

## BE/ BE12

### ISO 5599/1 Valves

- Compliance with ISO 5599/1 international standards
- Full range: 1 - 2 - 3 - 4 size
- Two different internal commutation system: mixed and spool, appreciated for decades thanks to their maximum reliability
- High capacity
- Short internal stroke
- No lubrication
- Electric connection M12 for 1 - 2 - 3 size
- Modular base
- Possibility of mounting different sizes on the same sub-base



### TECHNICAL CHARACTERISTICS

|                            |  |               |               |               |
|----------------------------|--|---------------|---------------|---------------|
| Ambient temperature        | -10 ÷ +50 °C   |               |               |               |
| Fluid temperature          | max +50 °C   |               |               |               |
| Fluid                      | <b>mixed system:</b> not dehumidified filtered air 50 µm<br><b>spool system:</b> filtered air 50 µm, dehumidified or not |               |               |               |
| Commutation system         | mixed system, spool system   |               |               |               |
| Ways/Positions             | <b>5/2, 5/3</b>  |               |               |               |
| Pressure                   | 10 bar max   |               |               |               |
| Control                    | indirect electro - pneumatic, pneumatic  |               |               |               |
| Return                     | <b>mixed system:</b> pneumomechanical spring<br><b>spool system:</b> mechanical spring                                   |               |               |               |
| Connections                | ISO 5599/1 interface   |               |               |               |
|                            | <b>size 1</b>  | <b>size 2</b> | <b>size 3</b> | <b>size 4</b> |
| Nominal Ø (mm)             | 8  | 10            | 15            | 19            |
| Nominal flow rate (NI/min) | 1480   | 2300          | 4200          | 6600          |

### CONSTRUCTIVE CHARACTERISTICS

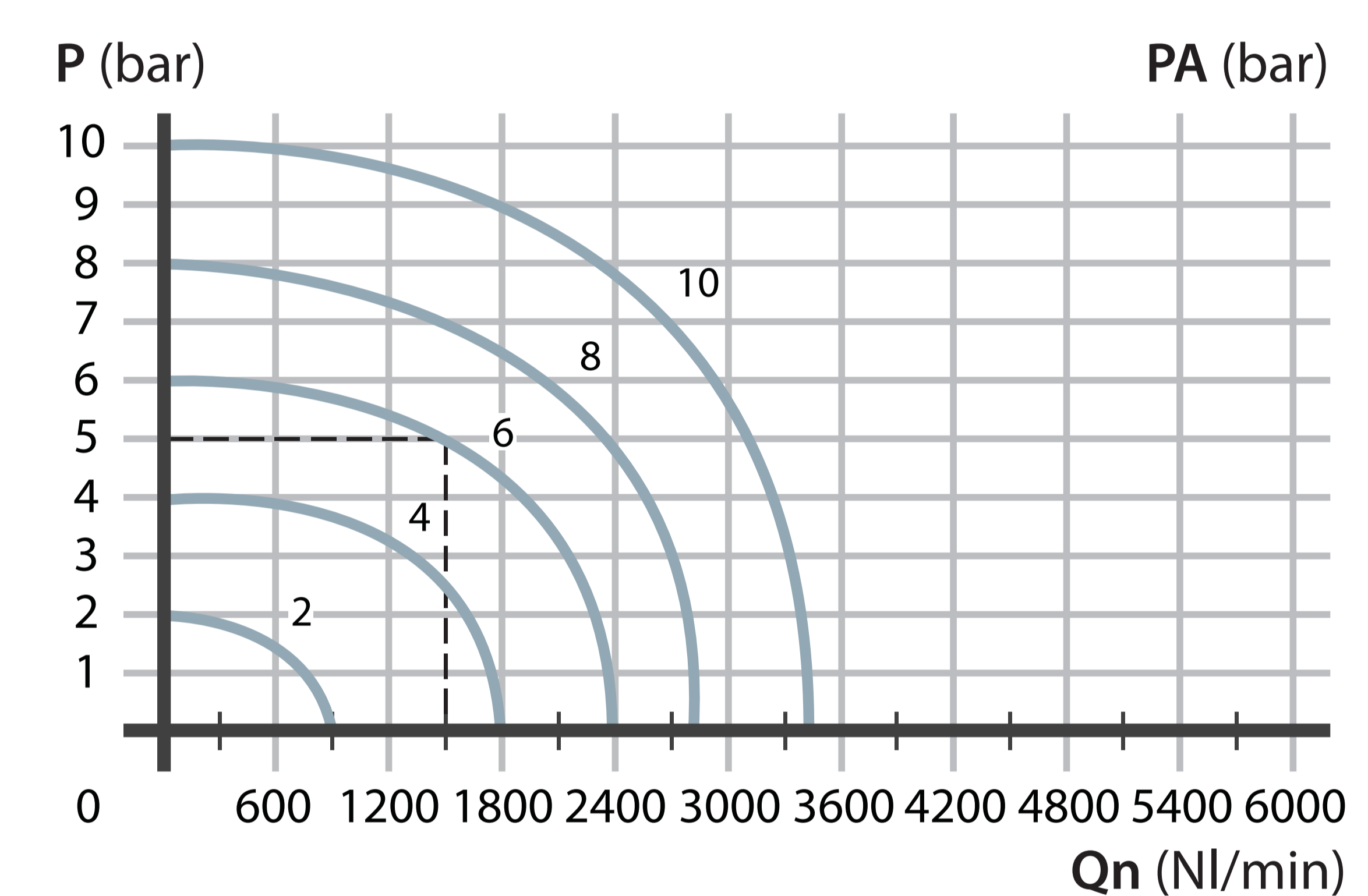
|            |   |
|------------|---|
| Valve body | acetalic resin  |
| Cover      | zamak - aluminium   |
| Seals      | <b>mixed system:</b> nitrile rubber and polyurethane<br><b>spool system:</b> nitrile rubber |
| Sub-base   | zamak - aluminium   |
| Actuators  | technopolymer   |
| Spool      | aluminium   |

### ELECTRIC CHARACTERISTICS

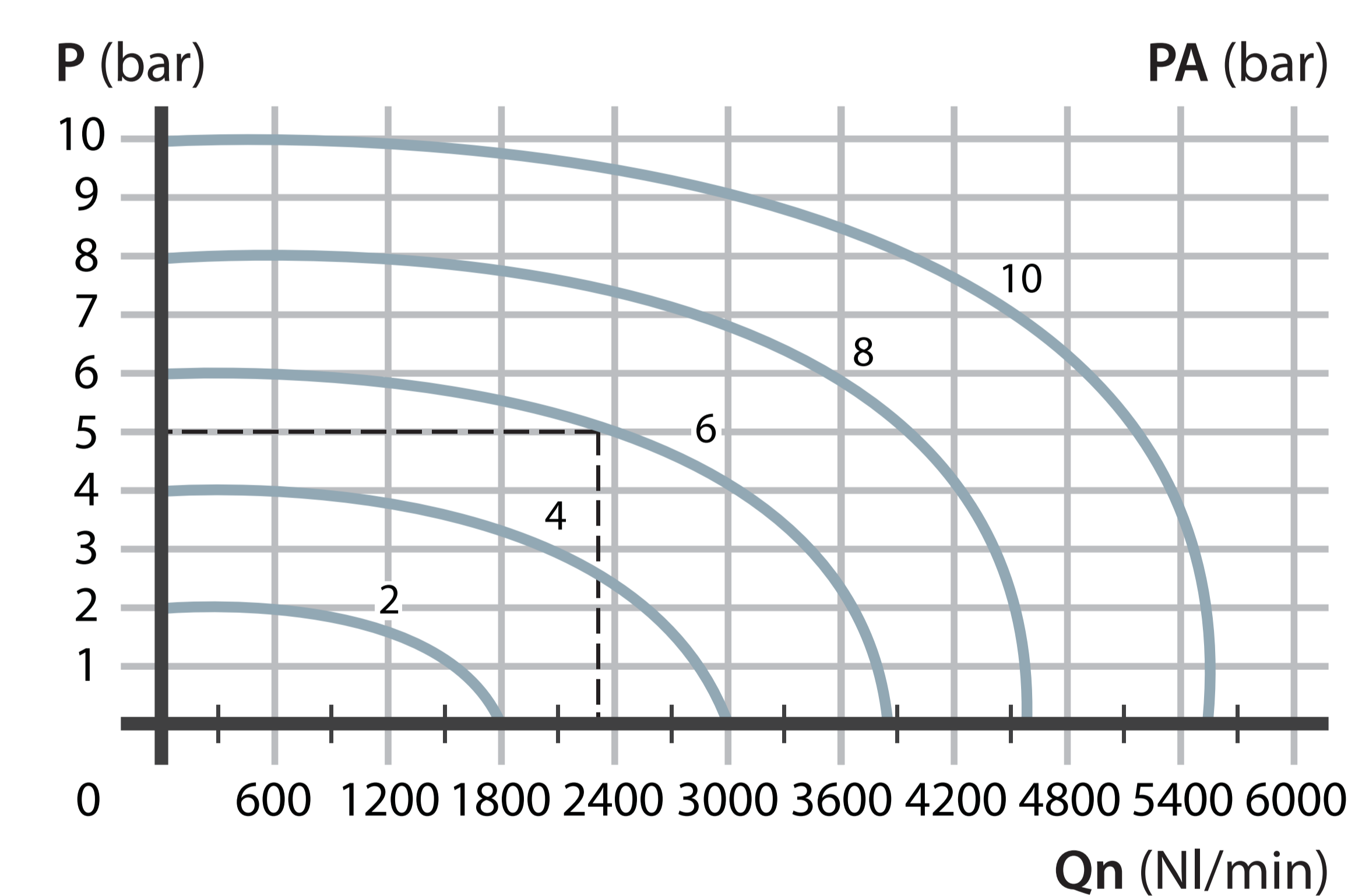
|                   |  |
|-------------------|--|
| Electropilot      | AA CNOMO (U1) series   |
| Coil              | U3 DC series   |
| Power consumption | 2,5 W (DC) - 5 VA (AC)   |
| Voltage           | 12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC                          |
| Connector         | AM 5111  |
| Manual override   | with two position screw (standard)<br>with button with tool (upon request) |

### Flow rate characteristics

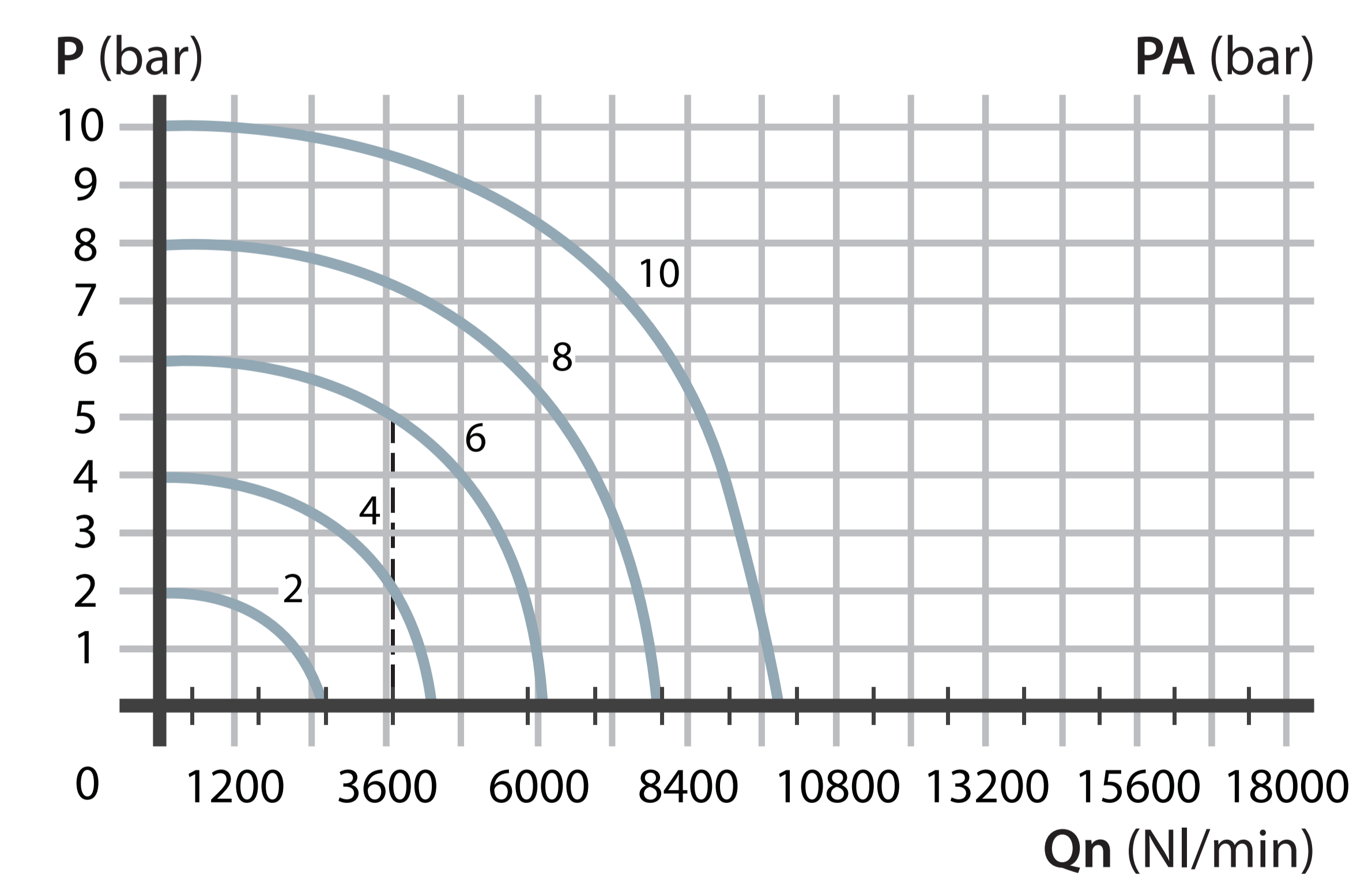
>> ISO 1



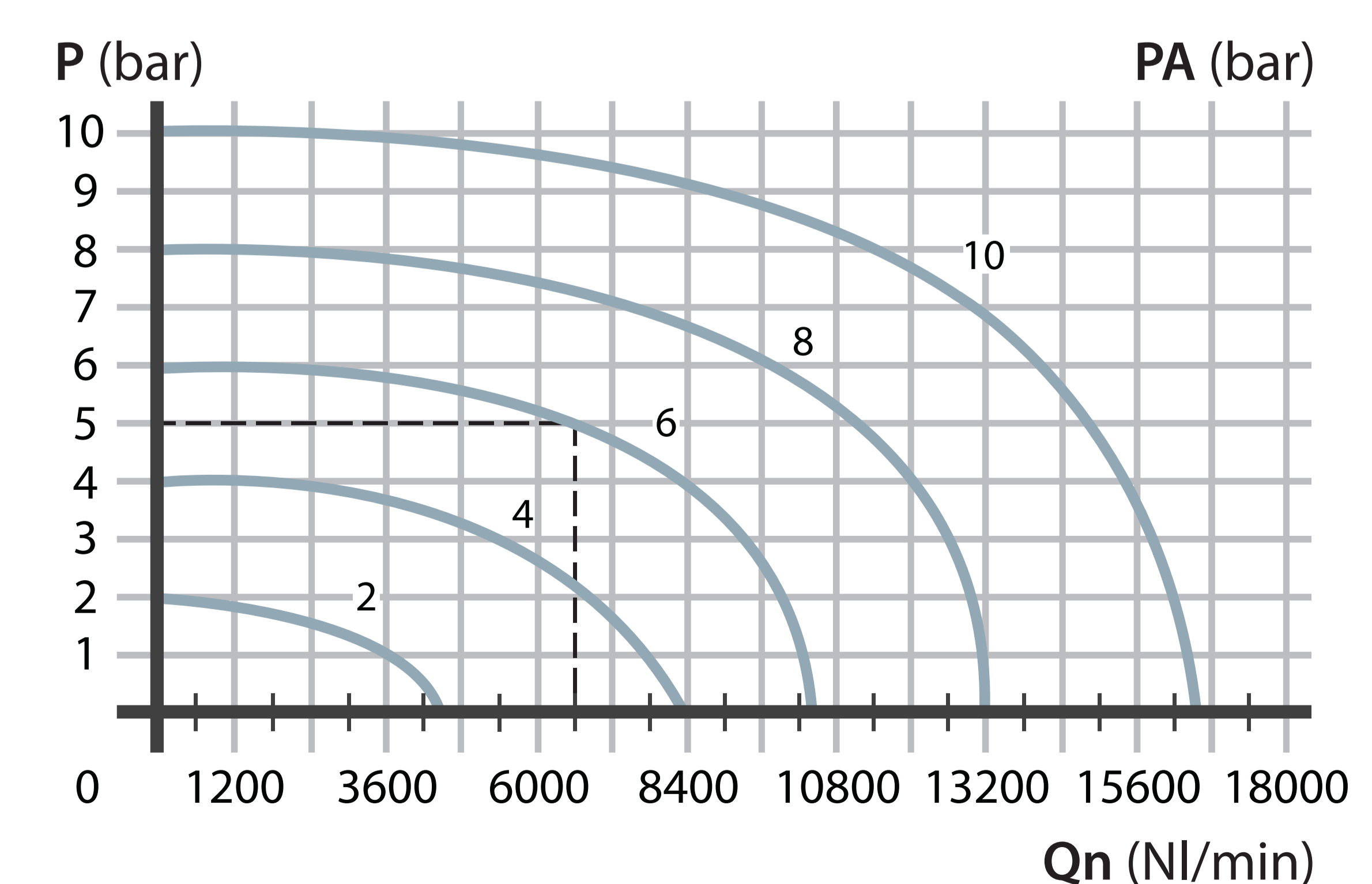
>> ISO 2



>> ISO 3



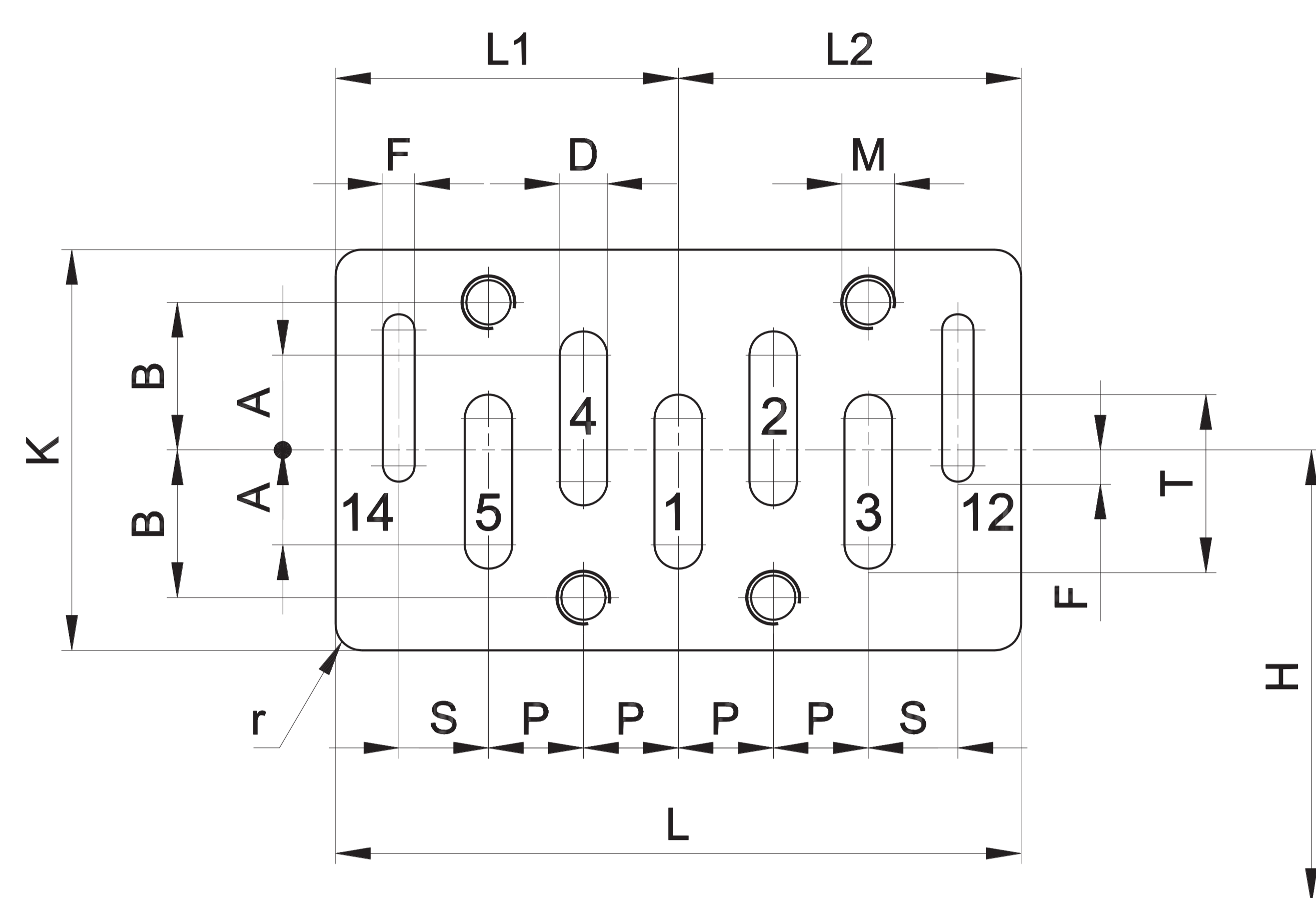
>> ISO 4



P = Working pressure  
PA = Supply pressure  
Qn = Nominal flow rate

### ISO 5599/1 Standard

The ISO standard for pneumatic valves is accepted by industry and by the majority of major pneumatic valve manufactures throughout the world. The choice of valves according to ISO standard means to be at the technical forefront and to guarantee the user the interchangeability of both the valve body and the electromagnetic part

