

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	2/2 NC (upon request), 3/2 NC, 3/2 NO, 3/2 NC-NO						
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

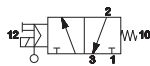
ELECTRIC CHARACTERISTICS

	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	

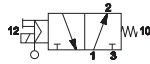
Solenoid valves 3/2 for vacuum, servoassisted by compressed air



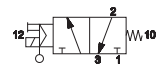
3/2 NC G1/8
AG-3001



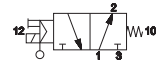
3/2 NO G1/8
AG-3002



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

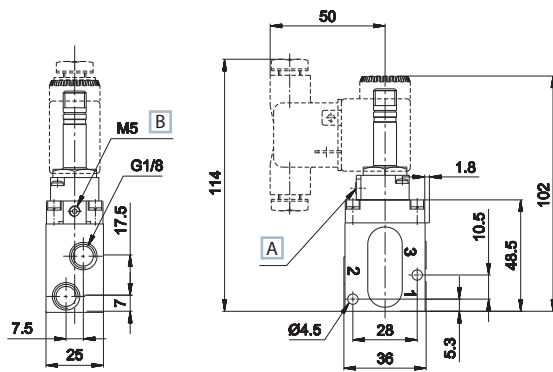


3/2 NO G1/4 - G3/8
AG-3010
AG-3012



	Connect.	Control	Return	Ø	Times (ms)		Minimum control pressure bar	Pump max m ³ /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

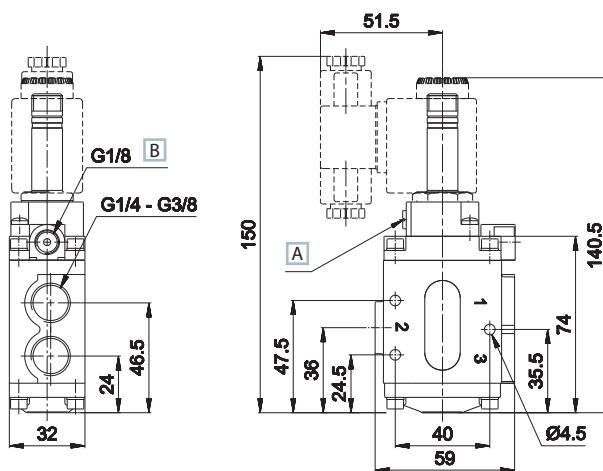
G1/8



- 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

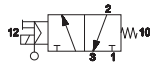
Electrovalves are supplied without coil, connector and locking ring

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



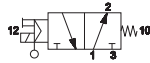
3/2 NC G1/2 - G3/4 - G1

AG-3020
AG-3040
AG-3050



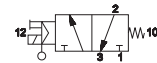
3/2 NO G1/2 - G3/4 - G1

AG-3021
AG-3041
AG-3051



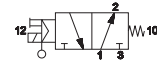
3/2 NC G1 1/2

AG-3062



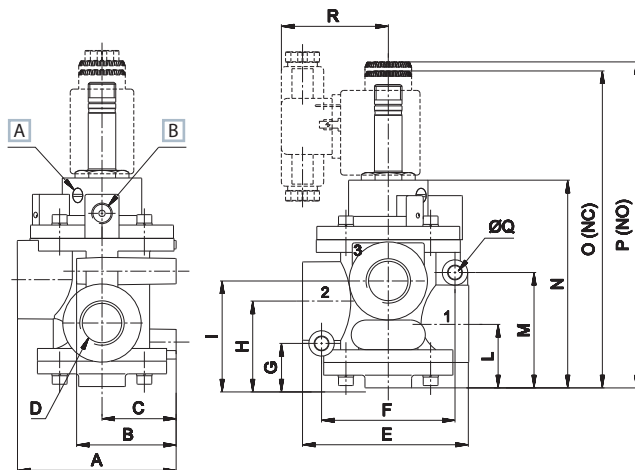
3/2 NO G1 1/2

AG-3063



	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m³/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

