

# ABO valve

*we make processes work*

## PNEUMATIC ACTUATORS

<b>Design</b>	Single or double acting twin piston actuator
<b>Supply</b>	Filtered air ISO 8573-1:2010
<b>Operating pressure</b>	2 / 10 bar
<b>Torque output</b>	2.4 to 15,3000 Nm
<b>Temperature rating</b>	<b>Standard</b> -50 .. + 70°C (NBR O-ring, Delrin guide) <b>Optional</b> -15 .. + 160°C (Viton O-ring, IXEF guide) <b>Optional</b> -60 .. + 200°C (Silicone O-ring, PTFE guide)
<b>Mounting standards</b>	VDI/VDE 3845, NAMUR
<b>Valve interface</b>	ISO 5211
<b>Rotation</b>	90° (standard) 120° / 180° / 240° (upon request)



# SERIES 95

GT line

[www.abovalve.com](http://www.abovalve.com)

# TECHNICAL SPECIFICATION

Czech Industrial Valve Manufacturer

## ABO valve pneumatic actuators of Series GT

are built to provide long and efficient service with minimum maintenance. Actuator's design, engineering and materials used in their construction ensure optimum performance even in really difficult environments.

### Main technical data

**Supply** Filtered air ISO 8573-2:2010  
Other fluids upon request

**Operating Pressure** 2 to 10 bar

**Torque output** 2.4 to 15,300 Nm

### Temperature ranges

Standard

**-50 .. + 70 °C**

(NBR O-ring, Delrin guide)

Optional

**-15 .. + 160 °C**

(Viton O-ring, IXEF guide)

Optional

**-60 .. + 200 °C**

(Silicone O-ring, PTFE guide)

### Mounting standards

Air supply

VDI/VDE 3845, NAMUR

### Valve interface

ISO 5211

### Rotation

90° (120°, 180°, 240°)

Customized angles available as well as three position versions

### Stroke adjustment - type GTW

-25° to +5° from 0° position

-5° to +5° from 90° position

### Stroke adjustment - type GTX, GTK

-5° to +5° from 90° position

## TORQUE OUTPUT DATA

### DOUBLE ACTING DESIGN

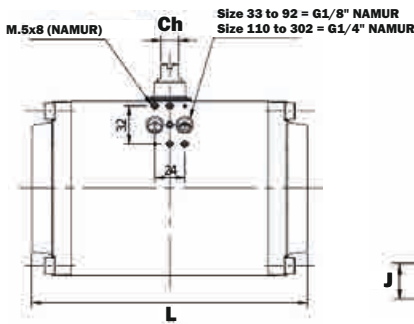
Size	Pneumatic torque (Nm)															Model	Time of entire cycle (sec)
	2 bar	2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	8 bar	9 bar	10 bar			
43, 44	4,7	5,8	7,0	8,2	9,4	10,5	11,7	13,1	14,0	15,2	16,4	18,7	21,0	23,4	GTK 52x90DLS	0.158	
52	7,8	9,7	11,7	13,6	15,6	17,5	19,5	21,8	23,4	25,3	27,3	31,2	35,1	39,0	GTK 63x90DLS	0.214	
63	11,6	14,5	17,4	20,3	23,2	26,1	29,0	32,5	34,8	37,7	40,6	46,4	52,5	58,0	GTK 75x90DLS	0.334	
75	20,0	25,0	30,0	35,0	40,0	45,0	50,0	56,0	60,0	65,0	70,0	80,0	90,0	100,0	GTK 83x90DLS	0.430	
83	29,0	36,2	43,5	50,7	58,0	65,2	72,5	81,2	87,0	94,2	101,5	116,0	130,5	145,0	GTK 92x90DLS	0.444	
92	40,0	50,0	60,0	70,0	80,0	90,0	100,0	112,0	120,0	130,0	140,0	160,0	180,0	200,0	GTW 110x90	0.462	
110	58,0	72,5	87,0	101,5	116,0	130,5	145,0	162,4	174,0	188,5	203,0	232,0	261,0	290,0	GTW 118x90	0.600	
118	86,0	107,5	129,0	150,5	172,0	193,5	215,0	240,8	258,0	279,5	301,0	344,0	387,0	430,0	GTW 127x90	0.858	
127	116,0	145,0	174,0	203,0	232,0	261,0	290,0	324,8	348,0	377,0	406,0	464,0	522,0	580,0	GTW 143x90	1.580	
143	186,0	232,5	279,0	325,5	372,0	418,5	465,0	520,8	558,0	604,5	651,0	744,0	837,0	930,0	GTW 160x90	1.620	
160	230,0	287,5	345,0	402,5	460,0	517,5	575,5	644,0	690,0	747,5	805,0	920,0	1035	1150	GTW 190x90	3.220	
190	400,0	500,0	600,0	700,0	800,0	900,0	1000	1120	1200	1300	1400	1600	1800	2000	GTW 210x90	3.330	
210	480,0	600,0	720,0	840,0	959,9	1080	1200	1344	1440	1560	1680	1920	2160	2400	GTW 254x90	6.000	
254	920,0	1150	1380	1610	1840	2070	2300	2576	2760	2990	3220	3680	4140	4600	GTW 255x90	7.500	
255	1160	1450	1740	2030	2320	2610	2900	3248	3480	3770	4060	4640	5220	5800	GTW 300x90	9.340	
300,300-F25	1600	2000	2400	2800	3200	3600	4000	4480	4800	5200	5600	6400	7200	8000	GTW 302x90	10.515	
302,302-F25	3060	3825	4590	5355	6120	6885	7650	8568	9180	9945	10710	12240	13770	15300			

