

# AG

## Poppet valves for vacuum G1/8 ÷ G1 1/2

- A complete range: G1/8 - G1/4 - G3/8 - G1/2 - G3/4 - G1 - G1 1/2
- Original Univer poppet system appreciated for decades
- Servoassisted version
- A complete range of solenoid valves and pneumatic valves for vacuum with connection from G1/8 ÷ G1 1/2 to satisfy all requirements
- The internal system ensures high reliability and long life



### TECHNICAL CHARACTERISTICS

Ambient temperature	+50 °C						
Fluid temperature	-5 ÷ +60 °C						
Fluid	filtered air 50 µm lubricated or not - vacuum						
Commutation system	poppet						
Ways/Positions	<b>2/2 NC (upon request), 3/2 NC, 3/2 NO, 3/2 NC-NO</b>						
Pressure	max 10 bar						
Control	indirect vacuum						
Return	automatic by vacuum						
Connections	G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/2
Nominal Ø (mm)	5,5	8	10	15	19	25	39

### CONSTRUCTIVE CHARACTERISTICS

Valve body	G1/8 ÷ G1 = zamak G1 1/2 = aluminium
Seals	solenoid operated valve, servoassisted by compressed air conical plungers and Vulkollan diaphragm solenoid operated valve, servoassisted by vacuum silicon plugs
Actuators	G1/8 ÷ G1 = zamak G1 1/2 = aluminium
Spool	G1/8 ÷ G3/8 = aluminium G1/2 ÷ G1 1/2 = steel + plastic

### ELECTRIC CHARACTERISTICS

	G1/8 G1/4	G1/4 ÷ G1 1/2
Electropilot	U1	U2
Coil	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	with 2 positions screw	

# ARA

## PNEUMATIK

53-012 Wrocław tel. 71 364 72 80  
ul. Wyścigowa 38 fax 71 364 72 83

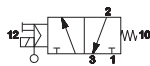
[www.arapneumatik.pl](http://www.arapneumatik.pl)



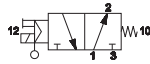
Solenoid valves 3/2 for vacuum, servoassisted by compressed air



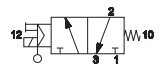
3/2 NC G1/8  
AG-3001



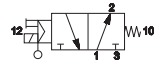
3/2 NO G1/8  
AG-3002



3/2 NC G1/4 - G3/8  
AG-3009  
AG-3011

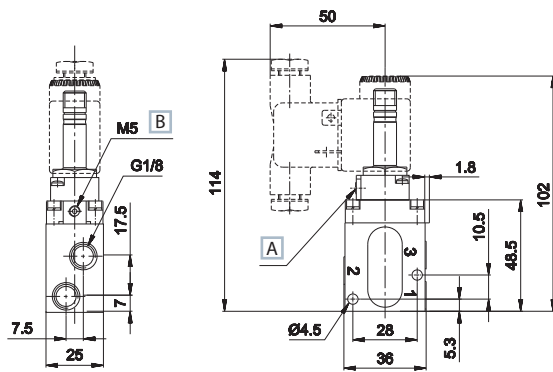


3/2 NO G1/4 - G3/8  
AG-3010  
AG-3012



	Connect.	Control	Return	Ø	Times (ms)		Minimum control pressure bar	Pump max m <sup>3</sup> /h	Max vacuum		Weight Kg	Coil	Part no.
					mm	En.			De-en.	mm Hg			
3/2 NC	G1/8	electric amplified	mechanical spring	5,5	14	25	1,5	1,5	759,5	0,5	0,25	U1	AG-3001
	G1/4			8	16	27	2,5	4	759,5	0,5	0,58	U2	AG-3009
	G3/8			10	16	27	2,5	10	759,5	0,5	0,56	U2	AG-3011
3/2 NO	G1/8	electric amplified	mechanical spring	5,5	14	25	1,5	1,5	759,5	0,5	0,25	U1	AG-3002
	G1/4			8	16	27	2,5	4	759,5	0,5	0,58	U2	AG-3010
	G3/8			10	16	27	2,5	10	759,5	0,5	0,56	U2	AG-3012