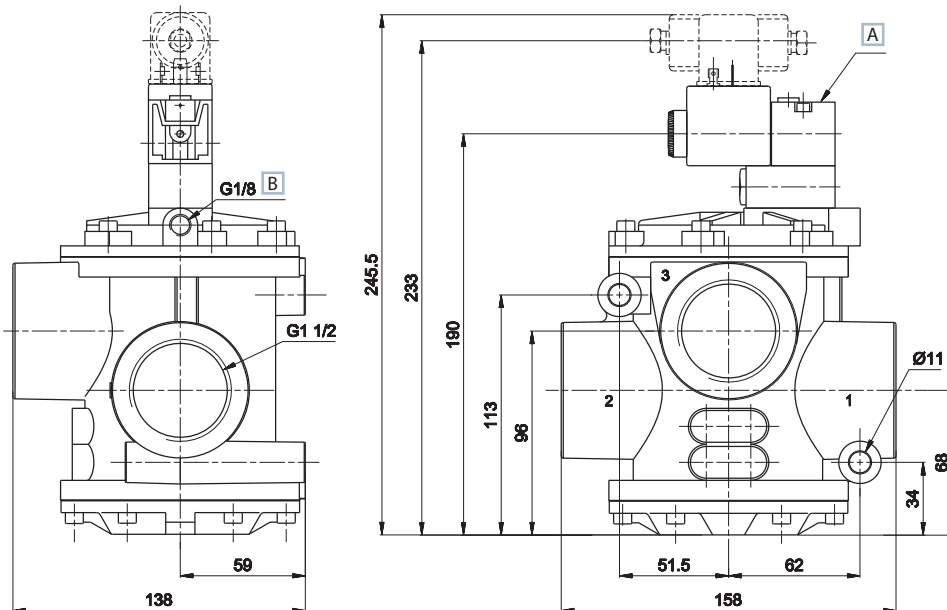


1 = Supply port
2 = Use
3 = Exhaust

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

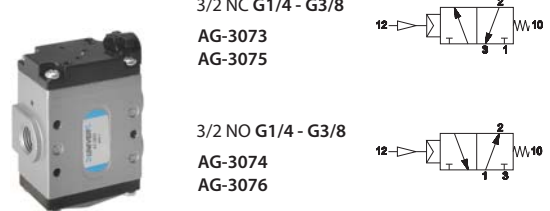
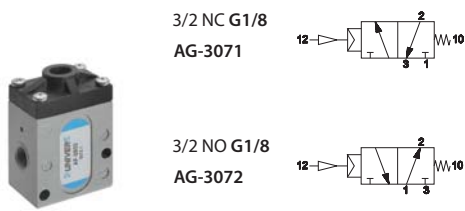


1 = Supply port
2 = Use
3 = Exhaust

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

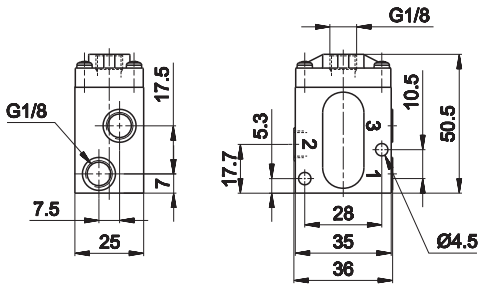
Electrovalves are supplied without coil, connector and locking ring

Servo valves 3/2 for vacuum servoassisted by compressed air

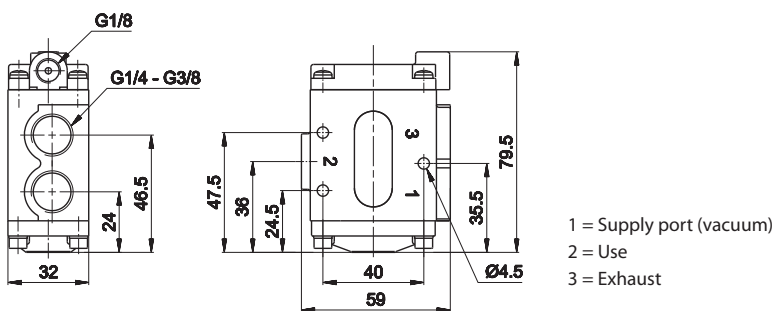


	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m ³ /h	Max vacuum		Weight Kg	Part no.
					En.	De-en.			mm Hg	Torr		
3/2 NC	G1/8	pneumatic amplified	mechanical spring	5,5	3	6	1,5	1,5	759,5	0,5	0,21	AG-3071
	G1/4			8	4	8	2,5	4	759,5	0,5	0,54	AG-3073
	G3/8			10	4	8	2,5	10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



