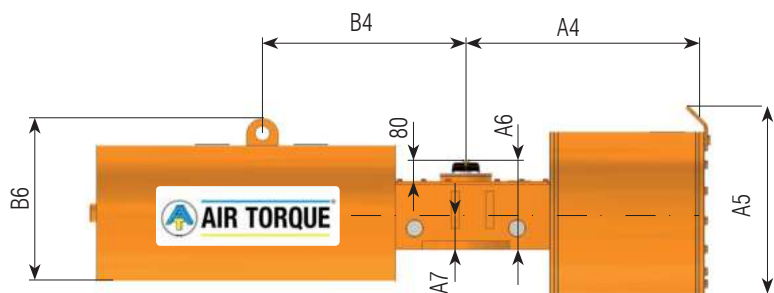
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

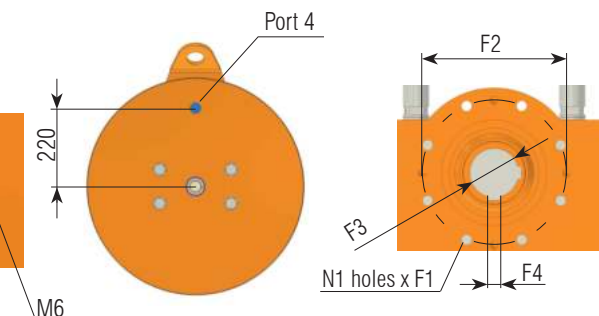
SPRING RETURN

DOUBLE ACTING



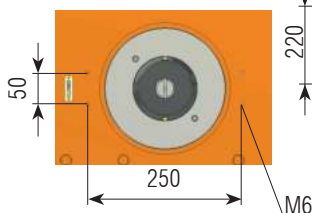
Center of gravity

		X	Y
SR	DA	420	111
	SET	02	53
	04	-76	119
	06	-84	119
	08	-121	119

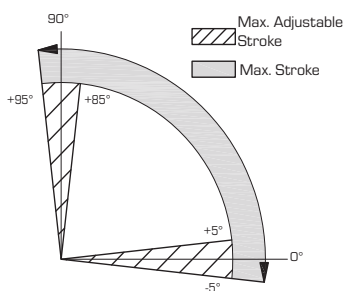


Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1	660				660
A2	922				922
A3	606				606
A4	890				890
A5	757				757
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2288	2398	2338	2398	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1237
B6	506	608	608	608	-
Ø B7	406	508	508	508	-
WEIGHT (Kg)	1032	1184	1214	1253	707



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
Ø F1	M30X30	M20X30
Ø F2	356	298
Ø F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	128	114	120	130	2,2 ÷ 3,9	2,2 ÷ 3,9	2,2 ÷ 5,2	1,9 ÷ 4,5	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE (AS)

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	15874	16351	19048	19621	22223	22891	25398	26161	28573	29431	M.O.P. exceeded					
Run	8570	8635	10284	10362	11998	12089	13713	13816	15427	15543						
End	15128	16064	18154	19277	21180	22490	24205	25703	27231	28916						

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	8393	10155	13738	17520	19714	22889	26063	29238	M.O.P. exceeded							
	Run	3733	4770	6687	8708	9935	11649	13362	15074								
	End	5782	7081	10289	13679	15817	18721	21625	24530								
SET 04	Start	11849	7464	10728	14132	17678	21364	25192	26897	M.O.P. exceeded							
	Run	5270	3033	4799	6625	8522	10494	12539	13522								
	End	8163	3853	6769	9814	12988	16291	19722	21476								
SET 06	Start	14811			11472	14801	18243	21797	25464	29244	M.O.P. exceeded						
	Run	6677			5044	6834	8678	10580	12542	14563							
	End	10503			6984	9964	13048	16235	19524	22917							
SET 08	Start	17773				12805	16092	19473	22948	26517	M.O.P. exceeded						
	Run	7905				5424	7198	9013	10874	12784							
	End	12244				7216	10154	13177	16286	19482							

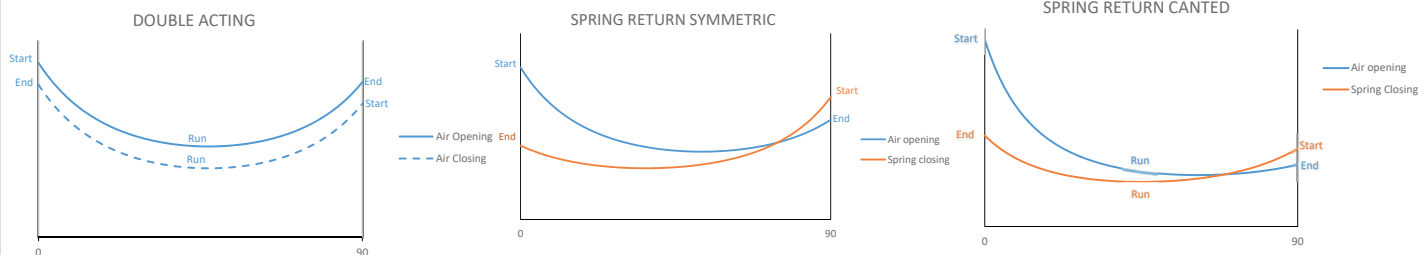
CANTED YOKE (AC)

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	23088	12915	27706	15498	M.O.P. exceeded											
Run	8119	8552	9743	10262												
End	11515	24019	13818	28823												

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	6720	14771	19982	25483	28674	M.O.P. exceeded										
	Run	3918	4286	6085	7983	9151											
	End	8645	5315	7756	10335	11967											
SET 04	Start	9487	10857	15604	20556	25713	M.O.P. exceeded										
	Run	5531	2569	4232	5948	7729											
	End	12205	2830	5048	7365	9779											
SET 06	Start	11848		12009	16687	21529	26534	M.O.P. exceeded									
	Run	6975		2770	4418	6100	7832										
	End	15704		3007	5196	7463	9809										
SET 08	Start	14230			13980	18624	23406	28323	M.O.P. exceeded								
	Run	8296			3024	4680	6348	8053									
	End	18307			3169	5338	7573	9873									

Note:

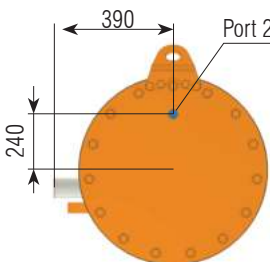
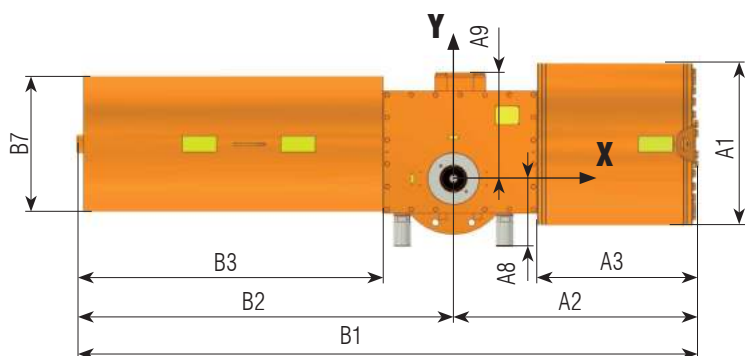
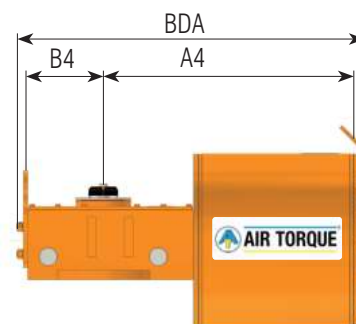
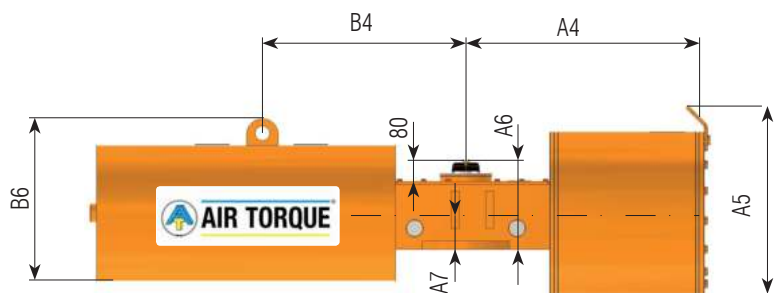
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

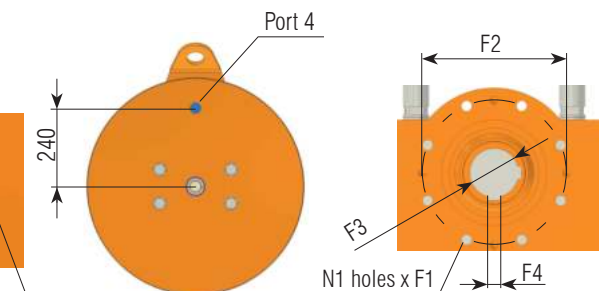
SPRING RETURN

DOUBLE ACTING



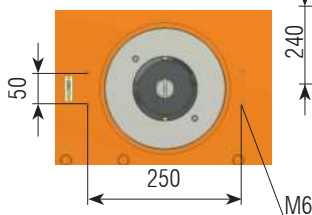
Center of gravity

		X	Y
SR	SET	DA	745 114
		02	112 118
		04	-13 120
		06	-22 120
	08	-57 120	

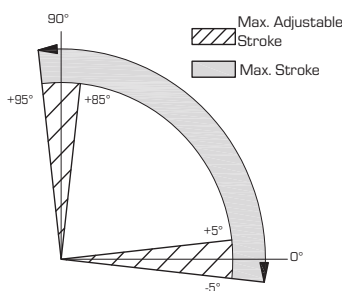


Actuator dimensions

SPRING SET	02	04	06	08	DA
∅ A1	715				715
A2	936				936
A3	620				620
A4	900				900
A5	811				811
A6	336				336
A7	137				137
A8	260				260
A9	406				406
B1	2302	2412	2352	2412	-
B2	1366	1476	1416	1476	-
B3	1101	1211	1151	1211	-
B4	781	829	766	829	273
BDA	-	-	-	-	1245
B6	506	608	608	608	-
∅ B7	406	508	508	508	-
WEIGHT (Kg)	1141	1292	1322	1361	816



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F35	F30
N1	8	8
∅ F1	M30X30	M20X30
∅ F2	356	298
∅ F3	120D10	120D10
F4	32D10	32D10
Connection keyed bore depth	190	190

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	151	145	147	151	2,5 ÷ 4,1	2,5 ÷ 4,1	2,5 ÷ 5,6	2,2 ÷ 4,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 30.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

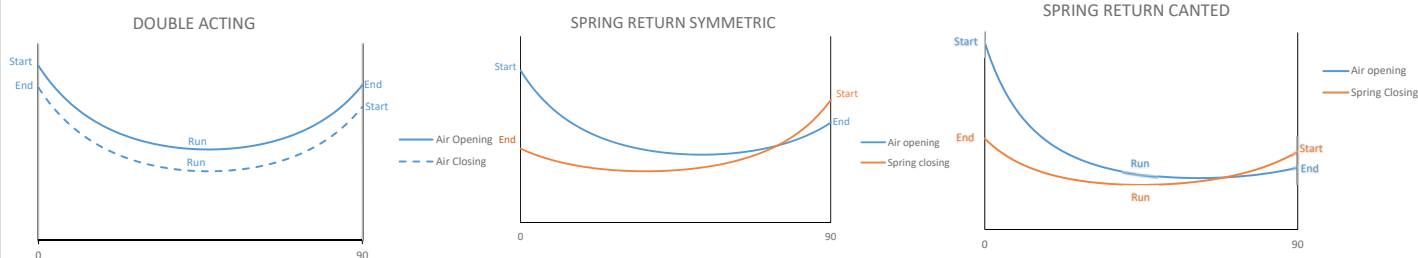
DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	18493	19063	22192	22875	25891	26688	M.O.P. exceeded										
Run	9985	10068	11982	12081	13979	14095											
End	17625	18729	21150	22475	24675	26220											
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	8393	13097	17482	20207	23905	27604	M.O.P. exceeded									
	Run	3733	6344	8688	10201	12197	14193										
	End	5782	9715	13645	16268	19651	23035										
SET 04	Start	11849	10147	14098	18241	22575	27100	28962	M.O.P. exceeded								
	Run	5270	4486	6607	8823	11140	13558	14637									
	End	8163	6250	9783	13492	17375	21434	23365									
SET 06	Start	14811		11440	15328	19369	23563	27910	M.O.P. exceeded								
	Run	6677		5026	7116	9281	11525	13850									
	End	10503		6955	10436	14057	17818	21719									
SET 08	Start	17773		9580	13309	17164	21147	25258	29496	M.O.P. exceeded							
	Run	7905		3661	5698	7774	9910	12111	14377								
	End	12244		4337	7666	11112	14675	18355	22151								

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	26899	15057	M.O.P. exceeded													
Run	9459	9970														
End	13415	28003														
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	6720	19050	25427	29390	M.O.P. exceeded										
	Run	3918	5764	7964	9401											
	End	8645	7319	10309	12311											
SET 04	Start	9487	14759	20506	26531	M.O.P. exceeded										
	Run	5531	3938	5931	8012											
	End	12205	4653	7341	10163											
SET 06	Start	11848	11208	16640	22295	28172	M.O.P. exceeded									
	Run	6975	2481	4401	6365	8399										
	End	15704	2632	5174	7822	10577										
SET 08	Start	14230		13935	19357	24966	M.O.P. exceeded									
	Run	8296		3007	4937	6890										
	End	18307		3148	5681	8302										

Note:

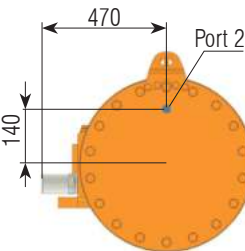
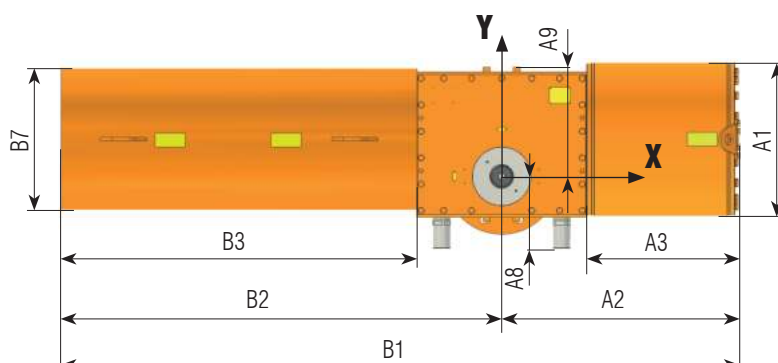
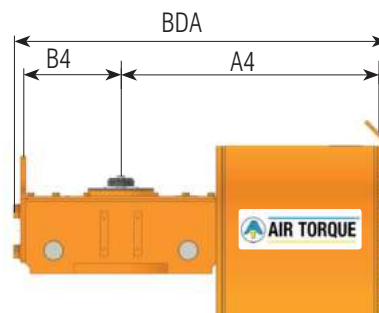
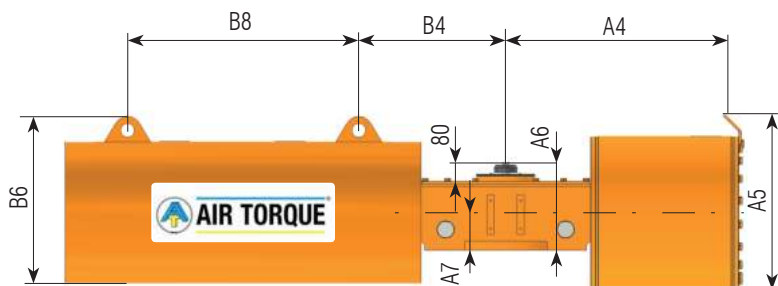
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

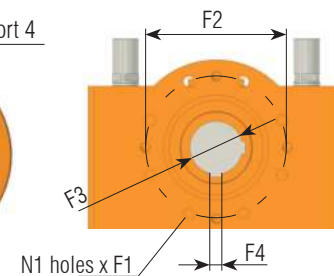
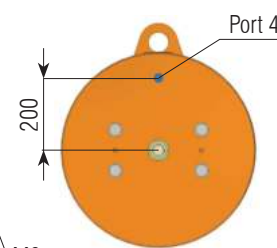
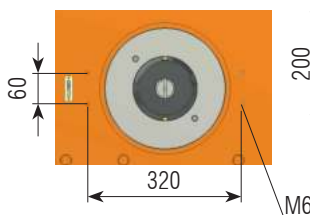


Center of gravity

		X	Y
SR	SET	DA	
		02	-250 146
		04	-278 147
		06	-338 148
	08	-460 150	

Actuator dimensions

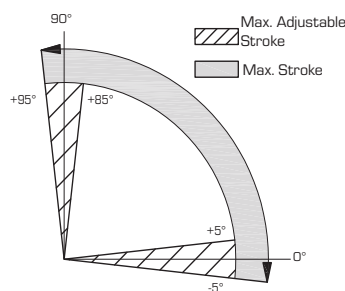
SPRING SET	02	04	06	08	DA
Ø A1	559				559
A2	1013				1013
A3	647				647
A4	976				976
A5	654				654
A6	376				376
A7	162				162
A8	310				310
A9	470				470
B1	2720	2720	2827	2915	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1428
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1390	1406	1514	1731	809