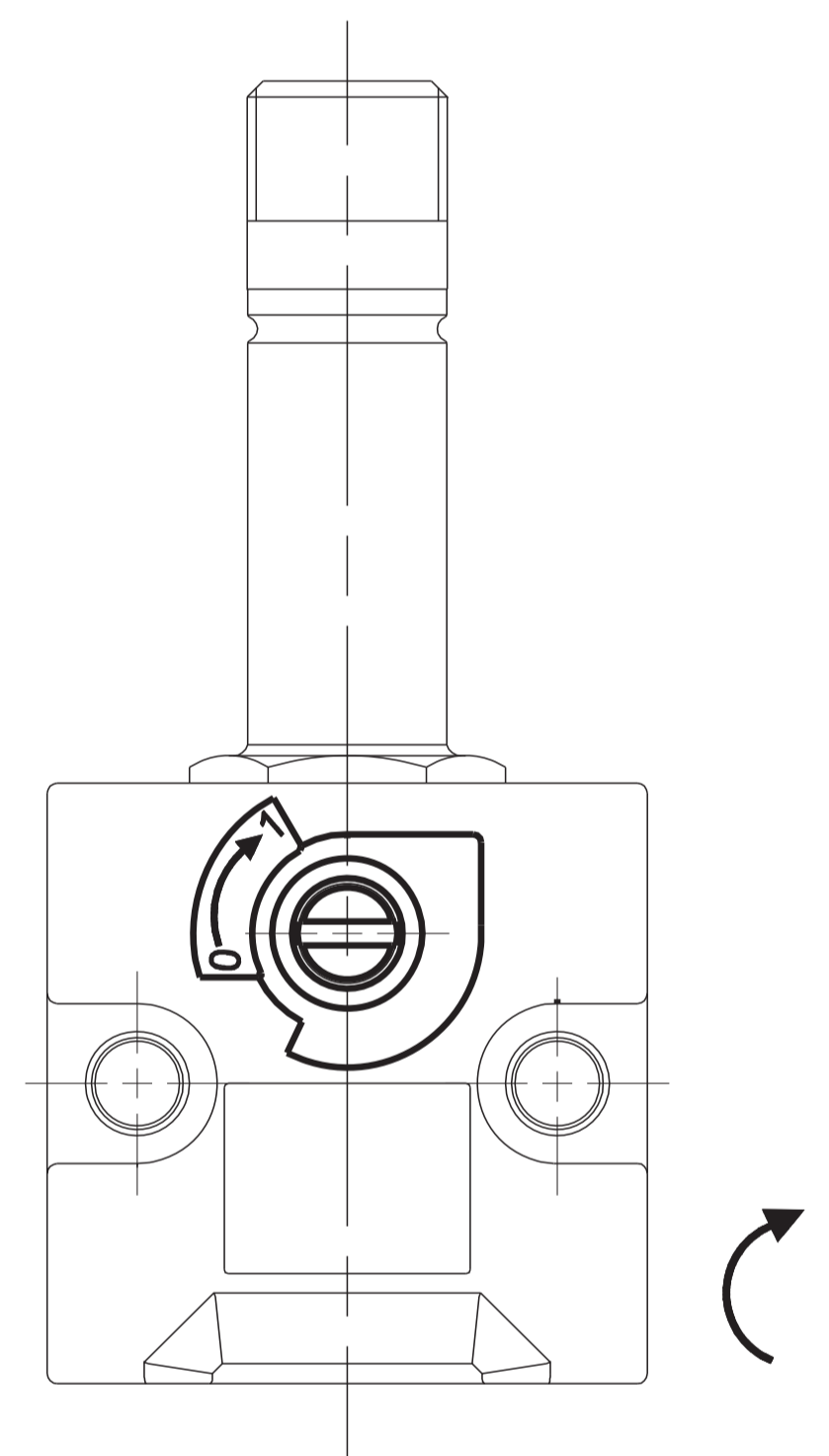


|       | A    | B  | D   | F | H  | K  | L   | L1   | L2   | M  | P  | r   | S    | T    |
|-------|------|----|-----|---|----|----|-----|------|------|----|----|-----|------|------|
| ISO 1 | 9    | 14 | 4,5 | 3 | 43 | 38 | 65  | 32,5 | 32,5 | M5 | 9  | 2,5 | 8,5  | 16,5 |
| ISO 2 | 10   | 19 | 7   | 3 | 56 | 50 | 81  | 40,5 | 40,5 | M6 | 12 | 3   | 10   | 22   |
| ISO 3 | 11,5 | 24 | 10  | 4 | 71 | 64 | 106 | 53   | 53   | M8 | 16 | 4   | 13   | 29   |
| ISO 4 | 14,5 | 29 | 13  | 4 | 82 | 74 | 142 | 77,5 | 64,5 | M8 | 20 | 4   | 15,5 | 36,5 |

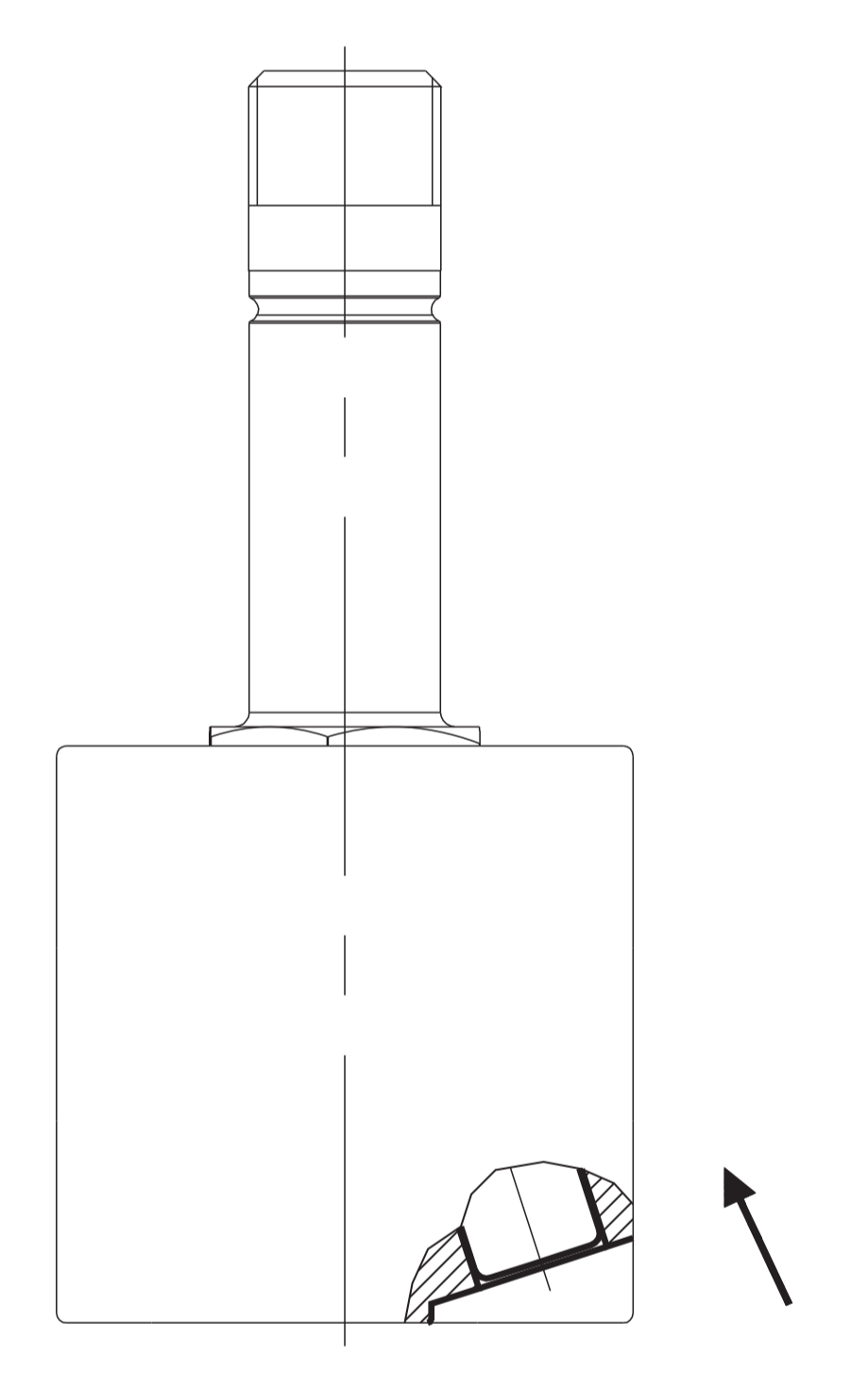
### Standard manual overrides

| Functioning                          | Suitable for valve | Symbol/Part no. |
|--------------------------------------|--------------------|-----------------|
| 1 = with 2 position screw            | BE                 | ⊖               |
| 2 = with button with tool            | BE                 | →               |
| 3 = with embedded button, 1 position | BE12               | →               |

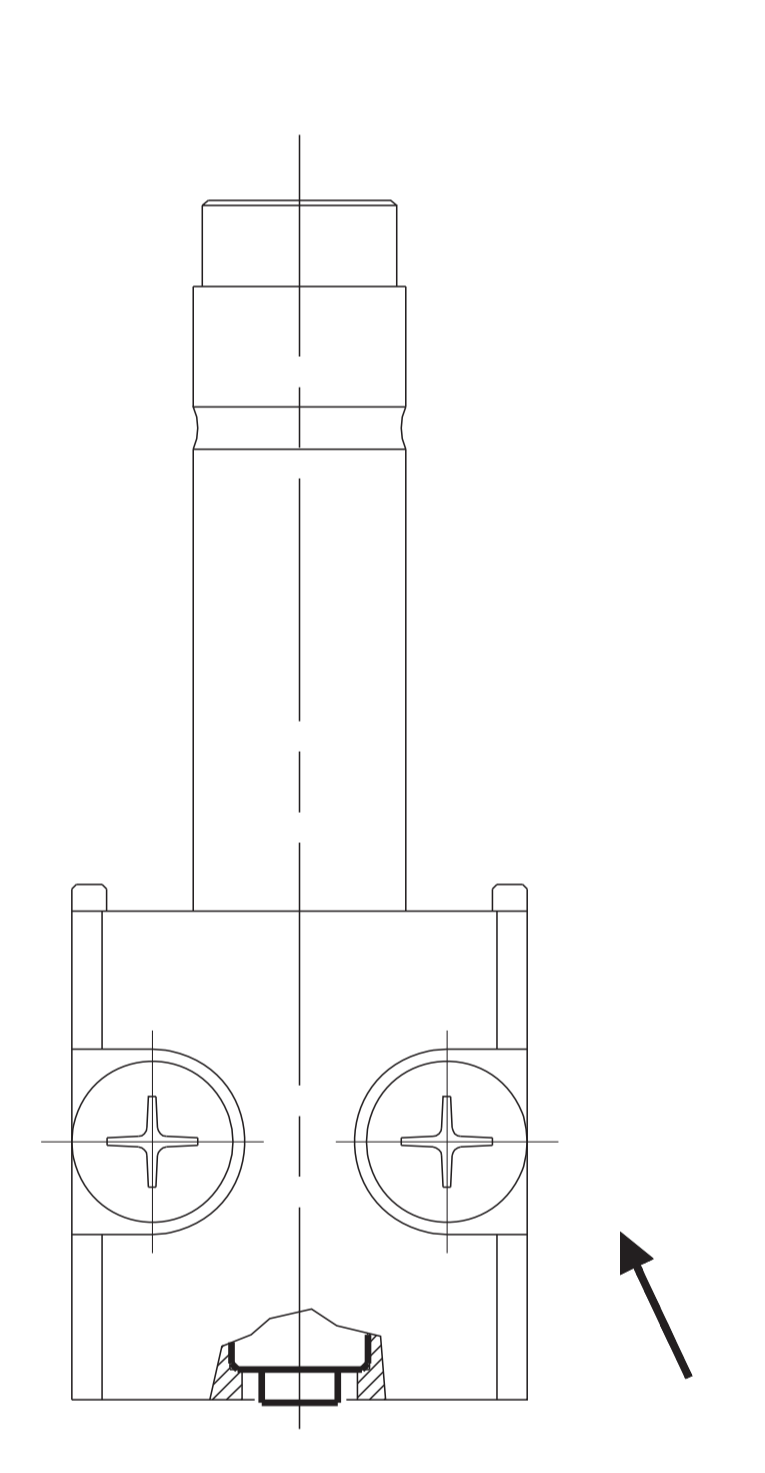
Special versions available (upon request): with 1 - 2 position button, with 1 position frontal button, with 1 position button



1

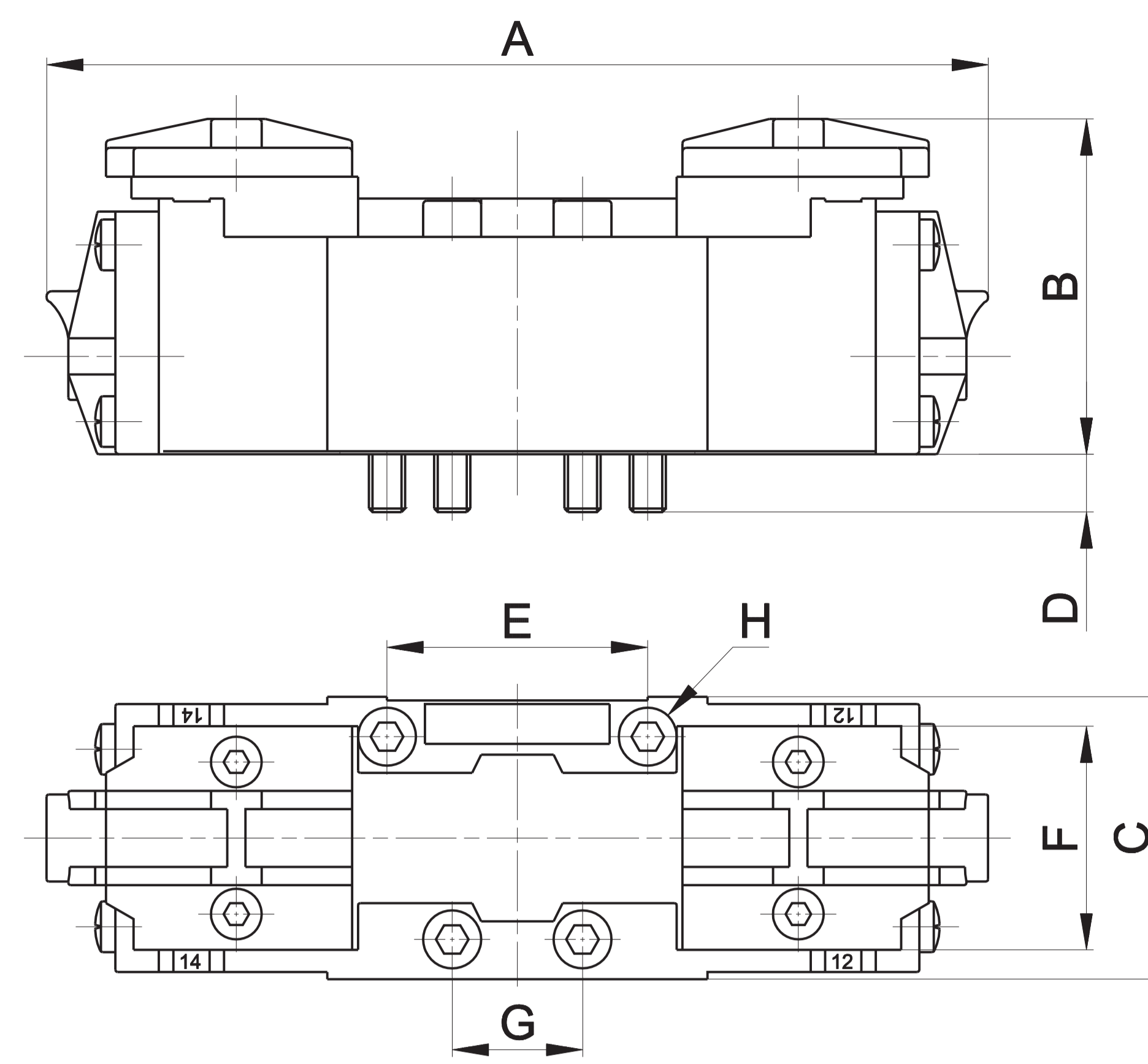


2



3

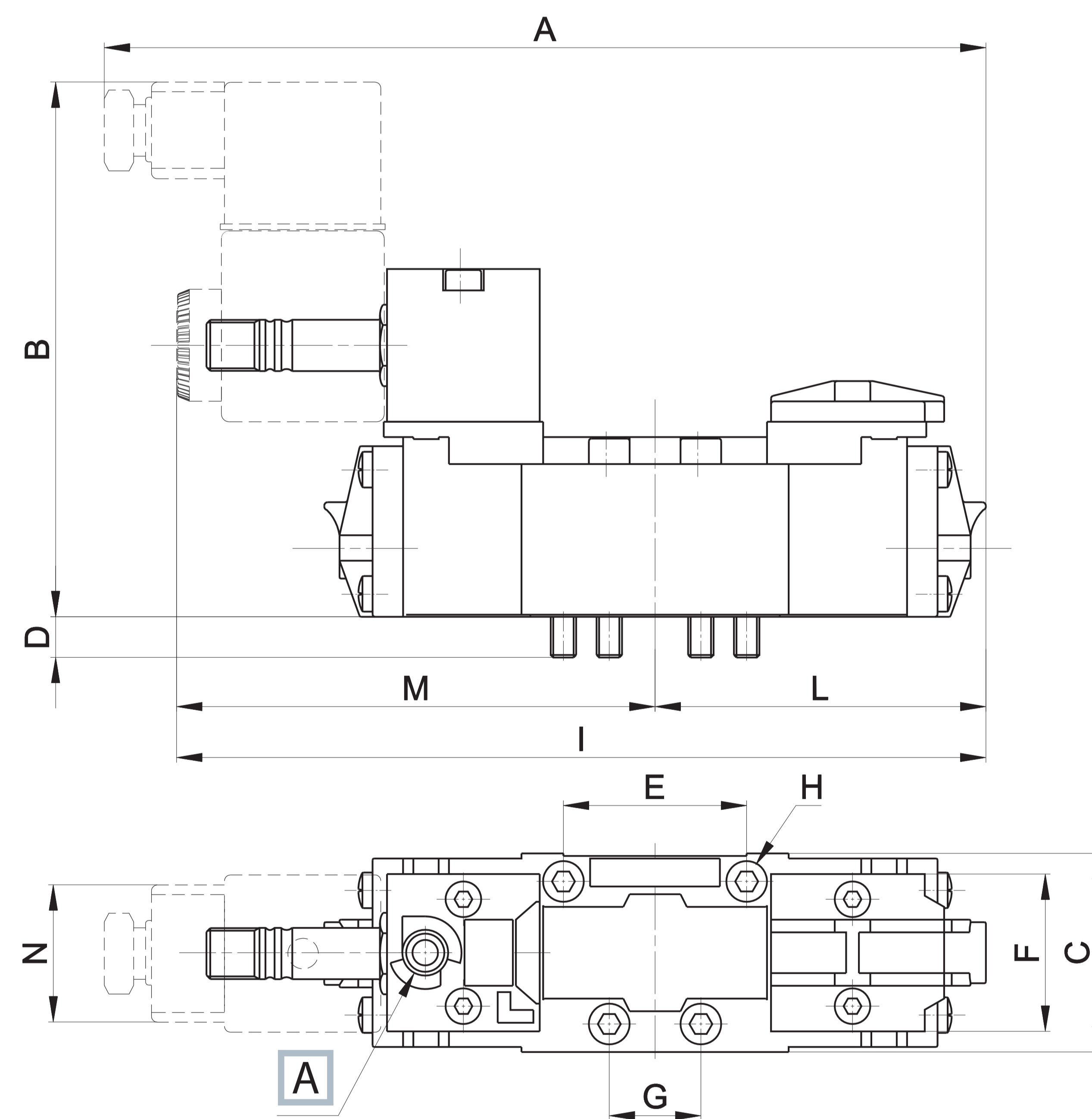
## Single/double pneumatic impulse



|   | ISO 1 | ISO 2 | ISO 3 | ISO 4 |
|---|-------|-------|-------|-------|
| A | 128   | 145   | 191   | 222   |
| B | 47    | 47    | 63    | 63    |
| C | 39    | 52    | 64    | 74    |
| D | 5     | 5     | 10    | 10    |
| E | 36    | 48    | 64    | 80    |
| F | 28    | 38    | 48    | 58    |
| G | 18    | 24    | 32    | 40    |
| H | M5x38 | M6x35 | M8x50 | M8x50 |

|                     | Symbol | Control             | Return                  | Pressure |  | Times (ms) |        | Size | Weight | Part no.       |
|---------------------|--------|---------------------|-------------------------|----------|--|------------|--------|------|--------|----------------|
|                     |        |                     |                         | bar      |  | En.        | De-en. |      |        |                |
| <b>MIXED SYSTEM</b> |        |                     |                         |          |  |            |        |      |        |                |
| 5/2                 |        | pneumatic amplified | pneumomechanical spring | 2÷10     |  | 9          | 18     | 1    | 0,30   | <b>BE-3100</b> |
|                     |        |                     |                         | 2,3÷10   |  | 11         | 14     | 2    | 0,40   | <b>BE-4100</b> |
|                     |        |                     |                         | 2,5÷10   |  | 19         | 49     | 3    | 0,65   | <b>BE-5100</b> |
|                     |        |                     |                         | 3÷10     |  | 23         | 46     | 4    | 0,87   | <b>BE-6100</b> |
| 5/2                 |        | pneumatic amplified | pneumatic amplified     | 1÷10     |  | 5          | 5      | 1    | 0,30   | <b>BE-3150</b> |
|                     |        |                     |                         | 1÷10     |  | 6          | 6      | 2    | 0,40   | <b>BE-4150</b> |
|                     |        |                     |                         | 1÷10     |  | 10         | 10     | 3    | 0,65   | <b>BE-5150</b> |
|                     |        |                     |                         | 1,3÷10   |  | 12         | 12     | 4    | 0,87   | <b>BE-6150</b> |
| 5/2                 |        | pneumatic amplified | pneumatic not amplified | 2÷10     |  | 5          | 16     | 1    | 0,30   | <b>BE-3170</b> |
|                     |        |                     |                         | 2÷10     |  | 6          | 13     | 2    | 0,40   | <b>BE-4170</b> |
|                     |        |                     |                         | 2,2÷10   |  | 10         | 35     | 3    | 0,65   | <b>BE-5170</b> |
|                     |        |                     |                         | 2,2÷10   |  | 12         | 32     | 4    | 0,87   | <b>BE-6170</b> |
| <b>SPOOL SYSTEM</b> |        |                     |                         |          |  |            |        |      |        |                |
| 5/2                 |        | pneumatic amplified | pneumomechanical spring | 1,8÷10   |  | 11         | 22     | 1    | 0,30   | <b>BE-3800</b> |
|                     |        |                     |                         | 2÷10     |  | 13         | 19     | 2    | 0,40   | <b>BE-4800</b> |
|                     |        |                     |                         | 2,2÷10   |  | 21         | 52     | 3    | 0,65   | <b>BE-5800</b> |
|                     |        |                     |                         | 2,8÷10   |  | 24         | 29     | 4    | 0,87   | <b>BE-6800</b> |
| 5/2                 |        | pneumatic amplified | pneumatic amplified     | 0,8÷10   |  | 6          | 6      | 1    | 0,30   | <b>BE-3850</b> |
|                     |        |                     |                         | 1÷10     |  | 7          | 7      | 2    | 0,40   | <b>BE-4850</b> |
|                     |        |                     |                         | 1÷10     |  | 12         | 12     | 3    | 0,65   | <b>BE-5850</b> |
|                     |        |                     |                         | 1÷10     |  | 14         | 14     | 4    | 0,87   | <b>BE-6850</b> |
| 5/2                 |        | pneumatic amplified | pneumatic not amplified | 1,5÷10   |  | 6          | 15     | 1    | 0,30   | <b>BE-3870</b> |
|                     |        |                     |                         | 1,8÷10   |  | 7          | 14     | 2    | 0,40   | <b>BE-4870</b> |
|                     |        |                     |                         | 2÷10     |  | 12         | 38     | 3    | 0,65   | <b>BE-5870</b> |
|                     |        |                     |                         | 2÷10     |  | 14         | 31     | 4    | 0,87   | <b>BE-6870</b> |