G1/4 - G3/8

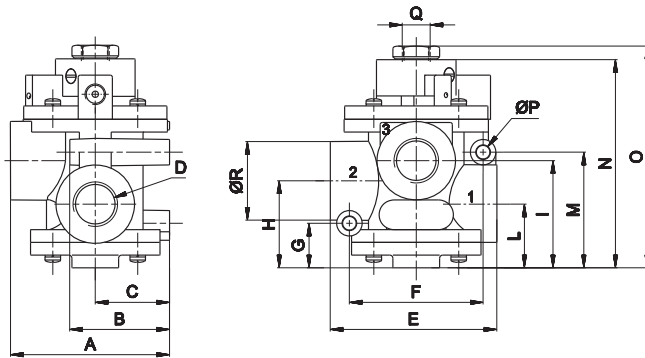


Servovalves 3/2 for vacuum servoassisted by compressed air



	Connect.	Control	Return	Ø mm	Times (ms)		Minimum control pressure bar	Pump max m ³ /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

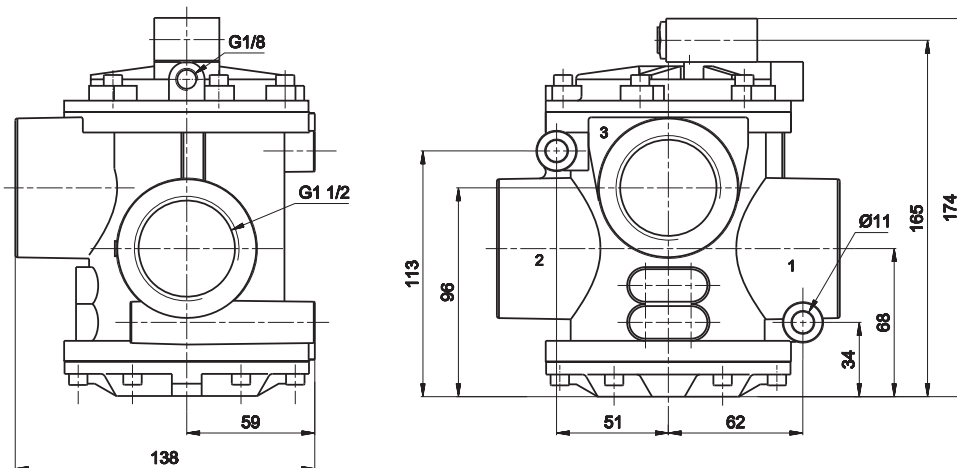
G1/2 - G3/4 - G1



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

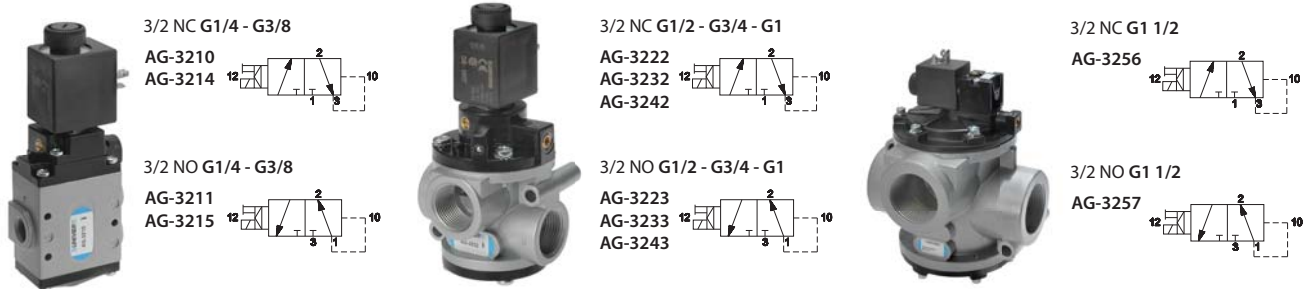
	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G1	88,5	55	40	G1	101	76	25,5	51	64	38	62,5	115	120,5	8,4	G1/4	45

