

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

### ELECTRIC CHARACTERISTICS

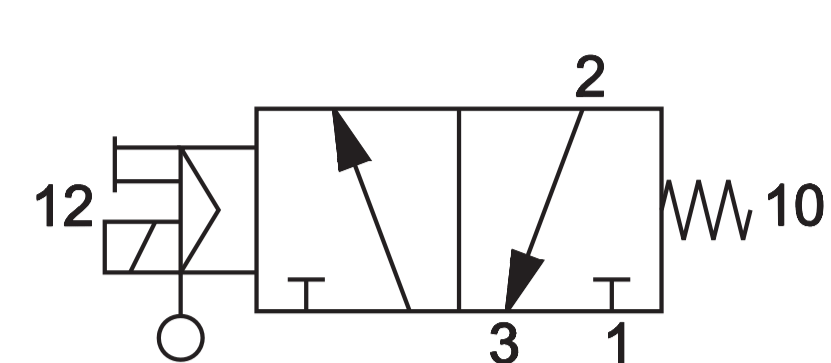
|                   | G1/8 G1/4   | G1/4 ÷ G1 1/2          |
|-------------------|---|------------------------|
| Electropilot      | U1  | U2                     |
| Coil              | DA  | DB                     |
| Power consumption | 3,5 W (DC) - 5 VA (AC)                            | 11 W (DC) - 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                            |                        |



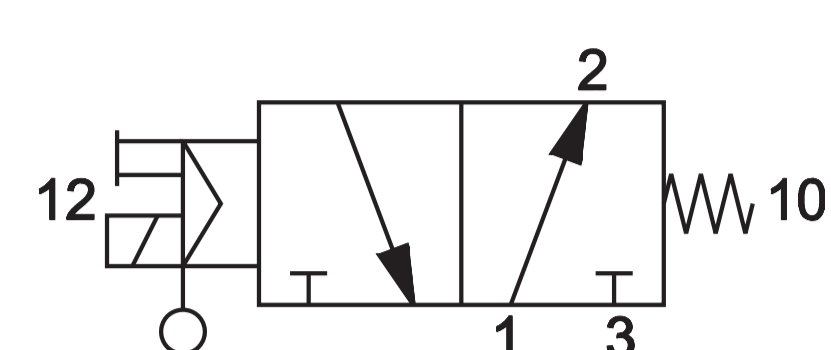
## Solenoid valves 3/2 for vacuum, servoassisted by compressed air