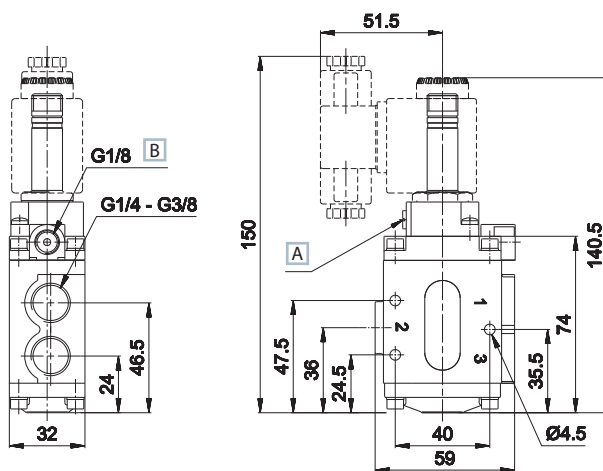
G1/8



- 1 = Supply port (vacuum)
- 2 = Use
- 3 = Exhaust

- A Manual override
- B Supply port for external servoassistance of the pilot

G1/4 - G3/8



- 1 = Supply port (vacuum)
- 2 = Use
- 3 = Exhaust

- A Manual override
- B Supply port for external servoassistance of the pilot

Upon request:

- external servoassistance of the pilot
- G1/4 - G3/8 U2 without manual override

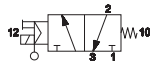
Electrovalves are supplied without coil, connector and locking ring

Solenoid valves 3/2 for vacuum, servoassisted by compressed air



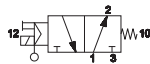
3/2 NC G1/2 - G3/4 - G1

AG-3020  
AG-3040  
AG-3050



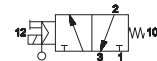
3/2 NO G1/2 - G3/4 - G1

AG-3021  
AG-3041  
AG-3051



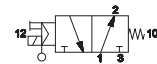
3/2 NC G1 1/2

AG-3062



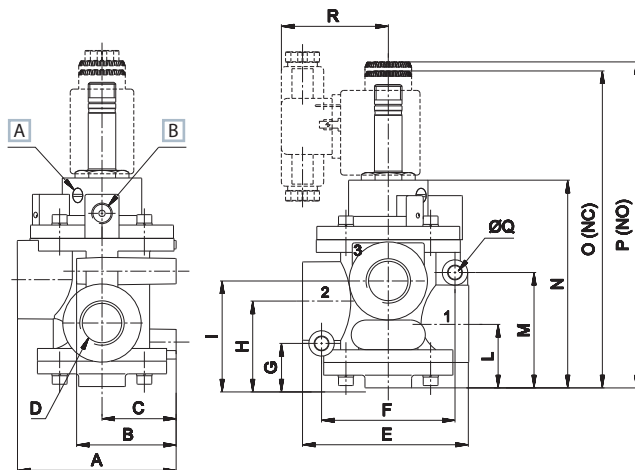
3/2 NO G1 1/2

AG-3063



	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m <sup>3</sup> /h	Max vacuum		Weight Kg	Coil	Part.no
					En.	Dis.			mm Hg	Torr			
3/2 NC	G1/2	electric amplified	mechanical spring	15	16	40	3	20	759,5	0,5	1,19	U2	AG-3020
	G3/4			19	16	40	3	35	759,5	0,5	1,13	U2	AG-3040
	G1			25	18	42	3	90	759,5	0,5	1,62	U2	AG-3050
	G1 1/2			39	60	38	4	180	759,5	0,5	2,25	U2	AG-3062
3/2 NO	G1/2	electric amplified	mechanical spring	15	16	40	3	20	759,5	0,5	1,19	U2	AG-3021
	G3/4			19	16	40	3	35	759,5	0,5	1,13	U2	AG-3041
	G1			25	18	42	3	90	759,5	0,5	1,62	U2	AG-3051
	G1 1/2			39	60	38	4	180	759,5	0,5	2,25	U2	AG-3063