## Single electric impulse



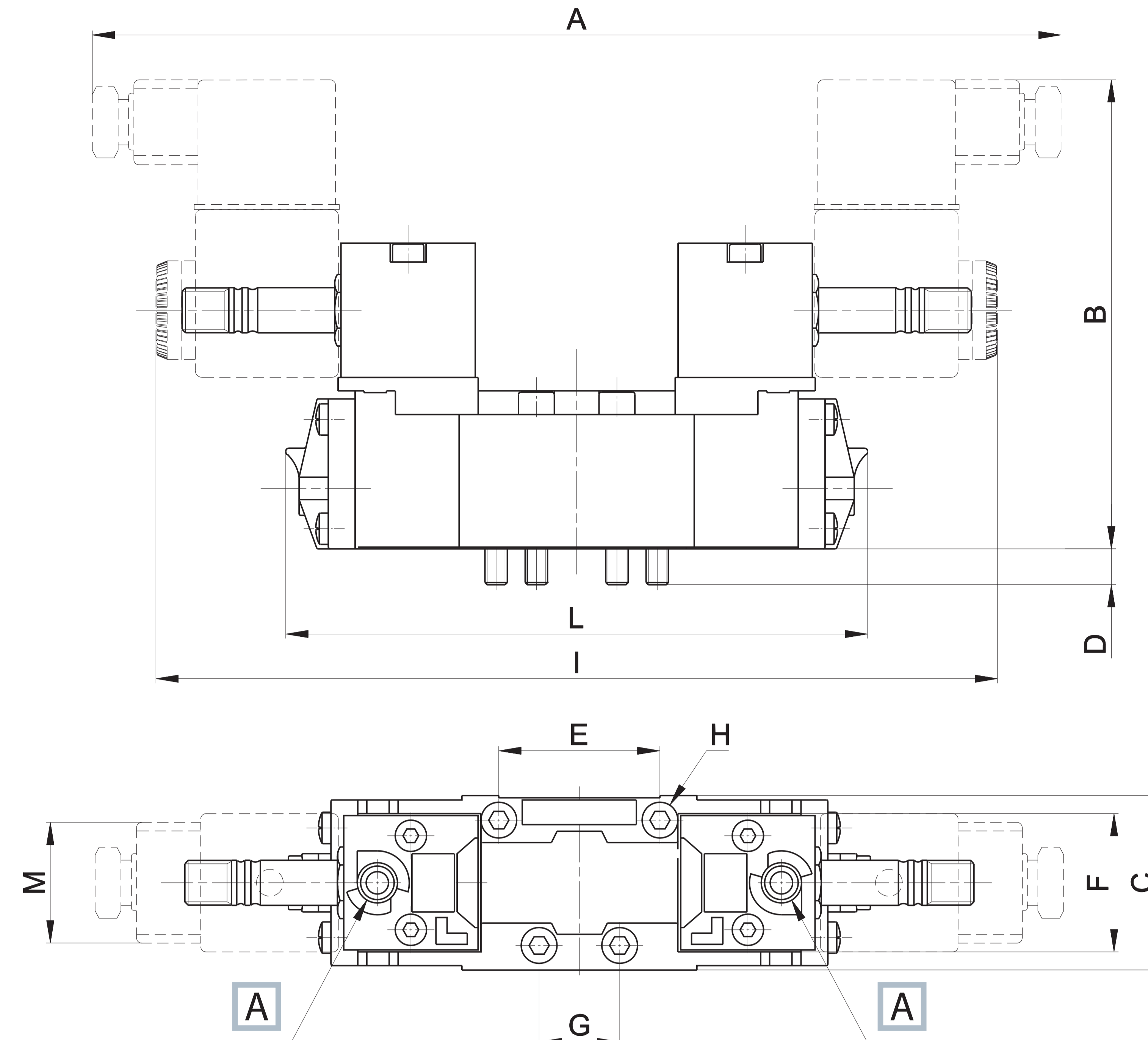
|   | ISO 1 | ISO 2 | ISO 3 | ISO 4 |
|---|-------|-------|-------|-------|
| A | 169,5 | 195,5 | 219   | 253   |
| B | 105   | 105   | 118   | 118   |
| C | 39    | 52    | 64    | 74    |
| D | 5     | 5     | 10    | 10    |
| E | 36    | 48    | 64    | 80    |
| F | 28    | 38    | 48    | 58    |
| G | 18    | 24    | 32    | 40    |
| H | M5x38 | M6x35 | M8x50 | M8x50 |
| I | 159,5 | 176   | 208,5 | 235   |
| L | 64    | 72,5  | 95,5  | 111   |
| M | 95,5  | 103,5 | 113   | 124   |
| N | 30    | 30    | 30    | 30    |

**A** Manual override

|                     | Symbol | Control            | Return                  | Pressure |  | Times (ms) |        | Size | Weight | Part no.       |
|---------------------|--------|--------------------|-------------------------|----------|--|------------|--------|------|--------|----------------|
|                     |        |                    |                         | bar      |  | En.        | De-en. |      |        |                |
| <b>MIXED SYSTEM</b> |        |                    |                         |          |  |            |        |      |        |                |
| 5/2                 |        | electric amplified | pneumomechanical spring | 2÷10     |  | 20         | 32     | 1    | 0,45   | <b>BE-3000</b> |
|                     |        |                    |                         | 2,3÷10   |  | 24         | 25     | 2    | 0,55   | <b>BE-4000</b> |
|                     |        |                    |                         | 2,5÷10   |  | 32         | 71     | 3    | 0,90   | <b>BE-5000</b> |
|                     |        |                    |                         | 3÷10     |  | 38         | 62     | 4    | 1,12   | <b>BE-6000</b> |
| 5/2                 |        | electric amplified | pneumatic amplified     | 1÷10     |  | 16         | 6      | 1    | 0,45   | <b>BE-3060</b> |
|                     |        |                    |                         | 1÷10     |  | 17         | 7      | 2    | 0,80   | <b>BE-4060</b> |
|                     |        |                    |                         | 1÷10     |  | 23         | 15     | 3    | 1,30   | <b>BE-5060</b> |
|                     |        |                    |                         | 1,3÷10   |  | 25         | 16     | 4    | 1,37   | <b>BE-6060</b> |
| <b>SPOOL SYSTEM</b> |        |                    |                         |          |  |            |        |      |        |                |
| 5/2                 |        | electric amplified | pneumomechanical spring | 2÷10     |  | 21         | 35     | 1    | 0,45   | <b>BE-3700</b> |
|                     |        |                    |                         | 2,2÷10   |  | 24         | 30     | 2    | 0,55   | <b>BE-4700</b> |
|                     |        |                    |                         | 2,3÷10   |  | 33         | 74     | 3    | 0,90   | <b>BE-5700</b> |
|                     |        |                    |                         | 2,8÷10   |  | 39         | 68     | 4    | 1,12   | <b>BE-6700</b> |
| 5/2                 |        | electric amplified | pneumatic amplified     | 1÷10     |  | 17         | 8      | 1    | 0,45   | <b>BE-3760</b> |
|                     |        |                    |                         | 1÷10     |  | 18         | 9      | 2    | 0,80   | <b>BE-4760</b> |
|                     |        |                    |                         | 1÷10     |  | 26         | 17     | 3    | 1,30   | <b>BE-5760</b> |
|                     |        |                    |                         | 1,3÷10   |  | 27         | 18     | 4    | 1,37   | <b>BE-6760</b> |

For manual version with button, add "U" to the end of the part number  
Electrovalves are supplied without coil, connector and locking ring

## Double electric impulse



|   | ISO 1 | ISO 2 | ISO 3 | ISO 4® |
|---|-------|-------|-------|--------|
| A | 211   | 226   | 247   | 268    |
| B | 105   | 105   | 118   | 118    |
| C | 39    | 52    | 64    | 74     |
| D | 5     | 5     | 10    | 10     |
| E | 36    | 48    | 64    | 80     |
| F | 28    | 38    | 48    | 58     |
| G | 18    | 24    | 32    | 40     |
| H | M5x38 | M6x35 | M8x50 | M8x50  |
| I | 191   | 207   | 226   | 248    |
| L | 128   | 145   | 191   | 222    |
| M | 30    | 30    | 30    | 30     |

**A** Manual override

| Symbol              | Control | Return             | Pressure<br>bar        | Times (ms) |        | Size | Weight<br>Kg | Part no. |                |
|---------------------|---------|--------------------|------------------------|------------|--------|------|--------------|----------|----------------|
|                     |         |                    |                        | En.        | De-en. |      |              |          |                |
| <b>MIXED SYSTEM</b> |         |                    |                        |            |        |      |              |          |                |
| 5/2                 |         | electric amplified | electric amplified     | 1÷10       | 16     | 16   | 1            | 0,55     | <b>BE-3020</b> |
|                     |         |                    |                        | 1÷10       | 17     | 17   | 2            | 0,80     | <b>BE-4020</b> |
|                     |         |                    |                        | 1÷10       | 23     | 23   | 3            | 1,20     | <b>BE-5020</b> |
|                     |         |                    |                        | 1,3÷10     | 25     | 25   | 4            | 1,37     | <b>BE-6020</b> |
| 5/2                 |         | electric amplified | electric non amplified | 2÷10       | 16     | 34   | 1            | 0,55     | <b>BE-3030</b> |
|                     |         |                    |                        | 2÷10       | 17     | 29   | 2            | 0,80     | <b>BE-4030</b> |
|                     |         |                    |                        | 2,2÷10     | 23     | 54   | 3            | 1,20     | <b>BE-5030</b> |
|                     |         |                    |                        | 2,2÷10     | 25     | 45   | 4            | 1,37     | <b>BE-6030</b> |
| 5/3 o.c.            |         | electric amplified | electric amplified     | 3÷10       | 50     | 26   | 1            | 0,55     | <b>BE-3200</b> |
|                     |         |                    |                        | 3÷10       | 54     | 24   | 2            | 0,80     | <b>BE-4200</b> |
|                     |         |                    |                        | 3÷10       | 108    | 36   | 3            | 1,20     | <b>BE-5200</b> |
|                     |         |                    |                        | 3÷10       | 115    | 115  | 4            | 1,37     | <b>BE-6200</b> |
| 5/3 p.c.            |         | electric amplified | electric amplified     | 2÷10       | 50     | 26   | 1            | 0,50     | <b>BE-3205</b> |
|                     |         |                    |                        | 2,3÷10     | 54     | 24   | 2            | 0,80     | <b>BE-4205</b> |
|                     |         |                    |                        | 2,5÷10     | 108    | 36   | 3            | 1,20     | <b>BE-5205</b> |
|                     |         |                    |                        | 3÷10       | 115    | 115  | 4            | 1,37     | <b>BE-6205</b> |
| <b>SPOOL SYSTEM</b> |         |                    |                        |            |        |      |              |          |                |
| 5/2                 |         | electric amplified | electric amplified     | 1÷10       | 17     | 17   | 1            | 0,55     | <b>BE-3720</b> |
|                     |         |                    |                        | 1÷10       | 18     | 18   | 2            | 0,80     | <b>BE-4720</b> |
|                     |         |                    |                        | 1÷10       | 26     | 26   | 3            | 1,20     | <b>BE-5720</b> |
|                     |         |                    |                        | 1÷10       | 27     | 27   | 4            | 1,37     | <b>BE-6720</b> |
| 5/2                 |         | electric amplified | electric non amplified | 1,8÷10     | 17     | 28   | 1            | 0,55     | <b>BE-3730</b> |
|                     |         |                    |                        | 1,8÷10     | 18     | 25   | 2            | 0,80     | <b>BE-4730</b> |
|                     |         |                    |                        | 2÷10       | 26     | 46   | 3            | 1,20     | <b>BE-5730</b> |
|                     |         |                    |                        | 2÷10       | 27     | 42   | 4            | 1,37     | <b>BE-6730</b> |
| 5/3 o.c.            |         | electric amplified | electric amplified     | 2,3÷10     | 17     | 25   | 1            | 0,55     | <b>BE-3900</b> |
|                     |         |                    |                        | 2,5÷10     | 18     | 27   | 2            | 0,80     | <b>BE-4900</b> |
|                     |         |                    |                        | 2,5÷10     | 26     | 50   | 3            | 1,20     | <b>BE-5900</b> |
|                     |         |                    |                        | 2,5÷10     | 30     | 47   | 4            | 1,37     | <b>BE-6900</b> |
| 5/3 c.c.            |         | electric amplified | electric amplified     | 2,3÷10     | 17     | 25   | 1            | 0,55     | <b>BE-3940</b> |
|                     |         |                    |                        | 2,5÷10     | 18     | 27   | 2            | 0,80     | <b>BE-4940</b> |
|                     |         |                    |                        | 2,5÷10     | 26     | 50   | 3            | 1,20     | <b>BE-5940</b> |
|                     |         |                    |                        | 2,5÷10     | 30     | 47   | 4            | 1,37     | <b>BE-6940</b> |

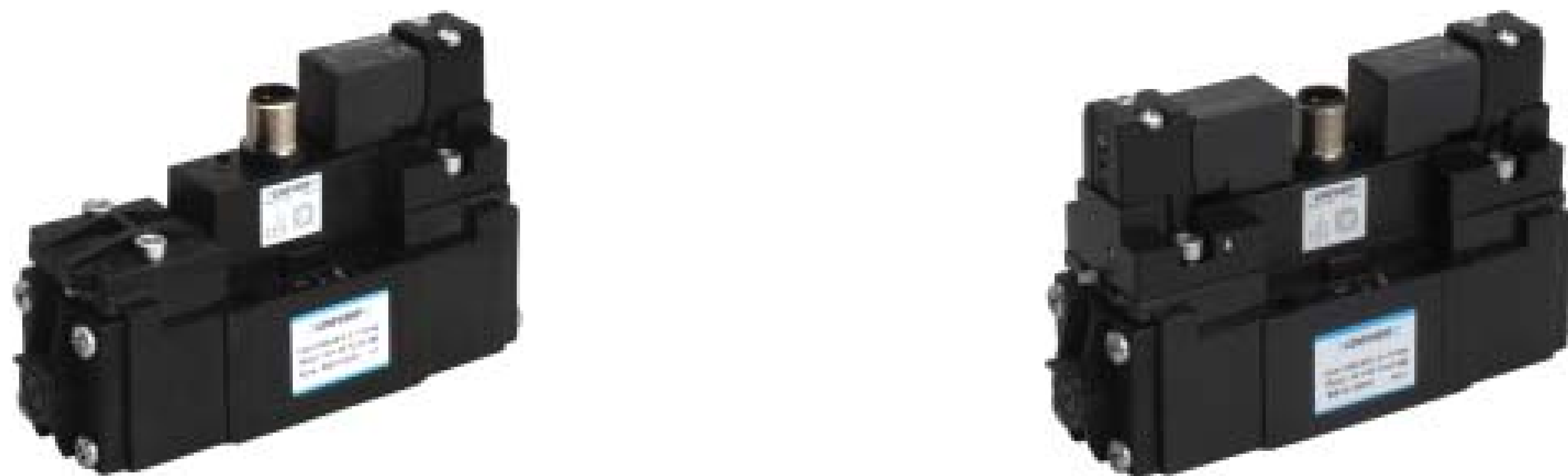
o.c. = open centres c.c. = closed centres p.c. = pressurized centres

For manual version with button, add "U" to the end of the part number

Electrovalves are supplied without coil, connector and locking ring

The use of pneumatic component in the automotive field, coupled with electric components, led to the development of a traditional ISO valve with electric connector M12 placed in central position, for both valves with single as well as double electric control.

## Single/double electric impulse

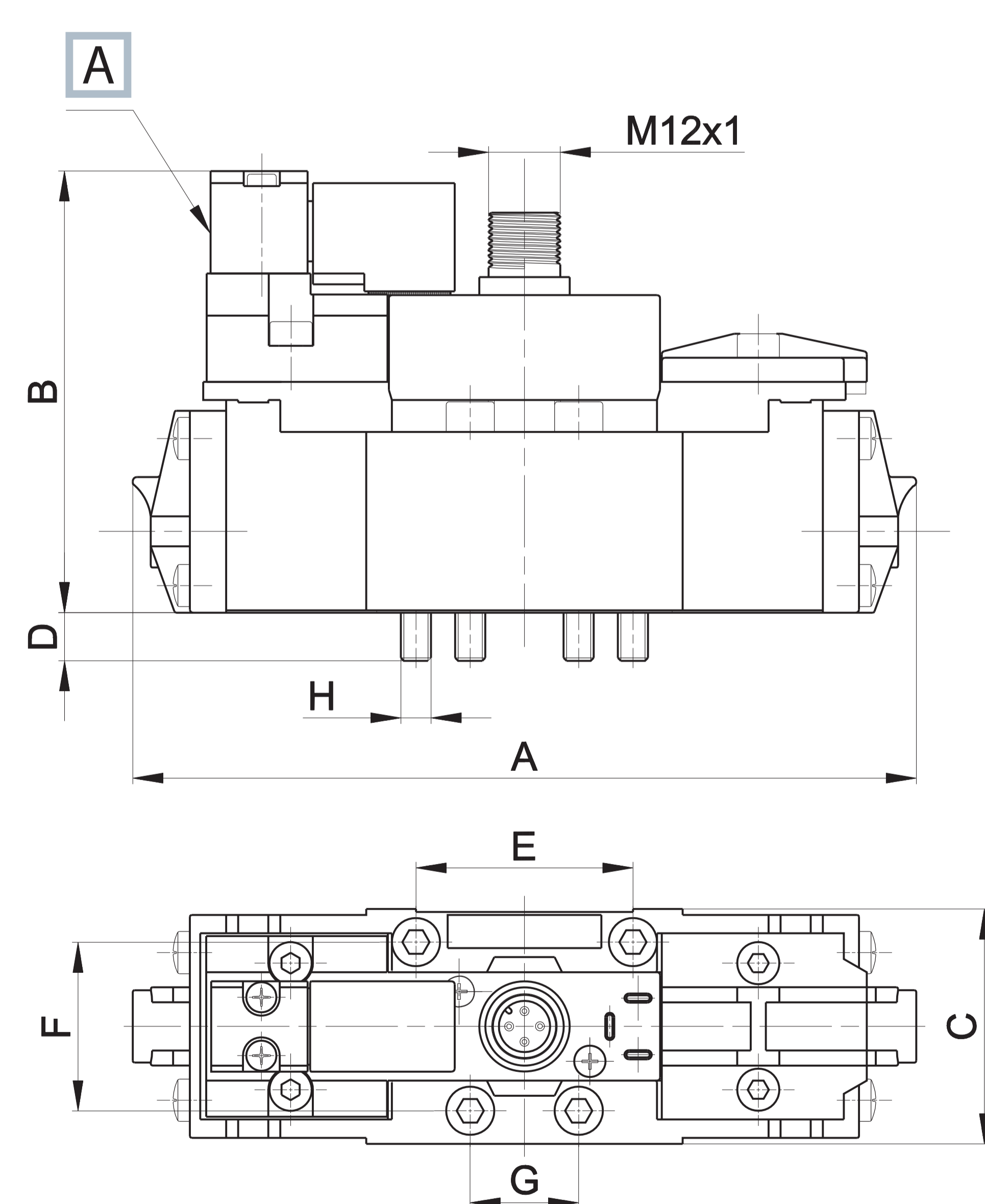


|                                      | Symbol | Control            | Return                  | Pressure<br>bar | Times (ms) |        | Size | Weight<br>Kg | Part no.         |
|--------------------------------------|--------|--------------------|-------------------------|-----------------|------------|--------|------|--------------|------------------|
|                                      |        |                    |                         |                 | En.        | De-en. |      |              |                  |
| <b>SINGLE IMPULSE - MIXED SYSTEM</b> |        |                    |                         |                 |            |        |      |              |                  |
| 5/2                                  |        | electric amplified | pneumomechanical spring | 2÷9             | 18         | 29     | 1    | 0,45         | <b>BE12-3000</b> |
|                                      |        |                    |                         | 2,3÷9           | 23         | 24     | 2    | 0,55         | <b>BE12-4000</b> |
|                                      |        |                    |                         | 2,5÷9           | 35         | 78     | 3    | 0,90         | <b>BE12-5000</b> |
| <b>SINGLE IMPULSE - SPOOL SYSTEM</b> |        |                    |                         |                 |            |        |      |              |                  |
| 5/2                                  |        | electric amplified | pneumomechanical spring | 2÷9             | 19         | 32     | 1    | 0,45         | <b>BE12-3700</b> |
|                                      |        |                    |                         | 2,2÷9           | 23         | 28     | 2    | 0,55         | <b>BE12-4700</b> |
|                                      |        |                    |                         | 2,3÷9           | 36         | 82     | 3    | 0,90         | <b>BE12-5700</b> |
| <b>DOUBLE IMPULSE - MIXED SYSTEM</b> |        |                    |                         |                 |            |        |      |              |                  |
| 5/2                                  |        | electric amplified | electric amplified      | 1÷9             | 14         | 14     | 1    | 0,55         | <b>BE12-3020</b> |
|                                      |        |                    |                         | 1÷9             | 16         | 16     | 2    | 0,80         | <b>BE12-4020</b> |
|                                      |        |                    |                         | 1÷9             | 25         | 25     | 3    | 1,20         | <b>BE12-5020</b> |
| 5/3 p.c.                             |        | electric amplified | electric amplified      | 2÷9             | 45         | 23     | 1    | 0,50         | <b>BE12-3205</b> |
|                                      |        |                    |                         | 2,3÷9           | 51         | 23     | 2    | 0,80         | <b>BE12-4205</b> |
|                                      |        |                    |                         | 2,5÷9           | 119        | 40     | 3    | 1,20         | <b>BE12-5205</b> |
| <b>DOUBLE IMPULSE - SPOOL SYSTEM</b> |        |                    |                         |                 |            |        |      |              |                  |
| 5/2                                  |        | electric amplified | electric amplified      | 1÷9             | 15         | 15     | 1    | 0,55         | <b>BE12-3720</b> |
|                                      |        |                    |                         | 1÷9             | 17         | 17     | 2    | 0,80         | <b>BE12-4720</b> |
|                                      |        |                    |                         | 1÷9             | 29         | 29     | 3    | 1,20         | <b>BE12-5720</b> |
| 5/3 o.c.                             |        | electric amplified | electric amplified      | 2,3÷9           | 15         | 22     | 1    | 0,55         | <b>BE12-3900</b> |
|                                      |        |                    |                         | 2,5÷9           | 17         | 26     | 2    | 0,80         | <b>BE12-4900</b> |
|                                      |        |                    |                         | 2,5÷9           | 29         | 55     | 3    | 1,20         | <b>BE12-5900</b> |
| 5/3 c.c.                             |        | electric amplified | electric amplified      | 2,3÷9           | 15         | 22     | 1    | 0,55         | <b>BE12-3940</b> |
|                                      |        |                    |                         | 2,5÷9           | 17         | 26     | 2    | 0,80         | <b>BE12-4940</b> |
|                                      |        |                    |                         | 2,5÷9           | 29         | 55     | 3    | 1,20         | <b>BE12-5940</b> |

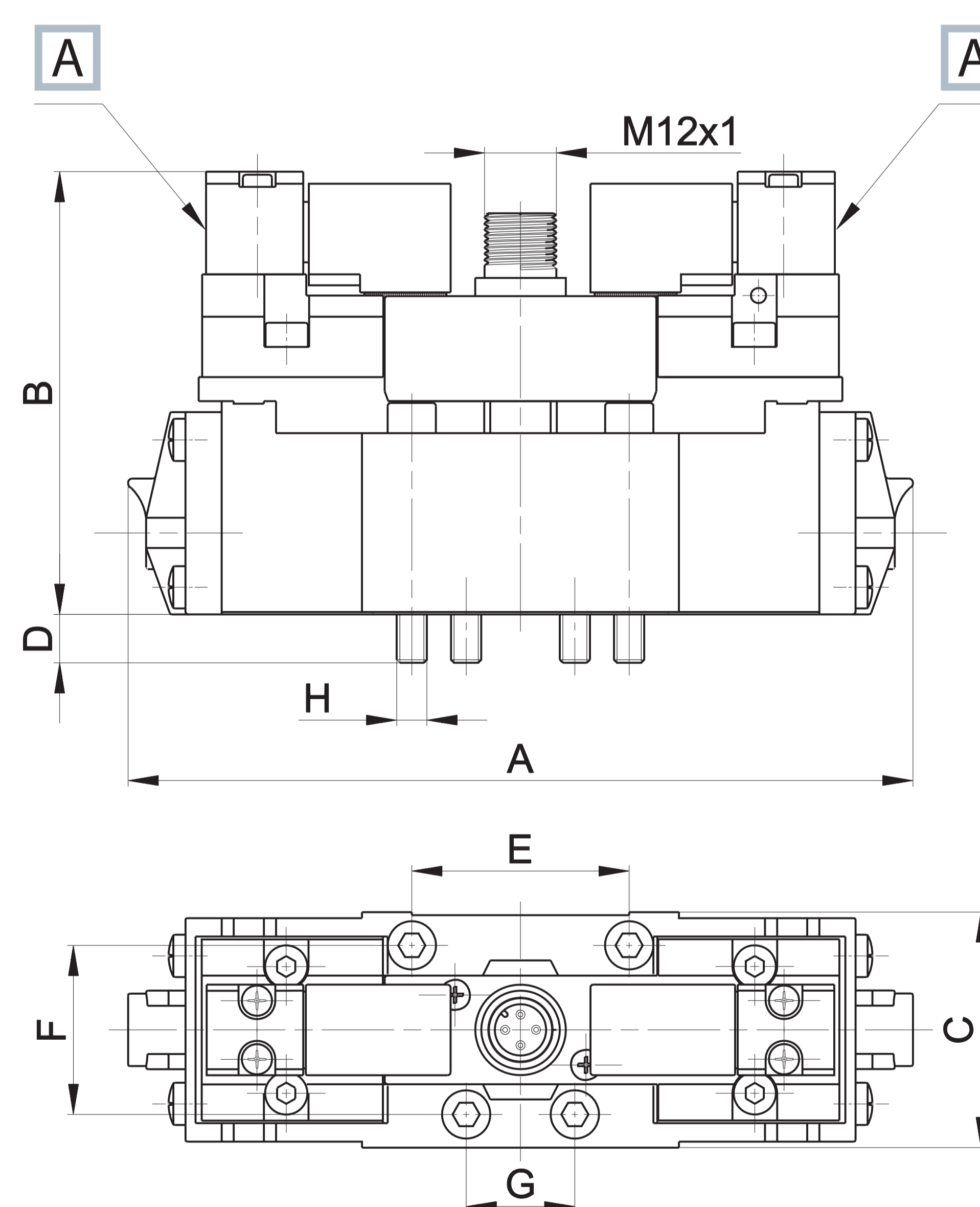
c.a. = centri aperti c.c. = centri chiusi c.p. = centri in pressione