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	88	89	88	89	1,9 ÷ 7,2	1,9 ÷ 7,2	2,7 ÷ 7,6	2,3 ÷ 6,6	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3,5 bar		4,5 bar		5,5 bar		6,5 bar		7,5 bar		9,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	15288	13718	21403	19205	27519	24693	33634	30180	39749	35667	45864	41155	58095	52129	M.O.P. exceeded	
Run	7860	7614	11004	10659	14147	13705	17291	16751	20435	19796	23579	22842	29867	28933		
End	14727	14205	20617	19887	26508	25569	32398	31251	38289	36933	44180	42615	55961	53979		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	14462			10030	13137	16339	19634	23023	26506	30084	33755	37521	38103	41161	44219	50334
	Run	6666			3762	5373	7016	8699	10428	12202	14025	15894	17810	18209	19783	21356	24500
	End	10183			4834	7647	10547	13534	16609	19771	23020	26357	29781	30656	33495	36335	42014
SET 04	Start	20659						14329	17422	20581	23806	27096	30453	33875	37363	40917	48222
	Run	9524						5375	6982	8608	10260	11942	13654	15399	17176	18986	22705
	End	14547						6906	9706	12566	15488	18471	21515	24621	27787	31015	37653
SET 06	Start	25824									19448	22561	25726	28944	32215	35539	42343
	Run	11904									7521	9132	10760	12409	14081	15778	19249
	End	18184									10023	12841	15708	18624	21588	24602	30776
SET 08	Start	32022												23745	26848	29993	36411
	Run	14762												9133	10741	12362	15653
	End	22548												12094	14902	17750	23564

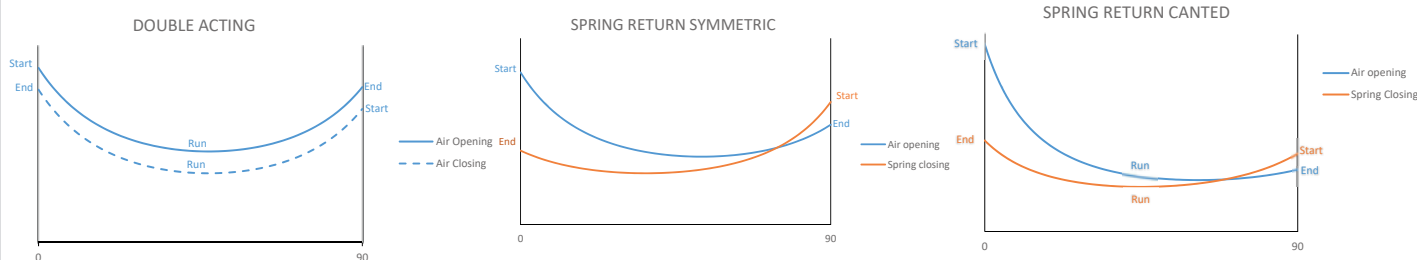
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4,5 bar		5,5 bar		7 bar		8 bar		8,5 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	17850	12086	21420	14504	24990	16921	32130	21755	39270	26590	49980	33842	57120	38676	M.O.P. exceeded	
Run	7461	7500	8953	9000	10445	10500	13429	13500	16413	16500	20890	21000	23874	24000		
End	12470	16954	14964	20344	17458	23735	22446	30517	27435	37298	34917	47470	39905	54252		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	12885			11513	15138	18872	22717	26671	30734	34908	39191	43585	44280	47850	51420	58560
	Run	6804			3344	4871	6425	8018	9652	11331	13054	14822	16634	17028	18520	20011	22990
	End	12354			3962	6342	8797	11325	13928	16604	19354	22179	25077	25828	28233	30639	35449
SET 04	Start	18406						16447	20056	23741	27503	31341	35257	39249	43319	47465	55988
	Run	9720						4777	6301	7840	9404	10994	12613	14264	15944	17656	21174
	End	17649						5660	8029	10450	12923	15448	18025	20653	23333	26065	31684
SET 06	Start	23008									22352	25983	29676	33430	37246	41123	49062
	Run	12150									6732	8259	9800	11361	12942	14548	17830
	End	22061									8251	10636	13063	15531	18040	20591	25816
SET 08	Start	28530												27284	30904	34573	42060
	Run	15065												8166	9690	11225	14339
	End	27356												9948	12325	14736	19657

Note:

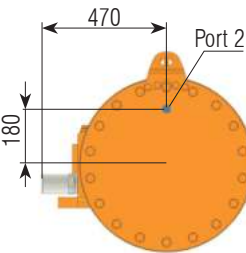
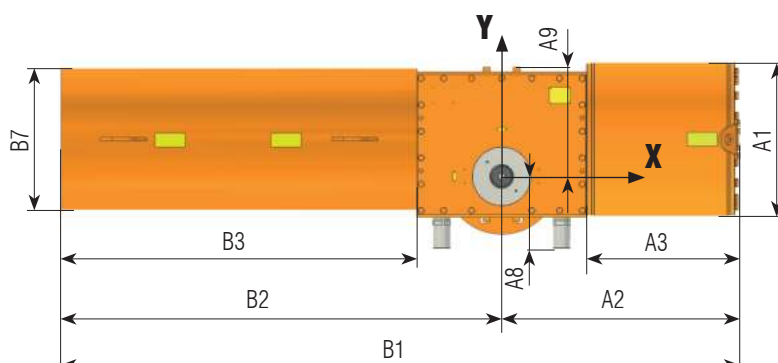
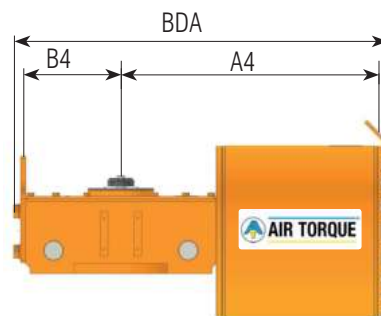
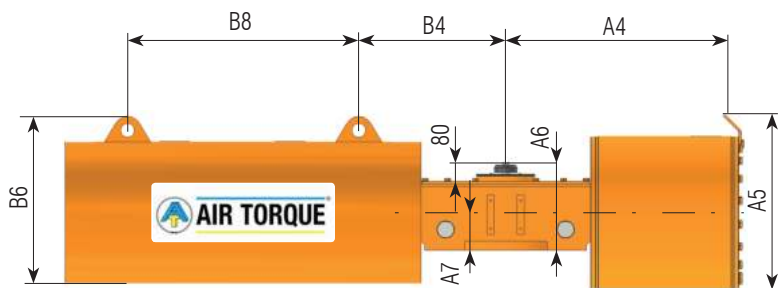
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

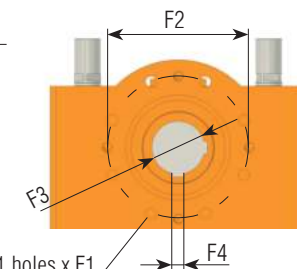
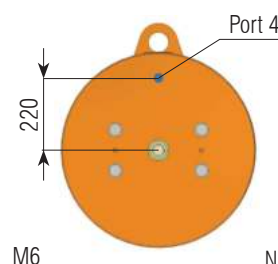
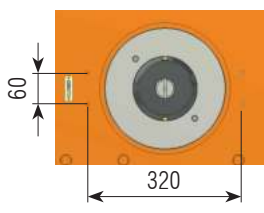


Center of gravity

		X	Y
SR	SET	DA	324 136
		02	-200 147
		04	-228 147
		06	-288 149
	08	-411 150	

Actuator dimensions

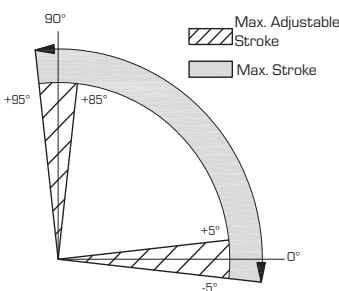
SPRING SET	02	04	06	08	DA
Ø A1	610				610
A2	1026				1026
A3	660				660
A4	987				987
A5	708				708
A6	376				376
A7	162				162
A8	310				310
A9	470				470
B1	2733	2733	2840	2928	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1438
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1465	1484	1588	1807	885



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	108	106	108	106	2,3 ÷ 7,3	2,3 ÷ 7,3	2,7 ÷ 9,1	2,4 ÷ 7,9	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4,5 bar		5,5 bar		7 bar		8 bar		8,5 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		18309	16464	21971	19757	25632	23049	32956	29635	40279	36220	51265	46099	58588	52684	M.O.P. exceeded	
Run		9413	9138	11295	10965	13178	12793	16943	16448	20708	20103	26355	25586	30120	29241		
End		17636	17048	21163	20458	24691	23867	31745	30686	38800	37506	49381	47734	56436	54553		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	14462		10599	14353	18241	22263	26421	30714	35141	39703	40446	44107	47769	51431	55093	M.O.P. exceeded
	Run	6666		4060	5998	7988	10041	12159	14346	16599	18921	19414	21299	23181	25064	26946	
	End	10183		5349	8747	12271	15920	19693	23593	27617	31766	32831	36232	39632	43033	46433	
SET 04	Start	20659				16730	20504	24371	28334	32390	36541	40786	45126	49560	54089	57780	
	Run	9524				6625	8568	10549	12573	14642	16757	18919	21130	23386	25691	27735	
	End	14547				9079	12496	16001	19593	23273	27041	30896	34839	38870	42988	46902	
SET 06	Start	25824					19984	23729	27549	31445	35417	39464	43587	47785	56408		
	Run	11904					7799	9733	11694	13688	15716	17781	19882	22020	26413		
	End	18184					10508	13899	17360	20891	24492	28163	31904	35716	43549		
SET 08	Start	32022									22420	26118	29878	33699	37580	41522	49590
	Run	14762									8441	10364	12303	14264	16251	18266	22382
	End	22548									10894	14242	17646	21107	24624	28198	35516

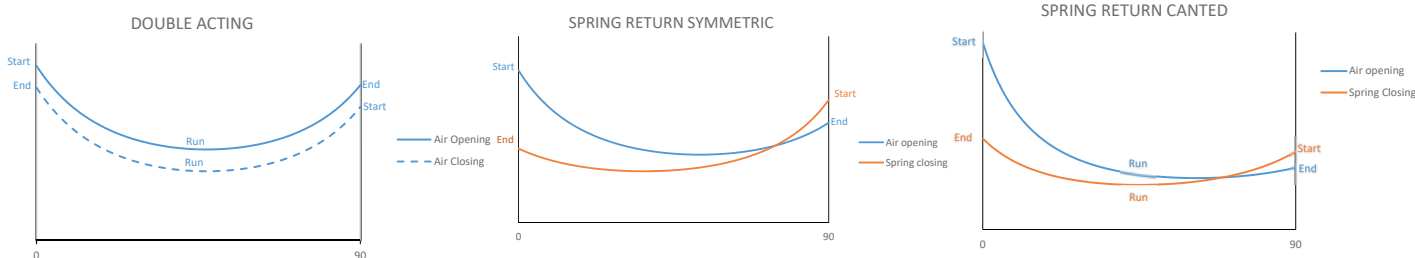
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		7 bar		7,5 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		21377	14505	25652	17406	29928	20308	34203	23209	38478	26110	47029	31912	59855	40615	M.O.P. exceeded	
Run		8935	9001	10722	10801	12509	12601	14295	14402	16082	16202	19656	19802	25017	25203		
End		14934	20347	17921	24416	20908	28486	23895	32555	26881	36624	32855	44763	41815	56971		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	12885		12177	16555	21091	25784	30635	35643	40808	46131	47015	51290	55565	59841	M.O.P. exceeded	
	Run	6804		3626	5462	7344	9286	11289	13357	15489	17685	18171	19957	21741	23525		
	End	12354		4398	7274	10256	13344	16538	19839	23245	26758	27671	30551	33432	36312		
SET 04	Start	18406				19249	23651	28163	32785	37517	42360	47313	52376	57549	M.O.P. exceeded		
	Run	9720				5962	7803	9677	11591	13548	15548	17593	19684	21818			
	End	17649				7499	10391	13357	16398	19512	22701	25965	29302	32714			
SET 06	Start	23008					22977	27346	31803	36348	40981	45703	50512	55410	M.O.P. exceeded		
	Run	12150					6996	8829	10685	12570	14489	16441	18429	20451			
	End	22061					8662	11532	14461	17449	20497	23604	26771	29997			
SET 08	Start	28530								25738	30053	34439	38896	43424	48023	57435	
	Run	15065								7509	9333	11169	13025	14905	16810	20702	
	End	27356								8933	11766	14647	17577	20554	23579	29772	

Note:

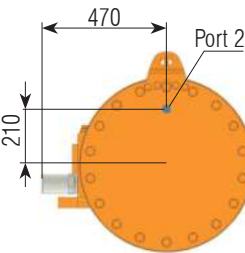
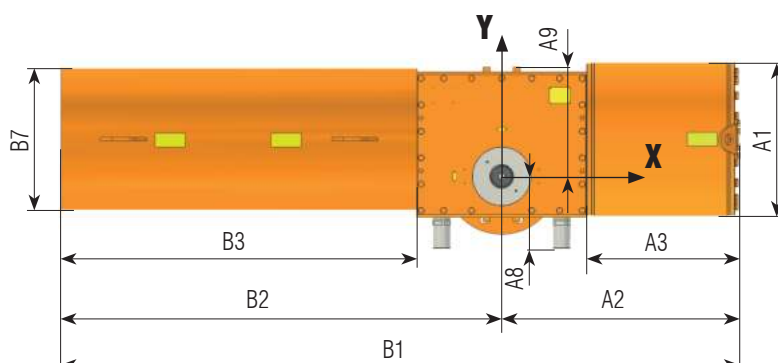
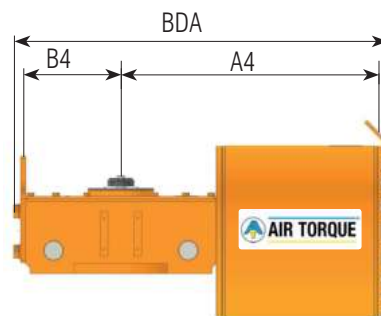
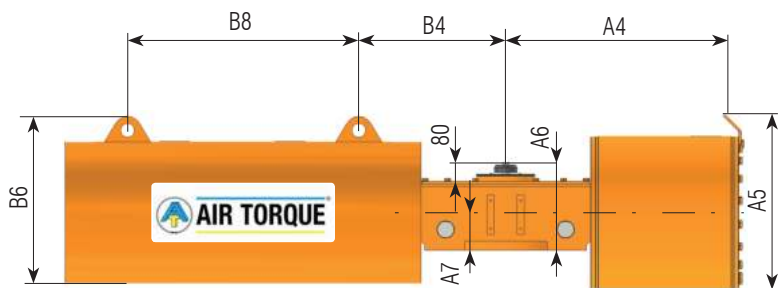
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

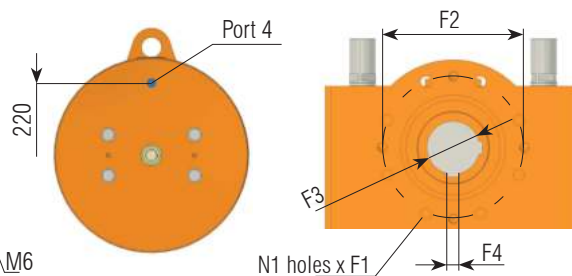
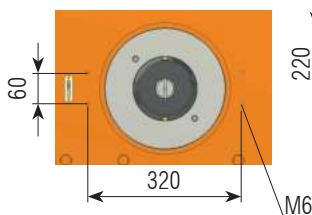


Center of gravity

		X	Y
SR	SET	02	138
		04	148
		06	149
		08	151

Actuator dimensions

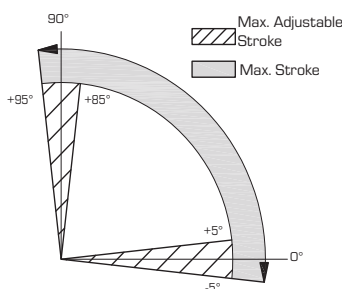
SPRING SET	02	04	06	08	DA
Ø A1	661				661
A2	1028				1028
A3	662				662
A4	991				991
A5	757				757
A6	376				376
A7	162				162
A8	310				310
A9	470				470
B1	2735	2735	2842	2930	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1443
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1540	1556	1662	1882	960



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	126	127	126	127	2,7 ÷ 7,0	2,7 ÷ 7,0	2,7 ÷ 10,2	2,4 ÷ 8,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6,5 bar		7.0 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		21602	19457	25922	23348	30242	27239	34562	31131	38883	35022	47523	42805	56164	50588	M.O.P. exceeded	
Run		11105	10799	13326	12959	15548	15119	17769	17278	19990	19438	24432	23758	28874	28077		
End		20808	20147	24970	24177	29131	28206	33293	32235	37454	36265	45777	44324	54101	52383		

SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	14462	10229	14655	19269	24071	29061	34238	39603	41025	45345	49665	53986	58306	M.O.P. exceeded			
	Run	6666	3866	6153	8513	10962	13503	16139	18870	19713	21935	24156	26377	28598				
	End	10183	5014	9022	13204	17560	22091	26796	31675	33369	37381	41393	45405	49417				
SET 04	Start	20659			13995	18374	22885	27527	32301	37206	42243	47410	52710	53669	57990	M.O.P. exceeded		
	Run	9524			5200	7473	9789	12162	14597	17096	19661	22292	24989	25620	27843			
	End	14547			6604	10568	14654	18862	23193	27645	32219	36915	41734	43085	47097			
SET 06	Start	25824					18575	22968	27466	32068	36776	41589	46508	51531	56659	M.O.P. exceeded		
	Run	11904					7066	9342	11651	14006	16410	18865	21370	23928	26541			
	End	18184					9233	13210	17284	21455	25725	30092	34556	39118	43778			
SET 08	Start	32022							22340	26709	31162	35701	40324	45032	49825	54702	M.O.P. exceeded	
	Run	14762							8400	10669	12963	15290	17654	20057	22502	24987		
	End	22548							10822	14776	18809	22921	27112	31381	35729	40156		