G1/2 - G3/4 - G1

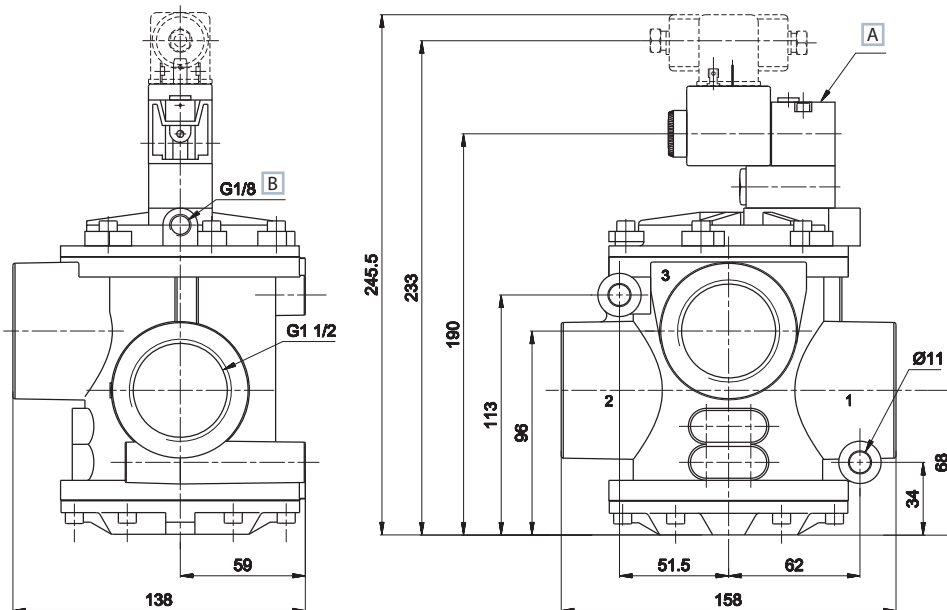


1 = Supply port  
2 = Use  
3 = Exhaust

A Manual override  
B Supply port for external servoassistance of the pilot

	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G1	89	55	40	G1	101	76	25,5	51	64	38	62,5	115	167	175	8,4	50

G1 1/2



1 = Supply port  
2 = Use  
3 = Exhaust

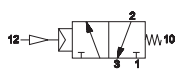
A Manual override  
B Supply port for external servoassistance of the pilot

Electrovalves are supplied without coil, connector and locking ring

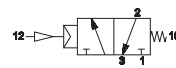
Servo valves 3/2 for vacuum servoassisted by compressed air



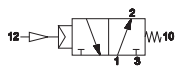
3/2 NC G1/8  
AG-3071



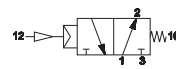
3/2 NC G1/4 - G3/8  
AG-3073  
AG-3075



3/2 NO G1/8  
AG-3072

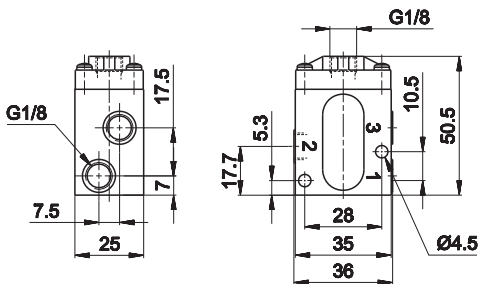


3/2 NO G1/4 - G3/8  
AG-3074  
AG-3076



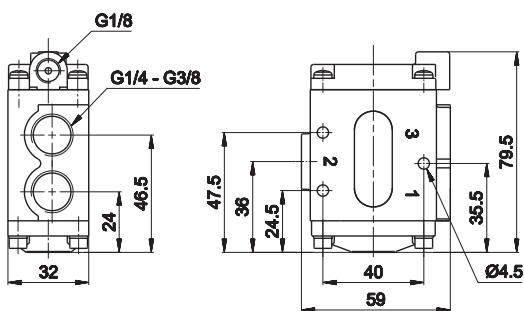
	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m <sup>3</sup> /h	Max vacuum		Weight Kg	Part no.
					En.	De-en.			mm Hg	Torr		
3/2 NC	G1/8	pneumatic amplified	mechanical spring	5,5	3	6	1,5	1,5	759,5	0,5	0,21	AG-3071
	G1/4			8	4	8	2,5	4	759,5	0,5	0,54	AG-3073
	G3/8			10	4	8	2,5	10	759,5	0,5	0,52	AG-3075
3/2 NO	G1/8	pneumatic amplified	mechanical spring	5,5	3	6	1,5	1,5	759,5	0,5	0,21	AG-3072
	G1/4			8	4	8	2,5	4	759,5	0,5	0,54	AG-3074
	G3/8			10	4	8	2,5	10	759,5	0,5	0,52	AG-3076