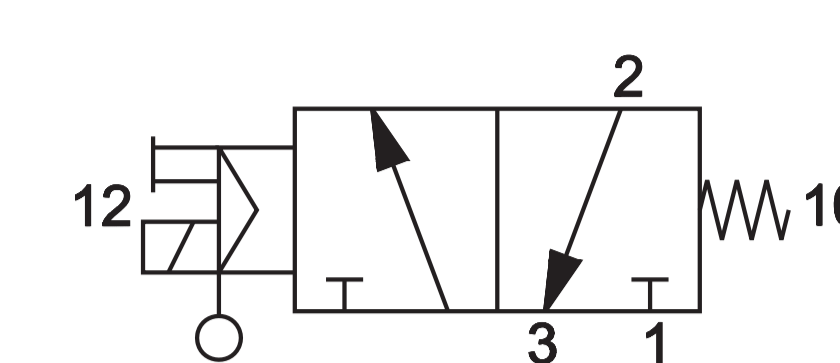
3/2 NC G1/8  
AG-3001



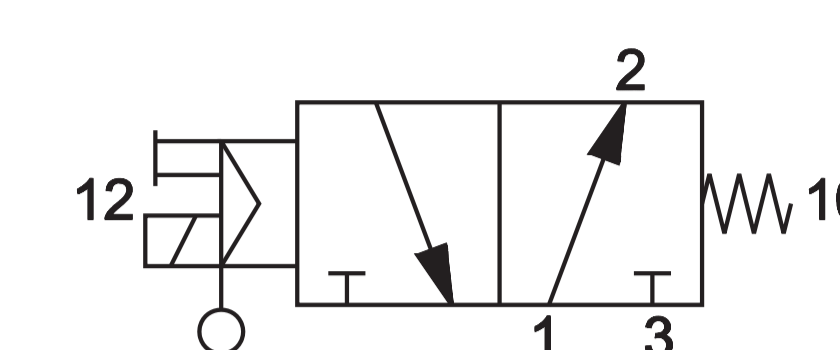
3/2 NO G1/8  
AG-3002



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

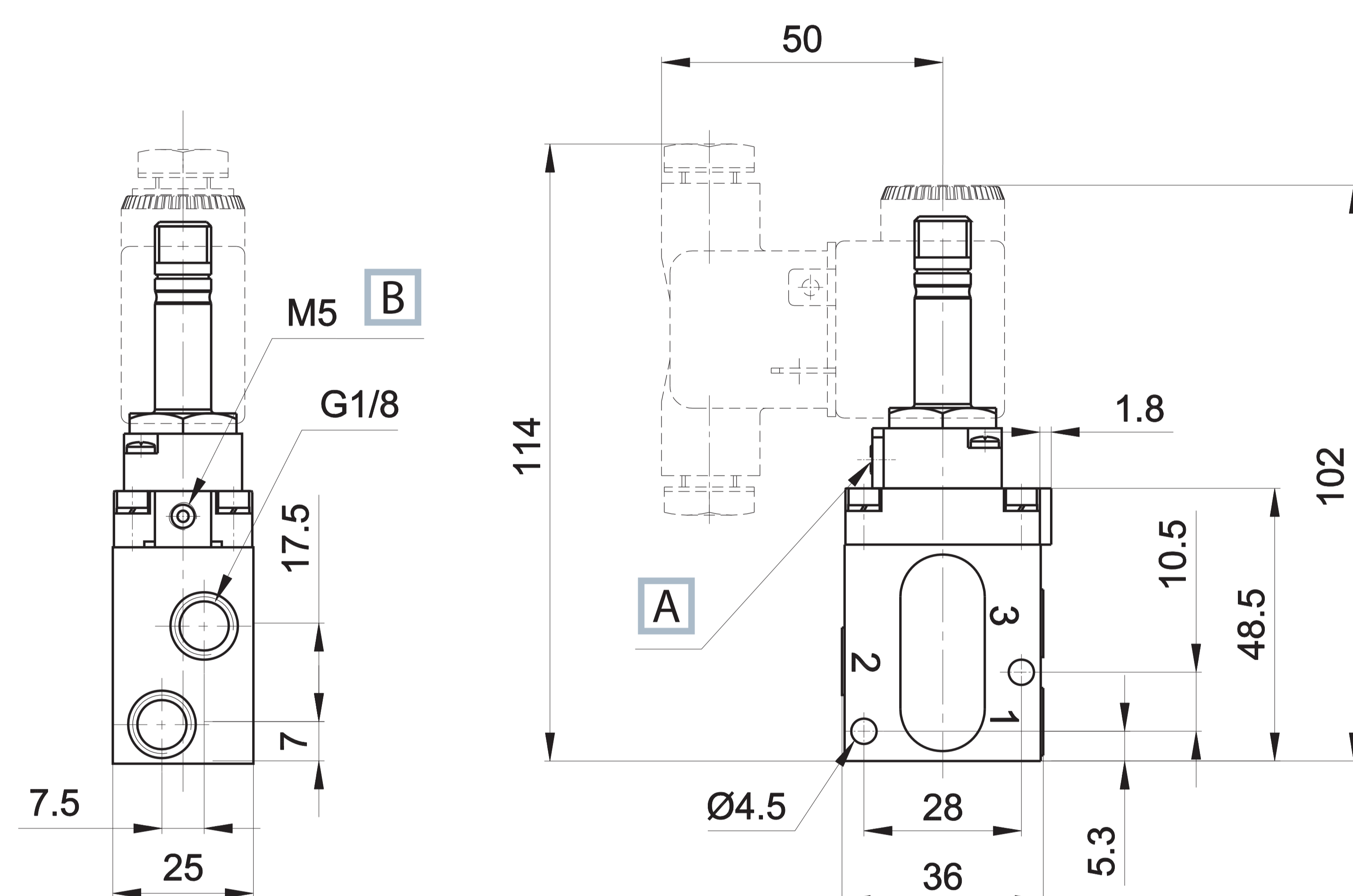


3/2 NO G1/4 - G3/8  
AG-3010  
AG-3012



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

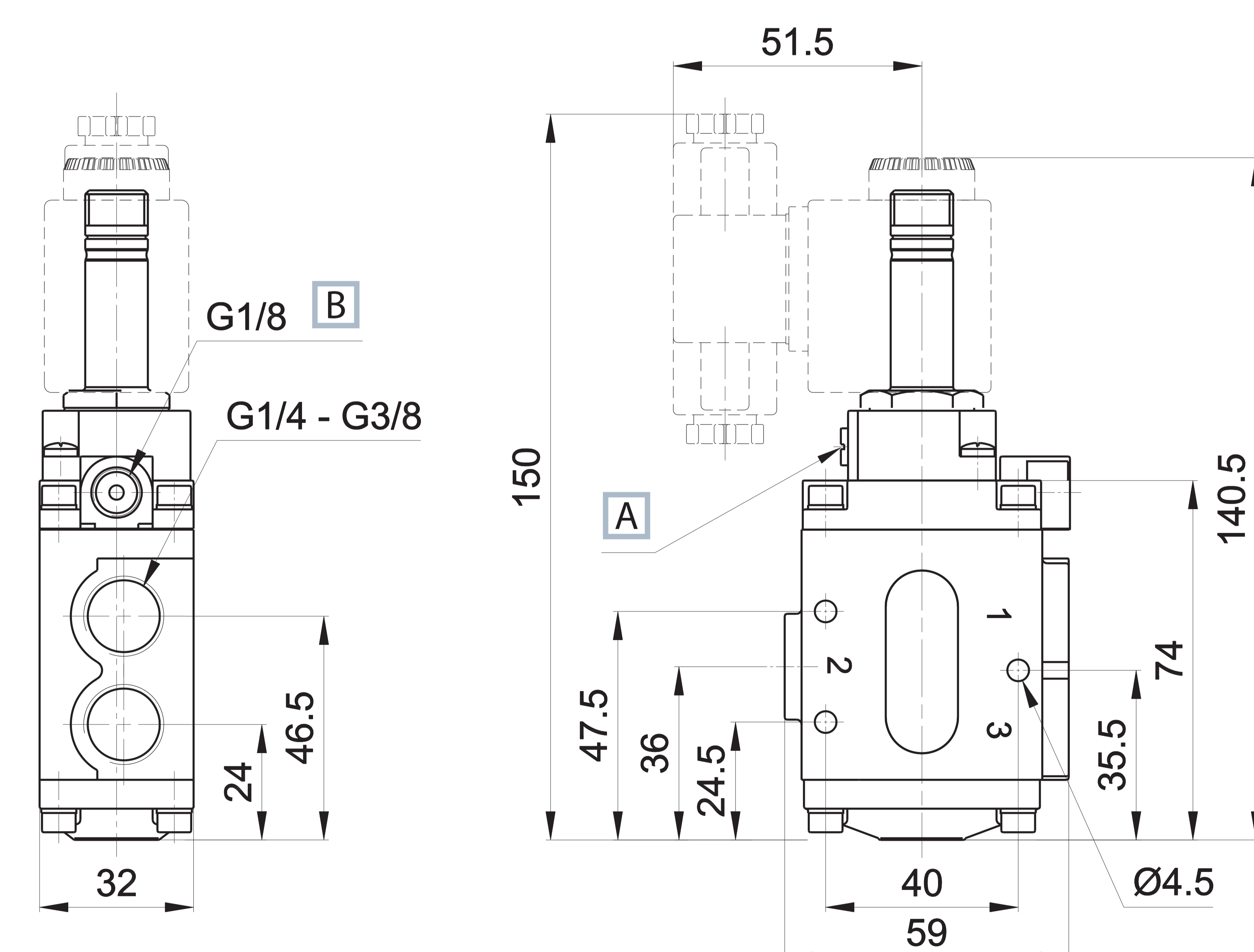
## ■ G1/8



- 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

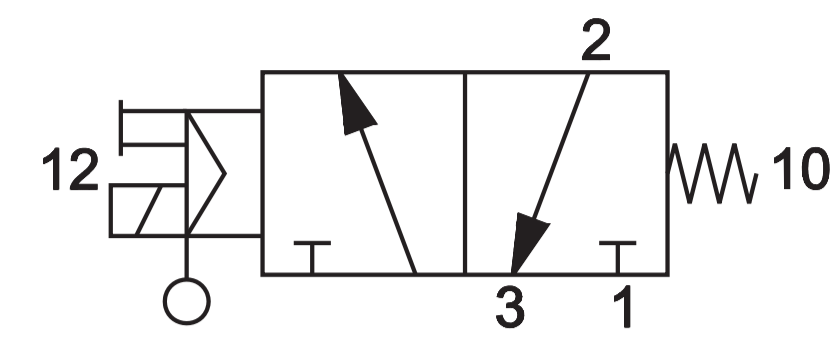


Solenoid valves 3/2 for vacuum, servoassisted by compressed air



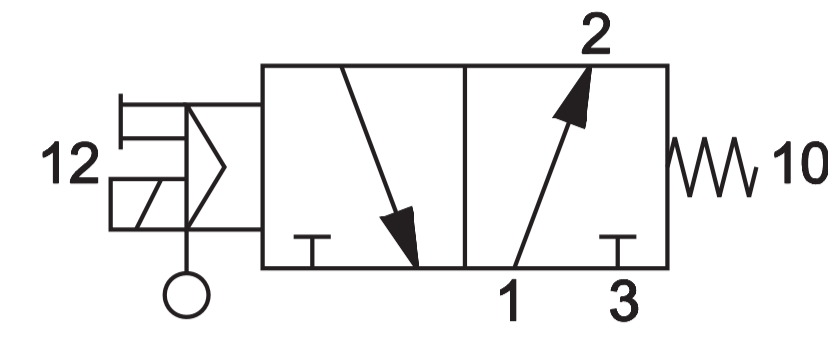
3/2 NC G1/2 - G3/4 - G1

AG-3020  
AG-3040  
AG-3050



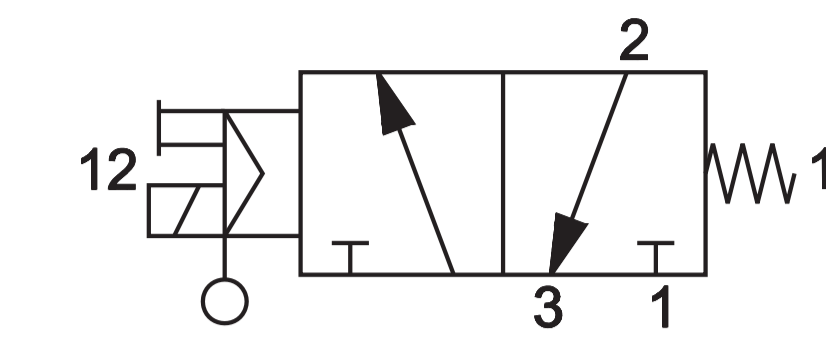
3/2 NO G1/2 - G3/4 - G1

AG-3021  
AG-3041  
AG-3051



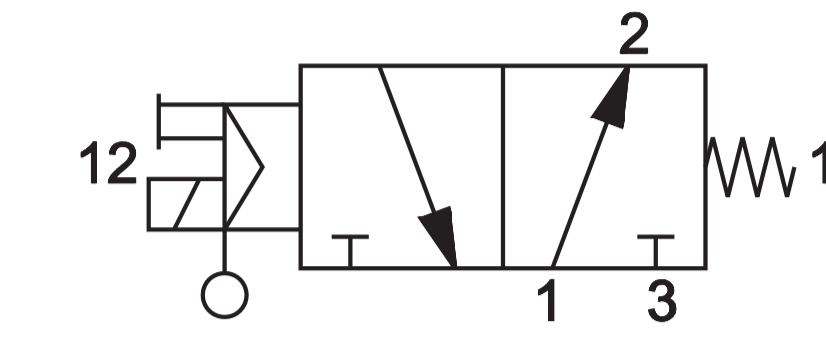
3/2 NC G1 1/2

AG-3062



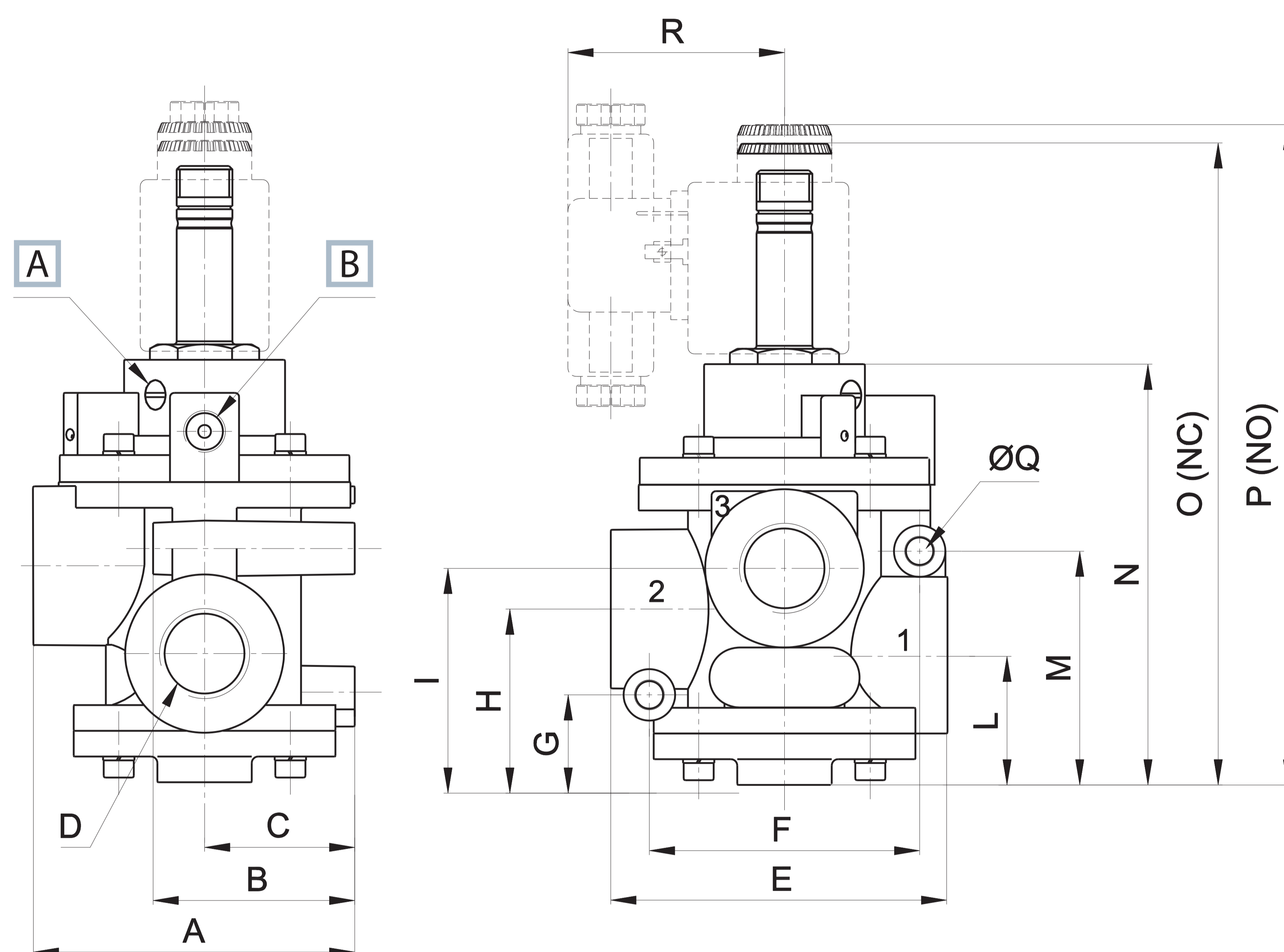
3/2 NO G1 1/2

AG-3063



|        | Connect. | Control            | Return            | Ø  | Times (ms) |     | Minimum control pressure bar | Pump max m³/h | Max vacuum |       | Weight Kg | Coil | Part.no |
|--------|----------|--------------------|-------------------|----|------------|-----|------------------------------|---------------|------------|-------|-----------|------|---------|
|        |          |                    |                   |    | mm         | En. |                              |               | Dis.       | mm Hg |           |      |         |
| 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