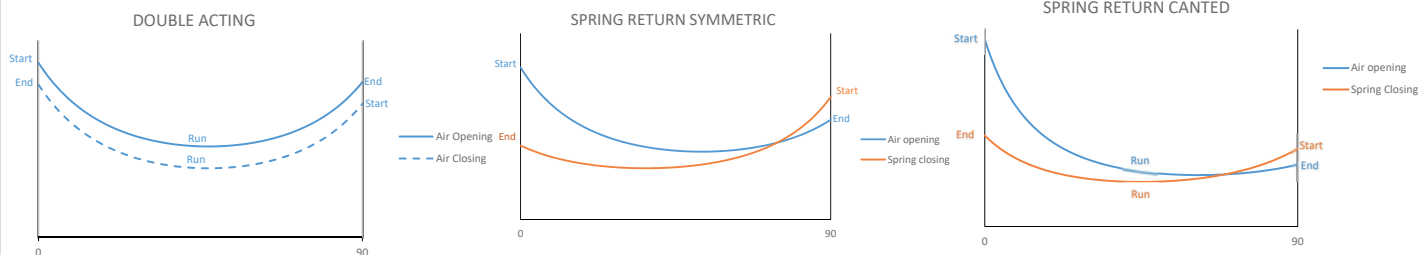
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		25221	17142	30266	20571	35310	23999	40354	27428	45399	30856	50443	34285	55487	37713	M.O.P. exceeded	
Run		10542	10637	12650	12765	14758	14892	16866	17020	18975	19147	21083	21275	23191	23402		
End		17620	24046	21144	28855	24668	33664	28192	38473	31716	43282	35240	48091	38764	52901		

SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	12885		16908	22291	27893	33714	39754	46014	47691	52735	57779	M.O.P. exceeded				
	Run	6804		5609	7842	10158	12561	15054	17637	18453	20560	22665					
	End	12354		7506	11045	14733	18568	22550	26680	28126	31525	34924					
SET 04	Start	18406				21166	26429	31844	37414	43136	49012	55041	M.O.P. exceeded				
	Run	9720				6766	8957	11202	13505	15868	18295	20783					
	End	17649				8759	12217	15779	19444	23213	27084	31060					
SET 06	Start	23008					21334	26458	31705	37075	42567	48182	53920	59781	M.O.P. exceeded		
	Run	12150					6301	8458	10644	12871	15145	17466	19836	22255			
	End	22061					7583	10948	14397	17927	21541	25237	29016	32877			
SET 08	Start	28530							25645	30742	35937	41232	46625	52117	57709	M.O.P. exceeded	
	Run	15065							7469	9622	11793	13995	16231	18504	20816		
	End	27356							8872	12219	15632	19112	22659	26272	29953		

Note:

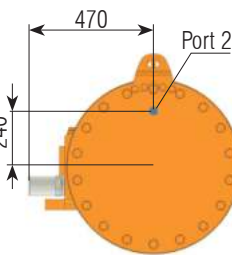
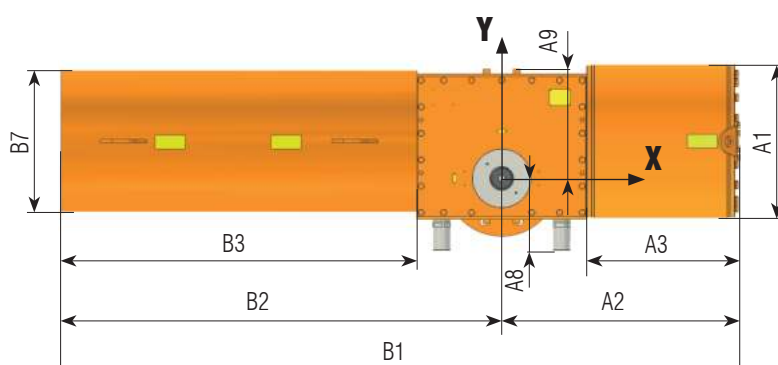
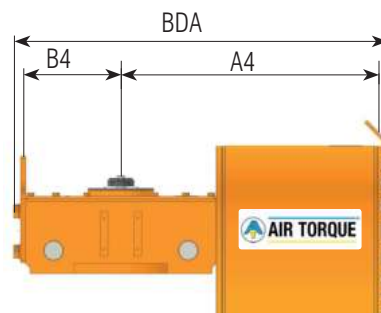
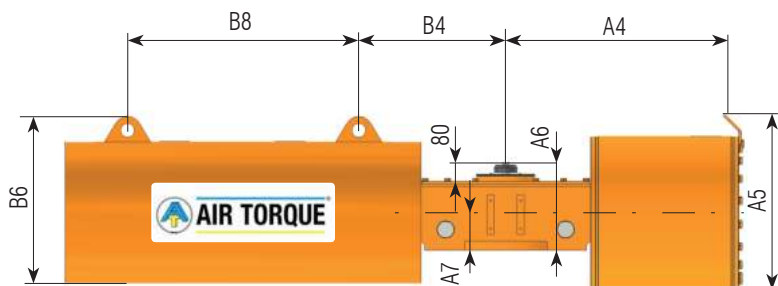
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

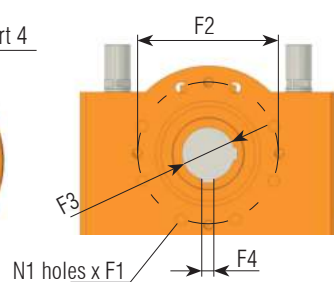
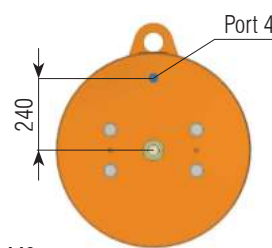
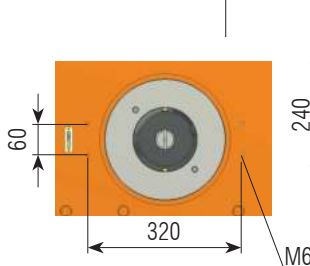


Center of gravity

		X	Y
SR	SET	DA	141
		02	149
		04	149
		06	150
	08	152	

Actuator dimensions

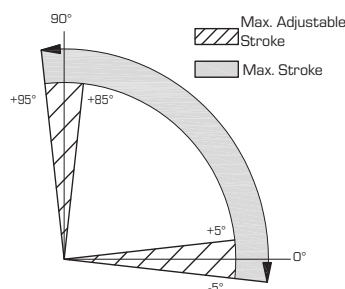
SPRING SET	02	04	06	08	DA
Ø A1	715				715
A2	1035				1035
A3	669				669
A4	998				998
A5	812				812
A6	376				376
A7	162				162
A8	310				310
A9	470				470
B1	2742	2742	2849	2937	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1447
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1659	1678	1784	2004	1088



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Rotation and stroke adjustment:



Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	148	146	148	146	3,1 ÷ 6,9	3,1 ÷ 6,9	3,1 ÷ 10,0	2,7 ÷ 8,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

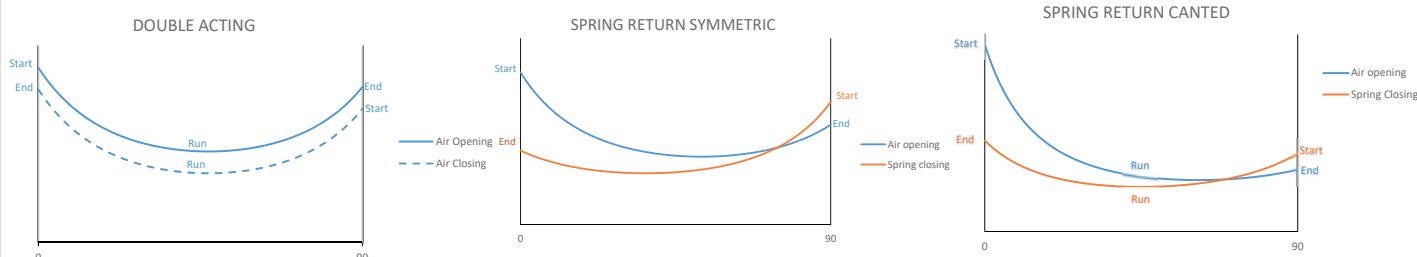
DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		25166	22697	30200	27237	35233	31776	40266	36315	45299	40855	50333	45394	55366	49934	M.O.P. exceeded	
Run		12938	12597	15526	15117	18113	17636	20701	20156	23289	22675	25876	25195	28464	27714		
End		24242	23502	29090	28203	33939	32903	38787	37604	43635	42304	48484	47005	53332	51705		
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	14462	13868	19223	24833	30698	36818	39514	44547	49581	54614	59647	M.O.P. exceeded				
	Run	6666	5749	8490	11350	14338	17452	18935	21525	24113	26700	29288					
	End	10183	8308	13162	18252	23578	29142	31966	36640	41314	45988	50662					
SET 04	Start	20659		13952	19066	24357	29827	35476	41303	47308	53491	55010	M.O.P. exceeded				
	Run	9524		5178	7829	10542	13335	16215	19182	22240	25387	26310					
	End	14547		6565	11194	15988	20948	26074	31365	36822	42444	44330					
SET 06	Start	25824				19970	25137	30447	35899	41494	47231	53112	59135	M.O.P. exceeded			
	Run	11904				7792	10458	13177	15962	18816	21738	24734	27800				
	End	18184				10496	15175	19985	24929	30005	35213	40554	46027				
SET 08	Start	32022						25171	30334	35611	41003	46511	52133	57871	M.O.P. exceeded		
	Run	14762						9874	12537	15244	18001	20811	23679	26601			
	End	22548						13384	18059	22840	27728	32722	37824	43032			

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		29384	19997	35260	23997	41137	27996	47014	31996	52891	35995	58767	39994	M.O.P. exceeded			
Run		12281	12409	14737	14891	17194	17372	19650	19854	22106	22336	24562	24818				
End		20528	28050	24633	33660	28739	39270	32844	44880	36950	50491	41055	56101				
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	12885	15990	22237	28782	35625	42765	45927	51804	57680	M.O.P. exceeded						
	Run	6804	5226	7819	10525	13350	16296	17716	20171	22623							
	End	12354	6902	11010	15318	19827	24536	26938	30897	34857							
SET 04	Start	18406			21973	28146	34528	41117	47915	54921	M.O.P. exceeded						
	Run	9720			7104	9670	12312	15035	17842	20734							
	End	17649			9289	13347	17545	21883	26362	30981							
SET 06	Start	23008				22961	28989	35183	41543	48071	54764	M.O.P. exceeded					
	Run	12150				6990	9514	12088	14722	17420	20184						
	End	22061				8652	12611	16683	20867	25163	29572						
SET 08	Start	28530						28948	34970	41127	47417	53842	M.O.P. exceeded				
	Run	15065						8869	11390	13951	16559	19217					
	End	27356						11041	14997	19043	23180	27408					

Note:

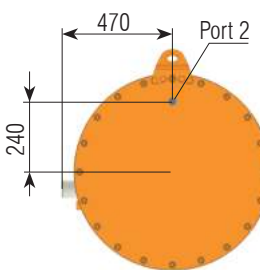
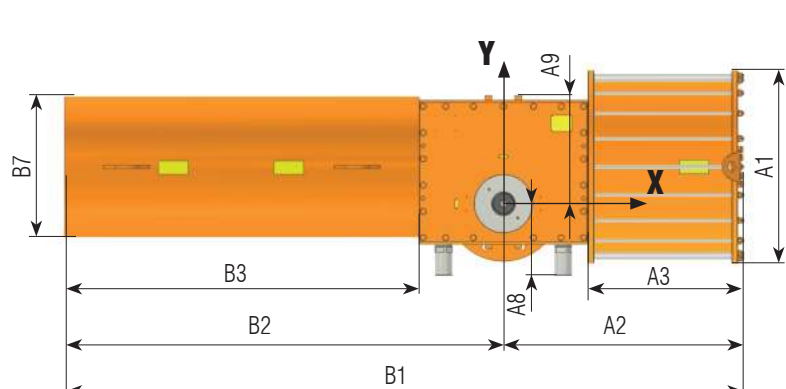
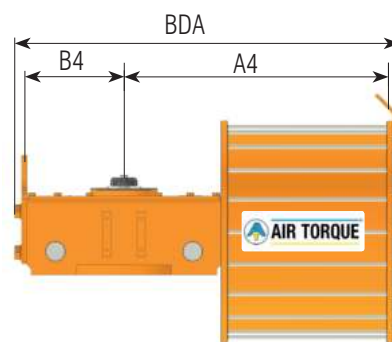
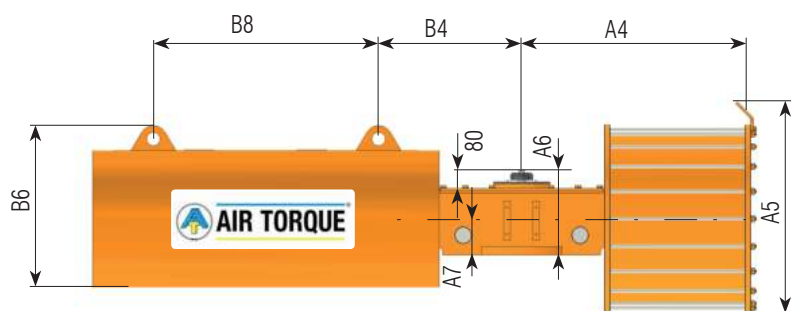
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

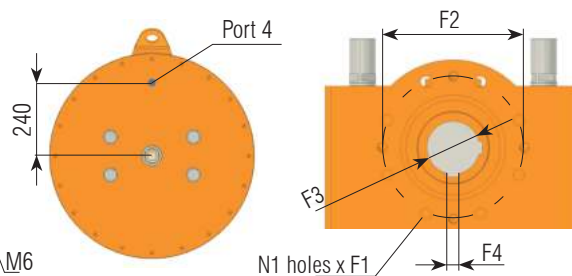
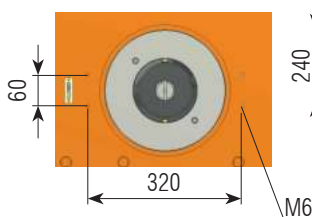


Center of gravity

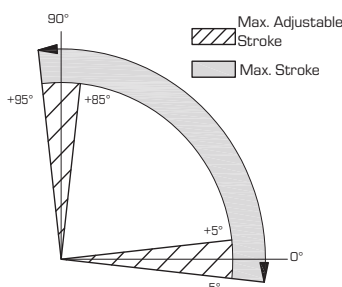
		X	Y
SR	SET	DA	
		02	-32 150
		04	-56 150
		06	-116 151
	08	-240 152	

Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1			838		838
A2			1040		1040
A3			674		674
A4			1000		1000
A5			942		942
A6			376		376
A7			162		162
A8			310		310
A9			470		470
B1	2747	2747	2854	2942	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1452
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1765	1785	1861	2111	1188



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	178	169	178	169	3,6 ÷ 7,2	3,6 ÷ 7,2	3,6 ÷ 10,1	3,1 ÷ 8,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	29402	26547	35282	31857	41163	37166	47043	42475	52924	47785	58804	53094	M.O.P. exceeded			
Run	15116	14734	18139	17681	21162	20628	24185	23575	27208	26522	30231	29469				
End	28322	27489	33986	32987	39651	38485	45315	43983	50979	49480	56644	54978				

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	14462	18357	24890	31770	38997	42105	47985	53866	59746	M.O.P. exceeded					
	Run	6666	8047	11379	14883	18562	20268	23292	26316	29339						
	End	10183	12377	18303	24552	31124	34372	39833	45293	50754						
SET 04	Start	20659	13158	19117	25319	31764	38453	45385	52561	55109	M.O.P. exceeded					
	Run	9524	4759	7855	11033	14323	17731	21262	24913	26361						
	End	14547	5847	11240	16860	22705	28777	35075	41598	44422						
SET 06	Start	25824			20880	26961	33236	39705	46370	53229	M.O.P. exceeded					
	Run	11904			8264	11393	14603	17904	21299	24793						
	End	18184			11320	16826	22514	28382	34431	40661						
SET 08	Start	32022				21860	27814	33926	40195	46620	53203	59943	M.O.P. exceeded			
	Run	14762				8148	11240	14380	17587	20867	24224	27656				
	End	22548				10387	15777	21313	26994	32822	38795	44914				

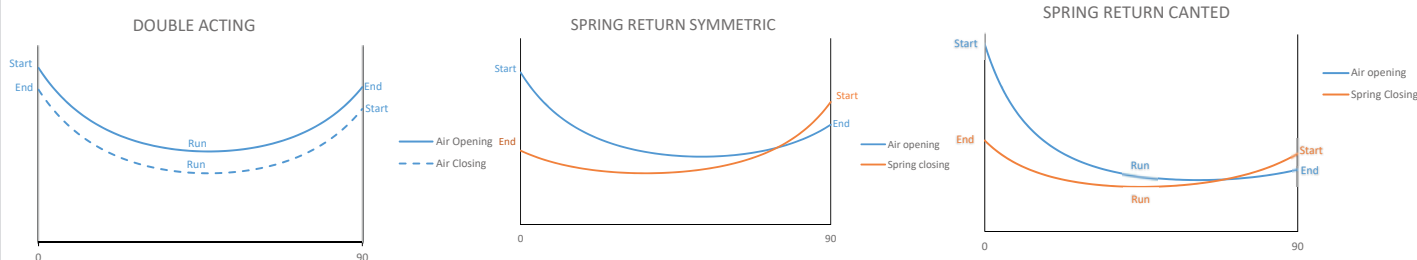
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	34329	23389	41195	28067	48061	32745	54927	37423	M.O.P. exceeded							
Run	14348	14514	17218	17416	20087	20319	22957	23222								
End	23983	32808	28779	39370	33576	45932	38372	52493								

SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	12885	21227	28848	36875	45308	48952	55818	M.O.P. exceeded							
	Run	6804	7401	10552	13866	17345	18980	21846								
	End	12354	10345	15361	20651	26214	28976	33602								
SET 04	Start	18406		22033	29268	36787	44591	52678	M.O.P. exceeded							
	Run	9720		7128	10135	13246	16469	19809								
	End	17649		9328	14084	19032	24171	29501								
SET 06	Start	23008			24023	31116	38436	45984	53759	M.O.P. exceeded						
	Run	12150			7437	10399	13436	16557	19769							
	End	22061			9349	14009	18823	23790	28910							
SET 08	Start	28530				32031	39161	46474	53970	M.O.P. exceeded						
	Run	15065				10163	13135	16168	19270							
	End	27356				13066	17751	22560	27492							

Note:

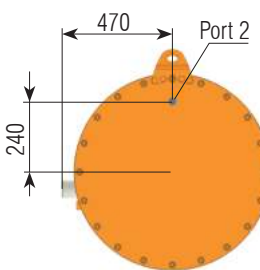
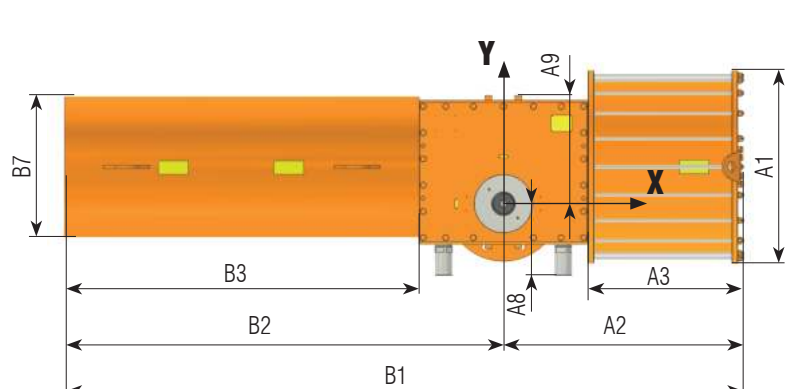
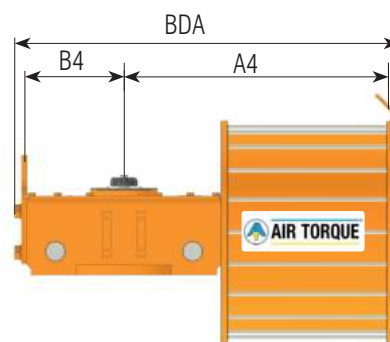
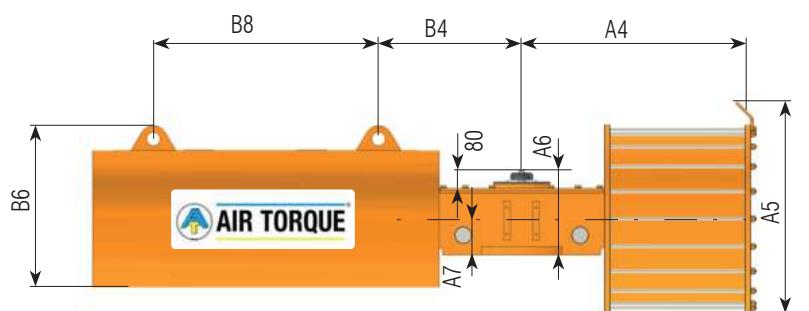
- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



Dimensions in mm

SPRING RETURN

DOUBLE ACTING

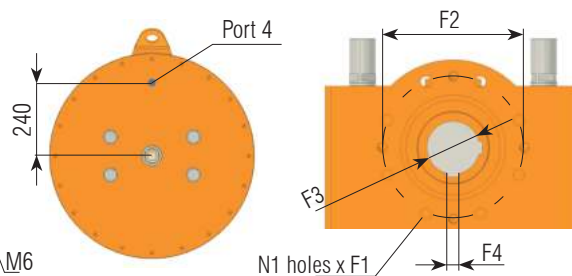
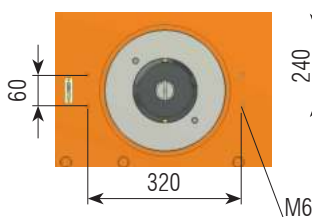


Center of gravity

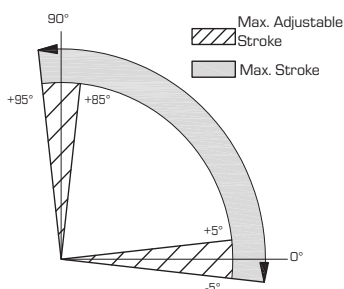
SR	SET	DA	
		X	Y
	02	-4	150
	04	-15	150
	06	-85	150
	08	-207	152

Actuator dimensions

SPRING SET	02	04	06	08	DA
Ø A1		903			903
A2		1062			1062
A3		702			702
A4		1020			1020
A5		1019			1019
A6		376			376
A7		162			162
A8		310			310
A9		470			470
B1	2767	2767	2876	2964	-
B2	1707	1707	1814	1902	-
B3	1341	1341	1448	1536	-
B4	638	638	634	634	376
BDA	-	-	-	-	1480
B6	618	618	669	720	-
Ø B7	508	508	559	610	-
B8	810	810	913	998	-
WEIGHT (Kg)	1828	1847	1953	2172	1250



Rotation and stroke adjustment:



ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F40	F35
N1	8	8
Ø F1	M36X30	M30X30
Ø F2	406	356
Ø F3	150D10	150D10
F4	36D10	36D10
Connection keyed bore depth	210	210

Air Connection

PORT 2 AND 4	1" NPT	G 1"

Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	222	208	220	212	8,9 ÷ 24,9	8,9 ÷ 24,9	4,4 ÷ 9,7	7,7 ÷ 27,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 60.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

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SYMMETRIC YOKE

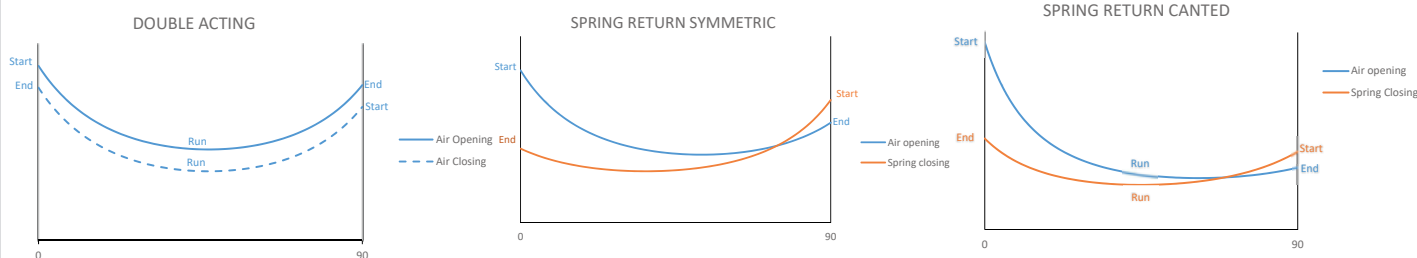
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	33538	30307	40246	36368	46954	42430	53661	48491	M.O.P. exceeded							
Run	17242	16821	20691	20185	24139	23549	27587	26914								
End	32306	31382	38768	37659	45229	43935	51690	50212								
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	14462	22916	30674	38885	42843	49550	56258	M.O.P. exceeded							
	Run	6666	10373	14325	18504	20648	24097	27545								
	End	10183	16512	23557	31022	35057	41286	47515								
SET 04	Start	20659	17324	24336	31664	39309	47271	55550	58329	M.O.P. exceeded						
	Run	9524	6931	10531	14272	18167	22221	26435	28018							
	End	14547	9617	15969	22615	29555	36789	44317	47412							
SET 06	Start	25824		19950	26867	34037	41460	49137	57067	M.O.P. exceeded						
	Run	11904		7781	11344	15012	18799	22709	26748							
	End	18184		10478	16741	23240	29974	36943	44148							
SET 08	Start	32022			21770	28572	35579	42790	50205	57824	M.O.P. exceeded					
	Run	14762			8101	11631	15228	18914	22695	26577						
	End	22548			10307	16464	22811	29347	36074	42990						

CANTED YOKE

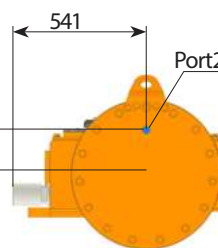
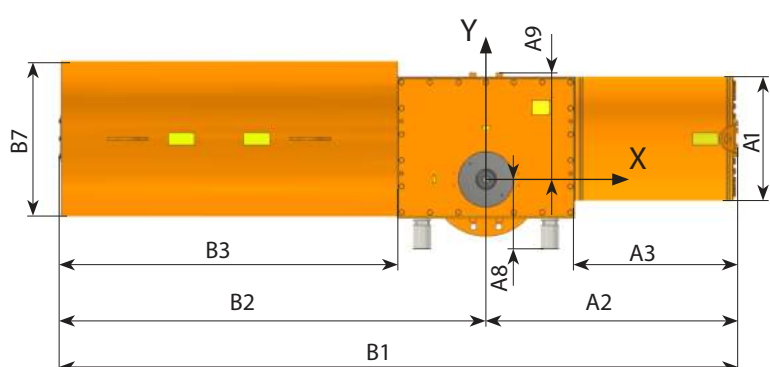
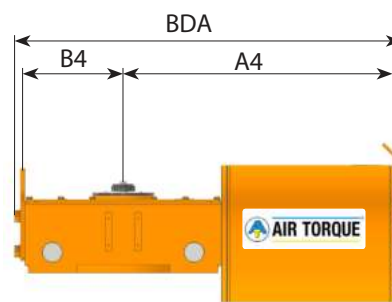
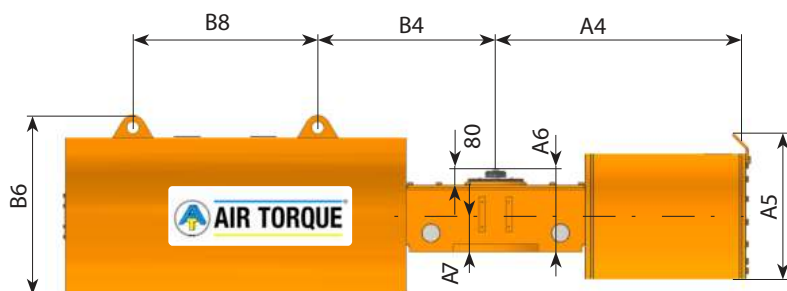
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	39159	26702	46990	32042	54822	37383	M.O.P. exceeded									
Run	16367	16569	19640	19883	22913	23197										
End	27357	37455	32828	44946	38299	52437										
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	12885	26545	35597	45176	49813	57645	M.O.P. exceeded								
	Run	6804	9601	13338	17291	19340	22608									
	End	12354	13845	19808	26127	29556	34833									
SET 04	Start	18406	19942	28121	36671	45590	54879	M.O.P. exceeded								
	Run	9720	6253	9660	13198	16881	20716									
	End	17649	7954	13330	18955	24829	30952									
SET 06	Start	23008		22938	31006	39371	48031	56987	M.O.P. exceeded							
	Run	12150		6980	10354	13823	17404	21102								
	End	22061		8636	13937	19438	25137	31036								
SET 08	Start	28530			32916	41089	49501	58152	M.O.P. exceeded							
	Run	15065			10533	13936	17423	20999								
	End	27356			13647	19019	24551	30244								

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).



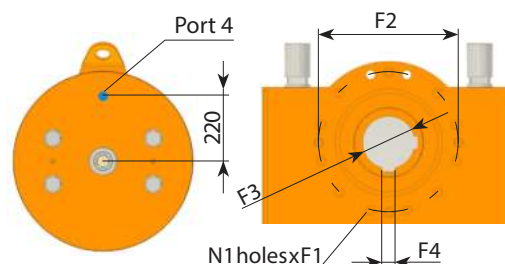
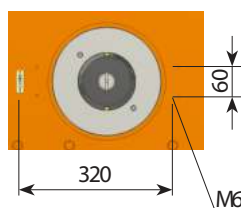
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

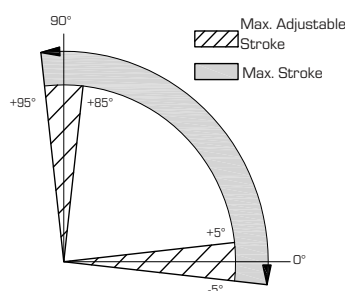
		X	Y	
SR	DA	420	161	
	SET	02	-407	181
		04	-471	182
		06	-529	183
		08	-576	184
	10	-594	184	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1	661	-	-	-	-	661
A2	1247	-	-	-	-	1247
A3	811	-	-	-	-	811
A4	1206	-	-	-	-	1206
A5	756	-	-	-	-	756
A6	404	-	-	-	-	404
A7	174	-	-	-	-	174
A8	341	-	-	-	-	341
A9	525	-	-	-	-	525
B1	3348	3348	-	-	-	-
B2	2105	2105	-	-	-	-
B3	1669	1669	-	-	-	-
B4	866	866	-	-	-	466
BDA	-	-	-	-	-	1740
B6	872	872	-	-	-	-
∅ B7	762	762	-	-	-	-
B8	900	900	-	-	-	-
WEIGHT (Kg)	2341	2518	-	-	-	1152


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume (L)				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	171	176	169	178	3,4 ÷ 12,1	3,4 ÷ 12,1	5,4 ÷ 13,4	4,7 ÷ 11,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE (AS)

DOUBLE ACTING OUTPUT TORQUE (Nm)																		
Supply pressure		2,5 bar		3,5 bar		4,5 bar		5,5 bar		7 bar		8 bar		9 bar		9,5 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing		
Start	27002	24321	37803	34049	48603	43778	59404	53506	75605	68099	86406	77827	97207	87556	M.O.P. exceeded			
Run	13882	13499	19434	18898	24987	24298	30540	29697	38869	37796	44422	43196	49974	48595				
End	26010	25184	36414	35257	46818	45331	57222	55405	72828	70515	83232	80589	93636	90662				
SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	30989					24252	29795	35475	41291	47245	53335	59562	65926	72427	79065	84824	
	Run	14285					9499	12359	15270	18243	21279	24384	27555	30797	34106	37484	40653	
	End	21820					12856	17875	23020	28293	33694	39221	44875	50657	56565	62601	68639	
SET 04	Start	41319									32336	37862	43490	49221	55055	60991	67030	79416
	Run	19047									12666	15519	18409	21343	24324	27352	30432	36740
	End	29094									17141	22144	27242	32436	37725	43109	48588	59833
SET 06	Start	51648	M.O.P. exceeded															
	Run	23809	M.O.P. exceeded															
	End	36367	M.O.P. exceeded															
SET 08	Start	59912	M.O.P. exceeded															
	Run	27618	M.O.P. exceeded															
	End	42186	M.O.P. exceeded															
SET 10	Start	68176	M.O.P. exceeded															
	Run	31467	M.O.P. exceeded															
	End	48133	M.O.P. exceeded															

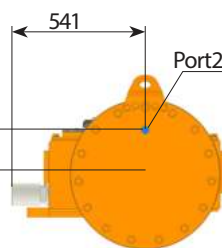
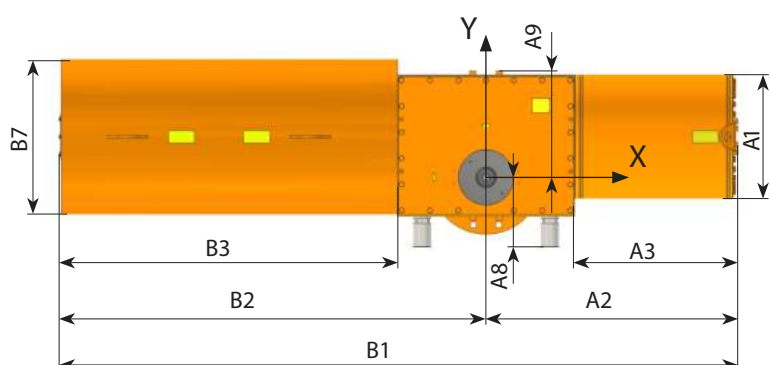
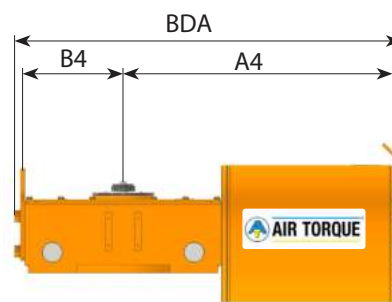
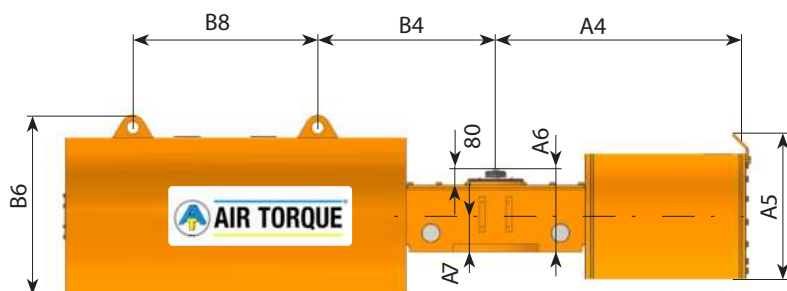
CANTED YOKE (AC)