Valves are supplied with 24 V DC coil

### Single electric impulse



### Double electric impulse



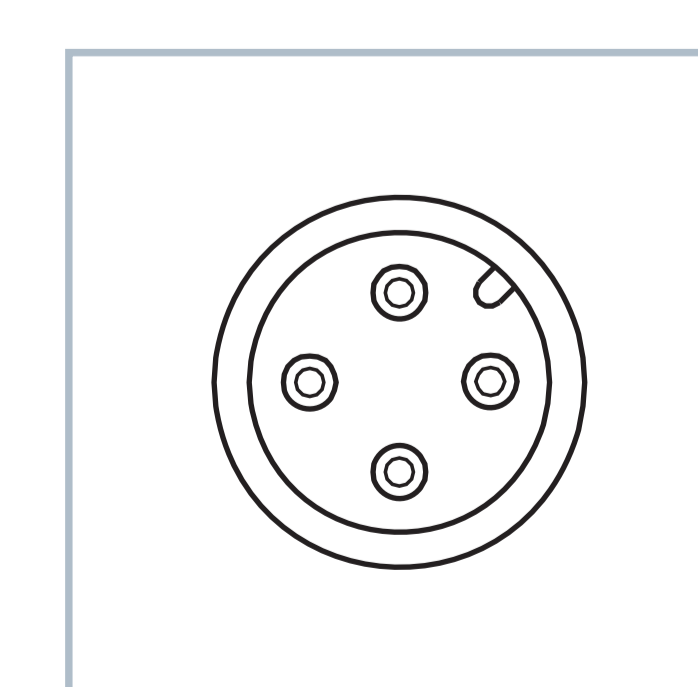
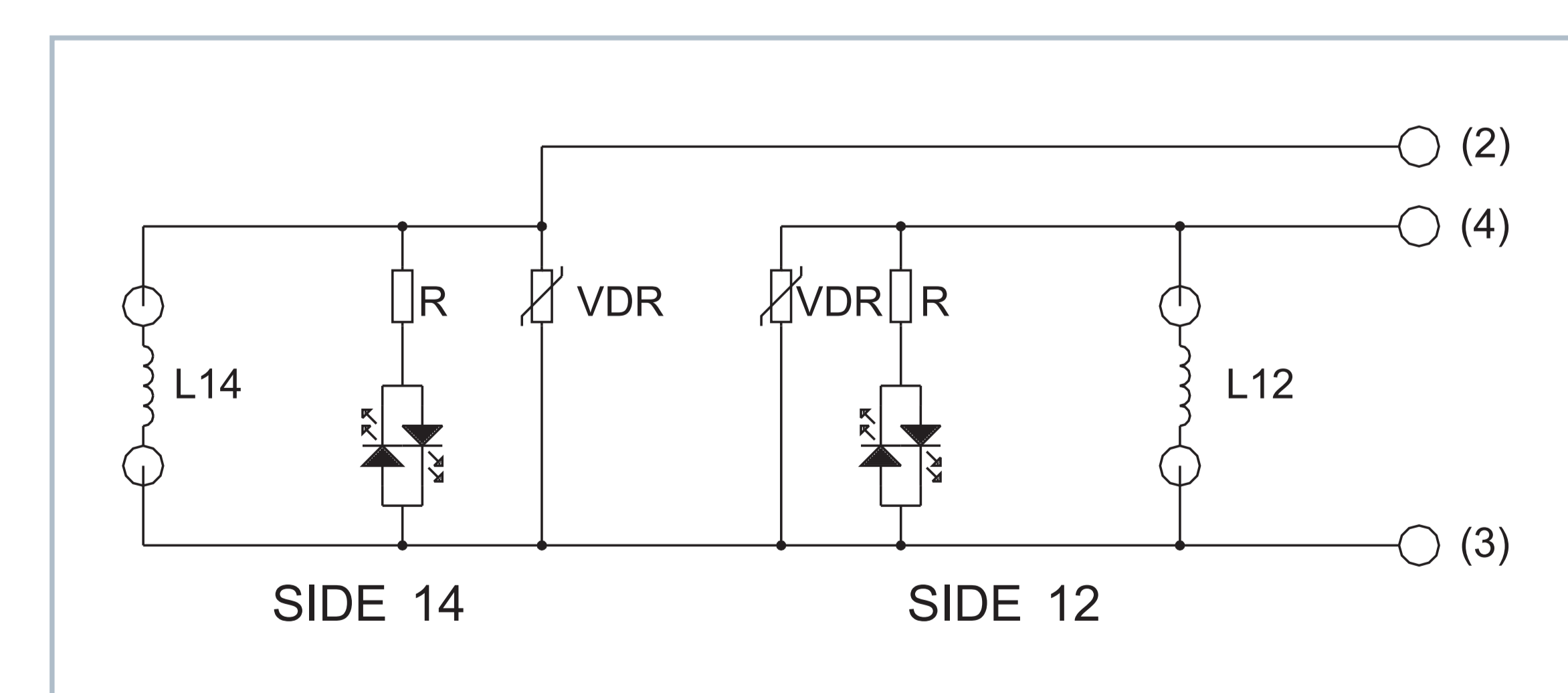
|   | ISO 1 | ISO 2 | ISO 3 |
|---|-------|-------|-------|
| A | 128   | 145   | 191   |
| B | 73    | 73    | 90    |
| C | 39    | 52    | 64    |
| D | 5     | 5     | 10    |
| E | 36    | 48    | 64    |
| F | 28    | 38    | 48    |
| G | 18    | 24    | 32    |
| H | M5x38 | M6x35 | M8x50 |

Manual override

### ELECTRIC FEATURES

Central electric connector M12x1  
 IP 65 protection degree  
 24 V DC voltage  
 2,5 W nominal power  
 DD-052\*\* series coil (without faston)  
 ED 100%  
 LED indicator

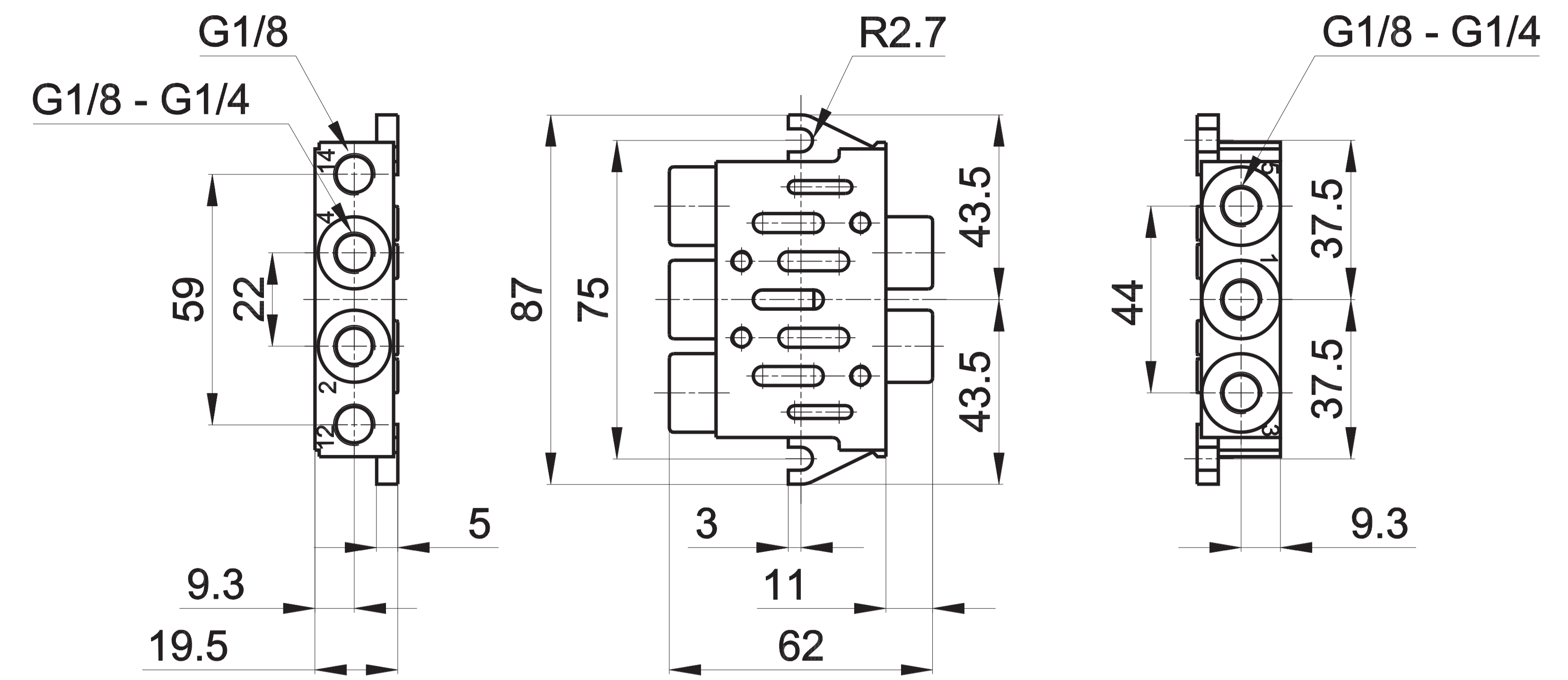
Available upon request other voltages  
 max 48 V DC



ISO 1 - Single sub-base, side connections



| Notes               | Connection | Material | Weight<br>Kg | Part no.       |
|---------------------|------------|----------|--------------|----------------|
| in line connections | G1/8       | zamak    | 0,250        | <b>BF-1060</b> |
| in line connections | G1/4       | zamak    | 0,230        | <b>BF-1061</b> |

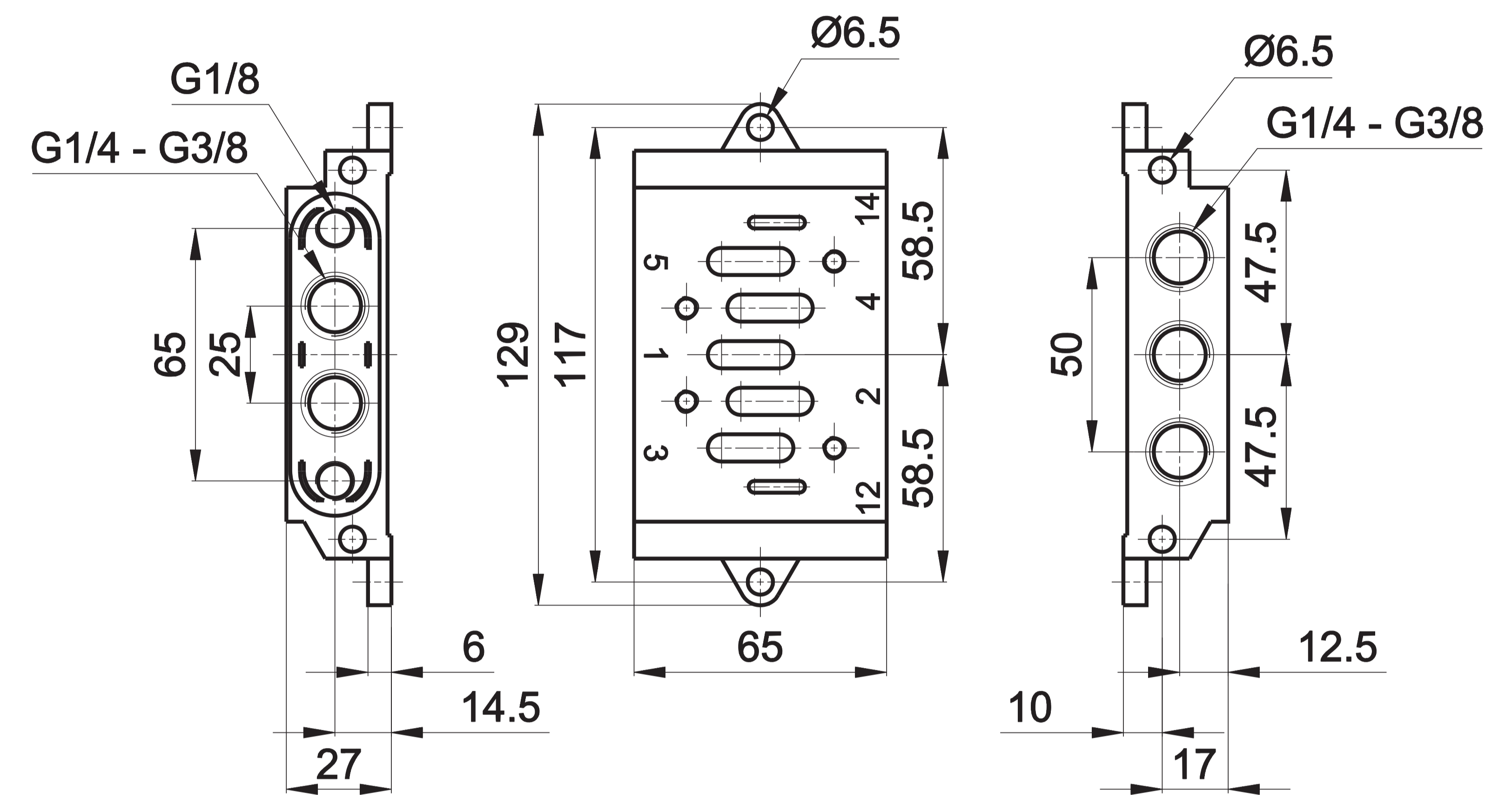


1 = Supply port      3 - 5 = Exhaust  
2 - 4 = Use          12 - 14 = Pilots

ISO 2 - Single sub-base, side connections



| Notes               | Connection | Material | Weight<br>Kg | Part no.       |
|---------------------|------------|----------|--------------|----------------|
| in line connections | G1/4       | zamak    | 0,640        | <b>BF-1150</b> |
| in line connections | G3/8       | zamak    | 0,650        | <b>BF-1151</b> |

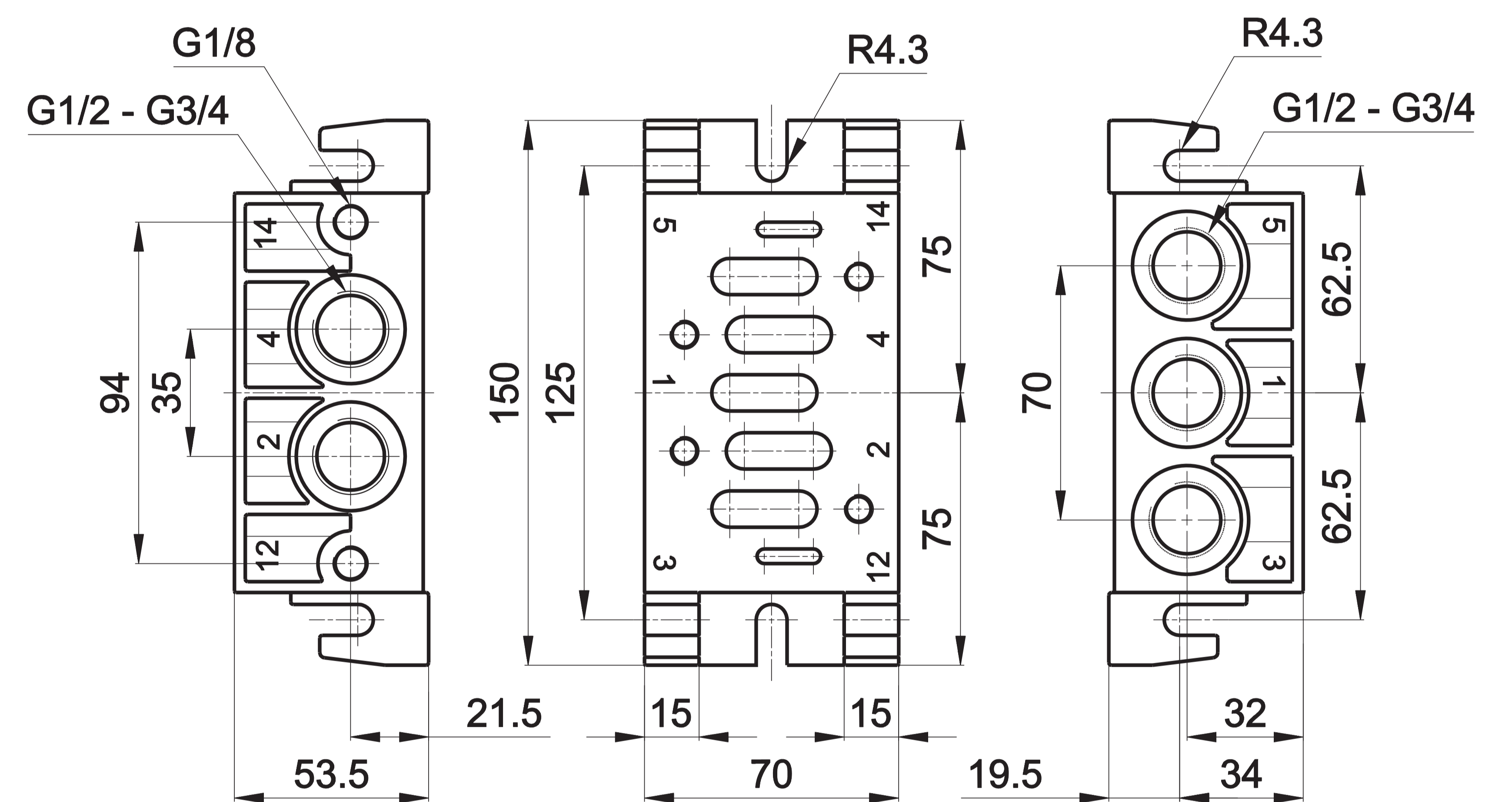


1 = Supply port      3 - 5 = Exhaust  
2 - 4 = Use          12 - 14 = Pilots

ISO 3 - Single sub-base, side connections



| Notes               | Connection | Material  | Weight<br>Kg | Part no.       |
|---------------------|------------|-----------|--------------|----------------|
| in line connections | G1/2       | aluminium | 0,740        | <b>BF-3060</b> |
| in line connections | G3/4       | aluminium | 0,740        | <b>BF-3061</b> |

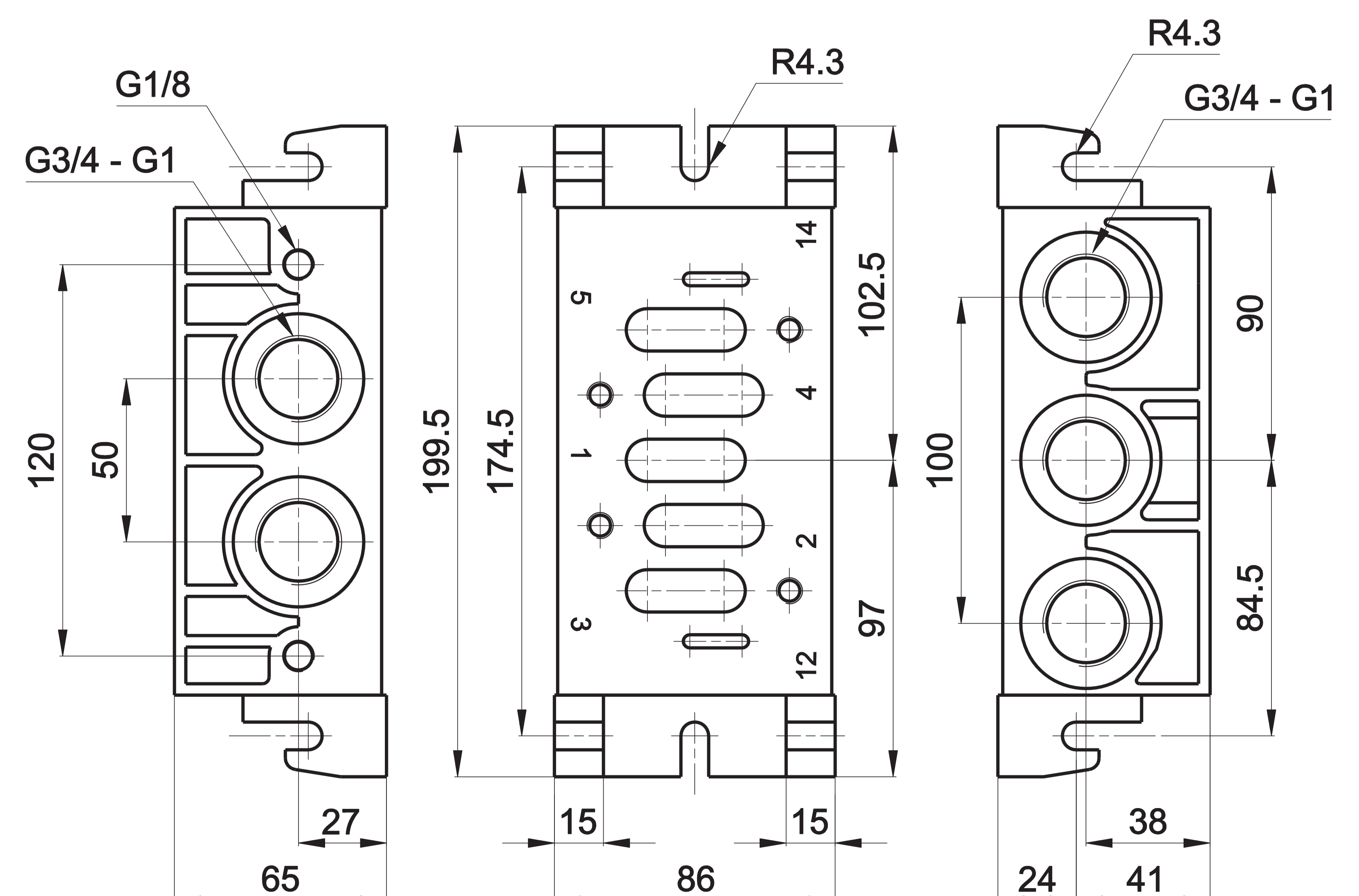


1 = Supply port      3 - 5 = Exhaust  
2 - 4 = Use          12 - 14 = Pilots

ISO 4 - Single sub-base, side connections

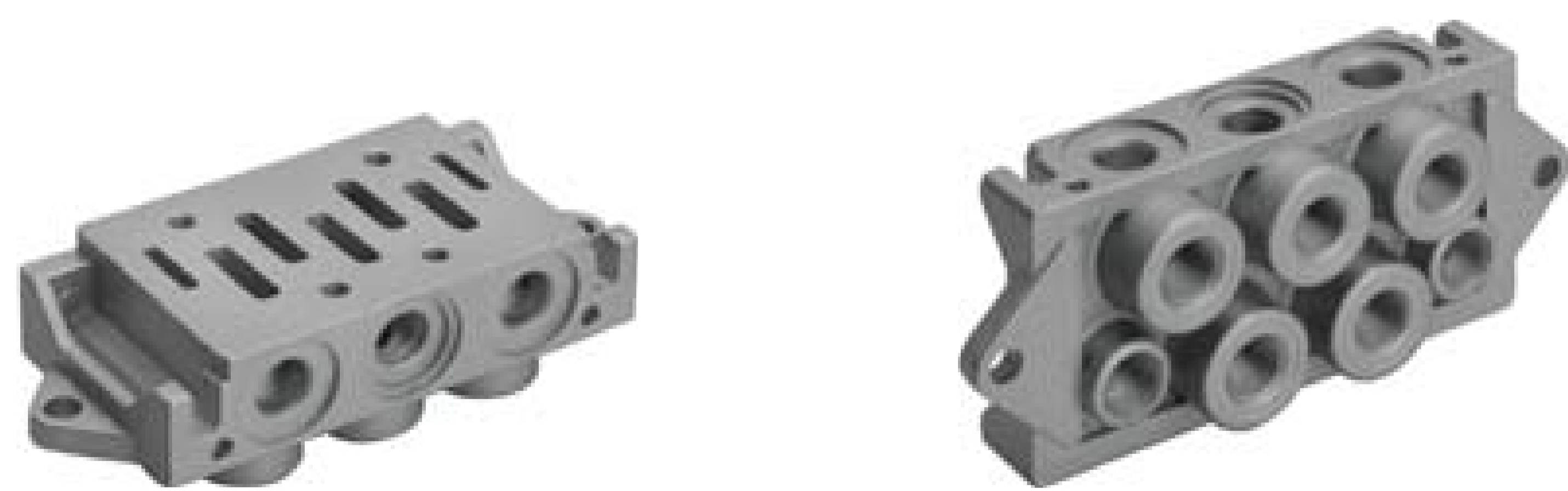


| Notes                       | Connection | Material  | Weight<br>Kg | Part no.       |
|-----------------------------|------------|-----------|--------------|----------------|
| in line connections         | G3/4       | aluminium | 1,280        | <b>BF-4060</b> |
| dorsal and side connections | G1         | aluminium | 1,280        | <b>BF-4061</b> |



