

# Single-Acting Pneumatic Actuator VM9311

suitable for all 1/4 turn valves



## General

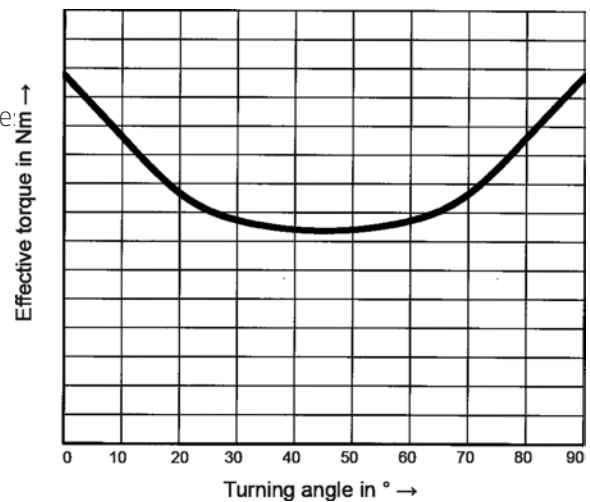
- » Ebro single-acting pneumatic actuator in double piston design.
- » High opening- and closing-torques provided by scotch-yoke concept.
- » Optical position indicator with integrated operator for limit switches.
- » Blow-out proof shaft.
- » Valve interface according to EN ISO 5211.
- » Limit switches and solenoid valve mounting according to VDI/VDE 3845.
- » SIL 2 (SIL 3 as redundant system) acc. to IEC 61508.
- » ATEX: EX II 2 GD c Tx.



## Options

- » Other coatings.
- » Double-acting, VM930.
- » Speed control block for adjustment of closing/opening time:
- » -40°C to +80°C (low temperature).
- » -15°C to +120°C (high temperature).
- » Separate ISO-flange.
- » Gear box with hand wheel for manual override at air failure.
- » For optional additional equipment, ask your sales rep.

## Typical Torque Curve of a Scotch-Yoke Actuator



## Materials and Technical Data

Actuator cylinder	anodized aluminum
Shaft	steel
Fasteners	stainless steel
Open/close	0-90°
Temperature	from -20°C to +80°C
Mounting	optional
Limit of travel	exactly adjustable between -8°/+3°
Supply pressure	min. 2,5 bar max. 8 bar
Supply quality	filtered compressed air dry or lubricated for cycles ≥4/min please lubricate

## Closing Time and Air Consumption

VMnumber	Closing time <sup>1</sup>	Air consumption <sup>2</sup> at 1 atm
9311-5	0,15	0,27
9311-6	0,20	0,56
9311-8	0,45	0,89
9311-9	0,48	1,40
9311-10	0,50	1,95
9311-12	0,70	3,37
9311-14	<1,5	4,52
9311-16	<1,5	6,49
9311-18	<1,5	10,00
9311-20	<1,5	13,64
9311-22	<2,0	17,50
9311-26	<2,0	36,20

1. Closing times with unthrottled air exhaust and air supply, 6 bar control pressure at no load operation.  
2. Load air consumption = filling volume x control.

The technical design of the specified product here may be subject to change without notice — datasheet updated April 17, 2021