DOUBLE ACTING OUTPUT TORQUE (Nm)																		
Supply pressure		2,5 bar		3 bar		3,5 bar		4,5 bar		5,5 bar		6,5 bar		7,5 bar		8 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing		
Start	31527	21428	37832	25714	44138	29999	56748	38570	69359	47141	81970	55713	94580	64284	M.O.P. exceeded			
Run	13177	13297	15812	15956	18448	18615	23718	23934	28989	29253	34260	34571	39531	39890				
End	22025	30057	26430	36069	30835	42080	39645	54103	48455	66126	57265	78149	66075	90172				
SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	27610					27889	34355	40981	47767	54712	61817	69082	76507	84092	91836	98592	
	Run	14590					8530	11237	13992	16803	19675	22611	25610	28676	31806	35001	38038	
	End	26473					10602	14850	19205	23668	28239	32917	37703	42597	47598	52707	57843	
SET 04	Start	36813									37186	43632	50198	56883	63689	70614	77660	92110
	Run	19439									11373	14076	16810	19585	22405	25268	28181	34147
	End	35298									14137	18371	22686	27081	31558	36115	40753	50271
SET 06	Start	46016	M.O.P. exceeded															
	Run	24299	M.O.P. exceeded															
	End	44122	M.O.P. exceeded															
SET 08	Start	53379	M.O.P. exceeded															
	Run	28187	M.O.P. exceeded															
	End	51181	M.O.P. exceeded															
SET 10	Start	60738	M.O.P. exceeded															
	Run	32106	M.O.P. exceeded															
	End	58389	M.O.P. exceeded															

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

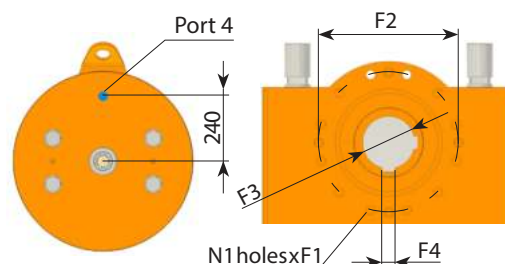
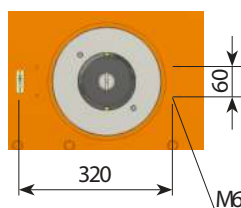
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

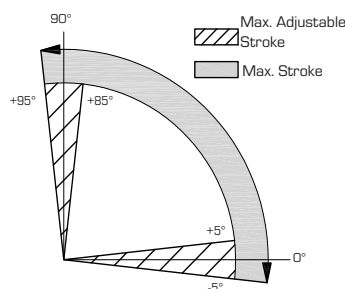
		X	Y
SR	SET	DA	
		02	-344 182
		04	-409 183
		06	-468 183
		08	-517 185
	10	-548 185	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1		715				715
A2		1245				1245
A3		809				809
A4		1208				1208
A5		812				812
A6		404				404
A7		174				174
A8		341				341
A9		525				525
B1	3350	3350	3410			
B2	2105	2105	2165			
B3	1669	1669	1729			
B4	866	866	956			466
BDA						1727
B6	872	872	923			
∅ B7	762	762	813			
B8	900	900	900			
WEIGHT (Kg)	2461	2674	2818			1271


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume [L]				Approx. Moving time [sec.][A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	199	204	197	208	3,9 ÷ 11,7	3,9 ÷ 11,7	5,5 ÷ 15,6	4,8 ÷ 13,6	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Kv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE (AS)

DOUBLE ACTING OUTPUT TORQUE (Nm)																		
Supply pressure		2,5 bar		3 bar		3,5 bar		4,5 bar		5,5 bar		6,5 bar		7,5 bar		8 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing		
Start	31458	28371	37750	34046	44041	39720	56624	51068	69208	62417	81791	73766	94374	85114	M.O.P. exceeded			
Run	16173	15747	19407	18896	22642	22045	29111	28344	35580	34643	42049	40942	48518	47240				
End	30302	29378	36363	35254	42423	41129	54544	52880	66665	64632	78786	76383	90907	88134				
SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	30989				26012	32534	39241	46135	53214	60479	67929	75566	83388	83774	90066	M.O.P. exceeded	
	Run	14285				10410	13764	17196	20713	24322	28022	31817	35703	39685	40112	43350		
	End	21820				14449	20356	26435	32687	39111	45708	52477	59419	66533	67664	73506		
SET 04	Start	41319						30428	36834	43379	50063	56886	63849	70952	78193	85574	M.O.P. exceeded	
	Run	19047						11674	14991	18352	21773	25258	28810	32429	36117	39877		
	End	29094						15414	21213	27141	33199	39386	45702	52148	58723	65428		
SET 06	Start	51648									34881	41217	47664	54223	60894	67675	74569	88690
	Run	23809									12944	16246	19573	22940	26355	29821	33338	40537
	End	36367									16413	22147	27985	33926	39971	46119	52371	65185
SET 08	Start	M.O.P. exceeded																
	Run	M.O.P. exceeded																
	End	M.O.P. exceeded																
SET 10	Start	M.O.P. exceeded																
	Run	M.O.P. exceeded																
	End	M.O.P. exceeded																

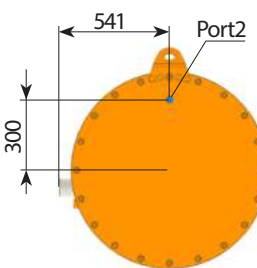
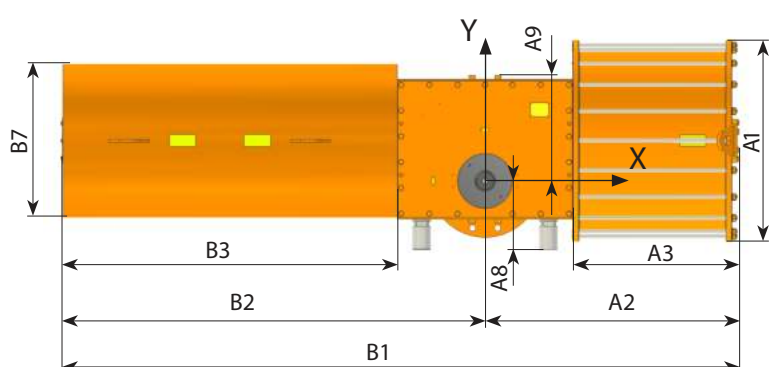
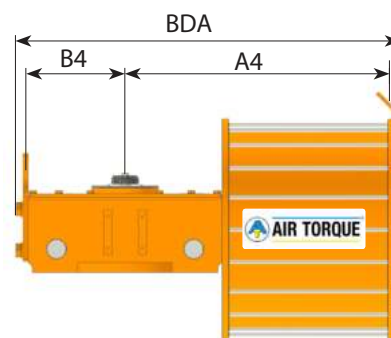
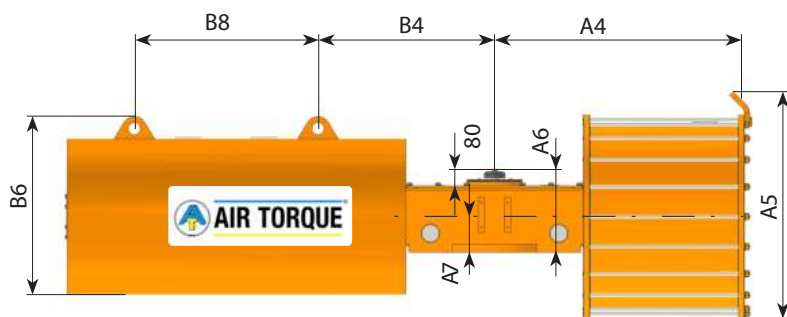
CANTED YOKE (AC)

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5,5 bar		6,5 bar		7 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	36730	24997	44076	29996	51421	34995	58767	39994	66113	44994	80805	54992	95497	64991	M.O.P. exceeded		
Run	15351	15511	18422	18613	21492	21715	24562	24818	27633	27920	33773	34124	39914	40329			
End	25660	35063	30792	42075	35923	49088	41055	56101	46187	63113	56451	77138	66715	91163			
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	27610				29943	37551	45375	53417	61676	70152	78844	87754	96880	97365	M.O.P. exceeded	
	Run	14580				9393	12567	15813	19140	22553	26052	29642	33317	37083	37525		
	End	26473				11951	16950	22095	27387	32824	38408	44138	50014	56036	57017		
SET 04	Start	36813						34960	42432	50067	57865	65826	73949	82235	90683	99294	M.O.P. exceeded
	Run	19439						10432	13574	16756	19992	23288	26647	30070	33558	37114	
	End	35298						12675	17583	22600	27727	32964	38310	43766	49331	55006	
SET 06	Start	46016									47412	54933	62584	70366	78277	86319	M.O.P. exceeded
	Run	24299									14607	17759	20945	24176	27453	30779	
	End	44122									18281	23222	28250	33366	38570	43862	
SET 08	Start	M.O.P. exceeded															
	Run	M.O.P. exceeded															
	End	M.O.P. exceeded															
SET 10	Start	M.O.P. exceeded															
	Run	M.O.P. exceeded															
	End	M.O.P. exceeded															

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).

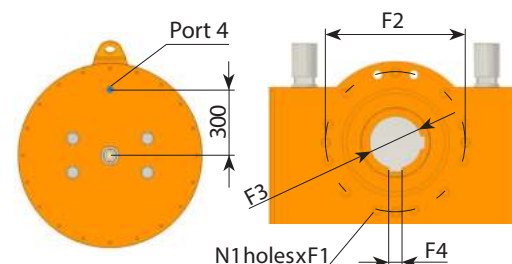
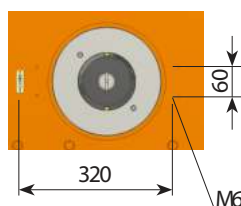
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

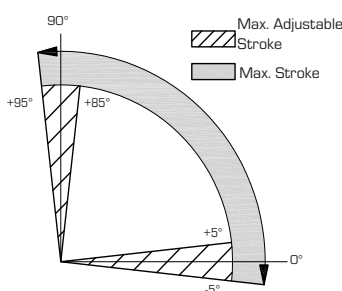
		X	Y	
SR	DA	499	168	
	SET	02	-286	183
		04	-352	184
		06	-412	185
08		-462	185	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
Ø A1		845			-	845
A2		1250			-	1250
A3		814			-	814
A4		1210			-	1210
A5		948			-	948
A6		404			-	404
A7		174			-	174
A8		341			-	341
A9		525			-	525
B1	3354	3354	3414	3414	-	-
B2	2105	2105	2165	2165	-	-
B3	1669	1669	1729	1729	-	-
B4	866	866	956	956	-	466
BDA	-	-	-	-	-	1743
B6	872	872	923	923	-	-
Ø B7	762	762	813	813	-	-
B8	900	900	900	900	-	-
WEIGHT (Kg)	2588	2764	2944	3109	-	1398


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
Ø F1	M36X38	M36X38
Ø F2	483	406
Ø F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	234	236	231	241	4,5 ÷ 11,7	4,5 ÷ 11,7	5,4 ÷ 17,1	4,8 ÷ 14,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3,X Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE (AS)

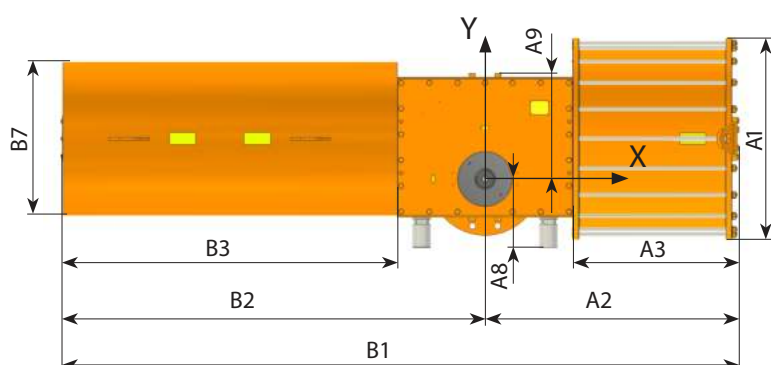
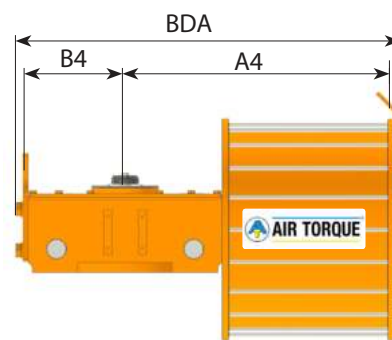
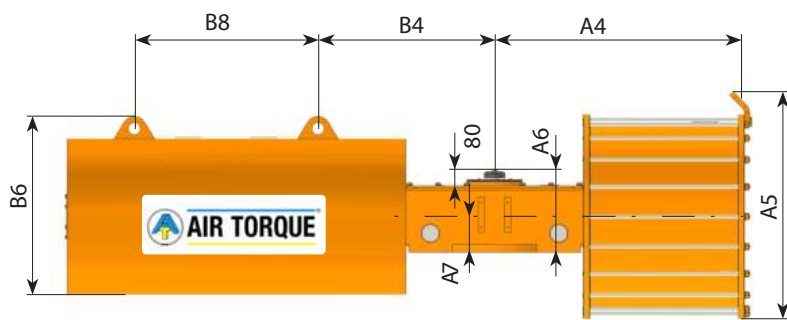
DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		36254	32731	43505	39277	50756	45823	58007	52370	65258	58916	72508	65462	79759	72008	M.O.P. exceeded	
Run		18638	18166	22366	21800	26094	25433	29821	29066	33549	32700	37277	36333	41004	39966		
End		34922	33892	41907	40671	48891	47449	55876	54228	62860	61006	69845	67785	76829	74563		
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	30989			26445	33992	41785	49826	58113	66646	75427	84454	85580	92830	M.O.P. exceeded		
	Run	14285			10634	14511	18495	22596	26817	31164	35632	40227	41042	44773			
	End	21820			14841	21677	28742	36036	43559	51311	59293	67503	69341	76074			
SET 04	Start	41319					32796	40250	47889	55714	63723	71918	80297	88862	97611	M.O.P. exceeded	
	Run	19047					12904	16748	20662	24660	28745	32921	37189	41552	46005		
	End	29094					17557	24307	31229	38322	45588	53025	60634	68415	76368		
SET 06	Start	51648							39159	46558	54105	61799	69642	77633	85772	94059	M.O.P. exceeded
	Run	23809							15178	19004	22879	26818	30825	34901	39051	43271	
	End	36367							20285	26983	33819	40792	47903	55151	62537	70060	
SET 08	Start	59912								39895	47186	54605	62152	69826	77628	85558	M.O.P. exceeded
	Run	27618								14717	18520	22352	26228	30158	34146	38191	
	End	42186								18526	25125	31842	38678	45632	52705	59896	
SET 10	Start																M.O.P. exceeded
	Run																
	End																

CANTED YOKE (AC)

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		42330	28838	50796	34605	59261	40373	67727	46140	76193	51908	84659	57675	93125	63443	M.O.P. exceeded	
Run		17692	17894	21230	21473	24769	25052	28307	28631	31846	32210	35384	35789	38923	39368		
End		29572	40451	35486	48541	41401	56631	47315	64721	53229	72811	59144	80901	65058	88992		
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	27610			30447	39251	48343	57723	67391	77348	87592	98124	99473	M.O.P. exceeded			
	Run	14580			9604	13273	17042	20920	24912	29023	33250	37596	38406				
	End	26473			12283	18068	24048	30221	36589	43151	49907	56857	58437				
SET 04	Start	36813					37722	46418	55330	64458	73802	83362	93138	M.O.P. exceeded			
	Run	19439					11599	15237	18942	22723	26586	30536	34572				
	End	35298					14489	20202	26060	32064	38213	44508	50949				
SET 06	Start	46016							45011	53642	62446	71422	80572	89894	99390	M.O.P. exceeded	
	Run	24299							13595	17219	20887	24613	28404	32257	36183		
	End	44122							16705	22374	28159	34061	40080	46215	52466		
SET 08	Start	53379								54268	62923	71726	80679	89781	99032	M.O.P. exceeded	
	Run	28187								16638	20266	23934	27652	31423	35250		
	End	51181								20727	26412	32198	38083	44070	50156		
SET 10	Start																M.O.P. exceeded
	Run																
	End																

Note:
 - M.O.P.: Maximun Operating Pressure.
 - Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
 - Spring set 10 available on request

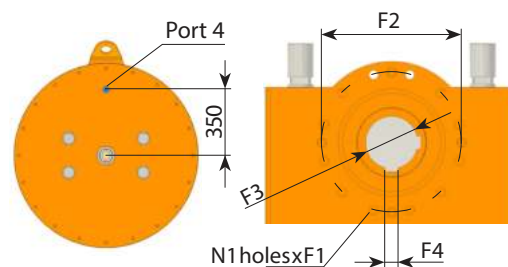
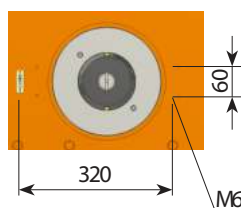
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

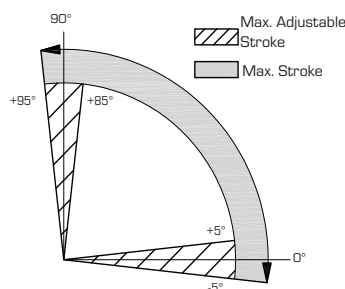
		X	Y
SR	DA	513	168
	SET	02	-310
	04	-324	
	06	-408	
	08	-440	185