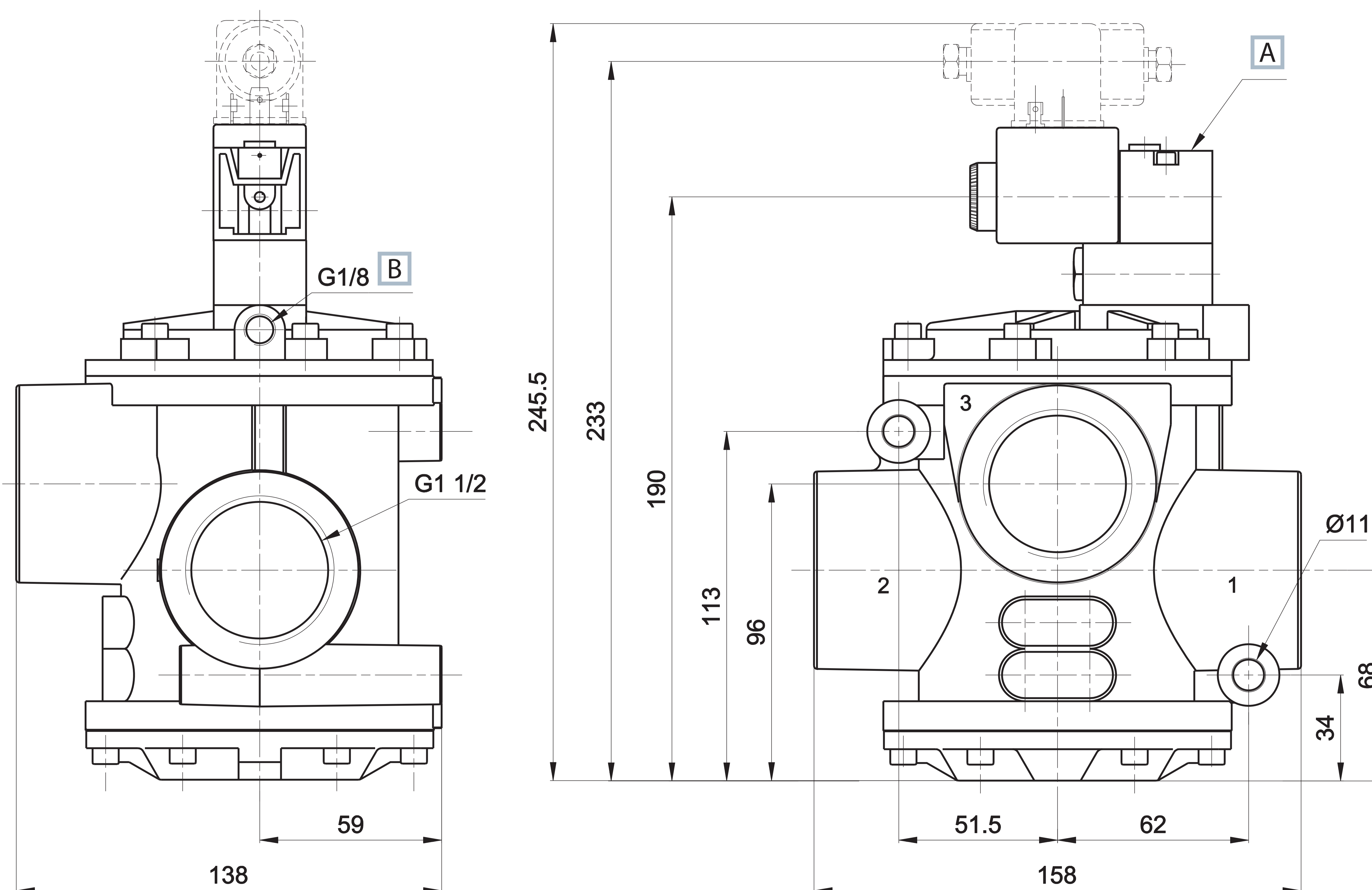


1 = Supply port  
2 = Use  
3 = Exhaust

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



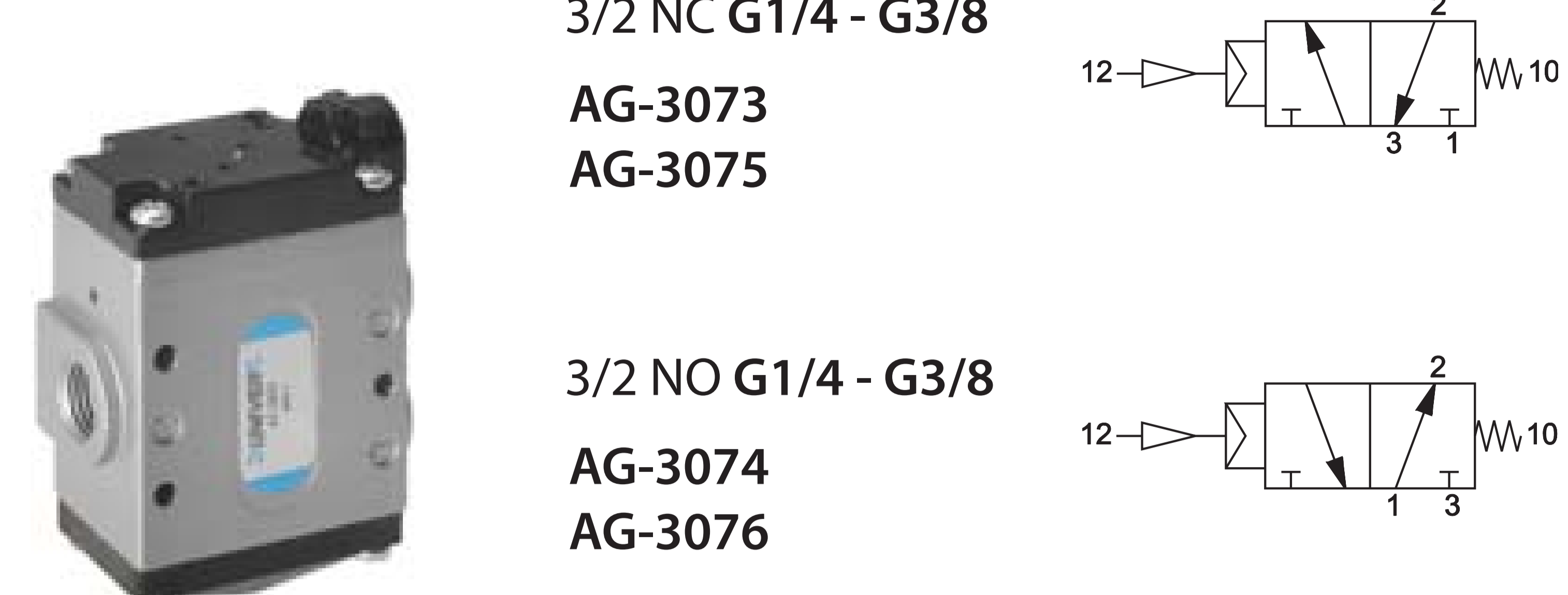
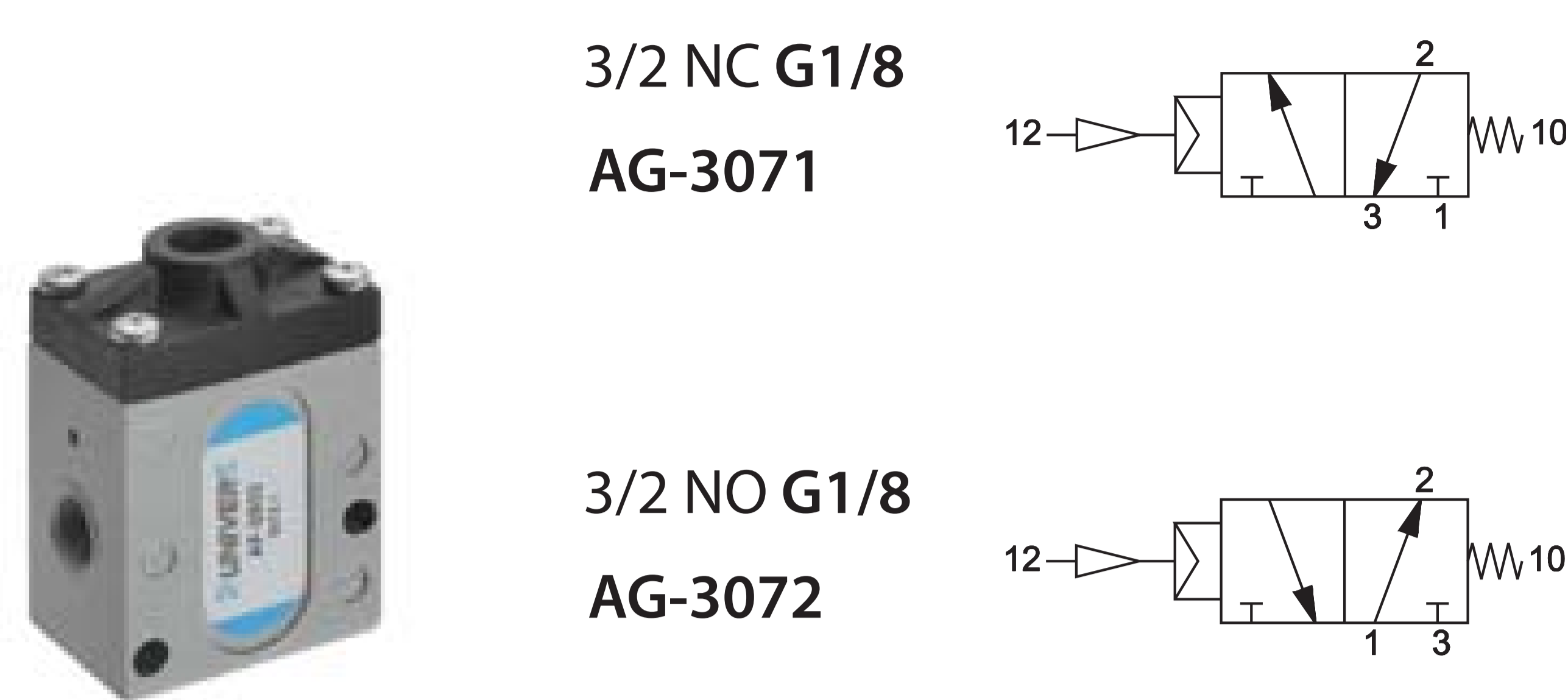
1 = Supply port  
2 = Use  
3 = Exhaust