# Single-Acting Pneumatic Actuator VM9311

suitable for all 1/4 turn valves



## Effective Air Torque in Nm at Control Pressure, Standard Spring Package in Bold Text, Standard 6 bar in Bold Text

VMnumber	Spring package	Spring Md, Nm		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		<b>6 bar</b>		7 bar		8 bar	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
9311-5	SYS25	12	20	20	12	26	18	39	31	51	43	58	50	64	56	77	69	89	81
9311-5	SYS30	17	27			21	11	34	24	46	36	53	43	59	49	72	62	84	74
9311-5	SYS40	22	35					29	16	41	28	48	35	54	41	67	54	79	66
9311-5	<b>SYSSO</b>	27	44							36	19	43	26	<b>49</b>	<b>32</b>	62	45	74	57
9311-5	SYS55	30	49									40	21	46	27	59	40	71	52
9311-5	SYS60	35	58											41	18	54	31	66	43
9311-6	SYS25	27	45	38	20	51	33	77	59	103	85	116	98	129	111	155	137	181	163
9311-6	SYS30	35	57			43	21	69	47	95	73	108	86	121	99	147	125	173	151
9311-6	SYS40	45	74					59	30	85	56	98	69	111	82	137	108	163	134
9311-6	SYS50	55	90							75	40	88	53	101	66	127	92	153	118
9311-6	<b>SYSS5</b>	63	102									80	41	<b>93</b>	<b>54</b>	119	80	145	106
9311-6	SYS60	73	119											83	37	109	63	135	89
9311-8	SYS25	40	67	64	37	85	58	127	100	168	141	189	162	210	183	252	225	293	266
9311-8	SYS30	48	82			77	43	119	85	160	126	181	147	202	168	244	210	285	251
9311-8	SYS40	65	111					102	56	143	97	164	118	185	139	227	181	268	222
9311-8	SYS50	82	140							126	68	147	89	168	110	210	152	251	193
9311-8	SYS55	90	152									139	77	160	98	202	140	243	181
9311-8	<b>SYSS60</b>	107	181											<b>143</b>	<b>69</b>	188	111	226	152
9311-9	SYS25	55	100	102	57	134	89	197	152	260	215	291	246	323	278	386	341	449	404
9311-9	SYS30	69	127			120	62	183	125	246	188	277	219	309	251	372	314	438	377
9311-9	SYS40	89	153					163	99	226	162	257	193	289	225	352	288	415	351
9311-9	SYS50	97	178							218	137	249	168	281	200	344	263	407	326
9311-9	<b>SYSS5</b>	113	206									233	140	<b>265</b>	<b>172</b>	328	235	391	298
9311-9	SYS60	143	261											235	117	298	180	361	243
9311-10	SYS25	89	151	132	70	176	114	264	202	353	291	397	335	441	379	529	467	618	556
9311-10	SYS30	107	182			158	83	246	171	335	260	379	304	423	348	511	436	600	525
9311-10	SYS40	145	231					208	122	297	211	341	255	385	299	473	387	562	476
9311-10	SYS50	182	279							260	163	304	207	348	251	436	339	525	428
9311-10	<b>SYSS5</b>	198	322									258	164	<b>332</b>	<b>208</b>	420	296	509	385
9311-10	SYS60	236	370											294	160	382	248	471	337
9311-12	SYS25	155	224	226	139	302	233	455	386	607	538	684	615	760	691	912	843	1065	978
9311-12	SYS30	185	309			272	148	425	301	577	453	654	530	730	606	882	758	1035	911
9311-12	SYS40	241	392					369	218	521	370	598	447	674	523	826	675	979	828
9311-12	SYS50	296	475							466	287	543	364	619	440	771	592	924	745
9311-12	SYS55	333	546									506	293	582	369	734	521	887	674
9311-12	SYS60	389	630											526	285	678	437	831	590
9311-14	SYS25	199	312	358	245	469	356	692	579	915	802	1026	913	1138	1025	1361	1248	1583	1470
9311-14	SYS30	257	401			411	267	634	490	857	713	968	824	1080	936	1303	1159	1525	1381
9311-14	SYS40	314	491					577	400	800	623	911	734	1023	846	1246	1069	1468	1291
9311-14	SYS50	356	557							758	557	869	668	981	780	1204	1003	1426	1225
9311-14	SYS55	413	647									812	578	924	690	1147	913	1329	1125
9311-14	SYS60	516	798											821	539	1044	762	1266	984
9311-16	SYS25	343	513	499	329	668	498	1005	835	1342	1172	1511	1340	1679	1509	2016	1846	2353	2183
9311-16	SYS30	433	648			578	363	915	700	1252	1037	1421	1205	1589	1374	1926	1711	2263	2048
9311-16	SYS40	523	782					825	566	1162	903	1331	1071	1499	1240	1836	1577	2173	1914
9311-16	SYS50	604	904							1081	781	1250	949	1418	1118	1755	1455	2092	1792
9311-16	SYS55	694	1039									1160	814	1328	983	1665	1320	2002	1657
9311-16	SYS60	869	1263											1153	759	1490	1096	1827	1433
9311-18	SYS25	371	623	727	475	946	694	1385	1133	1824	1572	2044	1792	2263	2011	2702	2450	3141	2889
9311-18	SYS30	476	803			841	514	1280	953	1719	1392	1939	1612	2158	1831	2597	2270	3036	2709
9311-18	SYS40	581	979					1175	777	1614	1216	1834	1436	2053	1655	2492	2094	2931	2533
9311-18	SYS50	661	1112							1534	1083	1754	1303	1973	1522	2412	1961	2851	2400
9311-18	SYS55	766	1290									1649	1125	1868	1344	2307	1783	2746	2222
9311-18	SYS60	951	1602											1683	1032	2122	1471	2561	1910