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1			889			889
A2			1250			1250
A3			814			814
A4			1207			1207
A5			995			995
A6			404			404
A7			174			174
A8			341			341
A9			525			525
B1	3358	3358	3418	3418	3405	-
B2	2105	2105	2165	2165	2155	-
B3	1669	1669	1729	1729	1719	-
B4	866	866	956	956	956	466
BDA	-	-	-	-	-	1743
B6	872	872	923	923	921	-
∅ B7	762	762	813	813	813	-
B8	900	900	900	900	900	-
WEIGHT (Kg)	2631	2807	2987	3152	3270	1442


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"

Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	275	257	272	262	11,1 ÷ 24,4	11,1 ÷ 24,4	9,4 ÷ 18,2	11,7 ÷ 32,7	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

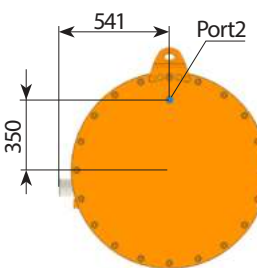
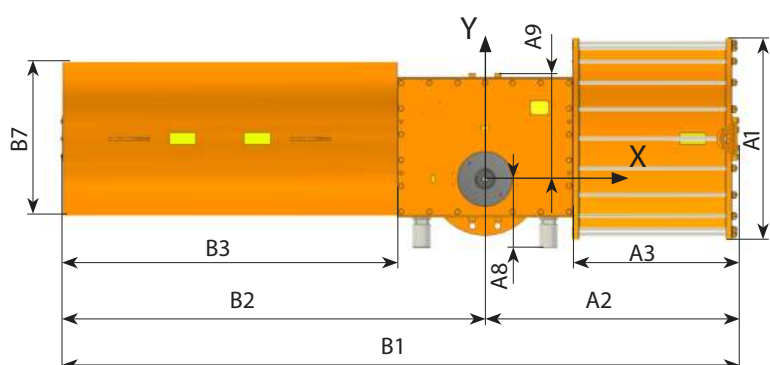
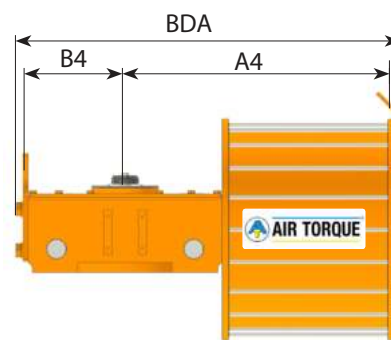
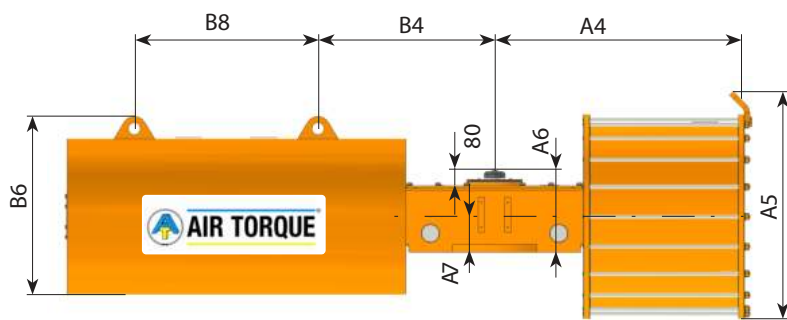
DOUBLE ACTING OUTPUT TORQUE (Nm)																			
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar			
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing		
Start		41923	37884	50308	45460	58692	53037	67077	60614	75461	68191	83846	75767	92231	83344	M.O.P. exceeded			
Run		21553	21026	25863	25232	30174	29437	34484	33642	38795	37847	43105	42053	47416	46258				
End		40383	39228	48459	47073	56536	54919	64613	62764	72689	70610	80766	78456	88842	86301				
SPRING RETURN OUTPUT TORQUE (Nm)																			
SPRING	Position	Spring - torque	Supply pressure - opening																
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar		
SET 02	Start	30989		25987	34718	43779	53171	62892	72943	83324	85817	94201	M.O.P. exceeded						
	Run	14285		10397	14884	19512	24300	29251	34369	39652	41164	45478							
	End	21820		14426	22335	30550	39072	47900	57035	66475	69561	77347							
SET 04	Start	41319			26206	34649	43339	52277	61462	70894	80574	90502	M.O.P. exceeded						
	Run	19047			9460	13863	18332	22904	27592	32400	37330	42387							
	End	29094			11593	19234	27105	35206	43536	52096	60886	69905							
SET 06	Start	51648					34843	43311	51976	60840	69901	79161	88618	98273	M.O.P. exceeded				
	Run	23809					12924	17328	21789	26327	30957	35680	40500	45417					
	End	36367					16379	24043	31891	39922	48138	56537	65120	73887					
SET 08	Start	59912						36753	45131	53681	62401	71292	80353	89585	98988	M.O.P. exceeded			
	Run	27618						13054	17455	21876	26355	30907	35537	40245	45041				
	End	42186						15683	23265	31005	38903	46960	55175	63549	72082				
SET 10	Start											46869	55330	63940	72700	81610	90671	99881	M.O.P. exceeded
	Run											17561	21962	26401	30896	35456	40086	44763	
	End											22530	30188	37986	45923	53999	62214	70569	

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position		opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start		48948	33377	58738	40053	68528	46728	78317	53404	88107	60079	97897	66755	M.O.P. exceeded			
Run		20458	20712	24550	24854	28642	28996	32733	33138	36825	37281	40917	41423				
End		34196	46819	41035	56182	47874	65546	54713	74910	61552	84274	68391	93637				
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	27610		29913	40098	50670	61626	72967	84694	96806	99750	M.O.P. exceeded					
	Run	14580		9380	13625	18004	22532	27215	32055	37052	38522						
	End	26473		11931	18625	25578	32791	40264	47996	55987	58624						
SET 04	Start	36813				39883	50021	60448	71163	82168	93461	M.O.P. exceeded					
	Run	19439				12507	16737	21062	25495	30043	34705						
	End	35298				15908	22570	29426	36476	43722	51162						
SET 06	Start	46016						49854	59963	70303	80874	91676	M.O.P. exceeded				
	Run	24299						15634	19855	24150	28529	32994					
	End	44122						19885	26527	33325	40278	47387					
SET 08	Start	53379							51871	61844	72017	82389	92960	M.O.P. exceeded			
	Run	28187							15625	19815	24055	28360	32740				
	End	51181							19153	25704	32388	39208	46161				
SET 10	Start	68176										63666	73710	83929	94324	M.O.P. exceeded	
	Run	31467										19778	23981	28235	32548		
	End	48133										24942	31541	38259	45094		

Note:
 - M.O.P.: Maximun Operating Pressure.
 - Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
 - Spring set 10 available on request

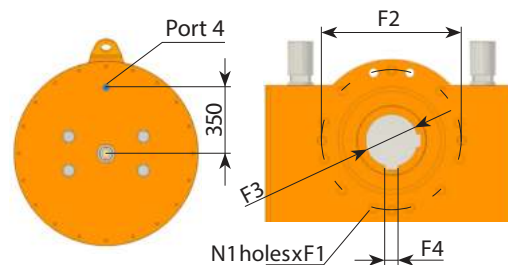
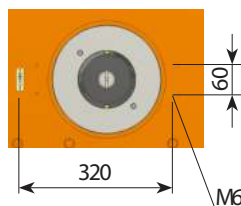
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

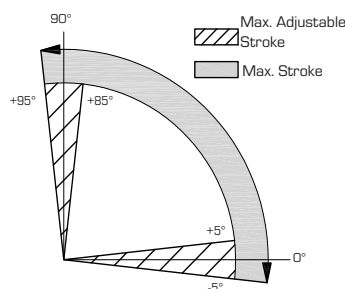
		X	Y
SR	DA	567	174
	SET		
	02	-156	185
	04	-222	185
	06	-283	186
	08	-334	187

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1			1000			1000
A2			1252			1252
A3			816			816
A4			1215			1215
A5			1109			1109
A6			404			404
A7			174			174
A8			341			341
A9			525			525
B1	3365	3365	3425	3425	3407	-
B2	2105	2105	2165	2165	2155	-
B3	1669	1669	1729	1729	1719	-
B4	866	866	956	956	956	466
BDA	-	-	-	-	-	1745
B6	872	872	923	923	921	-
∅ B7	762	762	813	813	813	-
B8	900	900	900	900	900	-
WEIGHT (Kg)	2922	3098	3278	3443	3434	1732


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"

Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	347	326	343	335	6,6 ÷ 11,9	6,6 ÷ 11,9	6,6 ÷ 17,2	5,8 ÷ 14,9	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	53284	48211	63941	57853	74598	67495	85255	77137	95912	86779	M.O.P. exceeded						
Run	27394	26758	32872	32110	38351	37461	43830	42813	49308	48164							
End	51327	49921	61592	59905	71858	69890	82123	79874	92388	89858							
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	30989	29049	40352	52189	64558	77460	83386	94042	M.O.P. exceeded							
	Run	14285	11975	17763	23800	30100	36667	39912	45397								
	End	21820	17199	27442	38180	49414	61142	67303	77199								
SET 04	Start	41319		31462	42433	53803	65573	77742	90311	M.O.P. exceeded							
	Run	19047		12213	17867	23685	29689	35887	42290								
	End	29094		16350	26284	36589	47266	58313	69732								
SET 06	Start	51648			33983	44753	55843	67253	78983	91033	M.O.P. exceeded						
	Run	23809			12471	18073	23771	29606	35589	41730							
	End	36367			15600	25349	35394	45737	56376	67312							
SET 08	Start	59912					48864	59855	71122	82664	94482	M.O.P. exceeded					
	Run	27618					19390	25050	30820	36715	42743						
	End	42186					26644	36597	46806	57271	67993						
SET 10	Start	68176						52861	63775	74932	86331	97972	M.O.P. exceeded				
	Run	31467						20683	26316	32040	37869	43810					
	End	48133						27953	37837	47945	58279	68837					

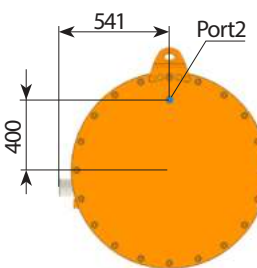
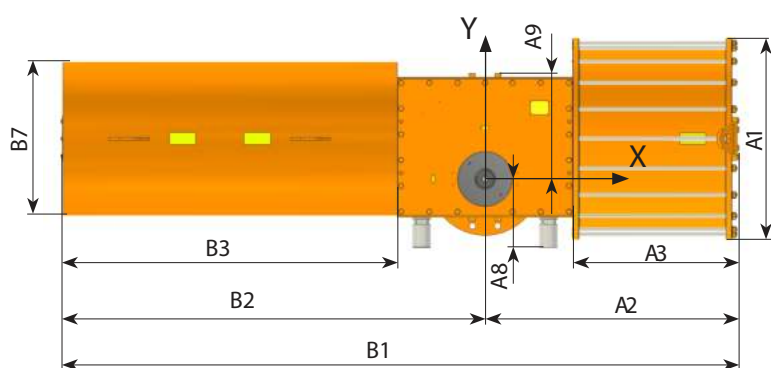
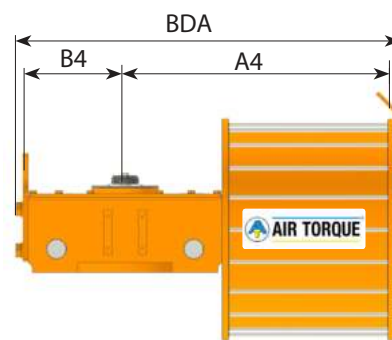
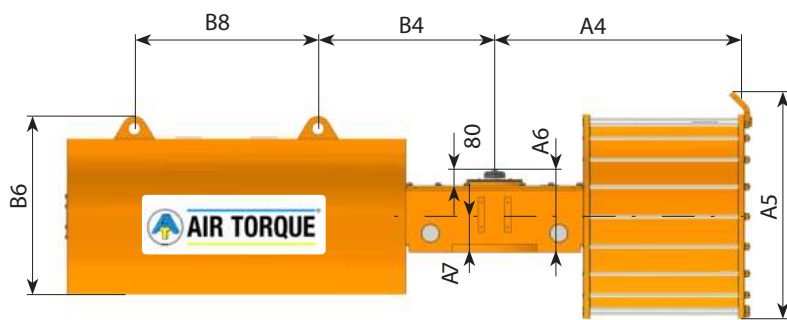
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	62214	42476	74656	50971	87099	59466	99542	67961	M.O.P. exceeded							
Run	26003	26357	31203	31629	36404	36900	41604	42172								
End	43463	59581	52156	71498	60848	83414	69541	95330								
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	27610	33485	46671	60480	74911	89964	96912	M.O.P. exceeded							
	Run	14580	10874	16349	22059	28017	34229	37336								
	End	26473	14278	22948	32037	41545	51472	56711								
SET 04	Start	36813		36166	48964	62228	75959	90157	M.O.P. exceeded							
	Run	19439		10942	16298	21799	27478	33341								
	End	35298		13467	21875	30597	39634	48985								
SET 06	Start	46016				51537	64474	77785	91470	M.O.P. exceeded						
	Run	24299				16338	21730	27249	32909							
	End	44122				20991	29493	38246	47251							
SET 08	Start	53379					56225	69047	82190	95656	M.O.P. exceeded					
	Run	28187					17460	22819	28278	33854						
	End	51181					22012	30436	39077	47935						
SET 10	Start	60738						60786	73518	86533	99831	M.O.P. exceeded				
	Run	32106						18566	23901	29316	34830					
	End	58389						23051	31415	39971	48717					

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
- Spring set 10 available on request

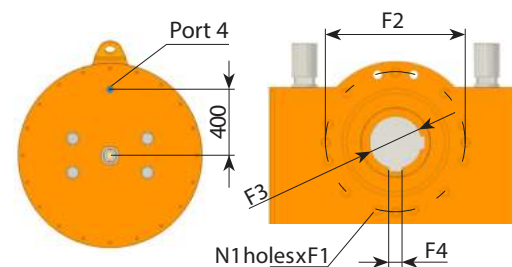
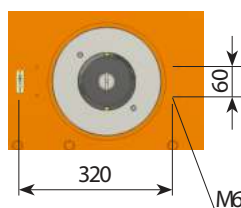
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

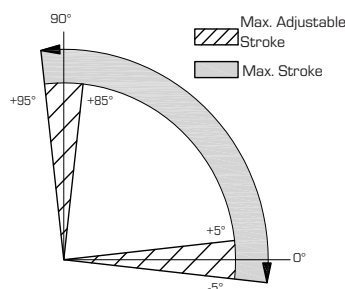
		X	Y
SR	DA	596	176
	SET	02	-146
	04	-168	186
	06	-249	186
	08	-290	187

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1			1070			1070
A2			1252			1252
A3			816			816
A4			1237			1237
A5			1175			1175
A6			404			404
A7			174			174
A8			341			341
A9			525			525
B1	3397	3397	3457	3457	3407	-
B2	2105	2105	2165	2165	2155	-
B3	1669	1669	1729	1729	1719	-
B4	866	866	956	956	956	466
BDA	-	-	-	-	-	1745
B6	872	872	923	923	921	-
∅ B7	762	762	813	813	813	-
B8	900	900	900	900	900	-
WEIGHT (Kg)	3050	3227	3407	3571	3670	1861


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	403	363	371	398	15,8 ÷ 25,2	15,8 ÷ 25,2	9,4 ÷ 18,2	13,7 ÷ 32,8	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

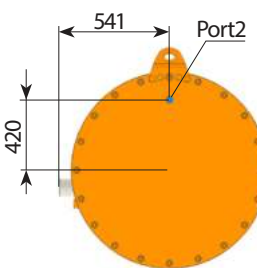
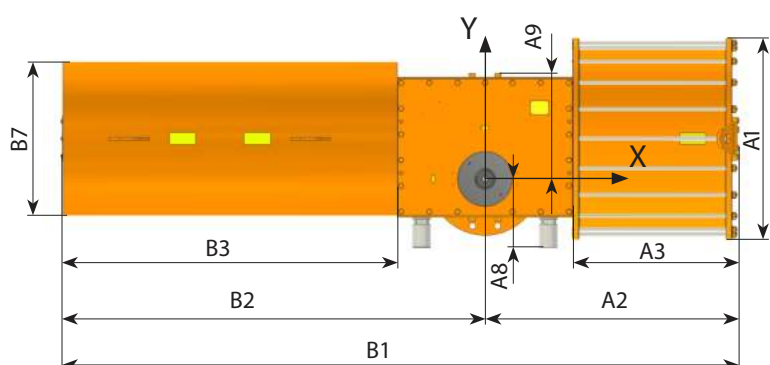
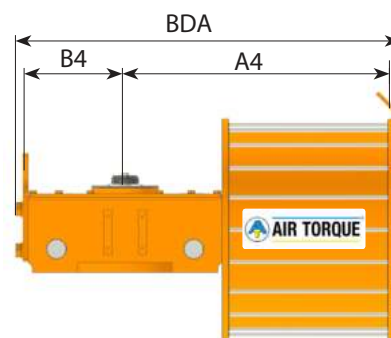
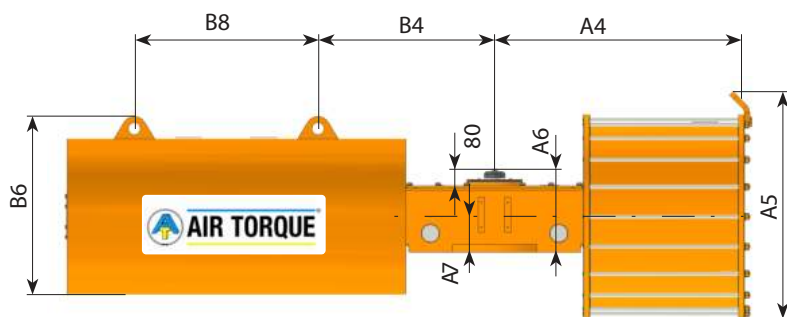
DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	59475	53838	71370	64606	83265	75373	95160	86141	M.O.P. exceeded							
Run	30576	29881	36692	35858	42807	41834	48922	47810								
End	57290	55748	68748	66898	80206	78047	91665	89197								
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	30989	35550	48547	62208	76533	83872	95767	M.O.P. exceeded							
	Run	14285	15309	21944	28903	36196	40163	46284								
	End	21820	23089	34876	47279	60299	67755	78801								
SET 04	Start	41319	26984	39068	51650	64730	78308	92384	M.O.P. exceeded							
	Run	19047	9870	16140	22584	29259	36175	43345								
	End	29094	12297	23236	34637	46501	58827	71615								
SET 06	Start	51648		30784	42718	55051	67782	80912	94440	M.O.P. exceeded						
	Run	23809		10773	17022	23364	29876	36573	43465							
	End	36367		12706	23506	34676	46216	58126	70406							
SET 08	Start	59912			36179	48099	60364	72971	85922	99217	M.O.P. exceeded					
	Run	27618			12748	18994	25311	31765	38377	45157						
	End	42186			15164	25951	37057	48483	60227	72290						
SET 10	M.O.P. exceeded															