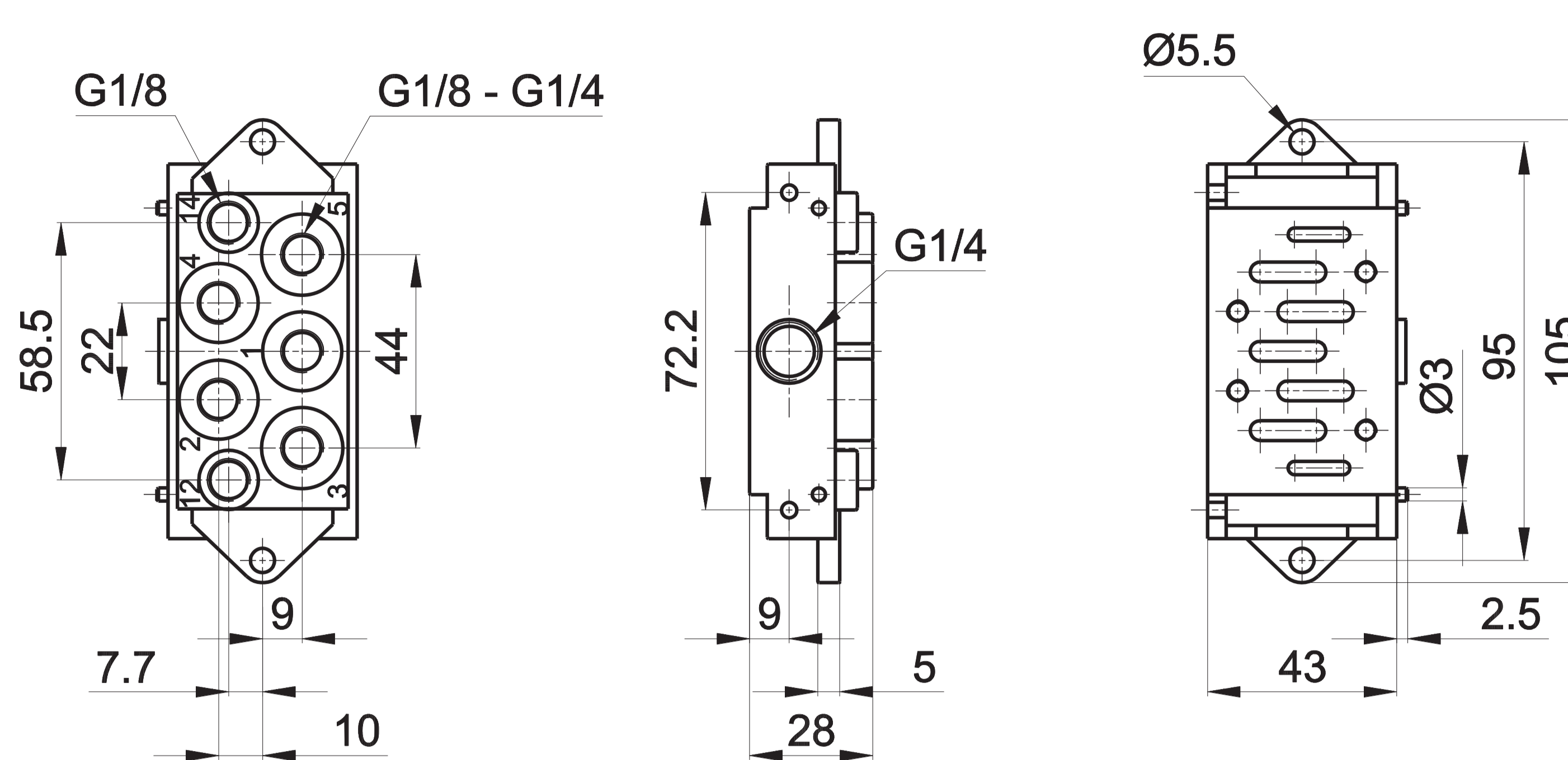
1 = Supply port      3 - 5 = Exhaust  
2 - 4 = Use          12 - 14 = Pilots

ISO 1 - Single modular or Manifold sub-base, dorsal connections, separate exhausts



| Notes              | Connection | Material | Weight<br>Kg | Part no.       |
|--------------------|------------|----------|--------------|----------------|
| dorsal connections | G1/8       | zamak    | 0,350        | <b>BF-1062</b> |
| dorsal connections | G1/4       | zamak    | 0,330        | <b>BF-1063</b> |

Single assembly: close side ports (G1/8 - G1/4)  
 Manifold assembly with common inlet: close dorsal connections n.1  
 With incorporated screws and seal

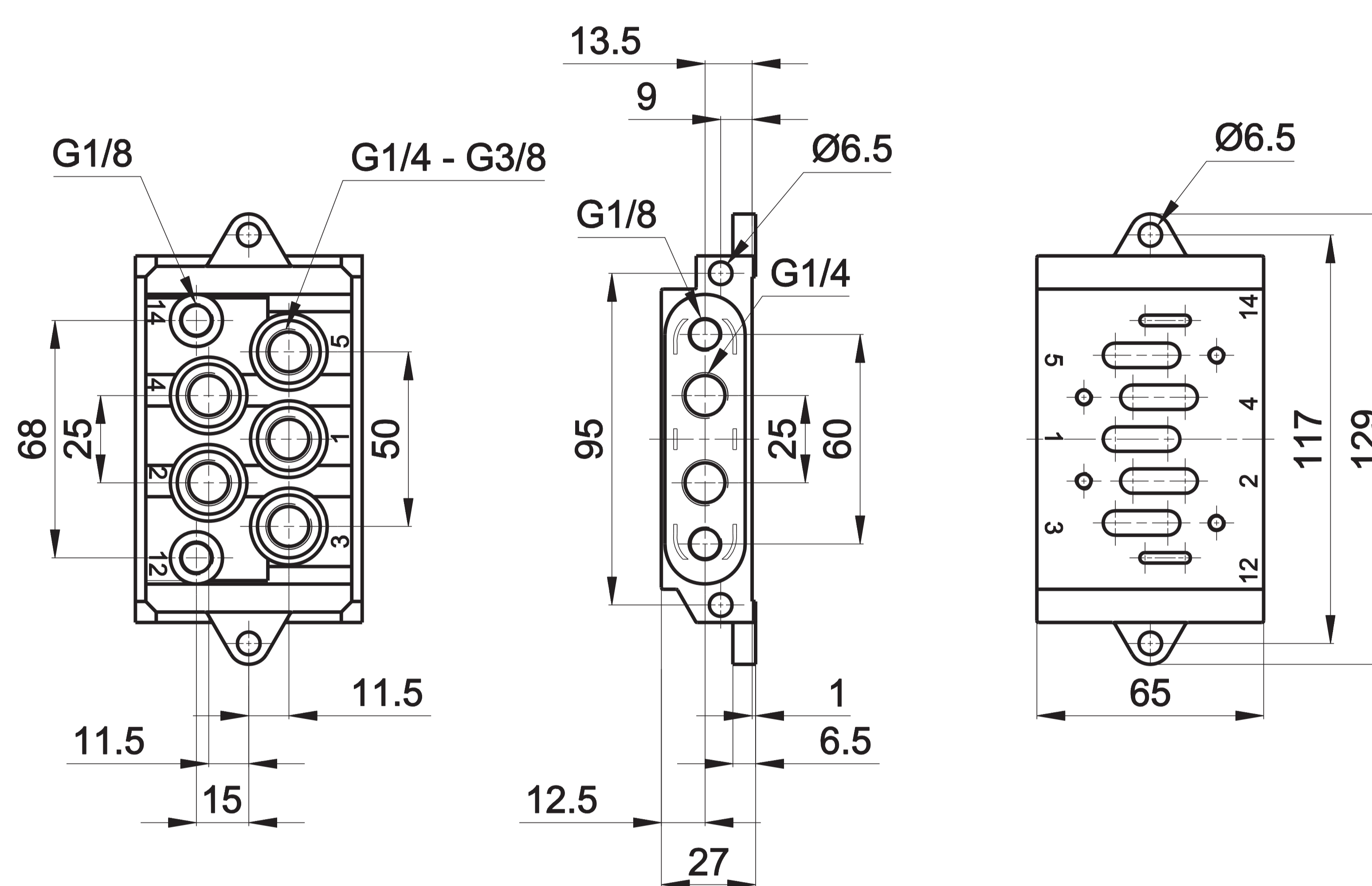


1 = Supply port      3 - 5 = Exhaust  
 2 - 4 = Use          12 - 14 = Pilots

ISO 2 - Single sub-base, dorsal connections

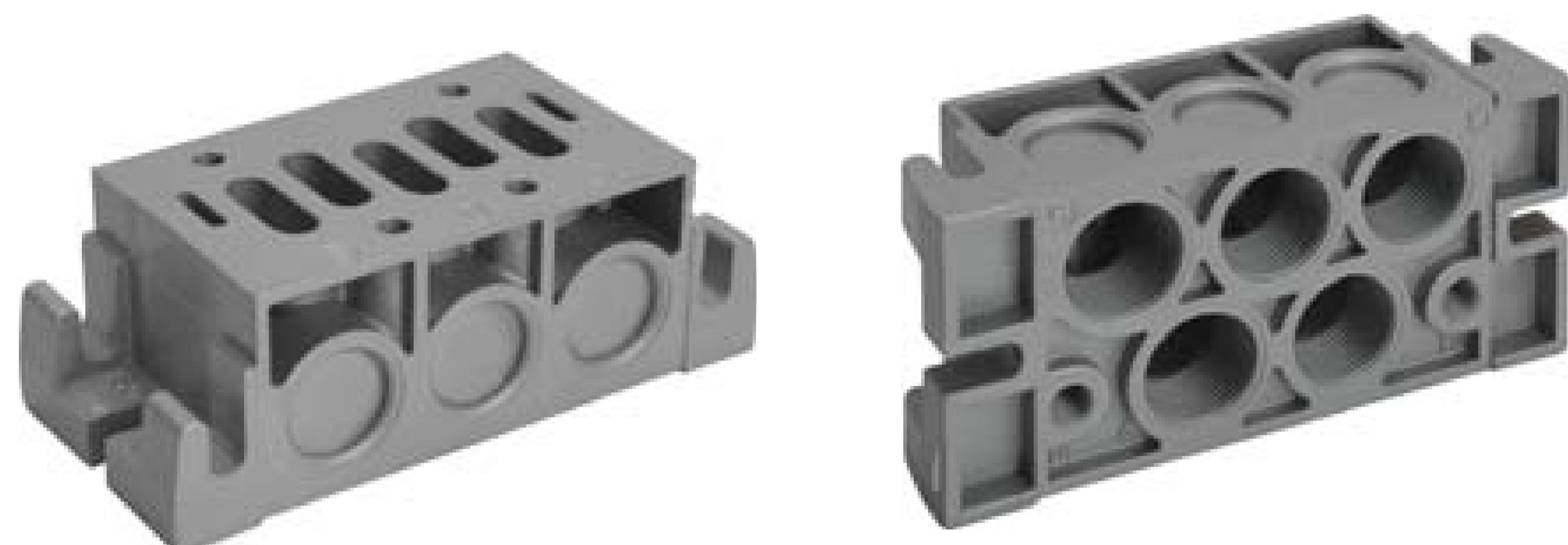


| Notes              | Connection | Material | Weight<br>Kg | Part no.       |
|--------------------|------------|----------|--------------|----------------|
| dorsal connections | G1/4       | zamak    | 0,640        | <b>BF-1152</b> |
| dorsal connections | G3/8       | zamak    | 0,650        | <b>BF-1153</b> |

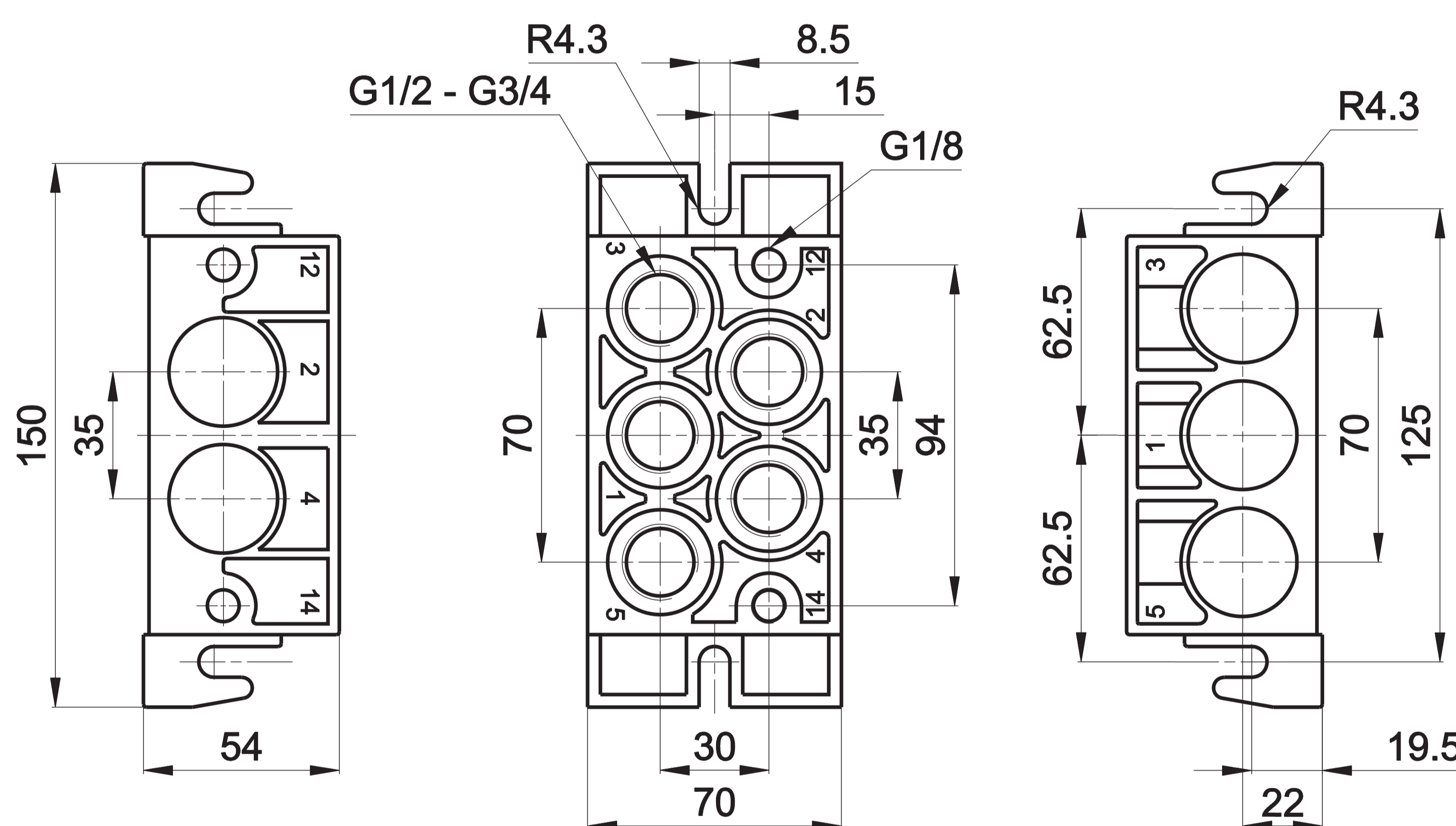


1 = Supply port      3 - 5 = Exhaust  
 2 - 4 = Use          12 - 14 = Pilots

ISO 3 - Single sub-base, dorsal connections

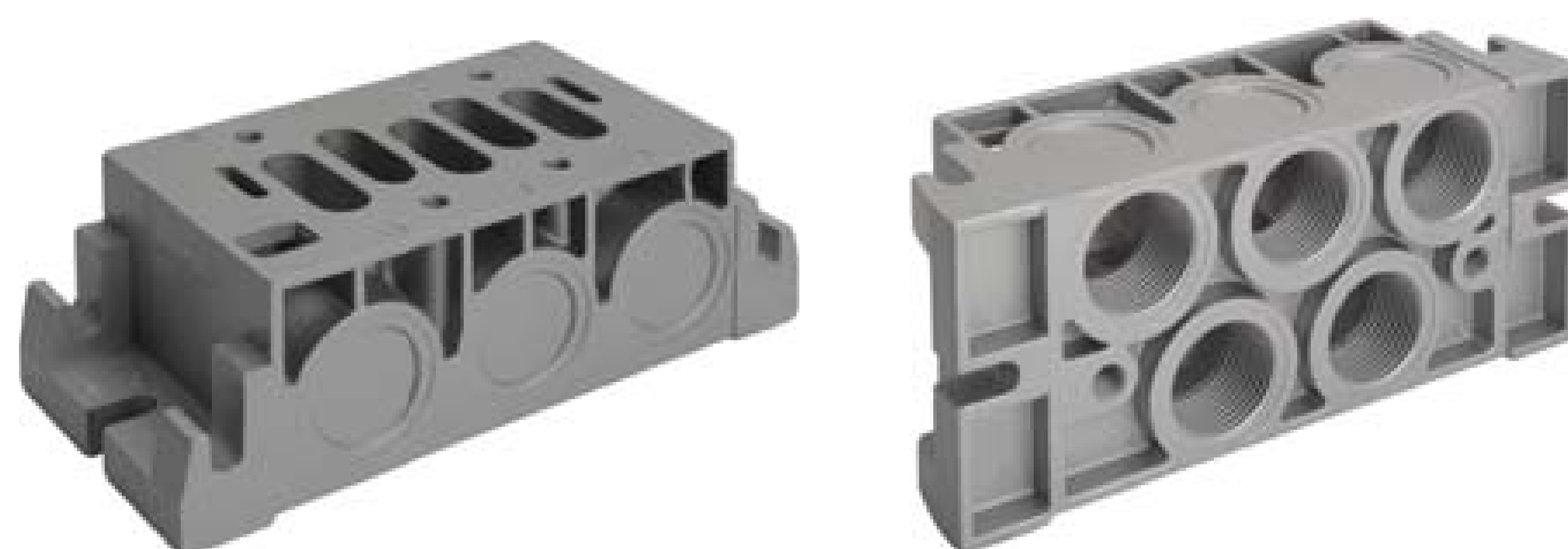


| Notes              | Connection | Material  | Weight<br>Kg | Part no.       |
|--------------------|------------|-----------|--------------|----------------|
| dorsal connections | G3/4       | aluminium | 0,720        | <b>BF-3063</b> |

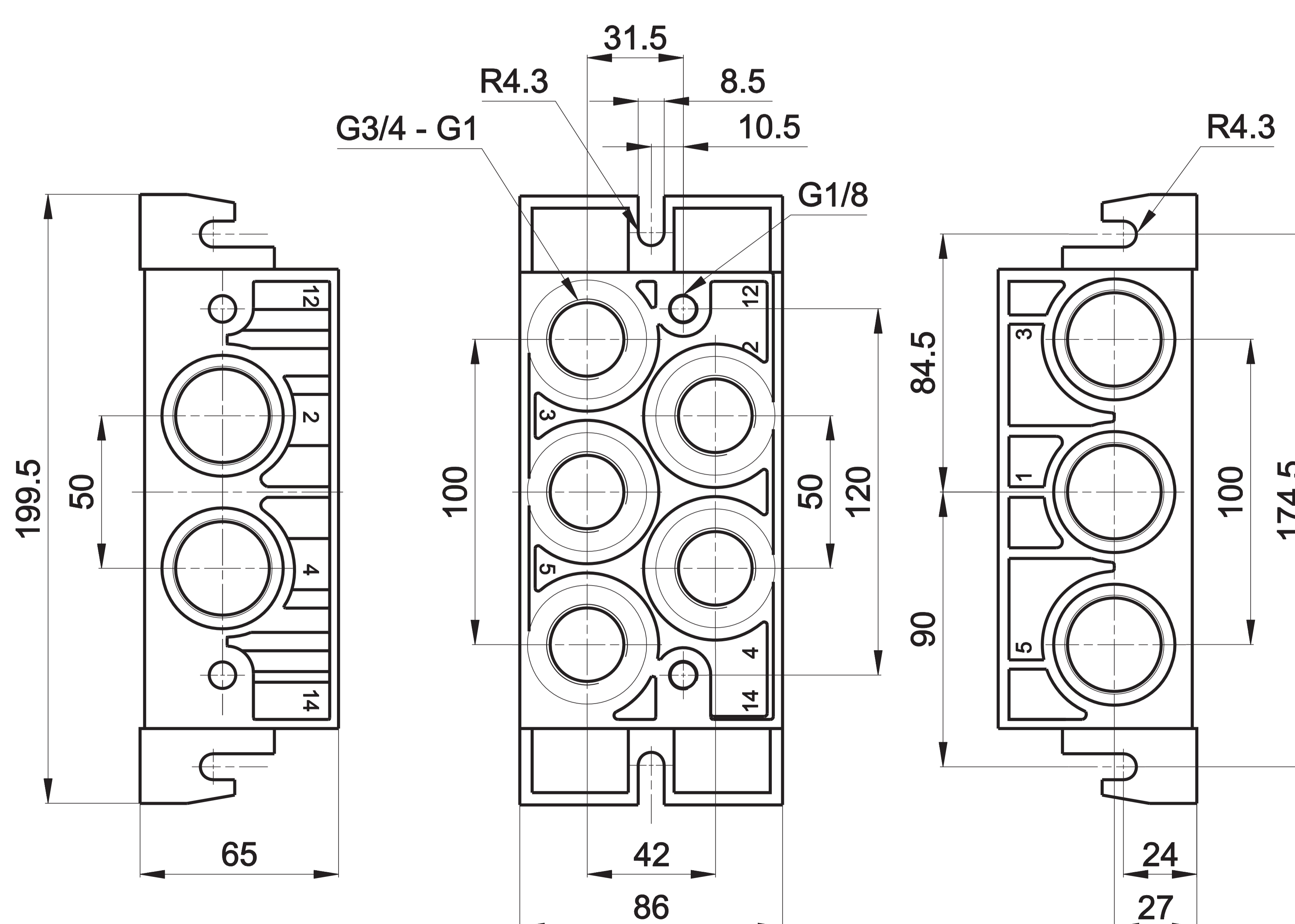


1 = Supply port      3 - 5 = Exhaust  
 2 - 4 = Use          12 - 14 = Pilots

ISO 4 - Single sub-base, dorsal connections

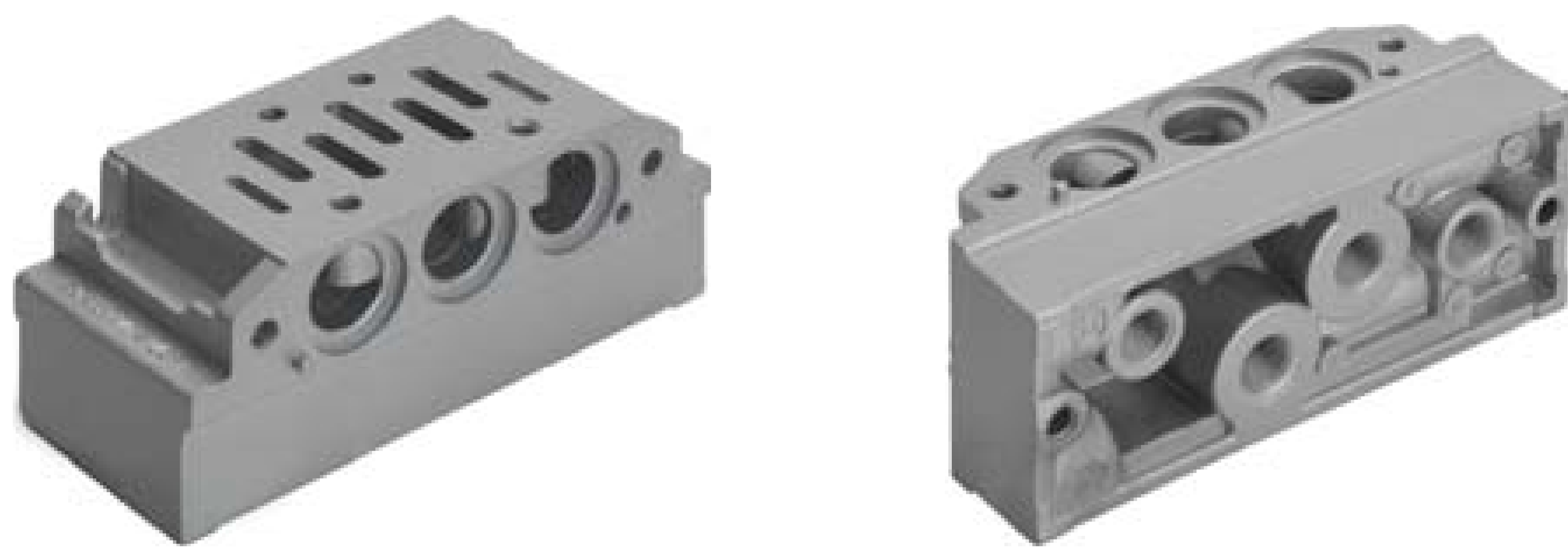


| Notes              | Connection | Material  | Weight<br>Kg | Part no.       |
|--------------------|------------|-----------|--------------|----------------|
| dorsal connections | G3/4       | aluminium | 1,240        | <b>BF-4062</b> |
| dorsal connections | G1         | aluminium | 1,240        | <b>BF-4063</b> |