## 2 / ABO valve Czech

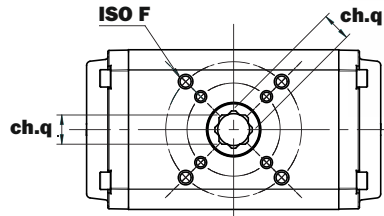
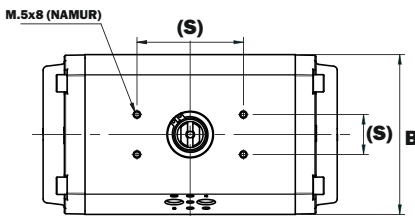
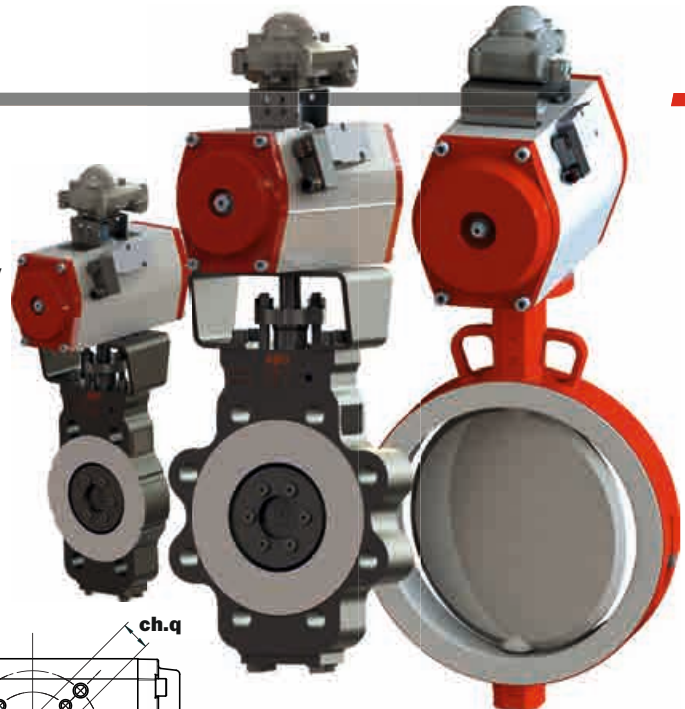
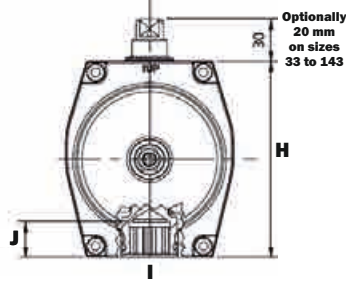
This table summarizes the times necessary to complete cycle open/close of double acting pneumatic actuators valid in case of air loading pressure 5,6 bar and for actuator without any valve to be mounted on.



# BASIC PARAMETERS



Air connection according NAMUR



(S) Feedback interface: size 43 to 127 = 30x80, size 143 to 302-F25 = 30x130 acc. NAMUR