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	69442	47434	83330	56920	97219	66407	M.O.P. exceeded									
Run	29024	29434	34829	35321	40633	41208										
End	48513	66536	58215	79843	67918	93150										
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	27610	41069	56232	72170	88883	97480	M.O.P. exceeded								
	Run	14580	14029	20303	26885	33783	37573									
	End	26473	19264	29240	39738	50759	57094									
SET 04	Start	36813		45039	59716	74976	90817	M.O.P. exceeded								
	Run	19439		14662	20759	27071	33613									
	End	35298		19295	28945	38986	49419									
SET 06	Start	46016			49163	63550	78402	93720	M.O.P. exceeded							
	Run	24299			15343	21346	27505	33839								
	End	44122			19431	28885	38652	48733								
SET 08	Start	53379				55333	69640	84348	99457	M.O.P. exceeded						
	Run	28187				17085	23067	29172	35426							
	End	51181				21427	30826	40496	50436							
SET 10	Start	68176					53354	65565	78077	90891	M.O.P. exceeded					
	Run	31467					20938	27236	33650	40198						
	End	48133					28400	39458	50796	62414						

Note:
 - M.O.P.: Maximun Operating Pressure.
 - Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
 - Spring set 10 available on request

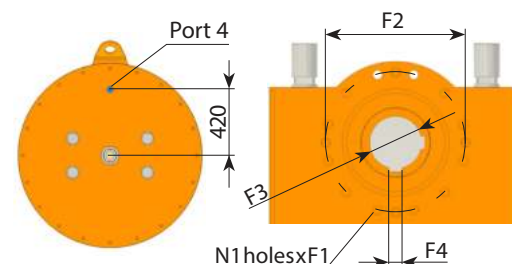
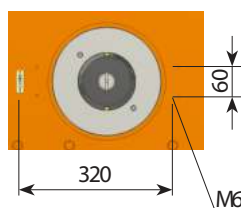
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

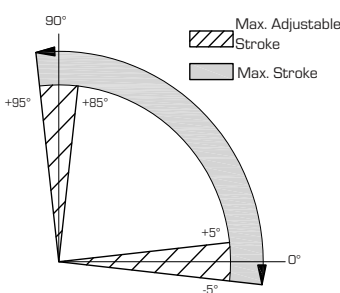
		X	Y
SR	DA	619	177
	SET	02	-98
		04	-121
		06	-201
08		-208	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1		1120			-	-
A2		1285			-	-
A3		849			-	-
A4		1238			-	-
A5		1225			-	-
A6		404			-	-
A7		174			-	-
A8		341			-	-
A9		525			-	-
B1	3396	3396	3456	3456	-	-
B2	2105	2105	2165	2165	-	-
B3	1669	1669	1729	1729	-	-
B4	866	866	956	956	-	-
BDA	-	-	-	-	-	-
B6	872	872	923	923	-	-
∅ B7	762	762	813	813	-	-
B8	900	900	900	900	-	-
WEIGHT (Kg)	3194	3370	3551	3715	-	-


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	447	404	444	412	17,5 ÷ 24,5	17,5 ÷ 24,5	9,4 ÷ 18,2	15,2 ÷ 30,4	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	M.O.P. exceeded																
Run																	
End																	
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	30989	42604	57473	73160	82427	95628	M.O.P. exceeded									
	Run	14285	18913	26491	34479	39419	46212										
	End	21820	29484	42978	57232	66413	78672										
SET 04	Start	41319	33557	47302	61660	76631	92216	M.O.P. exceeded									
	Run	19047	13299	20362	27693	35322	43259										
	End	29094	18246	30696	43715	57304	71463										
SET 06	Start	51648		38602	52163	66214	80756	95789	M.O.P. exceeded								
	Run	23809		14889	21884	29074	36494	44152									
	End	36367		19781	32059	44794	57985	71631									
SET 08	Start	59912		32191	45311	58855	72822	87212	M.O.P. exceeded								
	Run	27618		10587	17548	24537	31689	39035									
	End	42186		11557	23428	35691	48347	61396									
SET 10	Start	M.O.P. exceeded															
	Run																
	End																

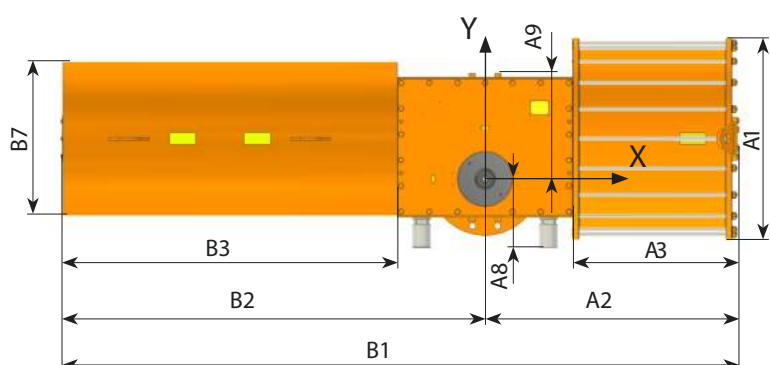
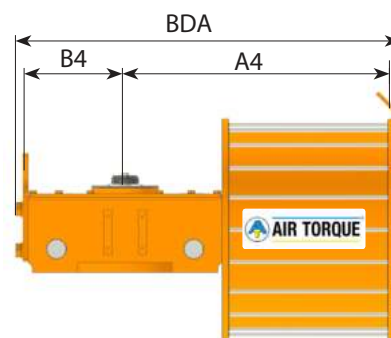
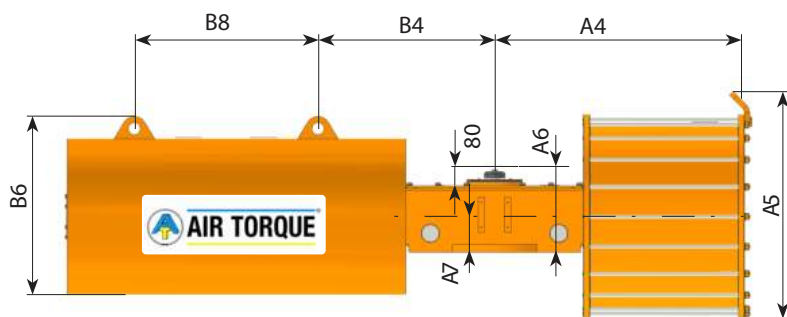
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																	
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar		
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	
Start	M.O.P. exceeded																
Run																	
End																	
SPRING RETURN OUTPUT TORQUE (Nm)																	
SPRING	Position	Spring - torque	Supply pressure - opening														
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar
SET 02	Start	27610	49298	66646	84948	95792	M.O.P. exceeded										
	Run	14580	17437	24604	32159	36868											
	End	26473	24676	36098	48163	55957											
SET 04	Start	36813	38610	54644	71394	88861	M.O.P. exceeded										
	Run	19439	11972	18657	25590	32806											
	End	35298	15072	25609	36628	48131											
SET 06	Start	46016		44361	60180	76573	93538	M.O.P. exceeded									
	Run	24299		13320	19946	26747	33764										
	End	44122		16278	26670	37449	48613										
SET 08	Start	53379	M.O.P. exceeded														
	Run	28187															
	End	51181															
SET 10	Start	68176	M.O.P. exceeded														
	Run	31467															
	End	48133															

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
- Spring set 10 available on request

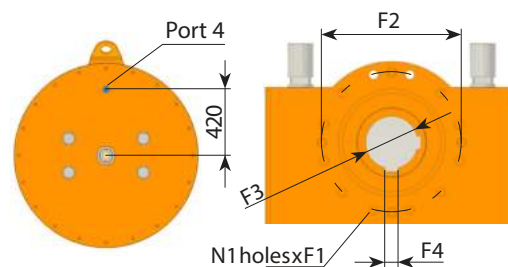
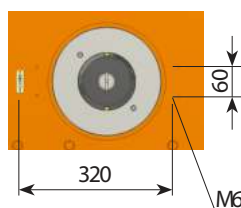
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

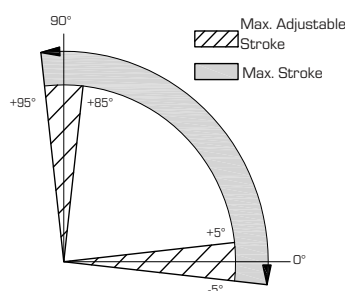
		X	Y
SR	DA	647	180
	SET	02	-31
		04	-56
		06	-134
08		-171	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1			1185			-
A2			1291			-
A3			885			-
A4			1239			-
A5			1294			-
A6			404			-
A7			174			-
A8			341			-
A9			525			-
B1	3396	3396	3456	3456	3406	-
B2	2105	2105	2165	2165	2155	-
B3	1669	1669	1729	1729	1719	-
B4	866	866	956	956	956	-
BDA	-	-	-	-	-	-
B6	872	872	923	923	921	-
∅ B7	762	762	813	813	813	-
B8	900	900	900	900	900	-
WEIGHT (Kg)	3429	3605	3785	3949	4050	-


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	200	200

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
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Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°- 90°	497	459	491	468	19,3 ÷ 23,3	19,3 ÷ 23,3	9,4 ÷ 18,2	75,2 ÷ 31,1	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																		
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar			
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing		
Start	M.O.P. exceeded																	
Run																		
End																		
SPRING RETURN OUTPUT TORQUE (Nm)																		
SPRING	Position	Spring - torque	Supply pressure - opening															
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar	10 bar	
SET 02	Start	30989	52651	70245	81824	96825	M.O.P. exceeded											
	Run	14285	24036	32995	39109	46827												
	End	21820	38600	54581	65853	79784												
SET 04	Start	41319	42860	59001	75934	93659	M.O.P. exceeded											
	Run	19047	18086	26337	34967	43994												
	End	29094	26671	41303	56672	72775												
SET 06	Start	51648	34388	49658	65562	82099	99270	M.O.P. exceeded										
	Run	23809	12685	20598	28741	37179	45925											
	End	36367	15967	29791	44203	59203	74792											
SET 08	Start	59912		42892	58227	74109	90537	M.O.P. exceeded										
	Run	27618		16287	24215	32347	40731											
	End	42186		21238	35123	49514	64413											
SET 10	Start	68176			51282	66665	82528	82528	M.O.P. exceeded									
	Run	31467			19864	27803	35925	35925										
	End	48133			26524	40455	54831	54831										

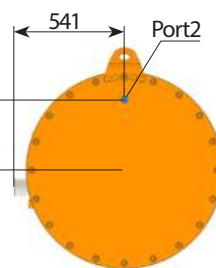
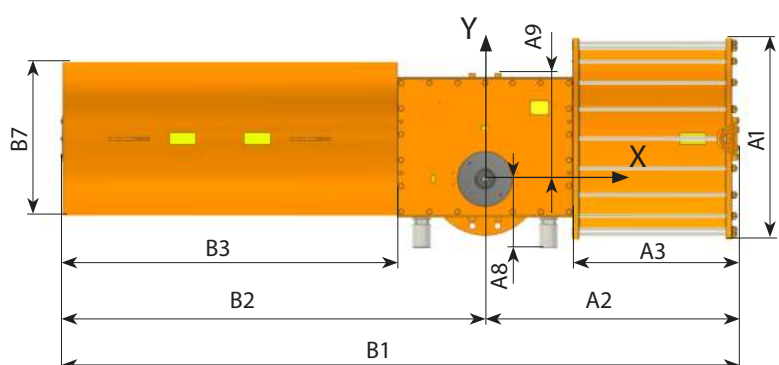
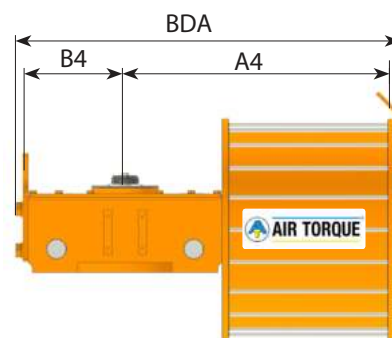
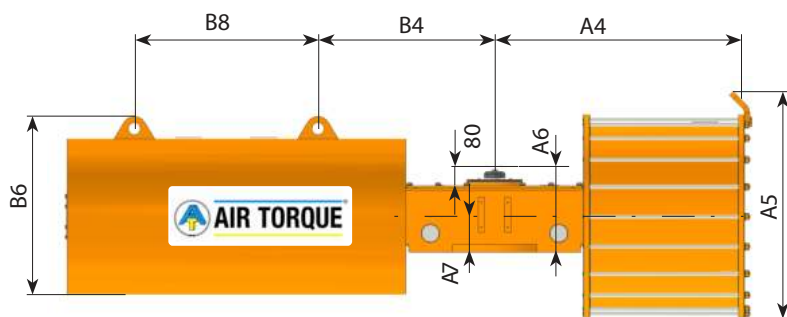
CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	M.O.P. exceeded															
Run																
End																
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	M.O.P. exceeded														
	Run															
	End															
SET 04	Start	M.O.P. exceeded														
	Run															
	End															
SET 06	Start	M.O.P. exceeded														
	Run															
	End															
SET 08	Start	M.O.P. exceeded														
	Run															
	End															
SET 10	Start	M.O.P. exceeded														
	Run															
	End															

Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
- Spring set 10 available on request

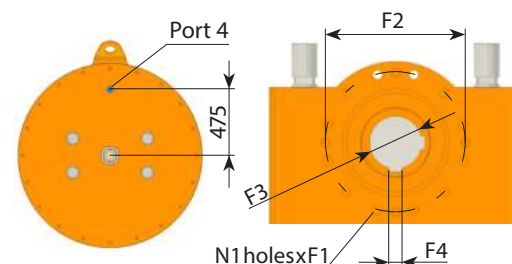
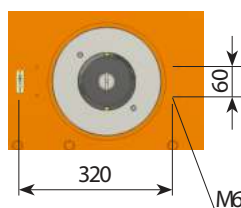
Dimensions in mm

SPRING RETURN
DOUBLE ACTING

Center of gravity

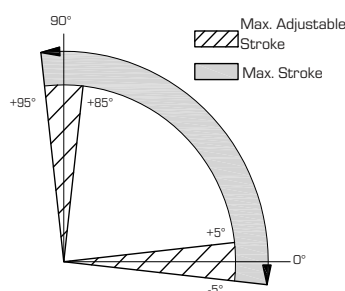
		X	Y	
SR	DA	683	183	
	SET	02	96	188
		04	34	189
		06	-24	189
08		-75	190	

Actuator dimensions

SPRING SET	02	04	06	08	10	DA
∅ A1	-	-	-	-	1285	-
A2	-	-	-	-	1291	-
A3	-	-	-	-	855	-
A4	-	-	-	-	1248	-
A5	-	-	-	-	1392	-
A6	-	-	-	-	404	-
A7	-	-	-	-	174	-
A8	-	-	-	-	341	-
A9	-	-	-	-	525	-
B1	-	-	-	-	3406	-
B2	-	-	-	-	2155	-
B3	-	-	-	-	1719	-
B4	-	-	-	-	956	-
BDA	-	-	-	-	-	-
B6	-	-	-	-	921	-
∅ B7	-	-	-	-	813	-
B8	-	-	-	-	900	-
WEIGHT (Kg)	-	-	-	-	4470	-


ISO 5211 Interface

	STD	OPTIONAL
ISO 5211	F48	F40
N1	12	8
∅ F1	M36X38	M36X38
∅ F2	483	406
∅ F3	180D10	180D10
F4	45D10	45D10
Connection keyed bore depth	260	260

Rotation and stroke adjustment:

Air Connection

PORT 2 AND 4	1" NPT	G1"
--------------	--------	-----

Technical data

Rotation STD	Air volume [L]				Approx. Moving time (sec.)[A]				Operating temperature range (°C)		
	Symmetric		Canted		DA		SR		S	H	L
	opening	closing	opening	closing	opening	closing	opening	closing			
0°-90°	590	533	584	565	11,2 ÷ 11,5	11,2 ÷ 11,5	11,2 ÷ 15,6	9,6 ÷ 13,6	-40 to +80	-15 to +150	-60 to +80

Note:

- Moving time test conditions: 90° stroke; Supply system 7,3 Cv; no resistance load applied.
- For operation, maintenance and services refer to the manual instruction IMAT AT-HD.
- Maximum transmissible torque: 100.000 Nm (see M.O.P. for different configuration).
- The above spring return pictures refer to fail close actuator.