The technical design of the specified product here may be subject to change without notice — datasheet updated April 17, 2021

# Single-Acting Pneumatic Actuator VM9311

suitable for all 1/4 turn valves



## Effective Air Torque in Nm at Control Pressure, Standard Spring Package in Bold Text, Standard 6 bar in Bold Text

VMnumber	Spring package	Spring Md, Nm		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		<b>6 bar</b>		7 bar		8 bar	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
9311-20	SYS25	550	894	991	647	1300	956	1916	1572	2532	2188	2841	2497	3150	2806	3766	3422	4382	4038
9311-20	SYS30	705	1139			1145	771	1761	1327	2377	1943	2686	2252	2995	2561	3611	3177	4227	3793
9311-20	SYS40	860	1384					1606	1082	2222	1698	2531	2007	2840	2316	3456	2932	4072	3548
9311-20	SYS50	979	1586							2103	1496	2412	1805	2721	2114	3337	2730	3953	3346
9311-20	SYS55	1134	1831									2257	1560	2566	1869	3182	2485	3798	3101
9311-20	SYS60	1410	2278											2290	1422	2906	2038	3522	2654
9311-22	SYS25	712	1106	1413	1019	1838	1444	2688	2294	3538	3144	3963	3569	4388	3994	5238	4844	6088	5694
9311-22	SYS30	950	1477			1600	1073	2450	1923	3300	2773	3725	3198	4150	3623	5000	4473	5850	5323
9311-22	SYS40	1188	1849					2212	1551	3062	2401	3487	2826	3912	3251	4762	4101	5612	4951
9311-22	SYS50	1306	2030							2944	2220	3369	2645	3794	3070	4644	3920	5494	4770
9311-22	SYS55	1544	2402									3131	2273	3556	2698	4406	3548	5256	4398
9311-22	SYS60	1900	2955											3200	2145	4050	2995	4900	3845
9311-26	SYS25	1478	2640	2592	1430	3406	2244	5034	3872	6662	5500	7476	6314	8290	7218	9918	8756	11546	10384
9311-26	SYS30	1795	3168			3089	1716	4717	344	6345	4972	7159	5786	7973	6600	9601	8228	11229	9856
9311-26	SYS40	2112	3696					4400	2816	6028	4444	6842	5258	7656	6072	9284	7700	10912	9328
9311-26	SYS50	2534	4488							5606	3652	6420	4466	7234	5280	8862	6908	10490	5836
9311-26	SYS55	2851	5016									6103	3938	6917	4752	8545	6380	10173	8008
9311-26	SYS60	3590	6336											6178	3432	7806	5060	9434	6688

The technical design of the specified product here may be subject to change without notice — datasheet updated April 17, 2021