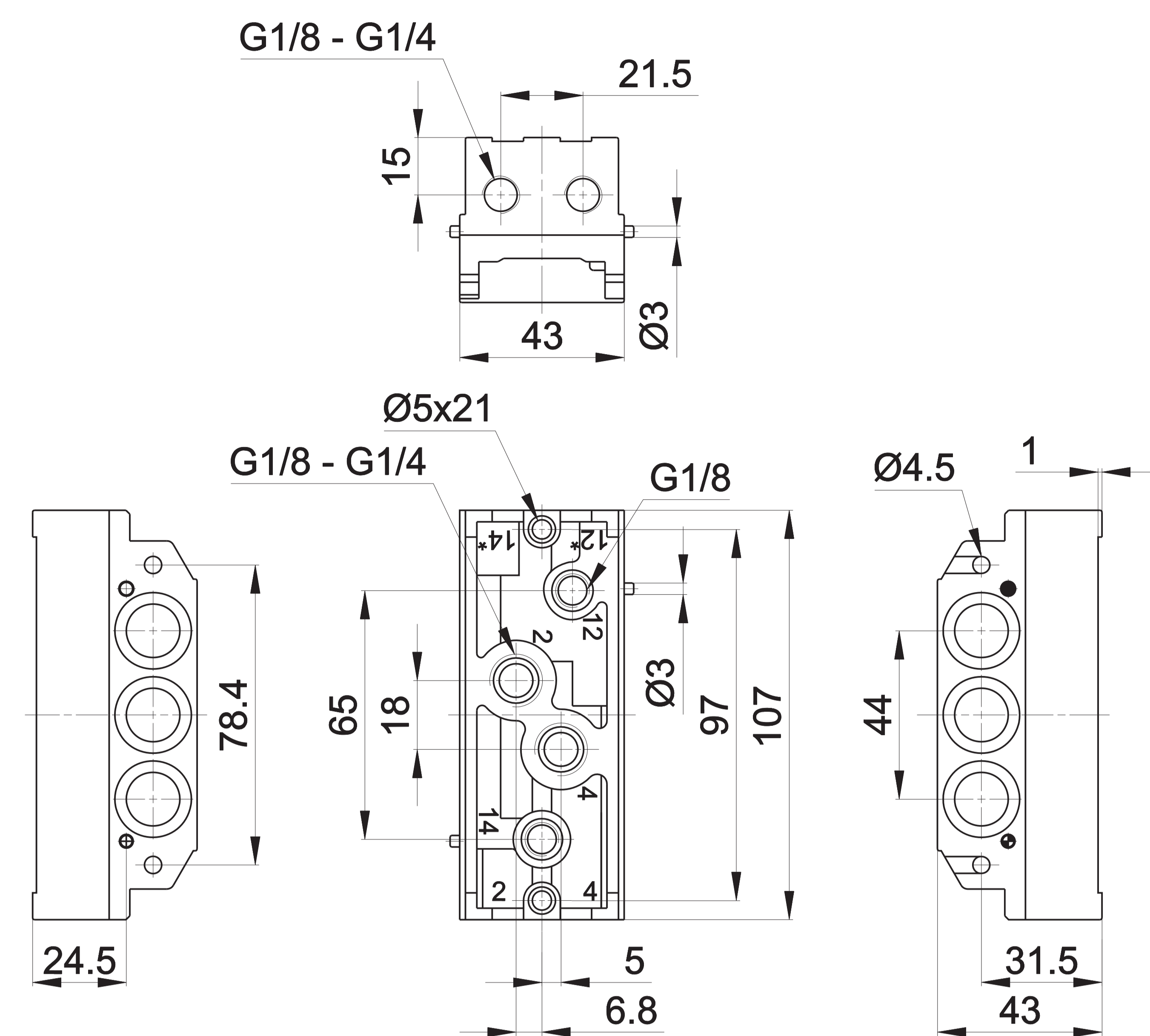
1 = Supply port      3 - 5 = Exhaust  
 2 - 4 = Use          12 - 14 = Pilots

ISO 1 - Manifold universal system sub-base, dorsal and side connections, conveyed exhausts



| Notes                       | Connection | Material  | Weight<br>Kg | Part no.        |
|-----------------------------|------------|-----------|--------------|-----------------|
| dorsal and side connections | G1/8       | aluminium | 0,280        | <b>BF-1071</b>  |
| dorsal and side connections | G1/4       | aluminium | 0,275        | <b>BF-1072</b>  |
| side pneumatic impulses     | G1/8       | aluminium | 0,300        | <b>BF-1071S</b> |
| side pneumatic impulses     | G1/4       | aluminium | 0,295        | <b>BF-1072S</b> |

Dorsal and side connections possible. Close unused ports with caps.  
With incorporated screws, seals and caps included



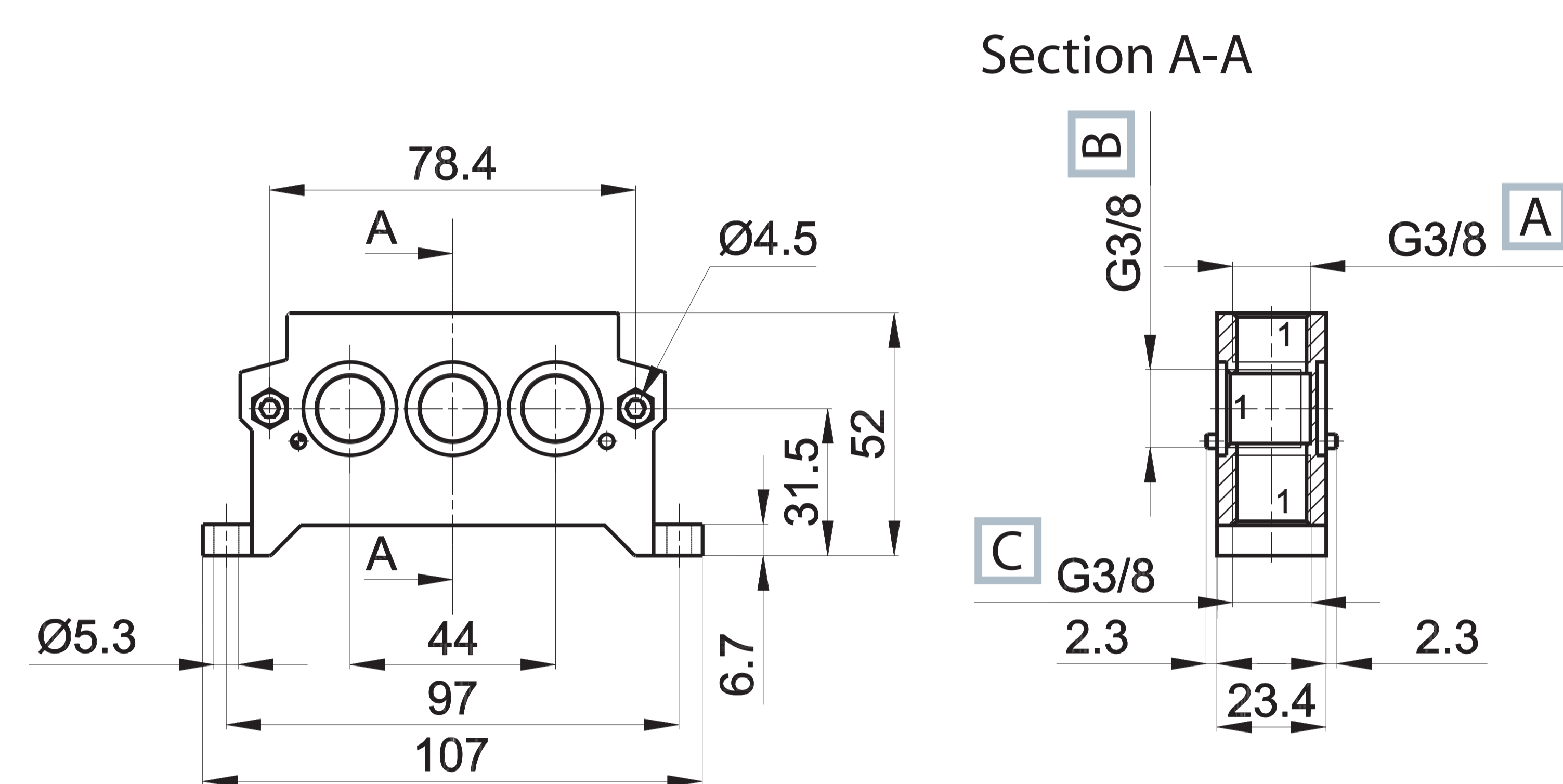
1 = Supply port      12 - 14 = Pilots  
2 - 4 = Use          12\* - 14\* = Side pilots  
3 - 5 = Exhaust

ISO 1 - Manifold universal system inlet plate



- A** On top connections
- B** In line connections
- C** Dorsal connections

| Notes               | Connection | Material | Weight<br>Kg | Part no.       |
|---------------------|------------|----------|--------------|----------------|
| in line connections | G3/8       | zamak    | 0,355        | <b>BF-1064</b> |
| on top connections  | G3/8       | zamak    | 0,355        | <b>BF-1065</b> |
| dorsal connections  | G3/8       | zamak    | 0,355        | <b>BF-1066</b> |



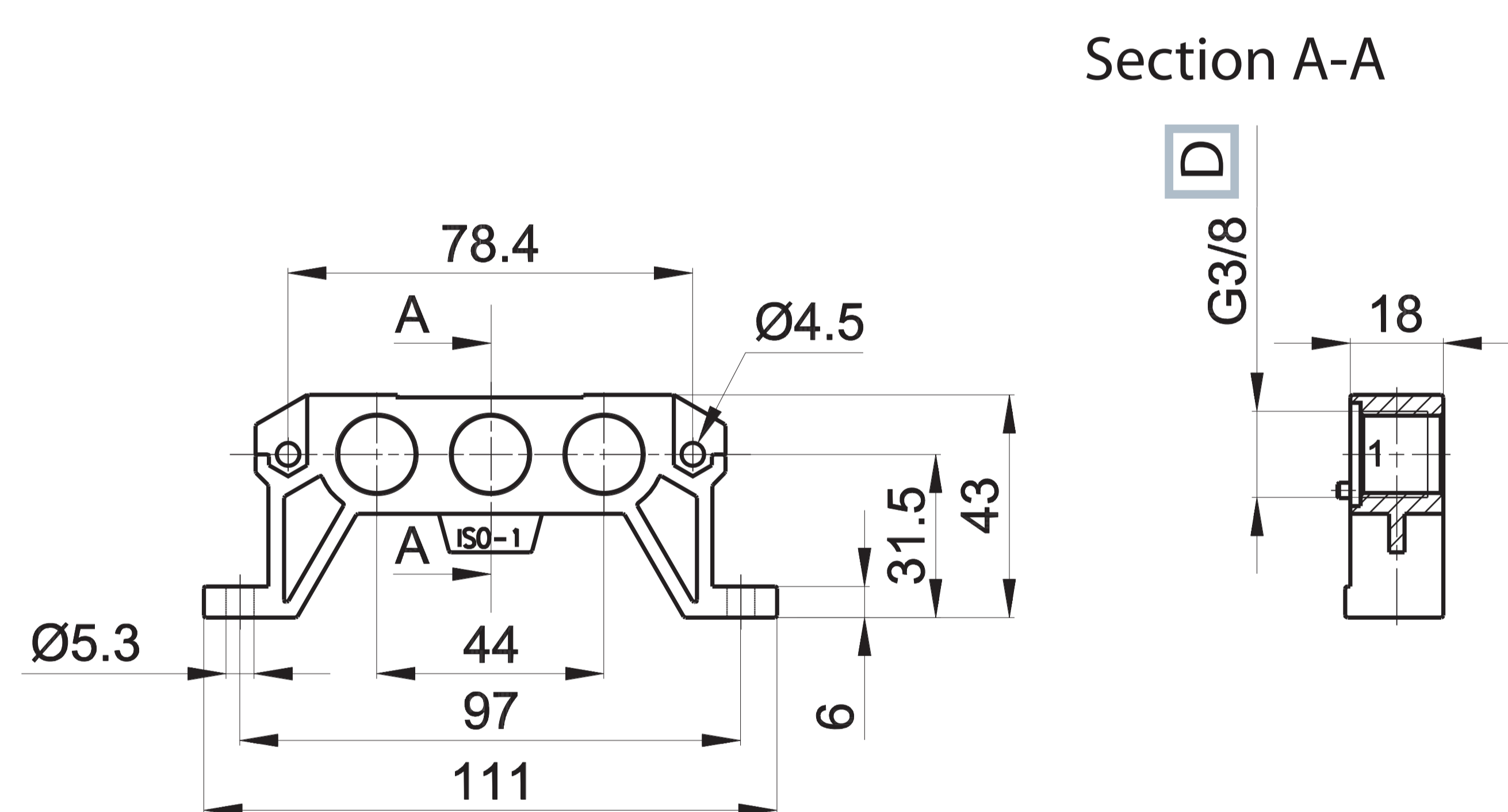
1 = Supply port  
3 - 5 = Exhaust



- D** Only in line connections

| Notes                    | Connection | Material  | Weight<br>Kg | Part no.       |
|--------------------------|------------|-----------|--------------|----------------|
| only in line connections | G3/8       | aluminium | 0,120        | <b>BF-1068</b> |

When battery exceeds 4 units, the mounting of 2 plates is recommended  
Mixed version available upon request  
With incorporated screws and seal



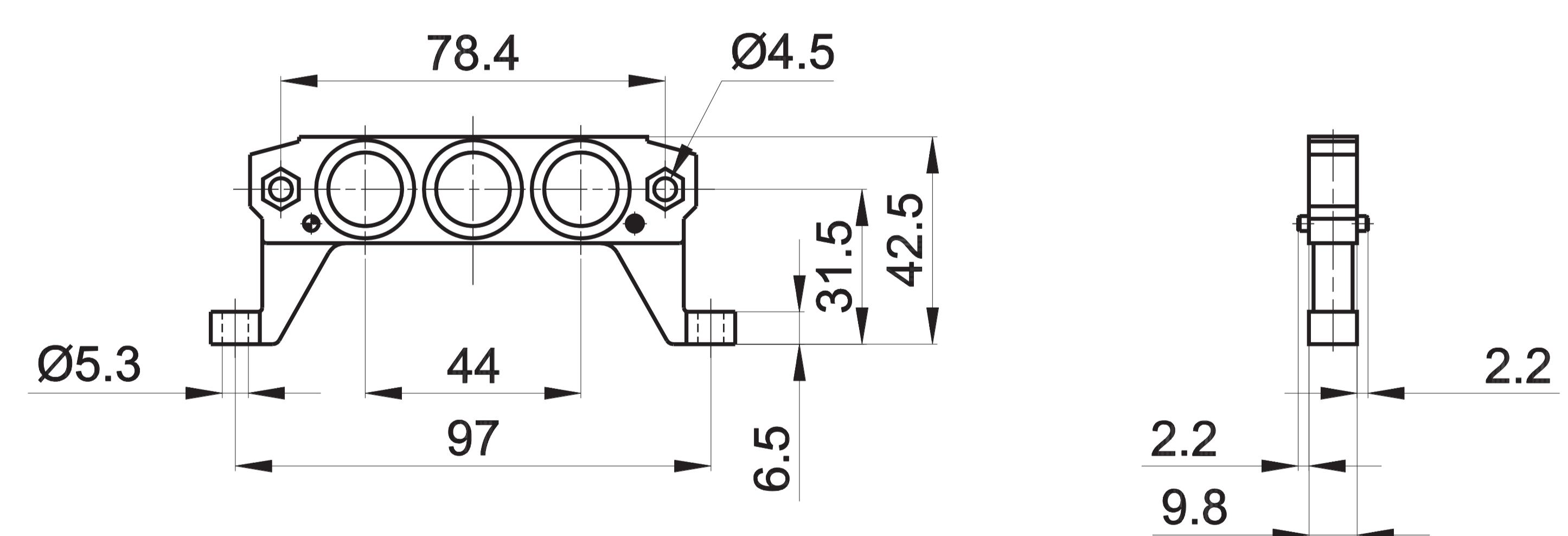
1 = Supply port  
3 - 5 = Exhaust

ISO 1 - Manifold universal system diaphragm

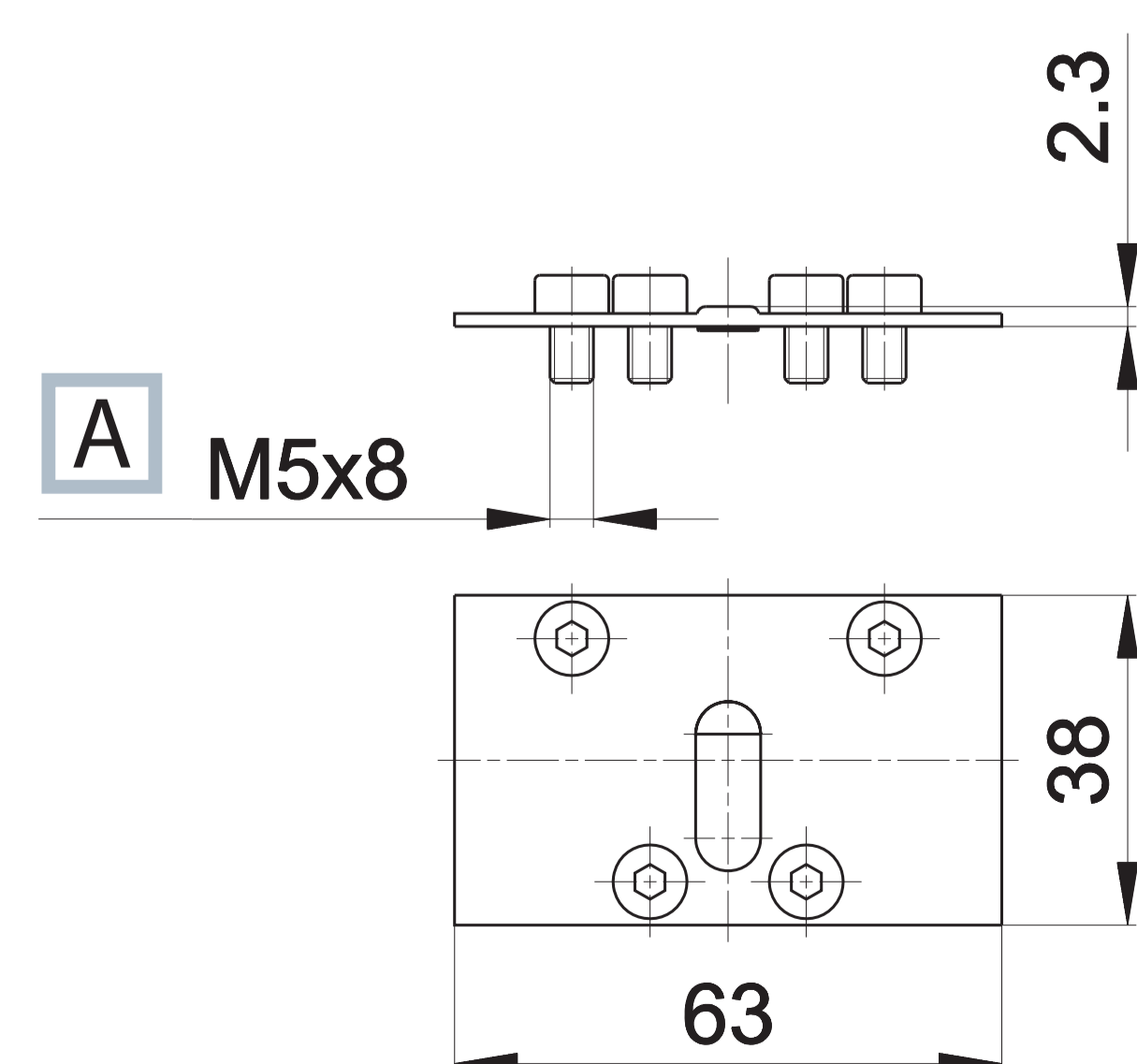
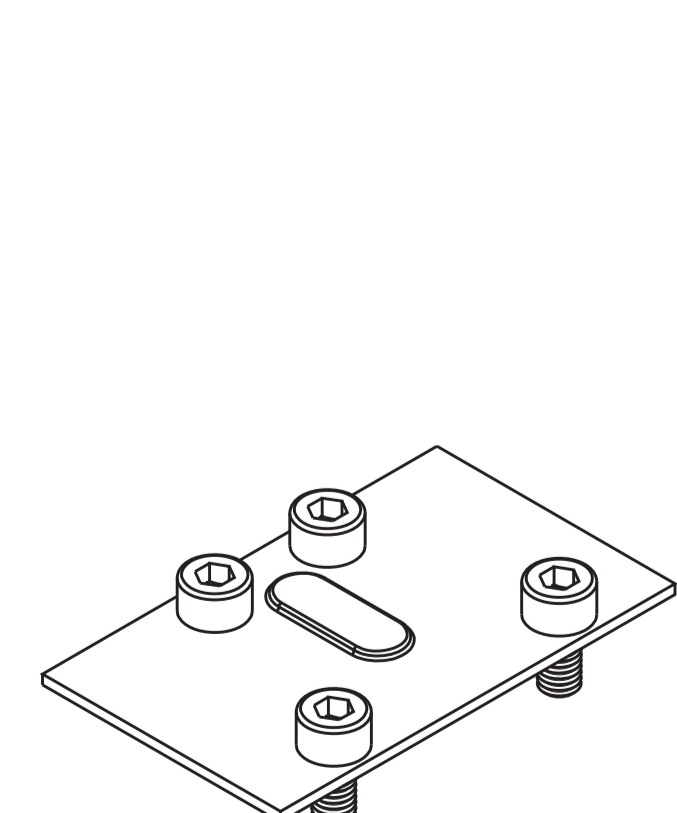


| Notes | Connection | Material | Weight<br>Kg | Part no.       |
|-------|------------|----------|--------------|----------------|
| -     | -          | zamak    | 0,090        | <b>BF-1070</b> |

The diaphragm is not only the end plate of the manifold but it is also coupled with the exhaust regulator to separate two sub-bases and regulate the valves independently. In this case break the central blind hole.  
To get two or more pressures, break the two side blind holes.