G1 1/2



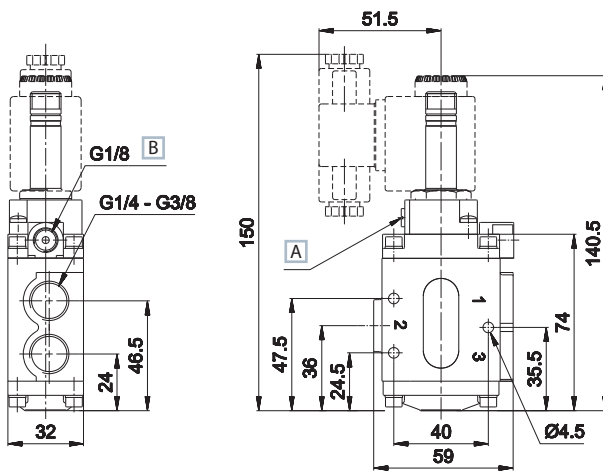
1 = Supply port (vacuum)
2 = Use
3 = Exhaust

Electrovalves 3/2 for direct vacuum servoassisted by vacuum

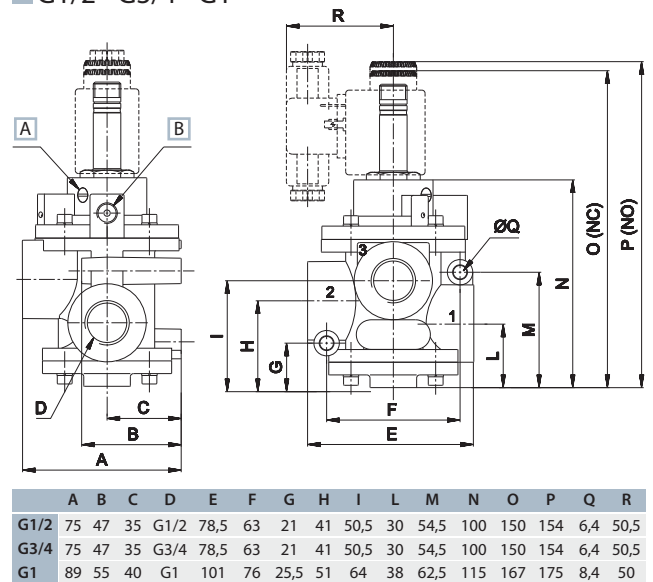


Connect.	Control	Return	Ø mm	Times (ms)		Pump max m³/h	Min. vacuum		Max vacuum		Weight Kg	Coil	Part no.	
				En.	De-en.		mm Hg	Torr	mm Hg	Torr				
3/2 NC	electric amplified	vacuum	G1/4	8	25	16	4	150	610	759,5	0,5	0,52	U2	AG-3210
			G3/8	10	25	16	10	150	610	759,5	0,5	0,56	U2	AG-3214
			G1/2	15	30	15	20	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			

