

Pneumatic drive: AP Series



The AP Series that has already proved itself in recent years is a 90° reversible air-controlled drive for butterfly valves. The AP Series is available with double-acting (DA) and single-acting (SA) drive.

The running time of the actuator can be set by means of the plastic valve. As standard the AP Series is designed to be double-acting, whereby the 5/2-Way control valve provides the open/close control. The AP Series can be installed both indoors and outdoors.

The same drive can be used for 'standard open' or 'standard closed'. Determine both the direction of rotation and the position of the drive before installation. The final adjustment of the valve can be carried out after installation using the adjusting screw in the end cap.

APPLICATION

Pneumatic drives are used on butterfly valves in automated processes such as ebb and flow and drip irrigation installations

TECHNICAL DATA

Function	: double-acting (optionally single-acting / spring return)
Control	: Namur 5/2-way control valve (optionally 3/2-way)
Throttle valve	: standard, 2x, with lock nut
Torque	: 2-1704 Nm (see table)
Control pressure	: 6-10 bar (double-acting and single-acting), conditioned air
Stroke	: 90° (+5° or -5°) with standard end stops
Temperature range	: -20°C to +80°C

Working principle

Anti-clockwise rotation is obtained by connecting the air pressure to port 'A', the two plungers are forced outwards so that the spindle rotates in clockwise direction. During this movement, air is blown out from the outermost chambers through port 'B'. Clockwise rotation is obtained in the opposite order, i.e. by connecting the air pressure to port 'B'.

Weight and air consumption of double-acting (DA) and single-acting (SA) pneumatic actuators

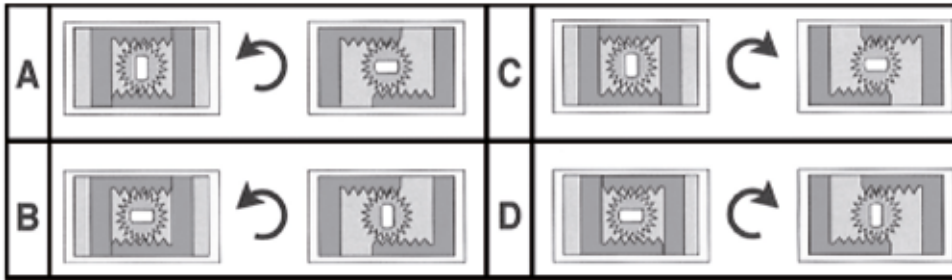
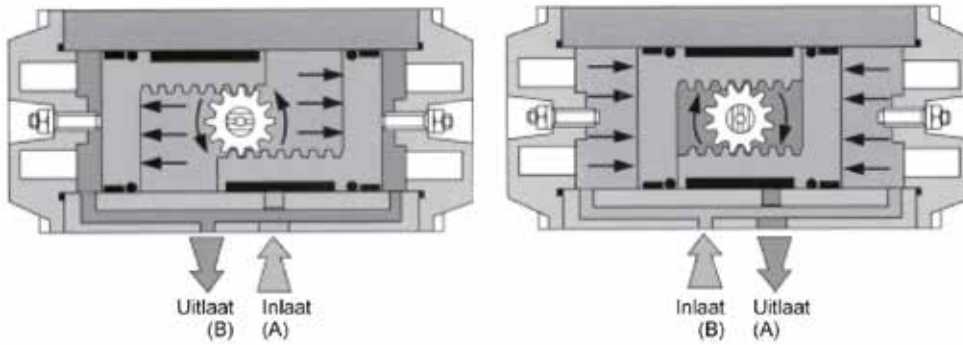
Model		AP0	AP1	AP2	AP3	AP3,5	AP4	AP4,5	AP5	AP5,5	AP6	AP8
Weight DA	kg	0,48	0,85	1,62	2,92	4,18	5,86	8,6	11,18	15,2	21,2	43
Weight SA	kg	0,71	1,08	1,74	3,16	4,66	6,34	9,8	13,1	18,8	24,6	54,5
Air DA-L and SA*		0,04	0,08	0,12	0,24	0,48	0,68	1	1,4	1,6	3,2	5,3
Air DA-R**		0,05	0,1	0,16	0,44	0,56	0,96	1,6	2,16	2,56	4	8,6

* Air consumption with anti-clockwise rotation (DA) and with single-acting (SA) pneumatic actuators

** Air consumption with clockwise rotation (DA)

Anti-clockwise rotation

Clockwise rotation



Torque (Nm), double-acting drives

Model	Available air pressure (bar)							Corresponding FE butterfly valve	Corresponding metal butterfly valve
	2	3	4	5	6	7	8		
AP0	2,4	3,6	4,8	6	7,3	8,5	9,7		
AP1	5,9	8,9	11,8	14,8	17,7	21,7	24,8		
AP2	9,4	14,1	18,8	23,5	28,2	32,9	37,6	50 - 63 - 75 mm	
AP3	20	30	40	50	60	70	80	90 - 110 mm	
AP3,5	34	51	68	85	102	119	136	125 - 140 mm	
AP4	48	71	95	119	142	168	192	160 mm	
AP4,5	87,2	130,8	174,4	218	261,6	305,2	348,8	200-225 mm	
AP5	111	167	222	278	333	388,5	444		250 mm
AP5,5	157,6	236,4	315,3	394,1	473	551,8	630,6		315 mm
AP6	227	340	454	567	680	794,5	908		400 mm
AP8	426	638	851	1064	1276	1491	1704		500 mm

INSTALLATION & MAINTENANCE

- ✓ The pneumatic drives of the AP Series can be installed both parallel and at right angles to the pipe direction.
- ✓ The opening and closing time can be set by means of the throttle valves. Too fast opening and closing of a valve can result in water hammer. Lock nuts prevent the throttle valves from becoming maladjusted. A more detailed description and installation instructions are available on request.
- ✓ The actuator is lubricated before capacity.
- ✓ Ensure clean and dry air; moisture in the pipework can result in damage to the aluminium housing.