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

Electrovalves are supplied without coil, connector and locking ring

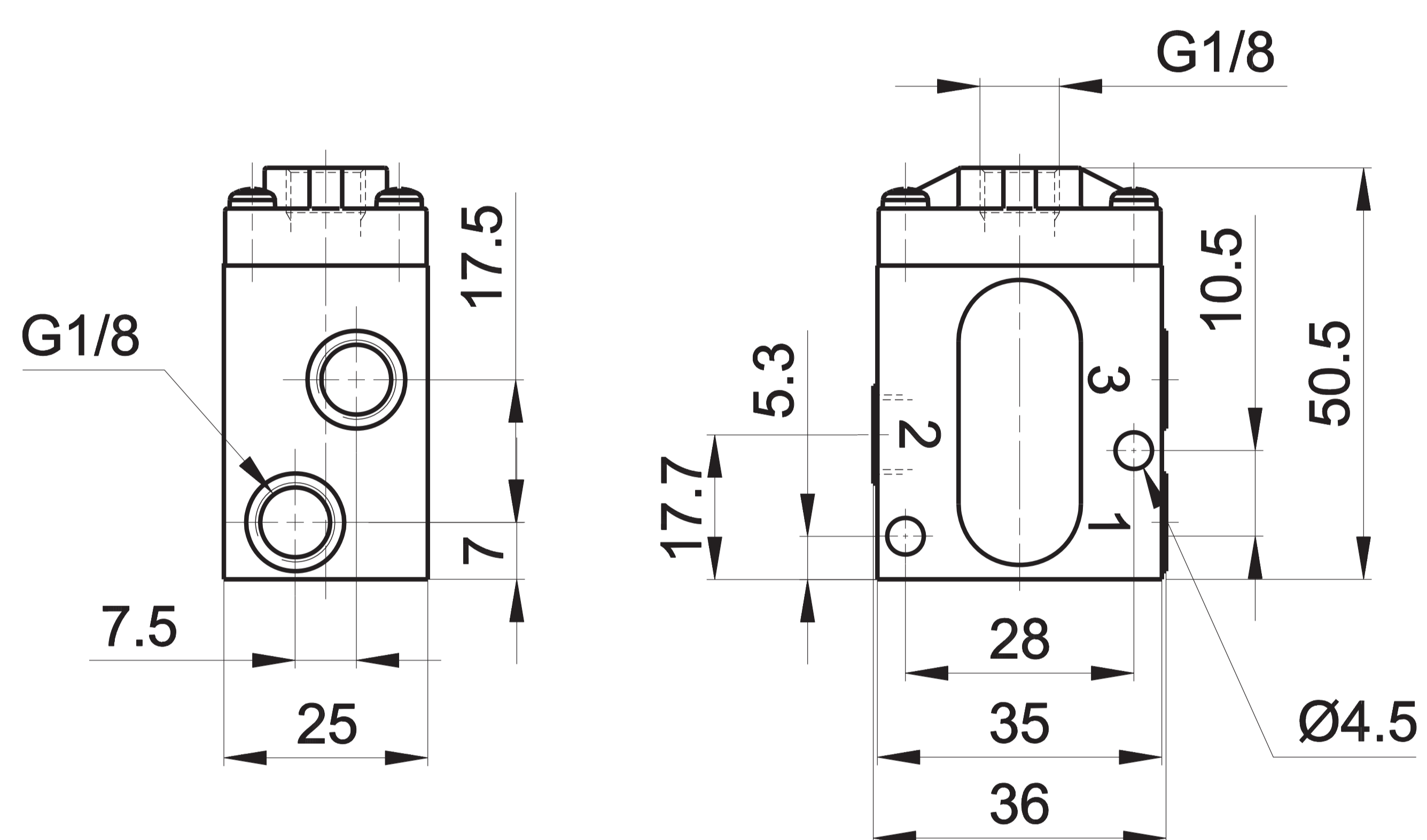


## Servovalves 3/2 for vacuum servoassisted by compressed air

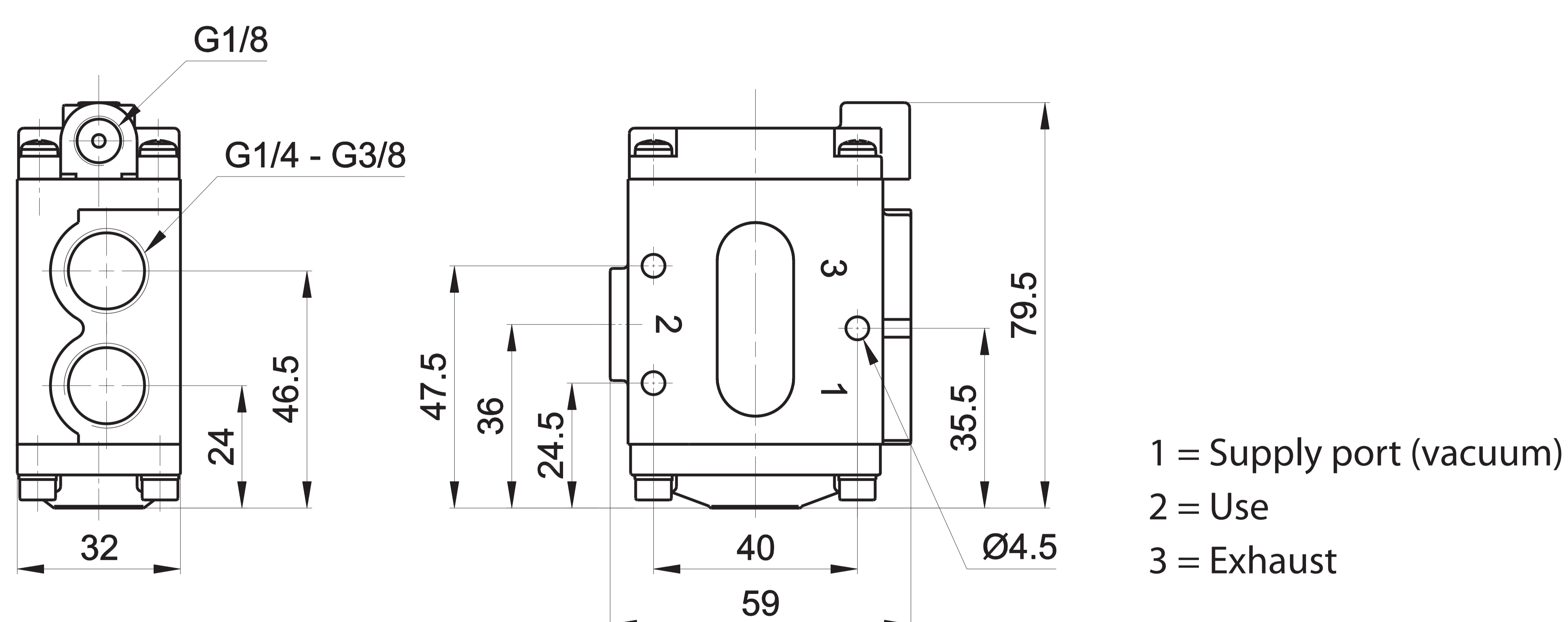


|        | Connect. | Control   | Return     | Ø<br>mm | Times (ms) |        | Minimum control<br>pressure bar | Pump<br>max m <sup>3</sup> /h | Max vacuum |      | Weight<br>Kg | Part no.       |
|--------|----------|-----------|------------|---------|------------|--------|---------------------------------|-------------------------------|------------|------|---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