G1/8



- 1 = Supply port (vacuum)
- 2 = Use
- 3 = Exhaust

G1/4 - G3/8



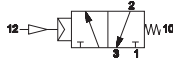
- 1 = Supply port (vacuum)
- 2 = Use
- 3 = Exhaust

Servovalves 3/2 for vacuum servoassisted by compressed air



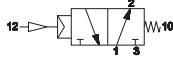
3/2 NC G1/2 - G3/4 - G1

AG-3081  
AG-3091  
AG-3100



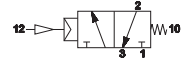
3/2 NO G1/2 - G3/4 - G1

AG-3082  
AG-3092  
AG-3101



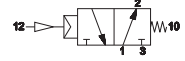
3/2 NC G1 1/2

AG-3110



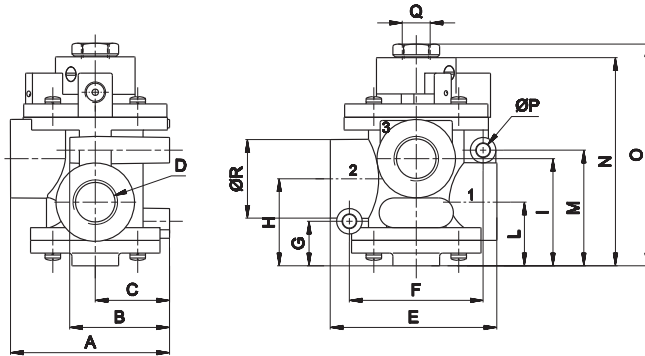
3/2 NO G1 1/2

AG-3111



	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m <sup>3</sup> /h	Max vacuum		Weight Kg	Part no.
					En.	De-en.			mm Hg	Torr		
3/2 NC	G1/2	pneumatic amplified	mechanical spring	15	6	15	3	20	759,5	0,5	1,16	AG-3081
	G3/4			19	6	15	3	35	759,5	0,5	1,10	AG-3091
	G1			25	7	16	3	90	759,5	0,5	1,59	AG-3100
	G1 1/2			39	65	25	4	180	759,5	0,5	2,19	AG-3110
3/2 NO	G1/2	pneumatic amplified	mechanical spring	15	6	15	3	20	759,5	0,5	1,16	AG-3082
	G3/4			19	6	15	3	35	759,5	0,5	1,10	AG-3092
	G1			25	7	16	3	90	759,5	0,5	1,59	AG-3101
	G1 1/2			39	65	25	4	180	759,5	0,5	2,19	AG-3111