Model	Dimensions (mm)									Displacement (dm <sup>3</sup> )				Weight (kg)			
	L			H	J	B	Ch	Ch.q	ISO	SR				DA			
	90°	120°	180°							90°	90°	120°	180°	90°	90°	120°	180°
33	90	-	-	65	13	61,5	10	9/11	F03	-	0,15	-	-	-	0,47	-	-
34	90	-	-	65	13	61,5	10	9/11	F04	-	0,15	-	-	-	0,47	-	-
43	116	-	-	65	13	61,5	10	9/11	F03/F05	0,10	0,18	-	-	0,66	0,60	-	-
44	116	-	-	65	13	61,5	10	9/11	F04	0,10	0,18	-	-	0,66	0,60	-	-
52	133	151	195	74	18	68,5	10	14*	F03/F05	0,13	0,25	0,28	0,46	1,00	0,90	1,10	1,30
63	137	155	200	88	20	80	10	14*	F05/F07	0,21	0,40	0,45	0,74	1,62	1,45	1,70	2,00
75	161	183	237	100	20	92,5	10	17	F05/F07	0,32	0,60	0,68	1,12	2,45	2,10	2,46	2,90
83	180	205	268	108	20	99,5	10	17	F05/F07	0,45	0,88	1,00	1,63	2,95	2,50	2,95	3,50
92	209	239	310	117	21	110,5	14	17	F05/F07	0,62	1,20	1,35	2,25	4,00	3,40	4,00	4,60
110	223	253	323	140	25,5	120	14	22	F07/F10	0,98	1,90	2,15	3,52	6,20	5,20	6,10	7,20
118	293	345	429	140	36	120	20	22	F07/F10	1,40	2,70	3,05	5,00	8,35	7,10	8,00	9,70
127	301	353	453	160	36	137	20	22	F07/F10	2,00	3,65	4,10	6,80	10,7	9,00	10,00	12,5
143	337	387	488	198	33	172	20	27	F10/F12	2,50	4,60	6,12	9,20	15,8	12,4	14,0	16,0
160	379	444	570	250	39	172	28	27	F10/F12	3,80	7,00	8,00	13,0	20,1	16,4	18,8	26,0
190	422	-	-	255	41	224	28	36	F14	6,50	12,5	-	-	37,8	28,0	-	-
210	468	544	696	255	40	224	32	36	F14	8,00	15,0	17,0	21,5	39,6	31,8	37,4	49,2
253	524	600	751	302	50	272	32	46	F16	10	19,2	22	29	56	44	50	63
254	609	711	911	302	50	272	32	46	F16	14,0	27,0	31,5	41,0	70,6	55,5	66,5	79,8
255	689	815	-	302	50	272	32	46	F16	17,0	32,0	38,0	-	84,3	69,2	77,0	-
300	689	814	-	360	50	360	32	46	F16	25	46	68	-	107,1	92	105	-
300-F25	689	814	-	392	65	360	32	55	F25	25	46	68	-	114	99	112	-
302	1,176	-	-	360	50	360	32	46	F16	46	84	-	-	179	144	-	-
302-F25	1,176	-	-	392	65	360	32	55	F25	46	84	-	-	179	154	-	-

(1) Spring return with 8 springs (size 43,44) with 12 springs (size 52 to 302-F25)

(2) Weight refers to protrusion shaft 30 mm

(3) Mechanical interfaces acc. to ISO 5211 - DIN 3337 NAMUR VDI/VDE 3845

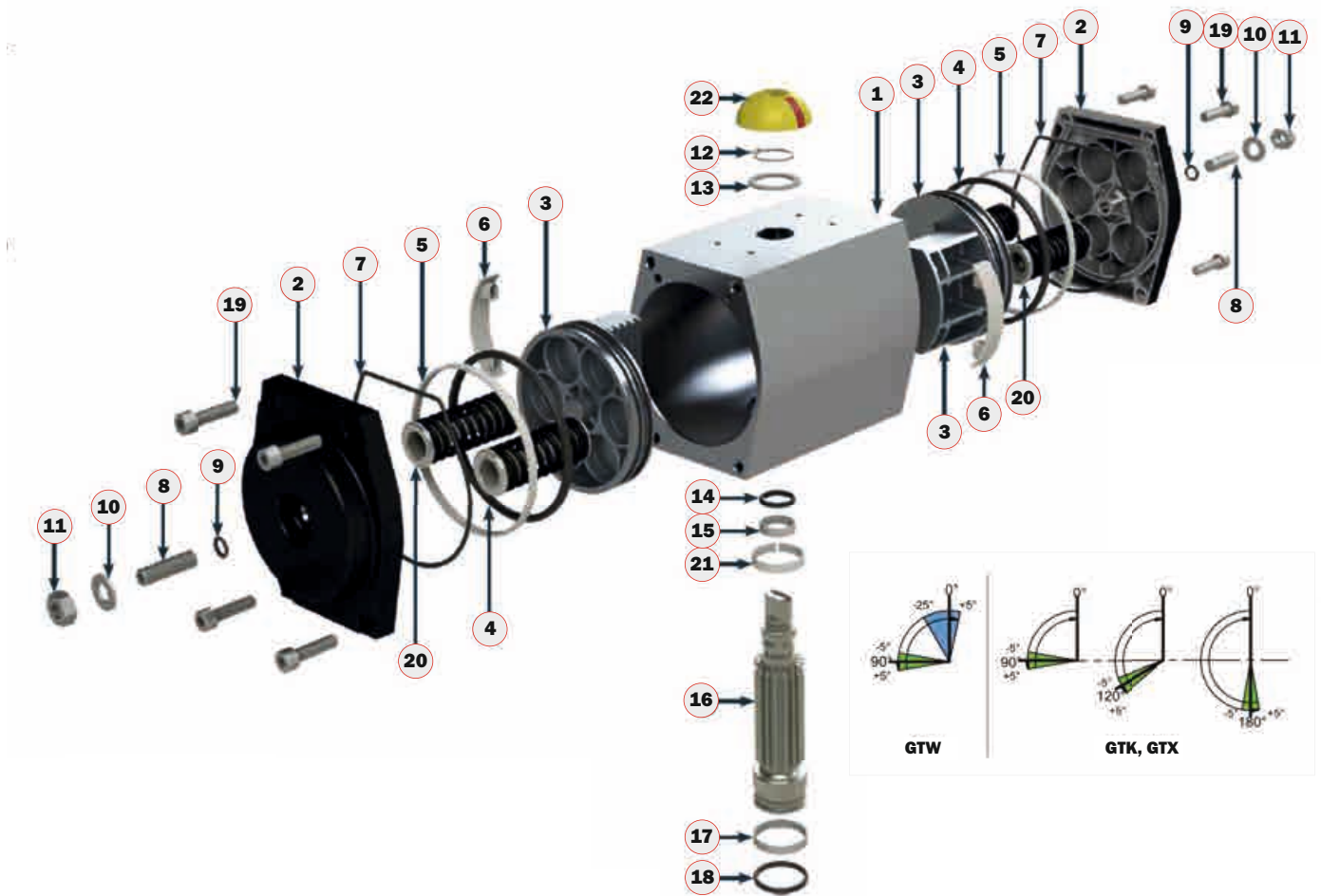
\*) Standard connection: diagonal square 14 mm instead of star