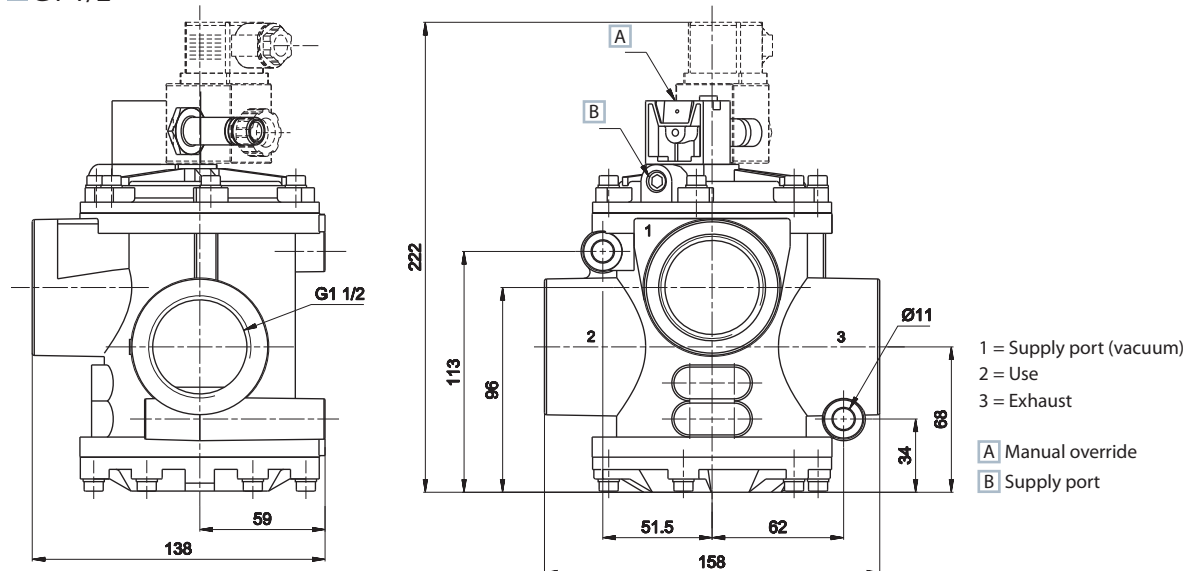
G1/4 - G3/8



G1/2 - G3/4 - G1



G1 1/2



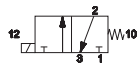
For 2/2 version put a cup on the exhaust (3)
Electrovalves are supplied without coil, connector and locking ring

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



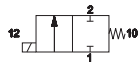
3/2 NC G1/4

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



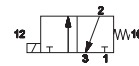
2/2 NC G1/4

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



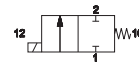
3/2 NC G1/2

- AG-3330
- AG-3331
- AG-3332



2/2 NC G1/2

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



Material:

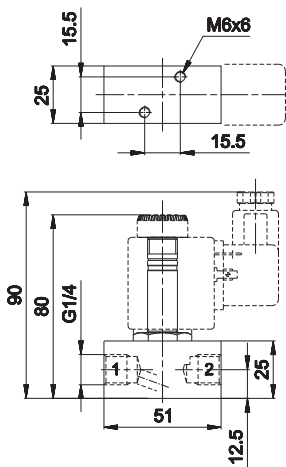
valve body	G1/4 = brass G1/2 = aluminium
tube/sleeve	stainless steel
nucleus and spring	stainless steel
seals (a)	G1/4 = NBR G1/2 = vulkollan

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

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

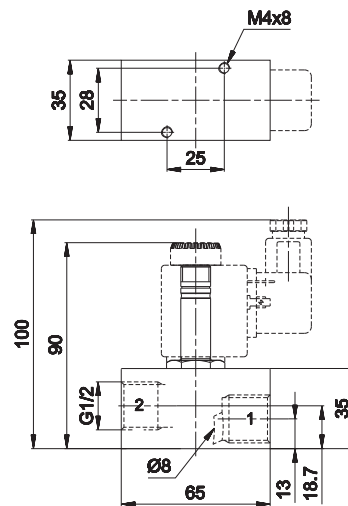
* = solenoid valves with 3 mm fixed exhaust

G1/4



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

G1/2



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



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

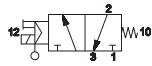
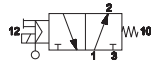
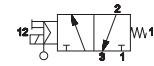
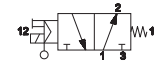
Electrovalves are supplied without coil, connector and locking ring

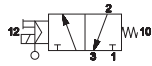
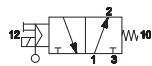
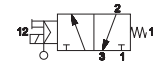
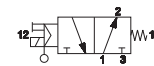
CHARACTERISTICS