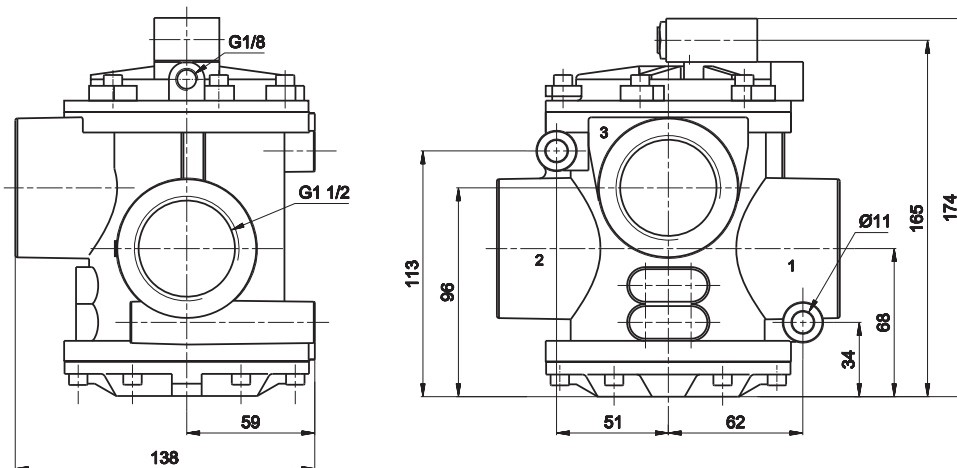
G1/2 - G3/4 - G1



1 = Supply port (vacuum)  
2 = Use  
3 = Exhaust

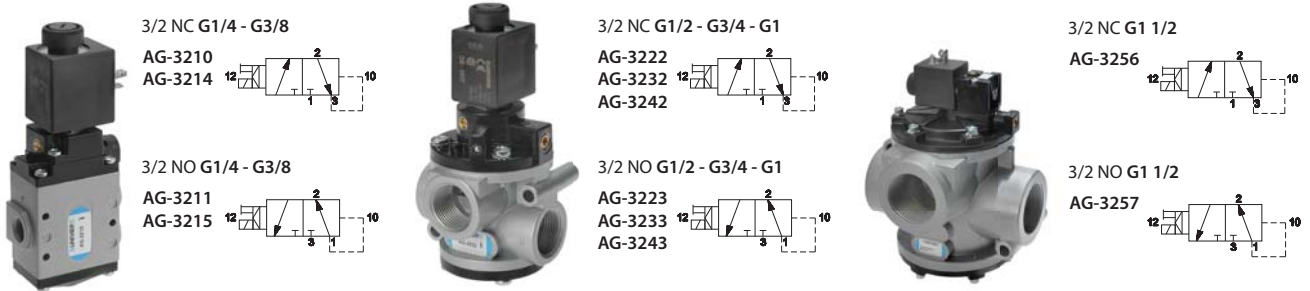
	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G1	88,5	55	40	G1	101	76	25,5	51	64	38	62,5	115	120,5	8,4	G1/4	45

G1 1/2



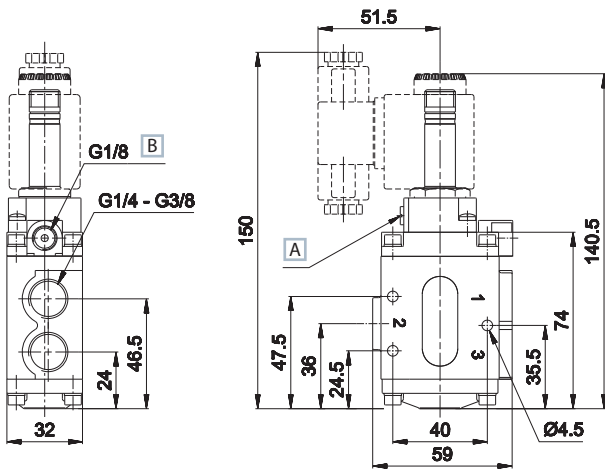
1 = Supply port (vacuum)  
2 = Use  
3 = Exhaust