## ■ G1/8



## ■ G1/4 - G3/8

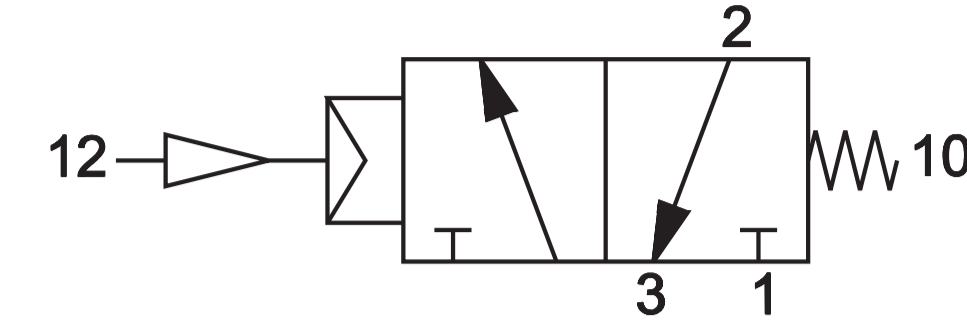




## Servovalves 3/2 for vacuum servoassisted by compressed air

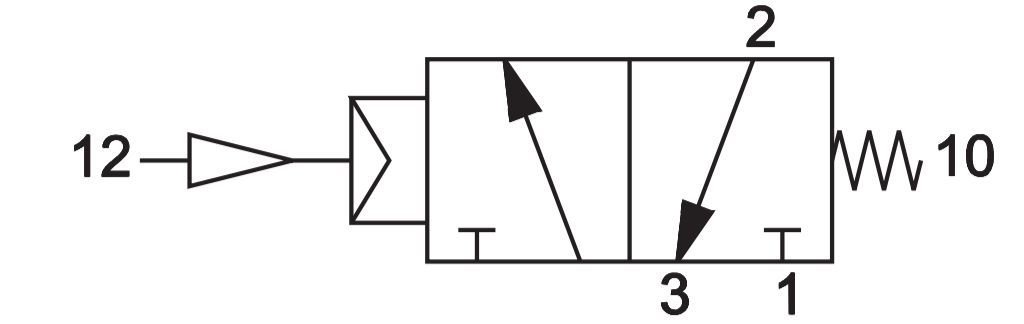


3/2 NC G1/2 - G3/4 - G1

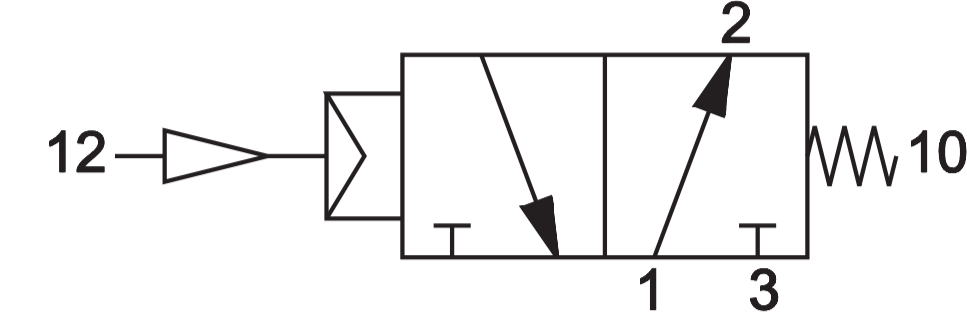
AG-3081  
AG-3091  
AG-3100

3/2 NC G1 1/2

AG-3110

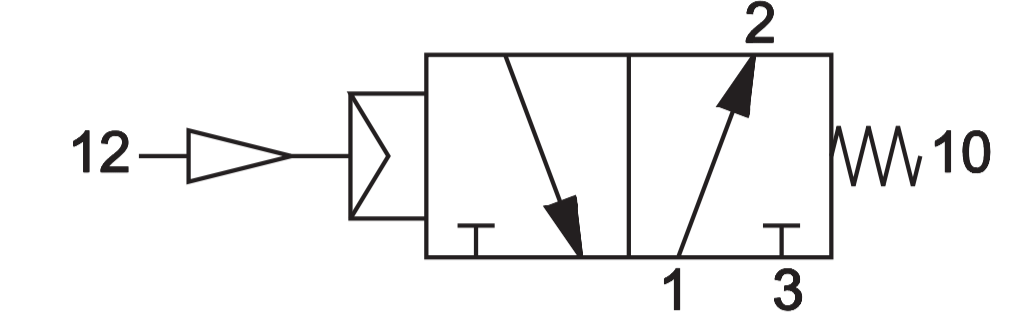


3/2 NO G1/2 - G3/4 - G1

AG-3082  
AG-3092  
AG-3101

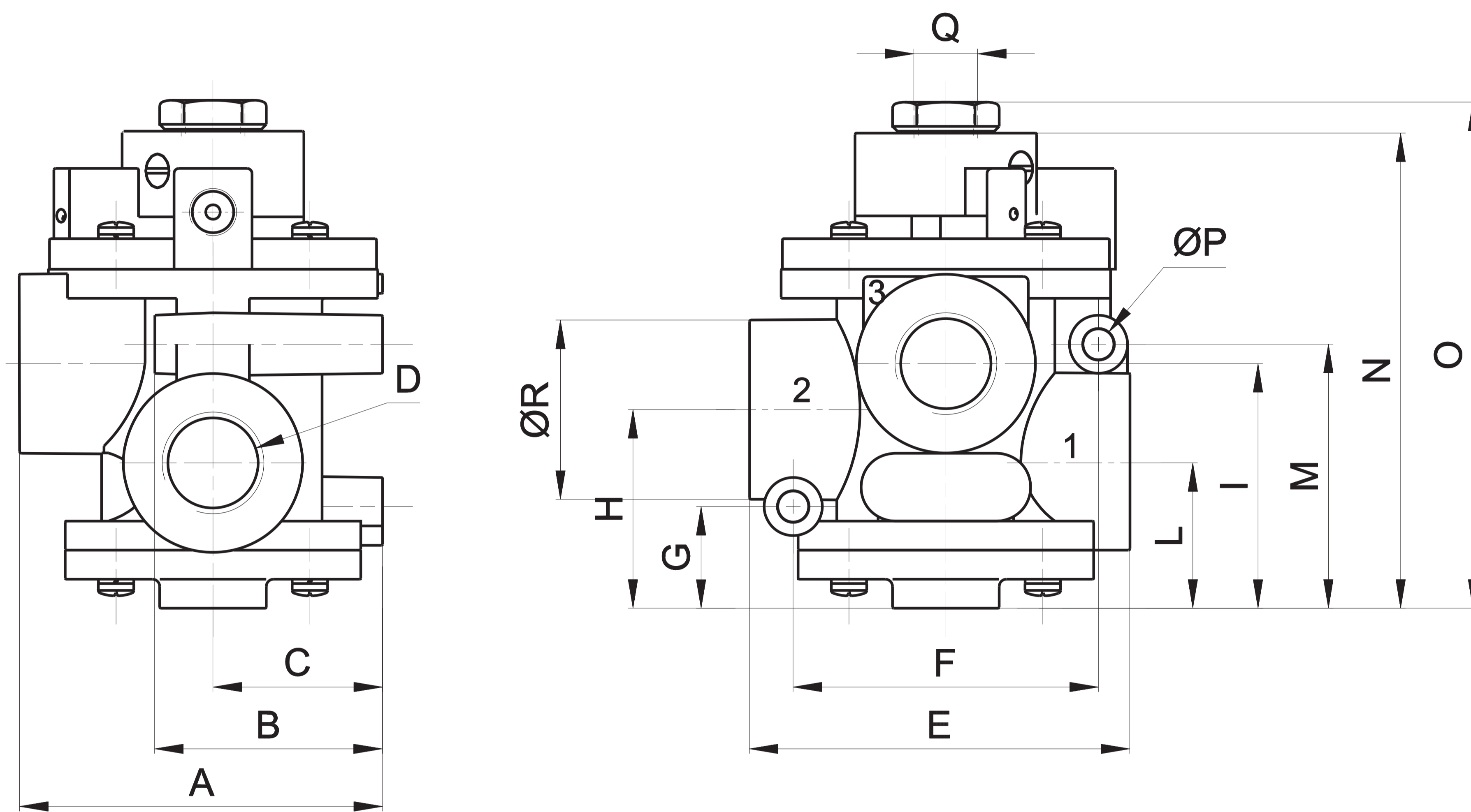
3/2 NO G1 1/2

AG-3111



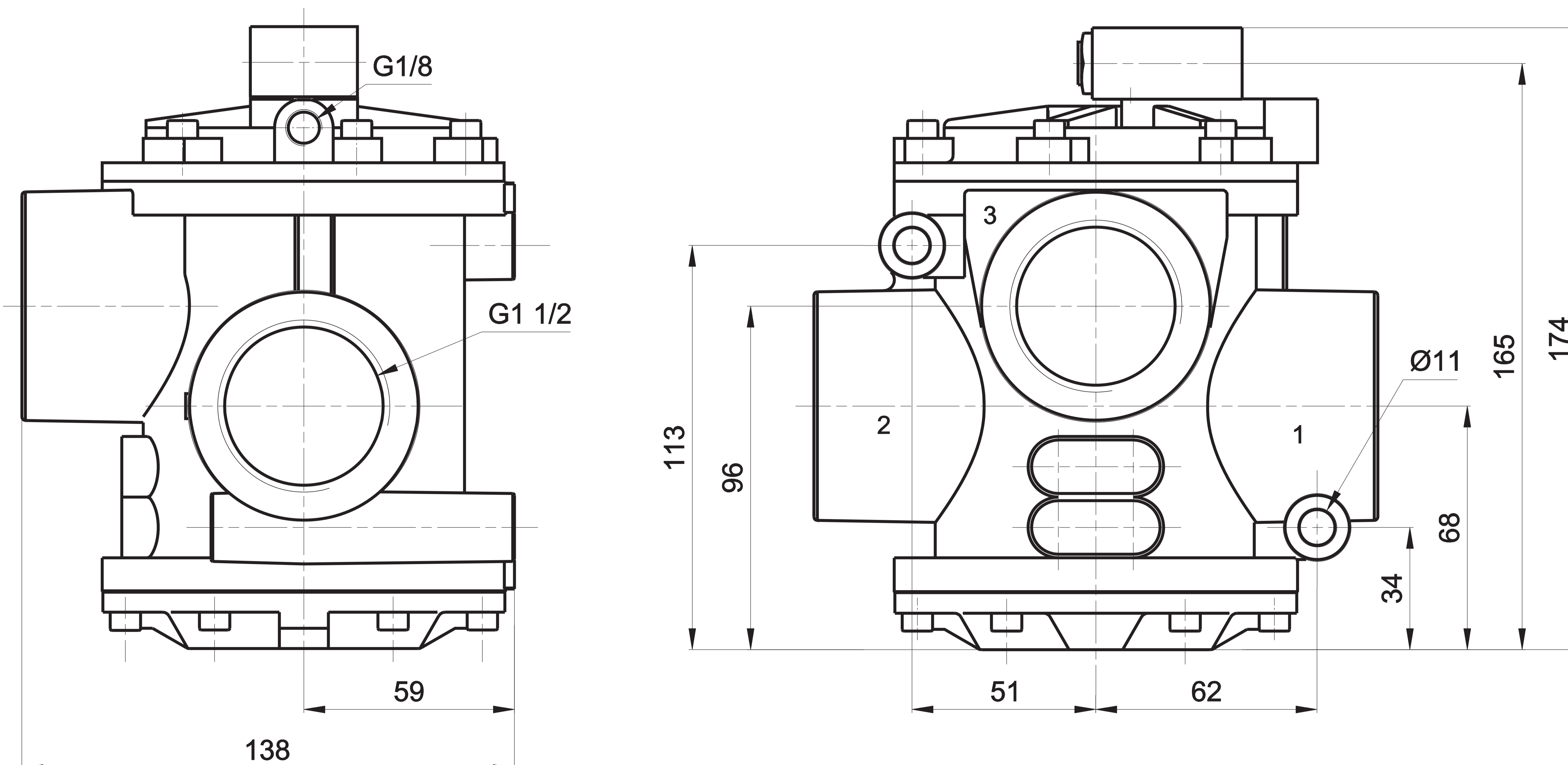
|        | Connect. | Control                | Return               | Ø<br>mm | Times (ms) |        | Minimum control<br>pressure bar | Pump<br>max m <sup>3</sup> /h | Max vacuum |      | Weight<br>Kg | Part no.       |
|--------|----------|------------------------|----------------------|---------|------------|--------|---------------------------------|---------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