**BF-1085**

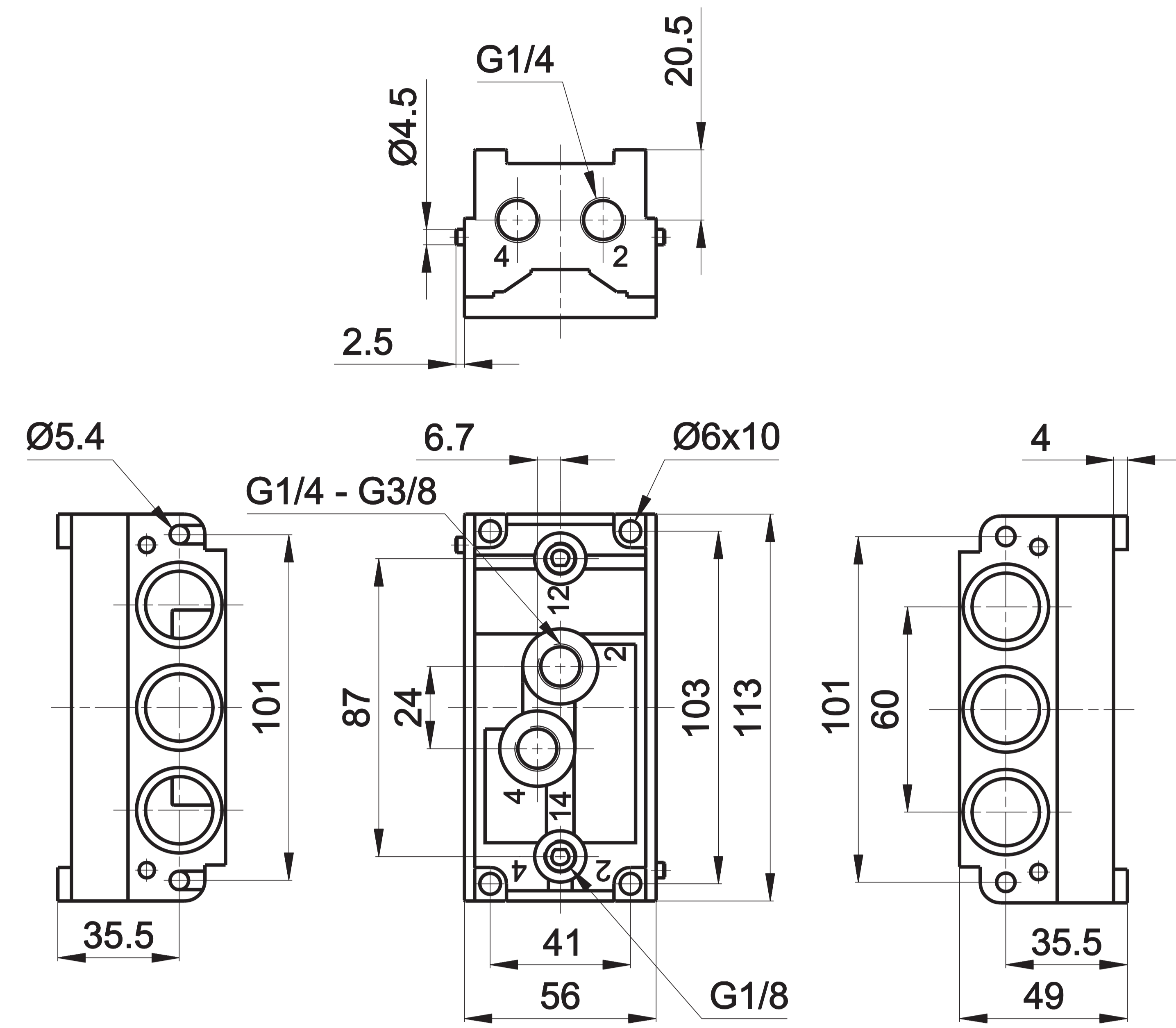


**A** ISO 4762

ISO 1 - Closing plate for sub-base 1  
material: steel  
weight: 0,030 Kg (for all sub-base versions)



ISO 2 - Manifold universal system sub-base, dorsal and side connections, conveyed exhausts

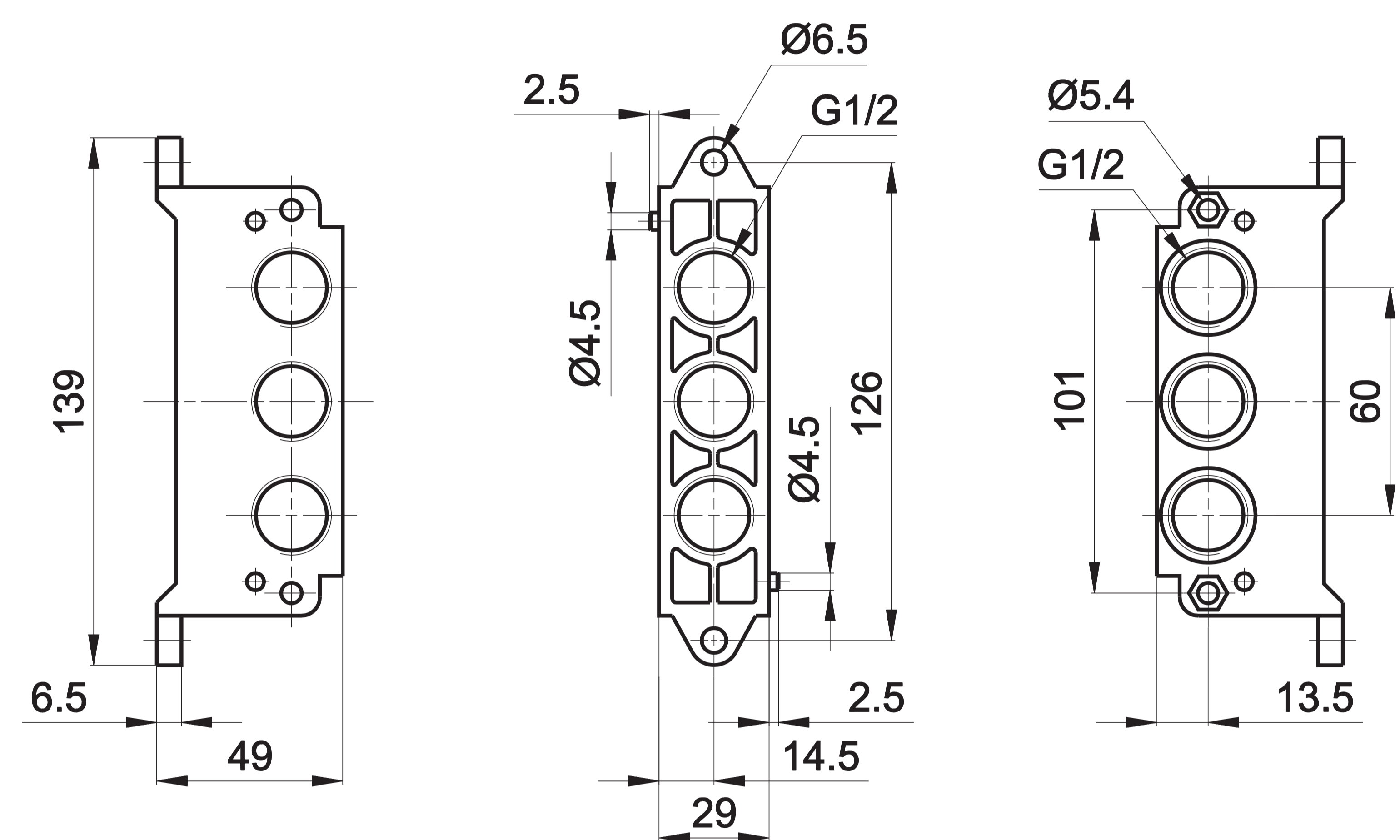


| Notes                       | Connection | Material | Weight<br>Kg | Part no.       |
|-----------------------------|------------|----------|--------------|----------------|
| dorsal and side connections | G1/4       | zamak    | 0,800        | <b>BF-1160</b> |
| dorsal and side connections | G3/8       | zamak    | 0,800        | <b>BF-1161</b> |

Dorsal and side connections possible. Close unused ports with caps.  
With incorporated screw, seals and caps included

1 = Supply port      3 - 5 = Exhaust  
2 - 4 = Use          12 - 14 = Pilots

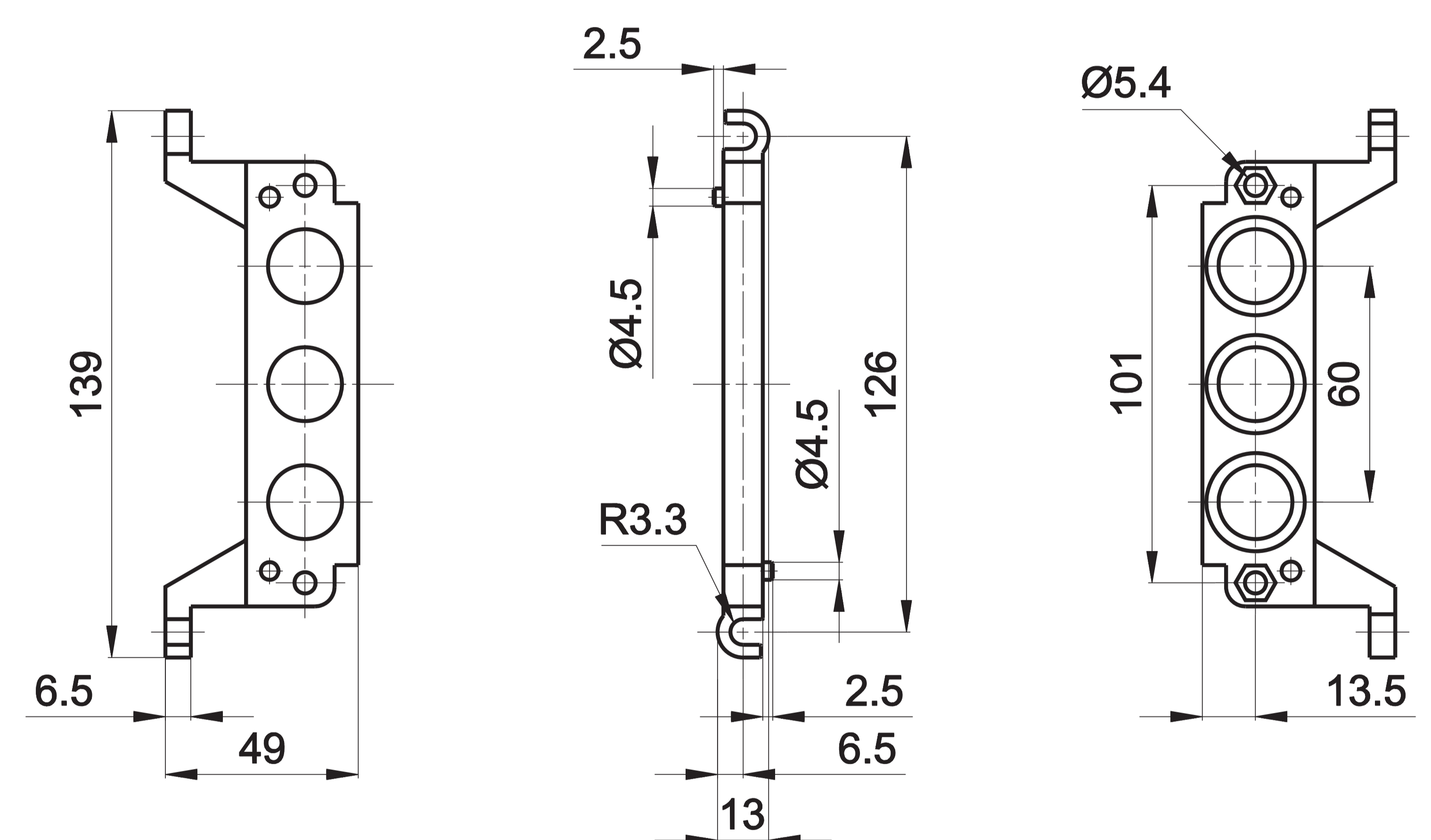
ISO 2 - Manifold Universal system inlet plate



| Notes               | Connection | Material | Weight<br>Kg | Part no.       |
|---------------------|------------|----------|--------------|----------------|
| in line connections | G1/2       | zamak    | 0,460        | <b>BF-1154</b> |
| dorsal connections  | G1/2       | zamak    | 0,460        | <b>BF-1155</b> |

When battery exceeds 4 units, the mounting of 2 plates is recommended  
Mixed version available upon request  
With incorporated screw and seals

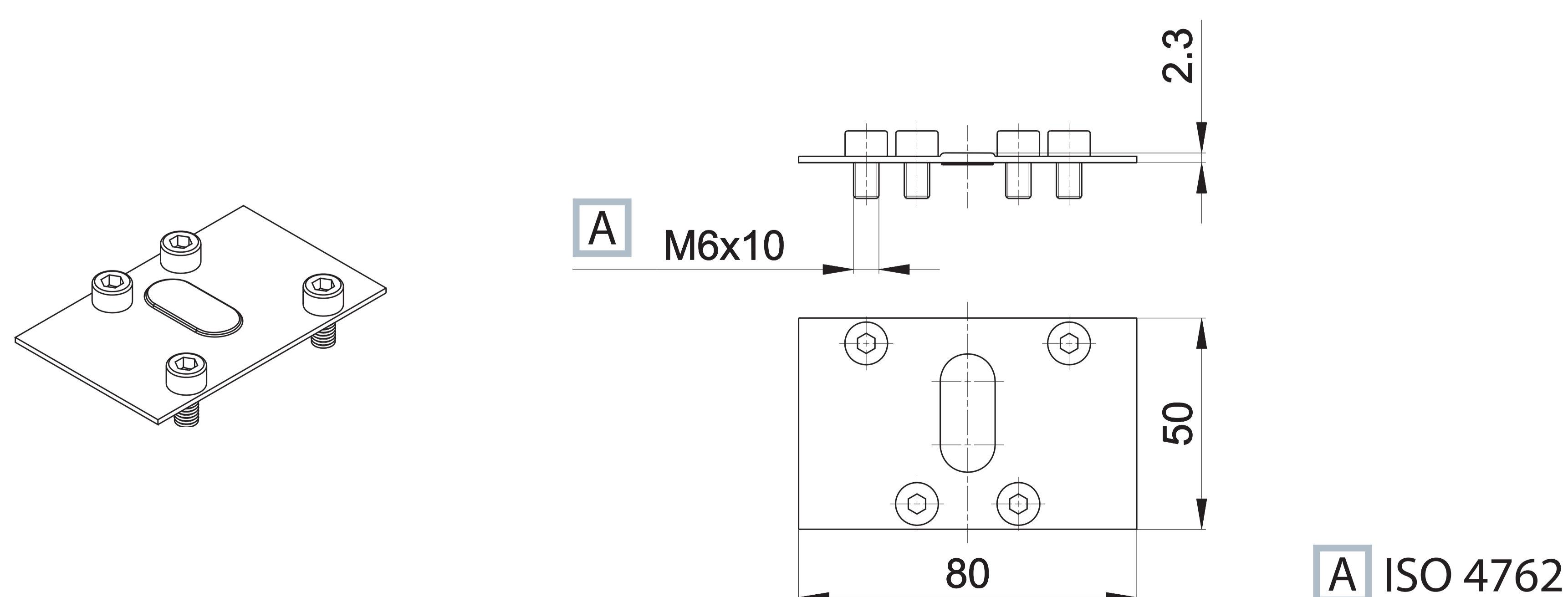
ISO 2 - Manifold universal system diaphragm



| Notes | Connection | Material | Weight<br>Kg | Part no.       |
|-------|------------|----------|--------------|----------------|
| -     | -          | zamak    | 0,160        | <b>BF-1162</b> |

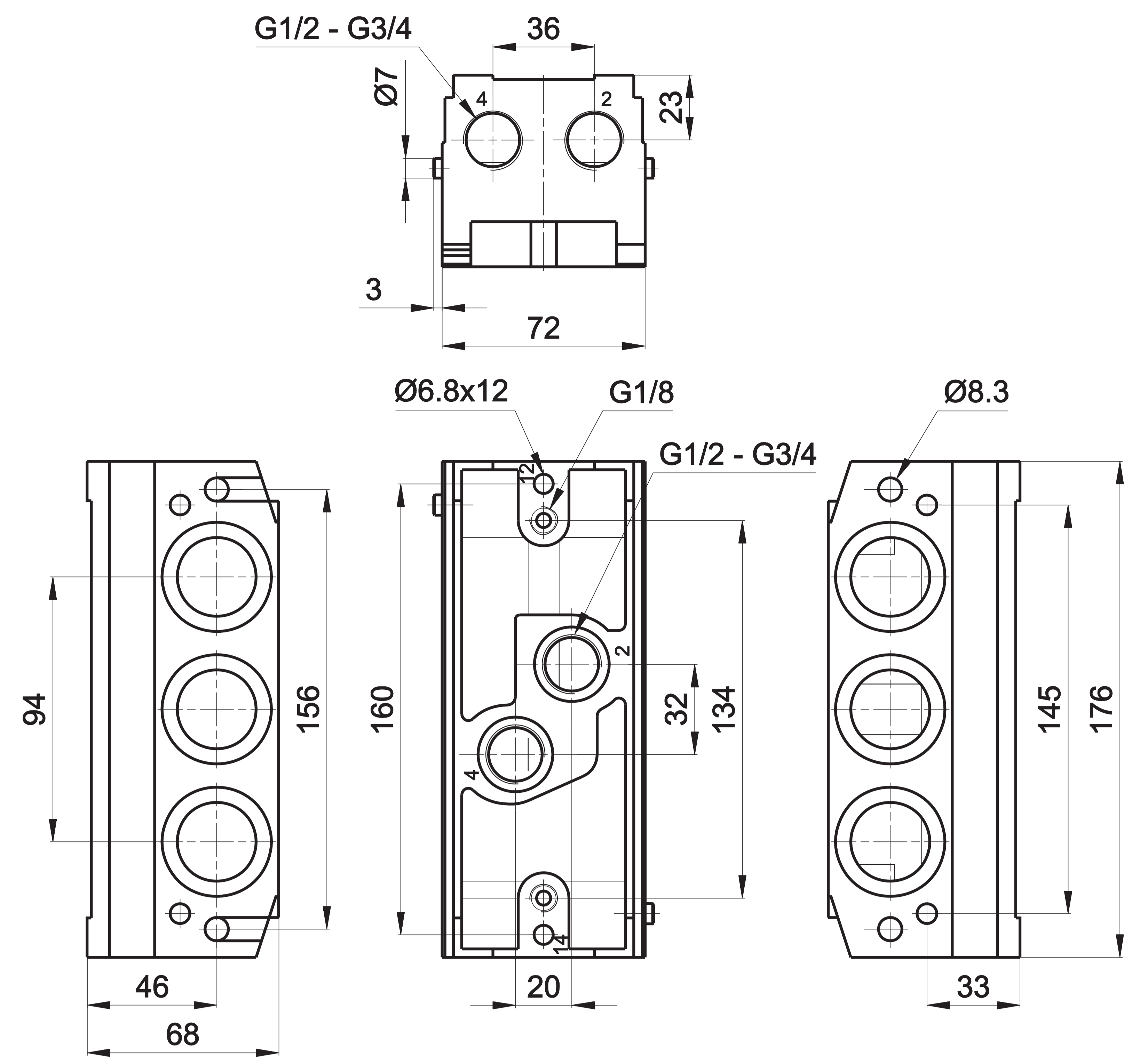
The diaphragm is not only the end plate of the manifold but it is also coupled with the exhaust regulator to separate two sub-bases and regulate the valves independently. In this case break the central blind hole.  
To get two or more pressures, break the two side blind holes.

**BF-1175**



ISO 2 - Closing plate for sub-base 2  
material: steel  
weight: 0,050 Kg (for all sub-base versions)

ISO 3 - Manifold universal system sub-base, dorsal and side connections, conveyed exhausts

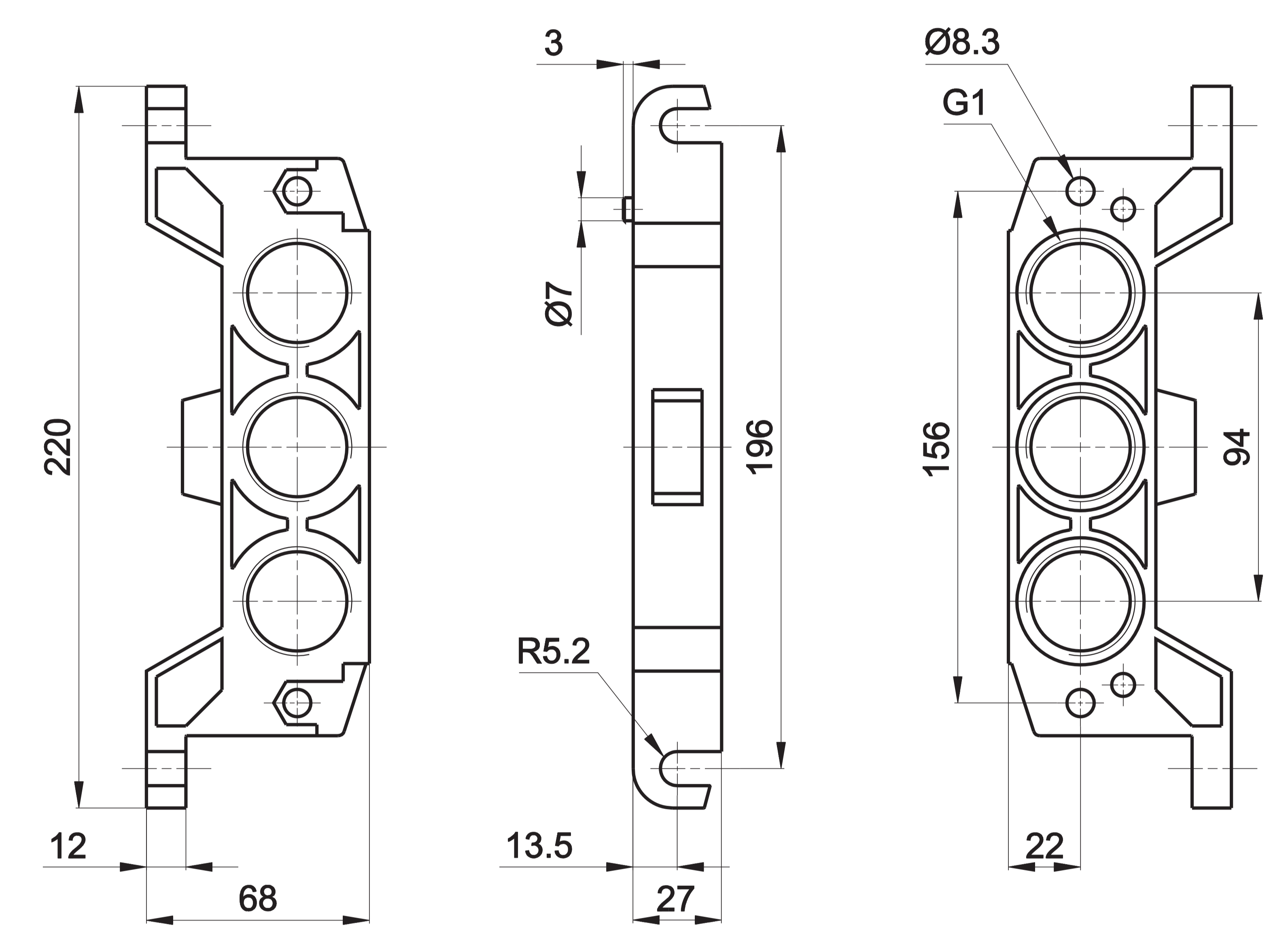


| Notes                       | Connection | Material  | Weight<br>Kg | Part no.       |
|-----------------------------|------------|-----------|--------------|----------------|
| dorsal and side connections | G1/2       | aluminium | 1,100        | <b>BF-3071</b> |
| dorsal and side connections | G3/4       | aluminium | 1,100        | <b>BF-3072</b> |