Electrovalves 3/2 for direct vacuum servoassisted by vacuum

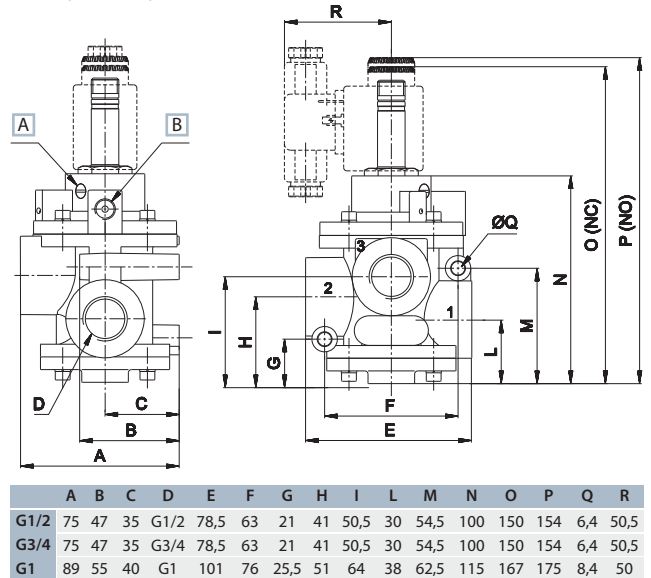


Connect.	Control	Return	Ø	Times (ms)			Pump	Min. vacuum		Max vacuum		Weight	Coil	Part no.
				mm	En.	De-en.		max m³/h	mm Hg	Torr	mm Hg			
3/2 NC	electric amplified	vacuum	G1/4	8	25	16	4	150	610	759,5	0,5	0,52	U2	AG-3210
			G3/8	10	25	16	10	150	610	759,5	0,5	0,56	U2	AG-3214
			G1/2	15	30	15	20	150	610	759,5	0,5	1,19	U2	AG-3222
			G3/4	19	30	15	35	150	610	759,5	0,5	1,13	U2	AG-3232
			G1	25	38	18	90	150	610	759,5	0,5	1,62	U2	AG-3242
G1 1/2	39	75	50	100	150	610	759,5	0,5	2	U2	AG-3256			
3/2 NO	electric amplified	vacuum	G1/4	8	20	14	4	150	610	759,5	0,5	0,58	U2	AG-3211
			G3/8	10	20	14	10	150	610	759,5	0,5	0,56	U2	AG-3215
			G1/2	15	20	18	20	150	610	759,5	0,5	1,19	U2	AG-3223
			G3/4	19	20	18	35	150	610	759,5	0,5	1,13	U2	AG-3233
			G1	25	25	20	90	150	610	759,5	0,5	1,62	U2	AG-3243
G1 1/2	39	70	60	100	150	610	759,5	0,5	2	U2	AG-3257			

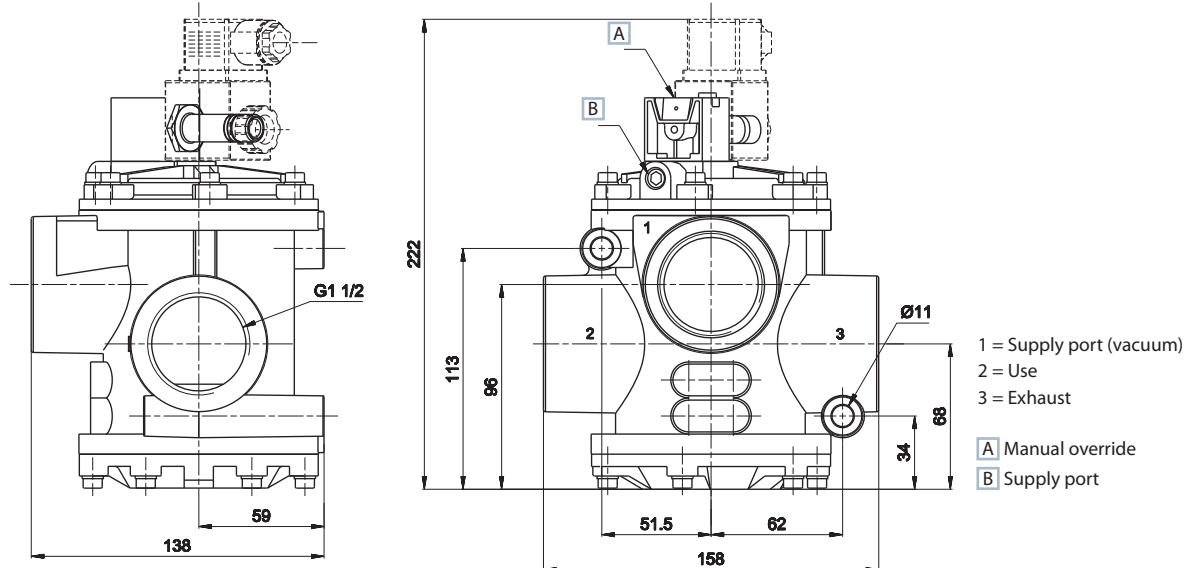
G1/4 - G3/8



G1/2 - G3/4 - G1



G1 1/2



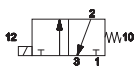
For 2/2 version put a cup on the exhaust (3)  
 Electrovalves are supplied without coil, connector and locking ring

Electrovalves 2/2 - 3/2 for direct vacuum servoassisted by vacuum



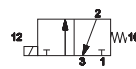
3/2 NC G1/4

- AG-3310
- AG-3311
- AG-3312
- AG-3313



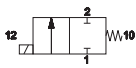
2/2 NC G1/2

- AG-3320
- AG-3321
- AG-3322



2/2 NC G1/4

- AG-3300
- AG-3301
- AG-3302
- AG-3303



**Material:**

valve body	G1/4 = brass G1/2 = aluminium
tube/sleeve	stainless steel
nucleus and spring	stainless steel
seals (a)	G1/4 = NBR G1/2 = vulkollan