## ■ G1/2 - G3/4 - G1

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

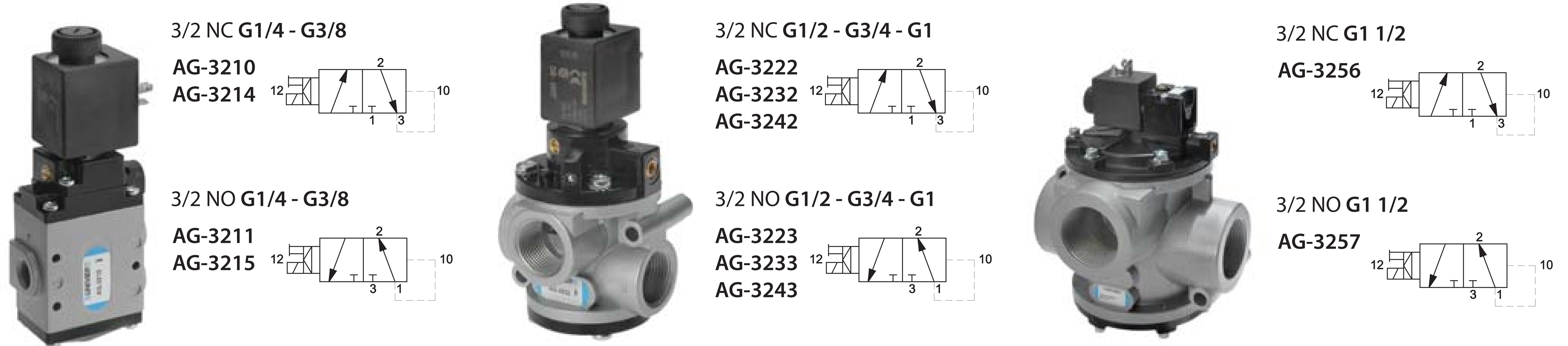
|             | A    | B  | C  | D    | E    | F  | G    | H  | I    | L  | M    | N   | O     | P   | Q    | R  |
|-------------|------|----|----|------|------|----|------|----|------|----|------|-----|-------|-----|------|----|
| <b>G1/2</b> | 75   | 47 | 35 | G1/2 | 78,5 | 63 | 21   | 41 | 50,5 | 30 | 54,5 | 100 | 105   | 6,4 | G1/4 | 37 |
| <b>G3/4</b> | 75   | 47 | 35 | G3/4 | 78,5 | 63 | 21   | 41 | 50,5 | 30 | 54,5 | 100 | 105   | 6,4 | G1/4 | 37 |
| <b>G1</b>   | 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



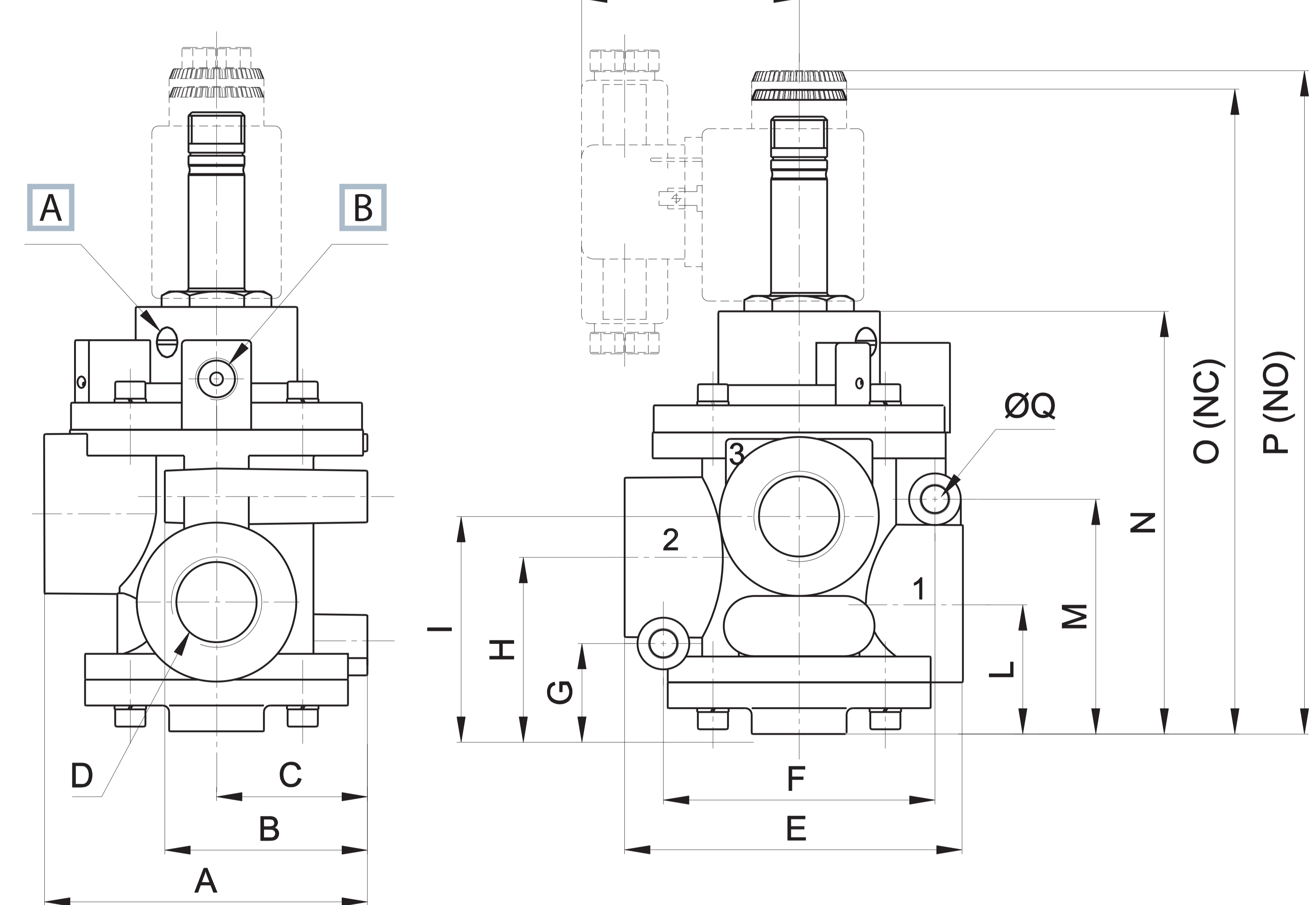
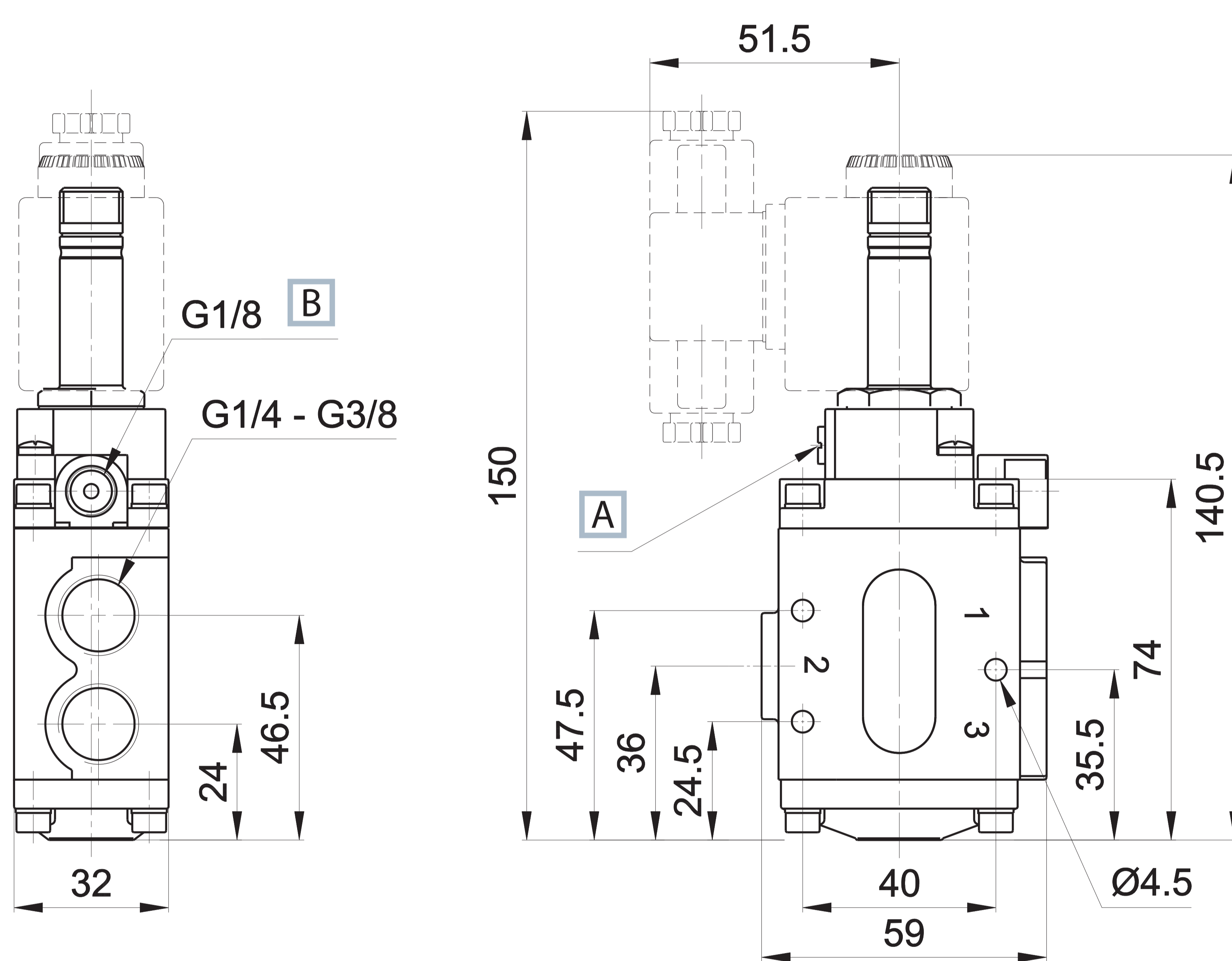
Electrovalves 3/2 for direct vacuum servoassisted by vacuum