SYMMETRIC YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	M.O.P. exceeded															
Run																
End																
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	M.O.P. exceeded														
	Run															
	End															
SET 04	Start	M.O.P. exceeded														
	Run															
	End															
SET 06	Start	M.O.P. exceeded														
	Run															
	End															
SET 08	Start	M.O.P. exceeded														
	Run															
	End															
SET 10	Start	68176		54279	72903	92217	M.O.P. exceeded									
	Run	31467		21418	31000	40875										
	End	48133		29237	46106	63617										

CANTED YOKE

DOUBLE ACTING OUTPUT TORQUE (Nm)																
Supply pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		10 bar	
Position	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing	opening	closing
Start	M.O.P. exceeded															
Run																
End																
SPRING RETURN OUTPUT TORQUE (Nm)																
SPRING	Position	Spring - torque	Supply pressure - opening													
			2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	8,5 bar	9 bar
SET 02	Start	M.O.P. exceeded														
	Run															
	End															
SET 04	Start	M.O.P. exceeded														
	Run															
	End															
SET 06	Start	M.O.P. exceeded														
	Run															
	End															
SET 08	Start	M.O.P. exceeded														
	Run															
	End															
SET 10	Start	M.O.P. exceeded														
	Run															
	End															

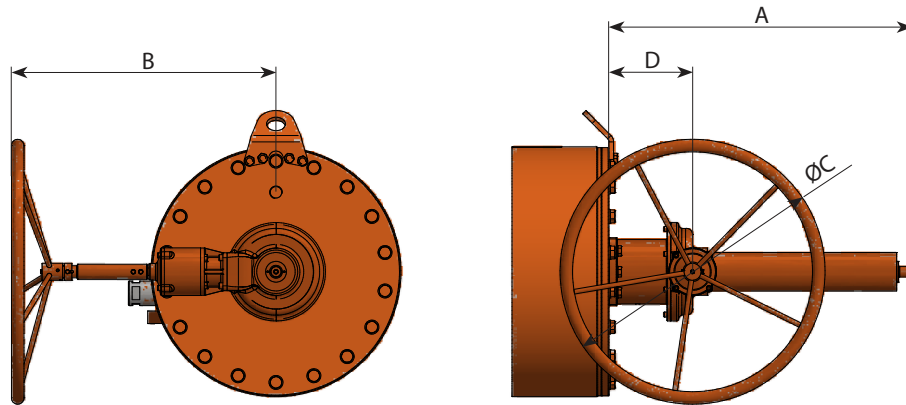
Note:

- M.O.P.: Maximun Operating Pressure.
- Torque values refer to: Counter-clockwise rotation for opening and Clockwise rotation for closing (top view).
- Spring set 10 available on request

AT-HD MANUAL OVERRIDE: BEVEL GEAR

Only for spring return actuator

- The bevel gear system provides the same force generated by the power cylinder to move the actuator piston when the supply pressure is not available.
- Installed directly on pneumatic power module.
- Decluttable and not declutchable of handwheel are available.



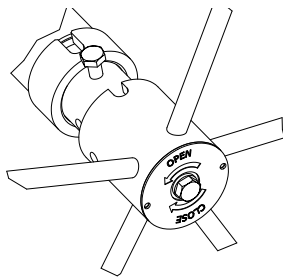
Dimensions in mm

MODEL ACTUATOR	POWER CYLINDER	BEVEL GEAR MODEL	A	B	ØC ⁽¹⁾	D
AT-HD 065	ALL SIZE	R04	665	450	350	
AT-HD 085	P235					
	P285					
AT-HD 085	P335	R05	670	525	500	
	P385					
	P435					
	P485					
AT-HD 100	ALL SIZE	R05	670	525	1000	
AT-HD 130	ALL SIZE	R07	805	700	700	

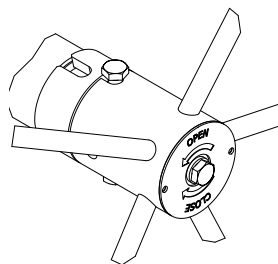
Notes:

(1) Different handwheel diameter are available on request

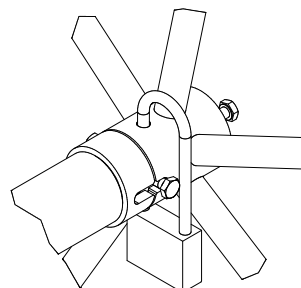
Handwheel type:



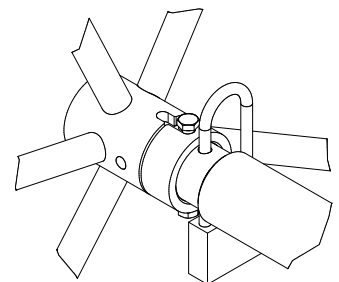
Declutchable handwheel



Not Declutchable handwheel



Declutchable handwheel with padlock



Notes:

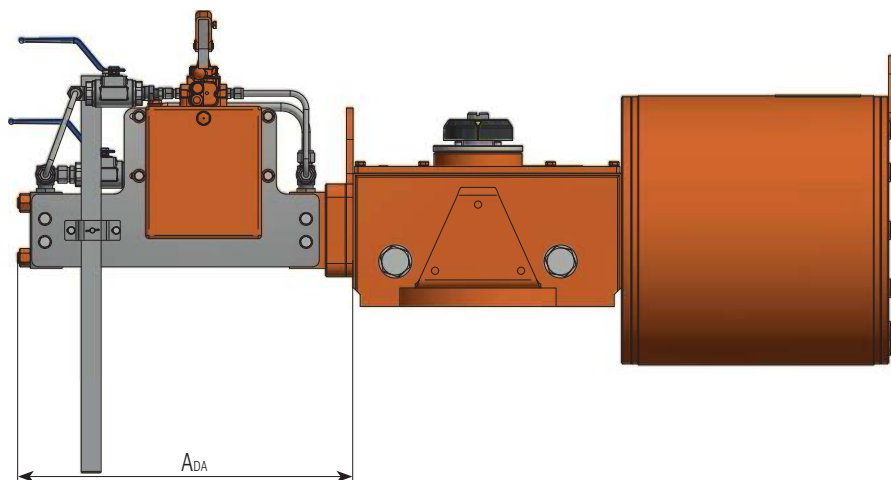
For more information see MANUAL IMAT ATHD-BG-E.

AT-HD MANUAL OVERRIDE: HYDRAULIC OVERRIDE SYSTEM

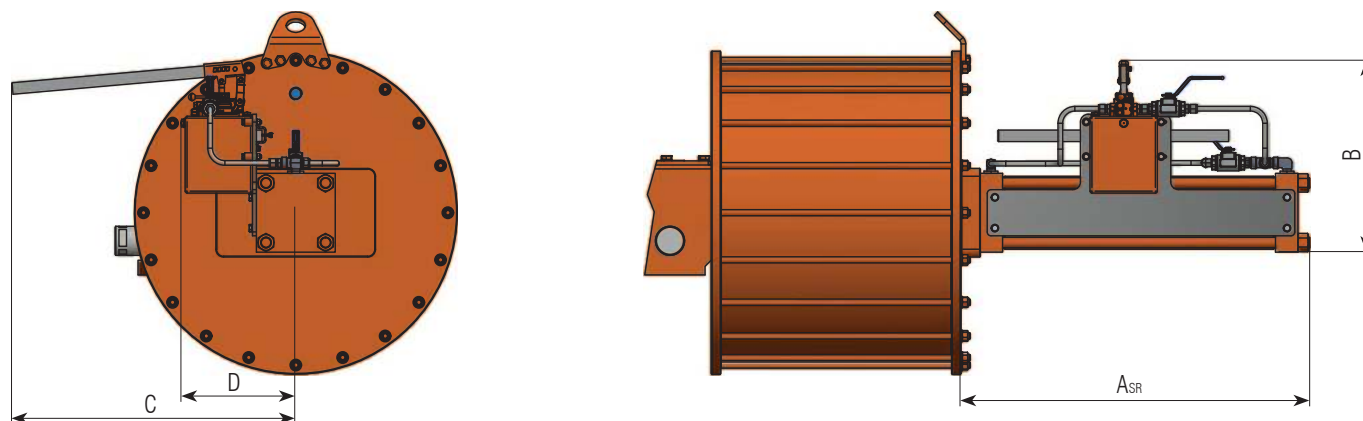
- The hydraulic override system provides the same force generated by the power cylinder to move the actuator piston when the supply pressure is not available.
- Installed on pneumatic power module for Spring return actuator or on central module for Double acting actuator.



Double acting configuration:



Spring return configuration:



Dimensions in mm

MODEL ACTUATOR	HYDRAULIC CYLINDER	A _{DA}	A _{SR}	B	C	D
AT-HD 065	H063	529	519	365	685	245
AT-HD 085	H080	553	543	395	695	255
AT-HD 100	H100	773	758	455	705	265
AT-HD 130	H125	808	793	470	725	285
AT-HD 160	H160	982	962	505	740	305
AT-HD 200	H200	1039	1019	520	765	320

Notes:

For more information see MANUAL IMAT ATHD-HOS-E

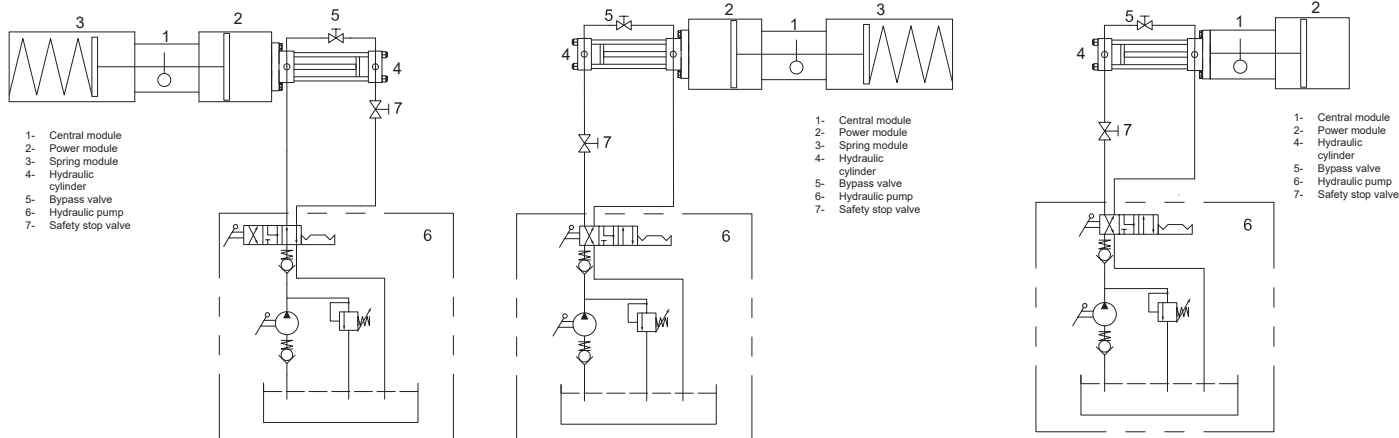
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Hydraulic diagram

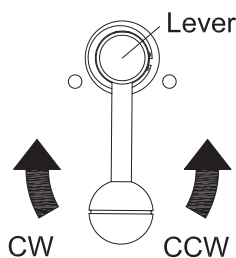
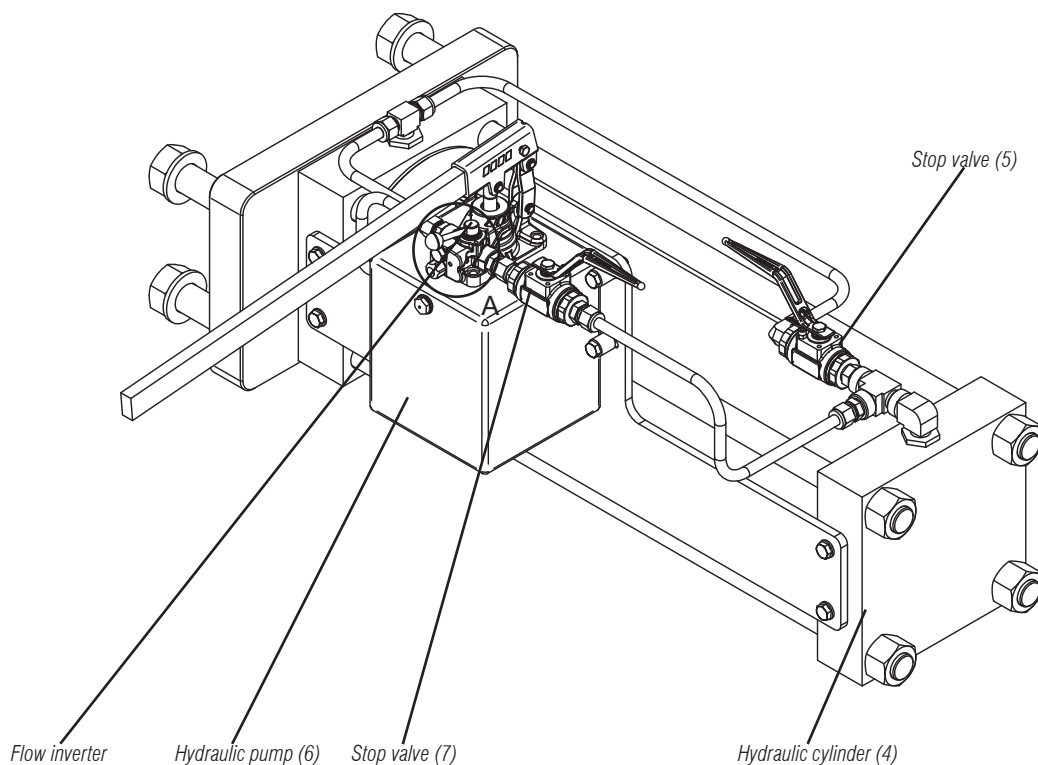


Spring to close actuator with hydraulic pump diagram

Spring to close actuator with hydraulic pump diagram

Double acting actuator with hydraulic pump diagram

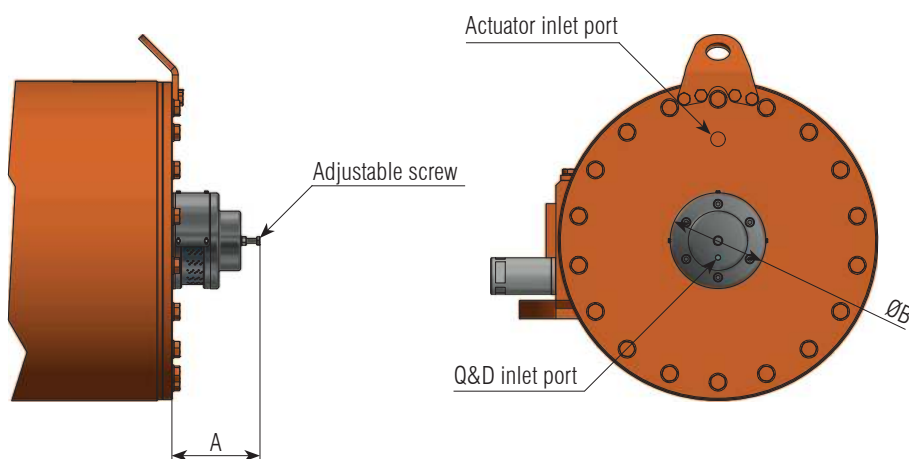
Main part list



A - Flow inverter

AT-HD ACCESSORY: QUICK AND DAMPER SYSTEM

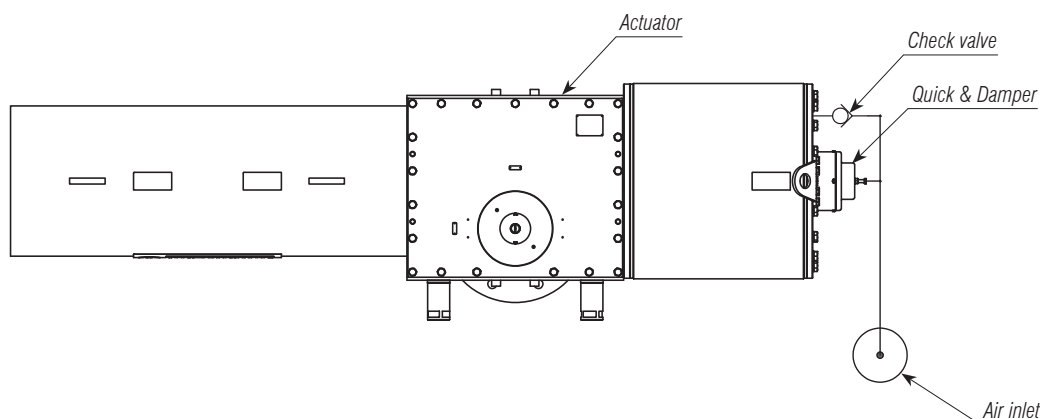
- The Quick & Damper system (Q&D) is a device which reduces the stroking time (up to 0,5 sec) for the AT-HD Heavy Duty Actuator series. The actuator speed is dampened for the last stroke degrees thanks to this system.
- The actuator stroke speed can be adjusted through the adjustment screw present on the Quick and Damper system
- Installed directly on the actuator pneumatic power module.



Dimensions in mm

ACTUATOR MODEL	Q&D dimension	Approx. A max	ØB	Cv	Q&D inlet port
AT-HD 065	1,5"	200	135	23	1/4" NPT
AT-HD 085	2,5"		158	60	
AT-HD 100	3,5"		198	110	
AT-HD 160	1,5"	230	135	23	
	2,5"		158	60	
	3,5"		198	110	
AT-HD 200	1,5"	260	135	23	
	2,5"		158	60	
	3,5"		198	110	

Pneumatic diagram



Notes:

For more information refer to MANUAL IMAT ATHD-QD-E

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