(a) = vulkollan + NBR for valves 3/2 version

3/2 NC

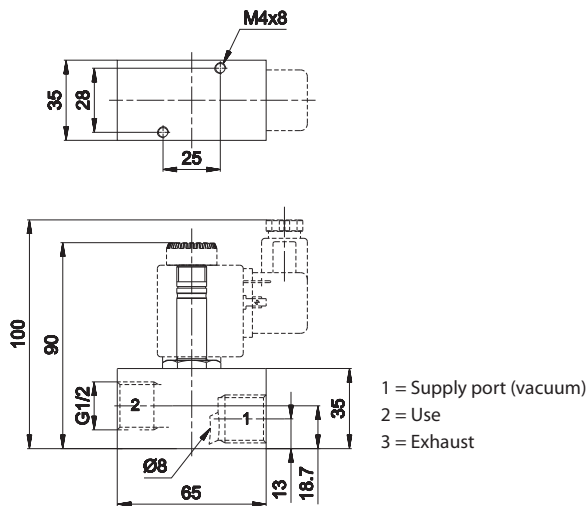
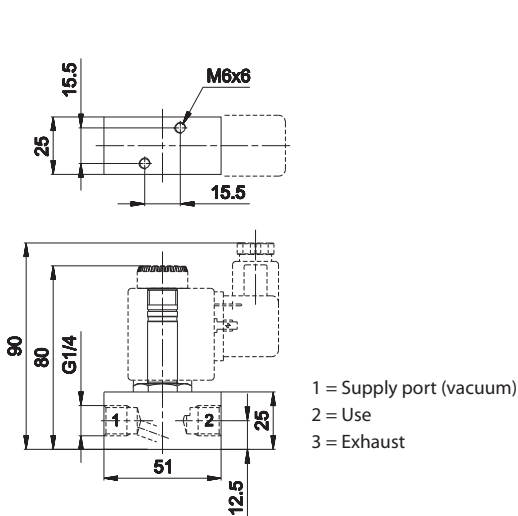
2/2 NC

Connect.	Control	Return	Ø mm	Times (ms)		Pump max m <sup>3</sup> /h	Max vacuum		Weight Kg	Part no.
				En.	De-en.		mm Hg	Torr		
G1/4	electric	mechanical spring	3-3*	10	10	1,8	759,5	0,5	0,22	AG-3310
			4-3*	12	8	2,5	759,5	0,5	0,22	AG-3311
			5-3*	13	8	4	759,5	0,5	0,22	AG-3312
			6-3*	15	8	5	759,5	0,5	0,22	AG-3313
			8-3*	17	8	6	759,5	0,5	0,25	AG-3330
			10-3*	20	10	7,5	759,5	0,5	0,25	AG-3331
G1/2	electric	mechanical spring	11-3*	28	10	10	759,5	0,5	0,25	AG-3332
			3	10	-	1,8	759,5	0,5	0,22	AG-3300
			4	12	-	2,5	759,5	0,5	0,22	AG-3301
			5	13	-	4	759,5	0,5	0,22	AG-3302
			6	15	-	5	759,5	0,5	0,22	AG-3303
			8	17	-	6	759,5	0,5	0,25	AG-3320
G1/2	electric	mechanical spring	10	20	-	7,5	759,5	0,5	0,25	AG-3321
			11	28	-	10	759,5	0,5	0,25	AG-3322

\* = solenoid valves with 3 mm fixed exhaust

G1/4

G1/2



Coil U2 - 17 VA

Voltage  
24 V CA - 50/60 Hz DB-0607  
110 V CA - 50/60 Hz DB-0608  
220 V CA - 50/60 Hz DB-0610

**ARA**  
PNEUMATIK

53-012 Wrocław tel. 71 364 72 80  
ul. Wyścigowa 38 fax 71 364 72 83

www.arapneumatik.pl



Electrovalves are supplied without coil, connector and locking ring