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

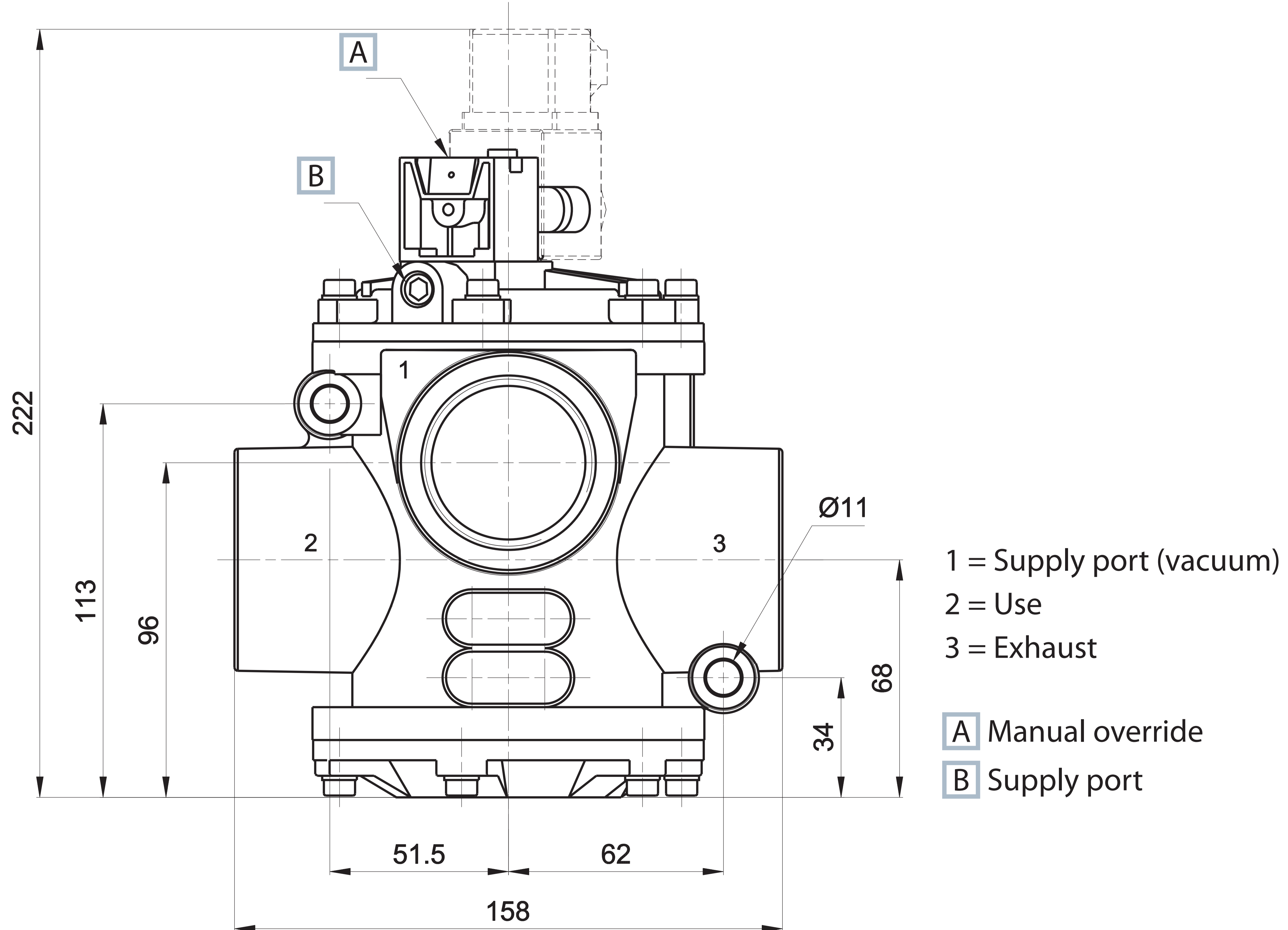
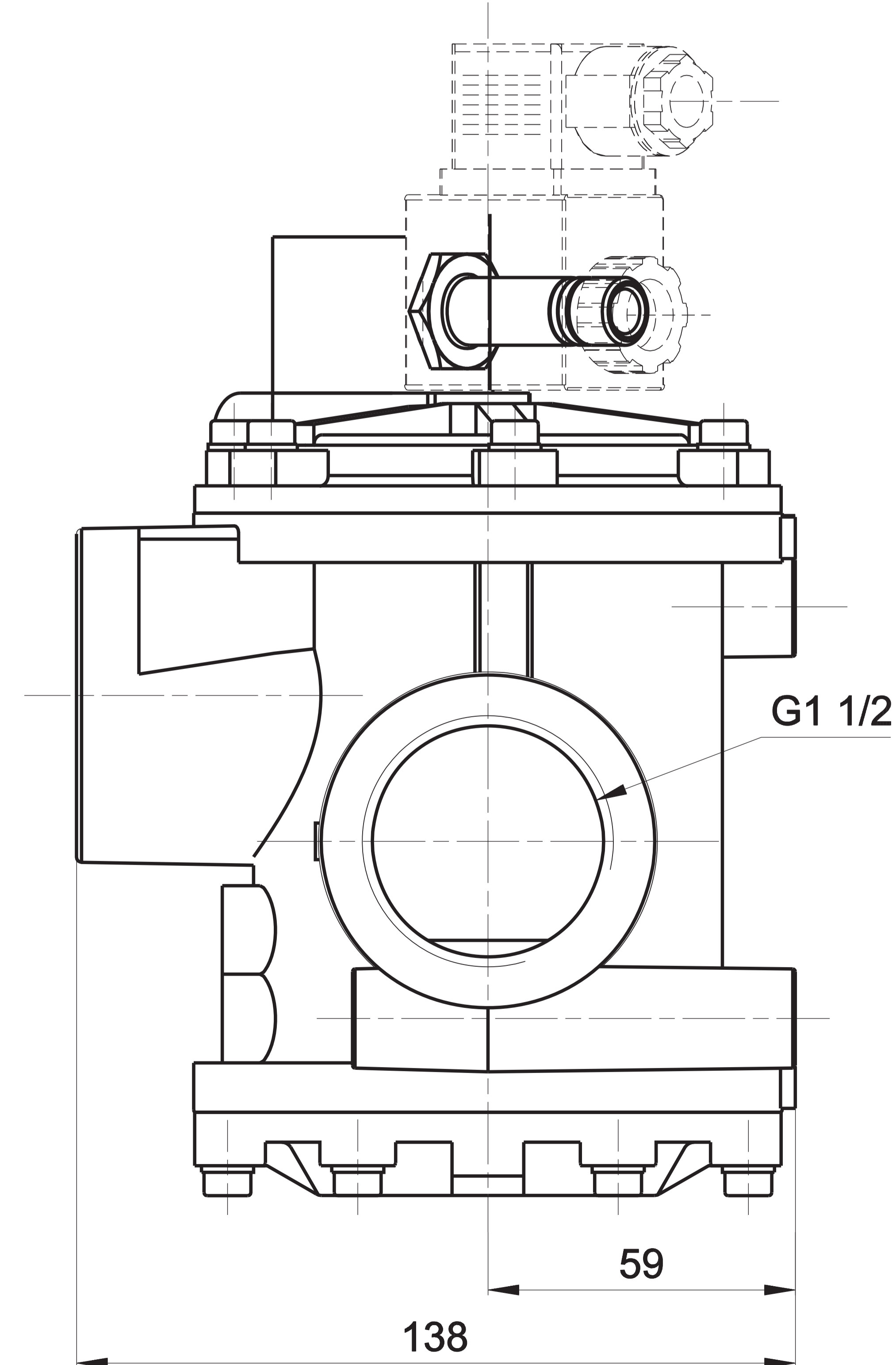
■ G1/4 - G3/8