Dorsal and side connections possible. Close unused ports with caps.  
With incorporated screws, seals and caps included

1 = Supply port  
2 - 4 = Use  
3 - 5 = Exhaust  
12 - 14 = Pilots

ISO 3 - Manifold Universal system inlet plate

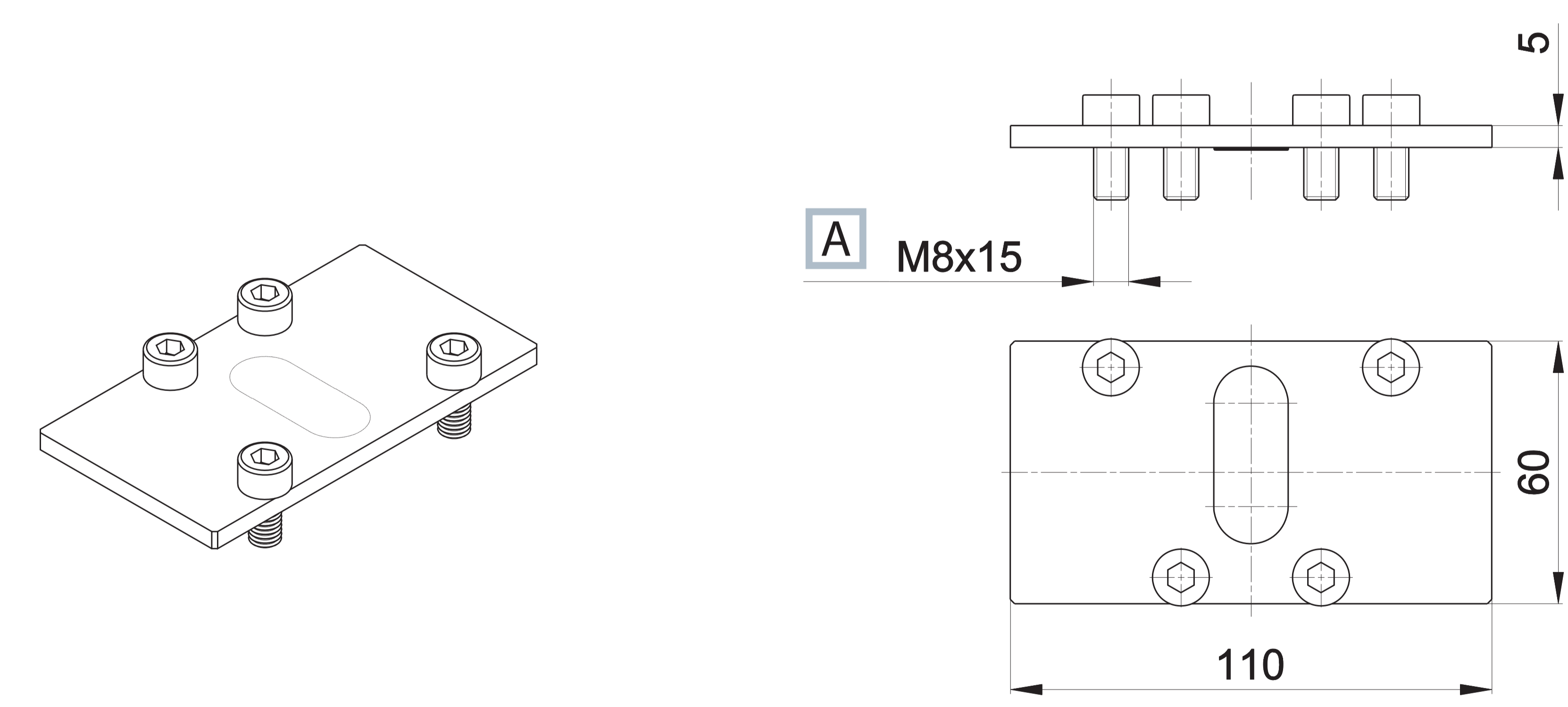


| Notes               | Connection | Material  | Weight<br>Kg | Part no.       |
|---------------------|------------|-----------|--------------|----------------|
| in line connections | G1         | aluminium | 0,440        | <b>BF-3064</b> |

When battery exceeds 4 units, the mounting of 2 plates is recommended  
Mixed version available upon request  
With incorporated screws and seals

**BF-3175**

**BF-3082**



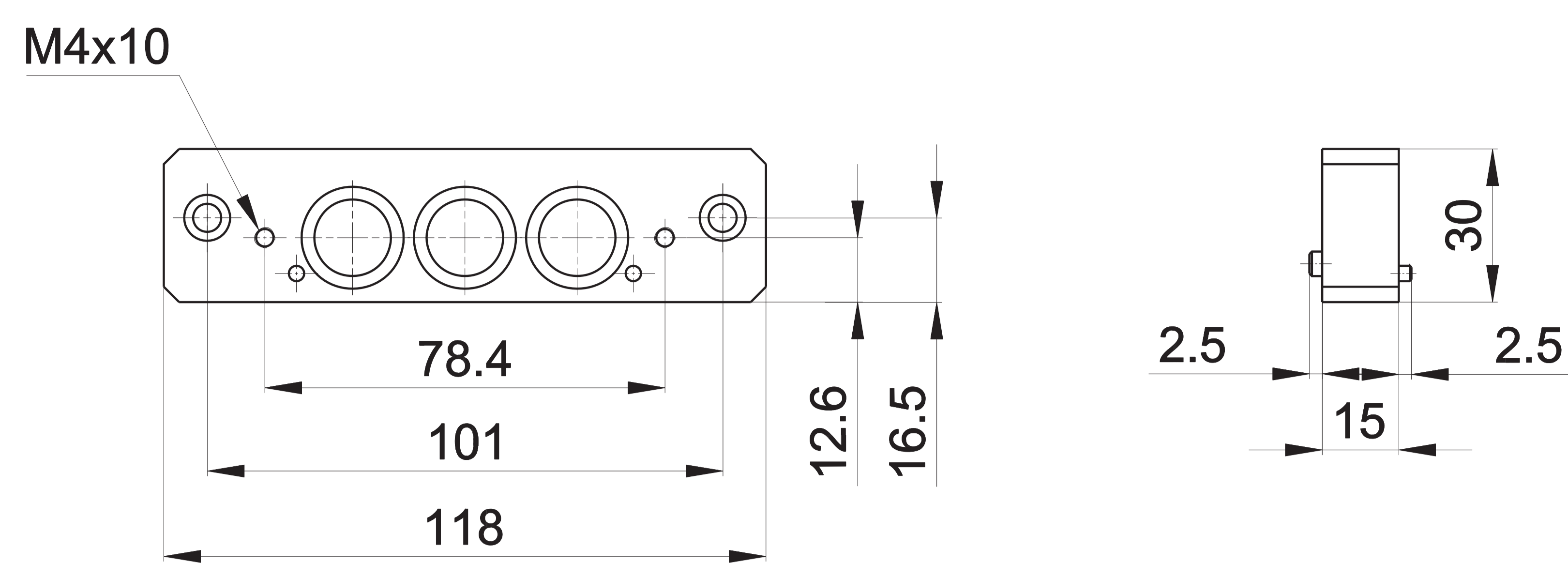
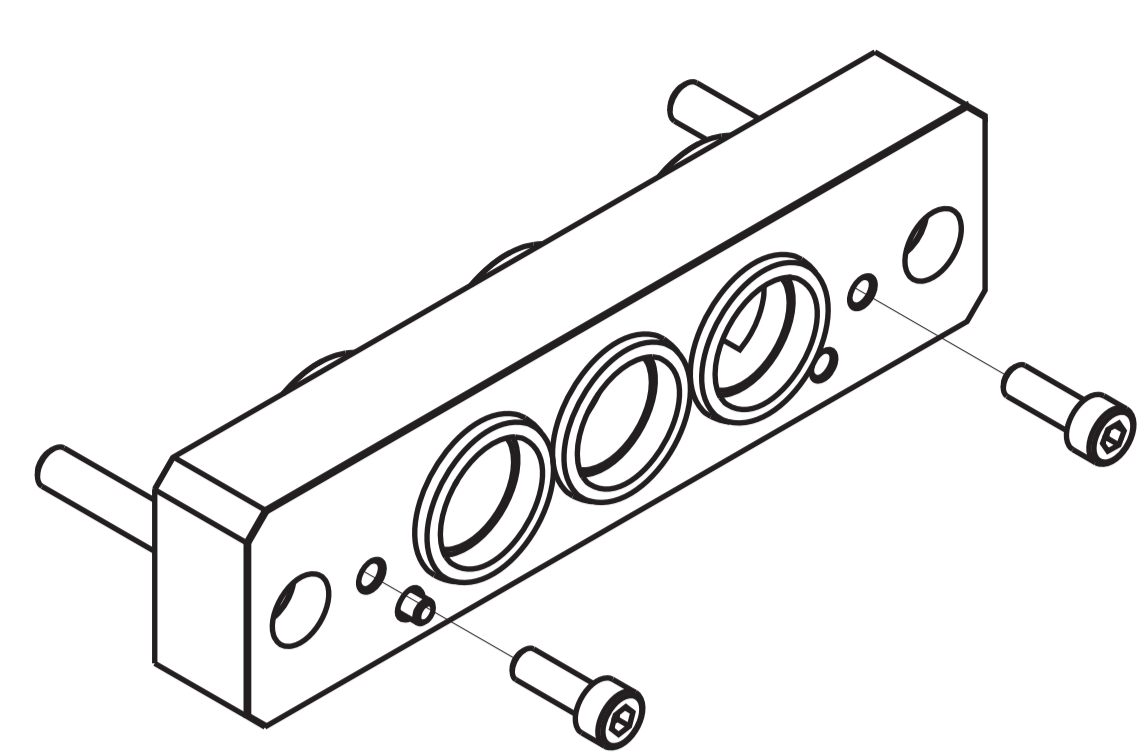
A ISO 4762

**ISO 3 - Closing plate for sub-base 3**  
material: steel  
weight: 0,080 Kg (for all sub-base versions)

**ISO 3 - Universal system Cap**  
material: steel  
weight: 0,020 Kg  
To be used to reach two pressures



**BF-1190**



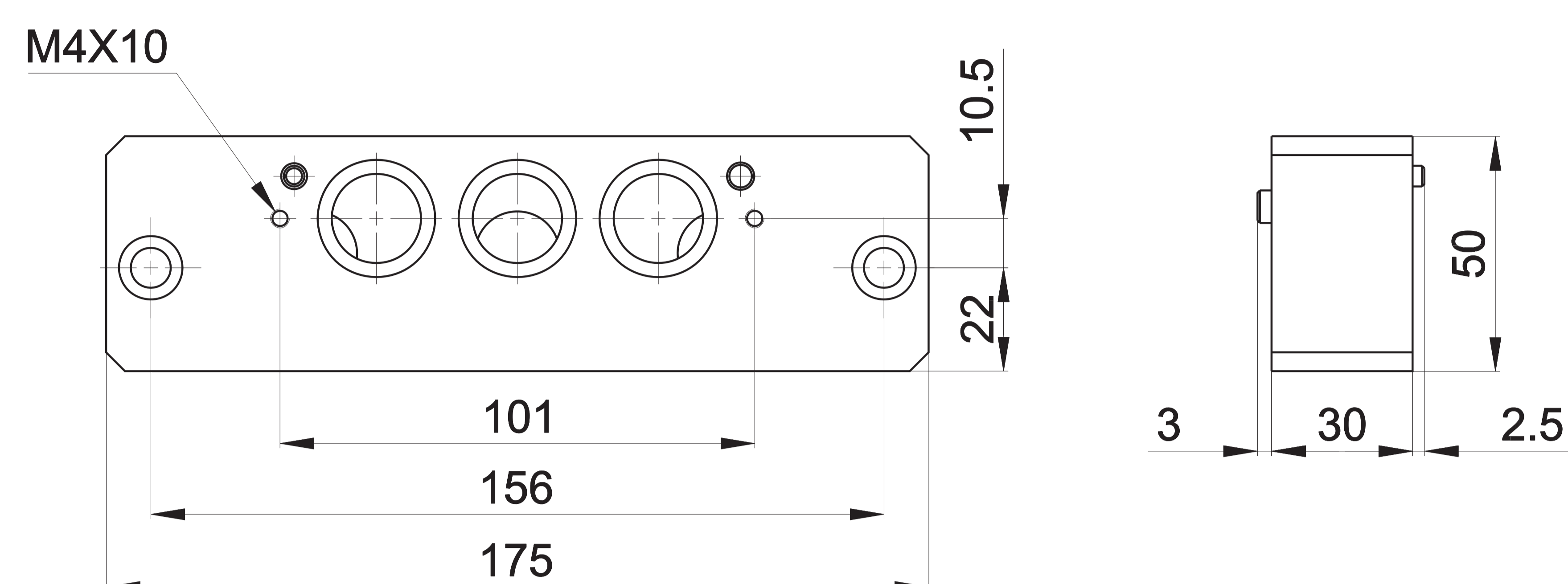
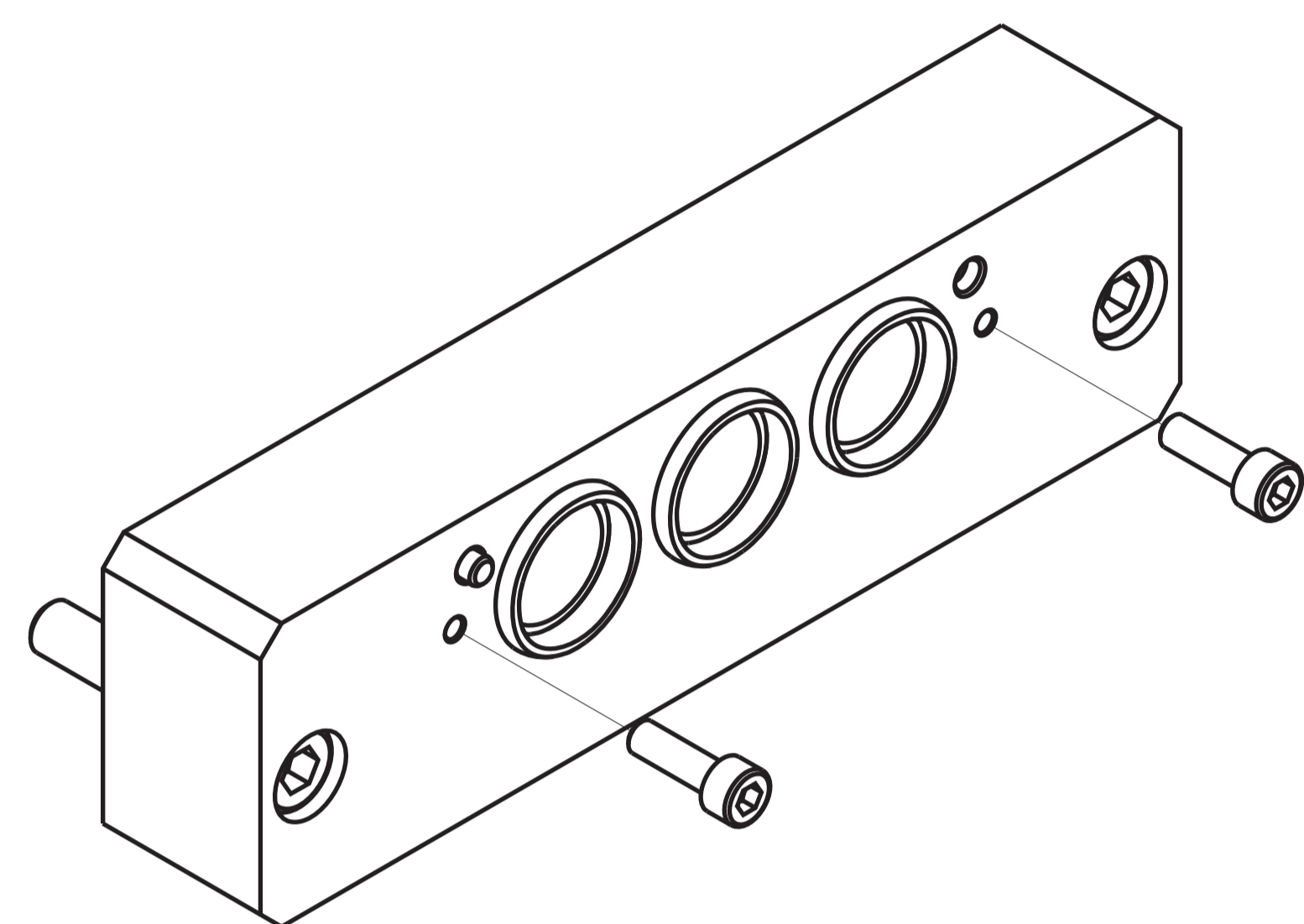
**ISO - Connecting interface for universal sub-bases size 1 and 2**

material: steel

weight: 0,110 Kg

It allows the use of size 1 and 2 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)

**BF-3190**



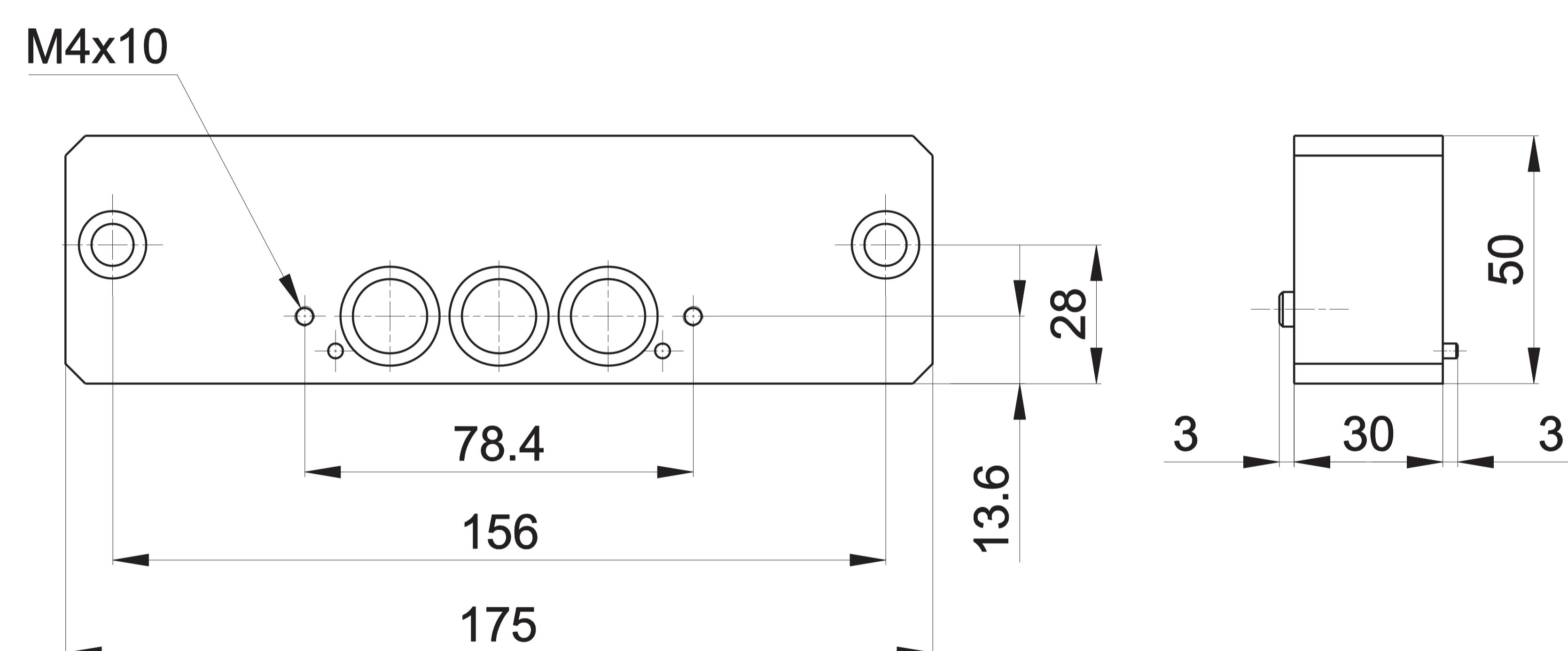
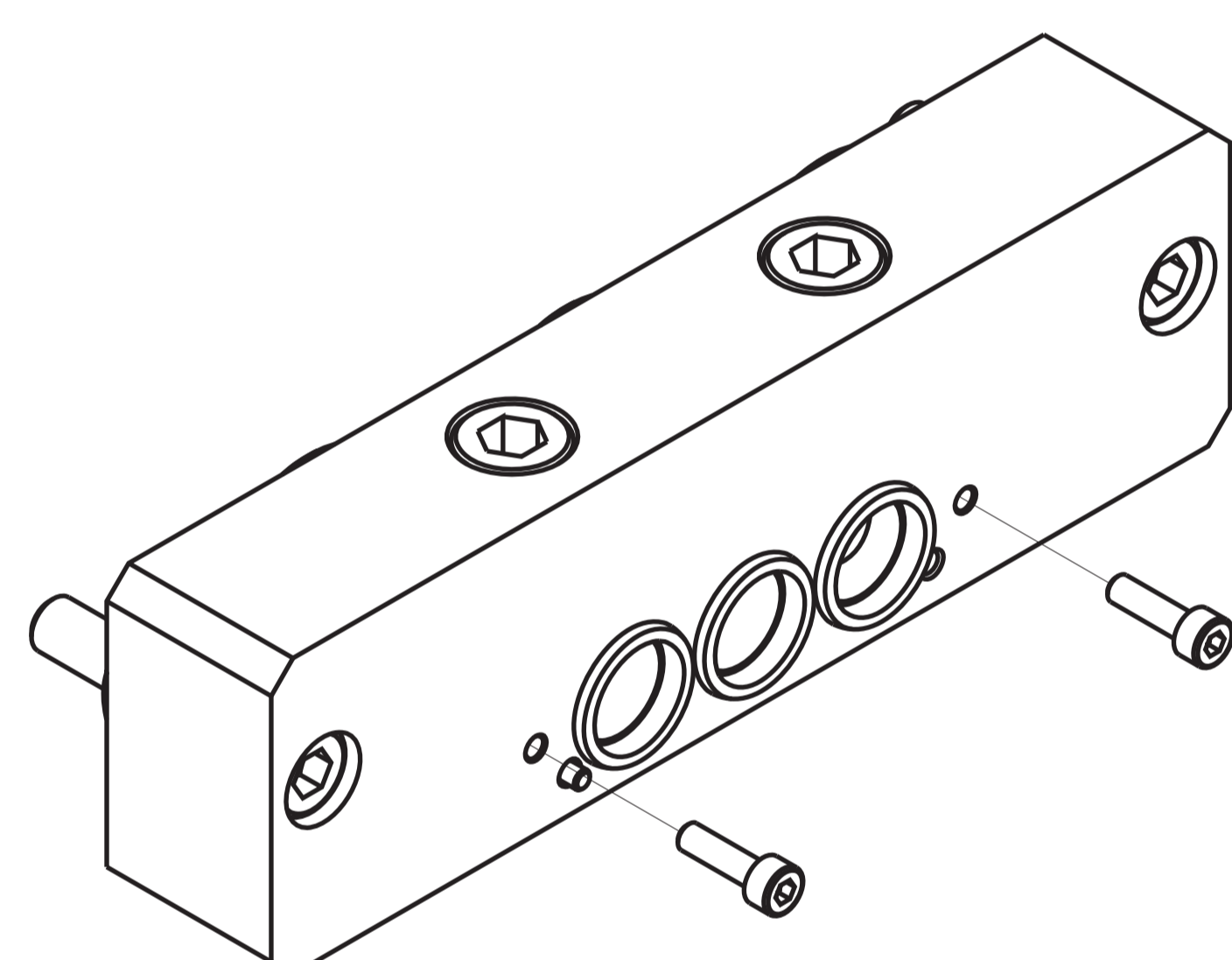
**ISO - Connecting interface for universal sub-bases size 2 and 3**

material: steel

weight: 0,570 Kg

It allows the use of size 2 and 3 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)

**BF-3191**



**ISO - Connecting interface for universal sub-bases size 1 and 3**

material: steel

weight: 0,570 Kg

It allows the use of size 1 and 3 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)