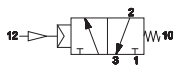
Ambient temperature	Max +50 °C						
Fluid	50 µm filtered air, with or without lubrication - vacuum						
Commutation system	poppet						
Max vacuum	759,5 mm Hg						
Connections	G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/2
Nominal bore (mm)	5,5	8	10	15	19	25	39
Valve body	zamak (G1/8 ÷ G1), aluminium (G1 1/2)						
Seals	polyurethane conical poppets and Vulkollan diaphragm ^(a) ; silicon poppets ^(b)						
Spool	aluminium (G1/8 ÷ G3/8), steel + plastic (G1/2 ÷ G1 1/2)						
	G1/8 ÷ G3/8			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	impulse screw - 2 positions						

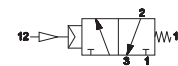
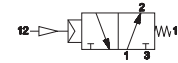
(a) = valve for vacuum with external air operation

(b) = valve for direct vacuum with external vacuum operation


3/3 Solenoid valve for vacuum with external pilot air supply G1/8 ÷ G3/8

 3/2 NC
AG-3001 G1/8

 3/2 NO
AG-3002 G1/8

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

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

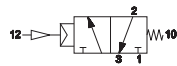
3/2 Solenoid valve for vacuum with external pilot air supply G1/2 ÷ G1 1/2

 3/2 NC
AG-3020 G1/2
AG-3040 G3/4
AG-3050 G1

 3/2 NO
AG-3021 G1/2
AG-3041 G3/4
AG-3051 G1

 3/2 NC
AG-3062 G1 1/2

 3/2 NO
AG-3063 G1 1/2

3/2 Pneumatic valve for vacuum with external air operation G1/8 ÷ G3/8

 3/2 NC
AG-3071 G1/8

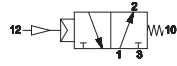
 3/2 NO
AG-3072 G1/8

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

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

2/2 NC-NO version available upon request
Solenoid valves are supplied without coil/connector/locking nut

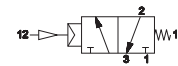
3/2 Pneumatic valve for vacuum with external air operation G1/2 ÷ G1 1/2



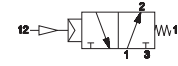
3/2 NC
 AG-3081 G1/2
 AG-3091 G3/4
 AG-3100 G1



3/2 NO
 AG-3082 G1/2
 AG-3092 G3/4
 AG-3101 G1

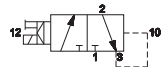


3/2 NC
 AG-3110 G1 1/2

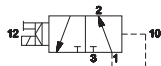


3/2 NO
 AG-3111 G1 1/2

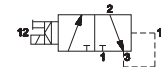
3/2 Solenoid valve for direct vacuum with external pilot vacuum supply G1/4 ÷ G1 1/2



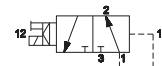
3/2 NC
 AG-3210 G1/4
 AG-3214 G3/8



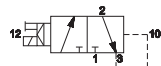
3/2 NO
 AG-3211 G1/4
 AG-3215 G3/8



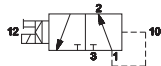
3/2 NC
 AG-3222 G1/2
 AG-3232 G3/4
 AG-3242 G1



3/2 NO
 AG-3223 G1/2
 AG-3233 G3/4
 AG-3243 G1

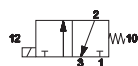


3/2 NC
 AG-3256 G1 1/2

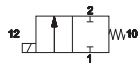


3/2 NO
 AG-3257 G1 1/2

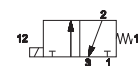
2/2 - 3/2 Solenoid valve for vacuum with direct operation G1/4 - G1/2



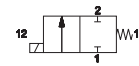
3/2 NC
 AG-3310 G1/4
 AG-3311 G1/4
 AG-3312 G1/4
 AG-3313 G1/4



2/2 NC
 AG-3300 G1/4
 AG-3301 G1/4
 AG-3302 G1/4
 AG-3303 G1/4



3/2 NC
 AG-3330 G1/2
 AG-3331 G1/2
 AG-3332 G1/2



2/2 NC
 AG-3320 G1/2
 AG-3321 G1/2
 AG-3322 G1/2

■ U2 - 17 VA coil



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

Solenoid valves are supplied without coil/connector/locking nut