# MAIN PARTS / MATERIAL PERFORMANCE

Czech Industrial Valve Manufacturer



Spare parts list					
Pos.	Description	Pc	Pos.	Description	Pc
1	Piston guide belt	2	20	Body end caps	2
2	Pinion upper washer	1	21	Spring cartridge	acc. to model
6	Pinion upper bearing	1	22	Circlip	1
7	Guiding bush	1	23	Nut	2
8	Pinion bottom washer	2	25	Stop bolt o-ring	2
9	Piston sliding guide	2	26	O-ring	1
10	Position indicator	1	27	Upper pinion o-ring	1
13	Anti-blow-out ring	1	28	Bottom pinion o-ring	1
14	Stop bolt	1	29	Piston o-ring	2
15	Pistons	2	30	Washer	2
16	Actuator body	1	31	End cap o-ring	2
17	Pinion	1	33	Stop bolt	2
18	Washer	1	34	Screws	8

  Guide set   
 ● recommended spare part   
   O-ring set   
 ● recommended spare part

# ACCESSORIES



**GT line of ABO pneumatic actuators** is equipped with special accessories according to the customer's specific requirements. Actuators and accessories can be supplied in various material combinations and designs according to the specific requirements of each project. Accessories can also be supplied as a spare parts according to the customer's requirements.



**Positioners**



**Declutchable manual gearbox**



**Solenoids**



**Limit Switch Box**



**Manometers**



**Bracket / Coupling**



**Air filter regulator**



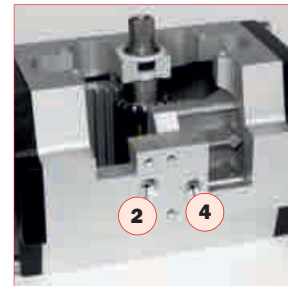
# ASSEMBLY CONFIGURATIONS

Czech Industrial Valve Manufacturer

The graphics below show the relative orientation of the piston and pinion for each configuration, as viewed from the top side of the actuator. In the descriptions that follow, that perspective is assumed. Pinion rotation is indicated for each as CW (clockwise) or CCW (counter-clockwise).

Port 2 is connected to the inboard side of the pistons. Pressurising port 2 will force the pistons out until they reach the travel stops. The direction of pinion rotation is determined by the assembly configuration. Venting is through port 4.

Port 4 is connected to the outboard side of the pistons. Pressurising port 4 will force the pistons in until they reach the travel stops (if the actuator is so equipped as they're optional). The direction of pinion rotation is determined by the assembly configuration. Venting is through port 2.



STYLE	PORT 4 (OUTBOARD) PRESSURISED Shown at end of stroke	PORT 2 (INBOARD) PRESSURISED Shown at end of stroke
<b>A</b> STANDARD	CW	CCW
<b>B</b> OPTIONAL	CW	CCW
<b>C</b> OPTIONAL	CCW	CW
<b>D</b> OPTIONAL	CCW	CW

\*) standard design

Note that on spring-return actuators, as with double-acting, pressurising port 2 will move the pistons out. When port 2 is depressurised, spring force will move the pistons in. Venting is through port 4. Port 4 is not to be pressurised on spring-return actuators.



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