■ G1/2 - G3/4 - G1



|      | 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



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



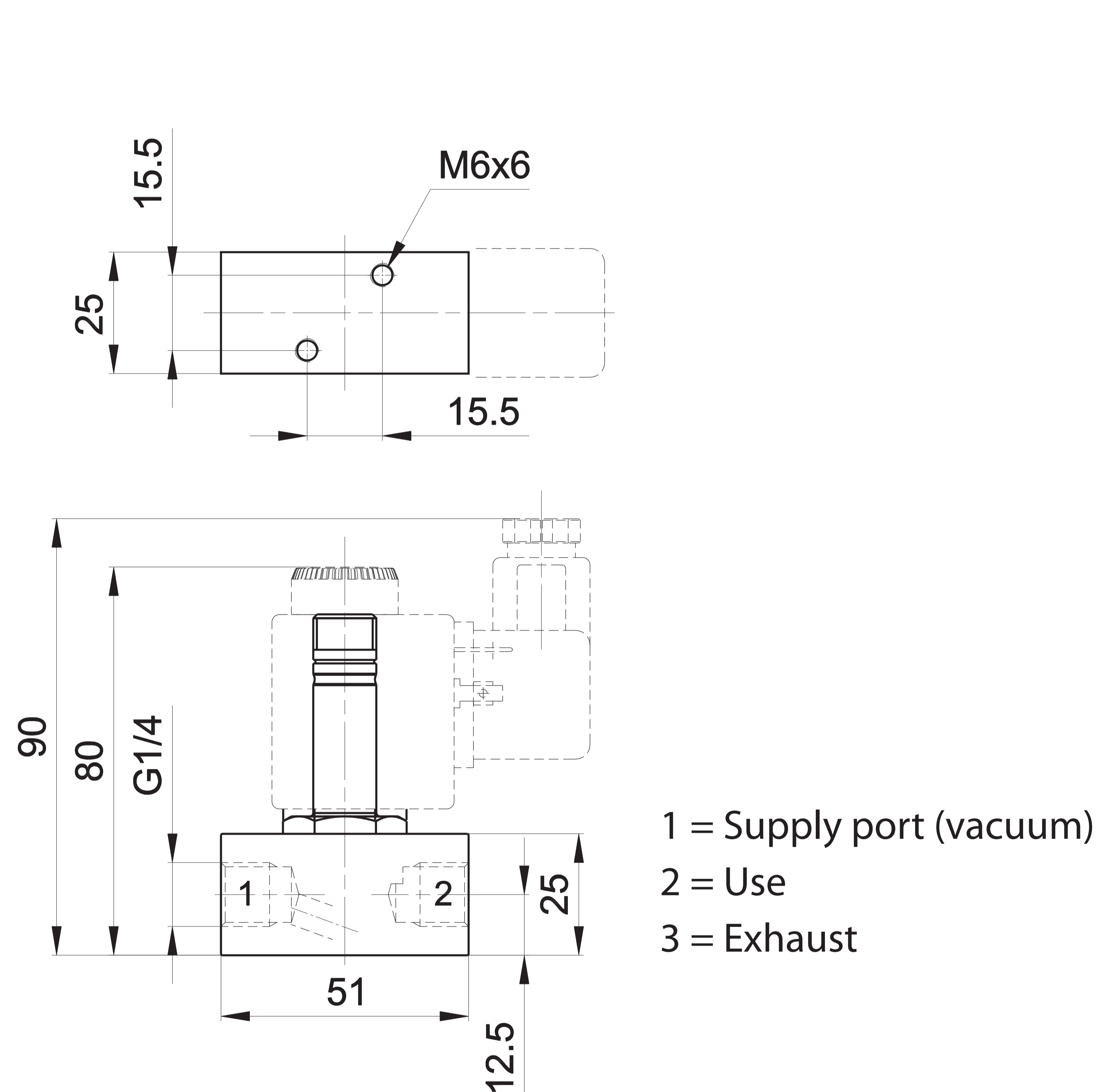
## Electrovalves 2/2 - 3/2 for direct vacuum servoassisted by vacuum



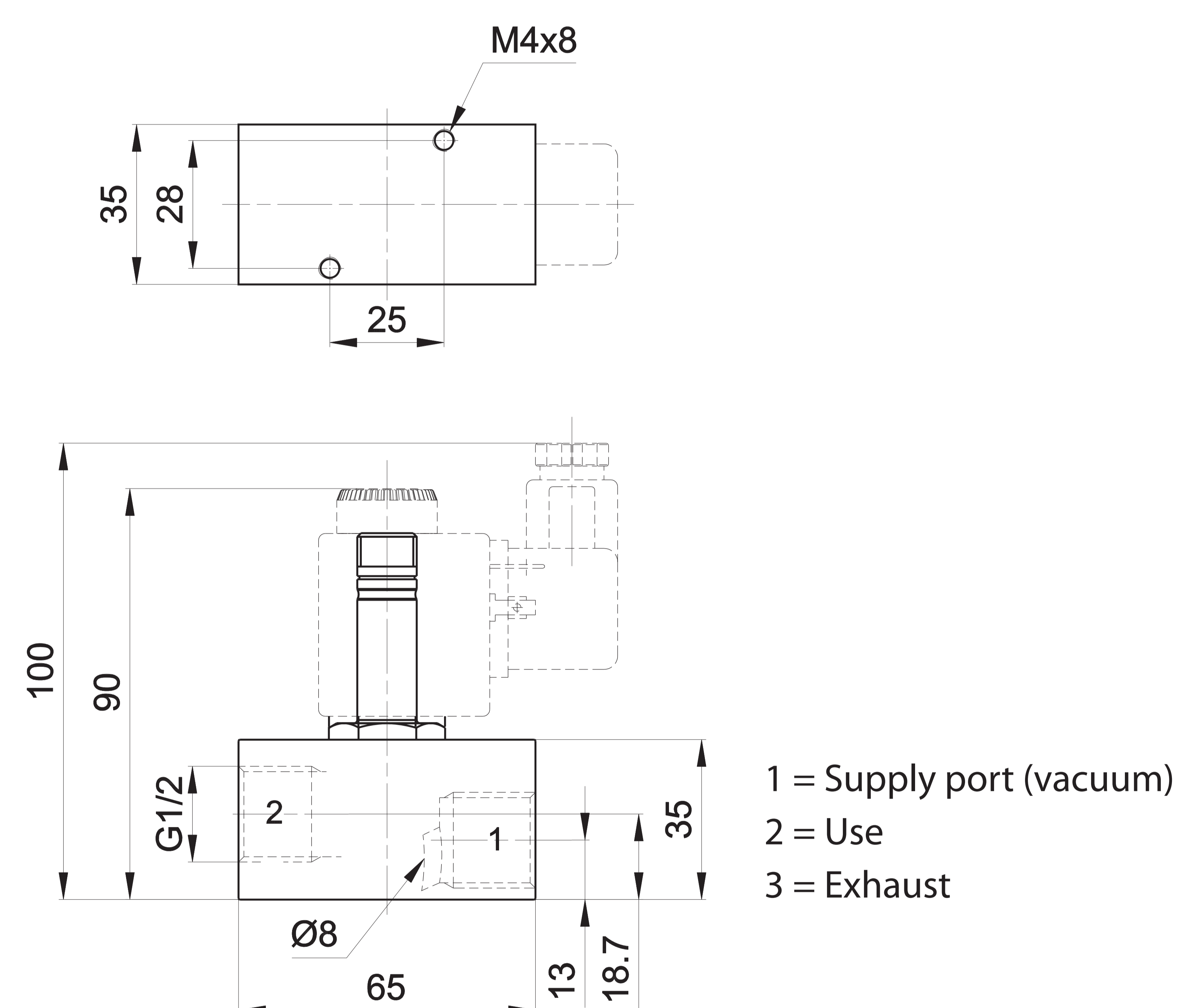
| Connect. | Control  | Return            | Ø<br>mm | Times (ms) |        | Pump<br>max m <sup>3</sup> /h | Max vacuum |       | Weight<br>Kg | Part no.       |                |
|----------|----------|-------------------|---------|------------|--------|-------------------------------|------------|-------|--------------|----------------|----------------|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

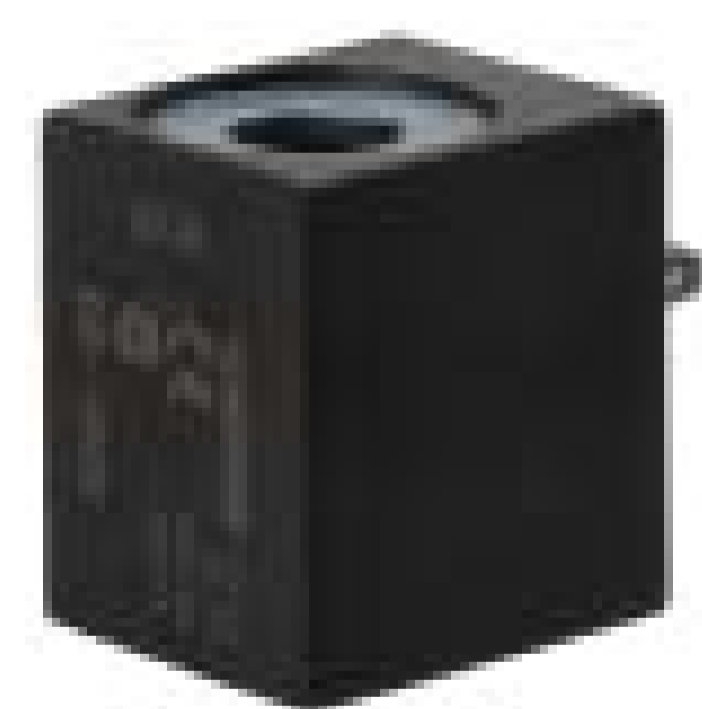
\* = solenoid valves with 3 mm fixed exhaust

## ■ 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 |

Electrovalves are supplied without coil, connector and locking ring