# Single-Acting Pneumatic Actuator VM9311

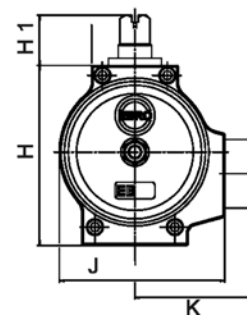
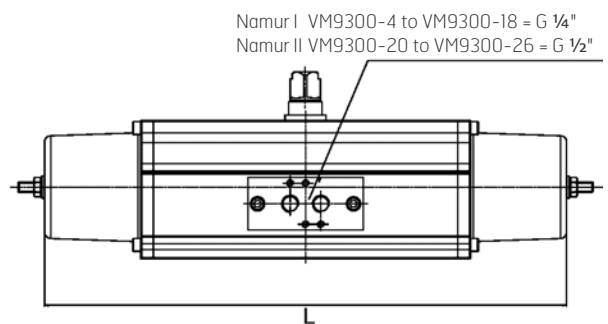
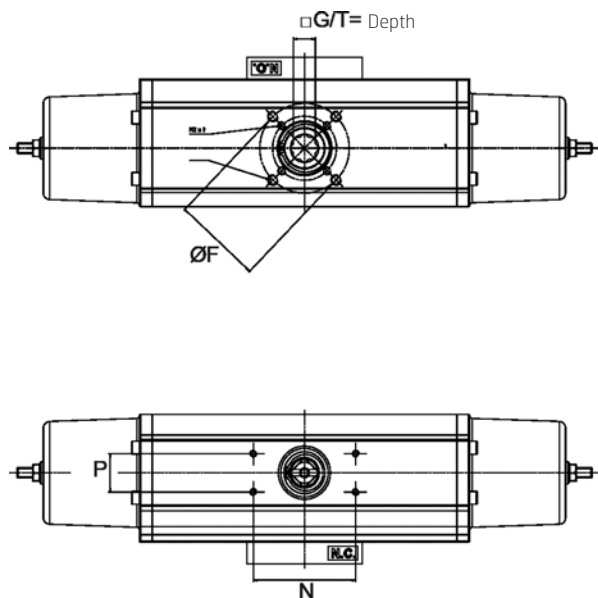
suitable for all 1/4 turn valves



## Dimensions [mm] and Weight, Standard Sizes in Bold Text

VMnumber	F <sup>1</sup>	G	H	H1	J	K	L	N	T	Weight [kg]
9311-5	F04/ <b>05</b> <sup>2</sup>	10/11/12/ <b>14</b>	77	30	72	57	280	80	13/16	2,4
9311-6	F04/ <b>05/07</b> <sup>2</sup>	11/12/ <b>14/16/17</b>	91	30	88	65	351	80	19	4,3
9311-8	F05/ <b>07</b>	12/14/16/ <b>17/22</b>	108	30	100	71	408	80	19/24	6,3
9311-9	<b>F07/10</b>	14/16/17/ <b>22</b>	120	30	113	78	476	80	24	9,3
9311-10	<b>F07/10</b>	14/16/17/ <b>22</b>	129	30	122	82	557	80	24	12,5
9311-12	F10/ <b>12</b>	17/ <b>22/24/27</b>	156	30	145	93	661	80	29	21,1
9311-14	F12/16/25	36	189	30	148	102	697	80	38	32,8
9311-16	F12/16/25	46	212	30	150	102	856	80	48	48
9311-18	F12/16/25	46	243	30	196	103	902	80	48	63,7
9311-20	F12/16/25	46	272	30	234	120	1027	80	48	94,3
9311-22	F16/25	55	283	30	244	125	1127	80	59	114,9
9311-26	F16/25	55	350	30	336	168	1472	80	59	228,6

1. F25 over 4000 Nm, contact Ventim.
2. F04/05 no combined flange available.



## Mounting

Optional

## Maintenance

The actuator is maintenance free.

Spare parts list with recommended spare parts on request.

## Order Information

Single-acting pneumatic actuator VM9311.....,G size being.....

The technical design of the specified product here may be subject to change without notice — datasheet updated April 17, 2021